Tektronix®

RF Generic Signals Application Plug-in

Programmer Manual

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Getting Started

Introduction

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

The RF Generic Waveform 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 programmatic interface of these products. 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 RF Generic Signals Programmer Guide, the following documentation is included with this application:

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

Command Groups

Control commands

Table 2-1: Control commands and their descriptions

Command	Description
WPLugin:ACTive	Sets or returns the active waveform plug-in.
RFGSignal:RESet	Resets the RF Generic Signal plug-in by setting all the values within the module to their default values.

Compile commands

Table 2-2: Compile commands and their descriptions

Command	Description
RFGSignal:COMPile	Compiles and generates a waveform using the RF Generic Signal plug-in compile settings.
RFGSignal:COMPile:AWARound	Sets or returns the Adjust Wrap Around state (enabled or disabled) for the Compile Settings.
RFGSignal:COMPile:CANCel	Cancels a compilation currently in progress.
RFGSignal: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).
RFGSignal:COMPile:CHANnel:I	Sets or returns which channel the I signal is assigned to upon compile when the signal format is set to IQ.
RFGSignal:COMPile:CHANnel:IQ	Sets or returns the playout channel intended for the compiled IQ signal after up-conversion using the internal IQ modulator.
RFGSignal:COMPile:CHANnel:Q	Sets or returns which channel the Q signal is assigned to upon compile when the signal format is set to IQ.
RFGSignal:COMPile:CHANnel:RF	Sets or returns which channel the RF signal is assigned to upon compile when the signal format is set to RF/IF.
RFGSignal:COMPile:CORRection:APPLy	Sets or returns the Apply Corrections File state (enabled or disabled) for the Compile Settings.
RFGSignal:COMPile:CORRection:PATH	Sets or returns the RF Correction filename and filepath to use when compiling an RF signal.
RFGSignal:COMPile:CORRection:PATH:I	Sets or returns the I Correction filename and filepath to use when compiling and IQ signal.
RFGSignal:COMPile:CORRection:PATH:IQ	Sets or returns the IQ Correction filename and filepath to use when compiling and IQ signal.
RFGSignal:COMPile:CORRection:PATH:Q	Sets or returns the Q Correction filename and filepath to use when compiling and IQ signal.
RFGSignal: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.

Table 2-2: Compile commands and their descriptions (cont.)

Command	Description
RFGSignal:COMPile:DUPConverter	Sets or returns the Internal IQ Modulator state (enabled or disabled) when compiling.
RFGSignal:COMPile:FDRange	Sets or returns the Fit to full dynamic range state (enabled or disabled) for the Compile Settings.
RFGSignal:COMPile:ICHannel	***NOTE.*** *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:I.* Sets or returns which channel the I signal is assigned to upon compile when the signal format is set to IQ.
RFGSignal:COMPile:MARKer:ENABle	Sets or returns the Marker Data state (enabled or disabled) for the Compile Settings.
RFGSignal:COMPile:MARKer[n]:CFRequency	Sets or returns the Marker Data clock frequency when the Marker Data type is set to Clock Frequency.
RFGSignal:COMPile:MARKer[n]:MDATa	Sets or returns the Marker Data Type of the specified marker.
RFGSignal:COMPile:NAMe	Sets or returns the name of the compiled waveform.
RFGSignal:COMPile:OSAMpling	Sets or returns the over sampling rate used to determine the sampling rate of the compiled signal.
RFGSignal:COMPile:PLAY	Sets or returns the Play after assign state (enabled or disabled) for the Compile Settings.
RFGSignal:COMPile:QCHannel	***NOTE.*** *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:Q.* Sets or returns which channel the Q signal is assigned to upon compile when the signal format is set to IQ.
RFGSignal:COMPile:RFCHannel	***NOTE.*** *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:RF.* Sets or returns which channel the RF waveform is assigned to upon compile when the signal format is set to RF.
RFGSignal:COMPile:SFORmat	Sets or returns the signal format of the signal to be compiled.
RFGSignal:COMPile:SRATe	Sets or returns the sampling rate for the compile settings.
RFGSignal:COMPile:SRATe:AUTO	Sets or returns the value that indicates if the sampling rate will be automatically calculated at compile time.
RFGSignal:COMPile:WLENgth	Sets or returns the waveform length. If the waveform length is not set to auto then the value for waveform length is based on the value provided.
RFGSignal:COMPile:WLENgth:AUTO	Sets or returns if the waveform length will be automatically calculated at compile time.

Table 2-2: Compile commands and their descriptions (cont.)

Command	Description
RFGSignal:COMPile:WLENgth:TYPE	Sets or returns the waveform length unit type that is used to set the waveform length. The waveform length can be provided in terms of samples, symbols, or seconds
RFGSignal:COMPile:WOVerwrite	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.

Carrier setup commands

Table 2-3: Carrier setup commands and their descriptions

Command	Description
RFGSignal:CARRier:ADD	Creates the specified number of carriers in the carrier table.
RFGSignal:CARRier:COUNt?	Returns the carrier count in the carrier table.
RFGSignal:Carrier[n]:BBOFfset	Sets or returns the base band Offset for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DELete	Deletes the specified carrier from the carrier table.
RFGSignal:CARRier[n]:FREQuency	Sets or returns the Carrier Frequency for the specified carrier in the carrier table.
RFGSignal:Carrier[n]:IQAMplitude	Sets or returns the IQ Amplitude for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:NOISe:BANDwidth	Sets or returns the Bandwidth for the Noise Carrier for the specified carrier in the carrier table when the Carrier Type is set to Noise.
RFGSignal:Carrier[n]:PHASe	Sets or returns the Phase for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:RFAMplitude	Sets or returns the Amplitude for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:TYPE	Sets or returns the Carrier Type for the specified carrier in the carrier table.

Digital modulation commands

Table 2-4: Digital modulation commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:DMODulation:APSK	Sets or returns the APSK Modulation type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:APSK:PROTation	Sets or returns the Phase Rotation of the selected APSK Ring Index for the specified carrier in the carrier table.

Table 2-4: Digital modulation commands and their descriptions (cont.)

Command	Description
RFGSignal:CARRier[n]:DMODulation:APSK:RADius	Sets or returns the Radius of the selected APSK Ring Index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:APSK:SRINg	Sets or returns the selected APSK Ring Index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:APSK:SYMBols	Sets or returns the Number of Symbols of the selected APSK Ring Index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:ASK:MINDex	Sets or returns the ASK Mod Index for ASK modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:CPM:MINDex	Sets or returns the Index for CPM modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:FSK	Sets or returns the FSK Modulation type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:FSK:PDEViation	Sets or returns the FSK Peak Deviation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:NDPSK:INDex	Sets or returns the 'n' value (the kind of DPSK) for nDPSK modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:NDPSK:PROTation	Sets or returns the Phase Rotation of nDPSK modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:PSK	Sets or returns the PSK modulation type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:QAM	Sets or returns the QAM Modulation type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:SRATe	Sets or returns the Digital Modulation Symbol Rate for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DMODulation:TYPe	Sets or returns the digital modulation type for the specified carrier in the carrier table.

Analog modulation commands

Table 2-5: Analog modulation commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:AMODulation:AMModulation:AMINdex	Creates the specified number of carriers in the carrier table.
RFGSignal:CARRier[n]:AMODulation:FMModulation:FDEViation	Sets or returns the Frequency Deviation for the FM Analog Modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:MFRequency	Sets or returns the Modulating Frequency of the sinusoidal, triangular, or square Modulating Signals for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:MSIGnal:FNAMe	Sets or returns the file name for User Defined Modulating Signal for the specified carrier in the carrier table.

Table 2-5: Analog modulation commands and their descriptions (cont.)

Command	Description
RFGSignal:CARRier[n]:AMODulation:MSIGnal:INTerpolation	Sets or returns the Interpolation type for User Defined Modulating Signal for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:MSIGnal:POFFset	Sets or returns the Phase Offset of the sinusoidal, triangular, or square Modulating Signals for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:MSIGnal:SRATe	Sets or returns the Sampling Rate for User Defined Modulating Signal for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:MSIGnal:TYPe	Sets or returns the Modulating Signal type for Analog Modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:PMModulation:PDEViation	Sets or returns the Phase Deviation for the PM Analog Modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:AMODulation:TYPe	Sets or returns the Analog Modulation type for the specified carrier in the carrier table.

Custom modulation commands

Table 2-6: Custom modulation commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:CMODulation:ADDMap	Adds the specified number of maps to the Custom Modulation table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:DELMap	Deletes a single Custom Modulation map for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:ISYMbol	Sets or returns the I symbol value of the currently selected Custom Modulation map for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:MMODe	Sets or returns the Modulation mode for the Custom Modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:MOFFset	Sets or returns the Offset modulation state (enabled or disabled) for Custom Modulation for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:QSYMbol	Sets or returns the Q symbol value of the currently selected Custom Modulation map for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:SELMap	Sets or returns the selected map in the Custom Modulation table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:CMODulation:SRATe	Sets or returns the Symbol Rate for the Custom Modulation for the specified carrier in the carrier table.

Data commands

Table 2-7: Data commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:DATA	Sets or returns the Data Pattern type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:CODing	Sets or returns the coding type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:FILE	Sets or returns the pattern file and file path for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:PATTern	Sets or returns the user defined data pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:PRBS	Sets or returns the PBRS data type to one of the selected PRBS types for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:RESet	Resets the User Defined PRBS polynomial expression and shift register to their default values for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS for the specified carrier in the carrier table.

Filter commands

Table 2-8: Filter commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:FILTer:ALPHa	Sets or returns the alpha (filter roll off) value for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:CLENgth	Sets or returns the Filter Convolution Length in symbols for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:FILe	Sets or returns the path of the filter file for user defined filter for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:TYPe	Sets or returns the Filter Type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:WINDow:CRIPple	Sets or returns the Chebyshev Ripple value when the Filter Window type is Chebyshev Ripple for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:WINDow:KAISer	Sets or returns the Kaiser Parameter when the Filter Window type is Kaiser for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:FILTer:WINDow:TYPE	Sets or returns the Filter Window type for the specified carrier in the carrier table.

Hopping commands

Table 2-9: Hopping commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:HOPPing:CUSTom:RLISt	Sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the specified carrier in the carrier table. When enabled, the Frequency Hop List repeats when the Hop List has been completed.
RFGSignal:CARRier[n]:HOPPing[:LIST]:ADD	Adds a single entry to the end of the Frequency Hop List or the Frequency Avoid List for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:AOFFset	Sets or returns the Amplitude Offset of the currently selected hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:COUNt?	Returns the number of hops in the Hop List or the number of entries in the Frequency Avoid List for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:DELete	Removes all entries within the Frequency Hop List or the Frequency Avoid List for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:FOFFset	Sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:FREQuency	Sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:HDURation	Sets or returns the Hop Duration of the currently selected hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:INSert	Inserts a single entry within the Frequency Hop List or the Frequency Avoid List for the specified carrier in the carrier table. The selected entry point must already exist in the table, otherwise an error is returned.
RFGSignal:CARRier[n]: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 specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing[:LIST]:SSINdex	Sets or returns the Symbol Start Index (Symbol Index) of the currently selected hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:PATTern	Sets or returns the Hopping Pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:PRBS	Sets or returns the Hopping PRBS pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:POLYnomial	Sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:RESet	Resets the Hopping User Defined PRBS type to its default value for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:SREGister	Sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:RANGe:ALISt[:ENABle]	Sets or returns the Frequency Avoid List state (enabled or disabled) for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.

Table 2-9: Hopping commands and their descriptions (cont.)

Command	Description
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MAXimum	Sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MINimum	Sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:SPACing	Sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:TIME	Sets or returns the Hop Time type for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:TIME:HPSecond	Sets or returns the Hops per Second for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:TIME:SPHop	Sets or returns the Symbols per Hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:HOPPing:TON	Sets or returns the Hopping state (enabled or disabled) for the specified carrier in the carrier table.

IQ impairments commands

Table 2-10: IQ impairments commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IOFFset	Sets or returns the I Offset percentage for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IQOFfset	Sets or returns the IQ Offset level for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:QOFFset	Sets or returns the Q Offset percentage for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:TON	Sets or returns the Carrier Leakage state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:IMBalance	Sets or returns the Imbalance percentage for IQ Imbalance for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:TON	Sets or returns the IQ Imbalance state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:IQSWap:TON	Sets or returns the Swap I & Q state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM2K	Sets or returns the k2 level for AM/AM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM3K	Sets or returns the k3 level for AM/AM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.

Table 2-10: IQ impairments commands and their descriptions (cont.)

Command	Description
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM2K	Sets or returns the k2 level for AM/PM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM3K	Sets or returns the k3 level for AM/PM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:TON	Sets or returns the Nonlinear Distortions state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:QERRor:ERRor	Sets or returns the I/Q Error percentage for Quadrature Error for IQ Impairments for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:IQIMpairment:QERRor:TON	Sets or returns the Quadrature Error state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Power ramp commands

Table 2-11: Power ramp commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:PRAMp:DTYPe	Sets or returns the Duration Units used for the Power Ramp table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:DURation	Sets or returns the Power Ramp Duration for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:FUNCtion	Sets or returns the Power Ramp Function for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:ILEVel	Sets or returns the Power Ramp Initial Level of the currently selected hop for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:ADD	Adds new entries to the Power Ramp table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:DELete	Deletes entries from the Power Ramp table for the specified carrier in the carrier table. An error is returned if the entry does not exist.
RFGSignal:CARRier[n]:PRAMp:LEVel:DURation	Sets or returns the Duration of the currently selected Power Ramp table index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:ESYMbol	Sets or returns the End Symbol of the currently selected Power Ramp table index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:POWer	Sets or returns the Power Level of the currently selected Power Ramp table index for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:SELect	Sets or returns the selected index (row) of the Power Ramp table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:LEVel:SSYMbol	Sets or returns the Start Symbol of the currently selected Power Ramp table index for the specified carrier in the carrier table.

Table 2-11: Power ramp commands and their descriptions (cont.)

Command	Description
RFGSignal:CARRier[n]:PRAMp:PEXTend	Sets or returns the Periodic Extend Power Levels state (enabled or disabled) for the Power Ramp table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:PRAMp:TON	Sets or returns the Power Ramp state (enabled or disabled) for the specified carrier in the carrier table.

Interference addition commands

Table 2-12: Interference addition commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:INTerference:ANOIse:BANDwidth	Sets or returns the Bandwidth for Additive Noise for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:ANOIse:EBNo	Sets or returns the Eb/No (bit energy per noise power) for Additive Noise for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:ANOIse:SNR	Sets or returns the SNR for Additive Noise for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:ANOIse:TON	Sets or returns the Additive Noise state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:FOFFset	Sets or returns the Frequency Offset frequency for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:FOFFset:TON	Sets or returns the Frequency Offset state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:SINusoidal:CI	Sets or returns the C/I level for Sinusoidal Interference for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:SINusoidal:COFFset	Sets or returns the Offset from Carrier frequency for Sinusoidal Interference for Interference Addition for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:INTerference:SINusoidal:TON	Sets or returns the Sinusoidal Interference state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.

Distortion commands

Table 2-13: Distortion commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM3K	Sets or returns the k3 level for AM/AM Distortions for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM5K	Sets or returns the k5 level for AM/AM Distortions for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:LLEVel	Sets or returns the Limiting Level value of amplifier distortion for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:OPOInt	Sets or returns the Operating Point value of amplifier distortion for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM3K	Sets or returns the k3 level for AM/PM Distortions for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM5K	Sets or returns the k5 level for AM/PM Distortions for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TON	Sets or returns the Distortion state (enabled or disabled) for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe	Sets or returns the amplifier Distortion type for the specified carrier in the carrier table.

Multipath commands

Table 2-14: Multipath commands and their descriptions

Command	Description
RFGSignal:CARRier[n]:MULTipath:ADDPath	Adds the specified number of paths in the Multipath table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:AMPLitude	Sets or returns the Multipath Amplitude of the currently selected path for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:DELay	Sets or returns the Multipath Delay in symbols of the currently selected path for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:DELPath	Deletes a single path in the Multipath table for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:PHASe	Sets or returns the Multipath Phase of the currently selected path for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:SELPath	Sets or returns the selected MultiPath table index (row) for the specified carrier in the carrier table.
RFGSignal:CARRier[n]:MULTipath:TURNon	Sets or returns the Multipath state (enabled or disabled) for the specified carrier in the carrier table.

S-Parameter commands

Table 2-15: S-Parameter commands and their descriptions

Command	Description
RFGSignal:SPARameter:SFORmat	Sets or returns the currently used signal format for all S-Parameter values.
RFGSignal:SPARameter:SFORmat:LIQ	Sets or returns the Couple Settings (I,Q) state. When enabled, all I and Q S-Parameters are linked together (chained) so that all parameters match between I and Q.
RFGSignal:SPARameter:TON	Sets or returns the S-Parameter state (enabled or disabled).
RFGSignal:SPARameter:BANDwidth	Sets or returns the S-Parameter bandwidth when setting manually.
RFGSignal:SPARameter:BANDwidth:AUTO	Sets or returns the S-Parameter automatic bandwidth calculation setting.
RFGSignal:SPARameter:CASCading:AGGRessor2[:ENABle]	Sets or returns the aggressor 2 signal type state (enabled or disabled) in Cascading mode. Aggressor2 signals are available when the number of ports is set to 12.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:AMPLitude	Sets or returns the specified Aggressor's amplitude, in Cascading mode.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:CTALk	Sets or returns the specified Aggressor's crosstalk type, in Cascading mode.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:DRATe	Sets or returns the specified Aggressor's data rate, in Cascading mode.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal	Sets or returns specified Aggressor's signal type, in Cascading mode.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE	Sets or returns the filepath to the aggressor file for the specified Aggressor, in Cascading mode.
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:PRBS	Sets or returns the specified Aggressor's PRBS signal type, in Cascading mode.
RFGSignal:SPARameter:CASCading:DEEMbed	Sets or returns whether the Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Cascading mode.
RFGSignal:SPARameter:CASCading:STAGe[m]:DRX[n]	Sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified receiver port number (Rx-Port) in Cascading mode and Differential Signalling Scheme (where applicable).
RFGSignal:SPARameter:CASCading:STAGe[m]:DTX[n]	Sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified transmission port number (Tx-Port) in Cascading mode and Differential Signalling Scheme (where applicable).
RFGSignal:SPARameter:CASCading:STAGe[m]:ENABle	Sets or returns the state of the specified Cascaded S-Parameter stage (enabled or disabled).
RFGSignal:SPARameter:CASCading:STAGe[m]:FILE	Sets or returns the filepath for the specified S-Parameters Cascading Stage, in Cascading mode.

Table 2-15: S-Parameter commands and their descriptions (cont.)

Command	Description
RFGSignal:SPARameter:CASCading:STAGe[m]:RX[n]	Sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified receiver port number (Rx-Port) in Cascading mode and Single-Ended Signalling Scheme (where applicable).
RFGSignal:SPARameter:CASCading:STAGe[m]:SSCHeme	Sets or returns the S-Parameter Signalling Scheme, in Cascading mode. Signalling Scheme is only available when the Number of Ports is set to 4, 8, or 12.
RFGSignal:SPARameter:CASCading:STAGe[m]:TX[n]	Sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified transmission port number (Tx-Port) in Cascading mode and Single-Ended Signalling Scheme (where applicable).
RFGSignal:SPARameter:CASCading:STYPe	Sets or returns S-Parameter signal type (victim or aggressor), in Cascading mode. The number of ports must be either 8 or 12.
RFGSignal:SPARameter:CASCading:TYPE	Sets or returns the S-Parameter number of ports, in Cascading mode.
RFGSignal:SPARameter:MODE	Sets or returns the S-Parameter mode (Cascading or Non-Cascading).
RFGSignal:SPARameter:NCAScading:AGGRessor2[:ENABle]	Sets or returns the aggressor 2 signal type state (enabled or disabled) in Non-Cascading mode. Aggressor2 signals are available when the number of ports is set to 12.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:AMPLitude	Sets or returns the specified Aggressor's amplitude, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:CTALk	Sets or returns the specified Aggressor's crosstalk type, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:DRATe	Sets or returns the specified Aggressor's data rate, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal	Sets or returns specified Aggressor's signal type, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:FILE	Sets or returns the filepath to the aggressor file for the specified Aggressor, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:PRBS	Sets or returns the specified Aggressor's PRBS signal type, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:DEEMbed	Sets or returns whether the Non-Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:DRX[n]	Sets or returns the S-Parameter port assignment of the channel's specified receiver port number (Rx-Port) in Non-Cascading mode and Differential Signalling Scheme (where applicable).
RFGSignal:SPARameter:NCAScading:DTX[n]	Sets or returns the S-Parameter port assignment of the channel's specified transmission port number (Tx-Port) in Non-Cascading mode and Differential Signalling Scheme (where applicable).
RFGSignal:SPARameter:NCAScading:FILE	Sets or returns the filepath and file name of the S-Parameter file, in Non-Cascading mode.

Table 2-15: S-Parameter commands and their descriptions (cont.)

Command	Description
RFGSignal:SPARameter:NCAScading:LAYout	Sets or returns the 4 port S-Parameter Matrix Configuration, in Non-Cascading mode.
RFGSignal:SPARameter:NCAScading:RX[n]	Sets or returns the S-Parameter port assignment of the channel's specified receiver port number (Rx-Port) in Non-Cascading mode and Single-Ended Signalling Scheme (where applicable).
RFGSignal:SPARameter:NCAScading:SSCHeme	Sets or returns the S-Parameter Signalling Scheme, in Non-Cascading mode. Signalling Scheme is only available when the Number of Ports is set to 4, 8, or 12.
RFGSignal:SPARameter:NCAScading:STYPe	Sets or returns S-Parameter signal type (victim or aggressor), in Non-Cascading mode. The number of ports must be either 8 or 12.
RFGSignal:SPARameter:NCAScading:TX[n]	Sets or returns the S-Parameter port assignment of the channel's specified transmission port number (Tx-Port) in Non-Cascading mode and Single-Ended Signalling Scheme (where applicable).
RFGSignal:SPARameter:NCAScading:TYPE	Sets or returns the S-Parameter number of ports, in Non-Cascading mode.

Sub Carrier Modulation commands

Table 2-16: Sub Carrier Modulation commands and their descriptions

Command	Description
RFGSignal:SCModulation:AMModulation:AMINdex	Sets or returns the AM Index for the AM Analog Modulation for the specified carrier in the carrier table.
RFGSignal:SCModulation:CFRequency	Sets or returns the Sub Carrier Modulation Carrier Frequency for the carriers in the carrier table.
RFGSignal:SCModulation:FMModulation:FDEViation	Sets or returns the Frequency Deviation for the FM Analog Modulation for the specified carrier in the carrier table.
RFGSignal:SCModulation:PMModulation:PDEViation	Sets or returns the Phase Deviation for the PM Sub Carrier Modulation for the carriers in the carrier table.
RFGSignal:SCModulation:TON	Sets or returns the Sub Carrier Modulation state (enabled or disabled) for all carriers in the carrier table.
RFGSignal:SCModulation:TYPE	Sets or returns the Sub Carrier Modulation type for the carriers in the carrier table.

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.

RFGSignal:CARRier:ADD (No Query Form)

This command creates the specified number of carriers in the carrier table. The carriers are created using the default settings and are added to the end of the existing list of carriers.

Group Carrier setup

Syntax `RFGSignal:CARRier:ADD <carriers>`

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

Examples `RFGSIGNAL:CARRIER:ADD 2` adds two carriers to the carrier table.

RFGSignal:CARRier:COUNt? (Query Only)

This query returns the carrier count in the carrier table.

Group Carrier setup

Syntax

```
RFGSignal:CARRier:COUNt?
RFGSignal:CARRier:COUNt?
```

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER:COUNT?` might return `3`, indicating that there are 3 carriers in the carrier table.

RFGSignal:CARRier[n]:AMODulation:AMModulation:AMINdex

This command sets or returns the AM Index for the AM Analog Modulation for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:AMModulation:AMINdex
<AM_index>
RFGSignal:CARRier[n]:AMODulation:AMModulation:AMINdex?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<AM_index>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:AMMODULATION:AMINDEX 3.5` sets the AM Index as 3.5 % for Analog Modulation for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:AMMODULATION:AMINDEX?` might return `30.0000000000`, indicating that the AM Index is set to 30° for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:FMModulation:FDEViation

This command sets or returns the Frequency Deviation for the FM Analog Modulation for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:FMModulation:FDEViation
<deviation>
RFGSignal:CARRier[n]:AMODulation:FMModulation:FDEViation?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<deviation>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:FMMODULATION:FDEVIATION 1E3` sets the FM Frequency Deviation to 1 kHz for Analog Modulation for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:FMMODULATION:FDEVIATION?` might return `1.4000000000E+3`, indicating that the FM Frequency Deviation is set to 1.4 kHz for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:MFRequency

This command sets or returns the Modulating Frequency of the sinusoidal, triangular, or square Modulating Signals for the specified carrier in the carrier table.

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

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MFRequency <frequency>
RFGSignal:CARRier[n]:AMODulation:MFRequency?
```

Related Commands RFGSignal:CARRier[n]:AMODulation:MSIGnal:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MFREQUENCY 10E6` sets the Modulating Frequency to 10 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:MFREQUENCY?` might return `1.0000000000E+6`, indicating that the Modulating Frequency is set to 1 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:MSIGnal:FNAMe

This command sets or returns the file name for User Defined Modulating Signal for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MSIGnal:FNAMe <filepath>
RFGSignal:CARRier[n]:AMODulation:MSIGnal:FNAMe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

Returns A single <filepath> string.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MSIGNAL:FNAME "C:\SAMPLEMODULATINGSCHEME.TXT"` sets the modulating signal file’s path and filename for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:MSIGnal:INTerpolation

This command sets or returns the Interpolation type for User Defined Modulating Signal for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MSIGnal:INTerpolation
{SINC|NNEighbor}
RFGSignal:CARRier[n]:AMODulation:MSIGnal:INTerpolation?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

SINC
NNEighbor = Nearest Neighbor

Returns SINC
NNE

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MSIGNAL:INTERPOLATION SINC` sets the Interpolation type to Sinc for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER2:AMODULATION:MSIGNAL:INTERPOLATION?` might return `NNE`, indicating that the Interpolation type is set to Nearest Neighbor for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:AMODulation:MSIGnal:POFFset

This command sets or returns the Phase Offset of the sinusoidal, triangular, or square Modulating Signals for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MSIGnal:POFFset
<phase_offset>
RFGSignal:CARRier[n]:AMODulation:MSIGnal:POFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<phase_offset>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MSIGNAL:POFFSET 10` sets the modulating signal's phase offset to 10 degrees for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:MSIGNAL:POFFSET?` might return `11.0000000000`, indicating that the modulating signal’s phase offset is set to 11 degrees for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:MSIGnal:SRATe

This command sets or returns the Sampling Rate for User Defined Modulating Signal for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MSIGnal:SRATe
<sampling_rate>
RFGSignal:CARRier[n]:AMODulation:MSIGnal:SRATe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<sampling_rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MSIGNAL:SRATE 100E6` sets the User Defined modulating signal's sampling rate to 100 MS/s for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:MSIGNAL:SRATE?` might return `150.0000000000E+6`, indicating that the user defined modulating signal's sampling rate is set to 150 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:MSIGnal:TYPe

This command sets or returns the Modulating Signal type for Analog Modulation for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:MSIGnal:TYPe
{SINusoidal|TRIangular|SQUare|UDEFined}
RFGSignal:CARRier[n]:AMODulation:MSIGnal:TYPe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

Returns
SIN
TRI
SQU
UDEF

Examples `RFGSIGNAL:CARRIER1:AMODULATION:MSIGNAL:TYPE SIN` sets the Modulating Signal type to SINUSOIDAL for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:MSIGNAL:TYPE?` might return `UDEF`, indicating that the Modulating Signal type is set to User Defined for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:PMModulation:PDEViation

This command sets or returns the Phase Deviation for the PM Analog Modulation for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:PMModulation:PDEViation
<phase_deviation>
RFGSignal:CARRier[n]:AMODulation:PMModulation:PDEViation?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<phase_deviation>::= <NR3> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:PMMODULATION:PDEVIATION 11.5` sets the PM Phase Deviation to 11.5° for Analog Modulation for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER2:AMODULATION:PMMODULATION:PDEVIATION?` might return `10.0000000000`, indicating that the PM Phase Deviation is set to 10° for the carrier at index 3.

RFGSignal:CARRier[n]:AMODulation:TYPe

This command sets or returns the Analog Modulation type for the specified carrier in the carrier table.

Group Analog modulation

Syntax

```
RFGSignal:CARRier[n]:AMODulation:TYPe {AM|FM|PM}
RFGSignal:CARRier[n]:AMODulation:TYPe?
```

Related Commands RFGSignal:CARRier[n]:TYPE

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

`AM, FM, and PM` are the Analog Modulation types.

Returns `AM, FM, or PM` indicating the analog modulation type.

Examples `RFGSIGNAL:CARRIER1:AMODULATION:TYPE FM` sets the Analog Modulation type to FM for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:AMODULATION:TYPE?` might return `PM`, indicating that the Analog Modulation type is set to Phase Modulation for the carrier at index 3.

RFGSignal:Carrier[n]:BBOFfset

This command sets or returns the base band Offset for the specified carrier in the carrier table.

Conditions Applicable when the signal type is set to IQ.

Group Carrier setup

Syntax

```
RFGSignal:Carrier[n]:BBOFfset <offset>
RFGSignal:Carrier[n]:BBOFfset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<offset>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:BBOFFSET 2E9` sets the base band Offset to 2 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:BBOFFSET?` might return `4.0000000000E+9`, indicating that the base band Offset frequency is set to 4 GHz for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:ADDMap (No Query Form)

This command adds the specified number of maps to the Custom Modulation table for the specified carrier in the carrier table.

Group Custom modulation

Syntax `RFGSignal:CARRier[n]:CMODulation:ADDMap <maps>`

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<maps>::= <NR1> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:ADDMAP 2` adds 2 new maps at the end of the Custom Modulation table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:CMODulation:DELMap (No Query Form)

This command deletes a single Custom Modulation map for the specified carrier in the carrier table.

Group Custom modulation

Syntax `RFGSignal:CARRier[n]:CMODulation:DELMap <index>`

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:DELMAP 2` deletes map 2 in the Custom Modulation table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:CMODulation:ISYMbol

This command sets or returns the I symbol value of the currently selected Custom Modulation map for the specified carrier in the carrier table.

Group Custom modulation

Syntax `RFGSignal:CARRier[n]:CMODulation:ISYMbol <I_symbol>`

Related Commands RFGSignal:CARRier[n]:CMODulation:SELMap

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<I_symbol>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:ISYMBOL 25` sets the I symbol value of the currently selected map to 25 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:ISYMBOL?` might return `5.0000000000`, indicating that the I symbol value of the currently selected map is set to 5 for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:MMODe

This command sets or returns the Modulation mode for the Custom Modulation for the specified carrier in the carrier table.

Group Custom modulation

Syntax

```
RFGSignal:CARRier[n]:CMODulation:MMODe {NORMal|DIFFerential}
RFGSignal:CARRier[n]:CMODulation:MMODe?
```

Related Commands RFGSignal:CARRier[n]:TYPE

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

NORMal

DIFFerential

Returns NORM
DIFF

Examples `RFGSIGNAL:CARRIER1:CMODULATION:MMODE NORM` sets the Modulation mode for Custom Modulation to Normal for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:MMODE?` might return `DIFF`, indicating that the Modulation mode for Custom Modulation is set to Differential for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:MOFFset

This command sets or returns the Offset modulation state (enabled or disabled) for Custom Modulation for the specified carrier in the carrier table.

Group Custom modulation

Syntax

```
RFGSignal:CARRier[n]:CMODulation:MOFFset {1|0|ON|OFF}
RFGSignal:CARRier[n]:CMODulation:MOFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Offset modulation. OFF or 0 is the default value.

ON or 1 enables Offset modulation.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:MOFFSET 1` enables Offset modulation for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:MOFFSET?` might return `0`, indicating that Offset modulation is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:QSYMbol

This command sets or returns the Q symbol value of the currently selected Custom Modulation map for the specified carrier in the carrier table.

Group Custom modulation

Syntax `RFGSignal:CARRier[n]:CMODulation:QSYMbol <Q_symbol>`

Related Commands RFGSignal:CARRier[n]:CMODulation:SELMap

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<Q_symbol>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:QSYMBOL 25` sets the Q symbol value of the currently selected map to 25 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:QSYMBOL?` might return `5.0000000000`, indicating that the Q symbol value of the currently selected map is set to 5 for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:SELMap

This command sets or returns the selected map in the Custom Modulation table for the specified carrier in the carrier table.

Group Custom modulation

Syntax

```
RFGSignal:CARRier[n]:CMODulation:SELMap <index>
RFGSignal:CARRier[n]:CMODulation:SELMap?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:SELMAP 3` selects the third map in the Custom Modulation table for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:SELMAP?` might return `2.0000000000`, indicating that the second map in the Custom Modulation table is selected for the carrier at index 3.

RFGSignal:CARRier[n]:CMODulation:SRATe

This command sets or returns the Symbol Rate for the Custom Modulation for the specified carrier in the carrier table.

Group Custom modulation

Syntax

```
RFGSignal:CARRier[n]:CMODulation:SRATe <rate>
RFGSignal:CARRier[n]:CMODulation:SRATe?
```

Related Commands RFGSignal:CARRier[n]:TYPE

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:CMODULATION:SRATE 10E6` sets the Custom Modulation Symbol Rate to 10 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:CMODULATION:SRATE?` might return `11.0000000000E+6`, indicating that the Custom Modulation Symbol Rate is set to 11 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:DATA

This command sets or returns the Data Pattern type for the specified carrier in the carrier table. 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 Data

Syntax

```
RFGSignal:CARRier[n]:DATA {AZERo|AONe|PRBS|PATTern|FILe}
RFGSignal:CARRier[n]:DATA?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

`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 RFGSignal:CARRier[n]:DATA:PRBS to set and query the actual PRBS data type.

`PATTern` is a pattern data type. Use the command RFGSignal:CARRier[n]:DATA:FILE to set and query the pattern.

`FILe` is a file data type. Use the command RFGSignal:CARRier[n]:DATA:FILE to set and query the pattern file and file path.

Returns

AZER
AON
PRBS
PATT
FIL

Examples `RFGSIGNAL:CARRIER1:DATA AONE` sets the Data Type to All ones for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA?` might return `AONe`, indicating that the Data Type is set to all ones for the carrier at index 3.

RFGSignal:CARRier[n]:DATA:CODing

This command sets or returns the coding type for the specified carrier in the carrier table.

Group Data

Syntax

```
RFGSignal:CARRier[n]:DATA:CODing {NONe|GRAY|DIFFerential}
RFGSignal:CARRier[n]:DATA:CODing?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

NONe: No coding applied.

GRAY: Applies gray coding to the information bits.

DIFFerential: Applies differential coding to the information bits.

Returns

NON
GRAY
DIFFerential

Examples `RFGSIGNAL:CARRIER1:DATA:CODING GRAY` sets the coding to gray for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:CODING?` might return `NON`, indicating no coding is applied to the carrier at index 3.

RFGSignal:CARRier[n]:DATA:FILE

This command sets or returns the pattern file and file path for the specified carrier in the carrier table.

Conditions The Data Pattern type must be set to File with the command RFGSignal:CARRier[n]:DATA.

Group Data

Syntax `RFGSignal:CARRier[n]:DATA:FILE <filepath>`

Related Commands RFGSignal:CARRier[n]:DATA

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<filepath>::= <string>.

Returns A single <filepath> string.

Examples `RFGSIGNAL:CARRIER1:DATA:FILE "C:\temp\dataPattern.txt"` sets the pattern file and path for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:FILE?` might return `"C:\temp\dataPattern.txt"` as the filepath for the carrier at index 3.

RFGSignal:CARRier[n]:DATA:PATTern

This command sets or returns the user defined data pattern for the specified carrier in the carrier table.

Conditions The Data Pattern type must be set to Pattern with the command RFGSignal:CARRier[n]:DATA.

Group Data

Syntax `RFGSignal:CARRier[n]:DATA:PATTern <pattern>`

Related Commands RFGSignal:CARRier[n]:DATA

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<pattern>::= <string>.

Returns A single <pattern> string.

Examples `RFGSIGNAL:CARRIER1:DATA:PATTERN "11001111"` sets the data pattern for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:PATTERN?` might return `"11001101"`, indicating this is the set data pattern for the carrier at index 3.

RFGSignal:CARRier[n]:DATA:PRBS

This command sets or returns the PBRS data type when the data Pattern is set to PRBS for the specified carrier in the carrier table.

Group Data

Syntax

```
RFGSignal:CARRier[n]:DATA:PRBS {PRBS7|PRBS9|PRBS15|PRBS16
|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFined}
RFGSignal:CARRier[n]:DATA:PRBS?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

When setting to UDEF (User Defined), use the commands RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:POLYnomial and RFGSignal:CARRier[n]: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 `RFGSIGNAL:CARRIER1:DATA:PRBS PRBS15` sets the PRBS Data Type to PRBS 15 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:PRBS?` might return `PRBS15`, indicating that the PRBS Data Type is set to PRBS15 for the carrier at index 3.

RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.

Group Data

Syntax

```
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:POLYnomial
<polynomial>
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:POLYnomial?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<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 `RFGSIGNAL:CARRIER1:DATA:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the User Defined PRBS Polynomial Expression to X12+X11+1 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the User Defined PRBS Polynomial Expression for the carrier at index 3.

RFGSignal:CARRier[n]: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 specified carrier in the carrier table.

Group Data

Syntax `RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:RESet`

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

Examples `RFGSIGNAL:CARRIER1:DATA:PRBS:UDEFINED:RESET` resets the User Defined PRBS polynomial expression and shift register values for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:SREGister

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS for the specified carrier in the carrier table.

Group Data

Syntax

```
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:SREGister
<shift_register>
RFGSignal:CARRier[n]:DATA:PRBS:UDEFined:SREGister?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<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 `RFGSIGNAL:CARRIER1:DATA:PRBS:UDEFINED:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DATA:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the User Defined PRBS shift register for the carrier at index 3.

RFGSignal:CARRier[n]:DELete (No Query Form)

This command deletes the specified carrier from the carrier table.

Group Carrier setup

Syntax `RFGSignal:CARRier[n]:DELete`

Related Commands RFGSignal:CARRier:COUNt?

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

Examples `RFGSignal:CARRier3:DELete` deletes carrier 3 from the carrier table.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM3K

This command sets or returns the k3 level for AM/AM Distortions for the specified carrier in the carrier table.

The Distortion type must be set to Non linear.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM3K <level>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM3K?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:AM3K –1` sets the AM/AM k3 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:AM3K?` might return `-1.0000000000`, indicating that the AM/AM k3 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM5K

This command sets or returns the k5 level for AM/AM Distortions for the specified carrier in the carrier table.

The Distortion type must be set to Non linear.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM5K <level>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:AM5K?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:AM5K –1` sets the AM/AM k5 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:AM5K?` might return `-1.0000000000`, indicating that the AM/AM k5 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:LLEVel

This command sets or returns the Limiting Level value of amplifier distortion for the specified carrier in the carrier table.

The Distortion type must be set to Soft Limiting.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:LLEVel <level>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:LLEVel?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:LLEVEL 10` sets the Limiting Level value to 10 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:LLEVEL?` might return `100.0000000000E-3`, indicating that the Limiting Level value is set to 0.1 for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:OPOInt

This command sets or returns the Operating Point value of amplifier distortion for the specified carrier in the carrier table.

The Distortion type must be set to Non linear.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:OPOInt <value>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:OPOInt?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<value>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:OPOINT 10` sets the Operating Point value to 10 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:OPOINT?` might return `15`, indicating that the Operating Point value is set to 3 % for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM3K

This command sets or returns the k3 level for AM/PM Distortions for the specified carrier in the carrier table.

The Distortion type must be set to Non linear.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM3K <level>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM3K?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:PM3K –1` sets the AM/PM k3 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:PM3K?` might return `-1.0000000000`, indicating that the AM/PM k3 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM5K

This command sets or returns the k5 level for AM/PM Distortions for the specified carrier in the carrier table.

The Distortion type must be set to Non linear.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM5K <level>
RFGSignal:CARRier[n]:DISTortion:AMPLifier:PM5K?
```

Related Commands RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:PM5K –1` sets the AM/PM k5 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:PM5K?` might return `-1.0000000000`, indicating that the AM/PM k5 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:TON

This command sets or returns the Distortion state (enabled or disabled) for the specified carrier in the carrier table.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Distortion. OFF or 0 is the default value.

ON or 1 enables Distortion.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:TON 1` enables the Distortion for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DISTORTION:AMPLIFIER:TON?` might return `0`, indicating that the Distortion is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe

This command sets or returns the amplifier Distortion type for the specified carrier in the carrier table.

Group Distortion

Syntax

```
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe
{NLINear|SLIMiting|HLIMiting}
RFGSignal:CARRier[n]:DISTortion:AMPLifier:TYPe
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

NLINear = Non linear.

SLIMiting = Soft Limiting.

HLIMiting = Hard Limiting.

Returns

NLIN
SLIM
HLIM

Examples `RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:TYPE NLINear` sets the amplifier Distortion type to Non Linear for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER1:DISTORTION:AMPLIFIER:TYPE?` might return `SLIM`, indicating that the amplifier Distortion type is set to Soft Limiting for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:APSK

This command sets or returns the APSK Modulation type for the specified carrier in the carrier table.

APSK Modulation requires further definition. See related commands.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:APSK {APSK16|APSK32|APSK64}
RFGSignal:CARRier[n]:DMODulation:APSK?
```

Related Commands

RFGSignal:CARRier[n]:DMODulation:APSK:SRINg
RFGSignal:CARRier[n]:DMODulation:APSK:SYMBols
RFGSignal:CARRier[n]:DMODulation:APSK:RADius
RFGSignal:CARRier[n]:DMODulation:APSK:PROTation

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

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

Examples `RFGSIGNAL:CARRIER1:DMODULATION:APSK APSK32` sets the APSK Modulation type to 32 APSK for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:APSK?` might return `APSK32`, indicating that the APSK Modulation type is set to 32 APSK for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:APSK:PROTation

This command sets or returns the Phase Rotation of the selected APSK Ring Index for the specified carrier in the carrier table.

Use the command RFGSignal:CARRier[n]:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:APSK:PROTation <rotation>
RFGSignal:CARRier[n]:DMODulation:APSK:PROTation?
```

Related Commands RFGSignal:CARRier[n]:DMODulation:APSK:SRINg

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<rotation>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:APSK:PROTATION 45` sets the selected APSK Phase Rotation to 45 degrees for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:APSK:PROTATION?` might return `180.0000000000`, indicating that the selected APSK Phase Rotation is set to 180 degrees for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:APSK:RADius

This command sets or returns the Radius of the selected APSK Ring Index for the specified carrier in the carrier table.

Use the command RFGSignal:CARRier[n]:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:APSK:RADius <radius>
RFGSignal:CARRier[n]:DMODulation:APSK:RADius?
```

Related Commands RFGSignal:CARRier[n]:DMODulation:APSK:SRINg

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<radius>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:APSK:RADIUS 10` sets the selected APSK Radius to 10 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:APSK:RADIUS?` might return `4.5800000000`, indicating that the selected APSK Radius is set to 4.58 for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:APSK:SRINg

This command sets or returns the selected APSK Ring Index for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:APSK:SRINg <index>
RFGSignal:CARRier[n]:DMODulation:APSK:SRINg?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:APSK:SRING 2` sets the selected APSK Ring Index to 2 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:APSK:SRING?` might return `2.0000000000`, indicating that the selected APSK Ring Index is 2 for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:APSK:SYMBols

This command sets or returns the Number of Symbols of the selected APSK Ring Index for the specified carrier in the carrier table.

Use the command RFGSignal:CARRier[n]:DMODulation:APSK:SRINg to set or query the selected APSK Ring Index setting.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:APSK:SYMBols <symbols>
RFGSignal:CARRier[n]:DMODulation:APSK:SYMBols?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<symbols>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:APSK:SYMBOLS 12` sets the APSK Number of Symbols to 12 for the selected APSK ring index.

`RFGSIGNAL:CARRIER3:DMODULATION:APSK:SYMBOLS?` might return `12.0000000000`, indicating that the selected APSK Symbol count is set to 12 for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:ASK:MINDex

This command sets or returns the ASK Mod Index for ASK modulation for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:ASK:MINDex <mod_index>
RFGSignal:CARRier[n]:DMODulation:ASK:MINDex?
```

Related Commands RFGSignal:CARRier[n]:DMODulation:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<mod_index>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:ASK:MINDEX 10` sets the ASK Mod Index value to 10% for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:ASK:MINDEX?` might return `2.5000000000`, indicating that the ASK Mod Index value is set to 2.5% for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:CPM:MINDex

This command sets or returns the Index for CPM modulation for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:CPM:MINDex {1|2|3|4|5|6}
RFGSignal:CARRier[n]:DMODulation:CPM:MINDex?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:DMODULATION:CPM:MINDEX 2` sets the CPM modulation type to 5/16, 6/16 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:CPM:MINDEX?` might return `4.0000000000`, indicating that the CPM modulation index value is set to 7/16, 10/16 for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:FSK

This command sets or returns the FSK Modulation type for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:FSK
{FSK2|FSK4|FSK8|FSK16|FSK32}
RFGSignal:CARRier[n]:DMODulation:FSK?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

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

Examples `RFGSIGNAL:CARRIER1:DMODULATION:FSK FSK32` sets the FSK modulation type to 32 FSK for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:FSK?` might return `FSK32`, indicating that the FSK Modulation type is set to 32 FSK for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:FSK:PDEViation

This command sets or returns the FSK Peak Deviation for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:FSK:PDEViation
<peak_deviation>
RFGSignal:CARRier[n]:DMODulation:FSK:PDEViation?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<peak_deviation>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:FSKPDEVIATION 1E6` sets the FSK Peak Deviation to 1 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:FSKPDEVIATION?` might return `2.0000000000E+6`, indicating that the FSK Peak Deviation is set to 2 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:NDPSK:INDex

This command sets or returns the ‘n’ value (the kind of DPSK) for nDPSK modulation for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:NDPSK:INDex <n_value>
RFGSignal:CARRier[n]:DMODulation:NDPSK:INDex?
```

Related Commands RFGSignal:CARRier[n]:DMODulation:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:NDPSK:INDEX 4` sets the nDPSK number of symbols to 4 symbols for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:NDPSK:INDEX?` may return `8.0000000000`, indicating that the number of DPSK symbols is set to 8 for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:NDPSK:PROTation

This command sets or returns the Phase Rotation of nDPSK modulation for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:NDPSK:PROTation <rotation>
RFGSignal:CARRier[n]:DMODulation:NDPSK:PROTation?
```

Related Commands RFGSignal:CARRier[n]:DMODulation:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<rotation>::= <NR1> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:NDPSK:PROTATION 45` sets the nDPSK phase rotation to 45 degrees for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:NDPSK:PROTATION?` might return `180.0000000000`, indicating that the nDPSK Phase Rotation is set to 180 degrees for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:PSK

This command sets or returns the PSK modulation type for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:PSK {QPSK|PI2QPSK|PI4QPSK
|PI4DQPSK|OQPSK|BPSK|NDPSK|PSK8|PI2PSK8|OPSK8|SDPSK
|SBPSK|SOQPSK|DQPSK}
RFGSignal:CARRier[n]:DMODulation:PSK?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:DMODULATION:PSK PI2QPSK` sets the PSK Modulation type to π/2 QPSK for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:PSK?` might return `PI2QPSK`, indicating that the PSK Modulation type is set to π/2 QPSK for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:QAM

This command sets or returns the QAM Modulation type for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:QAM {QAM16|PI2QAM16|QAM32
|QAM64|QAM128|QAM256|QAM512|QAM1024}
RFGSignal:CARRier[n]:DMODulation:QAM?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:DMODULATION:QAM QAM32` sets the QAM modulation type to 32 QAM for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:QAM?` might return `QAM32`, indicating that the QAM Modulation type is set to 32 QAM for the carrier at index 3.

RFGSignal:CARRier[n]:DMODulation:SRATe

This command sets or returns the Digital Modulation Symbol Rate for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:SRATe <rate>
RFGSignal:CARRier[n]:DMODulation:SRATe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:DMODULATION:SRATE 2E9` sets the Symbol Rate to 2 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:SRATE?` might return `10.0000000000E+6`, indicating that the Symbol Rate is set to 10 MHz for the carrier at index 3

RFGSignal:CARRier[n]:DMODulation:TYPe

This command sets or returns the digital modulation type for the specified carrier in the carrier table.

Group Digital modulation

Syntax

```
RFGSignal:CARRier[n]:DMODulation:TYPe
{GMSK|ASK|OOK|CPM|PSK|APSK|QAM|FSK}
RFGSignal:CARRier[n]:DMODulation:TYPe?
```

Related Commands

RFGSignal:CARRier[n]:DMODulation:PSK
RFGSignal:CARRier[n]:DMODulation:APSK
RFGSignal:CARRier[n]:DMODulation:QAM
RFGSignal:CARRier[n]:DMODulation:FSK:PDEViation

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

`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 `RFGSIGNAL:CARRIER1:DMODULATION:TYPE OOK` sets the digital modulation type to OOK for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:DMODULATION:TYPE?` might return `OOK`, indicating that the digital modulation type is set to OOK for the carrier at index 3.

RFGSignal:CARRier[n]:FILTer:ALPHa

This command sets or returns the Alpha (filter roll off) value for the specified carrier in the carrier table.

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

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:ALPHa <alpha>
RFGSignal:CARRier[n]:FILTer:ALPHa?
```

Related Commands RFGSignal:CARRier[n]:FILTer:TYPe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<alpha>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:FILTER:ALPHA 0.23` sets the Alpha filter roll off value to 0.23 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:ALPHA?` may return `230.0000000000E-3`, indicating that the Alpha filter roll off value is set to 0.23 for the carrier at index 3.

RFGSignal:CARRier[n]:FILTer:CLENgth

This command sets or returns the Filter Convolution Length in symbols for the specified carrier in the carrier table.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:CLENgth <length>
RFGSignal:CARRier[n]:FILTer:CLENgth?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<length>::= <NR3> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:FILTER:CLENGTH 21` sets the Convolution Length to 21 symbols for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:CLENGTH?` might return `21.0000000000`, indicating that the Convolution Length is set to 21 symbols for the carrier at index 3 .

RFGSignal:CARRier[n]:FILTer:FILe

This command sets or returns the path of the filter file for user defined filter for the specified carrier in the carrier table.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:FILe <filepath>
RFGSignal:CARRier[n]:FILTer:FILe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<filepath>::= <string>.

Returns A single <filepath> string.

Examples `RFGSignal:CARRier1:FILTer:FILe "c:\test\filter_file.txt"` sets the filter file name to c:\test\filter_file.txt for the carrier at index 1 in the carrier table.

`RFGSignal:CARRier3:FILTer:FILe?` might return `"c:\test\filter_file.txt"` for the filter file for the carrier at index 3.

RFGSignal:CARRier[n]:FILTer:TYPe

This command sets or returns the Filter Type for the specified carrier in the carrier table.

Available filters is dependent on the Modulation type selected.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:TYPe
{RECTangular|RCOSine|RRCosine|GAUSsian|TRIAngular|EDGe|HSINe
|SBPSKMIL|SBPSKSINE|SOQPSKMIL|SOQPSKTG|SOQPSKA|SOQPSKB
|UDEFined}
RFGSignal:CARRier[n]:FILTer:TYPe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 RFGSignal:CARRier[n]: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 `RFGSIGNAL:CARRIER1:FILTER:TYPE RRCOSINE` sets the Filter Type to Root Raised Cosine for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:TYPE?` might return `RRC`, indicating that the Filter Type is set to Root Raised Cosine for the carrier at index 3.

RFGSignal:CARRier[n]:FILTer:WINDow:CRIPple

This command sets or returns the Chebyshev Ripple value when the Filter Window type is Chebyshev Ripple for the specified carrier in the carrier table.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:WINDow:CRIPple <ripple>
RFGSignal:CARRier[n]:FILTer:WINDow:CRIPple?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<ripple>::=<NR3> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:FILTER:WINDOW:CRIPPLE 12` sets the Chebyshev Ripple value to 12 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:WINDOW:CRIPPLE?` might return `10.0000000000`, indicating that the Chebyshev Ripple value for the carrier at index 3 is set to is 10 dB.

RFGSignal:CARRier[n]:FILTer:WINDow:KAISer

This command sets or returns the Kaiser Parameter when the Filter Window type is Kaiser for the specified carrier in the carrier table.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:WINDow:KAISer <parameter>
RFGSignal:CARRier[n]:FILTer:WINDow:KAISer?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<parameter>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:FILTER:WINDOW:KAISER 2` sets the Kaiser Parameter to 2 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:WINDOW:KAISER?` might return `2`, indicating that the Kaiser parameter for the carrier at index 3 is set to 2 dB.

RFGSignal:CARRier[n]:FILTer:WINDow:TYPE

This command sets or returns the Filter Window type for the specified carrier in the carrier table.

Group Filter

Syntax

```
RFGSignal:CARRier[n]:FILTer:WINDow:TYPE {NONe|TRIAgular
 |HAMMing|HANNing|BLACkman|KAISer|BHARris|EBLackman
 |FTOP|TCOSine|CRIPple}
RFGSignal:CARRier[n]:FILTer:WINDow:TYPE?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:FILTER:WINDOW:TYPE CRIPPLE` sets the Filter Window type to Chebyshev Ripple for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:FILTER:WINDOW:TYPE?` might return `CRIP`, indicating that the Filter Window type for the carrier at index 3 is set to Chebyshev Ripple.

RFGSignal:CARRier[n]:FREQuency

This command sets or returns the Carrier Frequency for the specified carrier in the carrier table.

Group Carrier setup

Syntax

```
RFGSignal:CARRier[n]:FREQuency <frequency>
RFGSignal:CARRier[n]:FREQuency?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::=<NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:FREQUENCY 2E9` sets the Carrier Frequency to 2 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER2:FREQUENCY?` might return `1.0000000000E+9`, indicating that the Carrier Frequency for the carrier at index 2 is set to 1 GHz.

RFGSignal:CARRier[n]:HOPPing:CUSTom:RLISt

This command sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the specified carrier in the carrier table. 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 Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:CUSTom:RLISt {1|0|ON|OFF}
RFGSignal:CARRier[n]:HOPPing:CUSTom:RLISt?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing:TIME

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:HOPPING:CUSTOM:RLIST 1` enables the Repeat List so that the Frequency Hop List repeats when the Hop List has been completed for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:CUSTOM:RLIST?` might return `0`, indicating that the Repeat List is disabled so that the Frequency Hop List is not repeated for the carrier at index 3.

RFGSignal:CARRier[n]: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 specified carrier in the carrier table.

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 Hopping

Syntax `RFGSignal:CARRier[n]:HOPPing[:LIST]:ADD`

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:ADD` adds a single entry to current hopping list for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:HOPPing[:LIST]:AOFFset

This command sets or returns the Amplitude Offset of the currently selected hop for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:AOFFset <offset>
RFGSignal:CARRier[n]:HOPPing[:LIST]:AOFFset?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<offset>::= <NR3> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:AOFFSET -10` sets the Amplitude Offset of the currently selected hop to –10 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:LIST:AOFFSET?` might return `-15.0000000000`, indicating that the Amplitude Offset of the currently selected hop is set to –15 dB for the carrier at index 3.

RFGSignal:CARRier[n]: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 specified carrier in the carrier table.

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 Hopping

Syntax `RFGSignal:CARRier[n]:HOPPing[:LIST]:COUNt?`

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:COUNT?` might return `15`, indicating that there are 15 entries in the list for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:HOPPing[:LIST]:DELete (No Query Form)

This command removes all entries within the Frequency Hop List or the Frequency Avoid List for the specified carrier in the carrier table.

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 Hopping

Syntax `RFGSignal:CARRier[n]:HOPPing[:LIST]:DELete {ALL|<index>}`

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

ALL – Deletes all entries of the current hopping list.

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

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:DELETE ALL` removes all entries from the current hopping list for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:HOPPing[:LIST]:FOFFset

This command sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:FOFFset <offset>
RFGSignal:CARRier[n]:HOPPing[:LIST]:FOFFset?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<offset>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:FOFFSET 1E9` sets the Frequency Offset of the currently selected hop to 1 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:HOPPing[:LIST]:FREQuency

This command sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:FREQuency <frequency>
RFGSignal:CARRier[n]:HOPPing[:LIST]:FREQuency?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:FREQUENCY 1E9` sets the Frequency of the currently selected hop to 1 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:FREQUENCY?` might return `100.0000000000E+6`, indicating that the Frequency of the currently selected hop is set to 100 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing[:LIST]:HDURation

This command sets or returns the Hop Duration of the currently selected hop for the specified carrier in the carrier table.

The Hopping Pattern must set to Custom.

The Hop Time must be set to Hop Duration.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:HDURation <duration>
RFGSignal:CARRier[n]:HOPPing[:LIST]:HDURation?
```

Related Commands

RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing:TIME
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<duration>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:HDURATION 1E-6` sets the Hop Duration of the currently selected hop to 1 µs for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:HOPPing[:LIST]:INSert (No Query Form)

This command inserts a single entry within the Frequency Hop List or the Frequency Avoid List for the specified carrier in the carrier table. 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 Hopping

Syntax `RFGSignal:CARRier[n]:HOPPing[:LIST]:INSert <insertion>`

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<insertion>::= <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:INSERT 10` inserts a single entry at the 10th index of the current hopping list for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]: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 specified carrier in the carrier table.

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 Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect <index>
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:SELECT 3` selects index 3 in the hopping table (Hop list or Avoid list) for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:LIST:SELECT?` might return `1`, indicating that index 1 in the hopping table (Hop list or Avoid list) is currently selected for modification for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing[:LIST]:SSINdex

This command sets or returns the Symbol Start Index (Symbol Index) of the currently selected hop for the specified carrier in the carrier table.

The Hopping Pattern must set to Custom.

The Hop Time must be set to Symbol Start Index.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing[:LIST]:SSINdex <start_index>
RFGSignal:CARRier[n]:HOPPing[:LIST]:SSINdex?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern
RFGSignal:CARRier[n]:HOPPing:TIME
RFGSignal:CARRier[n]:HOPPing[:LIST]:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<start_index>::= <NR1> value.

Returns a single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:LIST:SSINDEX 10` sets the Symbol Start Index of the currently selected hop to symbol 10 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:SSINDEX?` might return `6`, indicating that the Symbol Start Index of the currently selected hop is set to 6 for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:PATTern

This command sets or returns the Hopping Pattern for the specified carrier in the carrier table.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:PATTern {CUSTom|LIST|RANGe}
RFGSignal:CARRier[n]:HOPPing:PATTern?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

CUSTom = Custom hopping pattern.

LIST = Pseudo Random List hopping pattern.

RANGe = Pseudo Random Range hopping pattern.

Returns

CUST
LIST
RANG

Examples `RFGSIGNAL:CARRIER1:HOPPING:PATTERN LIST` sets the Hopping Pattern to be Pseudo Random List for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:PATTERN?` might return `RANG`, indicating that the Hopping Pattern is set to Pseudo Random Range for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:PRBS

This command sets or returns the Hopping PRBS pattern for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29
|PRBS31|UDEFined}
RFGSignal:CARRier[n]:HOPPing:PRBS?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

When setting to UDEF (User Defined), use the commands RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:POLYnomial and RFGSignal:CARRier[n]: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 `RFGSIGNAL:CARRIER1:HOPPING:PRBS PRBS21` sets the Hopping PRBS to PRBS 21 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:PRBS?` might return `PRBS15`, indicating that the Hopping PRBS is set to PRBS15 for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:POLYnomial

This command sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:POLYnomial
<polynomial>
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:POLYnomial?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<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 `RFGSIGNAL:CARRIER1:HOPPING:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1"` sets the Hopping User Defined PRBS polynomial expression to X12+X11+1 for the carrier 2.

`RFGSIGNAL:CARRIER3:HOPPING:PRBS:UDEFINED:POLYNOMIAL?` might return `"X12+X11+1"`, indicating this is the Hopping User Defined PRBS polynomial for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:RESet (No Query Form)

This command resets the Hopping User Defined PRBS type to its default value for the specified carrier in the carrier table.

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

Group Hopping

Syntax `RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:RESet`

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

Examples `RFGSIGNAL:CARRIER1:HOPPING:PRBS:UDEFINED:RESET` resets the Hopping User Defined PRBS type for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:SREGister

This command sets or returns the Hopping PRBS Polynomial Expression for the User Defined PRBS for the specified carrier in the carrier table.

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

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:SREGister
<polynomial>
RFGSignal:CARRier[n]:HOPPing:PRBS:UDEFined:SREGister?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<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 `RFGSIGNAL:CARRIER1:HOPPING:PRBS:UDEFINED:SREGISTER "11011"` sets the Hopping User Defined PRBS Shift register to 11011 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:PRBS:UDEFINED:SREGISTER?` might return `"11011"`, indicating this is the Hopping User Defined PRBS shift register for the carrier at index 3.

RFGSignal:CARRier[n]: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 specified carrier in the carrier table.

The Hopping Pattern must be set to Pseudo Random Range.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:RANGe:ALISt[:ENABle]
{1|0|ON|OFF}
RFGSignal:CARRier[n]:HOPPing:RANGe:ALISt[:ENABle]?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:HOPPING:RANGE:ALIST:ENABLE 1` enables the Frequency Avoid List for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:RANGE:ALIST:ENABLE?` might return `0`, indicating that the Frequency Avoid List is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MAXimum

This command sets or returns the Maximum Frequency value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.

The Hopping Pattern must be set to Pseudo Random Range.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MAXimum
<frequency>
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MAXimum?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:RANGE:FREQUENCY:MAXIMUM 2E9` sets the Pseudo Random Range Maximum Frequency to 2 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:RANGE:FREQUENCY:MAXIMUM?` might return `2.0000000000E+9`, indicating that the Pseudo Random Range Maximum Frequency is set to 2 GHz for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MINimum

This command sets or returns the Minimum Frequency value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.

The Hopping Pattern must be set to Pseudo Random Range.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MINimum
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:MINimum?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:RANGE:FREQUENCY:MINIMUM 1E9` sets the Pseudo Random Range Minimum Frequency to 1 GHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:RANGE:FREQUENCY:MINIMUM?` might return `1.0000000000E+9`, indicating that the Pseudo Random Range Minimum Frequency is set to 1 GHz for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:SPACing

This command sets or returns the Frequency Spacing value for the Pseudo Random Range Hopping Pattern for the specified carrier in the carrier table.

The Hopping Pattern must be set to Pseudo Random Range.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:SPACing
<spacing>
RFGSignal:CARRier[n]:HOPPing:RANGe[:FREQuency]:SPACing?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:PATTern

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<spacing>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:RANGE:FREQUENCY:SPACING 1E9` sets the Pseudo Random Range Frequency Spacing to 1 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER1:HOPPING:RANGE:FREQUENCY:SPACING?` might return `10.0000000000E+3`, indicating that the Pseudo Random Range Frequency Spacing is set to 100 kHz for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:TIME

This command sets or returns the Hop Time type for the specified carrier in the carrier table.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:TIME
{SPHop|HPSecond|SSINdex|HDURation}
RFGSignal:CARRier[n]:HOPPing:TIME?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:HOPPING:TIME HPS` sets the Hop Time to Hops Per Second for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:TIME?` might return `SSIN`, indicating that the Hop Time is set to Symbol Start Index for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:TIME:HPSecond

This command sets or returns the Hops per Second for the specified carrier in the carrier table.

The Hop Time must be set to Hops Per Second.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:TIME:HPSecond <hops>
RFGSignal:CARRier[n]:HOPPing:TIME:HPSecond?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:TIME

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<hops>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:TIME:HPSECOND 50` sets the Hops Per Second to 50 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:TIME:HPSECOND?` might return `1000`, indicating that the Hops per Second is set to 1000 for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:TIME:SPHop

This command sets or returns the Symbols per Hop for the specified carrier in the carrier table.

The Hop Time must be set to Symbols Per Hop.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:TIME:SPHop <symbols>
RFGSignal:CARRier[n]:HOPPing:TIME:SPHop?
```

Related Commands RFGSignal:CARRier[n]:HOPPing:TIME

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<symbols>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:TIME:SPHOP 50` sets the Symbols Per Hop to 50 symbols for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:TIME:SPHOP?` might return `1200`, indicating that the Symbols per Hop is set to 1200 symbols for the carrier at index 3.

RFGSignal:CARRier[n]:HOPPing:TON

This command sets or returns the Hopping state (enabled or disabled) for the specified carrier in the carrier table.

Group Hopping

Syntax

```
RFGSignal:CARRier[n]:HOPPing:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:HOPPing:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

ON or 1 enables Hopping.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:HOPPING:TON ON` enables Hopping for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:HOPPING:TON?` might return `0`, indicating that Hopping is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:ANOIse:BANDwidth

This command sets or returns the Bandwidth for Additive Noise for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:ANOIse:BANDwidth
<bandwidth>
RFGSignal:CARRier[n]:INTerference:ANOIse:BANDwidth?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<bandwidth>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:ANOISE:BANDWIDTH 1E6` sets the Additive Noise Bandwidth to 1 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:ANOISE:BANDWIDTH?` might return `8.5000000000E+6`, indicating that the Additive Noise Bandwidth is set to 8.5 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:ANOIse:EBNo

This command sets or returns the Eb/No (bit energy per noise power) for Additive Noise for Interference Addition for the specified carrier in the carrier table.

Setting the Eb/No value also selects this as the Additive Noise type.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:ANOIse:EBNo <level>
RFGSignal:CARRier[n]:INTerference:ANOIse:EBNo?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:ANOISE:EBNO −5` sets the Eb/No level to –5 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:ANOISE:EBNO?` might return `1.2000000000`, indicating that the Eb/No level is set to 1.2 dB for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:ANOIse:SNR

This command sets or returns the SNR for Additive Noise for Interference Addition for the specified carrier in the carrier table.

Setting the SNR value also selects this as the Additive Noise type.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:ANOIse:SNR <level>
RFGSignal:CARRier[n]:INTerference:ANOIse:SNR?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:ANOISE:SNR 5` sets the SNR level to 5 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:ANOISE:SNR?` might return `-20.0000000000`, indicating that the SNR level is set to –20 dB for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:ANOIse:TON

This command sets or returns the Additive Noise state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:ANOIse:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:INTerference:ANOIse:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Additive Noise. OFF or 0 is the default value.

ON or 1 enables Additive Noise.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:ANOISE:TON 1` enables the Additive Noise for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:ANOISE:TON?` might return `0`, indicating that the Additive Noise is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:FOFFset

This command sets or returns the Frequency Offset frequency for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:FOFFset <frequency>
RFGSignal:CARRier[n]:INTerference:FOFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:FOFFSET 1E5` sets the Frequency Offset frequency to 100 kHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:FOFFSET?` might return `1.0000000000E+6`, indicating that the Frequency Offset frequency is set to 1 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:FOFFset:TON

This command sets or returns the Frequency Offset state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:FOFFset:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:INTerference:FOFFset:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:INTERFERENCE:FOFFSET:TON 1` enables the Frequency Offset for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER1:INTERFERENCE:FOFFSET:TON?` might return `0`, indicating that the Frequency Offset is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:SINusoidal:CI

This command sets or returns the C/I level for Sinusoidal Interference for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:SINusoidal:CI <level>
RFGSignal:CARRier[n]:INTerference:SINusoidal:CI?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:SINUSOIDAL:CI 10.5` sets the Sinusoidal Interference C/I level to 10.5 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:SINUSOIDAL:CI?` might return `3.0000000000`, indicating that the Sinusoidal Interference C/I level is set to 3 dB for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:SINusoidal:COFFset

This command sets or returns the Offset from Carrier frequency for Sinusoidal Interference for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:SINusoidal:COFFset
<frequency>
RFGSignal:CARRier[n]:INTerference:SINusoidal:COFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<frequency>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:SINUSOIDAL:COFFSET 1E6` sets the Offset from Carrier frequency to 1 MHz for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:SINUSOIDAL:COFFSET?` might return `100.0000000000E+3`, indicating that the Offset from Carrier frequency is set to 1 MHz for the carrier at index 3.

RFGSignal:CARRier[n]:INTerference:SINusoidal:TON

This command sets or returns the Sinusoidal Interference state (enabled or disabled) for Interference Addition for the specified carrier in the carrier table.

Group Interference addition

Syntax

```
RFGSignal:CARRier[n]:INTerference:SINusoidal:TON
{1|0|ON|OFF}
RFGSignal:CARRier[n]:INTerference:SINusoidal:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Sinusoidal Interference. OFF or 0 is the default value.

ON or 1 enables Sinusoidal Interference.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:INTERFERENCE:SINUSOIDAL:TON 1` enables Sinusoidal Interference for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:INTERFERENCE:SINUSOIDAL:TON?` might return `0`, indicating that the Sinusoidal Interference is disabled for the carrier at index 3.

RFGSignal:Carrier[n]:IQAMplitude

This command sets or returns the IQ Amplitude for the specified carrier in the carrier table.

Conditions The signal type must be set to IQ.

Group Carrier setup

Syntax

```
RFGSignal:Carrier[n]:IQAMplitude <amplitude>
RFGSignal:Carrier[n]:IQAMplitude?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<amplitude>::=<NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQAMPLITUDE 350E-3` sets the IQ Amplitude to 350 mV_{rms} for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQAMPLITUDE?` might return `150.0000000000E-3`, indicating that the IQ Amplitude is set to 150 mV_{rms} for the carrier at index 3 .

RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IOFFset

This command sets or returns the I Offset percentage for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IOFFset
<percentage>
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IOFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<percentage>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:CLEAKAGE:IOFFSET –10` sets the Carrier Leakage I Offset percentage to –10 % for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:CLEAKAGE:IOFFSET?` might return `3.0000000000`, indicating that the Carrier Leakage I Offset percentage is set to 3 % for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IQOFfset

This command sets or returns the IQ Offset level for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IQOFfset <level>
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:IQOFfset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR1> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:CLEAKAGE:IQOFFSET −5` sets the Carrier Leakage IQ Offset level to –5 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:CLEAKAGE:IQOFFSET?` might return `-20.0000000000`, indicating that the Carrier Leakage IQ Offset level is set to –20 dB for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:QOFFset

This command sets or returns the Q Offset percentage for Carrier Leakage for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:QOFFset
<percentage>
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:QOFFset?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<percentage>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:CLEAKAGE:QOFFSET –10` sets the Carrier Leakage Q Offset percentage to –10 % for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:CLEAKAGE:QOFFSET?` might return `3.0000000000`, indicating that the Carrier Leakage Q Offset percentage is set to 3 % for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:TON

This command sets or returns the Carrier Leakage state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:IQIMpairment:CLEAkage:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Carrier Leakage. OFF or 0 is the default value.

ON or 1 enables Carrier Leakage.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:CLEAKAGE:TON 1` enables the Carrier Leakage for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:CLEAKAGE:TON?` might return `0`, indicating that the Carrier Leakage is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:IMBalance

This command sets or returns the Imbalance percentage for IQ Imbalance for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:IMBalance
<percentage>
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:IMBalance?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<percentage>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:IQIMBALANCE:IMBALANCE -11` sets the IQ Imbalance percentage to –11 % for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:IQIMBALANCE:IMBALANCE?` might return `3.0000000000`, indicating that the IQ Imbalance percentage is set to 3 % for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:TON

This command sets or returns the IQ Imbalance state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:TON
{1|0|ON|OFF}
RFGSignal:CARRier[n]:IQIMpairment:IQIMbalance:TON?
```

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables IQ Imbalance. OFF or 0 is the default value.

ON or 1 enables IQ Imbalance.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:IQIMBALANCE:TON 1` enables the IQ Imbalance for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:IQIMBALANCE:TON?` might return `0`, indicating that the IQ Imbalance is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:IQSWap:TON

This command sets or returns the Swap I & Q state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:IQSWap:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:IQIMpairment:IQSWap:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Swap I & Q. OFF or 0 is the default value.

ON or 1 enables Swap I & Q.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:IQSWAP:TON 1` enables Swap I & Q for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:IQSWAP:TON?` might return `0`, indicating that Swap I & Q is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM2K

This command sets or returns the k2 level for AM/AM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM2K <level>
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM2K?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:NLDISTORTION:AM2K –1` sets the AM/AM k2 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:NLDISTORTION:AM2K?` might return `-1.0000000000`, indicating that the AM/AM k2 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM3K

This command sets or returns the k3 level for AM/AM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM3K <level>
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:AM3K?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:NLDISTORTION:AM3K –1` sets the AM/AM k3 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:NLDISTORTION:AM3K?` might return `-1.0000000000`, indicating that the AM/AM k3 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM2K

This command sets or returns the k2 level for AM/PM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM2K <level>
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM2K?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:NLDISTORTION:PM2K −1` sets the AM/PM k2 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:NLDISTORTION:PM2K?` might return `-1.0000000000`, indicating that the AM/PM k2 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM3K

This command sets or returns the k3 level for AM/PM Nonlinear Distortions for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM3K <level>
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:PM3K?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:NLDISTORTION:PM3K –1` sets the AM/PM k3 level to –1 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:NLDISTORTION:PM3K?` might return `-1.0000000000`, indicating that the AM/PM k3 level is set to –1 dB for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:TON

This command sets or returns the Nonlinear Distortions state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:TON
{1|0|ON|OFF}
RFGSignal:CARRier[n]:IQIMpairment:NLDistortion:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Nonlinear Distortions. OFF or 0 is the default value.

ON or 1 enables Nonlinear Distortions.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:NLDISTORTION:TON 1` enables the Nonlinear Distortions for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:NLDISTORTION:TON?` might return `0`, indicating that the Nonlinear Distortions is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:QERRor:ERRor

This command sets or returns the I/Q Error percentage for Quadrature Error for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:QERRor:ERRor <percentage>
RFGSignal:CARRier[n]:IQIMpairment:QERRor:ERRor?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<percentage>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:QERROR:ERROR -11` sets the Quadrature Error I/Q Error percentage to –11 % for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:IQIMPAIRMENT:QERROR:ERROR?` might return `3.0000000000`, indicating that the Quadrature Error I/Q Error percentage is set to 3 % for the carrier at index 3.

RFGSignal:CARRier[n]:IQIMpairment:QERRor:TON

This command sets or returns the Quadrature Error state (enabled or disabled) for IQ Impairments for the specified carrier in the carrier table.

Group IQ impairments

Syntax

```
RFGSignal:CARRier[n]:IQIMpairment:QERRor:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:IQIMpairment:QERRor:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Quadrature Error. OFF or 0 is the default value.

ON or 1 enables Quadrature Error.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:IQIMPAIRMENT:QERROR:TON 1` enables the Quadrature Error for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER1:IQIMPAIRMENT:QERROR:TON?` might return `0`, indicating that the Quadrature Error is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:MULTipath:ADDPath (No Query Form)

This command adds the specified number of paths in the Multipath table for the specified carrier in the carrier table.

Group Multipath

Syntax `RFGSignal:CARRier[n]:MULTipath:ADDPath <paths>`

Related Commands RFGSignal:CARRier[n]:MULTipath:DELay
RFGSignal:CARRier[n]:MULTipath:AMPLitude
RFGSignal:CARRier[n]:MULTipath:PHASe

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<paths>::= <NR1> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:ADDPATH 2` adds 2 new paths at the end of the Multipath table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:MULTipath:AMPLitude

This command sets or returns the Multipath Amplitude of the currently selected path for the specified carrier in the carrier table.

Group Multipath

Syntax

```
RFGSignal:CARRier[n]:MULTipath:AMPLitude <amplitude>
RFGSignal:CARRier[n]:MULTipath:AMPLitude?
```

Related Commands RFGSignal:CARRier[n]:MULTipath:SELPath

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<amplitude>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:AMPLITUDE -10` sets the Multipath Amplitude of the currently selected path to –10 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:MULTIPATH:AMPLITUDE?` might return `-200.0000000000E-3`, indicating that the Amplitude of the currently selected path is –0.2 dB for the carrier at index 3.

RFGSignal:CARRier[n]:MULTipath:DELay

This command sets or returns the Multipath Delay in symbols of the currently selected path for the specified carrier in the carrier table.

Group Multipath

Syntax

```
RFGSignal:CARRier[n]:MULTipath:DELay <delay>
RFGSignal:CARRier[n]:MULTipath:DELay?
```

Related Commands RFGSignal:CARRier[n]:MULTipath:SELPath

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<delay>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:DELAY 25.5` sets the Multipath symbol Delay of the currently selected path to 25.5 symbols for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:MULTIPATH:DELAY?` might return `200.0000000000E+3`, indicating that the Multipath Delay of the currently selected path is 200 k symbols for the carrier at index 3.

RFGSignal:CARRier[n]:MULTipath:DELPath (No Query Form)

This command deletes a single path in the Multipath table for the specified carrier in the carrier table.

If the path doesn't exist, an error is returned.

Group Multipath

Syntax `RFGSignal:CARRier[n]:MULTipath:DELPath <path>`

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<path>::= <NR1> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:DELPATH 1` deletes path 1 in the Multipath table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:MULTipath:PHASe

This command sets or returns the Multipath Phase of the currently selected path for the specified carrier in the carrier table.

Group Multipath

Syntax

```
RFGSignal:CARRier[n]:MULTipath:PHASe <phase>
RFGSignal:CARRier[n]:MULTipath:PHASe?
```

Related Commands RFGSignal:CARRier[n]:MULTipath:SELPath

Arguments [n]::= <NR1> ("n" determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<phase>::= <NR2> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:PHASE 10` sets the Multipath Phase of the currently selected path to 10 degrees for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:MULTIPATH:PHASE?` might return `-20.0000000000`, indicating that the Multipath Phase of the currently selected path is set to –20 degrees for the carrier at index 3.

RFGSignal:CARRier[n]:MULTipath:SELPath

This command sets or returns the selected MultiPath table index (row) for the specified carrier in the carrier table.

Group Multipath

Syntax

```
RFGSignal:CARRier[n]:MULTipath:SELPath <index>
RFGSignal:CARRier[n]:MULTipath:SELPath?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:SELPATH 1` selects the first path in the MultiPath table for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER2:MULTIPATH:SELPATH?` might return `2.0000000000`, indicating that the second path in the MultiPath table is selected for the carrier at index 3.

RFGSignal:CARRier[n]:MULTipath:TURNon

This command sets or returns the Multipath state (enabled or disabled) for the specified carrier in the carrier table.

Group Multipath

Syntax

```
RFGSignal:CARRier[n]:MULTipath:TURNon {1|0|ON|OFF}
RFGSignal:CARRier[n]:MULTipath:TURNon?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

OFF or 0 disables Multipath. OFF or 0 is the default value.

ON or 1 enables Multipath.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:CARRIER1:MULTIPATH:TURNON 1` enables Multipath for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:MULTIPATH:TURNON?` might return `0`, indicating that the Multipath is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:NOISe:BANDwidth

This command sets or returns the Bandwidth for the Noise Carrier for the specified carrier in the carrier table when the Carrier Type is set to Noise.

Group Carrier setup

Syntax

```
RFGSignal:CARRier[n]:NOISe:BANDwidth <bandwidth>
RFGSignal:CARRier[n]:NOISe:BANDwidth?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<bandwidth>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:NOISE:BANDWIDTH 2.5E6` sets the Bandwidth to 2.5 MHz for the Noise Carrier for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:NOISE:BANDWIDTH?` might return `1.5000000000E+6`, indicating that the Bandwidth is set to 1.5 MHz for the carrier at index 3.

RFGSignal:Carrier[n]:PHASe

This command sets or returns the Phase for the specified carrier in the carrier table.

Group Carrier setup

Syntax

```
RFGSignal:Carrier[n]:PHASe <phase>
RFGSignal:Carrier[n]:PHASe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<phase>::=<NR1> value.

Returns A single <NR2> value.

Examples `RFGSIGNAL:CARRIER1:PHASE 90` sets the Phase to 90 degrees for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PHASE?` might return `-1.5000000000`, indicating that the Phase is set to –1.5 degrees for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:DTYPe

This command sets or returns the Duration Units used for the Power Ramp table for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:DTYPe {TIMe|SYMBols}
RFGSignal:CARRier[n]:PRAMp:DTYPe?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:PRAMP:DTYPE TIME` sets the Duration Units to Time, causing the Power Ramp table entries to reflect time instead of symbols for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:DURation

This command sets or returns the Power Ramp Duration for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:DURation <duration>
RFGSignal:CARRier[n]:PRAMp:DURation
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<duration>::= <NR3> value.

Returns The duration of the power ramp table.

Examples `RFGSIGNAL:CARRIER1:PRAMP:DURATION 10E-6` sets the Power Ramp Duration to 10 µs for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:DURATION?` might return `1.0000000000E-3`, indicating that thePower Ramp Duration is set to 1 ms for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:FUNCtion

This command sets or returns the Power Ramp Function for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:FUNCtion {LINear|COSine}
RFGSignal:CARRier[n]:PRAMp:FUNCtion?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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

`RFGSIGNAL:CARRIER1:PRAMP:FUNCTION LINEAR` sets the Power Ramp Function to Linear for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:FUNCTION?` might return `COS`, indicating that the Power Ramp Function is set to Cosine for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:lLEVel

This command sets or returns the Power Ramp Initial Level of the currently selected hop for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:ILEVel <initial_level>
RFGSignal:CARRier[n]:PRAMp:ILEVel?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<initial_level>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:ILEVEL -0.08` sets the Power Ramp Initial Level to –0.08 dB. for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:ILEVEL?` might return `-25.0000000000`, indicating that the Power Ramp Initial Level is set to –25 dB for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:LEVel:ADD (No Query Form)

This command adds new entries to the Power Ramp table for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:ADD <entries>
RFGSignal:CARRier[n]:PRAMp:LEVel:ADD
```

Related Commands RFGSignal:CARRier[n]:PRAMp:LEVel:DURationRFGSignal:CARRier[n]:PRAMp:LEVel:ESYMbolRFGSignal:CARRier[n]:PRAMp:LEVel:POWerRFGSignal:CARRier[n]:PRAMp:LEVel:SSYMbol

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<entries>::= <NR1> value.

The maximum number of table entries is 21.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:ADD 2` adds two entries to the end of the Power Ramp table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:PRAMp:LEVel:DELete (No Query Form)

This command deletes entries from the Power Ramp table for the specified carrier in the carrier table. An error is returned if the entry does not exist.

Group Power ramp

Syntax `RFGSignal:CARRier[n]:PRAMp:LEVel:DELete {<index>|ALL}`

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

ALL deletes all table entries.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:DELETE 1` deletes the first entry from the Power Ramp table for the carrier at index 1 in the carrier table.

RFGSignal:CARRier[n]:PRAMp:LEVel:DURation

This command sets or returns the Duration of the currently selected Power Ramp table index for the specified carrier in the carrier table.

The Power Ramp Duration Units must be set to Time.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:DURation <duration>
RFGSignal:CARRier[n]:PRAMp:LEVel:DURation?
```

Related Commands RFGSignal:CARRier[n]:PRAMp:DTYPe
RFGSignal:CARRier[n]:PRAMp:LEVel:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<duration>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:DURATION 1E-6` sets the Duration, of the currently selected Power Ramp table index, to 1 ms for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:LEVel:ESYMbol

This command sets or returns the End Symbol of the currently selected Power Ramp table index for the specified carrier in the carrier table.

The Duration Units must be set to Symbols.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:ESYMbol <end_symbol>
RFGSignal:CARRier[n]:PRAMp:LEVel:ESYMbol?
```

Related Commands RFGSignal:CARRier[n]:PRAMp:DTYPeRFGSignal:CARRier[n]:PRAMp:LEVel:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<end_symbol>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:SSYMBOL 25` sets End Symbol, of the currently selected Power Ramp table index, to symbol 25 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:LEVEL:SSYMBOL?` might return `45.0000000000`, indicating that the End Symbol, of the currently selected Power Ramp table index, is set to symbol 45 for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:LEVel:POWer

This command sets or returns the Power Level of the currently selected Power Ramp table index for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:POWer <power>
RFGSignal:CARRier[n]:PRAMp:LEVel:POWer?
```

Related Commands RFGSignal:CARRier[n]:PRAMp:LEVel:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<power>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:POWER −4` sets the Power Level, of the currently selected Power Ramp table index, to –4 dB for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:LEVel:SELect

This command sets or returns the selected index (row) of the Power Ramp table for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:SELect <index>
RFGSignal:CARRier[n]:PRAMp:LEVel:SELect?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<index>::= <NR1> value.

Returns A single <NR1> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:SELECT 2` selects the second entry of the Power Ramp table for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:LEVEL:SELECT?` might return `3`, indicating that the third entry of the Power Ramp is selected table for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:LEVel:SSYMbol

This command sets or returns the Start Symbol of the currently selected Power Ramp table index for the specified carrier in the carrier table.

The Duration Units must be set to Symbols.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:LEVel:SSYMbol <start_symbol>
RFGSignal:CARRier[n]:PRAMp:LEVel:SSYMbol?
```

Related Commands RFGSignal:CARRier[n]:PRAMp:DTYPe
RFGSignal:CARRier[n]:PRAMp:LEVel:SELect

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<start_symbol>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:CARRIER1:PRAMP:LEVEL:SSYMBOL 3` sets the Start Symbol, of the currently selected Power Ramp table index, to symbol 3 for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3: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 carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:PEXTend

This command sets or returns the Periodic Extend Power Levels state (enabled or disabled) for the Power Ramp table for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:PEXTend {1|0|ON|OFF}
RFGSignal:CARRier[n]:PRAMp:PEXTend?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:PRAMP:PEXTEND 1` enables the Periodic Extend Power Levels of the Power Ramp table for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:PEXTEND?` might return `0`, indicating that the Periodic Extend Power Levels of the Power Ramp table is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:PRAMp:TON

This command sets or returns the Power Ramp state (enabled or disabled) for the specified carrier in the carrier table.

Group Power ramp

Syntax

```
RFGSignal:CARRier[n]:PRAMp:TON {1|0|ON|OFF}
RFGSignal:CARRier[n]:PRAMp:TON?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

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 `RFGSIGNAL:CARRIER1:PRAMP:TON ON` enables Power Ramp for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:PRAMP:TON?` might return `0`, indicating that Power Ramp is disabled for the carrier at index 3.

RFGSignal:CARRier[n]:RFAMplitude

This command sets or returns the Amplitude for the specified carrier in the carrier table.

Group Carrier setup

Syntax

```
RFGSignal:CARRier[n]:RFAMplitude <amplitude>
RFGSignal:CARRier[n]:RFAMplitude?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

<amplitude>::=<NR2> value.

Returns A single <NR2> value.

Examples `RFGSignal:CARRier1:RFAMplitude -3` sets the Amplitude to -3 dBm for the carrier at index 1 in the carrier table.

`RFGSignal:CARRier2:RFAMplitude?` might return `-12.0000000000`, indicating that the Amplitude is set to –12 dBm. for the carrier at index 2

RFGSignal:CARRier[n]:TYPE

This command sets or returns the Carrier Type for the specified carrier in the carrier table.

Group Carrier setup

Syntax

```
RFGSignal:CARRier[n]:TYPE
{DMODulation|AMODulation|NOISe|CMODulation}
RFGSignal:CARRier[n]:TYPE?
```

Arguments [n]::= <NR1> (“n” determines the carrier index number in the carrier table).

If omitted, n is interpreted as 1.

DMODulation = Digital Modulation.

AMODulation = Analog Modulation.

NOISe = Noise.

CMODulation = Custom Modulation.

Returns

DMOD
AMOD
NOIS
CMOD

Examples `RFGSIGNAL:CARRIER1:TYPE DMOD` sets the Carrier Type to Digital Modulation for the carrier at index 1 in the carrier table.

`RFGSIGNAL:CARRIER3:TYPE?` might return `DMOD`, indicating that the Carrier Type is set to Digital Modulation for the carrier at index 3.

RFGSignal:COMPile (No Query Form)

This command compiles and generates a waveform using the RF Generic Signal plug-in compile settings.

Conditions The active plug-in must be RF Generic Signal.

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 `RFGSignal:COMPile`

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

RFGSignal:COMPile:AWARound

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

Group Compile

Syntax

```
RFGSignal:COMPile:AWARound {0|1|OFF|ON}
RFGSignal: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 `RFGSIGNAL:COMPILE:AWAROUND ON` enables Adjust Wrap Around.

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

RFGSignal:COMPile:CANCel (No Query Form)

This command cancels a compilation currently in progress.

Conditions The active plug-in must be RF Generic Signal.

Group Compile

Syntax `RFGSignal:COMPile:CANCel`

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

RFGSignal: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

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

Related Commands RFGSignal:COMPile:CHANnel:RF, RFGSignal:COMPile:CHANnel:I, RFGSignal: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 `RFGSIGNAL:COMPILE:CASSIGN 1` enables the compile and assign function.

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

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

Group Compile

Syntax

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

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

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

Returns A single <NR1> value.

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

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

RFGSignal:COMPile:CHANnel:IQ

This command sets or returns the playout channel intended for the compiled IQ signal after up-conversion using the internal IQ modulator.

The selected channel is also used to define the amplitude ranges.

Conditions The Signal Format must be set to IQ and the instrument must have an internal IQ modulator and be enabled.

Group Compile

Syntax

```
RFGSignal:COMPile:CHANnel:IQ <channel>
RFGSignal:COMPile:CHANnel:IQ?
```

Related Commands RFGSignal:COMPile:DUPConverter

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

Channel 1 is the default channel.

Returns A single <NR1> value.

Examples `RFGSIGNAL:COMPILE:CHANNEL:IQ 2` compiles the IQ signals for channel 2.

`RFGSIGNAL:COMPILE:CHANNEL:IQ?` might return `1`, indicating that IQ signals are compiled for channel 1.

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

Group Compile

Syntax

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

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

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

Returns A single <NR1> value.

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

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

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

Group Compile

Syntax

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

Related Commands RFGSignal:COMPile:CASSign, RFGSignal:COMPile:PLAY

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

Returns A single <NR1> value.

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

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

RFGSignal: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

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

Related Commands RFGSignal: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 `RFGSIGNAL:COMPILE:CORRECTION:APPLY ON` enables Apply Corrections File.

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

RFGSignal:COMPile:CORRection:PATH

This command sets or returns the RF Correction filename and filepath 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

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

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

Returns A single <filepath> string.

Examples `RFGSIGNAL:COMPILE:CORRECTION:PATH "C:\temp\CorrectionFile.corr"` sets the RF Correction filename and filepath.

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

RFGSignal:COMPile:CORRection:PATH:I

This command sets or returns the I Correction filename and filepath to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

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

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

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

Returns A single <filepath> string.

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

`RFGSIGNAL:COMPILE:CORRECTION:PATH:I?` might return `"C:\temp\ICorrectionFile.corr"` as the I Correction filename and filepath.

RFGSignal:COMPile:CORRection:PATH:IQ

This command sets or returns the IQ Correction filename and filepath to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

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

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

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

Returns A single <filepath> string.

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

`RFGSIGNAL:COMPILE:CORRECTION:PATH:IQ?` might return `"C:\temp\ICorrectionFile.corr"` as the IQ Correction filename and filepath.

RFGSignal:COMPile:CORRection:PATH:Q

This command sets or returns the Q correction filename and filepath to use when compiling and IQ signal.

Conditions The signal format must be set to IQ.

Apply corrections must be enabled.

Group Compile

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

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

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

Returns A single <filepath> string.

Examples `RFGSIGNAL:COMPILE:CORRECTION:PATH:Q "C:\temp\QCorrectionFile.corr"` sets the Q Correction filename and filepath.

`RFGSIGNAL:COMPILE:CORRECTION:PATH:Q?` might return `"C:\temp\QCorrectionFile.corr"` as the Q Correction filename and filepath.

RFGSignal: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

```
RFGSignal:COMPile:CORRection:TYPE {IQ|BOTH}
RFGSignal: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 `RFGSIGNAL:COMPILE:CORRECTION:TYPE IQ` sets the compiler to apply a single IQ correction file when compiling.

`RFGSIGNAL: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.

RFGSignal: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

```
RFGSignal:COMPile:DUPConverter {0|1|OFF|ON}
RFGSignal: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 `RFGSIGNAL:COMPILE:DUPCONVERTER ON` enables the internal IQ Modulator.

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

RFGSignal:COMPile:FDRange

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

Group Compile

Syntax

```
RFGSignal:COMPile:FDRange {1|0|ON|OFF}
RFGSignal: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 `RFGSIGNAL:COMPILE:FDRANGE ON` enables Fit to dynamic range.

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

RFGSignal:COMPile:ICHannel

NOTE. *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:I.*

This command sets or returns which channel the I signal is assigned to upon compile when the signal format is set to IQ.

Group Compile

Syntax

```
RFGSignal:COMPile:ICHannel {NONE|<channel>}
RFGSignal:COMPile:ICHannel?
```

Arguments NONE indicates that the I signal will be compiled but not assigned to a channel.

<channel>::=<NR1> is a valid channel number. The I signal is compiled and assigned to the channel.

Returns A single <NR1> value or NONE.

Examples RFGSIGNAL:COMPILE:ICHANNEL 2 assigns the I signals to channel 2 after the compile completes.

RFGSIGNAL:COMPILE:ICHANNEL? might return NONE, indicating that I signals are not assigned to any channel after the compile is complete.

RFGSignal:COMPile:MARKer:ENABle

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

Group Compile

Syntax

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

Related Commands RFGSignal:COMPile:MARKer[n]:MDATa
RFGSignal: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 `RFGSIGNAL:COMPILE:MARKER:ENABLE ON` enables the Marker Data.

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

RFGSignal: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

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

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

Returns A single <NR3> value.

Examples `RFGSIGNAL:COMPILE:MARKER1:CFREQUENCY 1E9` sets the Marker 2 Data clock frequency to 1 GHz.

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

RFGSignal:COMPile:MARKer[n]:MDATa

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

Group Compile

Syntax

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

Related Commands RFGSignal: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 `RFGSIGNAL:COMPILE:MARKER1:MDATA BRATE` sets the Marker 1 Data type to Bit Rate.

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

RFGSignal:COMPile:NAMe

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

Group Compile

Syntax

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

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

Returns <string>

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

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

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

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

Returns A single <NR1> value.

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

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

RFGSignal: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
```
RFGSignal:COMPile:PLAY {0|1|OFF|ON}
RFGSignal: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 `RFGSIGNAL:COMPILE:PLAY 1` enables Play after assign.

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

RFGSignal:COMPile:QCHannel

NOTE. *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:Q.*

This command sets or returns which channel the Q signal is assigned to upon compile when the signal format is set to IQ.

Group Compile

Syntax

```
RFGSignal:COMPile:QCHannel {NONE|<channel>}
RFGSignal:COMPile:QCHannel?
```

Arguments NONE indicates that the Q signal will be compiled but not assigned to a channel.

<channel>::= <NR1> is a valid channel number. The Q signal is compiled and assigned to the channel.

Returns A single <NR1> value or NONE.

Examples `RFGSIGNAL:COMPILE:QCHANNEL 2` assigns the Q signals to channel 2 after the compile completes.

`RFGSIGNAL:COMPILE:QCHANNEL?` might return `NONE`, indicating that Q signals are not assigned to any channel after the compile is complete.

RFGSignal:COMPile:RFCHannel

NOTE. *This command exists for backwards compatibility. Use the command RFGSignal:COMPile:CHANnel:RF.*

This command sets or returns which channel the RF waveform is assigned to upon compile when the signal format is set to RF.

Group Compile

Syntax

```
RFGSignal:COMPile:RFCHannel {NONE|<channel>}
RFGSignal:COMPile:RFCHannel?
```

Arguments NONE indicates that the waveform will be compiled but not assigned to a channel.

<channel>::=<NR1> is a valid channel number. The waveform is compiled and assigned to the channel.

Returns A single <NR1> value or NONE.

Examples `RFGSIGNAL:COMPILE:RFCHANNEL 2` assigns RF waveforms to channel 2 after the compile completes.

`RFGSIGNAL:COMPILE:RFCHANNEL?` might return `NONE`, indicating that RF waveforms are not assigned to any channel after the compile is complete.

RFGSignal:COMPile:SFORmat

This command sets or returns the signal format of the signal to be compiled.

Group Compile

Syntax

```
RFGSignal:COMPile:SFORmat {RF|IQ}
RFGSignal:COMPile:SFORmat?
```

Arguments RF sets the signal format to RF.

IQ sets the signal format to IQ.

Returns RF
IQ

Examples `RFGSIGNAL:COMPILE:SFORMAT IQ` sets the signal format to IQ mode.

`RFGSIGNAL:COMPILE:SFORMAT?` might return `RF`, indicating that the signal format is set to RF mode.

RFGSignal:COMPile:SRATe

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

Group Compile

Syntax

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

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

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

Returns A single <NR3> value.

Examples `RFGSIGNAL:COMPILE:SRATE 6E9` sets the Sampling Rate to 6 GS/s in the Compile settings.

`RFGSIGNAL:COMPILE:SRATE?` might return `6.0000000000E+9`, indicating that the sampling rate is GS/s

RFGSignal: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

```
RFGSignal:COMPile:SRATe:AUTO {0|1|OFF|ON}
RFGSignal: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 `RFGSIGNAL:COMPILE:SRATE:AUTO ON` sets the signal's sampling rate to be automatically calculated at compile time.

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

RFGSignal:COMPile:WLENgth

This command sets or returns the waveform length. If the waveform length is not set to auto then the value for waveform length is based on the value provided.

Group Compile

Syntax

```
RFGSignal:COMPile:WLENgth <length>
RFGSignal:COMPile:WLENgth?
```

Related Commands RFGSignal:COMPile:WLENgth:TYPE

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

Returns A single <NR3> value.

Examples `RFGSIGNAL:COMPILE:WLENGTH 10E-3` sets the waveform length to 10000 samples if the unit is set to samples.

`RFGSIGNAL:COMPILE:WLENGTH?` might return `10.0000000000E+3`, and if the unit is time, it indicates that the waveform length is 10000 samples.

RFGSignal:COMPile:WLENgth:AUTO

This command sets or returns if the waveform length will be automatically calculated at compile time.

Group Compile

Syntax

```
RFGSignal:COMPile:WLENgth:AUTO {0|1|OFF|ON}
RFGSignal:COMPile:WLENgth:AUTO?
```

Arguments OFF or 0 disables waveform length auto calculation and manual setting for .

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

Returns A single <Boolean> value.

Examples `RFGSIGNAL:COMPILE:WLENGTH:AUTO ON` sets the signal's waveform length to be automatically calculated at compile time.

`RFGSIGNAL:COMPILE:WLENGTH:AUTO?` might return `0`, indicating that the waveform length will not be automatically calculated at compile time.

RFGSignal:COMPile:WLENgth:TYPE

This command sets or returns the waveform length unit type that is used to set the waveform length. If the waveform length is not set to auto then the value for waveform length is based on the value provided. The waveform length can be provided in terms of samples, symbols, or seconds.

Group Compile

Syntax

```
RFGSignal:COMPile:WLENgth:TYPE {SAMPles|SYMBols|TIME}
RFGSignal:COMPile:WLENgth:TYPE?
```

Arguments SAMPles sets the waveform length unit type to be samples.

TIME sets the waveform length unit type to be seconds.

SYMBols sets the waveform length unit type to be symbols

Returns

```
SAMP
SYMB
TIME
```

Examples `RFGSIGNAL:COMPILE:WLENGTH:TYPE SAMPles` sets the waveform length unit type to be samples.

`RFGSIGNAL:COMPILE:WLENGTH:TYPE?` might return `TIME` indicating that the waveform length unit is in terms of seconds.

RFGSignal:COMPile:WOVerwrite

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

```
RFGSignal:COMPile:WOVerwrite {0|1|OFF|ON}
RFGSignal:COMPile:WOVerwrite?
```

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 `RFGSIGNAL:COMPILE:WOVERWRITE 1` enables overwriting waveform names.

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

RFGSignal:RESet (No Query Form)

This command resets the RF Generic Signal plug-in by setting all the values within the module to their default values.

Conditions The active plug-in must be RF Generic Signal.

Group Control

Syntax

```
RFGSignal:RESet
```

Examples `RFGSIGNAL:RESET` returns the RF Generic Signal plug-in to its default values.

RFGSignal:SPARameter:SFORmat

This command sets or returns the currently used signal format for all S-Parameter values.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:SFORmat {RF|I|Q}
RFGSignal:SPARameter:SFORmat?
```

Related Commands RFGSignal:COMPile:SFORmat

Arguments RF sets the signal format to RF/IF and all S-Parameter settings use the RF format.

I sets the signal format to IQ and all S-Parameter settings apply to the Q signal.

Q sets the signal format to IQ and all S-Parameter settings apply to the I signal.

Returns

RF
I
Q

Examples `RFGSIGNAL:SPARAMETER:SFORMAT Q` applies the S-Parameters to the Q signal.

`RFGSIGNAL:SPARAMETER:SFORMAT?` might return `RF`, indicating that all S-Parameters values are RF.

RFGSignal:SPARameter:SFORmat:LIQ

This command sets or returns the Couple Settings (I,Q) state. When enabled, all I and Q S-Parameters are linked together (chained) so that all parameters match between I and Q.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:SFORmat:LIQ {1|0|ON|OFF}
RFGSignal:SPARameter:SFORmat:LIQ?
```

Related Commands RFGSignal:SPARameter:SFORmat

Arguments OFF or 0 disables Couple Settings. OFF or 0 is the default value.

ON or 1 enables Couple Settings.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:SFORMAT:LIQ 1` enables the Couple Settings.

`RFGSIGNAL:SPARAMETER:SFORMAT:LIQ?` might return `0`, indicating that the Couple Settings is disabled.

RFGSignal:SPARameter:TON

This command sets or returns the S-Parameter state (enabled or disabled).

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:TON {1|0|ON|OFF}
RFGSignal:SPARameter:TON?
```

Arguments OFF or 0 disables S-Parameters. OFF or 0 is the default value.

ON or 1 enables S-Parameters.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:TON 1` enables the S-Parameters.

`RFGSIGNAL:SPARAMETER:TON?` might return `0`, indicating that the S-Parameters is disabled.

RFGSignal:SPARameter:BANDwidth

This command sets or returns the S-Parameter bandwidth when setting manually.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:BANDwidth {FULL|<bandwidth>}
RFGSignal:SPARameter:BANDwidth?
```

Related Commands RFGSignal:SPARameter:BANDwidth:AUTO

Arguments FULL – The bandwidth is set to ½ of the waveform's sample rate (i.e. Nyquist Frequency).

<bandwidth>::= <NR3> value.

Range: 1 Hz to ½ of the maximum sample rate of the instrument.

If the set Bandwidth is greater than the Nyquist (Sample rate of the waveform/2), then the software limits the bandwidth to ½ of the waveform's sample rate.

Returns FULL
A single <NR3> value.

Examples `RFGSIGNAL:SPARAMETER:BANDWIDTH 60E6` sets the S-Parameter Bandwidth Value to 60 MHz.

`RFGSIGNAL:SPARAMETER:BANDWIDTH?` might return `1.0000000000E+9`, indicating the S-Parameter Bandwidth is set to 1 GHz.

RFGSignal:SPARameter:BANDwidth:AUTO

This command sets or returns the S-Parameter automatic bandwidth calculation setting. The bandwidth is defined at the point where the signal rolls off to –60 dB. If this results in a bandwidth greater than the instrument supports, the bandwidth is set to ½ of the waveform's sample rate (i.e. Nyquist Frequency).

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:BANDwidth:AUTO {0|1|OFF|ON}
RFGSignal:SPARameter:BANDwidth:AUTO?
```

Related Commands RFGSignal:SPARameter:BANDwidth

Arguments ON or 1 enables automatic bandwidth calculation. ON or 1 is the default value.

OFF or 0 disables automatic bandwidth calculation and sets the Bandwidth setting to Manual, requiring a value.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:BANDWIDTH:AUTO 0` disables the S-Parameter automatic bandwidth calculation and sets it to use a manual value.

`RFGSIGNAL:SPARAMETER:BANDWIDTH:AUTO?` might return 1, indicating the S-Parameter automatic bandwidth calculation is enabled.

RFGSignal:SPARameter:CASCading:AGGRessor2[:ENABle]

This command sets or returns the aggressor 2 signal type state (enabled or disabled) in Cascading mode. Aggressor2 signals are available when the number of ports is set to 12.

Conditions S-Parameter Mode must be set to Cascading.

Number of Ports must be set to 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor2[:ENABle]
{0|1|ON|OFF}
RFGSignal:SPARameter:CASCading:AGGRessor2[:ENABle]?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments OFF or 0 disables the aggressor 2 signal type. OFF or 0 is the default value. ON or 1 enables the aggressor 2 signal type.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:ENABLE ON` enables the aggressor 2 signal type, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:ENABLE?` might return `0`, indicating that the aggressor 2 signal type is disabled, in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:AMPLitude

This command sets or returns the specified Aggressor's amplitude, in Cascading mode.

Conditions S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:AMPLitude
<amplitude>
RFGSignal:SPARameter:CASCading:AGGRessor[n]:AMPLitude?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [n] ::= {1|2} ("n" determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

<amplitude> ::= <NRf>

Returns A single <NR3> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:AMPLITUDE 200E-3` sets the first Aggressor's amplitude to 200 mV, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:AMPLITUDE?` might return `100.0000000000E-3`, indicating that the 2nd Aggressor's amplitude is set to 100 mV, in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:CTALk

This command sets or returns the specified Aggressor's crosstalk type, in Cascading mode.

Conditions

S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:CTALk
{NEXT|FEXT|BOTH}
RFGSignal:SPARameter:CASCading:AGGRessor[n]:CTALk?
```

Related Commands

RFGSignal:SPARameter:MODE

Arguments

[n] ::= {1|2} ("n" determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

NEXT – Near-End Crosstalk

FEXT – Far-End Crosstalk

BOTH – Near and Far-End Crosstalk

Returns

NEXT
FEXT
BOTH

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:CTALK FEXT` sets the first Aggressor's Crosstalk type to Far End Crosstalk, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:CTALK?` might return `NEXT`, indicating that the 2nd Aggressor crosstalk type is set to Far End Crosstalk, in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:DRATe

This command sets or returns the specified Aggressor's data rate, in Cascading mode.

Conditions S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:DRATe
<data_rate>
RFGSignal:SPARameter:CASCading:AGGRessor[n]:DRATe?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

<data_rate> ::= <NRf>

Returns A single <NR3> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:DRATE 4E9` sets the first Aggressor's data rate to 4 Gbps, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:DRATE?` might return `500.0000000000E+3`, indicating that the 2nd Aggressor's data rate is set to 500 kbps, in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal

This command sets or returns specified Aggressor's signal type, in Cascading mode.

Conditions

S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal
{CLOCk|PRBS|FILE|SAVictim}
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

CLOCk – Indicates that the aggressor signal is a clock pattern.

PRBS – Indicates that the aggressor signal is a PBRS pattern. You also must set the PBRS type.

FILE – Aggressor is set to use a file. You must set the file path.

SAVictim – Aggressor is the same as the victim.

Returns

CLOC
PRBS
FILE
SAV

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL SAVICTIM` sets the aggressor signal to be the same as the victim, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:SIGNAL?` might return `FILE`, indicating that 2nd Aggressor has a signal type set to use a file, in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE

This command sets or returns the filepath to the aggressor file for the specified Aggressor, in Cascading mode.

Conditions

S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Aggressor signal type must be File.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE
<filepath>
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

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

Returns

A single <filepath> string.

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL:FILE "C:\temp\myFile.txt"` sets the first Aggressor's file and filepath when the aggressor is set to use a file, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:SIGNAL:FILE?` might return `"C:\temp\myFile.txt"` indicating that the 2nd Aggressor has a signal type filepath set to "C:\temp\myFile.txt", in Cascading mode.

RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:PRBS

This command sets or returns the specified Aggressor's PRBS signal type, in Cascading mode.

Conditions

S-Parameter Mode must be set to Cascading.

Number of ports must be either 8 or 12.

Aggressor signal type must be PRBS.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31}
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:PRBS?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

Patterns available include: PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31.

Returns

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

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL:PRBS PRBS31` sets the first Aggressor's Signal type's PRBS value to PRBS31, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:AGGRESSOR2:SIGNAL:PRBS?` might return `PRBS15`, indicating that the 2nd Aggressor has a signal type PRBS value set to PRBS15, in Cascading mode.

RFGSignal:SPARameter:CASCading:DEEMbed

This command sets or returns whether the Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Cascading mode.

Conditions S-Parameter Mode must be set to Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:DEEMbed {0|1|OFF|ON}
RFGSignal:SPARameter:CASCading:DEEMbed?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments OFF or 0 disables de-embedding. OFF or 0 is the default value.
ON or 1 enables de-embedding.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:DEEMBED 1` will de-embed the S-Parameters for Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:DEEMBED?` might return `0`, indicating that S-Parameters will not be de-embedded for Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:DRX[n]

This command sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified receiver port number (Rx-Port) in Cascading mode and Differential Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Cascading.

S-Parameter Signalling Scheme must be set to Differential (where applicable).

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:DRX[n] <port number>
RFGSignal:SPARameter:CASCading:STAGe[m]:DRX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:CASCading:TYPE
RFGSignal:SPARameter:CASCading:STAGe[m]:DTX[n]

Arguments

[m] ::= {1|2|3|4|5|6}. A variable value to define the Stage.

If omitted, interpreted as 1

[n] ::= <NR1> value. A variable value to define the receiver port number (Rx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4, then n = {1}
Type = 8 then n = {1 – 2}
Type = 12 then n = {1 – 3}

If omitted, n is interpreted as 1.

<port number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Rx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4 then <port number> = {1 – 2}
Type = 8 then <port number> = {1 – 4}
Type = 12 then <port number> = {1 – 6}

Returns

A single <NR1> value.

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE2:DRX2 4` assigns S-Parameter port 4 to the channel's receiver port 2 for Stage 2, in the Differential, Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:RX3?` might return `10`, indicating that S-Parameter Port 10 is assigned to the channel's receiver port 3 for Stage 6, in the Differential, Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:DTX[n]

This command sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified transmission port number (Tx-Port) in Cascading mode and Differential Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Cascading.

S-Parameter Signalling Scheme must be set to Differential (where applicable).

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:DTX[n] <port number>
RFGSignal:SPARameter:CASCading:STAGe[m]:DTX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:CASCading:TYPE
RFGSignal:SPARameter:CASCading:STAGe[m]:DRX[n]

Arguments

[m] ::= {1|2|3|4|5|6}. A variable value to define the Stage.

If omitted, interpreted as 1

[n] ::= <NR1> value. A variable value to define the transmission port number (Tx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4, then n = {1}
Type = 8 then n = {1 – 2}
Type = 12 then n = {1 – 3}

If omitted, n is interpreted as 1.

<port number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Tx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4 then <port number> = {1 – 2}
Type = 8 then <port number> = {1 – 4}
Type = 12 then <port number> = {1 – 6}

Returns

A single <NR1> value.

Examples

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE2:DTX2 4` assigns S-Parameter port 4 to the channel's transmission port 2 for Stage 2, in the Differential, Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:TX3?` might return `10`, indicating that S-Parameter Port 10 is assigned to the channel's transmission port 3 for Stage 6, in the Differential, Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:ENABle

This command sets or returns the state of the specified Cascaded S-Parameter stage (enabled or disabled).

Conditions S-Parameter Mode must be set to Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:ENABle {0|1|OFF|ON}
RFGSignal:SPARameter:CASCading:STAGe[m]:ENABle?
```

Related Commands RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:NCAScading:FILE

Arguments [m] ::= {1 – 6} ("m" determines the stage number)

If omitted, m is interpreted as 1.

OFF or 0 disables the specified Cascading Stage. OFF or 0 is the default value. ON or 1 enables the Stage.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:ENABLE 1` enables Stage 6 in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:ENABLE?` might return `0`, indicating that Stage 6 is not enabled in Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:FILE

This command sets or returns the filepath for the specified S-Parameters Cascading Stage, in Cascading mode.

Conditions S-Parameter Mode must be set to Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:FILE <filepath>
RFGSignal:SPARameter:CASCading:STAGe[m]:FILE
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [m] ::= {1 – 6} ("m" determines the stage number)

If omitted, m is interpreted as 1.

<filepath>::= <string> defines the path to the S-Parameter file.

Returns <filepath>::= <string>.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STAGE1:FILE "C:\temp\myFile.s12p"` sets the filepath to "C:\temp\myFile.s12p" for use during compilation for Stage 1.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE1:FILE?` might return `"C:\temp\myFile.s12p"` indicating the filepath for Stage 1.

RFGSignal:SPARameter:CASCading:STAGe[m]:RX[n]

This command sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified receiver port number (Rx-Port) in Cascading mode and Single-Ended Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Cascading.

S-Parameter Signalling Scheme must be set to Single-Ended (where applicable).

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:RX[n] <port_number>
RFGSignal:SPARameter:CASCading:STAGe[m]:RX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:CASCading:TYPE
RFGSignal:SPARameter:CASCading:STAGe[m]:TX[n]

Arguments

[m] ::= {1|2|3|4|5|6}. A variable value to define the Stage.

If omitted, interpreted as 1

[n] ::= <NR1> value. A variable value to define the receiver port number (Rx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then n = no value
Type = 2, then n = {1}
Type = 4 then n = {1 – 2}
Type = 6 then n = {1 – 3}
Type = 8 then n = {1 – 4}
Type = 12 then n = {1 – 6}

<port_number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Tx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then <port number> = no value
Type = 2, then <port number> = {1 – 2}
Type = 4 then <port number> = {1 – 4}
Type = 6 then <port number> = {1 – 6}

Type = 8 then <port number> = {1 – 8}
Type = 12 then <port number> = {1 – 12}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STAGE2:RX2 4` assigns S-Parameter port 4 to the channel's receiver port 2 for Stage 2, in the Single-Ended, Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:RX3?` might return `10`, indicating that S-Parameter Port 10 is assigned to the channel's receiver port 3 for Stage 6, in the Single-Ended, Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:SSCHeme

This command sets or returns the S-Parameter Signalling Scheme, in Cascading mode. Signalling Scheme is only available when the Number of Ports is set to 4, 8, or 12.

Conditions S-Parameter Mode must be set to Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:SSCHeme
{SENDed|DIFFerential}
RFGSignal:SPARameter:CASCading:STAGe[m]:SSCHeme?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [m] ::= {1 – 6} ("m" determines the stage number)

If omitted, m is interpreted as 1.

SENDed – Single Ended Signal Scheme

DIFFerential – Differential Signal Scheme

Returns SEND
DIFF

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STAGE2:SSCHEME DIFF` sets the Stage 2 Signalling Scheme to Differential, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE3:SSCHEME?` might return `SEND`, indicating that the Stage 3 Signalling Scheme is set to Single Ended, in Cascading mode.

RFGSignal:SPARameter:CASCading:STAGe[m]:TX[n]

This command sets or returns the S-Parameter port assignment of the specified Stage and the channel's specified transmission port number (Tx-Port) in Cascading mode and Single-Ended Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Cascading.

S-Parameter Signalling Scheme must be set to Single-Ended (where applicable).

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STAGe[m]:TX[n] <port number>
RFGSignal:SPARameter:CASCading:STAGe[m]:TX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:CASCading:TYPE
RFGSignal:SPARameter:CASCading:STAGe[m]:RX[n]

Arguments

[m] ::= {1|2|3|4|5|6}. A variable value to define the Stage.

If omitted, interpreted as 1

[n] ::= <NR1> value. A variable value to define the transmission port number (Tx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then n = no value
Type = 2, then n = {1}
Type = 4 then n = {1 – 2}
Type = 6 then n = {1 – 3}
Type = 8 then n = {1 – 4}
Type = 12 then n = {1 – 6}

<port number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Tx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then <port number> = no value
Type = 2, then <port number> = {1 – 2}
Type = 4 then <port number> = {1 – 4}
Type = 6 then <port number> = {1 – 6}

Type = 8 then <port number> = {1 – 8}
Type = 12 then <port number> = {1 – 12}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STAGE2:TX2 4` assigns S-Parameter port 4 to the channel's transmission port 2 for Stage 2, in the Single-Ended, Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STAGE6:TX3?` might return `10`, indicating that S-Parameter Port 10 is assigned to the channel's transmission port 3 for Stage 6, in the Single-Ended, Cascading mode.

RFGSignal:SPARameter:CASCading:STYPe

This command sets or returns S-Parameter signal type (victim or aggressor), in Cascading mode. The number of ports must be either 8 or 12.

Conditions S-Parameter Mode must be set to Cascading.

Number of Ports must be either 8 or 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:STYPe {VICTim|AGGRessor|BOTH}
RFGSignal:SPARameter:CASCading:STYPe?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments VICTim – enables the victim signal type.

AGGRessor – enables the aggressor signal type.

BOTH – enables the victim and aggressor signal types.

Returns VICT
AGGR
BOTH

Examples `RFGSIGNAL:SPARAMETER:CASCADING:STYPE BOTH` sets the signal type to include both the Victim and Aggressor signal types, in Cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:STYPE?` might return `AGGR`, indicating that the S-Parameter signal type is currently set to be Aggressor, in Cascading mode.

RFGSignal:SPARameter:CASCading:TYPE

This command sets or returns the S-Parameter number of ports, in Cascading mode.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:CASCading:TYPE {2|4|6|8|12}
RFGSignal:SPARameter:CASCading:TYPE?
```

Arguments {2|4|6|8|12} – defines the number of S-Parameter ports.

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:CASCADING:TYPE 12` sets the S-Parameter type to a 12-Port system for the cascading mode.

`RFGSIGNAL:SPARAMETER:CASCADING:TYPE?` might return `6`, indicating that the S-Parameter type is a 6-Port system for Cascading mode.

RFGSignal:SPARameter:MODE

This command sets or returns the S-Parameter mode (Cascading or Non-Cascading).

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:MODE {CASC|NCAS}
RFGSignal:SPARameter:MODE?
```

Arguments

`CASCading` sets the S-Parameter mode to cascading. allowing you to cascade up to six S-parameter files and apply the characteristics on the waveform.

`NCASCading` sets the S-Parameter mode to non-cascading, allowing you to apply S-parameter characteristics on the waveform from only one S-parameter file.

Returns

`CASC`

`NCASC`

Examples

`RFGSIGNAL:SPARAMETER:MODE CASCADING` sets the S-Parameter mode to cascading.

`RFGSIGNAL:SPARAMETER:MODE?` might return `NCAS`, indicating that the S-Parameter mode is set to Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor2[:ENABle]

This command sets or returns the aggressor 2 signal type state (enabled or disabled) in Non-Cascading mode. Aggressor2 signals are available when the number of ports is set to 12.

Conditions S-Parameter Mode must be set to Non-Cascading.

Number of Ports must be set to 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor2[:ENABle]
{0|1|ON|OFF}
RFGSignal:SPARameter:NCAScading:AGGRessor2[:ENABle]?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments OFF or 0 disables the aggressor 2 signal type. OFF or 0 is the default value. ON or 1 enables the aggressor 2 signal type.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:ENABLE ON` enables the aggressor 2 signal type, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:ENABLE?` might return `0`, indicating that the aggressor 2 signal type is disabled, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:AMPLitude

This command sets or returns the specified Aggressor's amplitude, in Non-Cascading mode.

Conditions S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:AMPLitude
<amplitude>
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:AMPLitude?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [n] ::= {1|2} ("n" determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

<amplitude>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:AMPLITUDE 200E-3` sets the 1st Aggressor's amplitude to 200 mV, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:AMPLITUDE?` might return `100.0000000000E-3`, indicating that the 2nd Aggressor's amplitude is set to 100 mV, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:CTALk

This command sets or returns the specified Aggressor's crosstalk type, in Non-Cascading mode.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:CTALk
{NEXT|FEXT|BOTH}
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:CTALk?
```

Related Commands

RFGSignal:SPARameter:MODE

Arguments

[n] ::= {1|2} ("n" determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

NEXT – Near-End Crosstalk

FEXT – Far-End Crosstalk

BOTH – Near and Far-End Crosstalk

Returns

NEXT
FEXT
BOTH

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:CTALK FEXT` sets the 1st Aggressor's Crosstalk type to Far End Crosstalk, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:CTALK?` might return `NEXT`, indicating that the 2nd Aggressor crosstalk type is set to Near End Crosstalk, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:DRATe

This command sets or returns the specified Aggressor's data rate, in Non-Cascading mode.

Conditions S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:DRATe
<data_rate>
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:DRATe?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments [n] ::= {1|2} ("n" determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

<data_rate>::= <NR3> value.

Returns A single <NR3> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:DRATE 4E9` sets the 1st Aggressor's data rate to 4 Gbps, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:DRATE?` might return `500.0000000000E+3`, indicating that the 2nd Aggressor's data rate is set to 500 kbps, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal

This command sets or returns specified Aggressor's signal type, in Non-Cascading mode.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal
{CLOCk|PRBS|FILE|SAVictim}
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

CLOCk – Indicates that the aggressor signal is a clock pattern.

PRBS – Indicates that the aggressor signal is a PBRS pattern. You also must set the PBRS type.

FILE – Aggressor is set to use a file. You must set the file path.

SAVictim – Aggressor is the same as the victim.

Returns

CLOC
PRBS
FILE
SAV

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL SAVICTIM` sets the 1st aggressor signal to be the same as the victim, in Non-Cascading mode

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:SIGNAL?` might return FILE, indicating that 2nd Aggressor has a signal type set to use a file, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:FILE

This command sets or returns the filepath to the aggressor file for the specified Aggressor, in Non-Cascading mode.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Aggressor signal type must be File.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:FILE
<filepath>
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:FILE?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

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

Returns

A single <filepath> string.

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL:FILE "C:\temp\myFile.txt"` sets the 1st Aggressor's file and filepath when the aggressor is set to use a file, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:SIGNAL:FILE?` might return `"C:\temp\myFile.txt"` indicating that the 2nd Aggressor has a signal type filepath set to "C:\temp\myFile.txt", in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:PRBS

This command sets or returns the specified Aggressor's PRBS signal type, in Non-Cascading mode.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Number of ports must be either 8 or 12.

Aggressor signal type must be PRBS.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:PRBS
{PRBS7|PRBS9|PRBS15|PRBS16|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31}
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal:PRBS?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:NCAScading:AGGRessor[n]:SIGNal

Arguments

[n] ::= {1|2} (“n” determines the aggressor signal (1 or 2). 2 is only valid if the number of ports is set to 12.)

If omitted, n is interpreted as 1.

Patterns available include: PRBS7, PRBS9, PRBS15, PRBS16, PRBS20, PRBS21, PRBS23, PRBS29, PRBS31

Returns

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

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL:PRBS PRBS31` sets the 1st Aggressor's Signal type's PRBS value to PRBS31, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:AGGRESSOR2:SIGNAL:PRBS?` might return `PRBS15`, indicating that the 2nd Aggressor has a signal type PRBS value set to PRBS15, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:DEEMbed

This command sets or returns whether the Non-Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Non-Cascading mode.

Conditions S-Parameter Mode must be set to Non-Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:DEEMbed {0|1|OFF|ON}
RFGSignal:SPARameter:NCAScading:DEEMbed?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments OFF or 0 disables de-embedding. OFF or 0 is the default value.
ON or 1 enables de-embedding.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:DEEMBED 1` will de-embed the S-Parameters for Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:DEEMBED?` might return `0`, indicating that S-Parameters will not be de-embedded for Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:DRX[n]

This command sets or returns the S-Parameter port assignment of the channel's specified receiver port number (Rx-Port) in Non-Cascading mode and Differential Signalling Scheme (where applicable).

Conditions S-Parameter Mode must be set to Non-Cascading.

S-Parameter Signalling Scheme must be set to Differential.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:DRX[n] <port_number>
RFGSignal:SPARameter:NCAScading:DRX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:NCAScading:TYPE
RFGSignal:SPARameter:NCAScading:RX[n]

Arguments [n] ::= <NR1>. A variable value to define the receiver port number (Rx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4, then n = {1}
Type = 8 then n = {1 – 2}
Type = 12 then n = {1 – 3}

If omitted, n is interpreted as 1.

<port_number>::= <NR1> value. A variable value to define the S-Parameter Port assigned to the specified Rx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4, then n = {1 – 2}
Type = 8 then <port number> = {1 – 4}
Type = 12 then <port number> = {1 – 6}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:DTX2 4` assigns S-Parameter port 4 to channel's receiver port 2, in the Differential, Non-Cascading mode.

RFGSIGNAL:SPARAMETER:NCASCADING:DTX3? might return 6, indicating that S-Parameter Port 6 is assigned to the channel's receiver port 3, in the Differential, Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:DTX[n]

This command sets or returns the S-Parameter port assignment of the channel's specified transmission port number (Tx-Port) in Non-Cascading mode and Differential Signalling Scheme (where applicable).

Conditions S-Parameter Mode must be set to Non-Cascading.

S-Parameter Signalling Scheme must be set to Differential.

Requires an S-Parameters license.

Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:DTX[n] <port_number>
RFGSignal:SPARameter:NCAScading:DTX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:NCAScading:STYPe
RFGSignal:SPARameter:NCAScading:TYPE
RFGSignal:SPARameter:NCAScading:DRX[n]

Arguments [n] ::= <NR1> value. A variable value to define the transmission port number (Tx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4, then n = {1}
Type = 8 then n = {1 – 2}
Type = 12 then n = {1 – 3}

If omitted, n is interpreted as 1.

<port_number>::= <NR1> value. A variable value to define the S-Parameter Port assigned to the specified Tx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 4 then <port number> = {1 – 2}
Type = 8 then <port number> = {1 – 4}
Type = 12 then <port number> = {1 – 6}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:DTX2 4` assigns S-Parameter port 4 to channel's transmission port 2, in the Differential, Non-Cascading mode.

RFGSIGNAL:SPARAMETER:NCASCADING:DTX3? might return 6, indicating that S-Parameter Port 6 is assigned to the channel's transmission port 3, in the Differential, Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:FILE

This command sets or returns the filepath and file name of the S-Parameter file, in Non-Cascading mode.

Conditions S-Parameter Mode must be set to Non-Cascading.

Requires an S-Parameters license.

Group S-Parameters

Syntax `RFGSignal:SPARameter:NCAScading:FILE <filepath>`

Related Commands RFGSignal:SPARameter:MODE

Arguments <filepath>::= <string> defines the path to the S-Parameter file.

Returns A single <filepath> string.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:FILE "C:\temp\myFile.s12p"` sets the filepath to "C:\temp\myFile.s12p" for use during compilation.

`RFGSIGNAL:SPARAMETER:NCASCADING:FILE?` might return `"C:\temp\myOtherFile.s6p"`, indicating the current filepath.

RFGSignal:SPARameter:NCAScading:LAYout

This command sets or returns the 4 port S-Parameter Matrix Configuration, in Non-Cascading mode.

Conditions S-Parameter Mode must be set to Non-Cascading.

Number of Ports must be set to 4.

Requires an S-Parameters license.

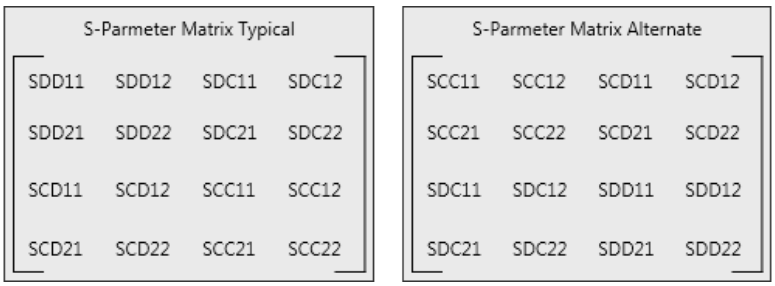
Group S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:LAYout {TYPical|ALTernate}
RFGSignal:SPARameter:NCAScading:LAYout?
```

Related Commands RFGSignal:SPARameter:MODE

Arguments TYPical or ALTernate: selects the S-Parameter Matrix.



Returns TYP
ALT

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:LAYOUT TYPICAL` sets the 4 port configuration's Layout to Typical, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:LAYOUT?` might return `TYP`, indicating that configuration's Layout for port 4 is set to Typical, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:RX[n]

This command sets or returns the S-Parameter port assignment of the channel's specified receiver port number (Rx-Port) in Non-Cascading mode and Single-Ended Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Non-Cascading.

S-Parameter Signalling Scheme must be set to Single-Ended.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:RX[n] <port number>
RFGSignal:SPARameter:NCAScading:RX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:NCAScading:TYPE
RFGSignal:SPARameter:NCAScading:TX[n]

Arguments

[n] ::= <NR1>. A variable value to define the receiver port number (Rx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then n = no value
Type = 2, then n = {1}
Type = 4 then n = {1 – 2}
Type = 6 then n = {1 – 3}
Type = 8 then n = {1 – 4}
Type = 12 then n = {1 – 6}

If omitted, n is interpreted as 1.

<port number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Rx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then <port number> = no value
Type = 2, then <port number> = {1 – 2}
Type = 4 then <port number> = {1 – 4}
Type = 6 then <port number> = {1 – 6}
Type = 8 then <port number> = {1 – 8}
Type = 12 then <port number> = {1 – 12}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:RX2 4` assigns S-Parameter port 4 to the channel's receiver port 2, in the Single-Ended, Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:RX4?` might return `6`, indicating that S-Parameter Port 6 is assigned to the channel's receiver port 4, in the Single-Ended, Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:SSCHeme

This command sets or returns the S-Parameter Signalling Scheme, in Non-Cascading mode. Signalling Scheme is only available when the Number of Ports is set to 4, 8, or 12.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:SSCHeme
{SENDed|DIFFerential}
RFGSignal:SPARameter:NCAScading:SSCHeme?
```

Related Commands

RFGSignal:SPARameter:MODE

Arguments

SENDed – Single Ended Signal Scheme

DIFFerential – Differential Signal Scheme

Returns

SEND
DIFF

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:SSCHEME DIFF` sets the Signalling Scheme to Differential, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:SSCHEME?` might return `SEND`, indicating that the Signalling Scheme is set to Single Ended, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:STYPe

This command sets or returns S-Parameter signal type (victim or aggressor), in Non-Cascading mode. The number of ports must be either 8 or 12.

Conditions

S-Parameter Mode must be set to Non-Cascading.

Number of Ports must be either 8 or 12.

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:STYPe
{VICTim|AGGRessor|BOTH}
RFGSignal:SPARameter:NCAScading:STYPe?
```

Related Commands

RFGSignal:SPARameter:MODE

Arguments

VICTim – enables the victim signal type.

AGGRessor – enables the aggressor signal type.

BOTH – enables the victim and aggressor signal types.

Returns

VICT
AGGR
BOTH

Examples

`RFGSIGNAL:SPARAMETER:NCASCADING:STYPE BOTH` sets the signal type to include both the Victim and Aggressor signal types, in Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:STYPE?` might return `AGGR`, indicating that the S-Parameter signal type is currently set to be Aggressor, in Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:TX[n]

This command sets or returns the S-Parameter port assignment of the channel's specified transmission port number (Tx-Port) in Non-Cascading mode and Single-Ended Signalling Scheme (where applicable).

Conditions

S-Parameter Mode must be set to Non-Cascading.

S-Parameter Signalling Scheme must be set to Single-Ended (where applicable).

Requires an S-Parameters license.

Group

S-Parameters

Syntax

```
RFGSignal:SPARameter:NCAScading:TX[n] <port number>
RFGSignal:SPARameter:NCAScading:TX[n]?
```

Related Commands

RFGSignal:SPARameter:MODE
RFGSignal:SPARameter:CASCading:STYPe
RFGSignal:SPARameter:NCAScading:TYPE
RFGSignal:SPARameter:NCAScading:RX[n]

Arguments

[n] ::= <NR1>. A variable value to define the transmission port number (Tx-Port) of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then n = no value
Type = 2, then n = {1}
Type = 4 then n = {1 – 2}
Type = 6 then n = {1 – 3}
Type = 8 then n = {1 – 4}
Type = 12 then n = {1 – 6}

If omitted, n is interpreted as 1.

<port number> ::= <NR1>. A variable value to define the S-Parameter Port assigned to the specified Tx-Port of the channel.

The actual range is dependent on the Number of Ports (Type).

Type = 1, then <port number> = no value
Type = 2, then <port number> = {1 – 2}
Type = 4 then <port number> = {1 – 4}
Type = 6 then <port number> = {1 – 6}
Type = 8 then <port number> = {1 – 8}
Type = 12 then <port number> = {1 – 12}

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:TX2 4` assigns S-Parameter port 4 to the channel's transmission port 2, in the Single-Ended, Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:TX4?` might return `6`, indicating that S-Parameter Port 6 is assigned to the channel's transmission port 4, in the Single-Ended, Non-Cascading mode.

RFGSignal:SPARameter:NCAScading:TYPE

This command sets or returns the S-Parameter number of ports, in Non-Cascading mode.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax `RFGSignal:SPARameter:NCAScading:TYPE {1|2|4|6|8|12}`

Arguments {1|2|4|6|8|12} – defines the number of S-Parameter ports.

Returns A single <NR1> value.

Examples `RFGSIGNAL:SPARAMETER:NCASCADING:TYPE 12` sets the S-Parameter type to a 12-Port system for Non-Cascading mode.

`RFGSIGNAL:SPARAMETER:NCASCADING:TYPE?` might return `6`, indicating that the S-Parameter type is a 6-Port system for Non-Cascading mode.

WPLugin:ACTive

This command sets or returns the active waveform plug-in.

To use the RF Generic Signal commands in this document, the active waveform plug-in must be set to RF Generic Signal.

Group Control

Syntax

```
WPLugin:ACTive <plug-in_name>
WPLugin:ACTive?
```

Arguments <plug-in_name>::=<string>

A single string representing the waveform plug-in name.

`"RF Generic Signal"` is the proper string to activate the RF Generic Signal plug-in.

Returns <plug-in_name>::=<string>

Examples `WPLUGIN:ACTIVE "RF Generic Signal"` sets the RF Generic Signal plug-in as the active plug-in.

`WPLUGIN:ACTIVE?` might return `"RF Generic Signal"`, indicating RF Generic Signal is currently the active waveform plug-in.

RFGSignal:SCModulation:TON

This command sets or returns the Sub Carrier Modulation state (enabled or disabled) for all carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:TON {1|0|ON|OFF}
RFGSignal:SCModulation:TON?
```

Arguments OFF or 0 disables Sub Carrier Modulation. OFF or 0 is the default value.

ON or 1 enables Sub Carrier Modulation.

Returns A single <Boolean> value.

Examples `RFGSIGNAL:SCMODULATION:TON 1` enables Sub Carrier Modulation for all carriers.

`RFGSIGNAL:SCMODULATION:TON?` might return `0`, indicating that Sub Carrier Modulation is disabled.

RFGSignal:SCModulation:TYPE

This command sets or returns the Sub Carrier Modulation type for the carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:TYPE {AM|FM|PM}
RFGSignal:SCModulation:TYPE?
```

Arguments `AM`, `FM`, and `PM` are the Modulation types.

Returns `AM`, `FM`, or `PM` indicating the analog modulation type.

Examples `RFGSIGNAL:SCMODULATION:TYPE`

`RFGSIGNAL:SCMODULATION:TYPE FM` sets the Sub Carrier Modulation type to FM for the carriers in the carrier table.

`RFGSIGNAL:SCMODULATION:TYPE?` might return `PM`, indicating that the Sub Carrier Modulation type is set to Phase Modulation for the carriers in the carrier table.

RFGSignal:SCModulation:CFRequency

This command sets or returns the Sub Carrier Modulation Carrier Frequency for the carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:CFRequency <carrier_frequency>
RFGSignal:SCModulation:CFRequency?
```

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

Returns A single <NR3> value.

Examples `RFGSIGNAL:SCMODULATION:CFREQUENCY 10E6` sets the Sub Carrier Modulation Carrier Frequency to 10 MHz for the carriers in the carrier table.

`RFGSIGNAL:SCMODULATION:CFREQUENCY?` might return `1.0000000000E+6`, indicating that the Sub Carrier Modulation Carrier Frequency is set to 1 MHz for the carriers in the carrier table.

RFGSignal:SCModulation:FMModulation:FDEViation

This command sets or returns the Frequency Deviation for the FM Sub Carrier Modulation for the carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:FMModulation:FDEViation
<freq_deviation>
RFGSignal:SCModulation:FMModulation:FDEViation?
```

Related Commands RFGSignal:SCModulation:TYPE

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

Returns A single <NR3> value.

Examples `RFGSIGNAL:SCMODULATION:FMMODULATION:FDEVIATION 1E3` sets the FM Frequency Deviation to 1 kHz for the Sub Carrier Modulation for the carriers in the carrier table.

`RFGSIGNAL:SCMODULATION:FMMODULATION:FDEVIATION?` might return `1.4000000000E+3`, indicating that the FM Frequency Deviation for the Sub Carrier Modulation is set to 1.4 kHz for the carriers in the carrier table.

RFGSignal:SCModulation:PMModulation:PDEViation

This command sets or returns the Phase Deviation for the PM Sub Carrier Modulation for the carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:PMModulation:PDEViation
<phase_deviation>
```

Related Commands RFGSignal:SCModulation:TYPE

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

Returns A single <NR2> value.

Examples `RFGSIGNAL:SCMODULATION:PMMODULATION:PDEVIATION 11.5` sets the PM Phase Deviation to 11.5° for the Sub Carrier Modulation for the carriers carrier table.

`RFGSIGNAL:SCMODULATION:PMMODULATION:PDEVIATION?` might return `10.0000000000`, indicating that the PM Phase Deviation for Sub Carrier Modulation is set to 10° for the carriers in the carrier table.

RFGSignal:SCModulation:AMModulation:AMINdex

This command sets or returns the AM Index for the AM Sub Carrier Modulation for the carriers in the carrier table.

Group Sub Carrier Modulation

Syntax

```
RFGSignal:SCModulation:AMModulation:AMINdex <AM_index>
RFGSignal:SCModulation:AMModulation:AMINdex?
```

Related Commands RFGSignal:SCModulation:TYPE

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

Returns A single <NR2> value.

Examples `RFGSIGNAL:SCMODULATION:AMMODULATION:AMINDEX 3.5` sets the AM Index to 3.5% for the Sub Carrier Modulation for the carriers carrier table.

`RFGSIGNAL:SCMODULATION:AMMODULATION:AMINDEX?` might return `10.0000000000`, indicating that the AM Index for Sub Carrier Modulation is set to 10% for the carriers in the carrier table.

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