Tektronix®

Environment Signals Application Plug-in

Programmer Manual

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Contacting Tektronix

Tektronix, Inc.
14150 SW Karl Braun Drive
P.O. Box 500
Beaverton, OR 97077
USA

For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit www.tek.com to find contacts in your area.

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Getting Started

Introduction

This programmer manual provides information on how to use commands for remotely controlling the Environment Signals plug-in application.

The Environment Signals plug-in can be installed in the SourceXpress software application, AWG70000 series instruments, and AWG5200 series instruments.

Communication with the plug-in is through the SourceXpress programmatic interface or the AWG70000 series instrument's programmatic interface. Using a single VISA or raw socket session, it is possible to communicate with SourceXpress, AWG70000 series instruments, and AWG5200 series instruments.

For information on the Remote Control, GPIB Parameters, LAN Parameters, Connecting to the Instrument using GPIB, and Setting up GPIB Communication, refer to the *AWG70000 series Arbitrary Waveform Generators Programmer Manual* or the *AWG5200 series Arbitrary Waveform Generators Programmer Manual*.

Documentation

In addition to this Environment Programmer Guide, the following documentation is included with this application:

- Environment Signals Help. The help provides in-depth operation and user interface help.
- Environment Signals User Manual (PDF). This is adapted from the Environment Signals help system.

Syntax and Commands

Command Syntax

For information on the Syntax Overview, Command and Query Structure, Clearing the Instrument, Command Entry, Parameter Types, SCPI Commands and Queries, refer to the *AWG70000 Series Arbitrary Waveform Generators Programmer Manual* or the *AWG5200 series Arbitrary Waveform Generators Programmer Manual*.

Commands by Groups

This section contains a list of all PI commands grouped together in relation to their functions. Each command has a brief description and is linked to the detailed description.

Control commands

Table 2-1: Control commands

Item	Description
ENVironment:RESet	Resets the Environment Signal plug-in to its default state.
WPLugin:ACTive	Sets or returns the active waveform plug-in.

Compile commands

Table 2-2: Compile commands

Item	Description
ENVironment:COMPile	Compiles and generates a waveform using the Environment plug-in compile settings.
ENVironment:COMPile:AWARound	Sets or returns the Adjust Wrap Around state (enabled or disabled) for the Compile Settings.
ENVironment:COMPile:CANCel	Cancels a compilation currently in progress.
ENVironment:COMPile:CASSign	Sets or returns the state (enabled or disabled) to compile the waveform and immediately assign it to a specified channel (enabled) or just compile the waveform (disabled).
ENVironment:COMPile:CHANnel:I	Sets or returns the playout channel intended for the compiled I signal waveform when the signal format is set to IQ. The selected channel is also used to define the amplitude ranges.
ENVironment:COMPile:CHANnel:Q	Sets or returns the playout channel intended for the compiled Q signal waveform when the signal format is set to IQ. The selected channel is also used to define the amplitude ranges.
ENVironment:COMPile:CHANnel:RF	Sets or returns the playout channel intended for the compiled RF signal waveform when the signal format is set to RF/IF. The selected channel is also used to define the amplitude ranges.
ENVironment:COMPile:CORRection:APPLy	Sets or returns the Apply Corrections File state (enabled or disabled) for the Compile Settings.
ENVironment:COMPile:CORRection:PATH	Sets or returns the RF Correction file name and file path to use when compiling an RF signal.
ENVironment:COMPile:CORRection:PATH:I	Sets or returns the I Correction file name and file path to use when compiling and IQ signal.
ENVironment:COMPile:CORRection:PATH:IQ	Sets or returns the IQ Correction file name and file path to use when compiling and IQ signal.

Table 2-2: Compile commands (cont.)

Item	Description
ENVironment:COMPile:CORRection:PATH:Q	Sets or returns the Q correction file name and file path to use when compiling and IQ signal.
ENVironment:COMPile:CORRection:TYPE	Sets or returns the type of IQ correction file (a single IQ file or individual I and Q files) to apply when compiling.
ENVironment:COMPile:DUPConverter	Sets or returns the Internal IQ Modulator state (enabled or disabled) when compiling.
ENVironment:COMPile:FDRange	Sets or returns the Fit to full dynamic range state (enabled or disabled) for the Compile Settings.
ENVironment:COMPile:MARKer:ENABle	Sets or returns the Marker Data state (enabled or disabled) for the Compile Settings.
ENVironment:COMPile:MARKer[n]:CFRequency	Sets or returns the Marker Data clock frequency when the Marker Data type is set to Clock Frequency.
ENVironment:COMPile:MARKer[n]:MDATa	Sets or returns the Marker Data Type of the specified marker.
ENVironment:COMPile:NAMe	Sets or returns the name of the compiled waveform.
ENVironment:COMPile:OSAMpling	Sets or returns the over sampling rate used to determine the sampling rate of the compiled signal.
ENVironment:COMPile:OVERwrite	Sets or returns the state (enabled or disabled) wether or not to overwrite the existing waveform if the waveform already exists in the Waveform list.
ENVironment:COMPile:PLAY	Sets or returns the Play after assign state (enabled or disabled) for the Compile Settings.
ENVironment:COMPile:SRATe	Sets or returns the sampling rate for the compile settings.
ENVironment:COMPile:SRATe:AUTO	Sets or returns the value that indicates if the sampling rate will be automatically calculated at compile time.
ENVironment:SFORmat	Sets or returns the signal format of the signal to be compiled for all scenarios.

Scenario commands

These commands affect the scenarios. Some are specific to the selected scenario.

Table 2-3: Scenario commands

Item	Description
ENVironment:SCENario:ADD	Creates and adds the named scenario to the Environment Scenarios list. The Scenario is created using the default settings and is added to the end of the existing Environment Scenarios list.
ENVironment:SCENario:AMPLitude	Sets or returns the peak to peak baseband amplitude (in volts) for the selected Scenario.
ENVironment:SCENario:COUNt?	Returns the number of Scenario definitions in the Environment Scenarios list.

Table 2-3: Scenario commands (cont.)

Item	Description
ENVironment:SCENario:DELete	Deletes the specified scenario from the Environment Scenarios list.
ENVironment:SCENario:DURation	Sets or returns the manual duration that will be used to create the signal for the selected Scenario.
ENVironment:SCENario:DURation:AUTO	Sets or returns the value that indicates if the duration will be automatically calculated based on the anchor/emitters at compile time for the selected Scenario.
ENVironment:SCENario:LIST?	Returns a comma separated list of environment scenario names.
ENVironment:SCENario:MAGNitude	Sets or returns the RF/IF carrier peak Magnitude (in dBm) for the selected Scenario.
ENVironment:SCENario:REName	Renames the selected scenario name to a new name.
ENVironment:SCENario:SELect	Sets or returns the selected Scenario in the Environment Scenario list. To set the selected Scenario, the name must currently exist in the Environment Scenario list.

Emitter commands

These commands modify the emitters and parameters within a scenario that are not specific to an emitter type.

Table 2-4: Emitter commands

Item	Description
ENVironment:EMITter:ADD	Adds a new emitter to the selected Environment Scenario.
ENVironment:EMITter:ANCHor	Sets or returns the index of the selected anchor emitter in the selected Scenario.
ENVironment:EMITter:BOFFset	Sets or returns the baseband offset of the selected Emitter when the signal format is set to IQ.
ENVironment:EMITter:COUNt?	This query returns the number of emitter definitions in the selected Scenario.
ENVironment:EMITter:DELete	Deletes the emitter definition at the specified index of the selected Scenario.
ENVironment:EMITter:DURation	Sets or returns the duration of the currently selected emitter definition.
ENVironment:EMITter:FREQuency	Sets or returns the RF/IF center Frequency for the selected Emitter of the selected Scenario.
ENVironment:EMITter:NAME	Sets or returns the user defined name of the selected emitter definition.
ENVironment:EMITter:POFFset	Sets or returns the Phase Offset value for the selected Emitter.
ENVironment:EMITter:POWer	Sets or returns the power of the selected Emitter.

Table 2-4: Emitter commands (cont.)

Item	Description
ENVironment:EMITter:REPeat	Sets or returns whether the currently selected emitter will repeat the signal an integer number of times to match the Scenario Duration.
ENVironment:EMITter:SELect	Sets or returns the index of the selected emitter definition in the selected Scenario.
ENVironment:EMITter:STIMe	Sets or returns the Start Time of the selected Emitter.
ENVironment:EMITter:TON	Sets or returns whether the currently selected emitter is enabled or disabled.
ENVironment:EMITter:TYPe	Sets or returns the type of the emitter at the selected index of the selected scenario.

Analog modulation emitter commands

Table 2-5: Analog modulation commands

Item	Description
ENVironment:AMODulation:AMModulation:AMINdex	Sets or returns the AM Index for the AM Modulation for the selected Analog Modulation emitter.
ENVironment:AMODulation:FMModulation:FDEViation	Sets or returns the Frequency Deviation for the FM Modulation for the selected Analog Modulation emitter.
ENVironment:AMODulation:MFRequency	Sets or returns the Modulating Frequency of the sinusoidal, triangular, or square Modulating Signals for the selected Analog Modulation emitter.
ENVironment:AMODulation:MSIGnal:FNAMe	Sets or returns the file name for User Defined Modulating Signal for the selected Analog Modulation emitter.
ENVironment:AMODulation:MSIGnal:INTerpolation	Sets or returns the Interpolation type for User Defined Modulating Signal for the selected Analog Modulation emitter.
ENVironment:AMODulation:MSIGnal:POFFset	Sets or returns the Phase Offset of the sinusoidal, triangular, or square Modulating Signals for the selected Analog Modulation emitter.
ENVironment:AMODulation:MSIGnal:SRATe	Sets or returns the Sampling Rate for User Defined Modulating Signal for the selected Analog Modulation emitter.
ENVironment:AMODulation:MSIGnal:TYPe	Sets or returns the Modulating Signal type for Analog Modulation for the selected Analog Modulation emitter.
ENVironment:AMODulation:NOCYcles	Sets or returns the Number of cycles of the modulating signal for the selected Analog Modulation emitter. The signal type must be sinusoidal, triangular or square.
ENVironment:AMODulation:PMModulation:PDEViation	Sets or returns the Phase Deviation for the PM Modulation for the selected Analog Modulation emitter.
ENVironment:AMODulation:TYPE	Sets or returns the Analog Modulation type for the selected Analog Modulation emitter.

Bluetooth emitter commands

Table 2-6: Bluetooth commands

Item	Description
ENVironment:BLUetooth:DATarate?	Returns the Datarate for the selected Bluetooth emitter.
ENVironment:BLUetooth:MODulation?	Returns the Modulation type for the selected Bluetooth emitter.
ENVironment:BLUetooth:STANdard	Sets or returns the Standard for the selected Bluetooth emitter.

CDMA emitter commands

Table 2-7: CDMA commands

Item	Description
ENVironment:CDMA:DRAte	Sets or returns the Data rate for the selected CDMA emitter.
ENVironment:CDMA:LINK	Sets or returns the Link mode for the selected CDMA emitter.
ENVironment:CDMA:NCHannels	Sets or returns the number of channels for the selected CDMA emitter.
ENVironment:CDMA:RCONfiguration	Sets or returns the Radio Configuration for the selected CDMA emitter.

Digital modulation emitter commands

Table 2-8: Digital modulation commands

Item	Description
ENVironment:DMODulation:APSK	Sets or returns the APSK Modulation type for the selected Digital Modulation emitter.
ENVironment:DMODulation:APSK:PROTation	Sets or returns the Phase Rotation of the selected APSK Ring Index for the selected Digital Modulation emitter.
ENVironment:DMODulation:APSK:RADius	Sets or returns the Radius of the selected APSK Ring Index for the selected Digital Modulation emitter.
ENVironment:DMODulation:APSK:SRINg	Sets or returns the selected APSK Ring Index for the selected Digital Modulation emitter.
ENVironment:DMODulation:APSK:SYMBols	Sets or returns the Number of Symbols of the selected APSK Ring Index for the selected Digital Modulation emitter.
ENVironment:DMODulation:ASK:MINDex	Sets or returns the ASK Mod Index for ASK modulation for the selected Digital Modulation emitter.
ENVironment:DMODulation:CPM:MINDex	Sets or returns the Index for CPM modulation for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA	Sets or returns the Data Pattern type for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:CODing	Sets or returns the coding type for the selected Digital Modulation emitter.

Table 2-8: Digital modulation commands (cont.)

Item	Description
ENVironment:DMODulation:DATA:FILE	Sets or returns the pattern file and file path for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:PATTern	Sets or returns the user defined data pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:PRBS	Sets or returns the PBRS data type when the data Pattern is set to PRBS for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:PRBS:UDEFined:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:PRBS:UDEFined:RESet	Resets the User Defined PRBS polynomial expression and shift register to their default values for the selected Digital Modulation emitter.
ENVironment:DMODulation:DATA:PRBS:UDEFined:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:ALPHa	Sets or returns the Alpha (filter roll off) value for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:CLENgth	Sets or returns the Filter Convolution Length in symbols for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:FILe	Sets or returns the Filter File name and file path for user defined filter for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:TYPe	Sets or returns the Filter Type for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:WINDow:CRIPple	Sets or returns the Chebyshev Ripple value when the Filter Window type is Chebyshev Ripple for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:WINDow:KAISer	Sets or returns the Kaiser Parameter when the Filter Window type is Kaiser for the selected Digital Modulation emitter.
ENVironment:DMODulation:FILTer:WINDow:TYPE	Sets or returns the Filter Window type for the selected Digital Modulation emitter.
ENVironment:DMODulation:FSK	Sets or returns the FSK Modulation type for the selected Digital Modulation emitter.
ENVironment:DMODulation:FSK:PDEViation	Sets or returns the FSK Peak Deviation for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:CUSTom:RLISt	Sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:ADD	Adds a single entry to the end of the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:AOFFset	Sets or returns the Amplitude Offset of the currently selected hop for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:COUNt?	Returns the number of hops in the Hop List or the number of entries in the Frequency Avoid List for the selected Digital Modulation emitter.

Table 2-8: Digital modulation commands (cont.)

Item	Description
ENVironment:DMODulation:HOPPing[:LIST]:DELete	Removes all entries within the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:FOFFset	Sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:FREQuency	Sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:HDURation	Sets or returns the Hop Duration of the currently selected hop for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:INSert	Inserts a single entry within the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:SELect	Sets or returns the selected Hop number in the Frequency Hop List or the Index number in the Frequency Avoid List for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing[:LIST]:SSINdex	Sets or returns the Symbol Start Index (Symbol Index) of the currently selected hop for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:PATTern	Sets or returns the Hopping Pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:PRBS	Sets or returns the Hopping PRBS pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:POLYnomial	Sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:RESet	Resets the Hopping User Defined PRBS type to its default value for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:SREGister	Sets or returns the Hopping PRBS shift register for the User Defined PRBS for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:RANGe:ALISt[:ENABle]	Sets or returns the Frequency Avoid List state (enabled or disabled) for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MAXimum	Sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MINimum	Sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:SPACing	Sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:TIME	Sets or returns the Hop Time type for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:TIME:HPSecond	Sets or returns the Hops per Second for the selected Digital Modulation emitter.
ENVironment:DMODulation:HOPPing:TIME:SPHop	Sets or returns the Symbols per Hop for the selected Digital Modulation emitter.

Table 2-8: Digital modulation commands (cont.)

Item	Description
ENVironment:DMODulation:HOPPing:TON	Sets or returns the Hopping state (enabled or disabled) for the selected Digital Modulation emitter.
ENVironment:DMODulation:NDPSK:INDex	Sets or returns the 'n' value (the kind of DPSK) for nDPSK modulation for the selected Digital Modulation emitter.
ENVironment:DMODulation:NDPSK:PROTation	Sets or returns the Phase Rotation of nDPSK modulation for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:DTYPe	Sets or returns the Duration Units used for the Power Ramp table for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:DURation	Sets or returns the Power Ramp Duration for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:FUNCtion	Sets or returns the Power Ramp Function for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:ILEVel	Sets or returns the Power Ramp Initial Level of the currently selected hop for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:ADD	Adds new entries to the Power Ramp table for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:DELete	Deletes entries from the Power Ramp table for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:DURation	Sets or returns the Duration of the currently selected Power Ramp table index for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:ESYMbol	Sets or returns the End Symbol of the currently selected Power Ramp table index for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:POWer	Sets or returns the Power Level of the currently selected Power Ramp table index for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:SELect	Sets or returns the selected index (row) of the Power Ramp table for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:LEVel:SSYMbol	Sets or returns the Start Symbol of the currently selected Power Ramp table index for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:PEXTend	Sets or returns the Periodic Extend Power Levels state (enabled or disabled) for the Power Ramp table for the selected Digital Modulation emitter.
ENVironment:DMODulation:PRAMp:TON	Sets or returns the Power Ramp state (enabled or disabled) for the selected Digital Modulation emitter.
ENVironment:DMODulation:PSK	Sets or returns the PSK modulation type for the selected Digital Modulation emitter.
ENVironment:DMODulation:QAM	Sets or returns the QAM Modulation type for the selected Digital Modulation emitter.
ENVironment:DMODulation:SRATe	Sets or returns the Digital Modulation Symbol Rate for the selected Digital Modulation emitter.
ENVironment:DMODulation:TYPe	Sets or returns the digital modulation type for the selected Digital Modulation emitter.

DVB-T emitter commands

Table 2-9: DVB-T commands

Item	Description
ENVironment:DVBT:ALPHa?	Sets or returns the Alpha value for the selected DVB-T emitter.
ENVironment:DVBT:BANDwidth	Sets or returns the Bandwidth for the selected DVB-T emitter.
ENVironment:DVBT:INTerleaver	Sets or returns the Interleaver for the selected DVB-T emitter.
ENVironment:DVBT:MODE	Sets or returns the Mode for the selected DVB-T emitter.
ENVironment:DVBT:MODulation	Sets or returns the Modulation type for the selected DVB-T emitter.
ENVironment:DVBT:TRANsmission	Sets or returns the Transmission type for the selected DVB-T emitter.

GSM emitter commands

Table 2-10: GSM commands

Item	Description
ENVironment:GSM:ARFCN?	Returns the ARFCN value for the selected GSM emitter.
ENVironment:GSM:FBANd	Sets or returns the Frequency Band for the selected GSM emitter.
ENVironment:GSM:MODulation	Sets or returns the Modulation for the selected GSM emitter.
ENVironment:GSM:RFORmat	Sets or returns the Radio Format for the selected GSM emitter.
ENVironment:GSM:TDEVice	Sets or returns the Transmit Device for the selected GSM emitter.
ENVironment:GSM:TSBType	Sets or returns the Timeslot Burst Type for the selected GSM emitter.
ENVironment:GSM:TSConfiguration	Sets or returns the Timeslot Configuration for the selected GSM emitter.
ENVironment:GSM:TSTMode	Sets or returns the Timeslot Timing Mode for the selected GSM emitter.

LTE emitter commands

Table 2-11: LTE commands

Item	Description
ENVironment:LTE:BWIDth	Sets or returns the Bandwidth for the selected LTE emitter.
ENVironment:LTE:CAGGrigation	Sets or returns the Carrier Aggregation state (enabled or disabled) for the selected LTE emitter.
ENVironment:LTE:CBANdwidth[n]	Sets or returns the Carrier Bandwidth value of the specified additional carrier for the selected LTE emitter.
ENVironment:LTE:COFFset[n]	Sets or returns the Carrier Offset value of the specified additional carrier for the selected LTE emitter.

Table 2-11: LTE commands (cont.)

Item	Description
ENVironment:LTE:DTYPe	Sets or returns the Duplexing type for the selected LTE emitter.
ENVironment:LTE:NACarriers	Sets or returns the Number of Additional Carriers for the selected LTE emitter.
ENVironment:LTE:TRANsmission	Sets or returns the transmission type for the selected LTE emitter.
ENVironment:LTE:UDLConfig	Sets or returns the Up-Down Link Configuration type for the selected LTE emitter.

Noise emitter commands

Table 2-12: Noise commands

Item	Description
ENVironment:NOISe:BANDwidth	Sets or returns the Noise Type for the selected Noise emitter.
ENVironment:NOISe:DTYPe	Sets or returns the Noise Duration Type for the selected Noise emitter.
ENVironment:NOISe:TYPE	Sets or returns the Noise Type for the selected Noise emitter.
ENVironment:NOISe:UDDUration:VALUe	Sets or returns the User defined duration value for the selected Noise emitter.

OFDM emitter commands

Table 2-13: OFDM frame commands

Item	Description
ENVironment:OFDM:FRAMe:BANDwidth	Sets or returns the frame's Bandwidth for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:ADD	Adds a row to the end of the frame's Header Symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:DELete	Deletes the specified row from the frame's Header symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:DOMain	Sets or returns the frame's Domain for the user supplied header file for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:MODE	Sets or returns the Header input method (file or custom symbols table) for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:PATH	Sets or returns the Header file name and file path for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:REPeat	Sets or returns the Repeat count for the user supplied header file for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:SELect	Sets or returns the selected (active) row from the Header's symbols table for the selected OFDM emitter. Other commands act on the selected row.

Table 2-13: OFDM frame commands (cont.)

Item	Description
ENVironment:OFDM:FRAMe:HEADer:SNAMe	Sets or returns the symbol name for the currently selected row in the Header symbol table for the selected OFDM emitter. The new name must already exist in the Symbol List.
ENVironment:OFDM:FRAMe:HEADer:SRATe	Sets or returns the frame's Sampling Rate for the user supplied header file for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:SREPeat	Sets or returns the Repeat count for the currently selected row in the frame's Header symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:SSPacing	Sets or returns the Header Subcarriers Spacing for the user supplied header file for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HEADer:TON	Sets or returns the status (enabled or disabled) of the frame's Header for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing:ENABle	Sets or returns the Hopping state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing:HTIMe	Sets or returns the frame's Hop Time type for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:ADD	Adds a single entry to the end of the frame's Frequency Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:AOFFset	Sets or returns the Amplitude Offset of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:COUNt?	Returns the number of hops in the frame's Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:DELete	Removes entries from the frame's Frequency Hop List for the selected OFDM emitter
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:FREQuency	Sets or returns the Frequency of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:INSert	Inserts a single entry into the frame's Frequency Hop List above the specified index for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:RFRequency	Sets or returns the Frequency Offset (Relative Frequency) of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SELect	Sets or returns the selected Hop number in the frame's Frequency Hop List for the selected frame in the Frame List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SSINdex	Sets or returns the frame's Symbol Start Index (Symbol Index) for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing:RLISt	Sets or returns the frame's Repeat List state (enabled or disabled) for the Frequency Hop List for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:HOPPing:SPHop	Sets or returns the frame's Symbols per Hop for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:OTIMe	Sets or returns the frame's Off-Time duration for the selected OFDM emitter.

Table 2-13: OFDM frame commands (cont.)

Item	Description
ENVironment:OFDM:FRAMe:PAYLoad:ADD	Adds a row to the end of the Payload symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PAYLoad:DELete	Deletes the specified row from the Payload symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PAYLoad:SELect	Sets or returns the selected (active) row from the Payload symbols table for the selected OFDM emitter. Other commands act on the selected row.
ENVironment:OFDM:FRAMe:PAYLoad:SNAMe	Sets or returns the symbol name for the currently selected row in the Payload symbol table for the selected OFDM emitter. The new name must already exist in the Symbol List.
ENVironment:OFDM:FRAMe:PAYLoad:SREPeat	Sets or returns the repeat count for the currently selected row in the Payload symbols table for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PAYLoad:TON	Sets or returns the status (enabled or disabled) of the frame Payload for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:DOMain	Sets or returns the Domain type of the specified Preamble for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:ENABle	Sets or returns the status of the specified Preamble (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:PATH	Sets or returns the specified Preamble file name and file path for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:REPeat	Sets or returns the Repeat count of the specified Preamble for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:SRATe	Sets or returns the Sampling Rate of the specified Preamble for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PREamble[n]:SSPacing	Sets or returns the Subcarrier Spacing of the specified Preamble for the selected OFDM emitter.
ENVironment:OFDM:FRAMe:PTON	Sets or returns the status (enabled or disabled) of including a Preamble for the selected OFDM emitter.

Table 2-14: OFDM symbols commands

Item	Description
ENVironment:OFDM:SYMBol:ADD	Adds a new symbol to the existing list of symbols within the Symbols List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:ADD	Adds a single row to the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:AMPLitude	Sets or returns the amplitude of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Table 2-14: OFDM symbols commands (cont.)

Item	Description
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:PHASe	Sets or returns the phase of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:REMove	Removes the specified row from the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect	Sets or returns the selected (active) row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SPOS	Sets or returns the subcarrier positions for the currently selected row in the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:DATA:AMPLitude	Sets or returns the amplitude of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:DATA:ENABle	Sets or returns the Data state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:DATA:PHASe	Sets or returns the phase of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:ENABle	Sets or returns the Amplitude Phase Profile state (enabled or disabled) for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:PILot:AMPLitude	Sets or returns the amplitude of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:PILot:ENABle	Sets or returns the Pilot state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:PILot:PHASe	Sets or returns the Phase of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:APPRofile:TYPE	Sets or returns the Amplitude Phase Profile type for selected symbol for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:CRATio:ENABle	Sets or returns the symbol's Clipping Ratio state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:CRATio:VALue	Sets or returns the symbol's Clipping Ratio value for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA	Sets or returns the symbol Data subcarriers pattern type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:ENABle	Sets or returns the symbol Data subcarriers state (enabled or disabled) for the selected OFDM emitter.

Table 2-14: OFDM symbols commands (cont.)

Item	Description
ENVironment:OFDM:SYMBol:DATA:FILE	Sets or returns the symbol Data Pattern filename and filepath for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:MODulation:PSK	Sets or returns the symbol Data subcarriers PSK modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:MODulation:QAM	Sets or returns the symbol Data subcarriers QAM modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe	Sets or returns the symbol Data subcarriers modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:PATTern	Sets or returns the symbol user defined Data subcarriers pattern for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:POSition	Sets or returns the symbol Data subcarrier positions for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:PRBS	Sets or returns the PRBS pattern type when the symbol Data subcarriers pattern type is set to PRBS for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:POLYnomial	Sets or returns the symbol PRBS Polynomial Expression for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:SREGister	Sets or returns the symbol PRBS Shift register initial value for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:DELete	Deletes the specified symbol from the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:FOFFset:ENABle	Sets or returns the symbol's Frequency Offset state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:FOFFset:VALue	Sets or returns the symbol's Frequency Offset value for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:GINTerval:ENABle	Sets or returns the symbol's Guard Interval state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:GINTerval:TYPE	Sets or returns the symbol's Guard Interval type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:GINTerval:VALue	Sets or returns the value of the guard interval for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:GPOSitions	Sets or returns the symbol's Subcarrier Guard positions for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:GPOSitions:ENABle	Sets or returns the symbol's Subcarriers Guard positions state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:NPOSitions	Sets or returns the symbol's Subcarrier Null positions for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:NPOSitions:ENABle	Sets or returns the Subcarrier Null positions state (enabled or disabled) for the selected symbol in the Symbol List for the selected OFDM emitter.

Table 2-14: OFDM symbols commands (cont.)

Item	Description
ENVironment:OFDM:SYMBol:PILot	Sets or returns the symbol Pilot subcarriers pattern type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:ENABle	Sets or returns the symbol Pilot subcarriers state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:FILE	Sets or returns the symbol Pilot subcarriers pattern file name and file path for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:MODulation:PSK	Sets or returns the symbol's Pilot subcarriers PSK modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:MODulation:QAM	Sets or returns the symbol's Pilot subcarriers QAM modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe	Sets or returns the symbol's Pilot subcarriers modulation type for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:PATTern	Sets or returns the user defined pattern for the symbol's Pilot subcarrier for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:POSition	Sets or returns the symbol's Pilot subcarrier positions for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:PRBS	Sets or returns the PRBS pattern type when the Pilot subcarriers pattern type is set to PRBS for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the symbol Pilot subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS when the symbol Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:POFFset:ENABle	Sets or returns the symbol's Phase Offset state (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:POFFset:VALue	Sets or returns the symbol's Phase Offset value for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:REName	Renames an existing symbol name to a new name for the selected OFDM emitter. The symbol being renamed must exist in the Symbol List.
ENVironment:OFDM:SYMBol:SELect	Sets or returns the selected symbol from the list of available symbols in the Symbol List for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:SSPacing	Sets or returns the Symbols Subcarriers Spacing for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:TSUBcarriers	Sets or returns the total number of symbol subcarriers for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:TSUBcarriers:POSitions	Sets or returns if the symbol subcarriers show only the positive subcarriers or all subcarriers for the selected OFDM emitter.

Table 2-14: OFDM symbols commands (cont.)

Item	Description
ENVironment:OFDM:SYMBol:UDEFined:ENABle	Sets or returns the symbol User-defined frequency weight (enabled or disabled) for the selected OFDM emitter.
ENVironment:OFDM:SYMBol:UDEFined:PATH	Sets or returns the file name and file path of the User Defined Weights File of the selected symbol in the Symbol List for the selected OFDM emitter.

P25 emitter commands

Table 2-15: P25 commands

Item	Description
ENVironment:P25:MODulation	Sets or returns the Modulation for the selected P25 emitter.
ENVironment:P25:STANdard	Sets or returns the Standard for the selected P25 emitter.

Pulse emitter commands

Table 2-16: Pulse commands

Item	Description
ENVironment:PULSe:PRI	Sets or returns the PRI (Pulse Repetition Interval) for the selected Pulse emitter.
ENVironment:PULSe:RCOunt	Sets or returns the Pulse repeat count for the selected Pulse emitter.
ENVironment:PULSe:WIDTh	Sets or returns the Pulse Width for the selected Pulse emitter.

Radar emitter commands

Table 2-17: Radar antenna commands

Item	Description
ENVironment:RADar:ANTenna:BEAM:AZIMuth	Sets or returns the Antenna Beam Azimuth for the selected Radar emitter.
ENVironment:RADar:ANTenna:BEAM:ELEVation	Sets or returns the Antenna Beam Elevation for the selected Radar emitter.
ENVironment:RADar:ANTenna:BEAM:TYPE	Sets or returns the Antenna Beam Type for the selected Radar emitter.
ENVironment:RADar:ANTenna:SCAN:AREA	Sets or returns the Antenna Scan Area for the selected Radar emitter.
ENVironment:RADar:ANTenna:SCAN:FILE	Sets or returns the file path to the Antenna Custom Scan File for the selected Radar emitter.

Table 2-17: Radar antenna commands (cont.)

Item	Description
ENVironment:RADar:ANTenna:SCAN:RATE	Sets or returns the Antenna Scan Rate for the selected Radar emitter.
ENVironment:RADar:ANTenna:SCAN:TYPE	Sets or returns the Antenna Scan type for the selected Radar emitter.
ENVironment:RADar:ANTenna:TARGet:HORizontal	Sets or returns the Antenna Horizontal Target Location for the selected Radar emitter.
ENVironment:RADar:ANTenna:TARGet:VERTical	Sets or returns the Antenna Vertical Target Location for the selected Radar emitter.
ENVironment:RADar:ANTenna:TON	Sets or returns the status (enabled or disabled) of the Antenna settings for the selected Radar emitter.

Table 2-18: Radar hopping commands

Item	Description
ENVironment:RADar:HOPPing:CUSTom:RLISt	Sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop table for the selected Radar emitter. When enabled, the Frequency Hop List repeats when the Hop List has been completed.
ENVironment:RADar:HOPPing[:LIST]:ADD	Adds a single entry to the end of the Frequency Hop List or the Frequency Avoid List for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:AOFFset	Sets or returns the Amplitude Offset (in dB) of the currently selected hop for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:COUNt?	Returns the number of hops in the Hop List or the number of entries in the Frequency Avoid List for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:DELete	Removes a single entry or all entries within the Frequency Hop List or the Frequency Avoid List for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:FOFFset	Sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:FREQuency	Sets or returns the Frequency of the currently selected hop in the Frequency Avoid List for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:INSert	Inserts a single entry into the Frequency Hop List above the specified index for the selected Radar emitter. The selected entry point must already exist in the Hop List table.
ENVironment:RADar:HOPPing[:LIST]:PSINdex	Sets or returns the Pulse Start Index (Start Index) of the currently selected hop for the selected Radar emitter.
ENVironment:RADar:HOPPing[:LIST]:SELect	Sets or returns the selected Hop number in the Frequency Hop List or the Index number in the Frequency Avoid List for the selected Radar emitter.
ENVironment:RADar:HOPPing:PATTern	Sets or returns the Hopping Pattern for the selected Radar emitter.
ENVironment:RADar:HOPPing:PRBS	Sets or returns the Hopping PRBS pattern for the selected Radar emitter.

Table 2-18: Radar hopping commands (cont.)

Item	Description
ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial	Sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Radar emitter.
ENVironment:RADar:HOPPing:PRBS:UDEFined:RESet	Resets the Hopping User Defined PRBS Polynomial Expression and Shift register initial values to their default values for the selected Radar emitter.
ENVironment:RADar:HOPPing:PRBS:UDEFined:SREGister	Sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Radar emitter.
ENVironment:RADar:HOPPing:RANGe:ALISt[:ENABle]	Sets or returns the Hopping Frequency Avoid List state (enabled or disabled) when the Hopping Pattern is set to Pseudo List for the selected Radar emitter.
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MAXimum	Sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MINimum	Sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:SPACing	Sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.
ENVironment:RADar:HOPPing:TIME	Sets or returns the Hop Time type for the selected Radar emitter.
ENVironment:RADar:HOPPing:TIME:PPHop	Sets or returns the Pulses per Hop for frequency hopping for the selected Radar emitter.
ENVironment:RADar:HOPPing:TON	Sets or returns the frequency Hopping state (enabled or disabled) for the selected Radar emitter.

Table 2-19: Radar modulation commands

Item	Description
ENVironment:RADar:MODulation	Sets or returns the Modulation type for the selected Radar emitter.
ENVironment:RADar:MODulation:BARKer:CODE	Sets or returns the Barker code of the Barker modulation for the selected Non Linear FM modulation profile file name and file path for the selected Radar emitter.
ENVironment:RADar:MODulation:CSEQuence:CCOUnt	Sets or returns the Number of Chirps for the Chirp Sequence modulation of the selected Radar emitter.
ENVironment:RADar:MODulation:CSEQuence:FSWeep	Sets or returns the Chirp Sequence modulation Frequency Sweep method for the selected Radar emitter.
ENVironment:RADar:MODulation:CSEQuence:SRANge	Sets or returns the Chirp Sequence modulation Sweep Range for the selected Radar emitter.
ENVironment:RADar:MODulation:CUSTom:PATH	Sets or returns the file path to custom modulation file for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:DATA	Sets or returns the Data Pattern type for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:DATA:FILE	Sets or returns the file path to the user provided data file for the Digital Modulation for the selected Radar emitter.

Table 2-19: Radar modulation commands (cont.)

Item	Description
ENVironment:RADar:MODulation:DMODulation:DATA:PATTern	Sets or returns the user defined Data Pattern for the Digital Modulation for the selected data file and path.
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS	Sets or returns the PRBS Data Pattern for the Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:RESet	Resets the User Defined PRBS polynomial expression and shift register to their default values for the Digital Modulation Data for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:FILTer:ALPHa	Sets or returns the Alpha (filter roll off) value for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern	Sets or returns the Pre/Post Pattern type of the filter for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:POST	Sets or returns the ending pattern (Post Pattern) of the filter for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:PRE	Sets or returns the starting pattern (Pre Pattern) of the filter for the selected Digital Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:FILTer:TYPE	Sets or returns the Filter Type for the selected Digital Modulation for the selected for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:SSYMbols	Sets or returns the state (enabled or disabled) to use the same symbols across all repeated pulses for the selected Radar emitter.
ENVironment:RADar:MODulation:DMODulation:SYMBols	Sets or returns the number of symbols used while applying the selected Digital Modulation on the pulse for the selected Radar emitter.
ENVironment:RADar:MODulation:FRANk:CLENgth	Sets or returns the Frank code length when the Modulation Phase is set to Frank Code for the selected Radar emitter.
ENVironment:RADar:MODulation:LFM:FSWeep	Sets or returns the Linear Frequency Modulation (LFM) Frequency Sweep method for the selected Radar emitter.
ENVironment:RADar:MODulation:LFM:SRANge	Sets or returns the Linear Frequency Modulation (LFM) Sweep Range for the selected Radar emitter.
ENVironment:RADar:MODulation:NLFM:BANDwidth	Sets or returns the Bandwidth for the Non Linear FM modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:NLFM:PROFile	Sets or returns the Profile for the Non Linear Frequency modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:NLFM:UDCPath	Sets or returns the file path to the User Defined Coefficients profile for the Non Linear FM modulation for the selected Radar emitter.

Table 2-19: Radar modulation commands (cont.)

Item	Description
ENVironment:RADar:MODulation:P1Polyphase:CLENgth	Sets or returns the P1 Polyphase code length when the Modulation Phase is set to P1 Polyphase code for the selected Radar emitter.
ENVironment:RADar:MODulation:P2Polyphase:CLENgth	Sets or returns the P2 Polyphase code length when the Modulation Phase is set to P2 Polyphase code for the selected Radar emitter.
ENVironment:RADar:MODulation:P3Polyphase:CLENgth	Sets or returns the P3 Polyphase code length when the Modulation Phase is set to P3 Polyphase code for the selected Radar emitter.
ENVironment:RADar:MODulation:P4Polyphase:CLENgth	Sets or returns the P4 Polyphase code length when the Modulation Phase is set to P4 Polyphase code for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:ADD	Adds the specified number of steps to the Piecewise Linear Frequency Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:IOFFset	Sets or returns the Initial Offset (frequency) for the Piecewise Linear Frequency Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:STEP[n]:DELete	Deletes the specified step from the Piecewise Linear Frequency Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:STEP[n]:DURation	Sets or returns the Duration of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:STEP[n]:FSWeep	Sets or returns the Frequency Sweep type of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:PLFM:STEP[n]:SRANge	Sets or returns the Sweep Range of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:POLYphase:IOFFset	Sets or returns the Initial Offset (initial phase offset) for the Polyphase Codes modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:POLYphase:POFFset	Sets or returns the Phase Offset for the Polyphase Codes modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:POLYphase:RAMP	Sets or returns the Ramp Function for the Polyphase Codes modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:POLYphase:RDURation	Sets or returns the Ramp Duration for the Polyphase Codes modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:POLYphase:STEPs	Sets or returns the Step Count for the Polyphase Codes modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:SFM:FOFFset	Sets or returns the Frequency Offset for the Step Frequency Modulation (SFM) for the selected Radar emitter.
ENVironment:RADar:MODulation:SFM:IOFFset	Sets or returns the Initial Frequency Offset for the Step Frequency Modulation (SFM) for the selected Radar emitter.
ENVironment:RADar:MODulation:SFM:RAMP	Sets or returns the Ramp Function type for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Table 2-19: Radar modulation commands (cont.)

Item	Description
ENVironment:RADar:MODulation:SFM:RDURation	Sets or returns the Ramp Duration for the Step Frequency Modulation (SFM) for the selected Radar emitter.
ENVironment:RADar:MODulation:SFM:STEPs	Sets or returns the number of steps (Step Count) for the Step Frequency Modulation (SFM) for the selected Radar emitter.
ENVironment:RADar:MODulation:UDCHirp:COUNt	Sets or returns the Up-Down Count for the Up-Down Chirp modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:UDCHirp:INVert	Sets or returns Invert state (enabled or disabled) of the Up-Down Chirp modulation for the selected Radar emitter. When enabled, the frequency profile is inverted.
ENVironment:RADar:MODulation:UDCHirp:SRANge	Sets or returns the Sweep Range for the Up-Down Chirp modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:ADD	Adds the specified number of steps to the User Defined Step FM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:RAMP	Sets or returns the Ramp Function type for the User Defined Step FM AM Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:RDURation	Sets or returns the Ramp Duration for the User Defined Step FM AM Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:STEP[n]:AMPLitude	Sets or returns the Amplitude of the specified step for the User Defined Step FM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:STEP[n]:DELete	Deletes the specified step from the User Defined Step FM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:STEP[n]:DURation	Sets or returns the Duration of the specified step within the User Defined Step FM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USFMam:STEP[n]:FOFFset	Sets or returns the Frequency Offset of the specified step for the User Defined Step FM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:ADD	Adds the specified number of steps to the User Defined Step PM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:RAMP	Sets or returns the Ramp Function type for the User Defined Step PM AM Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:RDURation	Sets or returns the Ramp Duration for the User Defined Step PM AM Modulation for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:STEP[n]:AMPLitude	Sets or returns the Amplitude of the specified step for the User Defined Step PM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:STEP[n]:DELete	Deletes the specified step from the User Defined Step PM AM Modulation table for the selected Radar emitter.

Table 2-19: Radar modulation commands (cont.)

Item	Description
ENVironment:RADar:MODulation:USPMam:STEP[n]:DURation	Sets or returns the Duration of the specified step within the User Defined Step PM AM Modulation table for the selected Radar emitter.
ENVironment:RADar:MODulation:USPMam:STEP[n]:POFFset	Sets or returns the Phase Offset of the specified step for the User Defined Step PM AM Modulation table for the selected Radar emitter.

Table 2-20: Radar offsets commands

Item	Description
ENVironment:RADar:OFFSets:AMPLitude:FILE	Sets or returns the amplitude offset User Defined file path for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:IOFFset	Sets or returns the Initial Amplitude Offset value (in dB) when the amplitude offset type is set to Step Offset for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:OFFSet	Sets or returns the Amplitude Offset value (in dB) for the Fixed amplitude offset type for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:REPeat	Sets or returns the amplitude offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:STEP	Sets or returns the amplitude offset Step Increment value (in dB) for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:TON	Sets or returns the Amplitude Offset state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:AMPLitude:TYPE	Sets or returns the amplitude offset Type for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:FILE	Sets or returns the frequency offset User Defined file path for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:IOFFset	Sets or returns the Initial Frequency Offset value (in Hz) when the frequency offset type is set to Step Offset for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:OFFSet	Sets or returns the Frequency Offset value (in Hz) for the Fixed frequency offset type for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:REPeat	Sets or returns the frequency offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:STEP	Sets or returns the frequency offset Step Increment value (in Hz) for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:TON	Sets or returns the Frequency Offset state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:FREQuency:TYPE	Sets or returns the frequency offset Type for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:FILE	Sets or returns the phase offset User Defined file path for the selected for the selected Radar emitter.

Table 2-20: Radar offsets commands (cont.)

Item	Description
ENVironment:RADar:OFFSets:PHASe:IOFFset	Sets or returns the Initial Phase Offset value (in degrees) when the phase offset type is set to Step Offset for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:OFFSet	Sets or returns the Phase Offset value (in degrees) for the Fixed phase offset type for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:REPeat	Sets or returns the phase offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:STEP	Sets or returns the phase offset Step Increment value (in degrees) for the selected for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:TON	Sets or returns the Phase Offset state (enabled or disabled) for the selected Radar emitter.
ENVironment:RADar:OFFSets:PHASe:TYPE	Sets or returns the phase offset Type for the selected Radar emitter.

Table 2-21: Radar pulse envelope commands

Item	Description
ENVironment:RADar:PENVelope[:CUSTom]:PATH	Sets or returns the Custom Pulse Shape file name and file path of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope[:CUSTom]:SRATe	Sets or returns the Custom Pulse Shape Sampling Rate of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:DROOp	Sets or returns the deviation Droop of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:FTIMe:PERCentage	Sets or returns the Fall Time Percentage of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:FTIMe:VALue	Sets or returns the Fall Time of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:OSHoot	Sets or returns the Overshoot value of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:OTIMe	Sets or returns the Off Time of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:PRF	Sets or returns the Pulse Repetition Frequency (PRF) of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:PRI	Sets or returns the PRI (Pulse Repeat Interval) of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:RFRequency	Sets or returns the deviation Ripple frequency of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:RIPPle	Sets or returns the deviation Ripple percentage of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:RTIMe:PERCentage	Sets or returns the Rise Time Percentage of the Pulse Envelope for the selected Radar emitter.

Table 2-21: Radar pulse envelope commands (cont.)

Item	Description
ENVironment:RADar:PENVelope:RTIMe:VALue	Sets or returns the Rise Time of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:SHAPe	Sets or returns the Pulse Shape of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:WIDTh:PERCentage	Sets or returns the Pulse Width of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:PENVelope:WIDTh:VALue	Sets or returns the Pulse Width of the Pulse Envelope for the selected Radar emitter.
ENVironment:RADar:REPeat	Sets or returns the pulse envelope Repeat Count for the selected Radar emitter.

Table 2-22: Radar staggered PRI commands

Item	Description
ENVironment:RADar:SPRI:DTYPe	Sets or returns the Staggered PRI Deviation Type for the selected Radar emitter.
ENVironment:RADar:SPRI:FILE	Sets or returns the file path to the Staggered PRI Deviation file for the selected Radar emitter.
ENVironment:RADar:SPRI:RAMP:DEGRees	Sets or returns the ramp degrees for the PRI deviation slope for the selected Radar emitter.
ENVironment:RADar:SPRI:RAMP:MDEViation	Sets or returns the ramp minimum deviation for the PRI Deviation slope for the selected Radar emitter.
ENVironment:RADar:SPRI:RAMP:SLOPe	Sets or returns the ramp slope direction for the PRI Deviation ramp for the selected Radar emitter.
ENVironment:RADar:SPRI:REPeat	Sets or returns the Repeat deviation pattern state (enabled or disabled) for the Staggered PRI for the selected Radar emitter.
ENVironment:RADar:SPRI:TABLe:ADD	Adds the specified number of repeat indices to the end of the user defined table of Staggered PRI for the selected Radar emitter.
ENVironment:RADar:SPRI:TABLe:COUNt?	Returns the number of repeat indices in the user defined table of Staggered PRI for the selected Radar emitter.
ENVironment:RADar:SPRI:TABLe:INDex[n]:DELete	Deletes the specified number of repeat indices, starting with the specified index location in the user defined table of Staggered PRI of the selected Radar emitter.
ENVironment:RADar:SPRI:TABLe:INDex[n]:DEViation	Sets or returns the Deviation of the specified index location in the user defined table of Staggered PRI for the selected Radar emitter.
ENVironment:RADar:SPRI:TABLe:INDex[n]:INSert	Inserts the specified number of repeat indices above the specified index location in the user defined table of Staggered PRI for the selected Radar emitter.
ENVironment:RADar:SPRI:TON	Sets or returns the Staggered Pulse Repetition Interval state (enabled or disabled) for the selected Radar Emitter.

Tones emitter commands

Table 2-23: Tones commands

Item	Description
ENVironment:TONes:BANDwidth	Sets or returns the Bandwidth of the Tone emitter if the current selected emitter is a Tone emitter.
ENVironment:TONes:MTYPe	Sets or returns the Multi tone type of the Tones emitter if the current selected emitter is a Tones emitter.
ENVironment:TONes:NOCYcles	Sets or returns the Number of cycles of the Tone emitter if the current selected emitter is a Tone emitter.
ENVironment:TONes:NOTones	Sets or returns the Number of tones of the Tone emitter if the current selected emitter is a Tone emitter.
ENVironment:TONes:PHASe	Sets or returns the phase of the Tone emitter if the current selected emitter is a Tone emitter.
ENVironment:TONes:SPACing	Sets or returns the selected Tone spacing value if the current selected emitter is a Tone emitter.
ENVironment:TONes:TYPE	Sets or returns the selected Tone emitter Type.
ENVironment:TONes:UDPHase	Sets or returns the User Defined Phase of the Tone emitter if the current selected emitter is a Tone emitter.

User defined emitter commands

Table 2-24: User defined commands

Item	Description
ENVironment:UDEFined:IQWList	Sets or returns the IQ Interference Signal to use for the User Defined emitter. The specified waveform must exist in the Waveform List.
ENVironment:UDEFined:RFWList	Sets or returns the RF Interference Signal to use for the User Defined emitter. The specified waveform must exist in the Waveform List.
ENVironment:UDEFined:SFORmat	Sets or returns the type of the User Defined emitter if the current selected emitter is a User Defined emitter.

WCDMA emitter commands

Table 2-25: WCDMA commands

Item	Description
ENVironment:WCDMA:CPICh	Sets or returns the state (enabled or disabled) of the common pilot channel in Test Mode 4 of the down link mode of the selected WCDMA emitter.
ENVironment:WCDMA:DLMode	Sets or returns the Down Link mode of the selected WCDMA emitter.

Table 2-25: WCDMA commands (cont.)

Item	Description
ENVironment:WCDMA:DRAte	Sets or returns the Up Link Data rate of the selected WCDMA emitter.
ENVironment:WCDMA:HPDSch	Sets or returns the highspeed physical shared downlink channel of the selected WCDMA emitter.
ENVironment:WCDMA:LINK	Sets or returns the Link mode of the selected WCDMA emitter.
ENVironment:WCDMA:NCHannels	Sets or returns the number of channels of the selected WCDMA emitter.

WiFi emitter commands

Table 2-26: WiFi commands

Item	Description
ENVironment:WIFI:DLENgth	Sets or returns the Data length for the selected WIFI emitter.
ENVironment:WIFI:DRATe	Sets or returns the Data rate for the selected WIFI emitter.
ENVironment:WIFI:OTIMe	Sets or returns the Off-time for the selected WIFI emitter.
ENVironment:WIFI:PFORmat	Sets or returns the PLCP Format for the selected WIFI emitter.
ENVironment:WIFI:STANdard	Sets or returns the Standard for the selected WIFI emitter.

WiMaX emitter commands

Table 2-27: WiMaX commands

Item	Description
ENVironment:WIMAx:BANDwidth	Sets or returns the Bandwidth for the selected WiMax emitter.
ENVironment:WIMax:GINTerval?	Returns the Guard Interval Value for the selected WiMax emitter.
ENVironment:WIMAx:MODUlation	Sets or returns the Modulation for the selected WiMax emitter.
ENVironment:WIMAx:OTIMe	Sets or returns the Offtime for the selected WiMax emitter.
ENVironment:WIMAx:PAYLoad	Sets or returns the Payload for the selected WiMax emitter.

Commands in alphabetical order

This section contains all available commands. They are presented in alphabetical order.

Use the Command Groups section to simplify navigating to specific groups of commands.

ENVironment:AMODulation:AMModulation:AMINdex

This command sets or returns the AM Index for the AM Modulation for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:AMModulation:AMINdex <AM_index>
ENVironment:AMODulation:AMModulation:AMINdex?
```

Related Commands ENVironment:AMODulation:TYPE

Arguments <AM_index>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:AMMODULATION:AMINDEX 3.5` sets the AM Index to 3.5% for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:AMMODULATION:AMINDEX?` might return `10.0000000000`, indicating that the AM Index for AM Modulation is set to 10% for the selected Emitter.

ENVironment:AMODulation:FMModulation:FDEViation

This command sets or returns the Frequency Deviation for the FM Modulation for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:FMModulation:FDEViation <deviation>
ENVironment:AMODulation:FMModulation:FDEViation?
```

Arguments <deviation>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:FMMODULATION:FDEVIATION 1E3` sets the FM Frequency Deviation to 1 kHz for Analog Modulation for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:FMMODULATION:FDEVIATION?` might return `1.4000000000E+3`, indicating that the FM Frequency Deviation is set to 1.4 kHz for the selected Analog Modulation emitter.

ENVironment:AMODulation:MFRequency

This command sets or returns the Modulating Frequency of the sinusoidal, triangular, or square Modulating Signals for the selected Analog Modulation emitter.

Conditions The Modulating Signal must be set to Sinusoidal, Triangular, or Square before sending this command.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MFRequency <frequency>
ENVironment:AMODulation:MFRequency?
```

Related Commands ENVironment:AMODulation:MSIGnal:TYPe

Arguments <frequency>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:MFREQUENCY 10E6` sets the Modulating Frequency to 10 MHz for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MFREQUENCY?` might return `1.0000000000E+6`, indicating that the Modulating Frequency is set to 1 MHz for the selected Analog Modulation emitter.

ENVironment:AMODulation:MSIGnal:FNAMe

This command sets or returns the file name for User Defined Modulating Signal for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MSIGnal:FNAMe <filepath>
ENVironment:AMODulation:MSIGnal:FNAMe?
```

Arguments <filepath>::= <string> defines the path to the modulating signal file.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:AMODULATION:MSIGNAL:FNAME "C:\SAMPLEMODULATINGSCHEME.TXT"` sets the modulating signal file's path and file name for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MSIGNAL:FNAME?` might return `"C:\SampleModulatingScheme.txt"` if that file is set to be used for the User-defined analog modulation type for the selected Analog Modulation emitter.

ENVironment:AMODulation:MSIGnal:INTerpolation

This command sets or returns the Interpolation type for User Defined Modulating Signal for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MSIGnal:INTerpolation
{SINC|NNEighbor}
ENVironment:AMODulation:MSIGnal:INTerpolation?
```

Arguments

SINC
NNEighbor = Nearest Neighbor

Returns

SINC
NNE

Examples

`ENVIRONMENT:AMODULATION:MSIGNAL:INTERPOLATION SINC` sets the Interpolation type to Sinc for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MSIGNAL:INTERPOLATION?` might return `NNE`, indicating that the Interpolation type is set to Nearest Neighbor for the selected Analog Modulation emitter.

ENVironment:AMODulation:MSIGnal:POFFset

This command sets or returns the Phase Offset of the sinusoidal, triangular, or square Modulating Signals for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MSIGnal:POFFset <phase_offset>
ENVironment:AMODulation:MSIGnal:POFFset?
```

Arguments <phase_offset>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:MSIGNAL:POFFSET 10` sets the modulating signal's phase offset to 10 degrees for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MSIGNAL:POFFSET?` might return `11.0000000000`, indicating that the modulating signal's phase offset is set to 11 degrees for the selected Analog Modulation emitter.

ENVironment:AMODulation:MSIGnal:SRATe

This command sets or returns the Sampling Rate for User Defined Modulating Signal for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MSIGnal:SRATe <sampling_rate>
ENVironment:AMODulation:MSIGnal:SRATe?
```

Arguments <sampling_rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:MSIGNAL:SRATE 100E+6` sets the User Defined modulating signal's sampling rate to 100 MS/s for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MSIGNAL:SRATE?` might return `150.0000000000E+6`, indicating that the user defined modulating signal's sampling rate is set to 150 MS/s for the selected Analog Modulation emitter.

ENVironment:AMODulation:MSIGnal:TYPe

This command sets or returns the Modulating Signal type for Analog Modulation for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:MSIGnal:TYPe
{SINusoidal|TRIangular|SQUare|UDEFined}
ENVironment:AMODulation:MSIGnal:TYPe?
```

Arguments

SINusoidal = Sinusoidal
TRIangular = Triangular
SQUare = Square
UDEFined = User Defined

Returns

SIN
TRI
SQU
UDEF

Examples

`ENVIRONMENT:AMODULATION:MSIGNAL:TYPE SIN` sets the Modulating Signal type to SINUSOIDAL for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:MSIGNAL:TYPE?` might return `UDEF`, indicating that the Modulating Signal type is set to User Defined for the selected Analog Modulation emitter.

ENVironment:AMODulation:NOCYcles

This command sets or returns the Number of cycles of the modulating signal for the selected Analog Modulation emitter. The signal type must be sinusoidal, triangular or square.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:NOCYcles <cycles>
ENVironment:AMODulation:NOCYcles?
```

Arguments <cycles>:= <NRf>.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:NOCYCLES 10` sets the number of cycles to 10 for the analog modulation for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:NOCYCLES?` might return `12.0000000000`, indicating that the number of cycles is set to 12 for the selected Analog Modulation emitter.

ENVironment:AMODulation:PMModulation:PDEViation

This command sets or returns the Phase Deviation for the PM Modulation for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:PMModulation:PDEViation
<phase_deviation>
ENVironment:AMODulation:PMModulation:PDEViation?
```

Arguments <phase_deviation>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:AMODULATION:PMMODULATION:PDEVIATION 11.5` sets the PM Phase Deviation to 11.5° for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:PMMODULATION:PDEVIATION?` might return `10.0000000000`, indicating that the PM Phase Deviation is set to 10° for the selected Analog Modulation emitter.

ENVironment:AMODulation:TYPE

This command sets or returns the Analog Modulation type for the selected Analog Modulation emitter.

Group Analog modulation

Syntax

```
ENVironment:AMODulation:TYPE {AM|FM|PM}
ENVironment:AMODulation:TYPE?
```

Related Commands ENVironment:AMODulation:TYPE

Arguments AM, FM, PM

Returns

AM
FM
PM

Examples `ENVIRONMENT:AMODULATION:TYPE FM` sets the Analog Modulation type to FM for the selected Analog Modulation emitter.

`ENVIRONMENT:AMODULATION:TYPE?` might return `PM`, indicating that the Analog Modulation type is set to Phase Modulation for the selected Analog Modulation emitter.

ENVironment:BLUetooth:DATarate? (Query Only)

This command returns the Datarate for the selected Bluetooth emitter.

Group Bluetooth

Syntax `ENVironment:BLUetooth:DATarate?`

Returns OMBPs = 1 Mb/s
TMBPs = 2 Mb/s
THMBps = 3 Mb/s
FKBPs = 5 kb/s

Examples `ENVIRONMENT:BLUETOOTH:DATARATE?` might return `THMB`, indicating that the data rate is set to 3 Mbps for the selected Bluetooth emitter.

ENVironment:BLUetooth:MODulation? (Query Only)

This command returns the Modulation type for the selected Bluetooth emitter.

Group Bluetooth

Syntax `ENVironment:BLUetooth:MODulation?`

Returns GFSK
CEGFsk = Convolution Encoded GFSK
DPSK = Differential PSK

Examples `ENVIRONMENT:BLUETOOTH:MODULATION?` might return `DPSK`, indicating that the Modulation type is set to Differential PSK for the selected Bluetooth emitter.

ENVironment:BLUetooth:STANdard

This command sets or returns the Standard for the selected Bluetooth emitter.

Group Bluetooth

Syntax

```
ENVironment:BLUetooth:STANdard {LEOM|LETM|LECOded|BR|EDR}
ENVironment:BLUetooth:STANdard?
```

Arguments LEOM, LETM, LECOded, BR, EDR

Returns

LEOM
LETM
LECO
BR
EDR

Examples `ENVIRONMENT:BLUETOOTH:STANDARD LECODED` sets the Standard to LE Coded for the selected Bluetooth emitter.

`ENVIRONMENT:BLUETOOTH:STANDARD?` might return `LECO`, indicating that the Bluetooth emitter Standard is set to Le Coded if the current selected emitter is Bluetooth.

ENVironment:CDMA:DRAte

This command sets or returns the Data rate for the selected CDMA emitter.

Group CDMA

Syntax

```
ENVironment:CDMA:DRAte {DR12|DR15|DR24|DR27|DR48|DR96|DR18|
DR36|DR72|DR14}
ENVironment:CDMA:DRAte?
```

Arguments DR12, DR15, DR24, DR27, DR48, DR96, DR18, DR36, DR72, DR14

Returns DR12, DR15, DR24, DR27, DR48, DR96, DR18, DR36, DR72, or DR14

Examples `ENVIRONMENT:CDMA:DRATE DR24` sets the Data rate to 2400 bps for the selected CDMA emitter.

`ENVIRONMENT:CDMA:DRATE?` might return `DR15`, indicating that data rate is set to 1500 bps for the selected CDMA emitter.

ENVironment:CDMA:LINK

This command sets or returns the Link mode for the selected CDMA emitter.

Group CDMA

Syntax
```
ENVironment:CDMA:LINK {FORWard|REVerse}
ENVironment:CDMA:LINK?
```

Arguments FORWard, REVerse

Returns
FORW
REV

Examples `ENVIRONMENT:CDMA:LINK FORWARD` sets the Link mode to Forward for the selected CDMA emitter.

`ENVIRONMENT:CDMA:LINK?` might return `REV`, indicating that Link mode is set to Reverse for the selected CDMA emitter.

ENVironment:CDMA:NCHannels

This command sets or returns the number of channels for the selected CDMA emitter.

Group CDMA

Syntax

```
ENVironment:CDMA:NCHannels {CH5|CH9|CH12|CH15}
ENVironment:CDMA:NCHannels?
```

Arguments CH5, CH9 , CH12, CH15

CH5 is only valid for the Reverse Link.

Returns CH5, CH9 , CH12, or CH15

Examples `ENVIRONMENT:CDMA:NCHANNELS CH9` sets the number of channels to 9 for the selected CDMA emitter.

`ENVIRONMENT:CDMA:NCHANNELS?` might return `CH12`, indicating that number of channels is set to 12 for the selected CDMA emitter.

ENVironment:CDMA:RCONfiguration

This command sets or returns the Radio Configuration for the selected CDMA emitter.

Group CDMA

Syntax

```
ENVironment:CDMA:RCONfiguration {RC1|RC2|RC3|RC4|RC5}
ENVironment:CDMA:RCONfiguration?
```

Arguments RC1, RC2, RC3, RC4, RC5}

Returns RC1
RC2
RC3
RC4
RC5

Examples `ENVIRONMENT:CDMA:RCONFIGURATION RC1` sets the Radio Configuration to RC1 for the selected CDMA emitter.

`ENVIRONMENT:CDMA:RCONFIGURATION?` might return `RC4`, indicating that Radio Configuration is set to RC4 for the selected CDMA emitter.

ENVironment:COMPile (No Query Form)

This command compiles and generates a waveform using the Environment plug-in compile settings.

Conditions The active plug-in must be Environment.

This is an overlapping command. Overlapping commands run concurrently with other commands, allowing additional commands to start before the overlapping command has finished.

Group Compile

Syntax `ENVironment:COMPile`

Examples `ENVIRONMENT:COMPILE` compiles and generates the waveforms.

ENVironment:COMPile:AWARound

This command sets or returns the Adjust Wrap Around state (enabled or disabled) for the Compile Settings.

Group Compile

Syntax

```
ENVironment:COMPile:AWARound {0|1|OFF|ON}
ENVironment:COMPile:AWARound?
```

Arguments OFF or 0 disables Adjust Wrap Around.

ON or 1 enables Adjust Wrap Around. ON or 1 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:AWAROUND 1` enables Adjust Wrap Around.

`ENVIRONMENT:COMPILE:AWAROUND?` might return `0`, indicating Adjust Wrap Around is disabled.

ENVironment:COMPile:CANCel (No Query Form)

This command cancels a compilation currently in progress.

Group Compile

Syntax `ENVironment:COMPile:CANCel`

Examples `ENVIRONMENT:COMPILE:CANCEL` immediately ends the current compile process.

ENVironment:COMPile:CASSign

This command sets or returns the state (enabled or disabled) to compile the waveform and immediately assign it to a specified channel (enabled) or just compile the waveform (disabled).

Group Compile

Syntax

```
ENVironment:COMPile:CASSign {0|1|OFF|ON}
ENVironment:COMPile:CASSign?
```

Related Commands ENVironment:COMPile:CHANnel:RF, ENVironment:COMPile:CHANnel:I, ENVironment:COMPile:CHANnel:Q

Arguments 0 or OFF will only compile the waveform.
1 or ON will compile and assign the waveform to a channel.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:CASSIGN 1` enables the compile and assign function.

`ENVIRONMENT:COMPILE:CASSIGN?` might return `0`, indicating that the compile and assign function is disabled.

ENVironment:COMPile:CHANnel:I

This command sets or returns the playout channel intended for the compiled I signal waveform when the signal format is set to IQ. The selected channel is also used to define the amplitude ranges.

If ENVironment:COMPile:CASSign is enabled, the waveform is assigned to the specified channel.

Group Compile

Syntax

```
ENVironment:COMPile:CHANnel:I <channel>
ENVironment:COMPile:CHANnel:I?
```

Related Commands ENVironment:COMPile:CHANnel:Q, ENVironment:COMPile:CASSign, ENVironment:COMPile:PLAY

Arguments <channel>::=<NR1> is a valid channel number.

Returns A single <NR1> value.

Examples `ENVIRONMENT:COMPILE:CHANNEL:I 2` assigns the I signals to channel 2.

`ENVIRONMENT:COMPILE:CHANNEL:I?` might return `1`, indicating that I signals are assigned to channel 1.

ENVironment:COMPile:CHANnel:Q

This command sets or returns the playout channel intended for the compiled Q signal waveform when the signal format is set to IQ. The selected channel is also used to define the amplitude ranges.

If ENVironment:COMPile:CASSign is enabled, the waveform is assigned to the specified channel.

Group Compile

Syntax

```
ENVironment:COMPile:CHANnel:Q <channel>
ENVironment:COMPile:CHANnel:Q?
```

Related Commands ENVironment:COMPile:CHANnel:I, ENVironment:COMPile:CASSign, ENVironment:COMPile:PLAY

Arguments <channel>::=<NR1> is a valid channel number.

Returns A single <NR1> value.

Examples `ENVIRONMENT:COMPILE:CHANNEL:Q 2` assigns the Q signals to channel 2.

`ENVIRONMENT:COMPILE:CHANNEL:Q?` might return `1`, indicating that Q signals are assigned to channel 1.

ENVironment:COMPile:CHANnel:RF

This command sets or returns the playout channel intended for the compiled RF signal waveform when the signal format is set to RF/IF. The selected channel is also used to define the amplitude ranges.

If ENVironment:COMPile:CASSign is enabled, the waveform is assigned to the specified channel.

Group Compile

Syntax

```
ENVironment:COMPile:CHANnel:RF <channel>
ENVironment:COMPile:CHANnel:RF?
```

Related Commands ENVironment:COMPile:CASSign, ENVironment:COMPile:PLAY

Arguments <channel>::=<NR1> is a valid channel number.

Returns A single <NR1> value.

Examples `ENVIRONMENT:COMPILE:CHANNEL:RF 2` assigns the RF signals to channel 2.

`ENVIRONMENT:COMPILE:CHANNEL:RF?` might return `1`, indicating that RF signals are assigned to channel 1.

ENVironment:COMPile:CORRection:APPLy

This command sets or returns the Apply Corrections File state (enabled or disabled) for the Compile Settings.

When applying correction files, you have the capability adjust the frequency response.

- When applying an RF correction file, you can apply a Gaussian filter/bandwidth or remove Sin(x)/x distortions.
- When applying an I/Q correction file, you can apply a skew.

These settings are global settings controlled by the host instrument. The PI commands to access these settings are provided in the host instrument's programmer manual.

Group Compile

Syntax

```
ENVironment:COMPile:CORRection:APPLy {1|0|ON|OFF}
ENVironment:COMPile:CORRection:APPLy?
```

Related Commands ENVironment:COMPile:CORRection:PATH

Arguments OFF or 0 disables Apply Corrections File. OFF or 0 is the default value.

ON or 1 enables Apply Corrections File.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:CORRECTION:APPLY 1` enables Apply Corrections File.

`ENVIRONMENT:COMPILE:CORRECTION:APPLY?` might return `0`, indicating that Apply Corrections File is disabled.

ENVironment:COMPile:CORRection:PATH

This command sets or returns the RF Correction file name and file path to use when compiling an RF signal.

Conditions The signal format must be set to RF.

The Precompensation plug-in is required.

Group Compile

Syntax

```
ENVironment:COMPile:CORRection:PATH <filepath>
ENVironment:COMPile:CORRection:PATH?
```

Arguments <filepath>::=<string> defines path to the corrections file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:COMPILE:CORRECTION:PATH "C:\temp\CorrectionFile.corr"` sets the RF Correction file name and file path.

`ENVIRONMENT:COMPILE:CORRECTION:PATH?` might return `"C:\temp\CorrectionFile.corr"` as the RF Correction filename and file path.

ENVironment:COMPile:CORRection:PATH:I

This command sets or returns the I Correction file name and file path to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

Syntax `ENVironment:COMPile:CORRection:PATH:I <filepath>`

Related Commands ENVironment:COMPile:CORRection:TYPE, ENVironment:COMPile:CORRection:APPLy

Arguments <filepath>::=<string> defines path to the I correction file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:COMPILE:CORRECTION:PATH:I "C:\temp\ICorrectionFile.corr"` sets the I Correction file name and file path.

`ENVIRONMENT:COMPILE:CORRECTION:PATH:I?` might return `"C:\temp\ICorrectionFile.corr"` as the I Correction file name and file path.

ENVironment:COMPile:CORRection:PATH:IQ

This command sets or returns the IQ Correction file name and file path to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

Syntax `ENVironment:COMPile:CORRection:PATH:IQ <filepath>`

Related Commands ENVironment:COMPile:CORRection:TYPE, ENVironment:COMPile:CORRection:APPLy

Arguments <filepath>::=<string> defines path to the IQ correction file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:COMPILE:CORRECTION:PATH:IQ "C:\temp\ICorrectionFile.corr"` sets the IQ Correction filename and filepath.

`ENVIRONMENT:COMPILE:CORRECTION:PATH:IQ?` might return `"C:\temp\ICorrectionFile.corr"` as the IQ Correction file name and file path.

ENVironment:COMPile:CORRection:PATH:Q

This command sets or returns the Q correction file name and file path to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

Syntax `ENVironment:COMPile:CORRection:PATH:Q <filepath>`

Related Commands ENVironment:COMPile:CORRection:TYPE, ENVironment:COMPile:CORRection:APPLy

Arguments <filepath>::=<string> defines path to the Q correction file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:COMPILE:CORRECTION:PATH:Q "C:\temp\QCorrectionFile.corr"` sets the Q Correction file name and file path.

`ENVIRONMENT:COMPILE:CORRECTION:PATH:Q?` might return `"C:\temp\QCorrectionFile.corr"` as the Q Correction file name and file path.

ENVironment:COMPile:CORRection:TYPE

This command sets or returns the type of IQ correction file (a single IQ file or individual I and Q files) to apply when compiling.

Conditions The signal format must be set to IQ.

Group Compile

Syntax

```
ENVironment:COMPile:CORRection:TYPE {IQ|BOTH}
ENVironment:COMPile:CORRection:TYPE?
```

Arguments IQ: The compile process uses a single IQ correction file.

BOTH: The compile process uses both an I correction file and a Q correction file.

Returns IQ
BOTH

Examples `ENVIRONMENT:COMPILE:CORRECTION:TYPE IQ` sets the compiler to apply a single IQ correction file when compiling.

`ENVIRONMENT:COMPILE:CORRECTION:TYPE?` might return `BOTH`, indicating that the compiler will apply both an I and Q correction file to the I and Q signals.

ENVironment:COMPile:DUPConverter

This command sets or returns the Internal IQ Modulator state (enabled or disabled) when compiling.

When enabled, a complex IQ Waveform is created which can be used with the internal IQ modulator. Sampling Rate and interpolation rates will be calculated based on the Baseband parameters.

When disabled, a separate I and Q signals are created.

Conditions The instrument must have an internal IQ Modulator and the Signal Format set to IQ.

Group Compile

Syntax

```
ENVironment:COMPile:DUPConverter {0|1|OFF|ON}
ENVironment:COMPile:DUPConverter?
```

Arguments OFF or 0 disables the internal IQ Modulator. OFF or 0 is the default value.

ON or 1 enables the internal IQ Modulator.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:DUPCONVERTER ON` enables the internal IQ Modulator.

`ENVIRONMENT:COMPILE:DUPCONVERTER?` might return `0`, indicating the internal IQ Modulator is disabled.

ENVironment:COMPile:FDRange

This command sets or returns the Fit to full dynamic range state (enabled or disabled) for the Compile Settings.

Group Compile

Syntax

```
ENVironment:COMPile:FDRange {1|0|ON|OFF}
ENVironment:COMPile:FDRange?
```

Arguments OFF or 0 disables Fit to full dynamic range.

ON or 1 enables Fit to full dynamic range. ON or 1 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:FDRANGE ON` enables Fit to dynamic range.

`ENVIRONMENT:COMPILE:FDRANGE?` might `0`, indicating Fit to dynamic range is disabled.

ENVironment:COMPile:MARKer:ENABle

This command sets or returns the Marker Data state (enabled or disabled) for the Compile Settings.

Group Compile

Syntax

```
ENVironment:COMPile:MARKer:ENABle {1|0|ON|OFF}
ENVironment:COMPile:MARKer:ENABle?
```

Related Commands ENVironment:COMPile:MARKer[n]:MDATa
ENVironment:COMPile:MARKer[n]:CFRequency

Arguments OFF or 0 disables Marker Data. OFF or 0 is the default value.

ON or 1 enables Marker Data.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:MARKER:ENABLE ON` enables the Marker Data.

`ENVIRONMENT:COMPILE:MARKER:ENABLE?` might return `0`, indicating that Marker Data is disabled.

ENVironment:COMPile:MARKer[n]:CFRequency

This command sets or returns the Marker Data clock frequency when the Marker Data type is set to Clock Frequency.

Group Compile

Syntax

```
ENVironment:COMPile:MARKer[n]:CFRequency <frequency>
ENVironment:COMPile:MARKer[n]:CFRequency?
```

Arguments <frequency>::=<NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:COMPILE:MARKER1:CFREQUENCY 1E9` sets the Marker 1 Data clock frequency to 1 GHz.

`ENVIRONMENT:COMPILE:MARKER2:CFREQUENCY?` might return `10.0000000000E+6`, indicating the Marker 2 clock frequency is set to 10 MHz.

ENVironment:COMPile:MARKer[n]:MDATa

This command sets or returns the Marker Data Type of the specified marker.

Group Compile

Syntax

```
ENVironment:COMPile:MARKer[n]:MDATa {SRATe|BRATe|CFRequency}
ENVironment:COMPile:MARKer[n]:MDATa?
```

Related Commands ENVironment:COMPile:MARKer:ENABle

Arguments [n] ::= specifies the Marker. The number of markers available for the channel is dependent on the instrument model.

If omitted, n is interpreted as 1.

SRATe sets the marker data type sample rate.

BRATe sets the marker data type bit rate.

CFRequency sets the marker data type to clock frequency.

Returns

SRAT
BRAT
CFR

Examples `ENVIRONMENT:COMPILE:MARKER1:MDATA BRATE` sets the Marker 1 Data type to Bit Rate.

`ENVIRONMENT:COMPILE:MARKER2:MDATA?` might return `CFR`, indicating that the Marker 2 Data type is based on the clock frequency provided.

ENVironment:COMPile:NAMe

This command sets or returns the name of the compiled waveform.

Group Compile

Syntax

```
ENVironment:COMPile:NAMe <signal_name>
ENVironment:COMPile:NAMe?
```

Arguments <signal_name>::=<string> defines the signal name to be created.

Returns <string>

Examples `ENVIRONMENT:COMPILE:NAME "RFGenWfm"` sets the waveform name to RFGenWfm.

`ENVIRONMENT:COMPILE:NAME?` might return `"RFGenWfm"`.

ENVironment:COMPile:OSAMpling

This command sets or returns the over sampling rate used to determine the sampling rate of the compiled signal.

The Sampling Rate is calculated by multiplying the Over sampling value with the maximum frequency of the signal to be generated.

Group Compile

Syntax

```
ENVironment:COMPile:OSAMpling <Oversampling>
ENVironment:COMPile:OSAMpling?
```

Arguments <Oversampling>::=<NR1> value.
Range: 1 to 1000

Returns A single <NR1> value.

Examples `ENVIRONMENT:COMPILE:OSAMPLING 6` sets the over sampling to 6.

`ENVIRONMENT:COMPILE:OSAMPLING?` might return `4`, indicating that the over sampling rate is set to 4.

ENVironment:COMPile:OVERwrite

This command sets or returns the state (enabled or disabled) wether or not to overwrite the existing waveform if the waveform already exists in the Waveform list.

When disabled, a new compiled waveform using the same name will have a numeric suffix added to the end of the waveform name.

Group Compile

Syntax

```
ENVironment:COMPile:OVERwrite {0|1|OFF|ON}
ENVironment:COMPile:OVERwrite?
```

Arguments OFF or 0 disables overwriting waveform names. OFF or 0 is the default value.

ON or 1 enables overwriting waveform names.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:OVERWRITE 1` enables overwriting waveform names.

`ENVIRONMENT:COMPILE:OVERWRITE?` might return `0`, indicating that overwriting waveform names is disabled.

ENVironment:COMPile:PLAY

This command sets or returns the Play after assign state (enabled or disabled) for the Compile Settings.

Play after assign is active only when Compile and assign is enabled.

Group Compile

Syntax

```
ENVironment:COMPile:PLAY {0|1|OFF|ON}
ENVironment:COMPile:PLAY?
```

Arguments OFF or 0 disables Play after assign. OFF or 0 is the default value.

ON or 1 enables Play after assign.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:PLAY 1` enables Play after assign.

`ENVIRONMENT:COMPILE:PLAY?` might return `0`, indicating that Play after assign is disabled.

ENVironment:COMPile:SRATe

This command sets or returns the sampling rate for the compile settings.

Group Compile

Syntax

```
ENVironment:COMPile:SRATe <rate>
ENVironment:COMPile:SRATe?
```

Arguments <rate>::= <NR3> value.

The maximum sampling rate is dependent on the instrument and instrument options.

Returns A single <NR3> value.

Examples `ENVIRONMENT:COMPILE:SRATE 4E9` sets the Sampling Rate to 4 GS/s in the Compile settings.

`ENVIRONMENT:COMPILE:SRATE?` might return `4.0000000000E+9`, indicating that the sampling rate is 4 GS/s

ENVironment:COMPile:SRATe:AUTO

This command sets or returns the value that indicates if the sampling rate will be automatically calculated at compile time.

Group Compile

Syntax

```
ENVironment:COMPile:SRATe:AUTO {0|1|OFF|ON}
ENVironment:COMPile:SRATe:AUTO?
```

Arguments OFF or 0 disables the sampling rate auto calculation and the manual setting for is used.

ON or 1 enables the auto calculation. ON or 1 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:COMPILE:SRATE:AUTO ON` sets the signal's sampling rate to be automatically calculated at compile time.

`ENVIRONMENT:COMPILE:SRATE:AUTO?` might return `0`, indicating that the sampling rate will not be automatically calculated at compile time.

ENVironment:DMODulation:APSK

This command sets or returns the APSK Modulation type for the selected Digital Modulation emitter.

APSK Modulation requires further definition. See related commands.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:APSK {APSK16|APSK32|APSK64}
ENVironment:DMODulation:APSK?
```

Related Commands

ENVironment:DMODulation:APSK:SRINg
ENVironment:DMODulation:APSK:SYMBols
ENVironment:DMODulation:APSK:RADius
ENVironment:DMODulation:APSK:PROTation

Arguments APSK16, APSK32, and APSK64 are the selectable APSK digital modulation types.

Returns APSK16, APSK32, or APSK64 indicating the APSK digital modulation type.

Examples `ENVIRONMENT:DMODULATION:APSK APSK32` sets the APSK Modulation type to 32 APSK for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:APSK?` might return `APSK32`, indicating that the APSK Modulation type is set to 32 APSK for the selected Digital Modulation emitter.

ENVironment:DMODulation:APSK:PROTation

This command sets or returns the Phase Rotation of the selected APSK Ring Index for the selected Digital Modulation emitter.

Use the command ENVironment:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:APSK:PROTation <rotation>
ENVironment:DMODulation:APSK:PROTation?
```

Related Commands ENVironment:DMODulation:APSK:SRINg

Arguments <rotation>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:APSK:PROTATION 45` sets the selected APSK Phase Rotation to 45 degrees for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:APSK:PROTATION?` might return `180.0000000000`, indicating that the selected APSK Phase Rotation is set to 180 degrees for the selected Digital Modulation emitter.

ENVironment:DMODulation:APSK:RADius

This command sets or returns the Radius of the selected APSK Ring Index for the selected Digital Modulation emitter.

Use the command ENVironment:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:APSK:RADius <radius>
ENVironment:DMODulation:APSK:RADius?
```

Related Commands ENVironment:DMODulation:APSK:SRINg

Arguments <radius>::= <NR2> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:APSK:RADIUS 10` sets the selected APSK Radius to 10 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:APSK:RADIUS?` might return `4.5800000000`, indicating that the selected APSK Radius is set to 4.58 for the selected Digital Modulation emitter.

ENVironment:DMODulation:APSK:SRINg

This command sets or returns the selected APSK Ring Index for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:APSK:SRINg <index>
ENVironment:DMODulation:APSK:SRINg?
```

Arguments <index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:APSK:SRING 2` sets the selected APSK Ring Index to 2 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:APSK:SRING?` might return `2.0000000000`, indicating that the selected APSK Ring Index is 2 for the selected Digital Modulation emitter.

ENVironment:DMODulation:APSK:SYMBols

This command sets or returns the Number of Symbols of the selected APSK Ring Index for the selected Digital Modulation emitter.

Use the command ENVironment:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:APSK:SYMBols <symbols>
ENVironment:DMODulation:APSK:SYMBols?
```

Arguments <symbols>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:APSK:SYMBOLS 12` sets the APSK Number of Symbols to 12 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:APSK:SYMBOLS?` might return `12.0000000000`, indicating that the selected APSK Symbol count is set to 12 for the selected Digital Modulation emitter.

ENVironment:DMODulation:ASK:MINDex

This command sets or returns the ASK Mod Index for ASK modulation for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:ASK:MINDex <mod_index>
ENVironment:DMODulation:ASK:MINDex?
```

Related Commands ENVironment:DMODulation:TYPe

Arguments <mod_index>::= <NR2> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:ASK:MINDEX 10` sets the ASK Mod Index value to 10% for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:ASK:MINDEX?` might return `2.5000000000`, indicating that the ASK Mod Index value is set to 2.5% for the selected Digital Modulation emitter.

ENVironment:DMODulation:CPM:MINDex

This command sets or returns the Index for CPM modulation for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:CPM:MINDex {1|2|3|4|5|6}
ENVironment:DMODulation:CPM:MINDex?
```

Arguments

1 = 4/16, 5/16
2 = 5/16, 6/16
3 = 6/16, 7/16
4 = 7/16, 10/16
5 = 12/16, 13/16
6 = 8/16, 8/16

Returns 1, 2, 3, 4, 5, or 6 indicating the CPM modulation index.

Examples `ENVIRONMENT:DMODULATION:CPM:MINDEX 2` sets the CPM modulation type to 5/16, 6/16 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:CPM:MINDEX?` might return `4.0000000000`, indicating that the CPM modulation index value is set to 7/16, 10/16 for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA

This command sets or returns the Data Pattern type for the selected Digital Modulation emitter.

When setting the pattern type to PRBS, Pattern, or File, use the additional commands noted with each argument to continue defining these pattern types.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:DATA {AZERo|AONe|PRBS|PATTern|FILe}
ENVironment:DMODulation:DATA?
```

Arguments

`AZERo` is a data type of all zeroes.

`AONe` is a data type of all ones.

PRBS is one of the available PRBS data types. Use the command ENVironment:DMODulation:DATA:PRBS to set and query the actual PRBS data type.

`PATTern` is a pattern data type. Use the command ENVironment:DMODulation:DATA:FILE to set and query the pattern.

`FILe` is a file data type. Use the command ENVironment:DMODulation:DATA:FILE to set and query the pattern file and file path.

Returns

AZER
AON
PRBS
PATT
FIL

Examples

`ENVIRONMENT:DMODULATION:DATA AONE` sets the Data Type to All ones for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA?` might return `AONe`, indicating that the Data Type is set to all ones for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:CODing

This command sets or returns the coding type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:DATA:CODing {NONe|GRAY|DIFFerential}
ENVironment:DMODulation:DATA:CODing?
```

Arguments NONe: No coding applied.

GRAY: Applies gray coding to the information bits.

DIFFerential: Applies differential coding to the information bits.

Returns NON
GRAY
DIFF

Examples `ENVIRONMENT:DMODULATION:DATA:CODING GRAY` sets the coding to gray for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:CODING?` might return `NON`, indicating no coding is applied to the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:FILE

This command sets or returns the pattern file and file path for the selected Digital Modulation emitter.

Conditions The Data Pattern type must be set to file with the command ENVironment:DMODulation:DATA.

Group Digital modulation

Syntax `ENVironment:DMODulation:DATA:FILE <filepath>`

Related Commands ENVironment:DMODulation:DATA

Arguments <filepath>::= <string>.

Returns A single <filepath> string.

Examples `ENVIRONMENT:DMODULATION:DATA:FILE "C:\temp\dataPattern.txt"` sets the pattern file and path for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:FILE?` might return `"C:\temp\dataPattern.txt"` as the file path for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:PATTern

This command sets or returns the user defined data pattern for the selected Digital Modulation emitter.

Conditions The Data Pattern type must be set to Pattern with the command ENVironment:DMODulation:DATA.

Group Digital modulation

Syntax `ENVironment:DMODulation:DATA:PATTern <pattern>`

Related Commands ENVironment:DMODulation:DATA

Arguments <pattern>::= <string>.

Returns A single <pattern> string.

Examples `ENVIRONMENT:DMODULATION:DATA:PATTERN "11001111"` sets the data pattern for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:PATTERN?` might return `"11001101"`, indicating this is the set data pattern for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:PRBS

This command sets or returns the PBRS data type when the data Pattern is set to PRBS for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:DATA:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFin
ENVironment:DMODulation:DATA:PRBS?
```

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEFined are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:DMODulation:DATA:PRBS:UDEFined:POLYnomial and ENVironment:DMODulation:DATA:PRBS:UDEFined:SREGister to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:DMODULATION:DATA:PRBS PRBS15` sets the PRBS Data Type to PRBS 15 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:PRBS?` might return `PRBS15`, indicating that the PRBS Data Type is set to PRBS15 for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:DATA:PRBS:UDEFined:POLYnomial
<polynomial>
ENVironment:DMODulation:DATA:PRBS:UDEFined:POLYnomial?
```

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:DMODULATION:DATA:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the User Defined PRBS Polynomial Expression to X12+X11+1 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the User Defined PRBS Polynomial Expression for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:PRBS:UDEFined:RESet (No Query Form)

This command resets the User Defined PRBS polynomial expression and shift register to their default values for the selected Digital Modulation emitter.

Group Digital modulation

Syntax `ENVironment:DMODulation:DATA:PRBS:UDEFined:RESet`

Examples `ENVIRONMENT:DMODULATION:DATA:PRBS:UDEFINED:RESET` resets the User Defined PRBS polynomial expression and shift register values for the selected Digital Modulation emitter.

ENVironment:DMODulation:DATA:PRBS:UDEFined:SREGister

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:DATA:PRBS:UDEFined:SREGister
<shift_register>
ENVironment:DMODulation:DATA:PRBS:UDEFined:SREGister?
```

Arguments <shift_register>::= <string>.

The number of shift register values should match the highest polynomial degree. For example, if the user defined polynomial is "X5+X4+1", then the initial shift register should have 5 values.

Returns A single <shift_register> string.

Examples `ENVIRONMENT:DMODULATION:DATA:PRBS:UDEFINED:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:DATA:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the User Defined PRBS shift register for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:ALPHa

This command sets or returns the Alpha (filter roll off) value for the selected Digital Modulation emitter.

Conditions Filter type must be set to Raised Cosine, Root Raised Cosine, or Gaussian.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:ALPHa <alpha>
ENVironment:DMODulation:FILTer:ALPHa?
```

Related Commands ENVironment:DMODulation:FILTer:TYPe

Arguments <alpha>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:FILTER:ALPHA 0.23` sets the Alpha filter roll off value to 0.23 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:ALPHA?` may return `230.0000000000E-3`, indicating that the Alpha filter roll off value is set to 0.23 for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:CLENgth

This command sets or returns the Filter Convolution Length in symbols for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:CLENgth <length>
ENVironment:DMODulation:FILTer:CLENgth?
```

Arguments <length>::= <NR3> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:FILTER:CLENGTH 21` sets the Convolution Length to 21 symbols for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:CLENGTH?` might return `21.0000000000`, indicating that the Convolution Length is set to 21 symbols for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:FILe

This command sets or returns the Filter File name and file path for user defined filter for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:FILe <filepath>
ENVironment:DMODulation:FILTer:FILe?
```

Arguments <filepath>::= <string>.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:DMODULATION:FILTER:FILE "c:\test\filter_file.txt"` sets the filter file name to c:\test\filter_file.txt for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:FILE?` might return `"c:\test\filter_file.txt"` for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:TYPe

This command sets or returns the Filter Type for the selected Digital Modulation emitter.

Available filters is dependent on the Modulation type selected.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:TYPe
{RECTangular|RCOSine|RRCosine|GAUSsian|TRIAngular|EDGe|HSINe
|SBPSKMIL|SBPSKSINE|SOQPSKMIL|SOQPSKTG|SOQPSKA|SOQPSKB
|UDEFined}
ENVironment:DMODulation:FILTer:TYPe?
```

Arguments RECTangular, RCOSine, RRCosine, GAUSsian, TRIAngular, EDGe, HSINe, and UDEFined are the selectable filter types.

SBPSKMIL and SBPSKSINE are only available when the Modulation is set to SBPSK.

SOQPSKMIL, SOQPSKTG, SOQPSKA, and SOQPSKB are only available when the Modulation is set to SOQPSK.

When setting to UDEF (User Defined), use the command ENVironment:DMODulation:FILTer:FILe to set the path to the user defined filter file.

Returns RECT, RCOS, RRC, GAUS, TRIA, EDG, HSIN, SBPSKMIL, SBPSKSINE, SOQPSKMIL, SOQPSKTG, SOQPSKA, SOQPSKB, or UDEF as the filter type.

Examples `ENVIRONMENT:DMODULATION:FILTER:TYPE RRCOSINE` sets the Filter Type to Root Raised Cosine for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:TYPE?` might return `RRC`, indicating that the Filter Type is set to Root Raised Cosine for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:WINDow:CRIPple

This command sets or returns the Chebyshev Ripple value when the Filter Window type is Chebyshev Ripple for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:WINDow:CRIPple <ripple>
ENVironment:DMODulation:FILTer:WINDow:CRIPple?
```

Arguments <ripple>::=<NR3> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:FILTER:WINDOW:CRIPPLE 12` sets the Chebyshev Ripple value to 12 dB for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:WINDOW:CRIPPLE?` might return `10.0000000000`, indicating that the Chebyshev Ripple value is set to is 10 dB for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:WINDow:KAISer

This command sets or returns the Kaiser Parameter when the Filter Window type is Kaiser for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:WINDow:KAISer <parameter>
ENVironment:DMODulation:FILTer:WINDow:KAISer?
```

Arguments <parameter>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:FILTER:WINDOW:KAISER 2` sets the Kaiser Parameter to 2 dB for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:WINDOW:KAISER?` might return 2, indicating that the Kaiser parameter is set to 2 dB for the selected Digital Modulation emitter.

ENVironment:DMODulation:FILTer:WINDow:TYPE

This command sets or returns the Filter Window type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FILTer:WINDow:TYPE {NONe|TRIAgular
 |HAMMing|HANNing|BLACkman|KAISer|BHARris|EBLackman
 |FTOP|TCOSine|CRIPple}
ENVironment:DMODulation:FILTer:WINDow:TYPE?
```

Arguments

NONe = None
TRIAgular = Triangular
HAMMing = Hamming
HANNing = Hanning
BLACkman = Blackman
KAISer = Kaiser
BHARris = Blackman-Harris
EBLackman = Exact Blackman
FTOP = Flat Top
TCOSine = Tapered Cosine
CRIPple = Chebyshev Ripple

Returns NON, TRIA, HAMM, HANN, BLAC, KAIS, BHAR, EBL, FTOP, TCOS, CRIP

Examples

`ENVIRONMENT:DMODULATION:FILTER:WINDOW:TYPE CRIPPLE` sets the Filter Window type to Chebyshev Ripple for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FILTER:WINDOW:TYPE?` might return `CRIP`, indicating that the Filter Window type is set to Chebyshev Ripple for the selected Digital Modulation emitter.

ENVironment:DMODulation:FSK

This command sets or returns the FSK Modulation type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FSK {FSK2|FSK4|FSK8|FSK16|FSK32}
ENVironment:DMODulation:FSK?
```

Arguments `FSK2`, `FSK4`, `FSK8`, `FSK16`, and `FSK32` are the FSK modulation types.

Returns `FSK2`, `FSK4`, `FSK8`, `FSK16`, or `FSK32` indicating the FSK modulation type.

Examples `ENVIRONMENT:DMODULATION:FSK FSK32` sets the FSK modulation type to 32 FSK for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FSK?` might return `FSK32`, indicating that the FSK Modulation type is set to 32 FSK for the selected Digital Modulation emitter.

ENVironment:DMODulation:FSK:PDEViation

This command sets or returns the FSK Peak Deviation for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:FSK:PDEViation <peak_deviation>
ENVironment:DMODulation:FSK:PDEViation?
```

Arguments <peak_deviation>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:FSK:PDEVIATION 1E6` sets the FSK Peak Deviation to 1 MHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:FSK:PDEVIATION?` might return `2.0000000000E+6`, indicating that the FSK Peak Deviation is set to 2 MHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:CUSTom:RLISt

This command sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the selected Digital Modulation emitter.

When enabled, the Frequency Hop List repeats when the Hop List has been completed.

The Hopping Pattern must be set to Custom and the Hop Time must be set to "Symbols Per Hop", "Hops Per Second", or "Hop Duration".

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:CUSTom:RLISt {1|0|ON|OFF}
ENVironment:DMODulation:HOPPing:CUSTom:RLISt?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing:TIME

Arguments OFF or 0 disables Repeat List. OFF or 0 is the default value.

ON or 1 enables Repeat List.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:CUSTOM:RLIST 1` enables the Repeat List so that the Frequency Hop List repeats when the Hop List has been completed for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:CUSTOM:RLIST?` might return `0`, indicating that the Repeat List is disabled so that the Frequency Hop List is not repeated for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:ADD (No Query Form)

This command adds a single entry to the end of the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List modified. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is modified.

Group Digital modulation

Syntax `ENVironment:DMODulation:HOPPing[:LIST]:ADD`

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:ADD` adds a single entry to current hopping list for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:AOFFset

This command sets or returns the Amplitude Offset of the currently selected hop for the selected Digital Modulation emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:AOFFset <offset>
ENVironment:DMODulation:HOPPing[:LIST]:AOFFset?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing[:LIST]:SELect

Arguments <offset>::= <NR3> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:AOFFSET -10` sets the Amplitude Offset of the currently selected hop to –10 dB for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:LIST:AOFFSET?` might return `-15.0000000000`, indicating that the Amplitude Offset of the currently selected hop is set to –15 dB for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:COUNt? (Query Only)

This command returns the number of hops in the Hop List or the number of entries in the Frequency Avoid List for the selected Digital Modulation emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List count is returned. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List count is returned.

Group Digital modulation

Syntax `ENVironment:DMODulation:HOPPing[:LIST]:COUNt?`

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:COUNT?` might return `15`, indicating that there are 15 entries in the list for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:DELete (No Query Form)

This command removes all entries within the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List modified. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is modified.

Group Digital modulation

Syntax `ENVironment:DMODulation:HOPPing[:LIST]:DELete {ALL|<index>}`

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments ALL – Deletes all entries of the current hopping list.

<index>::= <NR1> value. Specifies the index number to delete from the current hopping list.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:DELETE ALL` removes all entries from the current hopping list for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:FOFFset

This command sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the selected Digital Modulation emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:FOFFset <offset>
ENVironment:DMODulation:HOPPing[:LIST]:FOFFset?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing[:LIST]:SELect

Arguments <offset>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:FOFFSET 1E9` sets the Frequency Offset of the currently selected hop to 1 GHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:LIST:FOFFSET?` might return `100.0000000000E+6`, indicating that the Frequency Offset of the currently selected hop is set to 100 MHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:FREQuency

This command sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the selected Digital Modulation emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:FREQuency <frequency>
ENVironment:DMODulation:HOPPing[:LIST]:FREQuency?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing[:LIST]:SELect

Arguments <frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:FREQUENCY 1E9` sets the Frequency of the currently selected hop to 1 GHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:FREQUENCY?` might return `100.0000000000E+6`, indicating that the Frequency of the currently selected hop is set to 100 MHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:HDURation

This command sets or returns the Hop Duration of the currently selected hop for the selected Digital Modulation emitter.

The Hopping Pattern must set to Custom.

The Hop Time must be set to Hop Duration.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:HDURation <duration>
ENVironment:DMODulation:HOPPing[:LIST]:HDURation?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing:TIME
ENVironment:DMODulation:HOPPing[:LIST]:SELect

Arguments <duration>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:HDURATION 1E-6` sets the Hop Duration of the currently selected hop to 1 µs for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:LIST:HDURATION?` might return `10.0000000000E-6`, indicating that the Hop Duration of the currently selected hop is set to 10 µs for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:INSert (No Query Form)

This command inserts a single entry within the Frequency Hop List or the Frequency Avoid List for the selected Digital Modulation emitter.

The selected entry point must already exist in the table, otherwise an error is returned.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List modified. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is modified.

Group Digital modulation

Syntax `ENVironment:DMODulation:HOPPing[:LIST]:INSert <insertion>`

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <insertion>::= <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:INSERT 10` inserts a single entry at the 10th index of the current hopping list for the selected Digital Modulation emitter..

ENVironment:DMODulation:HOPPing[:LIST]:SELect

This command sets or returns the selected Hop number in the Frequency Hop List or the Index number in the Frequency Avoid List for the selected Digital Modulation emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List is used for selection. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is used for selection.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:SELect <index>
ENVironment:DMODulation:HOPPing[:LIST]:SELect?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:SELECT 3` selects index 3 in the hopping table (Hop list or Avoid list) for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:LIST:SELECT?` might return `1`, indicating that index 1 in the hopping table (Hop list or Avoid list) is currently selected for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing[:LIST]:SSINdex

This command sets or returns the Symbol Start Index (Symbol Index) of the currently selected hop for the selected Digital Modulation emitter.

The Hopping Pattern must set to Custom.

The Hop Time must be set to Symbol Start Index.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing[:LIST]:SSINdex <start_index>
ENVironment:DMODulation:HOPPing[:LIST]:SSINdex?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern
ENVironment:DMODulation:HOPPing:TIME
ENVironment:DMODulation:HOPPing[:LIST]:SELect

Arguments <start_index>::= <NR1> value.

Returns a single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:LIST:SSINDEX 10` sets the Symbol Start Index of the currently selected hop to symbol 10 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:SSINDEX?` might return `6`, indicating that the Symbol Start Index of the currently selected hop is set to 6 for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:PATTern

This command sets or returns the Hopping Pattern for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:PATTern {CUSTom|LIST|RANGe}
ENVironment:DMODulation:HOPPing:PATTern?
```

Arguments CUSTom = Custom hopping pattern.

LIST = Pseudo Random List hopping pattern.

RANGe = Pseudo Random Range hopping pattern.

Returns

```
CUST
LIST
RANG
```

Examples `ENVIRONMENT:DMODULATION:HOPPING:PATTERN LIST` sets the Hopping Pattern to be Pseudo Random List for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:PATTERN?` might return `RANG`, indicating that the Hopping Pattern is set to Pseudo Random Range for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:PRBS

This command sets or returns the Hopping PRBS pattern for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29
|PRBS31|UDEFined}
ENVironment:DMODulation:HOPPing:PRBS?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEF are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:DMODulation:HOPPing:PRBS:UDEFined:POLYnomial and ENVironment:DMODulation:HOPPing:PRBS:UDEFined:SREGister to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:DMODULATION:HOPPING:PRBS PRBS21` sets the Hopping PRBS to PRBS 21 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:PRBS?` might return `PRBS15`, indicating that the Hopping PRBS is set to PRBS15 for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:PRBS:UDEFined:POLYnomial

This command sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:POLYnomial
<polynomial>
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:POLYnomial?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples

`ENVIRONMENT:DMODULATION:HOPPING:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the Hopping User Defined PRBS polynomial expression to X12+X11+1 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the Hopping User Defined PRBS polynomial for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:PRBS:UDEFined:RESet (No Query Form)

This command resets the Hopping User Defined PRBS type to its default value for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Digital modulation

Syntax `ENVironment:DMODulation:HOPPing:PRBS:UDEFined:RESet`

Examples `ENVIRONMENT:DMODULATION:HOPPING:PRBS:UDEFINED:RESET` resets the Hopping User Defined PRBS type for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:PRBS:UDEFined:SREGister

This command sets or returns the Hopping PRBS shift register for the User Defined PRBS for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:SREGister
<polynomial>
ENVironment:DMODulation:HOPPing:PRBS:UDEFined:SREGister?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:DMODULATION:HOPPING:PRBS:UDEFINED:SREGISTER "11011"` sets the Hopping User Defined PRBS Shift register to 11011 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the Hopping User Defined PRBS shift register for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:RANGe:ALISt[:ENABle]

This command sets or returns the Frequency Avoid List state (enabled or disabled) for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:RANGe:ALISt[:ENABle]
{1|0|ON|OFF}
ENVironment:DMODulation:HOPPing:RANGe:ALISt[:ENABle]?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments OFF or 0 disables the Frequency Avoid List. OFF or 0 is the default value.

ON or 1 enables the Frequency Avoid List.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:RANGE:ALIST:ENABLE 1` enables the Frequency Avoid List for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:ALIST:ENABLE?` might return `0`, indicating that the Frequency Avoid List is disabled for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MAXimum

This command sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MAXimum
<frequency>
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MAXimum?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:MAXIMUM 2E9` sets the Pseudo Random Range Maximum Frequency to 2 GHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:MAXIMUM?` might return `2.0000000000E+9`, indicating that the Pseudo Random Range Maximum Frequency is set to 2 GHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MINimum

This command sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MINimum
<frequency>
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:MINimum?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:MINIMUM 1E9` sets the Pseudo Random Range Minimum Frequency to 1 GHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:MINIMUM?` might return `1.0000000000E+9`, indicating that the Pseudo Random Range Minimum Frequency is set to 1 GHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:SPACing

This command sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the selected Digital Modulation emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:SPACing
<spacing>
ENVironment:DMODulation:HOPPing:RANGe[:FREQuency]:SPACing?
```

Related Commands ENVironment:DMODulation:HOPPing:PATTern

Arguments <spacing>::= <NR3> value.

Returns A single <NR3> value.

Examples

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:SPACING 1E9` sets the Pseudo Random Range Frequency Spacing to 1 MHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:RANGE:FREQUENCY:SPACING?` might return `10.0000000000E+3`, indicating that the Pseudo Random Range Frequency Spacing is set to 100 kHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:TIME

This command sets or returns the Hop Time type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:TIME
{SPHop|HPSecond|SSINdex|HDURation}
ENVironment:DMODulation:HOPPing:TIME?
```

Arguments SPHop = Symbols Per Hop.

HPSecond = Hops Per Second.

SSINdex = Symbol Start Index. (Available for Custom Hopping Pattern.)

HDURation = Hop Duration. (Available for Custom Hopping Pattern.)

Returns

SPH
HPS
SSIN
HDUR

Examples `ENVIRONMENT:DMODULATION:HOPPING:TIME HPSECOND` sets the Hop Time to Hops Per Second for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:TIME?` might return `SSIN`, indicating that the Hop Time is set to Symbol Start Index for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:TIME:HPSecond

This command sets or returns the Hops per Second for the selected Digital Modulation emitter.

The Hop Time must be set to Hops Per Second.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:TIME:HPSecond <hops>
ENVironment:DMODulation:HOPPing:TIME:HPSecond?
```

Related Commands ENVironment:DMODulation:HOPPing:TIME

Arguments <hops>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:TIME:HPSECOND 50` sets the Hops Per Second to 50 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:TIME:HPSECOND?` might return `1000`, indicating that the Hops per Second is set to 1000 for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:TIME:SPHop

This command sets or returns the Symbols per Hop for the selected Digital Modulation emitter.

The Hop Time must be set to Symbols Per Hop.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:TIME:SPHop <symbols>
ENVironment:DMODulation:HOPPing:TIME:SPHop?
```

Related Commands ENVironment:DMODulation:HOPPing:TIME

Arguments <symbols>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:TIME:SPHOP 50` sets the Symbols Per Hop to 50 symbols for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:TIME:SPHOP?` might return `1200`, indicating that the Symbols per Hop is set to 1200 symbols for the selected Digital Modulation emitter.

ENVironment:DMODulation:HOPPing:TON

This command sets or returns the Hopping state (enabled or disabled) for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:HOPPing:TON {1|0|ON|OFF}
ENVironment:DMODulation:HOPPing:TON?
```

Arguments OFF or 0 disables Hopping. OFF or 0 is the default value.

ON or 1 enables Hopping.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:DMODULATION:HOPPING:TON ON` enables Hopping for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:HOPPING:TON?` might return `0`, indicating that Hopping is disabled for the selected Digital Modulation emitter.

ENVironment:DMODulation:NDPSK:INDex

This command sets or returns the ‘n’ value (the kind of DPSK) for nDPSK modulation for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:NDPSK:INDex <n_value>
ENVironment:DMODulation:NDPSK:INDex?
```

Related Commands ENVironment:DMODulation:TYPe

Arguments <n_value>::= <NR1> value from 2 to 128 in multiples of 2.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:NDPSK:INDEX 4` sets the nDPSK number of symbols to 4 symbols for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:NDPSK:INDEX?` may return `8.0000000000`, indicating that the number of DPSK symbols is set to 8 for the selected Digital Modulation emitter.

ENVironment:DMODulation:NDPSK:PROTation

This command sets or returns the Phase Rotation of nDPSK modulation for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:NDPSK:PROTation <rotation>
ENVironment:DMODulation:NDPSK:PROTation?
```

Related Commands ENVironment:DMODulation:TYPe

Arguments <rotation>::= <NR1> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:DMODULATION:NDPSK:PROTATION 45` sets the nDPSK phase rotation to 45 degrees for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:NDPSK:PROTATION?` might return `180.0000000000`, indicating that the nDPSK Phase Rotation is set to 180 degrees for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:DTYPe

This command sets or returns the Duration Units used for the Power Ramp table for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:DTYPe {TIMe|SYMBols}
ENVironment:DMODulation:PRAMp:DTYPe?
```

Arguments TIMe sets the levels in the power ramp table in terms of time.

SYMBols sets the levels in the power ramp table in terms of symbols.

Returns TIM (Time)
SYMB (Symbols)

Examples `ENVIRONMENT:DMODULATION:PRAMP:DTYPE TIME` sets the Duration Units to Time, causing the Power Ramp table entries to reflect time instead of symbols for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:DTYPE?` might return `SYMB`, indicating that the Duration Units is set to Symbols, causing the Power Ramp table entries to reflect time instead of symbols for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:DURation

This command sets or returns the Power Ramp Duration for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:DURation <duration>
ENVironment:DMODulation:PRAMp:DURation
```

Arguments <duration>::= <NR3> value.

Returns The duration of the power ramp table.

Examples `ENVIRONMENT:DMODULATION:PRAMP:DURATION 10E-6` sets the Power Ramp Duration to 10 µs for the selected Emitter.

`ENVIRONMENT:DMODULATION:PRAMP:DURATION?` might return `1.0000000000E-3`, indicating that thePower Ramp Duration is set to 1 ms for the selected Emitter.

ENVironment:DMODulation:PRAMp:FUNCtion

This command sets or returns the Power Ramp Function for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:FUNCtion {LINear|COSine}
ENVironment:DMODulation:PRAMp:FUNCtion?
```

Arguments LINnear indicates a linear method of calculating the power ramp.

COSine indicates that the method of interpolation is cosine for calculating the power ramp between symbols.

Returns LIN
COS

Examples `ENVIRONMENT:DMODULATION:PRAMP:FUNCTION LINEAR` sets the Power Ramp Function to Linear for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:FUNCTION?` might return `COS`, indicating that the Power Ramp Function is set to Cosine for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:lLEVel

This command sets or returns the Power Ramp Initial Level of the currently selected hop for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:ILEVel <initial_level>
ENVironment:DMODulation:PRAMp:ILEVel?
```

Arguments <initial_level>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:ILEVEL -0.08` sets the Power Ramp Initial Level to –0.08 dB for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:ILEVEL?` might return `-25.0000000000`, indicating that the Power Ramp Initial Level is set to –25 dB for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:ADD (No Query Form)

This command adds new entries to the Power Ramp table for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:ADD <entries>
ENVironment:DMODulation:PRAMp:LEVel:ADD
```

Related Commands ENVironment:DMODulation:PRAMp:LEVel:DURationENVironment:DMODulation:PRAMp:LEVel:ESYMbolENVironment:DMODulation:PRAMp:LEVel:POWerENVironment:DMODulation:PRAMp:LEVel:SSYMbol

Arguments <entries>::= <NR1> value.

The maximum number of table entries is 21.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:ADD 2` adds two entries to the end of the Power Ramp table for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:DELete (No Query Form)

This command deletes entries from the Power Ramp table for the selected Digital Modulation emitter.

An error is returned if the entry does not exist.

Group Digital modulation

Syntax `ENVironment:DMODulation:PRAMp:LEVel:DELete {<index>|ALL}`

Arguments <index>::= <NR1> value.

ALL deletes all table entries.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:DELETE 1` deletes the first entry from the Power Ramp table for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:DURation

This command sets or returns the Duration of the currently selected Power Ramp table index for the selected Digital Modulation emitter.

The Power Ramp Duration Units must be set to Time.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:DURation <duration>
ENVironment:DMODulation:PRAMp:LEVel:DURation?
```

Related Commands ENVironment:DMODulation:PRAMp:DTYPe
ENVironment:DMODulation:PRAMp:LEVel:SELect

Arguments <duration>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:DURATION 1E-6` sets the Duration, of the currently selected Power Ramp table index, to 1 µs for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:LEVEL:DURATION?` might return `10.0000000000E-6`, indicating that the Duration, of the currently selected Power Ramp table index, is set to 10 µs for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:ESYMbol

This command sets or returns the End Symbol of the currently selected Power Ramp table index for the selected Digital Modulation emitter.

The Duration Units must be set to Symbols.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:ESYMbol <end_symbol>
ENVironment:DMODulation:PRAMp:LEVel:ESYMbol?
```

Related Commands ENVironment:DMODulation:PRAMp:DTYPeENVironment:DMODulation:PRAMp:LEVel:SELect

Arguments <end_symbol>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:ESYMBOL 25` sets End Symbol, of the currently selected Power Ramp table index, to symbol 25 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:LEVEL:ESYMBOL?` might return `45.0000000000`, indicating that the End Symbol, of the currently selected Power Ramp table index, is set to symbol 45 for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:POWer

This command sets or returns the Power Level of the currently selected Power Ramp table index for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:POWer <power>
ENVironment:DMODulation:PRAMp:LEVel:POWer?
```

Related Commands ENVironment:DMODulation:PRAMp:LEVel:SELect

Arguments <power>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:POWER −4` sets the Power Level, of the currently selected Power Ramp table index, to –4 dB for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:LEVEL:POWER?` might return `-5.5000000000`, indicating that the Power Level, of the currently selected Power Ramp table index, is set to –5.5 dB for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:SELect

This command sets or returns the selected index (row) of the Power Ramp table for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:SELect <index>
ENVironment:DMODulation:PRAMp:LEVel:SELect?
```

Arguments <index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:SELECT 2` selects the second entry of the Power Ramp table for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:LEVEL:SELECT?` might return `3`, indicating that the third entry of the Power Ramp is selected table for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:LEVel:SSYMbol

This command sets or returns the Start Symbol of the currently selected Power Ramp table index for the selected Digital Modulation emitter.

The Duration Units must be set to Symbols.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:LEVel:SSYMbol <start_symbol>
ENVironment:DMODulation:PRAMp:LEVel:SSYMbol?
```

Related Commands ENVironment:DMODulation:PRAMp:DTYPe
ENVironment:DMODulation:PRAMp:LEVel:SELect

Arguments <start_symbol>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:LEVEL:SSYMBOL 3` sets the Start Symbol of the currently selected Power Ramp table index to symbol 3 for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:LEVEL:SSYMBOL?` might return `15.0000000000`, indicating that the Start Symbol of the currently selected Power Ramp table index is set to symbol 15 for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:PEXTend

This command sets or returns the Periodic Extend Power Levels state (enabled or disabled) for the Power Ramp table for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:PEXTend {1|0|ON|OFF}
ENVironment:DMODulation:PRAMp:PEXTend?
```

Arguments OFF or 0 disables the Periodic Extend Power Levels setting. OFF or 0 is the default value.

ON or 1 enables the Periodic Extend Power Levels setting.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:PEXTEND 1` enables the Periodic Extend Power Levels of the Power Ramp table for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:PEXTEND?` might return `0`, indicating that the Periodic Extend Power Levels of the Power Ramp table is disabled for the selected Digital Modulation emitter.

ENVironment:DMODulation:PRAMp:TON

This command sets or returns the Power Ramp state (enabled or disabled) for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PRAMp:TON {1|0|ON|OFF}
ENVironment:DMODulation:PRAMp:TON?
```

Arguments OFF or 0 disables Power Ramp. OFF or 0 is the default value.

ON or 1 enables Power Ramp.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:DMODULATION:PRAMP:TON ON` enables Power Ramp for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PRAMP:TON?` might return `0`, indicating that Power Ramp is disabled for the selected Digital Modulation emitter.

ENVironment:DMODulation:PSK

This command sets or returns the PSK modulation type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:PSK {QPSK|PI2QPSK|PI4QPSK
|PI4DQPSK|OQPSK|BPSK|NDPSK|PSK8|PI2PSK8|OPSK8|SDPSK
|SBPSK|SOQPSK|DQPSK}
ENVironment:DMODulation:PSK?
```

Arguments QPSK, PI2QPSK, PI4QPSK, PI4DQPSK, OQPSK, BPSK, NDPSK, PSK8, PI2PSK8, OPSK8, SDPSK, SBPSK, SOQPSK, DQPSK are the selectable PSK digital modulation types.

Returns QPSK, PI2QPSK, PI4QPSK, PI4DQPSK, OQPSK, BPSK, NDPSK, PSK8, PI2PSK8, OPSK8, SDPSK, SBPSK, SOQPSK, or DQPSK.

Examples `ENVIRONMENT:DMODULATION:PSK PI2QPSK` sets the PSK Modulation type to π/2 QPSK for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:PSK?` might return `PI2QPSK`, indicating that the PSK Modulation type is set to π/2 QPSK for the selected Digital Modulation emitter.

ENVironment:DMODulation:QAM

This command sets or returns the QAM Modulation type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:QAM {QAM16|PI2QAM16|QAM32
|QAM64|QAM128|QAM256|QAM512|QAM1024}
ENVironment:DMODulation:QAM?
```

Arguments QAM16, PI2QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, and QAM1024 are the QAM modulation types.

Returns QAM16, PI2QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, or QAM1024 indicating the QAM modulation type.

Examples `ENVIRONMENT:DMODULATION:QAM QAM32` sets the QAM modulation type to 32 QAM for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:QAM?` might return `QAM32`, indicating that the QAM Modulation type is set to 32 QAM for the selected Digital Modulation emitter.

ENVironment:DMODulation:SRATe

This command sets or returns the Digital Modulation Symbol Rate for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:SRATe <rate>
ENVironment:DMODulation:SRATe?
```

Arguments <rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:DMODULATION:SRATE 2E9` sets the Symbol Rate to 2 GHz for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:SRATE?` might return `10.0000000000E+6`, indicating that the Symbol Rate is set to 10 MHz for the selected Digital Modulation emitter.

ENVironment:DMODulation:TYPe

This command sets or returns the digital modulation type for the selected Digital Modulation emitter.

Group Digital modulation

Syntax

```
ENVironment:DMODulation:TYPe
{GMSK|ASK|OOK|CPM|PSK|APSK|QAM|FSK}
ENVironment:DMODulation:TYPe?
```

Related Commands ENVironment:DMODulation:PSK
ENVironment:DMODulation:APSK
ENVironment:DMODulation:QAM
ENVironment:DMODulation:FSK:PDEViation

Arguments `GMSK`, `ASK`, `OOK`, `CPM`, `PSK`, `APSK`, `QAM`, and `FSK` are selectable digital modulation types.

PSK, APSK, QAM, and FSK require further definition. See related commands.

Returns `GMSK`, `ASK`, `OOK`, `CPM`, `PSK`, `APSK`, `QAM`, or `FSK` indicating the digital modulation type.

Examples `ENVIRONMENT:DMODULATION:TYPE OOK` sets the digital modulation type to OOK for the selected Digital Modulation emitter.

`ENVIRONMENT:DMODULATION:TYPE?` might return `OOK`, indicating that the digital modulation type is set to OOK for the selected Digital Modulation emitter.

ENVironment:DVBT:ALPHa? (Query Only)

This command sets or returns the Alpha value for the selected DVB-T emitter.

Group DVB-T

Syntax `ENVironment:DVBT:ALPHa?`

Returns <String>

Examples `ENVIRONMENT:DVBT:ALPHA?` might return `1`, indicating that the Alpha value is set to 1 for the selected DVB-T emitter.

ENVironment:DVBT:BANDwidth

This command sets or returns the Bandwidth for the selected DVB-T emitter.

Group DVB-T

Syntax

```
ENVironment:DVBT:BANDwidth {FIVE|SIX|SEVEn|EIGHt}
ENVironment:DVBT:BANDwidth?
```

Arguments FIVE, SIX, SEVEn, EIGHt

Returns

FIVE
SIX
SEVE
EIGH

Examples `ENVIRONMENT:DVBT:BANDWIDTH FIVE` sets the DVBT emitter Bandwidth to 5 Mbps for the selected DVB-T emitter.

`ENVIRONMENT:DVBT:BANDWIDTH?` might return `SIX`, indicating that the Bandwidth is set to 6 Mbps for the selected DVB-T emitter.

ENVironment:DVBT:INTerleaver

This command sets or returns the Interleaver for the selected DVB-T emitter.

Group DVB-T

Syntax

```
ENVironment:DVBT:INTerleaver {NATIve|INDEpth}
ENVironment:DVBT:INTerleaver?
```

Arguments NATIve, INDEpth

Returns NATI
INDE

Examples `ENVIRONMENT:DVBT:INTERLEAVER INDEPTH` sets the Interleaver to In-Depth for the selected DVB-T emitter.

`ENVIRONMENT:DVBT:INTERLEAVER?` might return `NATI`, indicating that the Interleaver is set to Native for the selected DVB-T emitter.

ENVironment:DVBT:MODE

This command sets or returns the Mode for the selected DVB-T emitter.

Group DVB-T

Syntax

```
ENVironment:DVBT:MODE {TWOK|EIGHtk}
ENVironment:DVBT:MODE?
```

Arguments TWOK, EIGHtk

Returns TWOK
EIGH

Examples `ENVIRONMENT:DVBT:MODE EIGHTK` sets the Mode to 8K for the selected DVB-T emitter.

`ENVIRONMENT:DVBT:MODE?` might return `TWOK`, indicating that the Mode is set to 2K for the selected DVB-T emitter.

ENVironment:DVBT:MODulation

This command sets or returns the Modulation type for the selected DVB-T emitter.

Group DVB-T

Syntax

```
ENVironment:DVBT:MODulation {SQAM|SFQAm|QPSK}
ENVironment:DVBT:MODulation?
```

Arguments SQAM, SFQAm, QPSK

Returns

SQAM
SFQA
QPSK

Examples

`ENVIRONMENT:DVBT:MODULATION SQAM` sets the Modulation to QAM16 for the selected DVB-T emitter.

`ENVIRONMENT:DVBT:MODULATION?` might return `SQAM`, indicating that the Modulation is set to QAM16 for the selected DVB-T emitter..

ENVironment:DVBT:TRANsmission

This command sets or returns the Transmission type for the selected DVB-T emitter.

Group DVB-T

Syntax

```
ENVironment:DVBT:TRANsmission {HIERarchical|NHIErarchical}
ENVironment:DVBT:TRANsmission?
```

Arguments HIERarchical, NHIErarchical

Returns HIER
NHIE

Examples `ENVIRONMENT:DVBT:TRANSMISSION NHIERARCHICAL` sets the Transmission to Non-Hierarchical for the selected DVB-T emitter.

`ENVIRONMENT:DVBT:TRANSMISSION?` might return `HIER`, indicating that the Transmission is set to Hierarchical for the selected DVB-T emitter.

ENVironment:EMITter:ADD (No Query Form)

This command adds a new emitter to the selected Environment Scenario.

Group Emitter

Syntax

```
ENVironment:EMITter:ADD
{PULSe|RADar|DMOD|AMOD|OFDM|WIFI|WMAX|LTE|BLUEtooth|
GSM|CDMA|WCDMA|DVBT|UDEFined|NOISe}
```

Arguments PULSe, RADar, DMOD, AMOD, OFDM, WIFI, WMAX, LTE, BLUEtooth, GSM, CDMA, WCDMA, DVBT, UDEFined, NOISe

Examples `ENVIRONMENT:EMITTER:ADD RADAR` adds a single radar emitter at the end of the emitter list of the currently selected Scenario.

ENVironment:EMITter:ANCHor

This command sets or returns the index of the selected anchor emitter in the selected Scenario.

NOTE. *The Anchor emitter cannot be removed and must always be turned on. If the Anchor Index is set to an index that is not turned on, it is automatically turned on if it is a valid emitter.*

Group Emitter

Syntax

```
ENVironment:EMITter:ANCHor <index>
ENVironment:EMITter:ANCHor?
```

Arguments <index> = <NR1>

Returns A single <NR1> value.

Examples `ENVIRONMENT:EMITTER:ANCHOR 5` sets the fifth emitter as the anchor for the currently selected environment Scenario.

`ENVIRONMENT:EMITTER:ANCHOR?` might return `2`, indicating that the currently selected anchor emitter index is 2.

ENVironment:EMITter:BOFFset

This command sets or returns the baseband offset of the selected Emitter when the signal format is set to IQ.

Group Emitter

Syntax

```
ENVironment:EMITter:BOFFset <frequency>
ENVironment:EMITter:BOFFset?
```

Arguments <frequency> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:BOFFSET 1E9` sets the baseband offset of the currently selected emitter definition to 1 GHz.

`ENVIRONMENT:EMITTER:BOFFSET?` might return `2.0000000000E+9`, indicating that the frequency of the currently selected emitter is 2 GHz.

ENVironment:EMITter:COUNt? (Query Only)

This query returns the number of emitter definitions in the selected Scenario.

Group Emitter

Syntax `ENVironment:EMITter:COUNt?`

Returns A single <NR1> value.

Examples `ENVIRONMENT:EMITTER:COUNT?` might return `10`, indicating that there are 10 emitters in the selected Scenario.

ENVironment:EMITter:DELete (No Query Form)

This command deletes the emitter definition at the specified index of the selected Scenario.

Group Emitter

Syntax `ENVironment:EMITter:DELete <index>`

Arguments <index>:= <NR1>

Examples `ENVIRONMENT:EMITTER:DELETE 3` deletes the emitter at index 3 for the selected Scenario.

ENVironment:EMITter:DURation

This command sets or returns the duration of the currently selected emitter definition.

Group Emitter

Syntax

```
ENVironment:EMITter:DURation <duration>
ENVironment:EMITter:DURation?
```

Arguments <duration> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:DURATION 12E-6` sets the duration of the currently selected emitter definition to 12 μs.

`ENVIRONMENT:EMITTER:DURATION?` might return `15.0000000000E-6`, indicating that the duration of the currently selected emitter definition is 15 μs.

ENVironment:EMITter:FREQuency

This command sets or returns the RF/IF center Frequency for the selected Emitter of the selected Scenario.

Conditions Signal format must be set to RF/IF.

Group Emitter

Syntax

```
ENVironment:EMITter:FREQuency <center_frequency>
ENVironment:EMITter:FREQuency?
```

Arguments <center_frequency>::=<NRf> value.
Range: 100 Hz to 2.5 GHz.
Default: 100 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:FREQUENCY 1E9` sets the Center Frequency to 1 GHz for the selected Emitter of the selected Scenario.

`ENVIRONMENT:EMITTER:FREQUENCY?` might return `1.0000000000E+9`, indicating that the Center Frequency is set to 1 GHz for the selected Emitter of the selected Scenario.

ENVironment:EMITter:NAME

This command sets or returns the user defined name of the selected emitter definition.

Group Emitter

Syntax

```
ENVironment:EMITter:NAME <name>
ENVironment:EMITter:NAME?
```

Arguments <name> = <string>.

Returns A single <string>.

Examples `ENVIRONMENT:EMITTER:NAME "Radar Tower Alpha"` sets the name of the selected emitter to "Radar Tower Alpha".

`ENVIRONMENT:EMITTER:NAME?` might return `"Test Station 2"` as the emitter name.

ENVironment:EMITter:POFFset

This command sets or returns the Phase Offset value for the selected Emitter.

Group Emitter

Syntax

```
ENVironment:EMITter:POFFset <phase_offset>
ENVironment:EMITter:POFFset?
```

Arguments <phase_offset>::=<NRf> value.
Range: –180 ° to +180 °.

Default: 0.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:POFFSET 10` sets the Phase Offset to 10° for the selected Emitter of the selected Scenario.

`ENVIRONMENT:EMITTER:POFFSET?` might return `22.0000000000`, indicating that the Phase Offset is set to 22° for the selected Emitter.

ENVironment:EMITter:POWer

This command sets or returns the power of the selected Emitter.

Group Emitter

Syntax

```
ENVironment:EMITter:POWer <power>
ENVironment:EMITter:POWer?
```

Arguments <power> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:POWER -50` sets the power of the selected emitter to -50 dBm.

`ENVIRONMENT:EMITTER:POWER?` might return `-3.0000000000` indicating, that the power of the currently selected emitter is -3 dBm.

ENVironment:EMITter:REPeat

This command sets or returns whether the currently selected emitter will repeat the signal an integer number of times to match the Scenario Duration.

Group Emitter

Syntax

```
ENVironment:EMITter:REPeat {0|1|OFF|ON}
ENVironment:EMITter:REPeat?
```

Arguments OFF or 0 indicates emitter will not repeat.
ON or 1 indicates emitter will repeat.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:EMITTER:REPEAT ON` sets the currently selected emitter to repeat.

`ENVIRONMENT:EMITTER:REPEAT?` might return `0`, indicating that the currently selected emitter will not repeat.

ENVironment:EMITter:SELect

This command sets or returns the index of the selected emitter definition in the selected Scenario.

Other commands act on the selected emitter.

Group Emitter

Syntax

```
ENVironment:EMITter:SELect <index>
ENVironment:EMITter:SELect?
```

Arguments <index> = <NR1>.

Returns A single <NR1> value.

Examples `ENVIRONMENT:EMITTER:SELECT 5` selects the fifth emitter definition of the selected Scenario.

`ENVIRONMENT:EMITTER:SELECT?` might return `2`, indicating that the currently selected emitter definition is 2.

ENVironment:EMITter:STIMe

This command sets or returns the Start Time of the selected Emitter.

Group Emitter

Syntax

```
ENVironment:EMITter:STIMe <start_time>
ENVironment:EMITter:STIMe?
```

Arguments <start_time>::= <NRf> value.
Range: 0 s to 1 s.
Default: 0 s.

Returns A single <NR3> value.

Examples `ENVIRONMENT:EMITTER:STIME 12E-6` sets the Start Time of the Emitter to 12 µs.

`ENVIRONMENT:EMITTER:STIME?` might return `1.0000000000E-12`, indicating that the Start Time of the Emitter is set to 1 ps.

ENVironment:EMITter:TON

This command sets or returns whether the currently selected emitter is enabled or disabled.

Group Emitter

Syntax

```
ENVironment:EMITter:TON {0|1|OFF|ON}
ENVironment:EMITter:TON?
```

Arguments OFF or 0 disables (turns off) the emitter.
ON or 1 enables (turns on) the emitter.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:EMITTER:TON ON` enables the currently selected emitter.

`ENVIRONMENT:EMITTER:TON?` might return `0`, indicating that the currently selected emitter is disabled.

ENVironment:EMITter:TYPe

This command sets or returns the type of the emitter at the selected index of the selected scenario.

Group Emitter

Syntax

```
ENVironment:EMITter:TYPe
{PULSe|RADar|DMODulation|AMODulation|OFDM|WIFI|WMAX|LTE|
BLUEtooth|GSM|CDMA|WCDMA|DVBT|UDEFined|NOISe}
ENVironment:EMITter:TYPe?
```

Arguments PULSe, RADar, DMODulation, AMODulation, OFDM, WIFI, WMAX, LTE, BLUEtooth, GSM, CDMA, WCDMA, DVBT, UDEFined, NOISe

Some emitter types require a separate license to compile the scenario.

- Radar requires a Radar plug-in license.
- DMODulation (Digital Modulation) and AMODulation (Analog Modulation) requires an RF Generic Signal plug-in license.
- OFDM requires an OFDM plug-in license.

Returns

PULS (Pulse)
RAD (Radar)
DMOD (Digital Modulation)
AMOD (Analog Modulation)
OFDM
WIFI
WMAX
LTE
BLUE (Bluetooth)
GSM
CDMA
WCDMA
DVBT (
UDEF (User defined)
NOIS (Noise)

Examples `ENVIRONMENT:EMITTER:TYPE DMOD` sets the selected Emitter Type to Digital Modulation for the selected scenario.

`ENVIRONMENT:EMITTER:TYPE?` might return `DMOD`, indicating that the Emitter Type is set to Digital Modulation for the selected scenario.

ENVironment:GSM:ARFCN? (Query Only)

This command returns the ARFCN value for the selected GSM emitter.

The ARFCN value changes based on the Frequency band selection.

Group GSM

Syntax `ENVironment:GSM:ARFCN?`

Related Commands ENVironment:GSM:FBANd

Returns A single <string> value.

100 is returned for the P-GSM_900 frequency band.

512 is returned for the DCS_1800 frequency band.

600 is returned for the PCS_1900 frequency band.

Examples `ENVIRONMENT:GSM:ARFCN?` might return "`600`", indicating that the ARFCN value is 600 for the selected GSM emitter.

ENVironment:GSM:FBANd

This command sets or returns the Frequency Band for the selected GSM emitter.

Group GSM

Syntax

```
ENVironment:GSM:FBANd {GSM900|DCS1800|PCS1900}
ENVironment:GSM:FBANd?
```

Arguments GSM900, DCS1800, PCS1900

Returns GSM900, DCS1800, or PCS1900

Examples `ENVIRONMENT:GSM:FBAND DCS1800` sets the Frequency Band to DCS1800 for the selected GSM emitter.

`ENVIRONMENT:GSM:FBAND?` might return `GSM900`, indicating that the Frequency Band is set to GSM900 for the selected GSM emitter.

ENVironment:GSM:MODulation

This command sets or returns the Modulation for the selected GSM emitter.

Conditions The available modulation types is dependent on the Radio format selection.

Group GSM

Syntax

```
ENVironment:GSM:MODulation
{GMSK|PSK8|QAM16|QAM32|HSR16|HSR32|HSRQpsk}
ENVironment:GSM:MODulation?
```

Related Commands ENVironment:GSM:RFORmat

Arguments

Radio Format = GSM, Modulation is fixed to GMSK.
Radio Format = Edge, Modulation is fixed to π/4 8 PSK.
Radio Format = EGRPS2A, Modulation is selectable from QAM16, QAM32.
Radio Format = EGRPS2B, Modulation is selectable from HSR16, HSR32 ,HSRQpsk.

Returns

GMSK
PSK8 = π/4 8 PSK
QAM16 = π/4 16 QAM
QAM32 = π/4 32 QAM
HSR16 = π/4 HSR 16 QAM
HSR32 = π/4 HSR 32 QAM
HSRQ = 3π/4 HSR QPSK

Examples

`ENVIRONMENT:GSM:MODULATION PSK8` sets the Modulation to PSK8 for the selected GSM emitter.

`ENVIRONMENT:GSM:MODULATION?` might return `GMSK`, indicating that the Modulation is GSMK for the selected GSM emitter.

ENVironment:GSM:RFORmat

This command sets or returns the Radio Format for the selected GSM emitter.

Group GSM

Syntax

```
ENVironment:GSM:RFORmat {GSM|EDGE|EG2A|EG2B}
ENVironment:GSM:RFORmat?
```

Arguments GSM, EDGE, EG2A, EG2B

Returns GSM, EDGE, EG2A, or EG2B

Examples `ENVIRONMENT:GSM:RFORMAT EDGE` sets the Radio Format to Edge for the selected GSM emitter.

`ENVIRONMENT:GSM:RFORMAT?` might return `GSM`, indicating that the Radio Format is set to GSM for the selected GSM emitter.

ENVironment:GSM:TDEVice

This command sets or returns the Transmit Device for the selected GSM emitter.

Group GSM

Syntax

```
ENVironment:GSM:TDEVice {BASE|MOBile}
ENVironment:GSM:TDEVice?
```

Arguments BASE, MOBile

Returns BASE
MOB

Examples `ENVIRONMENT:GSM:TDEVICE MOBILE` sets the Transmit device to Mobile for the selected GSM emitter.

`ENVIRONMENT:GSM:TDEVICE?` might return `MOB`, indicating that the Transmit device is set to Mobile for the selected GSM emitter.

ENVironment:GSM:TSBType

This command sets or returns the Timeslot Burst Type for the selected GSM emitter.

Conditions The Radio format must be set to GSM or EDGE.

Group GSM

Syntax

```
ENVironment:GSM:TSBType
{NORMal|FCORrection|SYNChronization|ACCess|DUMMy}
ENVironment:GSM:TSBType?
```

Related Commands ENVironment:GSM:RFORmat

Arguments NORMal, FCORrection, SYNChronization, ACCess, DUMMy

Returns

NORM = Normal
FCOR = Frequency correction
SYNC = Synchronization
ACC = Access
DUMM = Dummy

Examples

`ENVIRONMENT:GSM:TSBTYPE NORMAL` sets the Timeslot Burst Type to Normal for the selected GSM emitter.

`ENVIRONMENT:GSM:TSBTYPE?` might return `DUMM`, indicating that the Timeslot Burst Type is set to Dummy for the selected GSM emitter.

ENVironment:GSM:TSConfiguration

This command sets or returns the Timeslot Configuration for the selected GSM emitter.

Group GSM

Syntax

```
ENVironment:GSM:TSConfiguration {ALL|TS1|TS47}
ENVironment:GSM:TSConfiguration?
```

Arguments ALL, TS1, TS47

Returns ALL, TS1, or TS47

Examples `ENVIRONMENT:GSM:TSCONFIGURATION ALL` sets the Timeslot Configuration All timeslots for the selected GSM emitter.

`ENVIRONMENT:GSM:TSCONFIGURATION?` might return `TS47`, indicating that the Timeslot Configuration is set to TS47 for the selected GSM emitter.

ENVironment:GSM:TSTMode

This command sets or returns the Timeslot Timing Mode for the selected GSM emitter.

Conditions The available modulation types is dependent on the Radio format selection.

Group GSM

Syntax

```
ENVironment:GSM:TSTMode {TS57|TS56|TS88|TS87}
ENVironment:GSM:TSTMode?
```

Related Commands ENVironment:GSM:RFORmat

Arguments Radio Format = GSM, EDGE or EGRPS2A, Timeslot Timing Mode is selectable from TS57 or TS56.
Radio Format = EGRPS2B, Timeslot Timing Mode is selectable from TS88 or TS87.

Returns TS57 = 157 symbols*2 TS, 156 symbols*6 TS
TS56 = 156.25 symbols*8 TS
TS88 = 188.4 symbols*2 TS, 187.2 symbols*6 TS
TS87 = 187.5 symbols*8 TS

Examples `ENVIRONMENT:GSM:TSTMODE TS57` sets the Timeslot Timing Mode to TS57 for the selected GSM emitter.

`ENVIRONMENT:GSM:TSTMODE?` might return `TS87`, indicating that the Timeslot Timing Mode is set to TS87 for the selected GSM emitter.

ENVironment:LTE:BWIDth

This command sets or returns the Bandwidth for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:BWIDth
{OPFOur|THREe|FIVE|TEN|FIFTeen|TWENty}
ENVironment:LTE:BWIDth?
```

Arguments OPFOur, THREe, FIVE, TEN, FIFTeen, TWENty

Returns

OPFO = 1.4 MHz
THRE = 3 MHz
FIVE = 5 MHz
TEN = 10 MHz
FIFT = 15 MHz
TWEN = 20 MHz

Examples `ENVIRONMENT:LTE:BWIDTH THREE` sets the Bandwidth to 3 MHz for the selected LTE emitter.

`ENVIRONMENT:LTE:BWIDTH?` might return `TEN`, indicating that the Bandwidth is set to 10 MHz for the selected LTE emitter.

ENVironment:LTE:CAGGrigation

This command sets or returns the Carrier Aggregation state (enabled or disabled) for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:CAGGrigation {1|0|ON|OFF}
ENVironment:LTE:CAGGrigation?
```

Arguments ON or 1 enables Carrier Aggregation.

OFF or 0 disables Carrier Aggregation. OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:LTE:CAGGRIGATION 1` enables Carrier Aggregation for the selected LTE emitter.

`ENVIRONMENT:LTE:CAGGRIGATION?` might return `0`, indicating that Carrier Aggregation is disabled for the selected LTE emitter.

ENVironment:LTE:CBANdwidth[n]

This command sets or returns the Carrier Bandwidth value of the specified additional carrier for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:CBANdwidth[n]
{OPFOur|THREe|FIVE|TEN|FIFTeen|TWENty}
ENVironment:LTE:CBANdwidth[n]?
```

Arguments OPFOur, THREe, FIVE, TEN, FIFTeen, TWENty

[n] determines the additional carrier. If omitted, interpreted as 1.

Returns OPFO = 1.4 MHz
THRE = 3 MHz
FIVE = 5 MHz
TEN = 10 MHz
FIFT = 15 MHz
TWEN = 20 MHz

Examples `ENVIRONMENT:LTE:CBANDWIDTH2 THREE` sets the carrier bandwidth for the second additional carrier to 3 MHz for the selected LTE emitter.

`ENVironment:LTE:CBANdwidth3?` might return FIVE, indicating that the carrier bandwidth for the second additional carrier to 5 MHz for the selected LTE emitter.

ENVironment:LTE:COFFset[n]

This command sets or returns the Carrier Offset value of the specified additional carrier for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:COFFset[n] <value>
ENVironment:LTE:COFFset[n]?
```

Arguments <value> = <NRf>.

[n] determines the additional carrier. If omitted, interpreted as 1.

Returns A single <NR3> value.

Examples `ENVIRONMENT:LTE:COFFSET2 4.8E6` sets the Carrier Offset for the second additional carrier to 4.8 MHz for the selected LTE emitter.

`ENVIRONMENT:LTE:COFFSET2?` might return `2.1000000000E+6`, indicating that carrier offset for the second additional carrier for the selected LTE emitter is set to 2.1 MHz for the selected LTE emitter.

ENVironment:LTE:DTYPe

This command sets or returns the Duplexing type for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:DTYPe {TDD|FDD}
ENVironment:LTE:DTYPe?
```

Arguments TDD, FDD

Returns TDD = Time division duplexing
FDD = Frequency division duplexing

Examples `ENVIRONMENT:LTE:DTYPE FDD` sets the duplexing type to Frequency division duplexing for the selected LTE emitter.

`ENVIRONMENT:LTE:DTYPE?` might return `TDD`, indicating that the duplexing type is set to Time division duplexing for the selected LTE emitter.

ENVironment:LTE:NACarriers

This command sets or returns the Number of Additional Carriers for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:NACarriers {ONE|TWO|THREe}
ENVironment:LTE:NACarriers?
```

Arguments ONE, TWO, THREe

Returns ONE
TWO
THRE

Examples `ENVIRONMENT:LTE:NACARRIERS TWO` sets the number of additional carrier to 2 for the selected LTE emitter.

`ENVIRONMENT:LTE:NACARRIERS?` might return `ONE`, indicating that the number of additional carrier is set to 1 for the selected LTE emitter.

ENVironment:LTE:TRANsmission

This command sets or returns the transmission type for the selected LTE emitter.

Group LTE

Syntax

```
ENVironment:LTE:TRANsmission {ULINk|DLINk}
ENVironment:LTE:TRANsmission?
```

Arguments ULINk, DLINk

Returns ULIN = Up link transmission
DLIN = Down link transmission

Examples `ENVIRONMENT:LTE:TRANSMISSION DLINK` sets the transmission type to DownLink Transmission for the selected LTE emitter.

`ENVIRONMENT:LTE:TRANSMISSION?` might return `ULIN`, indicating that the transmission type is set to UpLink Transmission for the selected LTE emitter.

ENVironment:LTE:UDLConfig

This command sets or returns the Up-Down Link Configuration type for the selected LTE emitter.

Group LTE

Syntax
```
ENVironment:LTE:UDLConfig {ZERO|ONE|TWO|THREe|FOUR|FIVE|SIX}
ENVironment:LTE:UDLConfig?
```

Arguments ZERO, ONE, TWO, THREe, FOUR, FIVE, SIX

Returns
ZERO
ONE
TWO
THRE
FOUR
FIVE
SIX

Examples `ENVIRONMENT:LTE:UDLCONFIG TWO` sets the Up-Down Link Configuration to 2 for the selected LTE emitter.

`ENVIRONMENT:LTE:UDLCONFIG?` might return `ONE`, indicating that the Up-Down Link Configuration is set to 1 for the selected LTE emitter.

ENVironment:NOISe:BANDwidth

This command sets or returns the Noise Type for the selected Noise emitter.

Group Noise

Syntax

```
ENVironment:NOISe:BANDwidth <value>
ENVironment:NOISe:BANDwidth?
```

Arguments <value>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:NOISE:BANDWIDTH WHITE` sets the Noise Type to White for the selected Noise emitter.

`ENVIRONMENT:NOISE:BANDWIDTH?` might return `BLIM`, indicating that the Noise Type is set to Band Limited for the selected Noise emitter.

ENVironment:NOISe:DTYPe

This command sets or returns the Noise Duration Type for the selected Noise emitter.

Group Noise

Syntax

```
ENVironment:NOISe:DTYPe {FEDuration|UDDuration}
ENVironment:NOISe:DTYPe?
```

Arguments FEDuration, UDDuration

Returns FED = Full Scenario Duration
UDD = User Defined Duration

Examples `ENVIRONMENT:NOISE:DTYPE UDDURATION` sets the Noise Duration Type to User Defined Duration for the selected Noise emitter.

`ENVIRONMENT:NOISE:DTYPE?` might return `FED`, indicating that the Noise Duration Type is set to Full Scenario Duration for the selected Noise emitter.

ENVironment:NOISe:TYPE

This command sets or returns the Noise Type for the selected Noise emitter.

Group Noise

Syntax

```
ENVironment:NOISe:TYPE {WHITe|BLIMited}
ENVironment:NOISe:TYPE?
```

Arguments WHITe, BLIMited

Returns WHIT = white
BLIM = band limited

Examples `ENVIRONMENT:NOISE:TYPE WHITE` sets the Noise Type to White for the selected Noise emitter.

`ENVIRONMENT:NOISE:TYPE?` might return `BLIM`, indicating that the Noise Type is set to Band Limited for the selected Noise emitter.

ENVironment:NOISe:UDDUration:VALUe

This command sets or returns the User defined duration value for the selected Noise emitter.

Group Noise

Syntax

```
ENVironment:NOISe:UDDUration:VALUe <value>
ENVironment:NOISe:UDDUration:VALUe?
```

Arguments <value>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:NOISE:UDDURATION:VALUE 2E-6` sets the User defined duration value to 2 µs for the selected Noise emitter.

`ENVIRONMENT:NOISE:UDDURATION:VALUE?` might return `10.0000000000E-6`, indicating that the User defined duration value is set to 10 µs for the selected Noise emitter.

ENVironment:OFDM:FRAMe:BANDwidth

This command sets or returns the frame's Bandwidth for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:BANDwidth <bandwidth>
ENVironment:OFDM:FRAMe:BANDwidth?
```

Arguments <bandwidth>::= <NRf> value.

Range: 100 kHz to 10 GHz.

Defaults to 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:BANDWIDTH 1E6` sets the frame's Bandwidth to 1 MHz for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:BANDWIDTH?` might return `1.0000000000E+9`, indicating that the frame's Bandwidth is set to 1 GHz for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:ADD (No Query Form)

This command adds a row to the end of the frame's Header Symbols table for the selected OFDM emitter.

Symbols are added from the Symbol List (defined in the Symbols tab). If a symbol name is not provided, a row is added using the first defined symbol in the Symbol List. The Symbol name must be a valid name available in the Symbol List.

Conditions When naming a Symbol, the Symbol must exist in the Symbols List. A maximum of 100 rows is allowed.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HEADer:ADD <symbol_name>`

Arguments <symbol_name>::= <string>

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:ADD` adds the first symbol from the Symbol List to the end of the frame's Header symbols table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:ADD "MySymbol23"` adds the symbol named MySymbol23 to the end of the frame's Header symbol table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:DELete (No Query Form)

This command deletes the specified row from the frame's Header symbols table for the selected OFDM emitter.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HEADer:DELete <index>`

Arguments <index>::= <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:DELETE 3` deletes the third row from the frame's Header symbols table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:DOMain

This command sets or returns the frame's Domain for the user supplied header file for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:DOMain {FREquency|TIMe}
ENVironment:OFDM:FRAMe:HEADer:DOMain?
```

Arguments FREquency: Sets the domain to Frequency for the user supplied header file.

TIMe: Sets the domain to Time for the user supplied header file.

Returns FRE
TIM

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:DOMAIN FREQUENCY` sets the frame's Domain for the user supplied header file to Frequency for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:DOMAIN?` might return `TIM`, indicating that the frame's Domain for the user supplied header file is set to Time for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:MODE

This command sets or returns the Header input method (file or custom symbols table) for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:MODE {FILE|CUSTom}
ENVironment:OFDM:FRAMe:HEADer:MODE?
```

Related Commands ENVironment:OFDM:FRAMe:HEADer:PATH

Arguments FILE: Sets the header input mode to File.

CUSTom: Sets the header input mode to Custom.

Returns FILE
CUST

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:MODE FILE` sets the Header input method to use a user supplied file for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:MODE?` might return `CUST`, indicating that the Header input method is set to use the custom symbols table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:PATH

This command sets or returns the Header file name and file path for the selected OFDM emitter.

Conditions Header input mode must be set to use a file.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:PATH <filepath>
ENVironment:OFDM:FRAMe:HEADer:PATH?
```

Related Commands ENVironment:OFDM:FRAMe:HEADer:SELectENVironment:OFDM:FRAMe:HEADer:MODE

Arguments <filepath>::=<string> defines Header file name and file path.

Returns A single <filepath> string.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:PATH "C:\HeaderFile.txt"` sets the Header file name and file path for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:PATH?` might return `"C:\HeaderFile.txt"` as the Header file name and file path for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:REPeat

This command sets or returns the Repeat count for the user supplied header file for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:REPeat <repeat>
ENVironment:OFDM:FRAMe:HEADer:REPeat?
```

Arguments <repeat>::=<NR3>

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR2> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:REPEAT 5` sets the repeat count for the header file to 5 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:REPEAT?` might return `12.0000000000`, indicating that the Repeat count for the header file is set to 12 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:SELect

This command sets or returns the selected (active) row from the Header's symbols table for the selected OFDM emitter. Other commands act on the selected row.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:SELect <index>
ENVironment:OFDM:FRAMe:HEADer:SELect?
```

Arguments <index>::= <NR3> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:SELECT 4` sets the 4th row in the Header's symbols table as the active row for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:SELECT?` might return `3`, indicating that the 3rd row from the Header's symbols table is selected for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:SNAMe

This command sets or returns the symbol name for the currently selected row in the Header symbol table for the selected OFDM emitter. The new name must already exist in the Symbol List.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:SNAMe <new_name>
ENVironment:OFDM:FRAMe:HEADer:SNAMe?
```

Arguments <new_name>::= <string>. The name must exist in the Symbol List.

Returns A single <string> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:SNAME "Symbol_23"` sets the currently selected row's symbol name to "Symbol_23" for the selected frame if it exists in the Symbol List for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:SNAME?` might return `"Symbol_2"`, indicating that the currently selected row's symbol name is Symbol_2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:SRATe

This command sets or returns the frame's Sampling Rate for the user supplied header file for the selected OFDM emitter.

Conditions The domain for the user supplied header file must be set to Time.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:SRATe <sample_rate>
ENVironment:OFDM:FRAMe:HEADer:SRATe?
```

Related Commands ENVironment:OFDM:FRAMe:HEADer:DOMain

Arguments <sample_rate>::= <NR3> value.

Range: 10 kHz to 100 GHz.

Defaults to 500 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:SRATE 500E3` sets the frame's Sampling Rate for the header file to 500 kHz for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:SRATE?` might return `1.0000000000E+9`, indicating that the frame's Sampling Rate for the header file is set to 1 GHz for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:SREPeat

This command sets or returns the Repeat count for the currently selected row in the frame's Header symbols table for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:SREPeat <repeat_count>
ENVironment:OFDM:FRAMe:HEADer:SREPeat?
```

Arguments <repeat_count>::= <NR3> value.

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:SREPEAT 3` sets repeat count to 3 for the currently selected row in the frame's Header symbols table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:SREPEAT?` might return `2.0000000000`, indicating that the repeat count value of the selected row in the frame's Header symbols table is 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:SSPacing

This command sets or returns the Header Subcarriers Spacing for the user supplied header file for the selected OFDM emitter.

Conditions The domain for the user supplied header file must be set to Frequency.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:SSPacing <spacing>
ENVironment:OFDM:FRAMe:HEADer:SSPacing?
```

Related Commands ENVironment:OFDM:FRAMe:HEADer:DOMain

Arguments <spacing>::= <NR3> value.

Range: 1 Hz to 40 MHz.

Defaults to 100 kHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:HEADER:SSPACING 5E6` sets the Header Subcarriers Spacing to 5 MHz for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:SSPACING?` might return `100.0000000000E+3`, indicating that the Subcarrier spacing of the header is 100 kHz for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HEADer:TON

This command sets or returns the status (enabled or disabled) of the frame's Header for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HEADer:TON {0|1|OFF|ON}
ENVironment:OFDM:FRAMe:HEADer:TON?
```

Arguments

OFF or 0 disables the Header.
ON or 1 enables the Header.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples

`ENVIRONMENT:OFDM:FRAME:HEADER:TON 1` enables the frame's Header for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HEADER:TON?` might return `0`, indicating that the frame's Header is disabled for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing:ENABle

This command sets or returns the Hopping state (enabled or disabled) for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing:ENABle {1|0|ON|OFF}
ENVironment:OFDM:FRAMe:HOPPing:ENABle?
```

Arguments OFF or 0 disables Hopping. OFF or 0 is the default value.

ON or 1 enables Hopping.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:FRAME:HOPPING:ENABLE ON` enables Hopping for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HOPPING:ENABLE?` might return `0`, indicating that Hopping is disabled for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing:HTIMe

This command sets or returns the frame's Hop Time type for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing:HTIMe {SPHop|SSINdex}
ENVironment:OFDM:FRAMe:HOPPing:HTIMe?
```

Arguments SPHop sets Hop Time to Symbols Per Hop.

SSINdex sets Hop Time to Symbol Start Index.

Returns SPH
SSIN

Examples `ENVIRONMENT:OFDM:FRAME:HOPPING:HTIME SPH` sets the frame's Hop Time to Symbols Per Hop for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HOPPING:HTIME?` might return `SSIN`, indicating that the frame's Hop Time is set to Symbol Start Index for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:ADD (No Query Form)

This command adds a single entry to the end of the frame's Frequency Hop List for the selected OFDM emitter.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HOPPing[:LIST]:ADD`

Related Commands ENVironment:OFDM:FRAMe:HOPPing[:LIST]:DELete, ENVironment:OFDM:FRAMe:HOPPing[:LIST]:INSert

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:ADD` creates a single entry to the end of the frame's Hop List table for the selected OFDM Emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:AOFFset

This command sets or returns the Amplitude Offset of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:AOFFset <offset>
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:AOFFset?
```

Arguments <offset>::= <NR3> value.
Range: –100 dBm to 0 dBm.
Default: 0 dBm.

Returns A single <NR2> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:AOFFSET –10` sets the Amplitude Offset to –10 dB of the selected hop in the frame's Frequency Hop List table for the selected OFDM Emitter.

`ENVironment:OFDM:FRAME:HOPPING:LIST:AOFFSET?` might return `-15.0000000000`, indicating that the Amplitude Offset is set to –15 dB for the selected hop in the frame's Frequency Hop List table for the selected OFDM Emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:COUNt? (Query Only)

This command returns the number of hops in the frame's Hop List for the selected OFDM emitter.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HOPPing[:LIST]:COUNt?`

Returns A single <NR1> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:COUNT?` might return `15`, indicating that there are 15 entries in the frame's Hop list for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:DELete (No Query Form)

This command removes entries from the frame's Frequency Hop List for the selected OFDM emitter

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HOPPing[:LIST]:DELete {ALL|<index>}`

Related Commands ENVironment:OFDM:FRAMe:HOPPing[:LIST]:COUNt?,ENVironment:OFDM:FRAMe:HOPPing[:LIST]:INSert, ENVironment:OFDM:FRAMe:HOPPing[:LIST]:ADD

Arguments ALL – Deletes all entries in the Hop List table.

<index>::= <NR1> value. Specifies the index number to delete from the Hop List table.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:DELETE ALL` removes all entries from the frame's Frequency Hop List table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:FREQuency

This command sets or returns the Frequency of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:FREQuency <frequency>
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:FREQuency?
```

Arguments <frequency>::= <NRf> value.
Range: 1 Hz to 2.5 GHz.
Default: 1 GHz.

Returns A single <NR2> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:FREQUENCY 1E9` sets the Frequency to 1 GHz of the selected hop in the frame's Frequency Hop List table for the selected OFDM emitter.

`ENVironment:OFDM:FRAME:HOPPING:LIST:FREQUENCY?` might return `1000000000`, indicating that the Frequency is set to 100 MHz for the selected hop in the frame's Frequency Hop List table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:INSert (No Query Form)

This command inserts a single entry into the frame's Frequency Hop List above the specified index for the selected OFDM emitter.

The selected entry point must already exist in the Hop List table.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:HOPPing[:LIST]:INSert <insertion>`

Related Commands ENVironment:OFDM:FRAMe:HOPPing[:LIST]:COUNt?, ENVironment:OFDM:FRAMe:HOPPing[:LIST]:DELete, ENVironment:OFDM:FRAMe:HOPPing[:LIST]:ADD

Arguments <insertion>::= <NR1> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:INSERT 10` inserts a single entry above the 10th index in the frame's Frequency Hop List table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:RFRequency

This command sets or returns the Frequency Offset (Relative Frequency) of the selected hop in the frame's Frequency Hop List for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:RFRequency <frequency>
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:RFRequency?
```

Arguments <frequency>::= <NRf> value.
Range: -999.999999 MHz to 1.5 GHz.
Default: 0 Hz.

Returns A single <NR2> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:RFREQUENCY 1E9` sets the Relative Frequency to 1 GHz of the selected index in the frame's Frequency Hop List table for the selected OFDM emitter.

`ENVironment:OFDM:FRAME:HOPPING:LIST:RFREQUENCY?` might return `1000000`, indicating that the Relative Frequency of the selected index in the frame's Frequency Hop List table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SELect

This command sets or returns the selected Hop number in the frame's Frequency Hop List for the selected frame in the Frame List for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SELect <index>
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SELect?
```

Arguments <index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:SELECT 3` selects index 3 in the frame's hopping table (Hop list) for the selected OFDM emitter.

`ENVironment:OFDM:FRAME:HOPPING:LIST:SELECT?` might return `1`, indicating that index 1 is currently selected in the frame's hopping table (Hop list) for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SSINdex

This command sets or returns the frame's Symbol Start Index (Symbol Index) for the selected OFDM emitter.

Conditions The Hop Time must be set to Symbol Start Index.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SSINdex <start_index>
ENVironment:OFDM:FRAMe:HOPPing[:LIST]:SSINdex?
```

Related Commands ENVironment:OFDM:FRAMe:HOPPing:HTIMe

Arguments <start_index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVironment:OFDM:FRAME:HOPPING:LIST:SSINDEX 10` sets the frame's Symbol Start Index to symbol 10 for the selected OFDM emitter.

`ENVironment:OFDM:FRAME:HOPPING:LIST:SSINDEX?` might return `6`, indicating that the frame's Symbol Start Index is set to 6 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing:RLISt

This command sets or returns the frame's Repeat List state (enabled or disabled) for the Frequency Hop List for the selected OFDM emitter.

When enabled, the Frequency Hop List repeats when the Hop List has been completed.

Conditions The Hop Time must be set to Symbols Per Hop.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing:RLISt {1|0|ON|OFF}
ENVironment:OFDM:FRAMe:HOPPing:RLISt?
```

Arguments OFF or 0 disables Repeat List. OFF or 0 is the default value.

ON or 1 enables Repeat List.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:FRAME:HOPPING:RLIST 1` enables the frame's Repeat List so that the Frequency Hop List repeats when the Hop List has been completed for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HOPPING:RLIST?` might return `0`, indicating that the frame's Repeat List is disabled so that the Frequency Hop List is not repeated for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:HOPPing:SPHop

This command sets or returns the frame's Symbols per Hop for the selected OFDM emitter.

Conditions The Hop Time must be set to Symbols Per Hop.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:HOPPing:SPHop <symbols>
ENVironment:OFDM:FRAMe:HOPPing:SPHop?
```

Related Commands ENVironment:OFDM:FRAMe:HOPPing:HTIMe

Arguments <symbols>::= <NRf> value.
Range: 1 to 5000000.
Default: 1.

Returns A single <NR1> value.

Examples `ENVIRONMENT:OFDM:FRAME:HOPPING:SPHOP 50` sets the frame's Symbols Per Hop to 50 symbols for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:HOPPING:SPHOP?` might return `1200`, indicating that the frame's Symbols per Hop is set to 1200 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:OTIMe

This command sets or returns the frame's Off-Time duration for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:OTIMe <off_time>
ENVironment:OFDM:FRAMe:OTIMe?
```

Arguments <off_time>::= <NR3> value.

Range: 0 s to 1 s.

Defaults to 10 µs.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:OTIME 1E-6` sets the frame's Off-Time to 1 µs for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:OTIME?` might return `850.0000000000E-9`, indicating that the frame's Off-Time is set to 850 ns for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:ADD (No Query Form)

This command adds a row to the end of the Payload symbols table for the selected OFDM emitter.

Symbols are added from the Symbol List (defined in the Symbols tab). If a symbol name is not provided, a row is added using the first defined symbol in the Symbol List. The Symbol name must be a valid name available in the Symbol List.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:PAYLoad:ADD <symbol_name>`

Arguments <symbol_name>::= <string>.

Returns A single <symbol_name> string.

Examples `ENVIRONMENT:OFDM:FRAME:PAYLOAD:ADD` adds the first symbol from the Symbol List to the end of the Payload symbols table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:ADD "MySymbol23"` adds the symbol named MySymbol23 to the end of the Payload symbols table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:DELete (No Query Form)

This command deletes the specified row from the Payload symbols table for the selected OFDM emitter.

Group OFDM frame

Syntax `ENVironment:OFDM:FRAMe:PAYLoad:DELete <index>`

Arguments <index>::= <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:PAYLOAD:DELETE 3` deletes the third row from the Payload symbols table for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:SELect

This command sets or returns the selected (active) row from the Payload symbols table for the selected OFDM emitter. Other commands act on the selected row.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PAYLoad:SELect <index>
ENVironment:OFDM:FRAMe:PAYLoad:SELect?
```

Arguments <index>::= <NR3> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:OFDM:FRAME:PAYLOAD:SELECT 4` sets the 4th row in the Payload symbols table as the active row for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:SELECT?` might return `3`, indicating that the 3rd row from the Payload symbols table is selected for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:SNAMe

This command sets or returns the symbol name for the currently selected row in the Payload symbol table for the selected OFDM emitter. The new name must already exist in the Symbol List.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PAYLoad:SNAMe <new_name>
ENVironment:OFDM:FRAMe:PAYLoad:SNAMe?
```

Arguments <new_name>::= <string>. The name must exist in the Symbol List

Returns A single <string> value.

Examples `ENVIRONMENT:OFDM:FRAME:PAYLOAD:SNAME "Symbol_23"` sets the currently selected row's symbol to "Symbol_23" for the selected frame if it exists in the Symbol List for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:SNAME?` might return `"Symbol_2"`, indicating that the currently selected row's symbol name is Symbol_2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:SREPeat

This command sets or returns the repeat count for the currently selected row in the Payload symbols table for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PAYLoad:SREPeat <repeat_count>
ENVironment:OFDM:FRAMe:PAYLoad:SREPeat?
```

Arguments <repeat_count>::= <NR3> value.

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:PAYLOAD:SREPEAT 3` sets repeat count to 3 for the currently selected row in the Payload symbols table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:SREPEAT?` might return `2.0000000000`, indicating that the repeat count value of the selected row in Payload symbol table is 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PAYLoad:TON

This command sets or returns the status (enabled or disabled) of the frame Payload for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PAYLoad:TON {0|1|OFF|ON}
ENVironment:OFDM:FRAMe:PAYLoad:TON?
```

Arguments

OFF or 0 disables the Payload.
ON or 1 enables the Payload.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:TON 1` enables the Header Payload for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PAYLOAD:TON?` might return `0`, indicating that the Header Payload is disabled for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:DOMain

This command sets or returns the Domain type of the specified Preamble for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:DOMain {FREquency|TIMe}
ENVironment:OFDM:FRAMe:PREamble[n]:DOMain?
```

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

FREquency: Sets the Preamble Domain to Frequency.

TIMe: Sets the Preamble Domain to Time.

Returns

FRE
TIM

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:DOMAIN TIME` sets the Domain type to Time for Preamble 1 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:DOMAIN?` might return `FREQ`, indicating that the Domain type is set to Frequency for Preamble 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:ENABle

This command sets or returns the status of the specified Preamble (enabled or disabled) for the selected OFDM emitter.

Use the command ENVironment:OFDM:FRAMe:PTON to enable one of the defined Preambles.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:ENABle {0|1|OFF|ON}
ENVironment:OFDM:FRAMe:PREamble[n]:ENABle?
```

Related Commands ENVironment:OFDM:FRAMe:PTON

Arguments [n] ::= {1|2} ("n" determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

OFF or 0 disables the specified preamble. OFF or 0 is the default value.
ON or 1 enables the specified preamble.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:ENABLE 1` enables the first Preamble for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:ENABLE?` might return `0`, indicating that the second Preamble of currently selected frame is disabled for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:PATH

This command sets or returns the specified Preamble file name and file path for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:PATH <filepath>
ENVironment:OFDM:FRAMe:PREamble[n]:PATH?
```

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<filepath>::=<string> defines the file name and file path of the file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:PATH "C:\preambleFile.txt"` sets the file name and file path for Preamble 1 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:PATH?` might return `"C:\preambleFile.txt"` as the file name and file path for Preamble 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:REPeat

This command sets or returns the Repeat count of the specified Preamble for the selected OFDM emitter.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:REPeat <repeat_count>
ENVironment:OFDM:FRAMe:PREamble[n]:REPeat?
```

Arguments [n] ::= {1|2} ("n" determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<repeat_count>::= <NR3>

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:REPEAT 5` sets the Repeat count to 5 for Preamble 1 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:REPEAT?` might return `15.0000000000`, indicating that the Repeat count is set to 15 for Preamble 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:SRATe

This command sets or returns the Sampling Rate of the specified Preamble for the selected OFDM emitter.

Conditions The Preamble Domain must be set to Time.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:SRATe <sample_rate>
ENVironment:OFDM:FRAMe:PREamble[n]:SRATe?
```

Related Commands ENVironment:OFDM:FRAMe:PREamble[n]:DOMain

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<sample_rate>::= <NR3>

Range: 10 kHz to 100 GHz.

Defaults to 500 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:SRATE 50E3` sets the Sampling Rate to 50 kHz for Preamble 2 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:SRATE?` might return `500.0000000000E+6`, indicating that the Sampling rate is set to 500 MHz for Preamble 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PREamble[n]:SSPacing

This command sets or returns the Subcarrier Spacing of the specified Preamble for the selected OFDM emitter.

Conditions The Preamble Domain must be set to Frequency.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PREamble[n]:SSPacing <spacing>
ENVironment:OFDM:FRAMe:PREamble[n]:SSPacing?
```

Related Commands ENVironment:OFDM:FRAMe:PREamble[n]:DOMain

Arguments [n] ::= {1|2} ("n" determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<spacing>::= <NR3> value.

Range: 1 Hz to 40 MHz.

Defaults to 1.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:FRAME:PREAMBLE1:SSPACING 5E3` sets the Subcarrier Spacing to 5 kHz for Preamble 1 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PREAMBLE2:SSPACING?` might return `500.0000000000`, indicating that the Subcarrier Spacing is set to 500 Hz for Preamble 2 for the selected OFDM emitter.

ENVironment:OFDM:FRAMe:PTON

This command sets or returns the status (enabled or disabled) of including a Preamble for the selected OFDM emitter.

Use the command ENVironment:OFDM:FRAMe:PREamble[n]:ENABle to enable one of the defined Preambles.

Group OFDM frame

Syntax

```
ENVironment:OFDM:FRAMe:PTON {0|1|OFF|ON}
ENVironment:OFDM:FRAMe:PTON?
```

Related Commands ENVironment:OFDM:FRAMe:PREamble[n]:ENABle

Arguments OFF or 0 disables the Preamble.
ON or 1 enables the Preamble.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:FRAME:PTON 1` enables the Preamble for the selected OFDM emitter.

`ENVIRONMENT:OFDM:FRAME:PTON?` might return `0`, indicating that the Preamble is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:ADD (No Query Form)

This command adds a new symbol to the existing list of symbols within the Symbols List for the selected OFDM emitter.

The new symbol is created using the plug-in default settings.

If the name already exists, an error message is displayed.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:ADD <symbol_name>`

Arguments <symbol_name>::=<string> defines the symbol name to be created.

If no name is given, the name defaults to “Symbol_x” where “x” is the next sequential number available.

Examples `ENVIRONMENT:OFDM:SYMBOL:ADD “My_Symbol_1”` adds a symbol named `My_Symbol_1` to the end of the existing Symbol List for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:ADD (No Query Form)

This command adds a single row to the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Default subcarrier positions, amplitude, and phase are loaded into the new row.

Conditions Custom must be enabled for the subcarries Amplitude/Phase Profile.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:APPRofile:CUSTom:ADD`

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:APPRofile:TYPE

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:ADD` adds a single row to the end of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:AMPLitude

This command sets or returns the amplitude of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions The Amplitude/Phase Profile type must be set to Custom.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:AMPLitude
<amplitude>
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:AMPLitude?
```

Related Commands ENVironment:OFDM:SYMBol:SELect,ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect, ENVironment:OFDM:SYMBol:APPRofile:TYPE

Arguments <amplitude>::=<NRf> value.

Range: –60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:AMPLITUDE -20` sets the amplitude of the subcarrier positions to –20 dBm of the selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:AMPLITUDE?` might return `-24.0000000000`, indicating that the amplitude of the subcarrier positions is set to –24 dBm of the selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:PHASe

This command sets or returns the phase of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions The Amplitude/Phase Profile type must be set to Custom.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:PHASe <phase>
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:PHASe?
```

Related Commands ENVironment:OFDM:SYMBol:SELect,ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect, ENVironment:OFDM:SYMBol:APPRofile:TYPE

Arguments <phase>::=<NRf> value.

Range: –180° to 180°.
Defaults to 0°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:PHASE –20` sets the phase of the subcarrier positions to –20° of the selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:PHASE?` might return `10.0000000000`, indicating that the phase of the subcarrier positions is set to 10° of the selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:REMove

This command removes the specified row from the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions Custom must be enabled for the subcarries Amplitude/Phase Profile.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:APPRofile:CUSTom:REMove <row>`

Related Commands ENVironment:OFDM:SYMBol:APPRofile:CUSTom:ADD , ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:APPRofile:TYPE

Arguments <row>::=<NR1> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:REMOVE 2` removes row 2 from the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect

This command sets or returns the selected (active) row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

Other commands act on the selected row.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect <index>`

Arguments <index>::=<NR1> value defines the row index number.

Returns A single <NR1> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:SELECT 2` sets row index 2 as the active row in the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:SELECT?` might return `4.0000000000`, indicating row 4 of the Custom Amplitude/Phase Profile table is the active row for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SPOS

This command sets or returns the subcarrier positions for the currently selected row in the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List for the selected OFDM emitter.

Use a colon to define a range of subcarrier positions and use a comma to separate individual subcarrier positions. For instance, –11:12,15 selects subcarrier positions –11 through 12 and 15.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SPOS <positions>
ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SPOS?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:APPRofile:CUSTom:SELect

Arguments <positions>::= <string>.

Returns A single <positions> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:SPOS "-11:12,15"` sets the subcarrier positions as –11 to 12 and 15 of the currently selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:CUSTOM:SPOS?` might return `"-9,7:8,12"`, indicating the subcarrier positions are set to 9, 7 to 8, and 12 of the currently selected row of the Custom Amplitude/Phase Profile table for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:DATA:AMPLitude

This command sets or returns the amplitude of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions Data must be enabled in the Amplitude/Phase Profile.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:DATA:AMPLitude <amplitude>
ENVironment:OFDM:SYMBol:APPRofile:DATA:AMPLitude?
```

Arguments <amplitude>::=<NRf> value.

Range: –60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:AMPLITUDE –20` sets the amplitude of the Data subcarriers to –20 dBm for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:AMPLITUDE?` might return `–24.0000000000`, indicating that the amplitude of the Data subcarriers is set to –24 dBm for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:DATA:ENABle

This command sets or returns the Data state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions The symbol subcarriers must have Data enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:DATA:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:APPRofile:DATA:ENABle?
```

Arguments OFF or 0 disables the Data subcarrier Amplitude/Phase Profile. OFF or 0 is the default value.
ON or 1 enables the Data subcarrier in the Amplitude/Phase Profile.

OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:ENABLE ON` enables Data in the Amplitude/Phase Profile for the selected symbol for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:ENABLE?` might return `0`, indicating that Data in the Amplitude/Phase Profile is disabled for the selected symbol for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:DATA:PHASe

This command sets or returns the phase of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions Data must be enabled in the Amplitude/Phase Profile.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:DATA:PHASe <phase>
ENVironment:OFDM:SYMBol:APPRofile:DATA:PHASe?
```

Arguments <phase>::=<NRf> value.

Range: –180° to 180°.
Defaults to 0°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:PHASE -20` sets the phase of the Data subcarriers to –20° for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:DATA:PHASE?` might return `10.0000000000`, indicating that the phase of the Data subcarriers is set to 10° for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:ENABle

This command sets or returns the Amplitude Phase Profile state (enabled or disabled) for the selected symbol in the Symbol List for the selected OFDM emitter.

When enabled, you can apply attenuation and phase rotation to each subcarrier or each type of subcarrier.

Conditions The symbol subcarriers must have either Data or Pilot (or both) enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:APPRofile:ENABle?
```

Arguments OFF or 0 disables the Amplitude Phase Profile. OFF or 0 is the default value.
OFF or 0 is the default value.
ON or 1 enables the Amplitude Phase Profile.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:ENABLE ON` enables the Amplitude Phase Profile for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:ENABLE?` might return `0`, indicating that the Amplitude Phase Profile is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:PILot:AMPLitude

This command sets or returns the amplitude of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions Pilot must be enabled in the Amplitude/Phase Profile.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:PILot:AMPLitude
<amplitude>
ENVironment:OFDM:SYMBol:APPRofile:PILot:AMPLitude
```

Arguments <amplitude>::=<NRf> value.

Range: –60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:AMPLITUDE -20` sets the amplitude of the Pilot subcarriers to –20 dBm for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:AMPLITUDE?` might return `-24.0000000000`, indicating that the amplitude of the Pilot subcarriers is set to –24 dBm for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:PILot:ENABle

This command sets or returns the Pilot state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions The symbol subcarriers must have Pilot enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:PILot:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:APPRofile:PILot:ENABle?
```

Arguments OFF or 0 disables the Pilot subcarrier Amplitude/Phase Profile. OFF or 0 is the default value. OFF or 0 is the default value.
ON or 1 enables the Pilot subcarrier in the Amplitude/Phase Profile.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:ENABLE ON` enables Pilot in the Amplitude/Phase Profile for the selected symbol for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:ENABLE?` might return `0`, indicating that Pilot in the Amplitude/Phase Profile is disabled for the selected symbol for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:PILot:PHASe

This command sets or returns the Phase of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions Pilot must be enabled in the Amplitude/Phase Profile.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:PILot:PHASe <phase>
ENVironment:OFDM:SYMBol:APPRofile:PILot:PHASe
```

Arguments <phase>::=<NRf> value.

Range: –180° to 180°.
Defaults to 0°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:PHASE -20` sets the phase of the Pilot subcarriers to –20° for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:PILOT:PHASE?` might return `10.0000000000`, indicating that the phase of the Pilot subcarriers is set to 10° for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:APPRofile:TYPE

This command sets or returns the Amplitude Phase Profile type for selected symbol for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:APPRofile:TYPE {FIXed|CUSTom}
ENVironment:OFDM:SYMBol:APPRofile:TYPE?
```

Related Commands ENVironment:OFDM:SYMBol:APPRofile:ENABle

Arguments FIXed allows you to specify the amplitude and phase profile for all data and pilot positions.
CUSTom allows you to specify the amplitude and phase profile for any carrier position or positions.

Fixed is the default setting.

Returns FIX: Fixed
CUST: Custom

Examples `ENVIRONMENT:OFDM:SYMBOL:APPROFILE:TYPE FIXED` enables you to specify the amplitude and phase profile for all data and pilot subcarrier positions for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:APPROFILE:TYPE?` might return `CUST`, indicating that the custom amplitude and phase profile table is enabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:CRATio:ENABle

This command sets or returns the symbol's Clipping Ratio state (enabled or disabled) for the selected OFDM emitter.

Clipping Ratio is the Clip power level divided by Average Power.

This command affects the selected Symbol of the selected OFDM Emitter of the selected Environment Scenario.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:CRATio:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:CRATio:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:CRATio:VALue

Arguments OFF or 0 disables Clipping Ratio. OFF or 0 is the default value.
ON or 1 enables setting Clipping Ratio.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:CRATIO:ENABLE ON` enables setting symbol's Clipping Ratio for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:CRATIO:ENABLE?` might return `0`, indicating that symbol's Clipping Ratio is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:CRATio:VALue

This command sets or returns the symbol's Clipping Ratio value for the selected OFDM emitter.

This command affects the selected Symbol of the selected OFDM Emitter of the selected Environment Scenario.

Conditions Clipping Ratio must be enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:CRATio:VALue <clipping_ratio>
ENVironment:OFDM:SYMBol:CRATio:VALue?
```

Related Commands ENVironment:OFDM:SYMBol:CRATio:ENABle

Arguments <clipping_ratio>::=<NRf> value.
Range: 0.01 dB to 50 dB.

Default: 1 dB.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:CRATIO:VALUE 10` sets the symbol's Clipping Ratio to 10 dB for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:CRATIO:VALUE?` might return `1.0000000000`, indicating that the symbol's Clipping Ratio is set to 1 dB for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA

This command sets or returns the symbol Data subcarriers pattern type for the selected OFDM emitter.

When setting the pattern type to PRBS, Pattern, or File, use the additional commands noted with each argument to continue defining these pattern types.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA {AZERo|AONe|PRBS|PATTern|FILe}
ENVironment:OFDM:SYMBol:DATA?
```

Arguments

`AZERo` is a Data type of all zeroes.

`AONe` is a Data type of all ones.

PRBS is one of the available PRBS data types. Use the command ENVironment:OFDM:SYMBol:DATA:PRBS to set and query the actual PRBS Data type.

`PATTern` is a pattern Data type. Use the command ENVironment:OFDM:SYMBol:DATA:PATTern to set and query the pattern.

`FILe` is a file Data type. Use the command ENVironment:OFDM:SYMBol:DATA:FILE to set and query the pattern file and filepath.

Returns

AZER: All zeros
AON: All ones
PRBS
PATT: Pattern
FIL: File

Examples

`ENVIRONMENT:OFDM:SYMBOL:DATA AONE` sets the pattern type to all ones for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA?` might return `PRBS`, indicating that the pattern type is set one of the available PRBS selections for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:ENABle

This command sets or returns the symbol Data subcarriers state (enabled or disabled) for the selected OFDM emitter.

When enabled, you can define the Data subcarriers.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:DATA:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments OFF or 0 disables Data subcarriers.
ON or 1 enables the Data subcarriers. ON or 1 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:ENABLE ON` enables setting symbol Data subcarriersfor the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:ENABLE?` might return `0`, indicating that symbol Data subcarriers are disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:FILE

This command sets or returns the symbol Data Pattern filename and filepath for the selected OFDM emitter.

Conditions The Data subcarriers Pattern type must be set to File with the command ENVironment:OFDM:SYMBol:PILot.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:FILE <filepath>
ENVironment:OFDM:SYMBol:DATA:FILE?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:DATA

Arguments <filepath>::= <string>.

Returns A single <filepath> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:FILE "C:\temp\dataPattern.txt"` sets the symbol data pattern filename and filepath for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:FILE?` might return `"C:\temp\dataPattern.txt"` as the symbol data pattern filename and filepath for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:MODulation:PSK

This command sets or returns the symbol Data subcarriers PSK modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:MODulation:PSK {BPSK|QPSK|8PSK}
ENVironment:OFDM:SYMBol:DATA:MODulation:PSK
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe

Arguments BPSK, QPSK, and 8PSK are the selectable PSK modulation types.

Returns BPSK, QPSK, or 8PSK

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:PSK 8PSK` sets the symbol PSK data modulation type to 8PSK for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:PSK?` might return `QPSK`, indicating that the symbol PSK modulation type is set to QPSK for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:MODulation:QAM

This command sets or returns the symbol Data subcarriers QAM modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:MODulation:QAM
{QAM8|QAM16|QAM32|QAM64
|QAM128|QAM256|QAM512|QAM1024}
ENVironment:OFDM:SYMBol:DATA:MODulation:QAM?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe

Arguments QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, and QAM1024 are the QAM modulation types.

Returns QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, or QAM1024.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:QAM QAM16` sets the QAM data modulation type to QAM16 for the symbol Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:QAM?` might return `QAM256`, indicating that the QAM modulation type is set to QAM256 for the symbol Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe

This command sets or returns the symbol Data subcarriers modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe {PSK|QAM}
ENVironment:OFDM:SYMBol:DATA:MODulation:TYPe?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:DATA:MODulation:PSK, ENVironment:OFDM:SYMBol:DATA:MODulation:QAM

Arguments `PSK and QAM` are selectable modulation types.

PSK and QAM require further definition. See related commands.

Returns `PSK or QAM`.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:TYPE PSK` sets the symbol modulation type to PSK for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:MODULATION:TYPE?` might return `QAM`, indicating the symbol modulation type for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:PATTern

This command sets or returns the symbol user defined Data subcarriers pattern for the selected OFDM emitter.

Conditions The Data Pattern type must be set to Pattern with the command ENVironment:OFDM:SYMBol:DATA.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:PATTern <pattern>
ENVironment:OFDM:SYMBol:DATA:PATTern?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:DATA

Arguments <pattern>::= <string>.

Returns A single <pattern> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:PATTERN "11001111"` sets the symbol pattern for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:PATTERN?` might return `"11001101"`, indicating this is the set pattern for the symbol Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:POSition

This command sets or returns the symbol Data subcarrier positions for the selected OFDM emitter.

Conditions Data subcarriers must be enabled for the selected symbol. You cannot have any duplicate positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:POSition <data_positions>
ENVironment:OFDM:SYMBol:DATA:POSition?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot:ENABle

Arguments <data_positions>::= <string> defines the subcarriers data positions.

Returns A single <data_positions> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:POSITION "-14:9,15"` sets the positions to –14 through +9 and 15 for the symbol Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:POSITION?` might return `"-14:9,15"`, indicating that the positions include –14 to +9 and 15 for the symbol Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:PRBS

This command sets or returns the PRBS pattern type when the symbol Data subcarriers pattern type is set to PRBS for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFin
ENVironment:OFDM:SYMBol:DATA:PRBS?
```

Related Commands ENVironment:OFDM:SYMBol:DATA

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEFined are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:POLYnomial and ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:SREGister to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS PRBS15` sets the PRBS type to PRBS 15 for the symbol Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS?` might return `PRBS15`, indicating that the symbol PRBS type is set to PRBS15 for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:POLYnomial

This command sets or returns the symbol PRBS Polynomial Expression for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:POLYnomial
<polynomial>
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:POLYnomial?
```

Related Commands ENVironment:OFDM:SYMBol:DATA, ENVironment:OFDM:SYMBol:DATA:PRBS

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples

`ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the symbol User Defined PRBS Polynomial Expression to X12+X11+1 for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the symbol User Defined PRBS Polynomial Expression for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:SREGister

This command sets or returns the symbol PRBS Shift register initial value for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:SREGister
<shift_register>
ENVironment:OFDM:SYMBol:DATA:PRBS:UDEFined:SREGister?
```

Related Commands ENVironment:OFDM:SYMBol:DATA, ENVironment:OFDM:SYMBol:DATA:PRBS

Arguments <shift_register>::= <string>.

The number of shift register values should match the highest polynomial degree. For example, if the user defined polynomial is "X5+X4+1", then the initial shift register should have 5 values.

Returns A single <shift_register> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS:UDEFINED:SREGISTER "11011"` sets the symbol User Defined PRBS Shift register to 11011 for the Data subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:DATA:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the symbol User Defined PRBS shift register for the Data subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:DELete (No Query Form)

This command deletes the specified symbol from the Symbol List for the selected OFDM emitter.

Conditions The named symbol must exist in the Symbols List.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:DELete <symbol_name>`

Arguments <symbol_name>::=<string> defines the symbol name to be deleted.

Examples `ENVIRONMENT:OFDM:SYMBOL:DELETE "Samp_Symbol"` deletes the symbol named `Samp_Symbol` from the Symbol List for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:FOFFset:ENABle

This command sets or returns the symbol's Frequency Offset state (enabled or disabled) for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:FOFFset:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:FOFFset:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:FOFFset:VALue

Arguments OFF or 0 disables Frequency Offset. OFF or 0 is the default value.
ON or 1 enables setting Frequency Offset.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:FOFFSET:ENABLE ON` enables setting symbol's Frequency Offset for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:FOFFSET:ENABLE?` might return `0`, indicating that symbol's Frequency Offset is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:FOFFset:VALue

This command sets or returns the symbol's Frequency Offset value for the selected OFDM emitter.

Conditions Frequency Offset must be enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:FOFFset:VALue <frequency_offset>
ENVironment:OFDM:SYMBol:FOFFset:VALue?
```

Related Commands ENVironment:OFDM:SYMBol:FOFFset:ENABle

Arguments <frequency_offset>::=<NRf> value.
Range: –20 MHz to +20 MHz.

Default: 0.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:FOFFSET:VALUE 1E6` sets the symbol's Frequency Offset to 1 MHz for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:FOFFSET:VALUE?` might return `1.0000000000E+3`, indicating that the symbol's Frequency Offset is set to 1 kHz for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:GINTerval:ENABle

This command sets or returns the symbol's Guard Interval state (enabled or disabled) for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:GINTerval:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:GINTerval:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments OFF or 0 disables Symbols Guard Interval. OFF or 0 is the default value. ON or 1 enables Symbols Guard Interval.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:ENABLE ON` enables the symbol's Guard Interval for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:ENABLE?` might return `0`, indicating that the symbol's Guard Interval is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:GINTerval:TYPE

This command sets or returns the symbol's Guard Interval type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:GINTerval:TYPE {CPR|ZPAD}
ENVironment:OFDM:SYMBol:GINTerval:TYPE?
```

Related Commands ENVironment:OFDM:SYMBol:SELect,
ENVironment:OFDM:SYMBol:GINTerval:ENABle
ENVironment:OFDM:SYMBol:GINTerval:VALue

Arguments CPR sets the symbol guard interval to Cyclic Prefix, copying samples from the end of the symbol and adding them to the front of the symbol.

ZPAD sets the symbol guard interval to Zero Padding, adding zeros to the end of the symbol.

Returns CPR: Cyclic Prefix
ZPAD: Zero Padding

Examples `ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:TYPE ZPAD` sets the symbol's guard interval type to Cyclic Prefix for selected for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:TYPE?` might return ZPAD, indicating that the symbol's guard interval type is set to Zero Padding for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:GINTerval:VALue

This command sets or returns the value of the guard interval for the selected symbol in the Symbol List for the selected OFDM emitter.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:GINTerval:VALue <guard_int>`

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments <guard_int>::= <NR3> value.
Range: 100 ns to 5 µs.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:VALUE 100E-9` sets the Guard Interval for the selected symbol to 10 ns for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:GINTERVAL:VALUE` might return `1.0000000000E-6`, indicating that the Guard Interval for the selected symbol is set to 1 µs for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:GPOSitions

This command sets or returns the symbol's Subcarrier Guard positions for the selected OFDM emitter.

Conditions Guard positions must be enabled for the selected symbol. You cannot have any duplicate positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:GPOSitions <guard_positions>
ENVironment:OFDM:SYMBol:GPOSitions?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:GPOSitions:ENABle

Arguments <guard_positions>::= <string> defines the subcarriers guard positions.

Returns A single <guard_positions> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:GPOSITIONS "-32,31"` sets the symbol's Subcarrier Guard positions to –32 and +31 of the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:GPOSITIONS?` might return `"-33:-31,30:32"`, indicating that the symbol's Subcarrier Guard positions include –32 to –31 and 30 to 32 of the selected OFDM emitter.

ENVironment:OFDM:SYMBol:GPOSitions:ENABle

This command sets or returns the symbol's Subcarriers Guard positions state (enabled or disabled) for the selected OFDM emitter.

When enabled, you can define the subcarrier guard positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:GPOSitions:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:GPOSitions:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:GPOSitions

Arguments OFF or 0 disables setting guard positions. OFF or 0 is the default value. ON or 1 enables setting guard positions.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:GPOSITIONS:ENABLE ON` enables setting the symbol's Guard positions for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:GPOSITIONS:ENABLE?` might return `0`, indicating that the symbol's Guard positions are disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:NPOSitions

This command sets or returns the symbol's Subcarrier Null positions for the selected OFDM emitter.

Conditions Null positions must be enabled for the selected symbol. You cannot have any duplicate positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:NPOSitions <null_positions>
ENVironment:OFDM:SYMBol:NPOSitions?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:NPOSitions:ENABle

Arguments <null_positions>::= <string> defines the subcarriers null positions.

Returns A single <null_positions> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:NPOSITIONS "-11:12"` sets the symbol's Subcarrier Null positions to –11 through +12 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:NPOSITIONS?` might return `"-32:-27,0,27:31"`, indicating that the symbol's Subcarrier Null positions include –32 to –27, 0, and 27 to 31 for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:NPOSitions:ENABle

This command sets or returns the Subcarrier Null positions state (enabled or disabled) for the selected symbol in the Symbol List for the selected OFDM emitter.

When enabled, you can define the Subcarrier Null positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:NPOSitions:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:NPOSitions:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:NPOSitions

Arguments OFF or 0 disables setting null positions. OFF or 0 is the default value. OFF or 0 is the default value.
ON or 1 enables setting null positions.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:NPOSITIONS:ENABLE ON` enables setting Subcarrier Null positions for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:NPOSITIONS:ENABLE?` might return `0`, indicating that Subcarrier Null positions is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot

This command sets or returns the symbol Pilot subcarriers pattern type for the selected OFDM emitter.

When setting the pattern type to PRBS, Pattern, or File, use the additional commands noted with each argument to continue defining these pattern types.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot {AZERo|AONe|PRBS|PATTern|FILe}
ENVironment:OFDM:SYMBol:PILot?
```

Arguments

`AZERo` is a Pilot type of all zeroes.

`AONe` is a Pilot type of all ones.

PRBS is one of the available PRBS data types. Use the command ENVironment:OFDM:SYMBol:PILot:PRBS to set and query the actual PRBS Pilot type.

`PATTern` is a pattern Pilot type. Use the command ENVironment:OFDM:SYMBol:PILot:PATTern to set and query the pattern.

`FILe` is a file Pilot type. Use the command ENVironment:OFDM:SYMBol:PILot:FILE to set and query the pattern file and file path.

Returns

AZER: All zeros
AON: All ones
PRBS
PATT: Pattern
FIL: File

Examples

`ENVIRONMENT:OFDM:SYMBOL:PILOT AONE` sets the pattern type to all ones for the symbol Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT?` might return `PRBS`, indicating that the pattern type is set one of the available PRBS selections for the symbol Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:ENABle

This command sets or returns the symbol Pilot subcarriers state (enabled or disabled) for the selected OFDM emitter.

When enabled, you can define the Pilot subcarriers.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:PILot:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments OFF or 0 disables Pilot subcarriers. OFF or 0 is the default value. OFF or 0 is the default value.
ON or 1 enables Pilot subcarriers.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:ENABLE ON` enables setting symbol Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:ENABLE?` might return `0`, indicating that symbol Pilot subcarriers are disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:FILE

This command sets or returns the symbol Pilot subcarriers pattern file name and file path for the selected OFDM emitter.

Conditions The Pilot subcarriers Pattern type must be set to File with the command ENVironment:OFDM:SYMBol:PILot.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:FILE <filepath>
ENVironment:OFDM:SYMBol:PILot:FILE?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot

Arguments <filepath>::= <string> defines the file name and file path of the file.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:OFDM:SYMBOL:PILOT:FILE "C:\temp\PilotPattern.txt"` sets the pattern file name and file path for the Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:FILE?` might return `"C:\temp\PilotPattern.txt"` as the file name and file path for the Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:MODulation:PSK

This command sets or returns the symbol's Pilot subcarriers PSK modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:MODulation:PSK
{BPSK|QPSK|8PSK}
ENVironment:OFDM:SYMBol:PILot:MODulation:PSK
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe

Arguments BPSK, QPSK, and 8PSK are the selectable PSK modulation types.

Returns BPSK, QPSK, or 8PSK

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:PSK 8PSK` sets the PSK data modulation type to 8PSK for the symbol's Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:PSK?` might return `QPSK`, indicating that the PSK modulation type is set to QPSK for the symbol's Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:MODulation:QAM

This command sets or returns the symbol's Pilot subcarriers QAM modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:MODulation:QAM
{QAM8|QAM16|QAM32|QAM64
| QAM128|QAM256|QAM512|QAM1024}
ENVironment:OFDM:SYMBol:PILot:MODulation:QAM?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe

Arguments QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, and QAM1024 are the QAM modulation types.

Returns QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, or QAM1024.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:QAM QAM16` sets the QAM modulation type to QAM16 for the symbol's Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:QAM?` might return `QAM256`, indicating that the QAM modulation type is set to QAM256 for the symbol's Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe

This command sets or returns the symbol's Pilot subcarriers modulation type for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe {PSK|QAM}
ENVironment:OFDM:SYMBol:PILot:MODulation:TYPe?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot:MODulation:PSK, ENVironment:OFDM:SYMBol:PILot:MODulation:QAM

Arguments `PSK and QAM` are selectable modulation types.

PSK and QAM require further definition. See related commands.

Returns `PSK or QAM`.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:TYPE PSK` sets the modulation type to PSK for the symbol's Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:MODULATION:TYPE?` might return `QAM`, indicating the modulation type for the symbol's Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:PATTern

This command sets or returns the user defined pattern for the symbol's Pilot subcarrier for the selected OFDM emitter.

Conditions The Pilot Pattern type must be set to Pattern with the command ENVironment:OFDM:SYMBol:PILot.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:PATTern <pattern>
ENVironment:OFDM:SYMBol:PILot:PATTern?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot

Arguments <pattern>::= <string>.

Returns A single <pattern> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:PATTERN "11001111"` sets the user defined pattern for the symbol's Pilot subcarrier for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:PATTERN?` might return `"11001101"`, indicating the user defined pattern for the symbol's Pilot subcarrier for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:POSition

This command sets or returns the symbol's Pilot subcarrier positions for the selected OFDM emitter.

Conditions Pilot subcarriers must be enabled for the selected symbol. You cannot have any duplicate positions.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:POSition <pilot_positions>
ENVironment:OFDM:SYMBol:PILot:POSition?
```

Related Commands ENVironment:OFDM:SYMBol:SELect, ENVironment:OFDM:SYMBol:PILot:ENABle

Arguments <pilot_positions>::= <string> defines the Pilot subcarriers positions.

Returns A single <pilot_positions> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:POSITION "-14:9,15"` sets the positions to –14 through +9 and 15 for the symbol's Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:POSITION?` might return `"-14:9,15"`, indicating that the positions include –14 to +9 and 15 for the symbol's Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:PRBS

This command sets or returns the PRBS pattern type when the Pilot subcarriers pattern type is set to PRBS for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:
PRBS {PRBS7|PRBS9|PRBS15|PRBS16
|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFined}
ENVironment:OFDM:SYMBol:PILot:PRBS?
```

Related Commands ENVironment:OFDM:SYMBol:PILot

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEFined are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:POLYnomial and ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:SREGister to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS PRBS15` sets the PRBS type to PRBS 15 for the symbol Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS?` might return `PRBS15`, indicating that the PRBS type is set to PRBS15 for the symbol Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the symbol Pilot subcarriers pattern is set to User Defined PRBS for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:POLYnomial
<polynomial>
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:POLYnomial?
```

Related Commands ENVironment:OFDM:SYMBol:PILot, ENVironment:OFDM:SYMBol:PILot:PRBS

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the User Defined PRBS Polynomial Expression to X12+X11+1 for the symbol Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is User Defined PRBS Polynomial Expression for the symbol Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:SREGister

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS when the symbol Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:SREGister
<shift_register>
ENVironment:OFDM:SYMBol:PILot:PRBS:UDEFined:SREGister?
```

Related Commands ENVironment:OFDM:SYMBol:PILot, ENVironment:OFDM:SYMBol:PILot:PRBS

Arguments <shift_register>::= <string>.

The number of shift register values should match the highest polynomial degree. For example, if the user defined polynomial is "X5+X4+1", then the initial shift register should have 5 values.

Returns A single <shift_register> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the symbol Pilot subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the User Defined PRBS shift register for the symbol Pilot subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:POFFset:ENABle

This command sets or returns the symbol's Phase Offset state (enabled or disabled) for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:POFFset:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:POFFset:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:POFFset:VALue

Arguments OFF or 0 disables Phase Offset. OFF or 0 is the default value.
ON or 1 enables setting Phase Offset.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:POFFSET:ENABLE ON` enables setting symbol's Phase Offset for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:POFFSET:ENABLE?` might return `0`, indicating that symbol's Phase Offset is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:POFFset:VALue

This command sets or returns the symbol's Phase Offset value for the selected OFDM emitter.

Conditions Phase Offset must be enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:POFFset:VALue <phase_offset>
ENVironment:OFDM:SYMBol:POFFset:VALue?
```

Related Commands ENVironment:OFDM:SYMBol:POFFset:ENABle

Arguments <phase_offset>::=<NRf> value.
Range: –180° to +180°.

Default: 0°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:POFFSET:VALUE 10` sets the symbol's Phase Offset to 10° for the selected OFDM Emitter.

`ENVIRONMENT:OFDM:SYMBOL:POFFSET:VALUE?` might return `22.0000000000`, indicating that the symbol's Phase Offset is set to 22° for the selected OFDM Emitter.

ENVironment:OFDM:SYMBol:REName (No Query Form)

This command renames an existing symbol name to a new name for the selected OFDM emitter. The symbol being renamed must exist in the Symbol List.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:REName <Old_name>,<New_name>`

Arguments <Old_name>::=<string> defines the symbol to be renamed.
<New_name>::=<string> defines the new symbol name.

Examples `ENVIRONMENT:OFDM:SYMBOL:RENAME "SampSymbol1","SampSymbol1new"` renames the symbol SampSymbol1 to SampSymbol1new for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:SELect

This command sets or returns the selected symbol from the list of available symbols in the Symbol List for the selected OFDM emitter.

Other commands act on the selected symbol.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:SELect <symbol_name>`

Arguments <symbol_name>::=<string> defines the symbol name to select.

Returns A single <symbol_name> string.

Examples `ENVIRONMENT:OFDM:SYMBOL:SELECT "Samp_Symbol"` selects the symbol named `Samp_Symbol` in the Symbol List for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:SELECT ?` might return `"Samp_Symbol"` in the Symbol List for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:SSPacing

This command sets or returns the Symbols Subcarriers Spacing for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:SSPacing <spacing>
ENVironment:OFDM:SYMBol:SSPacing?
```

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments <spacing>::= <NRf> value.

Range: 1 Hz to 40 MHz

Returns A single <NR3> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:SSPACING 1E3` sets the symbol Subcarriers Spacing to 1 kHz OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:SSPACING?` might return `5.0000000000E+3`, indicating the symbol Subcarriers Spacing is set to 5 kHz for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:TSUBcarriers

This command sets or returns the total number of symbol subcarriers for the selected OFDM emitter.

Group OFDM symbols

Syntax `ENVironment:OFDM:SYMBol:TSUBcarriers <subcarriers>`

Related Commands ENVironment:OFDM:SYMBol:SELect

Arguments <subcarriers>::= A single <NR3> value.

Range: 2 to 4096.
Default: 64.

Returns A single <NR2> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:TSUBCARRIERS 1E3` sets the number of symbol subcarriers to 1000 for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:TSUBCARRIERS?` might return `64.0000000000`, indicating that the number of symbol subcarriers is set to 64 for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:TSUBcarriers:POSitions

This command sets or returns if the symbol subcarriers show only the positive subcarriers or all subcarriers for the selected OFDM emitter.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:TSUBcarriers:POSitions
{MTPLus|APLUs}
ENVironment:OFDM:SYMBol:TSUBcarriers:POSitions?
```

Arguments MTPLus shows both the minus and plus subcarriers.
APLUs shows only the plus subcarriers.

Returns MTPL
APLUs

Examples `ENVIRONMENT:OFDM:SYMBOL:TSUBCARRIERS:POSITIONS MTPLUS` sets the symbol subcarriers to show both the positive and negative subcarriers for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:TSUBCARRIERS:POSITIONS?` might return `APLU`, indicating that only the symbol positive subcarriers is set to show only the positive subcarriers for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:UDEFined:ENABle

This command sets or returns the symbol User-defined frequency weight (enabled or disabled) for the selected OFDM emitter.

When enabled, a user supplied frequency weight file is used to define the subcarriers.

Conditions A path to a frequency weight file must be provided.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:UDEFined:ENABle {0|1|OFF|ON}
ENVironment:OFDM:SYMBol:UDEFined:ENABle?
```

Related Commands ENVironment:OFDM:SYMBol:UDEFined:PATH

Arguments OFF or 0 disables using a frequency weight file to define the subcarriers.
ON or 1 enables using a frequency weight file to define the subcarriers.

OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:OFDM:SYMBOL:UDEFINED:ENABLE ON` enables using a symbol frequency weight file for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:UDEFINED:ENABLE?` might return `0`, indicating that using a symbol frequency weight file is disabled for the selected OFDM emitter.

ENVironment:OFDM:SYMBol:UDEFined:PATH

This command sets or returns the file name and file path of the User Defined Weights File of the selected symbol in the Symbol List for the selected OFDM emitter.

Conditions The User-defined frequency weight control must be enabled.

Group OFDM symbols

Syntax

```
ENVironment:OFDM:SYMBol:UDEFined:PATH <filepath>
ENVironment:OFDM:SYMBol:UDEFined:PATH?
```

Related Commands ENVironment:OFDM:SYMBol:UDEFined:ENABle

Arguments <filepath>::=<string> defines the path to the weights file.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:OFDM:SYMBOL:UDEFINED:PATH "C:\temp\WeightFile.txt"` sets the User defined frequency weight file path and file name of the selected symbol in the Symbol List for the selected OFDM emitter.

`ENVIRONMENT:OFDM:SYMBOL:UDEFINED:PATH?` might return `"C:\temp\WeightFile.txt"` as the weight file path and file name of the selected symbol in the Symbol List for the selected OFDM emitter.

ENVironment:P25:MODulation

This command sets or returns the Modulation for the selected P25 emitter.

Group P25

Syntax

```
ENVironment:P25:MODulation {C4FM|HCPM|HDQPsk}
ENVironment:P25:MODulation?
```

Arguments C4FM, HCPM, HDQPsk

Returns

C4FM
HCPM
HDQP

Examples

`ENVIRONMENT:P25:MODULATION HCPM` sets the Modulation to HCPM for the selected P25 emitter.

`ENVIRONMENT:P25:MODULATION?` might return `C4FM`, indicating that the Modulation is set to C4FM for the selected P25 emitter.

ENVironment:P25:STANdard

This command sets or returns the Standard for the selected P25 emitter.

Group P25

Syntax

```
ENVironment:P25:STANdard {PONE|PTWO}
ENVironment:P25:STANdard?
```

Arguments PONE, PTWO

Returns

PONE = Phase1
PTWO = Phase 2

Examples

`ENVIRONMENT:P25:STANDARD PONE` sets the Standard to Phase 1 for the selected P25 emitter.

`ENVIRONMENT:P25:STANDARD?` might return `PTWO`, indicating that the Standard is set to Phase 2 for the selected P25 emitter.

ENVironment:PULSe:PRI

This command sets or returns the PRI (Pulse Repetition Interval) for the selected Pulse emitter.

Group Pulse

Syntax

```
ENVironment:PULSe:PRI <pulse_pri>
ENVironment:PULSe:PRI?
```

Arguments <pulse_pri> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:PULSE:PRI 200E-6` sets the PRI to 200 µs for the selected Pulse emitter.

`ENVIRONMENT:PULSE:PRI?` might return `5.0600000000E-3`, indicating that the PRI is set to 5.06 ms for the selected Pulse emitter..

ENVironment:PULSe:RCOunt

This command sets or returns the Pulse repeat count for the selected Pulse emitter.

Group Pulse

Syntax

```
ENVironment:PULSe:RCOunt <repeat_count>
ENVironment:PULSe:RCOunt?
```

Arguments <repeat_count> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:PULSE:RCOUNT 3` sets the Repeat count to 3 for the selected Pulse emitter.

`ENVIRONMENT:PULSE:RCOUNT?` might return `7`, indicating that the Repeat count is set to 7 for the selected Pulse emitter.

ENVironment:PULSe:WIDTh

This command sets or returns the Pulse Width for the selected Pulse emitter.

Group Pulse

Syntax

```
ENVironment:PULSe:WIDTh <pulse_width>
ENVironment:PULSe:WIDTh?
```

Arguments <pulse_width> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:PULSE:WIDTH 1.01E-6` sets the pulse width to 1.01 µs for the selected Pulse emitter.

`ENVIRONMENT:PULSE:WIDTH?` might return `1.0000000000E-6`, indicating that the pulse width of the pulse emitter is set to 1 µs for the selected Pulse emitter.

ENVironment:RADar:ANTenna:BEAM:AZIMuth

This command sets or returns the Antenna Beam Azimuth for the selected Radar emitter.

Conditions The Antenna Scan Type must be set to Circular.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:BEAM:AZIMuth <beam_azimuth>
ENVironment:RADar:ANTenna:BEAM:AZIMuth?
```

Arguments <beam_azimuth> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:BEAM:AZIMUTH 1.2` sets the Antenna Beam Azimuth for the selected pulse to 1.2° for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:BEAM:AZIMUTH?` might return `12.0000000000E-3`, indicating that the Antenna Beam Azimuth is set to 0.012° for the selected Radar emitter.

ENVironment:RADar:ANTenna:BEAM:ELEVation

This command sets or returns the Antenna Beam Elevation for the selected Radar emitter.

Conditions The Antenna Scan Type must be set to Circular.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:BEAM:ELEVation <beam_elevation>
ENVironment:RADar:ANTenna:BEAM:ELEVation?
```

Arguments <beam_elevation> = <NRf>

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:BEAM:ELEVATION 1.2` sets the Antenna Beam Elevation to 1.2° for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:BEAM:ELEVATION?` might return `2.0210000000`, indicating that the Antenna Beam Elevation is set to 2.021° for the selected Radar emitter.

ENVironment:RADar:ANTenna:BEAM:TYPE

This command sets or returns the Antenna Beam Type for the selected Radar emitter.

Conditions The Antenna Scan Type must be set to Circular.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:BEAM:TYPE {SINC|GAUSsian}
ENVironment:RADar:ANTenna:BEAM:TYPE?
```

Arguments SINC, GAUSsian

Returns SINC = Sin(x) / x

GAUS = Gaussian

Examples `ENVIRONMENT:RADAR:ANTENNA:BEAM:TYPE SINC` sets the Antenna Beam Type to Sin(x)/x for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:BEAM:TYPE?` might return `GAUS`, indicating that the Antenna Beam Type is set to Gaussian for the selected Radar emitter.

ENVironment:RADar:ANTenna:SCAN:AREA

This command sets or returns the Antenna Scan Area for the selected Radar emitter.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:SCAN:AREA <scan_area>
ENVironment:RADar:ANTenna:SCAN:AREA?
```

Arguments <scan_area> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:SCAN:AREA 0.01` sets the Antenna Scan Area to 0.01° for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:SCAN:AREA?` might return `1.8000000000E+3`, indicating that the Antenna Scan Area is set to 1800° for the selected Radar emitter.

ENVironment:RADar:ANTenna:SCAN:FILE

This command sets or returns the file path to the Antenna Custom Scan File for the selected Radar emitter.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:SCAN:FILE <file_path>
ENVironment:RADar:ANTenna:SCAN:FILE?
```

Arguments <file_path> = <string> defines the path to the custom antenna scan file.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:RADAR:ANTENNA:SCAN:FILE "C:\Radar\CircularScan.txt"` sets the file path and file name of the custom antenna scan file for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:SCAN:FILE?` might return `"C:\Radar\BiDir.txt"` as the antenna custom scan file for the selected Radar emitter.

ENVironment:RADar:ANTenna:SCAN:RATE

This command sets or returns the Antenna Scan Rate for the selected Radar emitter.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:SCAN:RATE <scan_rate>
ENVironment:RADar:ANTenna:SCAN:RATE?
```

Arguments <scan_rate> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:SCAN:RATE 112` sets the antenna scan rate to 112 deg/s for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:SCAN:RATE?` might return `180.0000000000`, indicating that the antenna scan rate is set to 180 deg/s for the selected Radar emitter.

ENVironment:RADar:ANTenna:SCAN:TYPE

This command sets or returns the Antenna Scan type for the selected Radar emitter.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:SCAN:TYPE {CIRCular|CUSTom}
ENVironment:RADar:ANTenna:SCAN:TYPE?
```

Arguments CIRCular, CUSTom

Returns CIRC = Circular antenna scan type.
CUST = Custom antenna scan type.

Examples `ENVIRONMENT:RADAR:ANTENNA:SCAN:TYPE CIRCULAR` sets the antenna scan type to Circular for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:SCAN:TYPE?` might return `CUST`, indicating that the antenna scan type is set to Custom for the selected Radar emitter.

ENVironment:RADar:ANTenna:TARGet:HORizontal

This command sets or returns the Antenna Horizontal Target Location for the selected Radar emitter.

Conditions The Antenna Scan Type must be set to Circular.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:TARGet:HORizontal
<target_horizontal>
ENVironment:RADar:ANTenna:TARGet:HORizontal?
```

Arguments <target_horizontal> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:TARGET:HORIZONTAL 3.12` sets the Antenna Horizontal Target Location to 3.12° for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:TARGET:HORIZONTAL?` might return `4.3700000000`, indicating that the Antenna Horizontal Target Location is 4.37° for the selected Radar emitter.

ENVironment:RADar:ANTenna:TARGet:VERTical

This command sets or returns the Antenna Vertical Target Location for the selected Radar emitter.

Conditions The Antenna Scan Type must be set to Circular.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:TARGet:VERTical <target_vertical>
ENVironment:RADar:ANTenna:TARGet:VERTical?
```

Arguments <target_vertical > = <NRf> value

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:TARGET:VERTICAL 4.12` sets the Antenna Vertical Target Location to 4.12° for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:TARGET:VERTICAL?` might return `7.8200000000`, indicating that the Antenna Vertical Target Location is 7.82° for the selected Radar emitter.

ENVironment:RADar:ANTenna:TON

This command sets or returns the status (enabled or disabled) of the Antenna settings for the selected Radar emitter.

Group Radar antenna

Syntax

```
ENVironment:RADar:ANTenna:TON {0|1|OFF|ON}
ENVironment:RADar:ANTenna:TON?
```

Arguments OFF or 0 turns OFF the Antenna Settings.
ON or 1 turns ON the Antenna Settings.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:ANTENNA:TON ON` turns ON the Antenna Settings for the selected Radar emitter.

`ENVIRONMENT:RADAR:ANTENNA:TON?` might return 0, indicating that the Antenna Settings is Turned OFF for the selected Radar emitter.

ENVironment:RADar:HOPPing:CUSTom:RLISt

This command sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop table for the selected Radar emitter. When enabled, the Frequency Hop List repeats when the Hop List has been completed.

The Hopping Pattern must be set to Custom and the Hop Time must be set to "Pulses Per Hop".

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:CUSTom:RLISt {1|0|ON|OFF}
ENVironment:RADar:HOPPing:CUSTom:RLISt?
```

Related Commands ENVironment:RADar:HOPPing:PATTern
ENVironment:RADar:HOPPing:TIME

Arguments OFF or 0 disables Repeat List. OFF or 0 is the default value.

ON or 1 enables Repeat List.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:HOPPING:CUSTOM:RLIST 1` enables the Repeat List so that the Frequency Hop List repeats when the Hop List has been completed for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:CUSTOM:RLIST?` might return `0`, indicating that the Repeat List is disabled so that the Frequency Hop List is not repeated for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:ADD (No Query Form)

This command adds a single entry to the end of the Frequency Hop List or the Frequency Avoid List for the selected Radar emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List modified. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is modified.

Group Radar hopping

Syntax `ENVironment:RADar:HOPPing[:LIST]:ADD`

Related Commands ENVironment:RADar:HOPPing:PATTern

Examples `RADAR:PULSE:HOPPING:LIST:ADD` adds a single entry to the end of the active hopping pattern list for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:AOFFset

This command sets or returns the Amplitude Offset (in dB) of the currently selected hop for the selected Radar emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing[:LIST]:AOFFset <amp_offset>
ENVironment:RADar:HOPPing[:LIST]:AOFFset?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing[:LIST]:SELect, ENVironment:RADar:HOPPing[:LIST]:FOFFset, ENVironment:RADar:HOPPing[:LIST]:FREQuency

Arguments <amp_offset>::= <NRf> value.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:LIST:AOFFSET -10` sets the Amplitude Offset of the currently selected hop to –10 dB for the selected Radar emitter.

`RADAR:PULSE:HOPPING:LIST:AOFFSET?` might return `-15.0000000000`, indicating that the Amplitude Offset of the currently selected hop is set to –15 dB for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:COUNt? (Query Only)

This command returns the number of hops in the Hop List or the number of entries in the Frequency Avoid List for the selected Radar emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List count is returned. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List count is returned.

Group Radar hopping

Syntax `ENVironment:RADar:HOPPing[:LIST]:COUNt?`

Related Commands ENVironment:RADar:HOPPing:PATTern

Returns A single <NR1> value.

Examples `RADAR:PULSE:HOPPING:LIST:COUNT?` might return `15`, indicating that there are 15 entries in the active hopping pattern list for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:DELete (No Query Form)

This command removes a single entry or all entries within the Frequency Hop List or the Frequency Avoid List for the selected Radar emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List modified. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is modified.

Group Radar hopping

Syntax `ENVironment:RADar:HOPPing[:LIST]:DELete {ALL|<index>}`

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments ALL – Deletes all entries of the current hopping list.

<index>::= <NR1> value. Specifies the index number to delete from the current hopping list.

Examples `RADAR:PULSE:HOPPING:LIST:DELETE ALL` removes all entries from the active hopping pattern list for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:FOFFset

This command sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the selected Radar emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing[:LIST]:FOFFset <freq_offset>
ENVironment:RADar:HOPPing[:LIST]:FOFFset?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing[:LIST]:SELect, ENVironment:RADar:HOPPing[:LIST]:FREQuency, ENVironment:RADar:HOPPing[:LIST]:AOFFset

Arguments <freq_offset>::= <NRf> value.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:LIST:FOFFSET 1E9` sets the Frequency Offset of the currently selected hop to 1 GHz for the selected Radar emitter.

`RADAR:PULSE:HOPPING:LIST:FOFFSET?` might return `100.0000000000E+6`, indicating that the Frequency Offset of the currently selected hop is set to 100 MHz for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:FREQuency

This command sets or returns the Frequency of the currently selected hop in the Frequency Avoid List for the selected Radar emitter.

The Hopping Pattern must be set to either Custom or Pseudo Random List.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing[:LIST]:FREQuency <frequency>
ENVironment:RADar:HOPPing[:LIST]:FREQuency?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing[:LIST]:SELect, ENVironment:RADar:HOPPing[:LIST]:FOFFset, ENVironment:RADar:HOPPing[:LIST]:AOFFset

Arguments <frequency>::= <NRf> value.
Range: Minimum = 1 Hz. Maximum value is instrument dependent.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:LIST:FREQUENCY 1E9` sets the Frequency of the currently selected hop in the Frequency Avoid List to 1 GHz for the selected Radar emitter.

`RADAR:PULSE:HOPPING:LIST:FREQUENCY?` might return `100.0000000000E+6`, indicating that the Frequency of the currently selected hop in the Frequency Avoid List is set to 100 MHz for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:INSert (No Query Form)

This command inserts a single entry into the Frequency Hop List above the specified index for the selected Radar emitter. The selected entry point must already exist in the Hop List table.

Group Radar hopping

Syntax `ENVironment:RADar:HOPPing[:LIST]:INSert <insertion>`

Related Commands ENVironment:RADar:HOPPing[:LIST]:COUNt?, ENVironment:RADar:HOPPing[:LIST]:DELete, ENVironment:RADar:HOPPing[:LIST]:ADD

Arguments <insertion>::= <NR1> value.

Examples `OFDM:FRAME:HOPPING:LIST:INSERT 10` inserts a single entry above the 10th index in the Hop List table for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:PSINdex

This command sets or returns the Pulse Start Index (Start Index) of the currently selected hop for the selected Radar emitter.

The Hopping Pattern must set to Custom.

The Hop Time must be set to Pulse Start Index.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing[:LIST]:PSINdex <start_index>
ENVironment:RADar:HOPPing[:LIST]:PSINdex?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing:TIME, ENVironment:RADar:HOPPing[:LIST]:SELect, ENVironment:RADar:HOPPing[:LIST]:FREQuency, ENVironment:RADar:HOPPing[:LIST]:FOFFset, ENVironment:RADar:HOPPing[:LIST]:AOFFset

Arguments <start_index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RADAR:PULSE:HOPPING:LIST:PSINDEX 10` sets the Pulse Start Index of the currently selected hop to start on Pulse index 10 for the selected Radar emitter.

`RADAR:PULSE:HOPPING:LIST:PSINDEX?` might return `6`, indicating that the Pulse Start Index of the currently selected hop is set to 6 for the selected Radar emitter.

ENVironment:RADar:HOPPing[:LIST]:SELect

This command sets or returns the selected Hop number in the Frequency Hop List or the Index number in the Frequency Avoid List for the selected Radar emitter.

When the Hopping Pattern is either Custom or Pseudo Random List, the Frequency Hop List is used for selection. When the Hopping Pattern is set to Pseudo Random Range, the Frequency Avoid List is used for selection.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing[:LIST]:SELect <index>
ENVironment:RADar:HOPPing[:LIST]:SELect?
```

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments <index>::= <NR1> value.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:PULSE:HOPPING:LIST:SELECT 3` selects index 3 in the hopping table (Hop list or Avoid list) for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:HOPPING:LIST:SELECT?` might return `1`, indicating that index 1 is currently selected for modification. in the active hopping pattern list (Hop list or Avoid list) for the selected Radar emitter.

ENVironment:RADar:HOPPing:PATTern

This command sets or returns the Hopping Pattern for the selected Radar emitter.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:PATTern {CUSTom|LIST|RANGe}
ENVironment:RADar:HOPPing:PATTern?
```

Arguments

CUSTom = Hops are based on the Frequency Hop List.

LIST = Hops are chosen randomly (based on PRBS selection) from the Frequency Hop List.

RANGe = Hops are chosen randomly (based on PRBS selection) from frequencies between a minimum and maximum frequency with a minimum frequency spacing. Frequencies included in the Frequency Avoid List are skipped.

Returns

CUST: Custom
LIST
RANG: Range

Examples

`ENVIRONMENT:RADAR:HOPPING:PATTERN LIST` sets the Hopping Pattern to choose random hops from the Frequency Hop List for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:PATTERN?` might return `CUST`, indicating that the Hopping Pattern is based on the Frequency Hop List for the selected Radar emitter.

ENVironment:RADar:HOPPing:PRBS

This command sets or returns the Hopping PRBS pattern for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29
|PRBS31|UDEFined}
ENVironment:RADar:HOPPing:PRBS?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial, ENVironment:RADar:HOPPing:PRBS:UDEFined:RESet

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEF are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial and ENVironment:RADar:HOPPing:PRBS:UDEFined:RESet

to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:RADAR:HOPPING:PRBS PRBS21` sets the Hopping PRBS to PRBS 21 for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:PRBS?` might return `PRBS15`, indicating that the Hopping PRBS is set to PRBS15 for the selected Radar emitter.

ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial

This command sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial
<polynomial>
ENVironment:RADar:HOPPing:PRBS:UDEFined:POLYnomial?
```

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31, an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:RADAR:HOPPING:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the Hopping User Defined PRBS polynomial expression to X12+X11+1 for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the Hopping User Defined PRBS polynomial for the selected Radar emitter.

ENVironment:RADar:HOPPing:PRBS:UDEFined:RESet (No Query Form)

This command resets the Hopping User Defined PRBS Polynomial Expression and Shift register initial values to their default values for the selected Radar emitter.

Group Radar hopping

Syntax `ENVironment:RADar:HOPPing:PRBS:UDEFined:RESet`

Examples `ENVIRONMENT:RADAR:HOPPING:PRBS:UDEFINED:RESET` resets the Hopping User Defined PRBS values for the selected Radar emitter.

ENVironment:RADar:HOPPing:PRBS:UDEFined:SREGister

This command sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random List or Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:PRBS:UDEFined:SREGister
<polynomial>
ENVironment:RADar:HOPPing:PRBS:UDEFined:SREGister?
```

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:RADAR:HOPPING:PRBS:UDEFINED:SREGISTER "11011"` sets the Hopping User Defined PRBS Shift register to 11011 for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the Hopping User Defined PRBS shift register for the selected Radar emitter.

ENVironment:RADar:HOPPing:RANGe:ALISt[:ENABle]

This command sets or returns the Hopping Frequency Avoid List state (enabled or disabled) when the Hopping Pattern is set to Pseudo List for the selected Radar emitter.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:RANGe:ALISt[:ENABle] {1|0|ON|OFF}
ENVironment:RADar:HOPPing:RANGe:ALISt[:ENABle]?
```

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments OFF or 0 disables Repeat List. OFF or 0 is the default value.

ON or 1 enables Repeat List.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:PULSE:HOPPING:RANGE:ALIST:ENABLE 1` enables the Frequency Avoid List for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:HOPPING:RANGE:ALIST:ENABLE?` might return `0`, indicating that the Frequency Avoid List is disabled for the selected Radar emitter.

ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MAXimum

This command sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MAXimum
<max_freq>
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MAXimum?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MINimum

Arguments <max_freq>::= <NRf> value.
Range: Maximum value is instrument dependent. Minimum value can not be less than the Minimum Frequency setting.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:RANGE:FREQUENCY:MAXIMUM 2E9` sets the Pseudo Random Range Maximum Frequency to 2 GHz for the selected Radar emitter.

`RADAR:PULSE:HOPPING:RANGE:FREQUENCY:MAXIMUM?` might return `2.0000000000E+9`, indicating that the Pseudo Random Range Maximum Frequency is set to 2 GHz for the selected Radar emitter.

ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MINimum

This command sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MINimum
<min_freq>
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MINimum?
```

Related Commands ENVironment:RADar:HOPPing:PATTern, ENVironment:RADar:HOPPing:RANGe[:FREQuency]:MAXimum

Arguments <min_freq>::= <NRf> value.
Range: Minimum = 1 Hz, Maximum is instrument dependent.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:RANGE:FREQUENCY:MINIMUM 1E9` sets the Pseudo Random Range Minimum Frequency to 1 GHz for the selected Radar emitter.

`RADAR:PULSE:HOPPING:RANGE:FREQUENCY:MINIMUM?` might return `1.0000000000E+9`, indicating that the Pseudo Random Range Minimum Frequency is set to 1 GHz for the selected Radar emitter.

ENVironment:RADar:HOPPing:RANGe[:FREQuency]:SPACing

This command sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the selected Radar emitter.

The Hopping Pattern must be set to Pseudo Random Range.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:SPACing
<spacing>
ENVironment:RADar:HOPPing:RANGe[:FREQuency]:SPACing?
```

Related Commands ENVironment:RADar:HOPPing:PATTern

Arguments <spacing>::= <NR3> value.
Range: Minimum = 100 Hz, Maximum is instrument dependent.

Returns A single <NR3> value.

Examples `RADAR:PULSE:HOPPING:RANGE:FREQUENCY:SPACING 1E9` sets the Pseudo Random Range Frequency Spacing to 1 MHz for the selected Radar emitter.

`RADAR:PULSE:HOPPING:RANGE:FREQUENCY:SPACING?` might return `10.0000000000E+3`, indicating that the Pseudo Random Range Frequency Spacing is set to 10 kHz for the selected Radar emitter.

ENVironment:RADar:HOPPing:TIME

This command sets or returns the Hop Time type for the selected Radar emitter.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:TIME {PPHop|PSINdex}
ENVironment:RADar:HOPPing:TIME?
```

Arguments PPHop = Pulses Per Hop.

PSINdex = Pulse Start Index. (Available for Custom Hopping Pattern.)

Returns PPH
PSIN

Examples `ENVIRONMENT:RADAR:HOPPING:TIME PPHOP` sets the Hop Time type to Pulses Per Second for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:TIME?` might return `PPH`, indicating that the Hop Time type is set to Pulses Per Second for the selected Radar emitter.

ENVironment:RADar:HOPPing:TIME:PPHop

This command sets or returns the Pulses per Hop for frequency hopping for the selected Radar emitter.

The Hop Time must be set to Pulses Per Hop.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:TIME:PPHop <pulses>
ENVironment:RADar:HOPPing:TIME:PPHop?
```

Related Commands ENVironment:RADar:HOPPing:TIME

Arguments <pulses>::= <NRf> value.

Range: 0 to 500000.
Default: 0.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:HOPPING:TIME:PPHOP 50` sets the Pulses Per Hop to 50 pulses for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:TIME:PPHOP?` might return `5.0000000000E+3`, indicating that the Pulses per Hop is set to 5000 pulses for the selected Radar emitter.

ENVironment:RADar:HOPPing:TON

This command sets or returns the frequency Hopping state (enabled or disabled) for the selected Radar emitter.

Group Radar hopping

Syntax

```
ENVironment:RADar:HOPPing:TON {0|1|OFF|ON}
ENVironment:RADar:HOPPing:TON?
```

Arguments OFF or 0 disables frequency Hopping. OFF or 0 is the default value.
ON or 1 enables frequency Hopping.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:HOPPING:TON 1` enables frequency Hopping for the selected Radar emitter.

`ENVIRONMENT:RADAR:HOPPING:TON?` might return `0`, indicating that frequency Hopping is not enabled for the selected Radar emitter.

ENVironment:RADar:MODulation

This command sets or returns the Modulation type for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation
{NMODulation|LFM|CSEQuence|UDOWn
|SFModulation|PLFM|USFMam|NLFM|FRANk|BARKer|POLYphase
|P1Polyphase|P2Polyphase|P3Polyphase|P4Polyphase|USPMam
|QPSK|BPSK|CMODulation}
```

Arguments NMODulation: No modulation

Frequency modulation types
LFM: Linear Frequency Modulation
CSEQuence: Chirp Sequence
UDOWn: Up-Down Chirp Modulation
PLFM: Piecewise LFM
SFModulation: Step Frequency Modulation
USFMam: User Defined Step FM AM
NLFM: Non Linear FM

Phase modulation types
BARKer: Biphase Coded Pulse
FRANk: Frank Code
POLYphase: Polyphase Codes
P1Polyphase: P1-Polyphase Code
P2Polyphase: P2-Polyphase Code
P3Polyphase: P3-Polyphase Code
P4Polyphase: P4-Polyphase Code
USPMam: User Defined Step PM AM

Digital modulation types
QPSK: QPSK
BPSK: BPSK

Custom modulation
CMODulation: Custom Modulation

Returns NMOD: No modulation
LFM: Linear Frequency Modulation
CSEQ: Chirp Sequence
UDOW: Up-Down Chirp Modulation
PLFM: Piecewise LFM
SFM: Step Frequency Modulation
USFM: User Defined Step FM AM

NLFM: Non Linear FM
BARK: Biphase Coded Pulse
FRAN: Frank Code
POLY: Polyphase Codes
P1P: P1-Polyphase Code
P2P: P2-Polyphase Code
P3P: P3-Polyphase Code
P4P: P4-Polyphase Code
USPM: User Defined Step PM AM
QPSK: QPSK
BPSK: BPSK
CMOD: Custom Modulation

Examples

`ENVIRONMENT:RADAR:MODULATION SFMODULATION` sets the modulation Type to Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION?` might return `LFM`, indicating that the modulation Type is set to Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:BARKer:CODE

This command sets or returns the Barker code of the Barker modulation for the selected Non Linear FM modulation profile file name and file path for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:BARKer:CODE {TWO|ATWo|
THRee|ATHRee|FOUR|AFOUr|FIVe|SEVen|ELEVen|THIRteen}
ENVironment:RADar:MODulation:BARKer:CODE?
```

Arguments

TWO: Two
ATWo: Alternate Two
THRee: Three
ATHRee: Alternate Three
FOUR: Four
AFOUr: Alternate Four
FIVe: Five
SEVen: Seven
ELEVen: Eleven
THIRteen: Thirteen

Returns

TWO: Two
ATW: Alternate Two
THR: Three
ATHR: Alternate Three
FOUR: Four
AFOU: Alternate Four
FIV: Five
SEV: Seven
ELEV: Eleven
THIR: Thirteen

Examples

`ENVIRONMENT:RADAR:MODULATION:BARKER:CODE ATWO` sets the Barker code type to Alternate Two for the selected Non Linear FM modulation profile file name and file path for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:BARKER:CODE?` might return `THR`, indicating the Barker code type is set to Three for the selected Non Linear FM modulation profile file name and file path for the selected Radar emitter.

ENVironment:RADar:MODulation:CSEQuence:CCOUnt

This command sets or returns the Number of Chirps for the Chirp Sequence modulation of the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:CSEQuence:CCOUnt <chirps>
ENVironment:RADar:MODulation:CSEQuence:CCOUnt?
```

Arguments <chirps>::= <NR1> value.
Range: 1 to 100.
Default: 4.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:CCOUNT 10` sets the modulation Number of Chirps to 10 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:CCOUNT?` might return `4.0000000000`, indicating that the modulation Number of Chirps is set to 4 for the selected Radar emitter.

ENVironment:RADar:MODulation:CSEQuence:FSWeep

This command sets or returns the Chirp Sequence modulation Frequency Sweep method for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:CSEQuence:FSWeep {LHIGh|HLOW}`

Arguments LHIGh: Low to High.
HLOW: High to Low.

Returns LHIG: Low to High.
HLOW: High to Low.

Examples `ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:FSWEEP LHIGH` sets the modulation Chirp Sequence Frequency Sweep method to “Low to High” for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:FSWEEP?` might return `HLOW`, indicating that the modulation Chirp Sequence Frequency Sweep method is set to “High to Low” for the selected Radar emitter.

ENVironment:RADar:MODulation:CSEQuence:SRANge

This command sets or returns the Chirp Sequence modulation Sweep Range for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:CSEQuence:SRANge <sweep_range>
ENVironment:RADar:MODulation:CSEQuence:SRANge?
```

Arguments <sweep_range>::= <NRf> value.
Range: 1 Hz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:SRANGE 1E3` sets the modulation Chirp Sequence Sweep Range to 1 kHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:CSEQUENCE:SRANGE?` might return `10.0000000000E+6`, indicating that the modulation Chirp Sequence Sweep Range is set to 10 MHz for the selected Radar emitter.

ENVironment:RADar:MODulation:CUSTom:PATH

This command sets or returns the file path to custom modulation file for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:CUSTom:PATH <file_path>`

Related Commands ENVironment:RADar:MODulation

Arguments <file_path>::= <string>.

Returns A single <file_path> string.

Examples `ENVIRONMENT:RADAR:MODULATION:CUSTOM:PATH "c:\100usec_LFMdwn_30MHz.txt"` sets the file path to the 100usec_LFMdwn_30MHz.txt modulation file for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:CUSTOM:PATH?` might return `c:\100usec_LFMdwn_30MHz.txt` as the custom modulation file path and file name. for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA

This command sets or returns the Data Pattern type for the selected Digital Modulation for the selected Radar emitter.

When setting the pattern type to Pattern, File, or User Defined PRBS, use the additional commands noted with each argument to continue defining these pattern types. To set a PRBS pattern, see the command ENVironment:RADar:MODulation:DMODulation:DATA:PRBS.

Conditions This command applies when the selected Digital Modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA
{AZERo|AONE|PATTern|FILE}
```

Related Commands ENVironment:RADar:MODulation:DMODulation:DATA:PRBS, ENVironment:RADar:MODulation:DMODulation:DATA:PATTern, ENVironment:RADar:MODulation:DMODulation:DATA:FILE

Arguments

`AZERo` is a data pattern of all zeroes.

`AONe` is a data pattern of all ones.

`PATTern` is a user defined data pattern. Use the command ENVironment:RADar:MODulation:DMODulation:DATA:PATTern to set and query the pattern.

`FILe` uses a user defined file to define the data pattern. Use the command ENVironment:RADar:MODulation:DMODulation:DATA:FILE to set and query the pattern file and file path.

Returns

AZER: All zeros
AON: All ones
PATT: User pattern
FIL: User file

Examples

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA AONE` sets the modulation Data Pattern type to All ones for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA?` might return `AZER`, indicating that the modulation Data Pattern type is set to All Zeros for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA:FILE

This command sets or returns the file path to the user provided data file for the Digital Modulation for the selected Radar emitter.

Conditions This command applies when the digital modulation is set to QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA:FILE
<filepath>
ENVironment:RADar:MODulation:DMODulation:DATA:FILE?
```

Related Commands ENVironment:RADar:MODulation

Arguments <filepath>::= <string>.

Returns A single <filepath> string.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:FILE "C:\datafile.txt"` sets the data file and file path for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:FILE?` might return `"c:\datafile.txt"` as the data file and file path for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA:PATTern

This command sets or returns the user defined Data Pattern for the Digital Modulation for the selected data file and path.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA:PATTern
<pattern>
ENVironment:RADar:MODulation:DMODulation:DATA:PATTern?
```

Related Commands ENVironment:RADar:MODulation, ENVironment:RADar:MODulation:DMODulation:DATA

Arguments <pattern>::= <string>.

Returns A single <pattern> string.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PATTERN "11001111"` sets the data pattern for the selected data file and path.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PATTERN?` might return `"11001101"`, indicating this is the set data pattern for the selected data file and path.

ENVironment:RADar:MODulation:DMODulation:DATA:PRBS

This command sets or returns the PRBS Data Pattern for the Digital Modulation for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29|
PRBS31|UDEFined}
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS?
```

Arguments PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, and UDEFined are the PRBS types.

When setting to UDEF (User Defined), use the commands ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:POLYnomial and ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:SREGister to define the PRBS Polynomial Expression and Shift register initial value.

Returns PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31, UDEF

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS PRBS15` sets the PRBS Data Type to PRBS 15 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS?` might return `PRBS15`, indicating that the PRBS Data Type is set to PRBS15 for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the Digital Modulation for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:
POLYnomial <polynomial>
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:
POLYnomial?
```

Arguments <polynomial>::= <string>.

The highest degree of polynomial is 31. If the expression contains more than 31 an error will be returned. For example X32+X23+1 returns an error.

Returns A single <polynomial> string.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the User Defined PRBS Polynomial Expression to X12+X11+1 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the User Defined PRBS Polynomial Expression for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:RESet (No Query Form)

This command resets the User Defined PRBS polynomial expression and shift register to their default values for the Digital Modulation Data for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:RESet`

Returns None

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS:UDEFINED:RESET` resets the User Defined PRBS Data values for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:SREGister

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS for the selected Digital Modulation for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:
SREGister <shift_register>
ENVironment:RADar:MODulation:DMODulation:DATA:PRBS:UDEFined:
SREGister?
```

Arguments <shift_register>::= <string>.

The number of shift register values should match the highest polynomial degree. For example, if the user defined polynomial is "X5+X4+1", then the initial shift register should have 5 values.

Returns A single <shift_register> string.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS:UDEFINED:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:DATA:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the User Defined PRBS shift register for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:FILTer:ALPHa

This command sets or returns the Alpha (filter roll off) value for the selected Digital Modulation for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:FILTer:ALPHa
<alpha>
ENVironment:RADar:MODulation:DMODulation:FILTer:ALPHa?
```

Arguments <alpha>::= <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:ALPHA 0.23` sets the Alpha filter roll off value to 0.23 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:ALPHA?` might return `230.0000000000E-3`, indicating that the Alpha filter roll off value is set to 0.23 for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern

This command sets or returns the Pre/Post Pattern type of the filter for the selected Digital Modulation for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern
{WARound|ZERos|PATTern}
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern?
```

Related Commands ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:POST, ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:PRE

Arguments

WARound
ZERos
PATTern

Returns

WAR: Wrap around
ZER: All zeros
PATT: Pattern

Examples

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN WAROUND` set the Pre/Post pattern type to Wrap around for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN?` might return `ZER`, indicating that the Pre/Post pattern type is set to all zeros for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:POST

This command sets or returns the ending pattern (Post Pattern) of the filter for the selected Digital Modulation for the selected Radar emitter.

This command is only applicable when the selected Pre/Post pattern type is set to PATTern.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:
PATTern:POST <data_pattern>
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:
PATTern:POST?
```

Related Commands ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:PRE

Arguments <data_pattern> = <string>

If the modulation is BPSK then 3 bits are considered. If the modulation is QPSK then 6 bits are considered.

Returns A single <data_pattern> string.

Examples

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:POST "101010"` sets the ending filter pattern to 101010 for QPSK modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:POST"111"` sets the ending filter pattern to 111 for BPSK modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:POST?` might return `"111000"` as the QSPK post pattern for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:PRE

This command sets or returns the starting pattern (Pre Pattern) of the filter for the selected Digital Modulation for the selected Radar emitter.

This command is applicable if the selected Pre/Post pattern type is PATTern.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:
PATTern:PRE <data_pattern>
ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:
PATTern:PRE?
```

Related Commands ENVironment:RADar:MODulation:DMODulation:FILTer:PPPattern:PATTern:POST

Arguments <data_pattern> = <string>

If the modulation is BPSK then 3 bits are considered. If the modulation is QPSK then 6 bits are considered.

Returns A single <data_pattern> string.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:PRE "101010"` sets the start filter pattern to 101010 for QPSK modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:PRE "111"` sets the start filter pattern to 111 for BPSK modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:PPPATTERN:PATTERN:PRE?` might return `"111000"` as the QSPK pre pattern for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:FILTer:TYPE

This command sets or returns the Filter Type for the selected Digital Modulation for the selected for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:FILTer:TYPE
{RECTangular|RCOSine|RRCosine}
ENVironment:RADar:MODulation:DMODulation:FILTer:TYPE?
```

Arguments

RECTangular
RCOSine
RRCosine

Returns

RECT: Rectangular
RCOS: Raised Cosine
RRC: Root Raised Cosine

Examples

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:TYPE RCOSINE` sets the Filter Type to Root Raised Cosine for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:FILTER:TYPE?` might return `RRC`, indicating that the Filter Type is set to Root Raised Cosine for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:SSYMbols

This command sets or returns the state (enabled or disabled) to use the same symbols across all repeated pulses for the selected Radar emitter.

Conditions This command applies when the selected digital modulation is QPSK or BPSK. This can only be enabled if the repeat count the is more than 1.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:SSYMbols
{1|0|ON|OFF}
```

Related Commands ENVironment:RADar:REPeat, ENVironment:RADar:MODulation:DMODulation:SYMBols

Arguments OFF or 0 disables using the same symbols across all pulses. OFF or 0 is the default value.

ON or 1 enables using the same symbols across all pulses.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:SSYMBOLS 1` enables repeating the set number of symbols for BPSK or QPSK modulation types across all repeated pulses for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:SSYMBOLS?` might return `0`, indicating that the set number of symbols for BPSK or QPSK modulation types will not be repeated across all pulses for the selected Radar emitter.

ENVironment:RADar:MODulation:DMODulation:SYMBols

This command sets or returns the number of symbols used while applying the selected Digital Modulation on the pulse for the selected Radar emitter.

This command is applicable if the selected modulation is QPSK or BPSK.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:DMODulation:SYMBols <symbols>
ENVironment:RADar:MODulation:DMODulation:SYMBols?
```

Related Commands ENVironment:RADar:MODulation:DMODulation:SSYMbols

Arguments <symbols>::= <NR3> value.
Range: 1 to 1000.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:DMODULATION:SYMBOLS 12` sets the Digital Modulation Number of Symbols to 12 for the selected for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:DMODULATION:SYMBOLS?` might return `12.0000000000`, indicating that the selected Digital Modulation Symbol count is set to 12 for the selected Radar emitter.

ENVironment:RADar:MODulation:FRANk:CLENgth

This command sets or returns the Frank code length when the Modulation Phase is set to Frank Code for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:FRANk:CLENgth <code_length>
ENVironment:RADar:MODulation:FRANk:CLENgth?
```

Related Commands ENVironment:RADar:MODulation

Arguments <code_length> = <NR1> value.

Range: 1 to 10

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:FRANK:CLENGTH 2` sets the modulation Frank code length to 2 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:FRANK:CLENGTH?` might return `1`, indicating that the modulation Frank code length is set to 1 for the selected Radar emitter.

ENVironment:RADar:MODulation:LFM:FSWeep

This command sets or returns the Linear Frequency Modulation (LFM) Frequency Sweep method for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:LFM:FSWeep {LHIGh|HLOW}`

Arguments LHIGh: Low to High.
HLOW: High to Low.

Returns LHIG: Low to High.
HLOW: High to Low.

Examples `ENVIRONMENT:RADAR:MODULATION:LFM:FSWEEP LHIGH` sets the pulse modulation Linear Frequency Modulation Frequency Sweep method to “Low to High” for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:LFM:FSWEEP?` might return `HLOW`, indicating that the pulse modulation Linear Frequency Modulation Frequency Sweep method is set to “High to Low” for the selected Radar emitter.

ENVironment:RADar:MODulation:LFM:SRANge

This command sets or returns the Linear Frequency Modulation (LFM) Sweep Range for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:LFM:SRANge <sweep_range>
ENVironment:RADar:MODulation:LFM:SRANge?
```

Arguments <sweep_range>::= <NRf> value.
Range: 1 Hz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:LFM:SRANGE 1E3` sets the pulse modulation Linear Frequency Modulation (LFM) Sweep Range to 1 kHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:LFM:SRANGE?` might return `10.0000000000E+6`, indicating that the pulse modulation Linear Frequency Modulation (LFM) Sweep Range is set to 10 MHz for the selected Radar emitter.

ENVironment:RADar:MODulation:NLFM:BANDwidth

This command sets or returns the Bandwidth for the Non Linear FM modulation for the selected Radar emitter.

Conditions The Non Linear FM modulation profile must be either Taylor Weighted Symmetrical or Taylor Weighted Non Symmetrical.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:NLFM:BANDwidth <bandwidth>
ENVironment:RADar:MODulation:NLFM:BANDwidth?
```

Arguments <bandwidth>::= <NRf> value.
Range: 1 Hz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:NLFM:BANDWIDTH 1E3` sets the Bandwidth to 1 kHz for the Non Linear FM modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:NLFM:BANDWIDTH?` might return `10.0000000000E+6`, indicating that the Bandwidth is set to 10 MHz for the Non Linear FM modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:NLFM:PROFile

This command sets or returns the Profile for the Non Linear Frequency modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:NLFM:PROFile
{TWSYmmetrical|TWNSymmetrical|UDCoefficients}
```

Arguments TWSYmmetrical: Taylor Weighted Symmetrical
TWNSymmetrical: Taylor Weighted Non Symmetrical
UDCoefficients: User Defined Coefficients

Returns TWSY
TWNS
UDC

Examples `ENVIRONMENT:RADAR:MODULATION:NLFM:PROFILE TWSYMMETRICAL` sets the Non Linear FM modulation profile to Taylor Weighted Symmetrical for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:NLFM:PROFILE?` might return `TWNS`, indicating that the Non Linear FM modulation profile is set to Taylor Weighted Non Symmetrical for the selected Radar emitter.

ENVironment:RADar:MODulation:NLFM:UDCPath

This command sets or returns the file path to the User Defined Coefficients profile for the Non Linear FM modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:NLFM:UDCPath <filepath>
ENVironment:RADar:MODulation:NLFM:UDCPath?
```

Arguments <filepath>:=<string> defines the path to the custom pulse shape file.

Returns A single <filepath> string.

Examples

`ENVIRONMENT:RADAR:MODULATION:NLFM:UDCPATH "C:\Coefficients.txt"` sets the user defined Non Linear FM modulation profile file name and file path for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:NLFM:UDCPATH?` might return "C:\Coefficients.txt" as the Non Linear FM modulation profile file name and file path for the selected Radar emitter.

ENVironment:RADar:MODulation:P1Polyphase:CLENgth

This command sets or returns the P1 Polyphase code length when the Modulation Phase is set to P1 Polyphase code for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:P1Polyphase:CLENgth
<code_length>
ENVironment:RADar:MODulation:P1Polyphase:CLENgth?
```

Related Commands ENVironment:RADar:MODulation

Arguments <code_length> = <NR1> value.

Range: 1 to 10

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:P1POLYPHASE:CLENGTH 2` sets the pulse modulation P1 Polyphase code length to 2 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:P1POLYPHASE:CLENGTH?` might return `1`, indicating that the pulse modulation P1 Polyphase code length is set to 1 for the selected Radar emitter.

ENVironment:RADar:MODulation:P2Polyphase:CLENgth

This command sets or returns the P2 Polyphase code length when the Modulation Phase is set to P2 Polyphase code for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:P2Polyphase:CLENgth
<code_length>
ENVironment:RADar:MODulation:P2Polyphase:CLENgth?
```

Related Commands ENVironment:RADar:MODulation

Arguments <code_length> = <NR1> value.

Range: 1 to 10

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:P2POLYPHASE:CLENGTH 2` sets the pulse modulation P2 Polyphase code length to 2 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:P2POLYPHASE:CLENGTH?` might return `1`, indicating that the pulse modulation P2 Polyphase code length is set to 1 for the selected Radar emitter.

ENVironment:RADar:MODulation:P3Polyphase:CLENgth

This command sets or returns the P3 Polyphase code length when the Modulation Phase is set to P3 Polyphase code for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:P3Polyphase:CLENgth
<code_length>
ENVironment:RADar:MODulation:P3Polyphase:CLENgth?
```

Related Commands ENVironment:RADar:MODulation

Arguments <code_length> = <NR1> value.

Range: 1 to 10

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:P3POLYPHASE:CLENGTH 2` sets the pulse modulation P3 Polyphase code length to 2 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:P3POLYPHASE:CLENGTH?` might return `1`, indicating that the pulse modulation P3 Polyphase code length is set to 1 for the selected Radar emitter.

ENVironment:RADar:MODulation:P4Polyphase:CLENgth

This command sets or returns the P4 Polyphase code length when the Modulation Phase is set to P4 Polyphase code for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:P4Polyphase:CLENgth
<code_length>
ENVironment:RADar:MODulation:P4Polyphase:CLENgth?
```

Related Commands ENVironment:RADar:MODulation

Arguments <code_length> = <NR1> value.

Range: 1 to 10

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:P4POLYPHASE:CLENGTH 2` sets the pulse modulation P4 Polyphase code length to 2 for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:P4POLYPHASE:CLENGTH?` might return `1`, indicating that the pulse modulation P4 Polyphase code length is set to 1 for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:ADD (No Query Form)

This command adds the specified number of steps to the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

The total number of steps allowed in the Piecewise table is 10 steps. The duration of each step is set such that the total duration time of all steps equals the pulse width.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:PLFM:ADD <steps>`

Arguments <steps>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:PLFM:ADD 3` adds three additional steps to the end of the existing steps in the Piecewise table for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:IOFFset

This command sets or returns the Initial Offset (frequency) for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:PLFM:IOFFset <initial_offset>
ENVironment:RADar:MODulation:PLFM:IOFFset?
```

Arguments <initial_offset>::= <NRf> value.
Range: –25 GHz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:PLFM:IOFFSET 1E9` sets the Initial Offset frequency to 1 GHz for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:PLFM:IOFFSET?` might return `10.0000000000E+6`, indicating that the Initial Offset frequency is set to 10 MHz for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:STEP[n]:DELete (No Query Form)

This command deletes the specified step from the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:PLFM:STEP[n]:DELete`

Arguments [n]::= <NR1> (“n” determines the step index number in the Piecewise table).

If omitted, n is interpreted as 1.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP3:DELETE` deletes step 3 from the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:STEP[n]:DURation

This command sets or returns the Duration of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

Conditions The duration sum of all steps within the Piecewise table cannot exceed the pulse width.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:PLFM:STEP[n]:DURation
<duration>
ENVironment:RADar:MODulation:PLFM:STEP[n]:DURation?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the Piecewise table).

If omitted, n is interpreted as 1.

<duration>::= <NRf> value.
Range: The minimum value is 0 s. The maximum value is dependent on the pulse width and existing step durations.
Default: 0 s.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:DURATION 10E-9` sets the Duration of step 2 to 10 ns for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:DURATION?` might return `400.0000000000E-9`, indicating that the Duration of step 2 is set to 400 ns for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:STEP[n]:FSWeep

This command sets or returns the Frequency Sweep type of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:PLFM:STEP[n]:FSWeep
{LHIGh|HLOW}
ENVironment:RADar:MODulation:PLFM:STEP[n]:FSWeep?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the Piecewise table).

If omitted, n is interpreted as 1.

LHIGh: Low to High.
HLOW: High to Low.
Default: LHIGh

Returns LHIG: Low to High.
HLOW: High to Low.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:FSWEEP HLOW` sets the Frequency Sweep type of step 2 to High-to-low for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:FSWEEP?` might return `LHIG`, indicating that the Frequency Sweep type of step 2 is set to Low to High for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:PLFM:STEP[n]:SRANge

This command sets or returns the Sweep Range of the specified step within the Piecewise Linear Frequency Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:PLFM:STEP[n]:SRANge
<sweep_range>
ENVironment:RADar:MODulation:PLFM:STEP[n]:SRANge?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the Piecewise table).

If omitted, n is interpreted as 1.

<sweep_range>::= <NRf> value.
Range: 100 Hz to 25 GHz
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:SRANGE 100E6` sets the Sweep Range of step 2 to 100 MHz for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:PLFM:STEP2:SRANGE?` might return `1.0000000000E+9`, indicating that the Sweep Range of step 2 is set to 1 GHz for the Piecewise Linear Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:POLYphase:IOFFset

This command sets or returns the Initial Offset (initial phase offset) for the Polyphase Codes modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:POLYphase:IOFFset
<initial_offset>
ENVironment:RADar:MODulation:POLYphase:IOFFset?
```

Arguments <initial_offset>::= <NR3> value.

Range: –180° to 180°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:POLYPHASE:IOFFSET –10` sets the Initial Phase Offset to –10° for the Polyphase Codes modulation type for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:IOFFSET?` might return `50.0000000000`, indicating that the Initial Phase Offset is set to 50° for the Polyphase Codes modulation type for the selected Radar emitter.

ENVironment:RADar:MODulation:POLYphase:POFFset

This command sets or returns the Phase Offset for the Polyphase Codes modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:POLYphase:POFFset
<phase_offset>
ENVironment:RADar:MODulation:POLYphase:POFFset?
```

Arguments <phase_offset>::= <NR3> value.

Range: –180° to 180°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:POLYPHASE:POFFSET –10` sets the Phase Offset to –10° for the Polyphase Codes modulation type for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:POFFSET?` might return `50.0000000000`, indicating that the Phase Offset is set to 50° for the Polyphase Codes modulation type for the selected Radar emitter.

ENVironment:RADar:MODulation:POLYphase:RAMP

This command sets or returns the Ramp Function for the Polyphase Codes modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:POLYphase:RAMP {LINear|COSine}
ENVironment:RADar:MODulation:POLYphase:RAMP
```

Arguments

LINear
COSine

Returns

LIN: Linear
COS: Cosine

Examples

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:RAMP LINEAR` sets the Ramp Function to Linear for the Polyphase Codes modulation type for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:RAMP?` might return `COS`, indicating that the Ramp Function is set to Cosine for the Polyphase Codes modulation type for the selected Radar emitter.

ENVironment:RADar:MODulation:POLYphase:RDURation

This command sets or returns the Ramp Duration for the Polyphase Codes modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:POLYphase:RDURation
<ramp_duration>
ENVironment:RADar:MODulation:POLYphase:RDURation?
```

Arguments <ramp_duration>::= <NR3> value.

Range: 0% to 100%

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:POLYPHASE:RDURATION 10` sets the Ramp Duration to 10% for the Polyphase Codes modulation type for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:RDURATION?` might return `50.0000000000`, indicating that the Ramp Duration is set to 50% for the Polyphase Codes modulation type for the selected Radar emitter.

ENVironment:RADar:MODulation:POLYphase:STEPs

This command sets or returns the Step Count for the Polyphase Codes modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:POLYphase:STEPs <steps>
ENVironment:RADar:MODulation:POLYphase:STEPs?
```

Arguments <steps>::= <NR3> value.

Range: 1 to 200.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:POLYPHASE:STEPS 10` sets the Step Count to 10 for the Polyphase Codes modulation type for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:POLYPHASE:STEPS?` might return `50.0000000000`, indicating that the Step Count is set to 50 for the Polyphase Codes modulation type for the selected Radar emitter.

ENVironment:RADar:MODulation:SFM:FOFFset

This command sets or returns the Frequency Offset for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:SFM:FOFFset <freq_offset>
ENVironment:RADar:MODulation:SFM:FOFFset?
```

Arguments <freq_offset>::= <NRf> value.
Range: –25 GHz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:SFM:FOFFSET 1E9` sets the Frequency Offset to 1 GHz for the Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:SFM:FOFFSET?` might return `10.0000000000E+6`, indicating that the Frequency Offset is set to 10 MHz for the Step Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:SFM:IOFFset

This command sets or returns the Initial Frequency Offset for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:SFM:IOFFset <initial_offset>
ENVironment:RADar:MODulation:SFM:IOFFset?
```

Arguments <initial_offset>::= <NRf> value.
Range: –25 GHz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:SFM:IOFFSET 1E9` sets the Initial Frequency Offset to 1 GHz for the Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:SFM:IOFFSET?` might return `10.0000000000E+6`, indicating that the Initial Frequency Offset is set to 10 MHz for the Step Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:SFM:RAMP

This command sets or returns the Ramp Function type for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:SFM:RAMP {LINear|COSine}
ENVironment:RADar:MODulation:SFM:RAMP?
```

Arguments

LINear
COSine

Returns

LIN: Linear
COS: Cosine

Examples

`ENVIRONMENT:RADAR:MODULATION:SFM:RAMP LINEAR` sets the Ramp Function type to Linear for the Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:SFM:RAMP?` might return `COS`, indicating that the Ramp Function type is set to Cosine for the Step Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:SFM:RDURation

This command sets or returns the Ramp Duration for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:SFM:RDURation <ramp_duration>
ENVironment:RADar:MODulation:SFM:RDURation?
```

Arguments <ramp_duration>::= <NRf> value.
Range: 0% to 100%.
Default: 0%.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:SFM:RDURATION 20` sets the Ramp Duration to 20% for the Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:SFM:RDURATION?` might return `10.0000000000`, indicating that the Ramp Duration is set to 10% for the Step Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:SFM:STEPs

This command sets or returns the number of steps (Step Count) for the Step Frequency Modulation (SFM) for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:SFM:STEPs <steps>
ENVironment:RADar:MODulation:SFM:STEPs?
```

Arguments <steps>::= <NRf> value.
Range: 1 to 200.
Default: 4.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:SFM:STEPS 10` sets the Step Count to 10 for the Step Frequency Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:SFM:STEPS?` might return `4.0000000000`, indicating that the Step Count is set to 4 for the Step Frequency Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:UDCHirp:COUNt

This command sets or returns the Up-Down Count for the Up-Down Chirp modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:UDCHirp:COUNt <count>
ENVironment:RADar:MODulation:UDCHirp:COUNt?
```

Arguments <count>::= <NR1> value.
Range: 1 to 12.
Default: 1.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:UDCHIRP:COUNT 10` sets the Count to 10 for the Up-Down Chirp modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:UDCHIRP:COUNT?` might return `4.0000000000`, indicating that the Count is set to 4 for the Up-Down Chirp modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:UDCHirp:INVert

This command sets or returns Invert state (enabled or disabled) of the Up-Down Chirp modulation for the selected Radar emitter. When enabled, the frequency profile is inverted.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:UDCHirp:INVert {1|0|ON|OFF}
ENVironment:RADar:MODulation:UDCHirp:INVert?
```

Arguments OFF or 0 disables the Invert state. OFF or 0 is the default value.
ON or 1 enables the Invert state.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:MODULATION:UDCHIRP:INVERT 1` inverts the frequency profile for the Up-Down Chirp modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:UDCHIRP:INVERT?` might return `0`, indicating that the frequency profile for the Up-Down Chirp modulation is not inverted for the selected Radar emitter.

ENVironment:RADar:MODulation:UDCHirp:SRANge

This command sets or returns the Sweep Range for the Up-Down Chirp modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:UDCHirp:SRANge <sweep_range>
ENVironment:RADar:MODulation:UDCHirp:SRANge?
```

Arguments <sweep_range>::= <NRf> value.
Range: 1 Hz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:MODULATION:UDCHIRP:SRANGE 1E3` sets the Sweep Range to 1 kHz for the Up-Down Chirp modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:UDCHIRP:SRANGE?` might return `10.0000000000E+6`, indicating that the Sweep Range is set to 10 MHz for the Up-Down Chirp modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:ADD (No Query Form)

This command adds the specified number of steps to the User Defined Step FM AM Modulation table for the selected Radar emitter.

The total number of steps allowed in the User Defined Step FM AM table is 10 steps. The duration of each step is set such that the total duration time of all steps equals the pulse width.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:USFMam:ADD <steps>`

Arguments <steps>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:USFMAM:ADD 3` adds three additional steps to the end of the existing steps in the User Defined Step FM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:RAMP

This command sets or returns the Ramp Function type for the User Defined Step FM AM Modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USFMam:RAMP {LINear|COSine}
ENVironment:RADar:MODulation:USFMam:RAMP?
```

Arguments

LINear
COSine

Returns

LIN: Linear
COS: Cosine

Examples

`ENVIRONMENT:RADAR:MODULATION:USFMAM:RAMP LINEAR` sets the Ramp Function type to Linear for the User Defined Step FM AM Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:USFMAM:RAMP?` might return `COS`, indicating that the Ramp Function type is set to Cosine for the User Defined Step FM AM Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:RDURation

This command sets or returns the Ramp Duration for the User Defined Step FM AM Modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USFMam:RDURation
<ramp_duration>
ENVironment:RADar:MODulation:USFMam:RDURation?
```

Arguments <ramp_duration>::= <NRf> value.
Range: 0% to 100%.
Default: 0%.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:USFMAM:RDURATION 20` sets the Ramp Duration to 20% for the User Defined Step FM AM Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:USFMAM:RDURATION?` might return `10.0000000000`, indicating that the Ramp Duration is set to 10% for the User Defined Step FM AM Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:STEP[n]:AMPLitude

This command sets or returns the Amplitude of the specified step for the User Defined Step FM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USFMam:STEP[n]:AMPLitude
<amplitude>
ENVironment:RADar:MODulation:USFMam:STEP[n]:AMPLitude?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM table).

If omitted, n is interpreted as 1.

<amplitude>::= <NRf> value.
Range: –100 dB to 0 dB.
Default: 0 dB.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:AMPLITUDE –10` sets the Amplitude of step 2 to –10 dB for the User Defined Step FM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:AMPLITUDE?` might return `-6.0000000000`, indicating that the Amplitude of step 2 is set to –6 dB for the User Defined Step FM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:STEP[n]:DELete (No Query Form)

This command deletes the specified step from the User Defined Step FM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:USFMam:STEP[n]:DELete`

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM Modulation table).

If omitted, n is interpreted as 1.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP3:DELETE` deletes step 3 from the User Defined Step FM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:STEP[n]:DURation

This command sets or returns the Duration of the specified step within the User Defined Step FM AM Modulation table for the selected Radar emitter.

Conditions The duration sum of all steps within the User Defined Step FM AM table cannot exceed the pulse width.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USFMam:STEP[n]:DURation
<duration>
ENVironment:RADar:MODulation:USFMam:STEP[n]:DURation?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM table).

If omitted, n is interpreted as 1.

<duration>::= <NRf> value.
Range and default values are dependent on the pulse’s on time and step durations.

Returns A single <NR3> value.

Examples

`ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:DURATION 10E-9` sets the Duration of step 2 to 10 ns for the User Defined Step FM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:DURATION?` might return `400.0000000000E-9`, indicating that the Duration of step 2 is set to 400 ns for the User Defined Step FM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USFMam:STEP[n]:FOFFset

This command sets or returns the Frequency Offset of the specified step for the User Defined Step FM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USFMam:STEP[n]:FOFFset
<freq_offset>
ENVironment:RADar:MODulation:USFMam:STEP[n]:FOFFset?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM table).

If omitted, n is interpreted as 1.

<freq_offset>::= <NRf> value.
Range: –25 GHz to 25 GHz.
Default: 10 MHz.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:FOFFSET 1E9` sets the Frequency Offset of step 2 to 1 GHz for the User Defined Step FM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USFMAM:STEP2:FOFFSET?` might return `10.0000000000E+6`, indicating that the Frequency Offset of step 2 is set to 10 MHz for the User Defined Step FM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:ADD (No Query Form)

This command adds the specified number of steps to the User Defined Step PM AM Modulation table for the selected Radar emitter.

The total number of steps allowed in the User Defined Step PM AM table is 10 steps. The duration of each step is set such that the total duration time of all steps equals the pulse width.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:USPMam:ADD <steps>`

Arguments <steps>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:USPMAM:ADD 3` adds three additional steps to the end of the existing steps in the User Defined Step PM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:RAMP

This command sets or returns the Ramp Function type for the User Defined Step PM AM Modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USPMam:RAMP {LINear|COSine}
ENVironment:RADar:MODulation:USPMam:RAMP?
```

Arguments

LINear
COSine

Returns

LIN: Linear
COS: Cosine

Examples

`ENVIRONMENT:RADAR:MODULATION:USPMAM:RAMP LINEAR` sets the Ramp Function type to Linear for the User Defined Step PM AM Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:USPMAM:RAMP?` might return `COS`, indicating that the Ramp Function type is set to Cosine for the User Defined Step PM AM Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:RDURation

This command sets or returns the Ramp Duration for the User Defined Step PM AM Modulation for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USPMam:RDURation
<ramp_duration>
ENVironment:RADar:MODulation:USPMam:RDURation?
```

Arguments <ramp_duration>::= <NRf> value.
Range: 0% to 100%.
Default: 0%.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:MODULATION:USPMAM:RDURATION 20` sets the Ramp Duration to 20% for the User Defined Step PM AM Modulation for the selected Radar emitter.

`ENVIRONMENT:RADAR:MODULATION:USPMAM:RDURATION?` might return `10.0000000000`, indicating that the Ramp Duration is set to 10% for the User Defined Step PM AM Modulation for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:STEP[n]:AMPLitude

This command sets or returns the Amplitude of the specified step for the User Defined Step PM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USPMam:STEP[n]:AMPLitude
<amplitude>
ENVironment:RADar:MODulation:USPMam:STEP[n]:AMPLitude?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM table).

If omitted, n is interpreted as 1.

<amplitude>::= <NRf> value.
Range: –100 dB to 0 dB.
Default: 0 dB.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:AMPLITUDE –10` sets the Amplitude of step 2 to –10 dB for the User Defined Step PM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:AMPLITUDE?` might return `-6.0000000000`, indicating that the Amplitude of step 2 is set to –6 dB for the User Defined Step PM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:STEP[n]:DELete (No Query Form)

This command deletes the specified step from the User Defined Step PM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax `ENVironment:RADar:MODulation:USPMam:STEP[n]:DELete`

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM Modulation table).

If omitted, n is interpreted as 1.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP3:DELETE` deletes step 3 from the User Defined Step PM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:STEP[n]:DURation

This command sets or returns the Duration of the specified step within the User Defined Step PM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USPMam:STEP[n]:DURation
<duration>
ENVironment:RADar:MODulation:USPMam:STEP[n]:DURation?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step FM AM table).

If omitted, n is interpreted as 1.

<duration>::= <NRf> value.
Range and default values are dependent on the pulse width and step durations.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:DURATION 10E-9` sets the Duration of step 2 to 10 ns for the User Defined Step PM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:DURATION?` might return `400.0000000000E-9`, indicating that the Duration of step 2 is set to 400 ns for the User Defined Step PM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:MODulation:USPMam:STEP[n]:POFFset

This command sets or returns the Phase Offset of the specified step for the User Defined Step PM AM Modulation table for the selected Radar emitter.

Group Radar modulation

Syntax

```
ENVironment:RADar:MODulation:USPMam:STEP[n]:POFFset
<phase_offset>
ENVironment:RADar:MODulation:USPMam:STEP[n]:POFFset?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the User Defined Step PM AM table).

If omitted, n is interpreted as 1.

<phase_offset>::= <NR3> value.

Range: –180° to 180°.
Default: 0°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:FOFFSET 10` sets the Phase Offset of step 2 to 10° for the User Defined Step PM AM Modulation table for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:MODULATION:USPMAM:STEP2:FOFFSET?` might return `10.0000000000`, indicating that the Phase Offset of step 2 is set to 10° for the User Defined Step PM AM Modulation table for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:FILE

This command sets or returns the amplitude offset User Defined file path for the selected Radar emitter.

Conditions Amplitude Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:FILE <filepath>
ENVironment:RADar:OFFSets:AMPLitude:FILE?
```

Related Commands ENVironment:RADar:OFFSets:AMPLitude:TYPE

Arguments <filepath>::= <string>

Returns A single <filepath> string.

Examples

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:FILE "C:\AmplitudeOffsets.txt"` sets the Amplitude Offset filepath and filename for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:FILE?` might return `"C:\AmplitudeOffsets.txt"` for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:IOFFset

This command sets or returns the Initial Amplitude Offset value (in dB) when the amplitude offset type is set to Step Offset for the selected Radar emitter.

Conditions The amplitude offset type must be set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:IOFFset <initial_offset>
ENVironment:RADar:OFFSets:AMPLitude:IOFFset?
```

Related Commands ENVironment:RADar:OFFSets:AMPLitude:STEP

Arguments <initial_offset>::= <NRf> value.
Range: –100 dB to 0 dB.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:IOFFSET –10` sets the Initial Amplitude Offset to –10 dB for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:IOFFSET?` might return `-50.0000000000`, indicating that the Initial Amplitude Offset is set to –50 dB for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:OFFSet

This command sets or returns the Amplitude Offset value (in dB) for the Fixed amplitude offset type for the selected Radar emitter.

Conditions The amplitude offset type must be set to Fixed.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:OFFSet <amp_offset>
ENVironment:RADar:OFFSets:AMPLitude:OFFSet?
```

Related Commands ENVironment:RADar:OFFSets:AMPLitude:TYPE

Arguments <amp_offset>::= <NRf> value.
Range: –100 dB to 0 dB.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:OFFSET –10` sets the Fixed Amplitude Offset to –10 dB for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:OFFSET?` might return `-50.0000000000`, indicating that the Fixed Amplitude Offset is set to –50 dB for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:REPeat

This command sets or returns the amplitude offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.

When enabled, if the pulse group has a greater repeat count than the offsets listed in the file, the offsets in the file repeat for the rest of the pulses.

Conditions Amplitude Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:REPeat {1|0|ON|OFF}
ENVironment:RADar:OFFSets:AMPLitude:REPeat?
```

Arguments OFF or 0 disables the Repeat Offsets state. OFF or 0 is the default value.
ON or 1 enables the Repeat Offsets state.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:REPEAT 1` repeats the offsets listed in the file (if necessary) for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:REPEATENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:REPEAT?` might return `0`, indicating that the offsets listed in the file will not be repeated for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:STEP

This command sets or returns the amplitude offset Step Increment value (in dB) for the selected Radar emitter.

Conditions Amplitude Offset Type must be set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:STEP <step_increment>
ENVironment:RADar:OFFSets:AMPLitude:STEP?
```

Related Commands ENVironment:RADar:OFFSets:AMPLitude:TYPE

Arguments <step_increment>::= <NRf> value.
Range: –100 dB to 0 dB.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:STEP -5` sets the Amplitude Step Increment to –5 dB for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:STEP?` might return `-15.0000000000`, indicating that the Amplitude Step Increment is set to –15 dB for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:TON

This command sets or returns the Amplitude Offset state (enabled or disabled) for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:TON {1|0|ON|OFF}
ENVironment:RADar:OFFSets:AMPLitude:TON?
```

Arguments OFF or 0 disables Amplitude Offset. OFF or 0 is the default value.

ON or 1 enables Amplitude Offset.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:TON 1` enables adding Amplitude Offset for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:TON?` might return `0`, indicating that Amplitude Offset is disabled for the selected Radar emitter.

ENVironment:RADar:OFFSets:AMPLitude:TYPE

This command sets or returns the amplitude offset Type for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:AMPLitude:TYPE
{FIXed|SOFFset|UDEFined}
ENVironment:RADar:OFFSets:AMPLitude:TYPE?
```

Related Commands ENVironment:RADar:OFFSets:AMPLitude:FILE

Arguments

FIXed
SOFFset (Step Offset)
UDEFined (User Defined Offset). This setting requires a file path

Returns

FIX: Fixed
SOFF: Step Offset
UDEF: User Defined Offset

Examples

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:TYPE FIXED` sets the amplitude offset type to Fixed for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:AMPLITUDE:TYPE?` might return `SOFF`, indicating that the amplitude offset type is set to Step Offset for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:FILE

This command sets or returns the frequency offset User Defined file path for the selected Radar emitter.

Conditions Frequency Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:FILE <filepath>
ENVironment:RADar:OFFSets:FREQuency:FILE?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:TYPE

Arguments <filepath>::= <string>

Returns A single <filepath> string.

Examples

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:FILE "C:\Frequency_Offsets.txt"` sets the Frequency Offset file path and file name for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:FILE?` might return `"C:\Frequency_Offsets.txt"` for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:IOFFset

This command sets or returns the Initial Frequency Offset value (in Hz) when the frequency offset type is set to Step Offset for the selected Radar emitter.

Conditions The Frequency Offset Type must me set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:IOFFset <initial_offset>
ENVironment:RADar:OFFSets:FREQuency:IOFFset?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:STEP

Arguments <initial_offset>::= <NRf> value.
Range is instrument dependent.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:IOFFSET 1E9` sets the Initial Frequency Offset to 1 GHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:IOFFSET?` might return `10.0000000000E+6`, indicating that the Initial Frequency Offset is set to 10 MHz for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:OFFSet

This command sets or returns the Frequency Offset value (in Hz) for the Fixed frequency offset type for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:OFFSet <frequency>
ENVironment:RADar:OFFSets:FREQuency:OFFSet?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:TYPE

Arguments <frequency>::= <NRf> value.
Range is instrument dependent.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:OFFSET 100E3` sets the Fixed Frequency Offset to 100 kHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:OFFSET?` might return `1.0000000000E+6`, indicating that the Fixed Frequency Offset is set to 1 MHz for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:REPeat

This command sets or returns the frequency offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.

When enabled, if the pulse group has a greater repeat count than the offsets listed in the file, the offsets in the file repeat for the rest of the pulses.

Conditions Frequency Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:REPeat {1|0|ON|OFF}
ENVironment:RADar:OFFSets:FREQuency:REPeat?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:TYPE

Arguments OFF or 0 disables the Repeat Offsets state. OFF or 0 is the default value.
ON or 1 enables the Repeat Offsets state.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:REPEAT 1` repeats the offsets listed in the file (if necessary) for the selected Radar emitter

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:REPEATENVIRONMENT:RADAR:OFFSETS:FREQUENCY:REPEAT?` might return `0`, indicating that the offsets listed in the file will not be repeated for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:STEP

This command sets or returns the frequency offset Step Increment value (in Hz) for the selected Radar emitter.

Conditions Frequency Offset Type must be set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:STEP <step_increment>
ENVironment:RADar:OFFSets:FREQuency:STEP?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:TYPE

Arguments <step_increment>::= <NRf> value.
Range is instrument dependent.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:STEP 100E3` sets the Frequency Step Increment to 100 kHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:STEP?` might return `1.0000000000E+6`, indicating that the Frequency Step Increment is set to 1 MHz for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:TON

This command sets or returns the Frequency Offset state (enabled or disabled) for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:TON {1|0|ON|OFF}
ENVironment:RADar:OFFSets:FREQuency:TON?
```

Arguments OFF or 0 disables Frequency Offset. OFF or 0 is the default value.

ON or 1 enables Frequency Offset.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:TON 1` enables adding Frequency Offset for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:TON?` might return `0`, indicating that the Frequency Offset is disabled for the selected Radar emitter.

ENVironment:RADar:OFFSets:FREQuency:TYPE

This command sets or returns the frequency offset Type for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:FREQuency:TYPE
{FIXed|SOFFset|UDEFined}
ENVironment:RADar:OFFSets:FREQuency:TYPE?
```

Related Commands ENVironment:RADar:OFFSets:FREQuency:FILE

Arguments

FIXed
SOFFset (Step Offset)
UDEFined (User Defined Offset). This setting requires a file path

Returns

FIX: Fixed
SOFF: Step Offset
UDEF: User Defined Offset

Examples

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:TYPE FIXED` changes the frequency offset Type to Fixed for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:FREQUENCY:TYPE?` might return `SOFF`, indicating that the frequency offset Type is set to Step Offset for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:FILE

This command sets or returns the phase offset User Defined file path for the selected for the selected Radar emitter.

Conditions Phase Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:FILE <filepath>
ENVironment:RADar:OFFSets:PHASe:FILE?
```

Related Commands ENVironment:RADar:OFFSets:PHASe:TYPE

Arguments <filepath>::= <string>.

Returns A single <filepath> string.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:FILE "C:\Phase_Offsets.txt"` sets the Phase Offset file path and file name for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:FILE?` might return `"C:\Phase_Offsets.txt"` for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:IOFFset

This command sets or returns the Initial Phase Offset value (in degrees) when the phase offset type is set to Step Offset for the selected Radar emitter.

Conditions The phase offset Type must me set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:IOFFset
<phase_initial_offset>
ENVironment:RADar:OFFSets:PHASe:IOFFset?
```

Related Commands ENVironment:RADar:OFFSets:PHASe:STEP

Arguments <phase_initial_offset>::= <NRf> value.
Range: –180° to 180°.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:IOFFSET 2` sets the Initial Phase Offset of the currently selected path to 2° for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:IOFFSET?` might return `-5.0000000000`, indicating that the Initial Phase Offset of the currently selected path is set to –5° for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:OFFSet

This command sets or returns the Phase Offset value (in degrees) for the Fixed phase offset type for the selected Radar emitter.

Conditions The phase offset type must be set to Fixed.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:OFFSet <phase_offset>
ENVironment:RADar:OFFSets:PHASe:OFFSet?
```

Related Commands ENVironment:RADar:OFFSets:PHASe:TYPE

Arguments <phase_offset>::= <NRf> value.
Range: –180° to 180°.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:OFFSET 10` sets the Fixed Phase Offset to 10° for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:OFFSET?` might return `-20.0000000000`, indicating that the Fixed Phase Offset is set to –20° for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:REPeat

This command sets or returns the phase offset Repeat Offsets state (enabled or disabled) for the selected Radar emitter.

When enabled, if the pulse group has a greater repeat count than the offsets listed in the file, the offsets in the file repeat for the rest of the pulses.

Conditions Phase Offset Type must be set to User Defined.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:REPeat {1|0|ON|OFF}
ENVironment:RADar:OFFSets:PHASe:REPeat?
```

Arguments OFF or 0 disables the Repeat Offsets state. OFF or 0 is the default value.
ON or 1 enables the Repeat Offsets state.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:REPEAT 1` repeats the offsets listed in the file (if necessary) for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:REPEAT?` might return `0`, indicating that the offsets listed in the file will not be repeated for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:STEP

This command sets or returns the phase offset Step Increment value (in degrees) for the selected for the selected Radar emitter.

Conditions Phase Offset Type must be set to Step Offset.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:STEP <step_increment>
ENVironment:RADar:OFFSets:PHASe:STEP?
```

Related Commands ENVironment:RADar:OFFSets:PHASe:TYPE

Arguments <step_increment>::= <NRf> value.
Range: –180° to 180°.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:STEP -5` sets the Phase Step Increment to –5° for the selected for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:STEP?` might return `-5.0000000000`, indicating that the Phase Step Increment is set to –5° for the selected for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:TON

This command sets or returns the Phase Offset state (enabled or disabled) for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:TON {1|0|ON|OFF}
ENVironment:RADar:OFFSets:PHASe:TON?
```

Arguments OFF or 0 disables Phase Offset. OFF or 0 is the default value.

ON or 1 enables Phase Offset.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:OFFSETS:PHASE:TON 1` enables adding Phase Offset for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:TON?` might return `0`, indicating that Phase Offset is disabled for the selected Radar emitter.

ENVironment:RADar:OFFSets:PHASe:TYPE

This command sets or returns the phase offset Type for the selected Radar emitter.

Group Radar offsets

Syntax

```
ENVironment:RADar:OFFSets:PHASe:TYPE
{FIXed|SOFFset|UDEFined}
ENVironment:RADar:OFFSets:PHASe:TYPE?
```

Related Commands ENVironment:RADar:OFFSets:PHASe:FILE

Arguments

FIXed
SOFFset (Step Offset)
UDEFined (User Defined Offset). This setting requires a file path

Returns

FIX: Fixed
SOFF: Step Offset
UDEF: User Defined Offset

Examples

`ENVIRONMENT:RADAR:OFFSETS:PHASE:TYPE FIXED` sets the phase offset type to Fixed for the selected Radar emitter.

`ENVIRONMENT:RADAR:OFFSETS:PHASE:TYPE?` might return `SOFF`, indicating that the phase offset type is set to Step Offset for the selected Radar emitter.

ENVironment:RADar:PENVelope[:CUSTom]:PATH

This command sets or returns the Custom Pulse Shape file name and file path of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope[:CUSTom]:PATH <filepath>
ENVironment:RADar:PENVelope[:CUSTom]:PATH?
```

Arguments <filepath>::= <string> defines the path to the pulse shape file.

Returns A single <filepath> string.

Examples `ENVIRONMENT:RADAR:PENVELOPE:CUSTOM:PATH "c:\customshape.txt"` sets the Custom Pulse Shape file name and file path of the Pulse Envelope to c:\customshape.txt for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:CUSTOM:PATH?` might return `"c:\customshape.txt"`, indicating the Custom Pulse Shape file name and file path of the Pulse Envelope for the selected Radar emitter.

ENVironment:RADar:PENVelope[:CUSTom]:SRATe

This command sets or returns the Custom Pulse Shape Sampling Rate of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope[:CUSTom]:SRATe <sampling_rate>
ENVironment:RADar:PENVelope[:CUSTom]:SRATe?
```

Arguments <sampling_rate> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:CUSTOM:SRATE 1E9` sets the Custom Pulse Shape Sampling Rate of the Pulse Envelope to 1 GHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:CUSTOM:SRATE?` might return `10.0000000000E+6`, indicating that the Custom Pulse Shape Sampling Rate of the Pulse Envelope is set to 10 MHz for the selected Radar emitter.

ENVironment:RADar:PENVelope:DROOp

This command sets or returns the deviation Droop of the Pulse Envelope for the selected Radar emitter.

Conditions Droop is only available for pulse shapes Rectangular, Trapezoidal, Raised Cosine, Exponential, and Gaussian.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:DROOp <droop>
ENVironment:RADar:PENVelope:DROOp?
```

Arguments <droop> = <NRf> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:DROOP 20` sets the deviation Droop of the Pulse Envelope to 20 % for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:DROOP?` might return `10.0000000000`, indicating that the deviation Droop of the Pulse Envelope is set to 10 % for the selected Radar emitter.

ENVironment:RADar:PENVelope:FTIMe:PERCentage

This command sets or returns the Fall Time Percentage of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:FTIMe:PERCentage
{TNINety|TEIGhty|ZHUNdred}
ENVironment:RADar:PENVelope:FTIMe:PERCentage?
```

Arguments

TNINety sets the fall time value at 10 to 90%.
TEIGhty sets the fall time value at 20 to 80%.
ZHUNdred sets the fall time value at 0 to 100%.

Returns

TNIN = 10 to 90%.
TEIG = 20 to 80%.
ZHUN = 0 to 100%.

Examples

`ENVIRONMENT:RADAR:PENVELOPE:FTIME:PERCENTAGE TNINETY` sets the Fall Time Percentage of the Pulse Envelope for the selected Radar emitter to 10 to 90 % of the total rise time.

`ENVIRONMENT:RADAR:PENVELOPE:FTIME:PERCENTAGE?` might return `TEIG`, indicating that the Fall Time Percentage of the Pulse Envelope is set to 20 to 80 % of the total fall time for the selected Radar emitter.

ENVironment:RADar:PENVelope:FTIMe:VALue

This command sets or returns the Fall Time of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:FTIMe:VALue <fall_time>
ENVironment:RADar:PENVelope:FTIMe:VALue?
```

Arguments <fall_time> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:FTIME:VALUE 200E-9` sets the Fall Time of the Pulse Envelope for the selected Radar emitter to 200 ns.

`ENVIRONMENT:RADAR:PENVELOPE:FTIME:VALUE?` might return `110.0000000000E-9`, indicating that the Fall Time of the Pulse Envelope is set to 110 ns for the selected Radar emitter.

ENVironment:RADar:PENVelope:OSHoot

This command sets or returns the Overshoot value of the Pulse Envelope for the selected Radar emitter.

Conditions Overshoot is only available for pulse shapes Rectangular, Trapezoidal, Raised Cosine, Exponential, and Gaussian.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:OSHoot <overshoot>
ENVironment:RADar:PENVelope:OSHoot?
```

Arguments <overshoot> = <NRf>

Returns <NRf>

Examples `ENVIRONMENT:RADAR:PENVELOPE:OSHOOT 20` sets the Overshoot value of the Pulse Envelope to 20 % for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:OSHOOT?` might return `5.0000000000`, indicating that the Overshoot value of the Pulse Envelope is set to 5 % for the selected Radar emitter.

ENVironment:RADar:PENVelope:OTIMe

This command sets or returns the Off Time of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:OTIMe <off_time>
ENVironment:RADar:PENVelope:OTIMe?
```

Arguments <off_time> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:OTIME 10E-6` sets the Off Time of the Pulse Envelope to 10 µs for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:OTIME?` might return `100.0000000000E-6`, indicating that the Off Time of the Pulse Envelope is set to 100 µs for the selected Radar emitter.

ENVironment:RADar:PENVelope:PRF

This command sets or returns the Pulse Repetition Frequency (PRF) of the Pulse Envelope for the selected Radar emitter.

The PRF value is automatically generated based on the pulse envelope parameters. The PRF value is updated when changing the pulse envelope parameters.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:PRF <prf>
ENVironment:RADar:PENVelope:PRF?
```

Arguments <prf> = <NRf>

Returns <NRf>

Examples `ENVIRONMENT:RADAR:PENVELOPE:PRF 1E3` sets the PRF of the Pulse Envelope to 10 kHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:PRF?` might return `100.0000000000E+3`, indicating that the PRF of the Pulse Envelope is set to 100 kHz for the selected Radar emitter.

ENVironment:RADar:PENVelope:PRI

This command sets or returns the PRI (Pulse Repeat Interval) of the Pulse Envelope for the selected Radar emitter.

The PRI value is automatically generated based on the pulse envelope parameters. The PRI value is updated when changing the pulse envelope parameters.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:PRI <pri>
ENVironment:RADar:PENVelope:PRI?
```

Arguments <pri> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:PRI 100E-6` sets the PRI of the Pulse Envelope to 100 µs for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:PRI?` might return `200.0000000000E-6`, indicating that the PRI of the Pulse Envelope is set to 200 µs for the selected Radar emitter.

ENVironment:RADar:PENVelope:RFRequency

This command sets or returns the deviation Ripple frequency of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:RFRequency <ripple_frequency>
ENVironment:RADar:PENVelope:RFRequency?
```

Arguments <ripple_frequency> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:RFREQUENCY 10E6` sets the Ripple frequency of the Pulse Envelope to 10 MHz for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:RFREQUENCY?` might return `1.0000000000E+6`, indicating that the Ripple frequency of the Pulse Envelope is set to 1 MHz for the selected Radar emitter.

ENVironment:RADar:PENVelope:RIPPle

This command sets or returns the deviation Ripple percentage of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:RIPPle <ripple>
ENVironment:RADar:PENVelope:RIPPle?
```

Arguments <ripple> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:RIPPLE 10` sets the Ripple of the Pulse Envelope to 20% for the selected Radar emitter.

`ENVIRONMENT:RADAR:PENVELOPE:RIPPLE?` might return `30.0000000000`, indicating that the Ripple of the Pulse Envelope is set to 30 % for the selected Radar emitter.

ENVironment:RADar:PENVelope:RTIMe:PERCentage

This command sets or returns the Rise Time Percentage of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:RTIMe:PERCentage
{TNINety|TEIGhty|ZHUNdred}
ENVironment:RADar:PENVelope:RTIMe:PERCentage?
```

Arguments

TNINety sets the rise time value at 10 to 90%.
TEIGhty sets the rise time value at 20 to 80%.
ZHUNdred sets the rise time value at 0 to 100%.

Returns

TNIN = 10 to 90%.
TEIG = 20 to 80%.
ZHUN = 0 to 100%.

Examples

`ENVIRONMENT:RADAR:PENVELOPE:RTIME:PERCENTAGE TNINETY` sets the Rise Time Percentage of the Pulse Envelope for the selected Radar emitter to 10 to 90 % of the total rise time.

`ENVIRONMENT:RADAR:PENVELOPE:RTIME:PERCENTAGE?` might return `TEIG`, indicating that the Rise Time Percentage of the Pulse Envelope is set to 20 to 80 % of the total rise time for the selected Radar emitter.

ENVironment:RADar:PENVelope:RTIMe:VALue

This command sets or returns the Rise Time of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:RTIMe:VALue <rise_time>
ENVironment:RADar:PENVelope:RTIMe:VALue?
```

Arguments <rise_time> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:RTIME:VALUE 200E-9` sets the Rise Time of the Pulse Envelope for the selected Radar emitter to 200 ns.

`ENVIRONMENT:RADAR:PENVELOPE:RTIME:VALUE?` might return `110.0000000000E-9`, indicating that the Rise Time of the Pulse Envelope is set to 110 ns for the selected Radar emitter.

ENVironment:RADar:PENVelope:SHAPe

This command sets or returns the Pulse Shape of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:SHAPe
{RECTangular|TRAPezoidal|RCOSine|EXPonential|STOOth|
GAUSian|CUSTom}
ENVironment:RADar:PENVelope:SHAPe?
```

Arguments RECTangular, TRAPezoidal, RCOSine, EXPonential, STOOth, GAUSian, CUSTom

Returns
RECT = Rectangular
TRAP = Trapizoidal
RCOS = Raised Cosine
EXP = Exponential
STOO = Sawtooth
GAUS = Gaussian
CUST = Custom

Examples `ENVIRONMENT:RADAR:PENVELOPE:SHAPE RECTANGULAR` sets selected Radar emitter Pulse Shape to Rectangular.

`ENVIRONMENT:RADAR:PENVELOPE:SHAPE?` might return `TRAP`, indicating that the pulse shape is Trapezoidal for the selected Radar emitter.

ENVironment:RADar:PENVelope:WIDTh:PERCentage

This command sets or returns the Pulse Width of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:WIDTh:PERCentage {FIFTy|HUNDred}
ENVironment:RADar:PENVelope:WIDTh:PERCentage?
```

Arguments FIFTy, HUNDred

Returns FIFT = 50%
HUND = 100%

Examples `ENVIRONMENT:RADAR:PENVELOPE:WIDTH:PERCENTAGE FIFTY` sets the Pulse Width Percentage of the Pulse Envelope for the selected Radar emitter to 50 % of the total pulse width.

`ENVIRONMENT:RADAR:PENVELOPE:WIDTH:PERCENTAGE?` might return `HUND`, indicating that the Pulse Width Percentage of the Pulse Envelope is set to 100 % power of the total pulse width for the selected Radar emitter.

ENVironment:RADar:PENVelope:WIDTh:VALue

This command sets or returns the Pulse Width of the Pulse Envelope for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:PENVelope:WIDTh:VALue <pulse_width>
ENVironment:RADar:PENVelope:WIDTh:VALue?
```

Arguments <pulse_width> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:PENVELOPE:WIDTH:VALUE 1E-6` sets the Pulse Width of the Pulse Envelope for the selected Radar emitter to 1 μs.

`ENVIRONMENT:RADAR:PENVELOPE:WIDTH:VALUE?` might return `2.0000000000E-6`, indicating that the Pulse Width of the Pulse Envelope is set to 2 μs for the selected Radar emitter

ENVironment:RADar:REPeat

This command sets or returns the pulse envelope Repeat Count for the selected Radar emitter.

Group Radar pulse envelope

Syntax

```
ENVironment:RADar:REPeat <repeat>
ENVironment:RADar:REPeat?
```

Arguments <repeat> = <NR3> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:RADAR:REPEAT 5` sets the pulse envelope Repeat Count to 5 for the selected Radar emitter.

`ENVIRONMENT:RADAR:REPEAT?` might return `1`, indicating that the pulse envelope Repeat Count is set to 1 for the selected Radar emitter.

ENVironment:RADar:SPRI:DTYPe

This command sets or returns the Staggered PRI Deviation Type for the selected Radar emitter.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:DTYPe {RAMP|FILE|TABLe}
ENVironment:RADar:SPRI:DTYPe?
```

Arguments

RAMP
FILE (Requires file path command)
TABLe

Returns

RAMP
FILE
TABL

Examples

`ENVIRONMENT:RADAR:SPRI:DTYPE FILE` sets the staggered PRI type to a file for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:DTYPE?` might return `TABL`, indicating that Staggered PRI is using a table to determine the PRI deviations for the selected Radar emitter.

ENVironment:RADar:SPRI:FILE

This command sets or returns the file path to the Staggered PRI Deviation file for the selected Radar emitter.

Conditions The Deviation Type must be set to File.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:FILE <filepath>
ENVironment:RADar:SPRI:FILE?
```

Arguments <filepath> = <string>.

Returns <filepath>::=<string> defines the path to the deviation file.

Examples `ENVIRONMENT:RADAR:SPRI:FILE "C:\temp\deviations.mat"` sets the Staggered PRI file path for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:FILE?` might return `"C:\temp\otherDeviations.txt"`, indicating the Staggered PRI file path for the selected Radar emitter.

ENVironment:RADar:SPRI:RAMP:DEGRees

This command sets or returns the ramp degrees for the PRI deviation slope for the selected Radar emitter.

Setting the ramp Degrees value enables Ramp Deviation and disables Minimum Deviation for the Ramp Deviation.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:RAMP:DEGRees <degrees>
ENVironment:RADar:SPRI:RAMP:DEGRees?
```

Arguments <degrees> = <NR3> value.

Returns A single <NR2> value.

Examples `ENVIRONMENT:RADAR:SPRI:RAMP:DEGREES 10` sets the PRI Deviation Slope in Degrees to 10° for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:RAMP:DEGREES?` might return `12.0000000000`, indicating that the PRI Deviation Slope is 12° for the selected Radar emitter.

ENVironment:RADar:SPRI:RAMP:MDEViation

This command sets or returns the ramp minimum deviation for the PRI Deviation slope for the selected Radar emitter.

Setting the minimum deviation value enables Minimum Deviation and disables Degrees for the Ramp Deviation.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:RAMP:MDEViation <min_deviation>
ENVironment:RADar:SPRI:RAMP:MDEViation?
```

Arguments <min_deviation>::= <NRf> value.

Range: 0 s to PRI.
Default: 0 s.

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:SPRI:RAMP:MDEVIATION 10E-6` sets the minimum deviation to 10 µs for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:RAMP:MDEVIATION?` might return `10.0000000000E-6`, indicating that the minimum deviation is 10 µs for the selected Radar emitter.

ENVironment:RADar:SPRI:RAMP:SLOPe

This command sets or returns the ramp slope direction for the PRI Deviation ramp for the selected Radar emitter.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:RAMP:SLOPe {UP|DOWN|UDOWn|DUP}
ENVironment:RADar:SPRI:RAMP:SLOPe?
```

Arguments UP, DOWN, UDOWn, DUP

Returns

UP = Up
DOWN = Down
UDOW = Up down
DUP = Down up

Examples

`ENVIRONMENT:RADAR:SPRI:RAMP:SLOPE DOWN` sets the ramp direction to down for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:RAMP:SLOPE?` might return `UP`, indicating that the ramp slope direction is angled UP for the selected Radar emitter.

ENVironment:RADar:SPRI:REPeat

This command sets or returns the Repeat deviation pattern state (enabled or disabled) for the Staggered PRI for the selected Radar emitter.

When enabled, the PRI Deviation pattern repeats for the indices that have been left blank.

Conditions This is only available when the Deviation Type is set to FILE or TABLE.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:REPeat {0|1|ON|OFF}
ENVironment:RADar:SPRI:REPeat?
```

Arguments OFF or 0 disables Repeat deviation pattern. OFF or 0 is the default value.

ON or 1 enables Repeat deviation pattern.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:SPRI:REPEAT 1` enables repeating the PRI deviation pattern for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:REPEAT?` might return `0`, indicating that the PRI Deviation pattern will not be repeated for the selected Radar emitter.

ENVironment:RADar:SPRI:TABLe:ADD (No Query Form)

This command adds the specified number of repeat indices to the end of the user defined table of Staggered PRI for the selected Radar emitter.

The total number of repeat indices cannot exceed 100. A warning occurs if the number of indices exceeds the set Repeat count for the selected pulse definition.

Conditions The staggered PRI Deviation Type must be set to Table.

Group Radar staggered PRI

Syntax `ENVironment:RADar:SPRI:TABLe:ADD <count>`

Related Commands ENVironment:RADar:SPRI:TABLe:COUNt?

Arguments <count>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:SPRI:TABLE:ADD 10` adds 10 indices to the user defined table for Staggered PRI for the selected Radar emitter.

ENVironment:RADar:SPRI:TABLe:COUNt? (Query Only)

This command returns the number of repeat indices in the user defined table of Staggered PRI for the selected Radar emitter.

Group Radar staggered PRI

Syntax `ENVironment:RADar:SPRI:TABLe:COUNt?`

Related Commands ENVironment:RADar:REPeat

Returns A single <NR1> value.

Examples `ENVIRONMENT:RADAR:SPRI:TABLE:COUNT?` might return `5`, indicating there are 5 indices defined in the user defined Staggared PRI Diviation table for the selected Radar emitter.

ENVironment:RADar:SPRI:TABLe:INDex[n]:DELete (No Query Form)

This command deletes the specified number of repeat indices, starting with the specified index location in the user defined table of Staggered PRI of the selected Radar emitter.

Group Radar staggered PRI

Syntax `ENVironment:RADar:SPRI:TABLe:INDex[n]:DELete <count>`

Arguments [n]::= <NR1> (“n” determines the index number in the user defined deviation table of staggered PRI).

If omitted, n is interpreted as 1.

<count>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:PULSE:SPRI:TABLE:INDEX10:DELETE 5` deletes the 5 indices in the deviation table, starting with step index number 10, for the selected Radar emitter. In this example, steps 10 through 14 are deleted.

ENVironment:RADar:SPRI:TABLe:INDex[n]:DEViation

This command sets or returns the Deviation of the specified index location in the user defined table of Staggered PRI for the selected Radar emitter.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:TABLe:INDex[n]:DEViation <deviation>
ENVironment:RADar:SPRI:TABLe:INDex[n]:DEViation?
```

Arguments [n]::= <NR1> (“n” determines the step index number in the user defined deviation table of staggered PRI).

If omitted, n is interpreted as 1.

<deviation>::= <NRf> value.
Range: –100 ms to 100 ms.
Defualt: 0 s.

Returns A single <NR3> value.

Examples `RADAR:PULSE:SPRI:TABLE:INDEX3:DEVIATION 1E-12` sets the deviation at index 3 of the user defined table to 1 ps of Staggered PRI for the selected Radar emitter.

`ENVIRONMENT:RADAR:PULSE:SPRI:TABLE:INDEX3:DEVIATION?` might return `65.0000000000E-12`, indicating that the deviation at index 3 of the user defined table is set to 65 ps for Staggered PRI for the selected Radar emitter.

ENVironment:RADar:SPRI:TABLe:INDex[n]:INSert (No Query Form)

This command inserts the specified number of repeat indices above the specified index location in the user defined table of Staggered PRI for the selected Radar emitter.

Conditions If no indices exist in the deviation table, use the Add command to add indices.

Group Radar staggered PRI

Syntax `ENVironment:RADar:SPRI:TABLe:INDex[n]:INSert <count>`

Related Commands ENVironment:RADar:SPRI:TABLe:ADD

Arguments [n]::= <NR1> (“n” determines the index number in the user defined deviation table of staggered PRI).

If omitted, n is interpreted as 1.

<count>::= <NR1> value.

Examples `ENVIRONMENT:RADAR:PULSE:SPRI:TABLE:INDEX3:INSERT 2` inserts two indices in front of the existing 3rd indice in the user defined table of Staggered PRI for the selected Radar emitter.

ENVironment:RADar:SPRI:TON

This command sets or returns the Staggered Pulse Repetition Interval state (enabled or disabled) for the selected Radar Emitter.

Group Radar staggered PRI

Syntax

```
ENVironment:RADar:SPRI:TON {0|1|OFF|ON}
ENVironment:RADar:SPRI:TON?
```

Arguments OFF or 0 disables Staggered PRI. OFF or 0 is the default value.
ON or 1 enables Staggered PRI.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:RADAR:SPRI:TON ON` enables Staggered PRI for the selected Radar emitter.

`ENVIRONMENT:RADAR:SPRI:TON?` might return `1`, indicating that Staggered PRI is enabled for the selected Radar emitter.

ENVironment:RESet (No Query Form)

This command resets the Environment Signal plug-in to its default state.

NOTE. *This removes all existing scenarios.*

Group Control

Syntax `ENVironment:RESet`

Examples `ENVIRONMENT:RESET` returns the Environment Signal plug-in to its default values.

ENVironment:SCENario:ADD (No Query Form)

This command creates and adds the named scenario to the Environment Scenarios list. The Scenario is created using the default settings and is added to the end of the existing Environment Scenarios list.

Group Scenario

Syntax `ENVironment:SCENario:ADD <scenario_name>`

Arguments <scenario_name>:= <string>

Examples `ENVIRONMENT:SCENARIO:ADD "scenario_1"` adds a new scenario named "scenario_1" to the end of Environment Scenarios list.

ENVironment:SCENario:AMPLitude

This command sets or returns the peak to peak baseband amplitude (in volts) for the selected Scenario.

Conditions Signal format must be set to IQ.

Group Scenario

Syntax

```
ENVironment:SCENario:AMPLitude <amplitude>
ENVironment:SCENario:AMPLitude?
```

Related Commands

Arguments <amplitude>::=<NRf> value.
Range: 25 mV_{pp} to 1.5 V_{pp}.
Default: 632 mV_{pp}.

Returns A single <NR3> value.

Examples `ENVIRONMENT:SCENARIO:AMPLITUDE 250E-3` sets the baseband Amplitude to 250 mV_{pp} for the selected Scenario.

`ENVIRONMENT:SCENARIO:AMPLITUDE?` might return `25.0000000000E-3`, indicating that the baseband Amplitude is set to 25 mV_{pp} for the selected Scenario.

ENVironment:SCENario:COUNt? (Query Only)

This command returns the number of Scenario definitions in the Environment Scenarios list.

Group Scenario

Syntax `ENVironment:SCENario:COUNt?`

Returns A single <NR1> value.

Examples `ENVIRONMENT:SCENARIO:COUNT?` might return `3.0000000000`, indicating that there are 3 scenario definitions in the Environment Scenarios list.

ENVironment:SCENario:DELete (No Query Form)

This command deletes the specified scenario from the Environment Scenarios list.

The Environment Scenarios list must contain at least one scenario definition.

Group Scenario

Syntax `ENVironment:SCENario:DELete <scenario_name>`

Arguments <scenario_name>:= <string>

Examples `ENVIRONMENT:SCENARIO:DELETE "Scenario_1"` deletes the scenario named "Scenario_1" from the Environment Scenarios list.

ENVironment:SCENario:DURation

This command sets or returns the manual duration that will be used to create the signal for the selected Scenario.

When set, this command changes the Environment Scenario mode to Manual.

Group Scenario

Syntax

```
ENVironment:SCENario:DURation <duration>
ENVironment:SCENario:DURation?
```

Arguments <duration> = <NRf>.

Returns A single <NR3> value.

Examples `ENVIRONMENT:SCENARIO:DURATION 5E-3` sets the duration to 500 ms for the selected Scenario.

`ENVIRONMENT:SCENARIO:DURATION?` might return `1.0000000000E-6` indicating that the duration is 1 µs. for the selected Scenario.

ENVironment:SCENario:DURation:AUTO

This command sets or returns the value that indicates if the duration will be automatically calculated based on the anchor/emitters at compile time for the selected Scenario.

Group Scenario

Syntax

```
ENVironment:SCENario:DURation:AUTO {0|1|OFF|ON}
ENVironment:SCENario:DURation:AUTO?
```

Arguments OFF or 0 indicates duration is calculated manually.
ON or 1 indicates duration is calculated automatically.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `ENVIRONMENT:SCENARIO:DURATION:AUTO ON` sets the signal's duration automatically at compile time for the selected Scenario.

`ENVIRONMENT:SCENARIO:DURATION:AUTO?` might return `0`, indicating that the signal will manually set the duration at compile time for the selected Scenario.

ENVironment:SCENario:LIST? (Query Only)

This command returns a comma separated list of environment scenario names.

Group Scenario

Syntax `ENVironment:SCENario:LIST?`

Returns <String>

Examples `ENVIRONMENT:SCENARIO:LIST?` might return `"Scenario_1,Scenario_2,Scenario_3"` as the environments named in the Environment Scenario list.

ENVironment:SCENario:MAGNitude

This command sets or returns the RF/IF carrier peak Magnitude (in dBm) for the selected Scenario.

Conditions Signal format must be set to RF/IF.

Group Scenario

Syntax

```
ENVironment:SCENario:MAGNitude <peak_Magnitude>
ENVironment:SCENario:MAGNitude?
```

Arguments <peak_Magnitude>::=<NRf> value.
Range: –28.06 dBm to 7.5 dBm.
Default: 0 dBm.

Returns A single <NR3> value.

Examples `ENVIRONMENT:SCENARIO:MAGNITUDE −2` sets the carrier peak Magnitude to –2 dBm for the selected Scenario.

`ENVIRONMENT:SCENARIO:MAGNITUDE?` might return `5.0000000000`, indicating that the carrier peak Magnitude is set to 5 dBm for the selected Scenario.

ENVironment:SCENario:REName (No Query Form)

This command renames the selected scenario name to a new name.

Group Scenario

Syntax `ENVironment:SCENario:REName <New_name>`

Arguments <New_name>::=<string> defines the new scenario name.

Examples `ENVIRONMENT:SCENARIO:RENAME "Scenario1"` renames the selected Scenario to Scenario1.

ENVironment:SCENario:SELect

This command sets or returns the selected Scenario in the Environment Scenario list. To set the selected Scenario, the name must currently exist in the Environment Scenario list.

Other commands act on the selected Scenario.

Group Scenario

Syntax

```
ENVironment:SCENario:SELect <scenario_name>
ENVironment:SCENario:SELect?
```

Arguments <scenario_name>:= <string> specifying the scenario name.

Returns A single <scenario_name> string.

Examples `ENVIRONMENT:SCENARIO:SELECT "Scenario_4"` selects the scenario named `Scenario_4` in the Environment Scenario list.

`ENVIRONMENT:SCENARIO:SELECT?` might return `Scenario_3` as the selected scenario in the Environment Scenario list.

ENVironment:SFORmat

This command sets or returns the signal format of the signal to be compiled for all scenarios.

Group Compile

Syntax

```
ENVironment:SFORmat {RF|IQ}
ENVironment:SFORmat?
```

Arguments RF sets the signal format to RF.

IQ sets the signal format to IQ.

Returns RF
IQ

Examples `ENVIRONMENT:SFORMAT IQ` sets the signal format to IQ mode for all scenarios.

`ENVIRONMENT:SFORMAT?` might return `RF`, indicating that the signal format is set to RF mode for all scenarios.

ENVironment:TONes:BANDwidth

This command sets or returns the Bandwidth of the Tone emitter if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:BANDwidth <Bandwidth>
ENVironment:TONes:BANDwidth?
```

Arguments <Bandwidth> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:TONES:BANDWIDTH 6` sets the Tone emitter Bandwidth to 6 Hz.

`ENVIRONMENT:TONES:BANDWIDTH?` might return `5`, indicating that the Tone emitter Bandwidth is 5 Hz.

ENVironment:TONes:MTYPe

This command sets or returns the Multi tone type of the Tones emitter if the current selected emitter is a Tones emitter.

Group Tones

Syntax

```
ENVironment:TONes:MTYPe {SPACing|COUNt}
ENVironment:TONes:MTYPe?
```

Arguments SPACing, COUNt

Returns SPAC
COUN

Examples `ENVIRONMENT:TONES:MTYPE SPACING` sets the Multi tone type of the Tones emitter to Spacing.

`ENVIRONMENT:TONES:MTYPE?` might return `COUN`, indicating that the Multi tone type of the Tones emitter is Count.

ENVironment:TONes:NOCYcles

This command sets or returns the Number of cycles of the Tone emitter if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:NOCYcles <value>
ENVironment:TONes:NOCYcles?
```

Arguments <value> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:TONES:NOCYCLES 4` sets the Number of cycles of the Tone emitter value to 4.

`ENVIRONMENT:TONES:NOCYCLES?` might return `2`, indicating that the Number of cycles of the Tone emitter value is 2.

ENVironment:TONes:NOTones

This command sets or returns the Number of tones of the Tone emitter if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:NOTones <value>
ENVironment:TONes:NOTones?
```

Arguments <value> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:TONES:NOTONES 2` sets the selected Tone emitter Number Of Tones to 2.

`ENVIRONMENT:TONES:NOTONES?` might return `5`, indicating that the selected Tone emitter Number Of Tones is 5.

ENVironment:TONes:PHASe

This command sets or returns the phase of the Tone emitter if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:PHASe {NEWMan|RANDom|UDEFined}
ENVironment:TONes:PHASe?
```

Arguments NEWMan, RANDom, UDEFined

Returns

NEWM
RAND
UDEF

Examples

`ENVIRONMENT:TONES:PHASE RANDOM` sets the selected Tone emitter phase to Random.

`ENVIRONMENT:TONES:PHASE?` might return `UDEF`, indicating that the selected Tone emitter phase is User Defined.

ENVironment:TONes:SPACing

This command sets or returns the selected Tone spacing value if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:SPACing <value>
ENVironment:TONes:SPACing?
```

Arguments <value> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:TONES:SPACING 400E3` sets the selected Tone emitter spacing value to 400 kHz.

`ENVIRONMENT:TONES:SPACING?` might return `100.0000000000E+6`, indicating that the selected Tone emitter spacing value is 100 MHz.

ENVironment:TONes:TYPE

This command sets or returns the selected Tone emitter Type.

Group Tones

Syntax

```
ENVironment:TONes:TYPE {SINGle|MULTitone}
ENVironment:TONes:TYPE?
```

Arguments SINGle, MULTitone

Returns
SING
MULT

Examples `ENVIRONMENT:TONES:TYPE MULTITONE` sets the selected Tone emitter type to Multitone.

`ENVIRONMENT:TONES:TYPE?` might return `SING`, indicating that the selected Tone emitter type is Single tone.

ENVironment:TONes:UDPHase

This command sets or returns the User Defined Phase of the Tone emitter if the current selected emitter is a Tone emitter.

Group Tones

Syntax

```
ENVironment:TONes:UDPHase <value>
ENVironment:TONes:UDPHase?
```

Arguments <value> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:TONES:UDPHASE 45` sets the selected Tone emitter user defined phase value to 45 degrees.

`ENVIRONMENT:TONES:UDPHASE?` might return `80`, indicating that the selected Tone emitter user defined phase value is 80 degrees.

ENVironment:UDEFined:IQWList

This command sets or returns the IQ Interference Signal to use for the User Defined emitter. The specified waveform must exist in the Waveform List.

Group User defined

Syntax

```
ENVironment:UDEFined:IQWList <waveform_name>
ENVironment:UDEFined:IQWList?
```

Arguments <waveform_name>::= <string> specifying the waveform name.

Returns A single <waveform_name> string.

Examples `ENVIRONMENT:UDEFINED:IQWLIST "Waveform_1_IQ"` sets Waveform_1_IQ as the IQ interference signal for the user defined emitter.

`ENVIRONMENT:UDEFINED:IQWLIST?` might return `Waveform_1_IQ` as the IQ interference signal for the user defined emitter.

ENVironment:UDEFined:RFWList

This command sets or returns the RF Interference Signal to use for the User Defined emitter. The specified waveform must exist in the Waveform List.

Group User defined

Syntax

```
ENVironment:UDEFined:RFWList <waveform_name>
ENVironment:UDEFined:RFWList?
```

Arguments <waveform_name>::= <string> specifying the waveform name.

Returns A single <waveform_name> string.

Examples `ENVIRONMENT:UDEFINED:RFWLIST "Waveform_1"` sets Waveform_1 as the RF interference signal for the user defined emitter.

`ENVIRONMENT:UDEFINED:RFWLIST?` might return `Waveform_1` as the RF interference signal for the user defined emitter.

ENVironment:UDEFined:SFORmat

This command sets or returns the type of the User Defined emitter if the current selected emitter is a User Defined emitter.

Group User defined

Syntax

```
ENVironment:UDEFined:SFORmat {RF|IQ}
ENVironment:UDEFined:SFORmat?
```

Arguments RF, IQ

Returns RF
IQ

Examples `ENVIRONMENT:UDEFINED:SFORMAT IQ` sets the User Defined emitter Type to IQ.

`ENVIRONMENT:UDEFINED:SFORMAT?` might return `RF`, indicating that the User Defined emitter Type is RF.

ENVironment:WCDMA:CPICh

This command sets or returns the state (enabled or disabled) of the common pilot channel in Test Mode 4 of the down link mode of the selected WCDMA emitter.

Group WCDMA

Syntax

```
ENVironment:WCDMA:CPICh {0|1|OFF|ON}
ENVironment:WCDMA:CPICh?
```

Arguments OFF or 0 disables the common pilot channel. OFF or 0 is the default value.

ON or 1 enables the common pilot channel.

Returns A Single <Boolean> value.

Examples `ENVIRONMENT:WCDMA:CPICH ON` enables the common pilot channel for the selected WCDMA emitte.

`ENVIRONMENT:WCDMA:CPICH?` might return `0`, indicating that the common pilot channel is disabled for the selected WCDMA emitter.

ENVironment:WCDMA:DLMode

This command sets or returns the Down Link mode of the selected WCDMA emitter.

Group WCDMA

Syntax

```
ENVironment:WCDMA:DLMode {DPCH|TM1|TM2|TM3|TM4|TM5|TM6}
ENVironment:WCDMA:DLMode?
```

Arguments DPCH, TM1, TM2, TM3, TM4, TM5, TM6

Returns

DPCH = Dedicated physical channel
TM1 = Test Mode 1
TM2 = Test Mode 2
TM3 = Test Mode 3
TM4 = Test Mode 4
TM5 = Test Mode 5
TM6 = Test Mode 6

Examples

`ENVIRONMENT:WCDMA:DLMODE DPCH` sets the selected WCDMA down link mode to DPCH.

`ENVIRONMENT:WCDMA:DLMODE?` might return `TM4`, indicating that TestMode 4 is set as the down link mode for the selected WCDMA emitter.

ENVironment:WCDMA:DRAte

This command sets or returns the Up Link Data rate of the selected WCDMA emitter.

Group WCDMA

Syntax

```
ENVironment:WCDMA:DRAte
{DR15|DR30|DR60|DR120|DR240|DR480|DR960}
ENVironment:WCDMA:DRAte?
```

Arguments DR15, DR30, DR60, DR120, DR240, DR480, DR960

Returns DR15, DR30, DR60, DR120, DR240, DR480, or DR960

Examples `ENVIRONMENT:WCDMA:DRATE DR30` sets the selected WCDMA emitter up link data rate to 30 kbps.

`ENVIRONMENT:WCDMA:DRATE?` might return `DR120`, indicating that the up link data rate is set to 120 kbps for the selected WCDMA emitter.

ENVironment:WCDMA:HPDSch

This command sets or returns the highspeed physical shared downlink channel of the selected WCDMA emitter.

Group WCDMA

Syntax

```
ENVironment:WCDMA:HPDSch {CH4|CH8}
ENVironment:WCDMA:HPDSch?
```

Arguments CH4, CH8

Returns CH4
CH8

Examples `ENVIRONMENT:WCDMA:HPDSCH CH4` sets the selected WCDMA emitter high speed physical shared downlink channel number to 4.

`ENVIRONMENT:WCDMA:HPDSCH?` might return `CH8`, indicating that high speed physical shared downlink channel is set to 8 for selected WCDMA emitter.

ENVironment:WCDMA:LINK

This command sets or returns the Link mode of the selected WCDMA emitter.

Group WCDMA

Syntax

```
ENVironment:WCDMA:LINK {DOWN|UP}
ENVironment:WCDMA:LINK?
```

Arguments DOWN, UP

Returns

DOWN
UP

Examples

`ENVIRONMENT:WCDMA:LINK DOWN` sets the selected WCDMA emitter link type to DOWN.

`ENVIRONMENT:WCDMA:LINK?` might return `UP`, indicating that emitter link type is set to UP for the selected WCDMA emitter.

ENVironment:WCDMA:NCHannels

This command sets or returns the number of channels of the selected WCDMA emitter.

The valid selections is dependent on the selected Down link mode.

NOTE. *This command does not set the number of highspeed physical shared downlink channels.*

Group WCDMA

Syntax

```
ENVironment:WCDMA:NCHannels
{CH1|CH2|CH3|CH4|CH5|CH6|CH8|CH16|CH32|CH64}
ENVironment:WCDMA:NCHannels?
```

Related Commands ENVironment:WCDMA:DLMode

Arguments CH1, CH2, CH3, CH4, CH5, CH6, CH8, CH16, CH32, CH64

Returns CH1, CH2, CH3, CH4, CH5, CH6, CH8, CH16, CH32, or CH64

Examples `ENVIRONMENT:WCDMA:NCHANNELS CH1` sets the selected WCDMA emitter number of channels to 1.

`ENVIRONMENT:WCDMA:NCHANNELS?` might return `CH2`, indicating that the number of channels is set to 2 for the selected WCDMA emitter.

ENVironment:WIFI:DLENgth

This command sets or returns the Data length for the selected WIFI emitter.

Group WiFi

Syntax

```
ENVironment:WIFI:DLENgth {FBYTes|OZTFbytes}
ENVironment:WIFI:DLENgth?
```

Arguments FBYTes = 40 Bytes
OZTFbytes = 1024 Bytes

Returns FBYT, OZTF

Examples `ENVIRONMENT:WIFI:DLENGTH FBYTES` sets the Data length to 40 Bytes for the selected WIFI emitter.

`ENVIRONMENT:WIFI:DLENGTH?` might return `FBYT`, indicating that the Data length is set to 40 Bytes for the selected WIFI emitter.

ENVironment:WIFI:DRATe

This command sets or returns the Data rate for the selected WIFI emitter.

The available settings is dependent on the selected Standard.

Group WiFi

Syntax

```
ENVironment:WIFI:DRATe {SIX|NINE|TWELve|EIGHteen|TFOur|TSIX|
FEIGht|FFOur|OBDPsk|TBDQpsk|FPFDqpsk|FPFBpsk|ECQPsk|EPQPsk|
OBARker|TWO|FPFCck|FPFPbcc|ECCK|EPBCc|TTPBcc|THTPbcc|SOFDm|
NOFDm|TOFDm|EOFDm|TFOFdm|TSOFdm|FEOFDm|FFOFdm}
ENVironment:WIFI:DRATe?
```

Related Commands ENVironment:WIFI:STANdard

Arguments

Standard set to 802.11a:

Argument	Description	Argument	Description
SIX	6 Mbps	TFOur	24 Mbps
NINE	9 Mbps	TSIX	26 Mbps
TWELve	12 Mbps	FEIGht	48 Mbps
EIGHteen	18 Mbps	FFOur	54 Mbps

Standard set to 802.11b:

Argument	Description	Argument	Description
OBDPsk	1 Mbps-Barker_DPSK	FPFBpsk	5.5 Mbps-PBCC_BPSK
TBDQpsk	2 Mbps-Barker_DQPSK	ECQPsk	11 Mbps-CCK_QPSK
FPFDqpsk	5.5 Mbps-CCK_DQPSK	EPQPsk	11 Mbps-PBCC_QPSK

Standard set to 802.11g:

Argument	Description	Argument	Description
OBARker	1 Mbps-Barker	SOFDm	6 Mbps-OFDM
TWO	2 Mbps	NOFDm	9 Mbps-OFDM
FPFCck	5.5 Mbps-CCK	TOFDm	12 Mbps-OFDM
FPFPbcc	5.5 Mbps-PBCC	EOFDm	18 Mbps-OFDM
ECCK	11 Mbps-CCK	TFOFdm	24 Mbps-OFDM
EPBCc	11 Mbps-PBCC	TSOFdm	36 Mbps-OFDM
TTPBcc	22 Mbps-PBCC	FEOFDm	48 Mbps-OFDM
THTPbcc	33 Mbps-PBCC	FFOFdm	54 Mbps-OFDM

Returns SIX, NINE, TWEL, EIGH, TFO, TSIX|FEIG, FFO, OBDP, TBDQ, FPFD, FPFB, ECQP, EPQP, OBAR, TWO, FPFC, ECCK, EPBC, TTPB, THTP, SOFD, NOFD, TOFD, EOFD, TFOF, TSOF, FEOFD, FFOFd

Examples `ENVIRONMENT:WIFI:DRATE SIX` sets the Datarate to 6 Mbps for the selected WIFI emitter.

`ENVIRONMENT:WIFI:DRATE?` might return `TWEL`, indicating that the Datarate is set to 12 Mbps for the selected WIFI emitter.

ENVironment:WIFI:OTIMe

This command sets or returns the Off-time for the selected WIFI emitter.

Group WiFi

Syntax

```
ENVironment:WIFI:OTIMe <time>
ENVironment:WIFI:OTIMe?
```

Arguments <time> = <NRf> value.

Returns A single <NR3> value.

Examples `ENVIRONMENT:WIFI:OTIME 75E-9` sets the Off time to 75 ns for the selected WIFI emitter.

`ENVIRONMENT:WIFI:OTIME?` might return `40.0000000000E-9`, indicating that the Offtime is set to 40 ns for the selected WIFI emitter.

ENVironment:WIFI:PFORmat

This command sets or returns the PLCP Format for the selected WIFI emitter.

PLCP Format is dependant on the selected Standard and Data Rate. For many combinations, the Format is fixed to Standard.

Group WiFi

Syntax

```
ENVironment:WIFI:PFORmat {LONG|SHORT|OFDM|LDSSs|SDSSs}
ENVironment:WIFI:PFORmat?
```

Related Commands ENVironment:WIFI:STANdard, ENVironment:WIFI:DRATe

Arguments LONG, SHORT, OFDM, LDSSs, SDSSs

802.11b: Fixed to Standard for DPSK. For DQPSK, BPSK, and QPSK type data rates, set to Long or Short.

For OFDM type Data Rates, set to OFDM, LDSS, or SDSS.

Returns LONG, SHORT, OFDM, LDSS, SDSS

Examples `ENVIRONMENT:WIFI:PFORMAT LONG` sets the PLCP Format to Long for the selected WIFI emitter.

`ENVIRONMENT:WIFI:PFORMAT?` might return `SHORT` indicating that the PLCP Format is set to Short for the selected WIFI emitter.

ENVironment:WIFI:STANdard

This command sets or returns the Standard for the selected WIFI emitter.

Group WiFi

Syntax

```
ENVironment:WIFI:STANdard {ETA|ETB|ETG}
ENVironment:WIFI:STANdard?
```

Arguments ETA, ETB, ETG

Returns ETA, ETB, ETG

Examples `ENVIRONMENT:WIFI:STANDARD ETA` sets the standard type to 802.11a for the selected WIFI emitter.

`ENVIRONMENT:WIFI:STANDARD?` might return `ETA`, indicating that the standard type is set to 802.11a for the selected WIFI emitter.

ENVironment:WIMAx:BANDwidth

This command sets or returns the Bandwidth for the selected WiMax emitter.

Group WiMaX

Syntax

```
ENVironment:WIMAx:BANDwidth {OPTFive|TPFIve|FIVE|SEVEn|TEN|
FIFTeen|TWENty|TEIGht}
ENVironment:WIMAx:BANDwidth?
```

Arguments OPTFive, TPFIve, FIVE, SEVEn, TEN, FIFTeen, TWENty, TEIGht

Returns

OPTF = 1.25 MHz
TPFI = 2.5 MHz
FIVE = 5 MHz
SEVE = 7 MHz
TEN = 10 MHz
FIFT = 15 MHz
TWEN = 20 MHz
TEIG = 28 MHz

Examples

`ENVIRONMENT:WIMAX:BANDWIDTH TEN` sets the Bandwidth to 10 MHz for the selected WiMax emitter.

`ENVIRONMENT:WIMAX:BANDWIDTH?` might return `TWEN`, indicating that the Bandwidth is set to 20 MHz for the selected WiMax emitter.

ENVironment:WIMax:GINTerval? (Query Only)

This command returns the Guard Interval Value for the selected WiMax emitter.

Group WiMaX

Syntax `ENVironment:WIMax:GINTerval?`

Returns A single <string>.

Examples `ENVIRONMENT:WIMAX:GINTERVAL?` might return `1/4`, indicating that guard interval value is set to 1/4 for the selected WiMax emitter.

ENVironment:WIMAx:MODUlation

This command sets or returns the Modulation for the selected WiMax emitter.

Group WiMaX

Syntax

```
ENVironment:WIMAx:MODUlation {BPSK|QPSK|SQAM|SFQAm}
ENVironment:WIMAx:MODUlation?
```

Arguments BPSK, QPSK, SQAM, SFQAm

Returns

BPSK
QPSK
SQAM
SFQA

Examples

`ENVIRONMENT:WIMAX:MODULATION QPSK` sets the modulation to QPSK for the selected WiMax emitter.

`ENVIRONMENT:WIMAX:MODULATION?` might return `BPSK`, indicating that the modulation is set to BPSK for the selected WiMax emitter.

ENVironment:WIMAx:OTIMe

This command sets or returns the Offtime for the selected WiMax emitter.

Group WiMaX

Syntax

```
ENVironment:WIMAx:OTIMe <value>
ENVironment:WIMAx:OTIMe?
```

Arguments <value> = <NRf>

Returns <NRf>

Examples `ENVIRONMENT:WIMAX:OTIME 1E-6` sets the Offtime to 1 µs for the selected WiMax emitter.

`ENVIRONMENT:WIMAX:OTIME?` might return `1.0000000000E-6`, indicating that the Offtime is set to 1 µs for the selected WiMax emitter.

ENVironment:WIMAx:PAYLoad

This command sets or returns the Payload for the selected WiMax emitter.

Group WiMaX

Syntax

```
ENVironment:WIMAx:PAYLoad {FOUR|TEN|FORTy}
ENVironment:WIMAx:PAYLoad?
```

Arguments FOUR, TEN, FORTy

Returns

FOUR
TEN
FORT

Examples

`ENVIRONMENT:WIMAX:PAYLOAD FORTY` sets the Payload to 40 symbols for the selected WiMax emitter.

`ENVIRONMENT:WIMAX:PAYLOAD?` might return `TEN`, indicating that the Payload is set to 10 symbols for the selected WiMax emitter.

WPLugin:ACTive

This command sets or returns the active waveform plug-in.

To use the Environment Signal commands in this document, the active waveform plug-in must be set to Environment.

Group Control

Syntax

```
WPLugin:ACTive <plug-in_name>
WPLugin:ACTive?
```

Arguments <plug-in_name>::=<string>

A single string representing the waveform plug-in name.

`"Environment"` is the proper string to activate the Environment plug-in.

Returns <plug-in_name>::=<string>

Examples `WPLUGIN:ACTIVE "Environment"` sets the Environment plug-in as the active plug-in.

`WPLUGIN:ACTIVE?` might return `"Environment"`, indicating Environment Signal is currently the active waveform plug-in.

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