



**OFDM Signal Modulation
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 OFDM Signal Modulation plug-in application.

The OFDM Signal Modulation 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 OFDM Signal Modulation Programmer Guide, the following documentation is included with this application:

- OFDM Signal Modulation Help. The help provides in-depth operation and user interface help.
- OFDM Signal Modulation User Manual (PDF). This is adapted from the OFDM Signal Modulation 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.
OFDM:RESet	Resets the OFDM 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
OFDM:COMPIle	Compiles and generates a waveform using the OFDM plug-in compile settings.
OFDM:COMPIle:CANcel	Cancels a compilation currently in progress.
OFDM: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).
OFDM:COMPIle:CHANnel:I	Sets or returns the playout channel intended for the compiled I signal when the signal format is set to IQ.
OFDM:COMPIle:CHANnel:IQ	Sets or returns the status (enabled or disabled) of using the Internal IQ Modulator for the Compile Settings.
OFDM:COMPIle:CHANnel:Q	Sets or returns the playout channel intended for the compiled Q signal when the signal format is set to IQ.
OFDM:COMPIle:CHANnel:RF	Sets or returns the playout channel intended for the compiled RF waveform when the signal format is set to RF/IF.
OFDM:COMPIle:CORRection:APPLy	Sets or returns the Apply Corrections File state (enabled or disabled) for the Compile Settings.
OFDM:COMPIle:CORRection:PATH	Sets or returns the RF Correction filename and filepath to use when compiling an RF signal.
OFDM:COMPIle:CORRection:PATH:I	Sets or returns the I Correction filename and filepath to use when compiling and IQ signal.
OFDM:COMPIle:CORRection:PATH:IQ	Sets or returns the IQ Correction filename and filepath to use when compiling and IQ signal.
OFDM:COMPIle:CORRection:PATH:Q	Sets or returns the Q Correction filename and filepath to use when compiling and IQ signal.
OFDM: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.
OFDM:COMPIle:DUPConverter	Sets or returns the Internal IQ Modulator state (enabled or disabled) when compiling.

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

Command	Description
OFDM:COMPIle:MARKer:ENABLE	Sets or returns the Marker Data state (enabled or disabled) for the Compile Settings.
OFDM:COMPIle:MARKer[n]:CFRequency	Sets or returns the Marker Data clock frequency when the Marker Data type is set to Clock Frequency.
OFDM:COMPIle:MARKer[n]:MDATa	Sets or returns the Marker Data Type of the specified marker.
OFDM:COMPIle:MODE	Sets or returns the Create Sequence state (enabled or disabled) of the compiler control. When enabled, a sequence of frames with waveforms is automatically created after compilation.
OFDM:COMPIle:NAME	Sets or returns the name of the compiled waveform.
OFDM:COMPIle:OSAMpling	Sets or returns the over sampling rate used to determine the sampling rate of the compiled signal.
OFDM:COMPIle:OVERwrite	Sets or returns the Overwrite existing waveform state (enabled or disabled) when compiling.
OFDM:COMPIle:PLAY	Sets or returns the Play after assign state (enabled or disabled) for the Compile Settings.
OFDM:SFOFormat	Sets or returns the signal format of the signal to be compiled.
OFDM:COMPIle:SRATe	Sets or returns the sampling rate for the compile settings.
OFDM:COMPIle:SRATe:AUTO	Sets or returns the value that indicates if the sampling rate will be automatically calculated at compile time.

Carrier setup commands

Table 2-3: Carrier setup commands and their descriptions

Command	Description
OFDM:CARRier:AMPLitude	Sets or returns the signal carrier amplitude (in volts) for the IQ signal format.
OFDM:CARRier:BANDwidth	Sets or returns the carrier bandwidth for the OFDM signal.
OFDM:CARRier:FREQuency	Sets or returns the carrier Frequency for the RF/IF signal format.
OFDM:CARRier:POWer	Sets or returns the signal carrier amplitude (in dBm) for the RF/IF signal format.

Frame commands

Table 2-4: Frame commands and their descriptions

Command	Description
OFDM:FRAMe:ADD	Adds a new frame to the existing list of frames within the Frame List.
OFDM:FRAMe:DELeTe	Deletes the specified frame from the Frame List.

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

Command	Description
OFDM:FRAME:FSPacing:ENABLE	Sets or returns the status (enabled or disabled) of Frame Spacing for the selected frame.
OFDM:FRAME:FSPacing:VALue	Sets or returns the Frame Spacing (in seconds) for selected frame.
OFDM:FRAME:OTNoise:ENABLE	Sets or returns the status (enabled or disabled) of the SNR Off-Time for the selected frame.
OFDM:FRAME:OTNoise:VALue	Sets or returns the Frame SNR Off-Time duration (in dB) for selected frame.
OFDM:FRAME:REName	Renames an existing frame name to a new name. The frame being renamed must exist in the Frames List.
OFDM:FRAME:SElect	Sets or returns the selected frame from the list of available frames in the Frames List.
OFDM:FRAME:WINDow:ENABLE	Sets or returns the status (enabled or disabled) of the overlap Window type for the selected frame.
OFDM:FRAME:WINDow:TYPE	Sets or returns the overlap Window type for the selected frame.

Gated noise commands

Table 2-5: Gated noise commands and their descriptions

Command	Description
OFDM:FRAME:GNOise:ENABLE	Sets or returns the Gated Noise state (enabled or disabled) for the selected frame in the Frame List.
OFDM:FRAME:GNOise:FSNR:VALue	Sets or returns the Gated Noise SNR for the Complete frame for the selected frame.
OFDM:FRAME:GNOise:HEADer:ENABLE	Sets or returns the frame's Header state for Gated Noise (enabled or disabled) when Gated Noise is set to Custom for the selected frame in the Frame List.
OFDM:FRAME:GNOise:HEADer:VALue	Sets or returns the Gated Noise value for the frame's header for the selected frame in the Frame List.
OFDM:FRAME:GNOise:PAYLoad:ENABLE	Sets or returns the frame's Payload state (enabled or disabled) for Gated Noise when Gated Noise is set to Custom for the selected frame in the Frame List.
OFDM:FRAME:GNOise:PAYLoad:VALue	Sets or returns the Gated Noise value for the frame's payload for the selected frame in the Frame List.
OFDM:FRAME:GNOise:PREamble:ENABLE	Sets or returns the frame's Preamble state for Gated Noise (enabled or disabled) when Gated Noise is set to Custom for the selected frame in the Frame List.
OFDM:FRAME:GNOise:PREamble:VALue	Sets or returns the Gated Noise value for the frame's preamble for the selected frame in the Frame List.
OFDM:FRAME:GNOise:TYPE	Sets or returns the Gated Noise type for the selected frame in the Frame List.

Header commands

Table 2-6: Header commands and their descriptions

Command	Description
OFDM:FRAME:HEADer:ADD	Adds a row to the end of the Header custom Symbols table for the selected frame. Symbols are added from the Symbol List (defined in the Symbols tab).
OFDM:FRAME:HEADer:DELeTe	Deletes the specified row from the Header custom symbols table
OFDM:FRAME:HEADer:DOMain	Sets or returns the Domain for the user supplied header file for the selected frame.
OFDM:FRAME:HEADer:ENABle	Sets or returns the status (enabled or disabled) of the frame Header for the selected frame.
OFDM:FRAME:HEADer:MODE	Sets or returns the Header input method (file or custom symbols table) for the selected frame.
OFDM:FRAME:HEADer:PATH	Sets or returns the Header filename and filepath for the selected frame.
OFDM:FRAME:HEADer:REPeat	Sets or returns the Repeat count for the user supplied header file for the selected frame.
OFDM:FRAME:HEADer:SELeCt	Sets or returns the selected (active) row from the Header custom symbols table. Other commands act on the selected row.
OFDM:FRAME:HEADer:SNAME	Sets or returns the symbol name for the currently selected row in the Header custom symbol table. The new name must already exist in the Symbol List.
OFDM:FRAME:HEADer:SRATe	Sets or returns the Sampling Rate for the user supplied header file for the selected frame.
OFDM:FRAME:HEADer:SREPeat	Sets or returns the Repeat count for the currently selected row in the Header custom symbols table.
OFDM:FRAME:HEADer:SSPacing	Sets or returns the Header Subcarriers Spacing for the user supplied header file for the selected frame.
OFDM:FRAME:HENable	Sets or returns the status (enabled or disabled) of including a Header for the selected frame.

Hopping commands

Table 2-7: Hopping commands and their descriptions

Command	Description
OFDM:FRAME:HOPPing:ENABle	Sets or returns the Hopping state (enabled or disabled) for the selected frame in the Frame List.
OFDM:FRAME:HOPPing:HTIME	Sets or returns the Hop Time type for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:ADD	Adds a single entry to the end of the Frequency Hop List for the selected frame in the Frame List

Table 2-7: Hopping commands and their descriptions (cont.)

Command	Description
OFDM:FRAME:HOPPing[:LIST]:AOFFset	Sets or returns the Amplitude Offset of the currently selected hop of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:COUNT?	Returns the number of hops in the Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:DELeTe	Removes all entries within the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:FREQuency	Sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:INSert	Inserts a single entry into the Frequency Hop List above the specified index for the selected frame in the Frames List.
OFDM:FRAME:HOPPing[:LIST]:RFREquency	Sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:SELeCt	Sets or returns the selected Hop number in the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing[:LIST]:SSINdex	Sets or returns the Symbol Start Index (Symbol Index) for the selected frame in the Frame List.
OFDM:FRAME:HOPPing:RLISt	Sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the selected frame in the Frame List.
OFDM:FRAME:HOPPing:SPHOp	Sets or returns the Symbols per Hop for the selected frame in the Frame List.

Multipath commands

Table 2-8: Multipath commands and their descriptions

Command	Description
OFDM:FRAME:MULTipath:ADD	Adds a new path in the Multipath table for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:AMPLitude	Sets or returns the Multipath Amplitude of the currently selected path for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:DELay	Sets or returns the Multipath Delay in seconds of the currently selected path for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:ENABLe	Sets or returns the Multipath state (enabled or disabled) for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:PHASe	Sets or returns the Multipath Phase of the currently selected path for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:REMOve	This command deletes the specified path from the Multipath table for the selected frame in the Frame List.
OFDM:FRAME:MULTipath:SELeCt	Sets or returns the active MultiPath table index (row) for the selected frame in the Frame List.

Payload commands

Table 2-9: Payload commands and their descriptions

Command	Description
OFDM:FRAMe:PAYLoad:ADD	Adds a row to the end of the Payload symbols table for the selected frame.
OFDM:FRAMe:PAYLoad:DELeTe	Deletes the specified row from the Payload symbols table
OFDM:FRAMe:PAYLoad:ENABLe	Sets or returns the status (enabled or disabled) of the frame Payload for the selected frame.
OFDM:FRAMe:PAYLoad:SELeT	Sets or returns the selected (active) row from the Payload symbols table. Other commands act on the selected row.
OFDM:FRAMe:PAYLoad:SNAME	Sets or returns the symbol name for the currently selected row in the Payload symbol table.
OFDM:FRAMe:PAYLoad:SREPeat	Sets or returns the Repeat count for the currently selected row in the Payload symbols table.
OFDM:FRAMe:PLENable	Sets or returns the status (enabled or disabled) of including a Preamble for the selected frame.

Phase noise commands

Table 2-10: Phase noise commands and their descriptions

Command	Description
OFDM:FRAMe:PNOise:ADD	Adds a single row to the end of the Phase Noise Frequency Model table.
OFDM:FRAMe:PNOise:BFRequency	Sets or returns the Bandwidth Frequency value (to considered as the bandwidth for phase noise power spectral density) for the Phase Noise Frequency Model when the Bandwidth Type is set to Frequency.
OFDM:FRAMe:PNOise:BLEVel	Sets or returns the Bandwidth cutoff level (in dBc/Hz) for the Phase Noise Frequency Model when the Bandwidth Type is set to Level.
OFDM:FRAMe:PNOise:BTYPe	Sets or returns the Bandwidth Type for the Phase Noise Frequency Model.
OFDM:FRAMe:PNOise:DELeTe	Deletes the specified row (index) from the Phase Noise Frequency Model table.
OFDM:FRAMe:PNOise:ENABLe	Sets or returns the Phase Noise state (enabled or disabled) for the selected frame in the Frame List.
OFDM:FRAMe:PNOise:FREQuency	Sets or returns the Frequency Offset for the currently selected row in the Phase Noise Frequency Model table.
OFDM:FRAMe:PNOise:MODE	Sets or returns the Model used for Phase Noise.
OFDM:FRAMe:PNOise:PNOise	Sets or gets the Phase Noise value for the Phase Noise Time Model.
OFDM:FRAMe:PNOise:PROFile	Sets or returns the Profile for the Phase Noise Time Model.

Table 2-10: Phase noise commands and their descriptions (cont.)

Command	Description
OFDM:FRAME:PNOise:PSD	Sets or returns the PSD (Power Spectral Density) dBc/Hz value for the currently selected row in the Phase Noise Frequency Model table.
OFDM:FRAME:PNOise:SElect	Sets or returns the selected (active) row of the Phase Noise Frequency Model table. Other commands act on the selected row.
OFDM:FRAME:PNOise:VCObandwidth	Sets or gets the VCO Bandwidth (VCO cutoff) value for the Phase Noise Time Model.

Preamble commands

Table 2-11: Preamble commands and their descriptions

Command	Description
OFDM:FRAME:PEnable	Sets or returns the status (enabled or disabled) of including a Preamble for the selected frame.
OFDM:FRAME:PREamble[n]:DOMain	Sets or returns the Domain type of the specified Preamble for the selected frame.
OFDM:FRAME:PREamble[n]:ENABLE	Sets or returns the status of the specified Preamble (enabled or disabled) for the selected frame.
OFDM:FRAME:PREamble[n]:PATH	Sets or returns the specified Preamble filename and filepath for the selected frame.
OFDM:FRAME:PREamble[n]:REPeat	Sets or returns the Repeat count of the specified Preamble for the selected frame.
OFDM:FRAME:PREamble[n]:SRATe	Sets or returns the Sampling Rate of the specified Preamble for the selected frame.
OFDM:FRAME:PREamble[n]:SSPacing	Sets or returns the Subcarrier Spacing of the specified Preamble for the selected frame.

S-Parameter commands

Table 2-12: S-Parameter commands and their descriptions

Command	Description
OFDM:SPARAmeter:BANDwidth	Sets or returns the S-Parameter bandwidth when setting manually.
OFDM:SPARAmeter:BANDwidth:AUTO	Sets or returns the S-Parameter automatic bandwidth calculation setting.
OFDM: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.

Table 2-12: S-Parameter commands and their descriptions (cont.)

Command	Description
OFDM:SPARameter:CASCading:AGGRessor[n]:AMPLitude	Sets or returns the specified Aggressor's amplitude, in Cascading mode.
OFDM:SPARameter:CASCading:AGGRessor[n]:CTALk	Sets or returns the specified Aggressor's crosstalk type, in Cascading mode.
OFDM:SPARameter:CASCading:AGGRessor[n]:DRATe	Sets or returns the specified Aggressor's data rate, in Cascading mode.
OFDM:SPARameter:CASCading:AGGRessor[n]:SIGNal	Sets or returns specified Aggressor's signal type, in Cascading mode.
OFDM:SPARameter:CASCading:AGGRessor[n]:SIGNal:FILE	Sets or returns the filename and filepath to the aggressor file for the specified Aggressor, in Cascading mode.
OFDM:SPARameter:CASCading:AGGRessor[n]:SIGNal:PRBS	Sets or returns the specified Aggressor's PRBS signal type, in Cascading mode.
OFDM:SPARameter:CASCading:DEEMbed	Sets or returns whether the Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Cascading mode.
OFDM: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).
OFDM: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).
OFDM:SPARameter:CASCading:STAGe[m]:ENABLE	Sets or returns the state (enabled or disabled) of the specified Cascaded S-Parameter stage.
OFDM:SPARameter:CASCading:STAGe[m]:FILE	Sets or returns the filename and filepath for the specified S-Parameters Cascading Stage, in Cascading mode.
OFDM: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).
OFDM: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.
OFDM: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).
OFDM: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.
OFDM:SPARameter:CASCading:TYPE	Sets or returns the S-Parameter number of ports, in Cascading mode.
OFDM:SPARameter:MODE	Sets or returns the S-Parameter mode (Cascading or Non-Cascading).

Table 2-12: S-Parameter commands and their descriptions (cont.)

Command	Description
OFDM: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.
OFDM:SPARameter:NCAScading:AGGRessor[n]:AMPLitude	Sets or returns the specified Aggressor's amplitude, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:AGGRessor[n]:CTALk	Sets or returns the specified Aggressor's crosstalk type, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:AGGRessor[n]:DRATe	Sets or returns the specified Aggressor's data rate, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:AGGRessor[n]:SIGNal	Sets or returns specified Aggressor's signal type, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:AGGRessor[n]:SIGNal:FILE	Sets or returns the filepath to the aggressor file for the specified Aggressor, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:AGGRessor[n]:SIGNal:PRBS	Sets or returns the specified Aggressor's PRBS signal type, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:DEEMbed	Sets or returns whether the Non-Cascading S-Parameters is to de-embed (invert) the S-Parameters, in Non-Cascading mode.
OFDM: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).
OFDM: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).
OFDM:SPARameter:NCAScading:FILE	Sets or returns the filename and filepath of the S-Parameter file, in Non-Cascading mode.
OFDM:SPARameter:NCAScading:LAYout	Sets or returns the 4 port S-Parameter Matrix Configuration, in Non-Cascading mode.
OFDM: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).
OFDM: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.
OFDM: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.
OFDM: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).
OFDM:SPARameter:NCAScading:TYPE	Sets or returns the S-Parameter number of ports, in Non-Cascading mode.
OFDM:SPARameter:SFORMAT	Sets or returns the currently used signal format for all S-Parameter values.

Table 2-12: S-Parameter commands and their descriptions (cont.)

Command	Description
OFDM: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.
OFDM:SPARameter:TON	Sets or returns the S-Parameter state (enabled or disabled).

Symbols commands

Table 2-13: Symbols commands and their descriptions

Command	Description
OFDM:SYMBol:ADD	Adds a new symbol to the existing list of symbols within the Symbols List. The new symbol is created using the plug-in default settings.
OFDM:SYMBol:APPRofile:CUSTom:ADD	Adds a single row to the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:CUSTom:AMPLitude	Sets or returns the amplitude of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:CUSTom:PHASe	Sets or returns the phase of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:CUSTom:REMove	Removes the specified row from the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:CUSTom:SElect	Sets or returns the selected (active) row of the Custom Amplitude/Phase Profile table. Other commands act on the selected row.
OFDM:SYMBol:APPRofile:CUSTom:SPOS	Sets or returns the subcarrier positions for the currently selected row in the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:DATA:AMPLitude	Sets or returns the amplitude of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:DATA:ENABLE	This command sets or returns the Data state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:DATA:PHASe	Sets or returns the phase of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:ENABLE	Sets or returns the Amplitude Phase Profile state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBol:APPRofile:PILot:AMPLitude	This command sets or returns the amplitude of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Table 2-13: Symbols commands and their descriptions (cont.)

Command	Description
OFDM:SYMBOL:APPROfile:PILOt:ENABle	This command sets or returns the Pilot state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List.
OFDM:SYMBOL:APPROfile:PILOt:PHASe	Sets or returns the Phase of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.
OFDM:SYMBOL:APPROfile:TYPE	Sets or returns the Amplitude Phase Profile type for selected symbol.
OFDM:SYMBOL:CRATio:ENABle	Sets or returns the Clipping Ratio state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:CRATio:VALue	Sets or returns the Clipping Ratio value for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA	Sets or returns the Data subcarriers pattern type for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:ENABle	Sets or returns the Data subcarriers state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:FILE	Sets or returns the Data Pattern file and filepath for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:MODulation:PSK	Sets or returns the Data subcarriers PSK data modulation type for the selected symbol in the Symbol Table.
OFDM:SYMBOL:DATA:MODulation:QAM	This command sets or returns the Data subcarriers QAM modulation type for the selected symbol in the Symbol Table.
OFDM:SYMBOL:DATA:MODulation:TYPE	Sets or returns the Data subcarriers modulation type for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:PATtern	Sets or returns the user defined Data subcarriers pattern for the selected symbol in the Symbol Table.
OFDM:SYMBOL:DATA:POSition	Sets or returns the Data subcarrier positions of the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:PRBS	Sets or returns the PRBS pattern type when the Data subcarriers pattern type is set to PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:PRBS:UDEFinEd:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:DATA:PRBS:UDEFinEd:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:DELeTe	This command deletes the specified symbol from the Symbol List.
OFDM:SYMBOL:FOFFset:ENABle	Sets or returns the Frequency Offset state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:FOFFset:VALue	Sets or returns the Frequency Offset value for the selected symbol in the Symbol List.

Table 2-13: Symbols commands and their descriptions (cont.)

Command	Description
OFDM:SYMBOL:GINTerval:ENABLE	Sets or returns the Symbols Guard Interval state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:GINTerval:TYPE	This command sets or returns the Guard Interval type for the selected symbol in the Symbol List.
OFDM:SYMBOL:GINTerval:VALue	Sets or returns the value of the guard interval for the selected symbol in the Symbol List.
OFDM:SYMBOL:GPOSitions	Sets or returns the Subcarrier Guard positions of the selected symbol in the Symbol List.
OFDM:SYMBOL:GPOSitions:ENABLE	Sets or returns the subcarriers guard position state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:NPOSitions	Sets or returns the Subcarrier Null positions of the selected symbol in the Symbol List.
OFDM:SYMBOL:NPOSitions:ENABLE	Sets or returns the Subcarrier Null positions state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt	Sets or returns the Pilot subcarriers pattern type for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:ENABLE	This command sets or returns the Pilot subcarriers state (enabled or disabled) for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:FILE	Sets or returns the Pilot subcarriers pattern file and filepath for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:MODulation:PSK	Sets or returns the Pilot subcarriers PSK modulation type for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:MODulation:QAM	This command sets or returns the Pilot subcarriers QAM modulation type for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:MODulation:TYPE	Sets or returns the Pilot subcarriers modulation type for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:PATtern	Sets or returns the user defined Pilot subcarriers pattern for the selected symbol in the Symbol Table.
OFDM:SYMBOL:PILOt:POSition	This command sets or returns the Pilot subcarrier positions of the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:PRBS	Sets or returns the PRBS pattern type when the Pilot subcarriers pattern type is set to PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:PRBS:UDEfined:POLYnomial	Sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:PILOt:PRBS:UDEfined:SREGister	Sets or returns the PRBS Shift register initial value for the User Defined PRBS when the Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.
OFDM:SYMBOL:POFFset:ENABLE	Sets or returns the Phase Offset state (enabled or disabled) for the selected symbol in the Symbol List.

Table 2-13: Symbols commands and their descriptions (cont.)

Command	Description
OFDM:SYMBOL:POFFset:VALue	Sets or returns the Phase Offset value for the selected symbol in the Symbol List.
OFDM:SYMBOL:REName	Renames an existing symbol name to a new name. The symbol being renamed must exist in the Symbol List.
OFDM:SYMBOL:SElect	Sets or returns the selected symbol from the list of available symbols in the Symbol List. Other commands act on the selected symbol.
OFDM:SYMBOL:SSPacing	Sets or returns the Symbols Subcarriers Spacing for the selected symbol in the Symbol List.
OFDM:SYMBOL:TSUBcarriers	Sets or returns the total number of subcarriers for the selected symbol in the Symbol List.
OFDM:SYMBOL:TSUBcarriers:POSitions	Sets or returns if the subcarriers show only the positive subcarriers or all subcarriers for the selected symbol in the Symbol List.
OFDM:SYMBOL:UDEFinEd:ENABle	Sets or returns the User-defined frequency weight (enabled or disabled) of the selected symbol in the Symbol List. When enabled, a user supplied frequency weight file is used to define the subcarriers.
OFDM:SYMBOL:UDEFinEd:PATH	Sets or returns the filename and filepath of the User Defined Weights File.

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.

OFDM:CARRIER:AMPLitude

This command sets or returns the signal carrier amplitude (in volts) for the IQ signal format.

Conditions Signal format must be set to IQ.

Group Carrier setup

Syntax OFDM:CARRIER:AMPLitude <amplitude>
OFDM:CARRIER:AMPLitude?

Related Commands [OFDM:SFORMAT](#)

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

Returns A single <NR3> value.

Examples OFDM:CARRIER:AMPLITUDE 250E-3 sets the carrier Amplitude to 250 mV_{pp}.
OFDM:CARRIER:AMPLITUDE? might return 25.0000000000E-3, indicating that the carrier Amplitude is set to 25 mV_{pp}.

OFDM:CARRIER:BANDwidth

This command sets or returns the carrier bandwidth for the OFDM signal.

Group Carrier setup

Syntax OFDM:CARRIER:BANDwidth <bandwidth>
OFDM:CARRIER:BANDwidth?

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

Returns A single <NR3> value.

Examples `OFDM:CARRIER:BANDWIDTH2.5E6` sets the carrier bandwidth to 2.5 MHz.
`OFDM:CARRIER:BANDWIDTH?` might return `1.500000000E+6`, indicating that the carrier bandwidth is set to 1.5 MHz.

OFDM:CARRIER:FREQUENCY

This command sets or returns the carrier Frequency for the RF/IF signal format.

Conditions Signal format must be set to RF/IF.

Group Carrier setup

Syntax OFDM:CARRIER:FREQUENCY <carrier_frequency>
OFDM:CARRIER:FREQUENCY?

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

Returns <carrier_frequency>::=<NR3> value.

Examples OFDM:CARRIER:FREQUENCY1E9 sets the carrier frequency to 1 GHz.
OFDM:CARRIER:FREQUENCY? might return 1.0000000000E+9, indicating that the carrier frequency is set to 1 GHz.

OFDM:CARRier:POWer

This command sets or returns the signal carrier amplitude (in dBm) for the RF/IF signal format.

Conditions Signal format must be set to RF/IF.

Group Carrier setup

Syntax OFDM:CARRier:POWer <power>
OFDM:CARRier:POWer?

Related Commands [OFDM:SFORmat](#)

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

Returns A single <NR3> value.

Examples OFDM:CARRIER:POWER -2 sets the carrier power to -2 dBm.
OFDM:CARRIER:POWER? might return 5.000000000, indicating that the carrier power is set to 5 dBm.

OFDM:COMPILE (No Query Form)

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

Conditions The active plug-in must be OFDM.

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 OFDM:COMPILE

Examples OFDM:COMPILE compiles and generates the waveform.

OFDM:COMPIle:CANCEl (No Query Form)

This command cancels a compilation currently in progress.

Conditions The active plug-in must be OFDM.

Group Compile

Syntax OFDM:COMPIle:CANCEl

Examples OFDM:COMPILE:CANCEL immediately ends the current compile process.

OFDM: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 OFDM:COMPile:CASSign {0|1|OFF|ON}
OFDM:COMPile:CASSign?

Related Commands [OFDM:COMPile:CHANnel:RF](#),
[OFDM:COMPile:CHANnel:I](#),
[OFDM:COMPile:CHANnel:Q](#),
[OFDM:COMPile:PLAYOFDM:COMPile:PLAY](#)

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

Returns A single <Boolean> value.

Examples OFDM:COMPILE:CASSIGN 1 enables the compile and assign function.
OFDM:COMPILE:CASSIGN? might return 0, indicating that the compile and assign function is disabled.

OFDM:COMPile:CHANnel:I

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

If [OFDM:COMPile:CASSign](#) is enabled, the waveform is assigned to the specified channel.

Group	Compile
Syntax	<code>OFDM:COMPile:CHANnel:I <channel></code> <code>OFDM:COMPile:CHANnel:I?</code>
Arguments	<code><channel>::= <NR1></code> is a valid channel number. Channel 1 is the default channel.
Returns	A single <code><NR1></code> value.
Examples	<code>OFDM:COMPILE:CHANNEL:I 2</code> compiles the I signals for channel 2. <code>OFDM:COMPILE:CHANNEL:I?</code> might return 1, indicating that I signals are compiled for channel 1.

OFDM: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 `OFDM:COMPile:CHANnel:IQ <channel>`
`OFDM:COMPile:CHANnel:IQ?`

Related Commands [OFDM:COMPile:DUPConverter](#)

Arguments `<channel>::= <NR1>` is a valid channel number.
 Channel 1 is the default channel.

Returns A single `<NR1>` value.

Examples `OFDM:COMPILE:CHANNEL:IQ 2` compiles the IQ signals for channel 2.
`OFDM:COMPILE:CHANNEL:IQ?` might return 1, indicating that IQ signals are compiled for channel 1.

OFDM:COMPIle:CHANnel:Q

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

If [OFDM:COMPIle:CASSign](#) is enabled, the waveform is assigned to the specified channel.

Group	Compile
Syntax	<code>OFDM:COMPIle:CHANnel:Q <channel></code> <code>OFDM:COMPIle:CHANnel:Q?</code>
Arguments	<code><channel>::= <NR1></code> is a valid channel number. Channel 1 is the default channel.
Returns	A single <code><NR1></code> value.
Examples	<code>OFDM:COMPILE:CHANNEL:Q 2</code> compiles the Q signals for channel 2. <code>OFDM:COMPILE:CHANNEL:Q?</code> might return 1, indicating that Q signals are compiled for channel 1.

OFDM:COMPile:CHANnel:RF

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

If [OFDM:COMPile:CASSign](#) is enabled, the waveform is assigned to the specified channel.

Group	Compile
Syntax	<pre>OFDM:COMPi le:CHANne l:RF <channel> OFDM:COMPi le:CHANne l:RF?</pre>
Arguments	<channel>::=<NR1> is a valid channel number. Channel 1 is the default channel.
Returns	A single <NR1> value.
Examples	OFDM:COMPILE:CHANNEL:RF 2 compiles RF waveforms for channel 2. OFDM:COMPILE:CHANNEL:RF? might return 1, indicating that RF waveforms are compiled for channel 1.

OFDM: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.

Conditions The Precompensation plug-in is required.

Group Compile

Syntax `OFDM:COMPILE:CORRECTION:APPLY {1|0|ON|OFF}`
`OFDM:COMPILE:CORRECTION:APPLY?`

Related Commands [OFDM: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 `OFDM:COMPILE:CORRECTION:APPLY ON` enables Apply Corrections File.
`OFDM:COMPILE:CORRECTION:APPLY?` might return 0, indicating that Apply Corrections File is disabled.

OFDM: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	OFDM:COMPILE:CORRECTION:PATH <filepath> OFDM:COMPILE:CORRECTION:PATH?
Arguments	<filepath>::=<string> defines path to the correction file.
Returns	A single <filepath> string.
Examples	OFDM:COMPILE:CORRECTION:PATH "C:\temp\CorrectionFile.corr" sets the RF Correction filename and filepath. OFDM:COMPILE:CORRECTION:PATH? might return "C:\temp\CorrectionFile.corr" as the RF Correction filename and filepath.

OFDM: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 OFDM:COMPILE:CORRECTION:PATH:I <filepath>

Related Commands [OFDM:COMPILE:CORRECTION:TYPE](#),
[OFDM:COMPILE:CORRECTION:APPLY](#)

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

Returns A single <filepath> string.

Examples OFDM:COMPILE:CORRECTION:PATH:I
"C:\temp\ICorrectionFile.corr" sets the I Correction filename and
filepath.

OFDM:COMPILE:CORRECTION:PATH:I? might return
"C:\temp\ICorrectionFile.corr" as the I Correction filename and filepath.

OFDM: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 OFDM:COMPile:CORRection:PATH:IQ <filepath>

Related Commands [OFDM:COMPile:CORRection:TYPE](#),
[OFDM:COMPile:CORRection:APPLY](#)

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

Returns A single <filepath> string.

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

OFDM:COMPILE:CORRECTION:PATH:IQ? might return
"C:\temp\ICorrectionFile.corr" as the IQ Correction filename
and filepath.

OFDM: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 OFDM:COMPILE:CORRECTION:PATH:Q <filepath>

Related Commands [OFDM:COMPILE:CORRECTION:TYPE](#),
[OFDM:COMPILE:CORRECTION:APPLY](#)

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

Returns A single <filepath> string.

Examples OFDM:COMPILE:CORRECTION:PATH:Q
"C:\temp\QCorrectionFile.corr" sets the Q Correction filename and
filepath.

OFDM:COMPILE:CORRECTION:PATH:Q? might return
"C:\temp\QCorrectionFile.corr" as the Q Correction filename and
filepath.

OFDM: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	OFDM:COMPILE:CORRECTION:TYPE {IQ BOTH} OFDM: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	OFDM:COMPILE:CORRECTION:TYPE IQ sets the compiler to apply a single IQ correction file when compiling. OFDM: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.

OFDM: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 `OFDM:COMPILE:DUPConverter {0|1|OFF|ON}`
`OFDM: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 `OFDM:COMPILE:DUPCONVERTER ON` enables the internal IQ Modulator.
`OFDM:COMPILE:DUPCONVERTER?` might return 0, indicating the internal IQ Modulator is disabled.

OFDM:COMPile:MARKer:ENABLE

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

Group Compile

Syntax OFDM:COMPile:MARKer:ENABLE {1|0|ON|OFF}
OFDM:COMPile:MARKer:ENABLE?

Related Commands [OFDM:COMPile:MARKer\[n\]:MDATa](#)
[OFDM: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 OFDM:COMPILE:MARKER:ENABLE ON enables the Marker Data.
OFDM:COMPILE:MARKER:ENABLE? might return 0, indicating that Marker Data is disabled.

OFDM: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 OFDM:COMPILE:MARKER[n]:CFREQUENCY <frequency>
 OFDM:COMPILE:MARKER[n]:CFREQUENCY?

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

Returns A single <NR3> value.

Examples OFDM:COMPILE:MARKER1:CFREQUENCY 1E9 sets the Marker 2 Data clock frequency to 1 GHz.

 OFDM:COMPILE:MARKER2:CFREQUENCY? might return 10.000000000E+6, indicating the Marker 2 clock frequency is set to 10 MHz.

OFDM:COMPILE:MARKER[n]:MDATA

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

Group Compile

Syntax OFDM:COMPILE:MARKER[n]:MDATA {SRATE|BRATE|CFrequency}
 OFDM:COMPILE:MARKER[n]:MDATA?

Related Commands [OFDM: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 OFDM:COMPILE:MARKER1:MDATA BRATE sets the Marker 1 Data type to Bit Rate.
 OFDM:COMPILE:MARKER2:MDATA? might return CFR, indicating that the Marker 2 Data type is based on the clock frequency provided.

OFDM:COMPILE:MODE

This command sets or returns the Create Sequence state (enabled or disabled) of the compiler control. When enabled, a sequence of frames with waveforms is automatically created after compilation.

Group	Compile
Syntax	OFDM:COMPILE:MODE {0 1 ON OFF} OFDM:COMPILE:MODE?
Arguments	0 or OFF disables creating a sequence. 1 or ON enables disables creating a sequence.
Returns	A single <Boolean> value.
Examples	OFDM:COMPILE:MODE 1 enables the compiler to automatically create a sequence with waveforms. OFDM:COMPILE:MODE? might return 0, indicating that the automatic creation of a sequence is disabled.

OFDM:COMPILE:NAME

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

Group Compile

Syntax OFDM:COMPILE:NAME <signal_name>
 OFDM:COMPILE:NAME?

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

Returns A single <signal_name> string.

Examples OFDM:COMPILE:NAME "OFDM_wfm" sets the waveform name to OFDM_Wfm.
 OFDM:COMPILE:NAME? might return "OFDM_wfm".

OFDM: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	OFDM:COMPILE:OSAMpling <Oversampling> OFDM:COMPILE:OSAMpling?
Arguments	Oversampling>::=<NR1> value. Range: 1 to 1000
Returns	A single <NR1> value.
Examples	OFDM:COMPILE:OSAMPLING 6 sets the over sampling rate to 6. OFDM:COMPILE:OSAMPLING? might return 4, indicating that the over sampling rate is set to 4.

OFDM:COMPILE:OVERwrite

This command sets or returns the Overwrite existing waveform state (enabled or disabled) when compiling. When enabled, new waveforms overwrite existing waveforms list. When disabled, new waveforms are generated with an additional numeric suffix added at the end of the waveform name.

Group	Compile
Syntax	OFDM:COMPILE:OVERwrite {1 0 ON OFF} OFDM:COMPILE:OVERwrite?
Arguments	OFF or 0 disables Overwriting waveforms. OFF or 0 is the default value. ON or 1 enables Overwriting waveforms.
Returns	A single <Boolean> value.
Examples	OFDM:COMPILE:OVERWRITE 1 enables Overwriting waveforms. OFDM:COMPILE:OVERWRITE? might return 0, indicating that Overwriting waveforms is disabled.

OFDM: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 OFDM:COMPILE:PLAY {0|1|OFF|ON}
 OFDM:COMPILE:PLAY?

Related Commands [OFDM:COMPILE:CASSign](#)

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 OFDM:COMPILE:PLAY 1 enables Play after assign.
 OFDM:COMPILE:PLAY? might return 0, indicating that Play after assign is disabled.

OFDM:COMPile:SRATe

This command sets or returns the manual Sampling Rate for the compile settings.

Group Compile

Syntax OFDM:COMPile:SRATe <rate>
OFDM:COMPile:SRATe?

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

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

Returns A single <NR3> value.

Examples OFDM:COMPILE:SRATE 1E9 sets the Sampling Rate to 1 GS/s in the Compile settings.

OFDM:COMPILE:SRATE? might return 2.000000000E+9, indicating that the sampling rate is 2 GS/s

OFDM: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 OFDM:COMPIle:SRATe:AUTO {0|1|OFF|ON}
OFDM:COMPIle:SRATe:AUTO?

Arguments OFF or 0 disables the sampling rate auto calculation and the manual setting is used.
ON or 1 enables the auto calculation. ON or 1 is the default value.

Returns A single <Boolean> value.

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

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

OFDM:FRAME:ADD (No Query Form)

This command adds a new frame to the existing list of frames within the Frame List. The new frame is created using the plug-in default settings.

If the name already exists, an error message is displayed.

Group Frame

Syntax OFDM:FRAME:ADD <frame_name>

Arguments <frame_name>::=<string> defines the frame name to be created.

If no name is given, the name defaults to “Frame_x” where “x” is the next sequential number available.

Examples OFDM:FRAME:ADD "Samp_Frame" adds a frame named Samp_Frame to the end of the Frame List.

OFDM:FRAME:DELeTe (No Query Form)

This command deletes the specified frame from the Frame List.

Conditions The named frame must exist in the Frames List.

Group Frame

Syntax `OFDM:FRAME:DELeTe <frame_name>`

Arguments `<frame_name>::=<string>` defines the frame name to be deleted.

Examples `OFDM:FRAME:DELETE "Samp_Frame"` deletes the frame named `Samp_Frame` from the Frame List.

OFDM:FRAME:FSPacing:ENABLE

This command sets or returns the status (enabled or disabled) of Frame Spacing for the selected frame.

Group Frame

Syntax `OFDM:FRAME:FSPacing:ENABLE {0|1|OFF|ON}`
`OFDM:FRAME:FSPacing:ENABLE?`

Arguments OFF or 0 disables Frame Spacing.
ON or 1 enables Frame Spacing.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:FSPACING:ENABLE 1` enables Frame Spacing for the selected frame.

`OFDM:FRAME:FSPACING:ENABLE?` might return 0, indicating that Frame Spacing is disabled for the selected frame.

OFDM:FRAME:FSPacing:VALue

This command sets or returns the Frame Spacing (in seconds) for selected frame.

Group	Frame
Syntax	OFDM:FRAME:FSPacing:VALue <frame_spacing> OFDM:FRAME:FSPacing:VALue?
Arguments	<frame_spacing>::= <NR3> value. Range: 40 ps to 1 s. Defaults to 100 μ s.
Returns	A single <NR3> value.
Examples	OFDM:FRAME:FSPACING:VALUE 42E-12 sets the frame spacing to 4 ps for selected frame. OFDM:FRAME:FSPACING:VALUE? might return 100.0000000000E-6, indicating that the frame spacing is set to 100 μ s for selected frame.

OFDM:FRAME:GNOise:ENABLE

This command sets or returns the Gated Noise state (enabled or disabled) for the selected frame in the Frame List.

Group Gated noise

Syntax OFDM:FRAME:GNOise:ENABle {0|1|OFF|ON}
OFDM:FRAME:GNOise:ENABle?

Arguments OFF or 0 disables Gated Noise. OFF or 0 is the default value.
ON or 1 enables adding Gated Noise.

Returns A single <Boolean> value.

Examples OFDM:FRAME:GNOISE:ENABLE ON enables adding Gated Noise.

OFDM:FRAME:GNOISE:ENABLE? might return 0, indicating that Gated Noise is disabled.

OFDM:FRAME:GNOise:FSNR:VALue

This command sets or returns the Gated Noise SNR for the Complete frame for the selected frame.

Group Gated noise

Syntax OFDM:FRAME:GNOise:FSNR:VALue <snr>
OFDM:FRAME:GNOise:FSNR:VALue?

Arguments <snr>::= <NR3> value.
Range: -40 dB to 20 dB.
Defaults to 0 dB.

Returns A single <NR3> value.

Examples OFDM:FRAME:GNOISE:FSNR:VALUE 10 sets Gated Noise SNR to 10 dB for the Complete Frame for selected frame.
OFDM:FRAME:GNOISE:FSNR:VALUE? might return 5.0000000000, indicating that the complete frame SNR value is set to 5 dB for selected frame.

OFDM:FRAME:GNOise:HEADer:ENABle

This command sets or returns the frame's Header state for Gated Noise (enabled or disabled) when Gated Noise is set to Custom for the selected frame in the Frame List.

Conditions	Gated Noise must be set to Custom.
Group	Gated noise
Syntax	OFDM:FRAME:GNOise:HEADer:ENABle {0 1 OFF ON} OFDM:FRAME:GNOise:HEADer:ENABle?
Related Commands	OFDM:FRAME:GNOise:TYPE , OFDM:FRAME:GNOise:HEADer:VALue
Arguments	OFF or 0 disables Gated Noise from the frame's header. ON or 1 enables adding Gated Noise to the frame's header. ON or 1 is the default value.
Returns	A single <Boolean> value.
Examples	OFDM:FRAME:GNOISE:HEADER:ENABLE ON enables adding Gated Noise to the frame's header. OFDM:FRAME:GNOISE:HEADER:ENABLE? might return 0, indicating that Gated Noise is disabled for the frame's header.

OFDM:FRAME:GNOise:HEADer:VALue

This command sets or returns the Gated Noise value for the frame's header for the selected frame in the Frame List.

Conditions Gated Noise must be set to Custom.

Group Gated noise

Syntax OFDM:FRAME:GNOise:HEADer:VALue <noise_value>
OFDM:FRAME:GNOise:HEADer:VALue?

Related Commands [OFDM:FRAME:GNOise:TYPE](#),
[OFDM:FRAME:GNOise:HEADer:ENABLE](#)

Arguments <noise_value>::=<NRf> value.
Range: -40 dB to 20 dB.
Default: 0 dB.

Returns A single <NR3> value.

Examples OFDM:FRAME:GNOISE:HEADER:VALUE 10 sets the Gated Noise for the frame's header to 10 dB.

OFDM:FRAME:GNOISE:HEADER:VALUE? might return 1.0000000000, indicating that the Gated Noise for the frame's header is set to 1 dB.

OFDM:FRAME:GNOise:PAYLoad:ENABLE

This command sets or returns the frame's Payload state (enabled or disabled) for Gated Noise when Gated Noise is set to Custom for the selected frame in the Frame List.

Conditions	Gated Noise must be set to Custom.
Group	Gated noise
Syntax	OFDM:FRAME:GNOise:PAYLoad:ENABLE {0 1 OFF ON} OFDM:FRAME:GNOise:PAYLoad:ENABLE?
Related Commands	OFDM:FRAME:GNOise:TYPE , OFDM:FRAME:GNOise:PAYLoad:VALue
Arguments	OFF or 0 disables Gated Noise from the frame's payload. ON or 1 enables adding Gated Noise to the frame's payload. ON or 1 is the default value.
Returns	A single <Boolean> value.
Examples	OFDM:FRAME:GNOISE:PAYLOAD:ENABLE ON enables adding Gated Noise to the frame's payload. OFDM:FRAME:GNOISE:PAYLOAD:ENABLE? might return 0, indicating that Gated Noise is disabled for the frame's payload.

OFDM:FRAME:GNOise:PAYLoad:VALue

This command sets or returns the Gated Noise value for the frame's payload for the selected frame in the Frame List.

Conditions Gated Noise must be set to Custom.

Group Gated noise

Syntax OFDM:FRAME:GNOise:PAYLoad:VALue <noise_value>
OFDM:FRAME:GNOise:PAYLoad:VALue?

Related Commands [OFDM:FRAME:GNOise:TYPE](#),
[OFDM:FRAME:GNOise:PAYLoad:ENABLE](#)

Arguments <noise_value>::=<NRf> value.
Range: -40 dB to 20 dB.
Default: 0 dB.

Returns A single <NR3> value.

Examples OFDM:FRAME:GNOISE:PAYLOAD:VALUE 10 sets the Gated Noise for the frame's payload to 10 dB.
OFDM:FRAME:GNOISE:PAYLOAD:VALUE? might return 1.0000000000, indicating that the Gated Noise for the frame's payload is set to 1 dB.

OFDM:FRAME:GNOise:PREamble:ENABLE

This command sets or returns the frame's Preamble state for Gated Noise (enabled or disabled) when Gated Noise is set to Custom for the selected frame in the Frame List.

Conditions	Gated Noise must be set to Custom.
Group	Gated noise
Syntax	OFDM:FRAME:GNOise:PREamble:ENABLE {0 1 OFF ON} OFDM:FRAME:GNOise:PREamble:ENABLE?
Related Commands	OFDM:FRAME:GNOise:TYPE , OFDM:FRAME:GNOise:PREamble:VALue
Arguments	OFF or 0 disables Gated Noise from the frame's preamble. ON or 1 enables adding Gated Noise to the frame's preamble. ON or 1 is the default value.
Returns	A single <Boolean> value.
Examples	OFDM:FRAME:GNOISE:PREAMBLE:ENABLE ON enables adding Gated Noise to the frame's preamble. OFDM:FRAME:GNOISE:PREAMBLE:ENABLE? might return 0, indicating that Gated Noise is disabled for the frame's preamble.

OFDM:FRAME:GNOise:PREamble:VALue

This command sets or returns the Gated Noise value for the frame's preamble for the selected frame in the Frame List.

Conditions Gated Noise must be set to Custom.

Group Gated noise

Syntax `OFDM:FRAME:GNOise:PREamble:VALue <noise_value>`
`OFDM:FRAME:GNOise:PREamble:VALue?`

Related Commands [OFDM:FRAME:GNOise:TYPE](#),
[OFDM:FRAME:GNOise:PREamble:ENABle](#)

Arguments `<noise_value>::=<NRf>` value.
 Range: -40 dB to 20 dB.
 Default: 0 dB.

Returns A single `<NR3>` value.

Examples `OFDM:FRAME:GNOISE:PREAMBLE:VALUE 10` sets the Gated Noise for the frame's preamble to 10 dB.
`OFDM:FRAME:GNOISE:PREAMBLE:VALUE?` might return 1.0000000000, indicating that the Gated Noise for the frame's preamble is set to 1 dB.

OFDM:FRAME:GNOise:TYPE

This command sets or returns the Gated Noise type for the selected frame in the Frame List.

Group Gated noise

Syntax OFDM:FRAME:GNOise:TYPE {CFrame|CUSTom}
OFDM:FRAME:GNOise:TYPE?

Related Commands

Arguments CFrame: The Gated Noise is applied over the complete frame.
CUSTom: The Gated Noise is applied to specified portions of the frame.

Returns CFR: Complete Frame
CUST: Custom

Examples OFDM:FRAME:GNOISE:TYPE CFrame applies the Gated Noise over the entire frame.

OFDM:FRAME:GNOISE:TYPE? might return CUST, indicating that the Gated Noise is applied to only specified portions of the frame.

OFDM:FRAME:HEADer:ADD (No Query Form)

This command adds a row to the end of the Header custom Symbols table for the selected frame. Symbols are added from the Symbol List (defined in the Symbols tab). If a symbol name is not provided, a row is added using the first defined symbol in the Symbol List. The Symbol name must be a valid name available in the Symbol List.

Conditions When naming a Symbol, the Symbol must exist in the Symbols List. A maximum of 100 rows is allowed.

Group Header

Syntax `OFDM:FRAME:HEADer:ADD <symbol_name>`

Arguments `<symbol_name>::= <string>.`

Examples `OFDM:FRAME:HEADer:ADD` adds the first symbol from the Symbol List to the end of the Header custom symbols table for the selected frame.

`OFDM:FRAME:HEADer:ADD "MySymbol23"` adds the symbol named MySymbol23 to the end of the Header custom symbol table for the selected frame.

OFDM:FRAME:HEADer:DELeTe (No Query Form)

This command deletes the specified row from the Header custom symbols table for the selected frame.

Group Header

Syntax OFDM:FRAME:HEADer:DELeTe <index>

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

Examples OFDM:FRAME:HEADer:DELETE 3 deletes the third row from the Header custom symbols table for the selected frame.

OFDM:FRAME:HEADer:DOMain

This command sets or returns the Domain for the user supplied header file for the selected frame.

Group Header

Syntax `OFDM:FRAME:HEADer:DOMain {FREquency|TIME}`
`OFDM:FRAME:HEADer:DOMain?`

Arguments `FREquency`: Sets the domain to Frequency for the user supplied header file.
`TIME`: Sets the domain to Time for the user supplied header file.

Returns FRE
TIM

Examples `OFDM:FRAME:HEADER:DOMAIN FREQUENCY` sets the Domain for the user supplied header file to Frequency for the selected frame.
`OFDM:FRAME:HEADER:DOMAIN?` might return `TIM`, indicating that the Domain for the user supplied header file is set to Time for the selected frame.

OFDM:FRAME:HEADER:ENABLE

This command sets or returns the status (enabled or disabled) of the frame Header for the selected frame.

Group Header

Syntax OFDM:FRAME:HEADER:ENABLE {0|1|OFF|ON}
OFDM:FRAME:HEADER:ENABLE?

Arguments OFF or 0 disables the Header.
ON or 1 enables the Header.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples OFDM:FRAME:HEADER:ENABLE 1 enables the Header for the selected frame.
OFDM:FRAME:HEADER:ENABLE? might return 0, indicating that the Header is disabled for the selected frame.

OFDM:FRAME:HEADer:MODE

This command sets or returns the Header input method (file or custom symbols table) for the selected frame.

Group Header

Syntax `OFDM:FRAME:HEADer:MODE {FILE|CUSTom}`
`OFDM:FRAME:HEADer:MODE?`

Related Commands [OFDM:FRAME:HEADer:PATH](#)

Arguments FILE: Sets the header input mode to File.
CUSTom: Sets the header input mode to Custom.

Returns FILE
CUST

Examples `OFDM:FRAME:HEADer:MODE FILE` sets the Header input method to use a user supplied file for the selected frame.
`OFDM:FRAME:HEADer:MODE?` might return CUST, indicating that the Header input method is set to use the custom symbols table for the selected frame.

OFDM:FRAME:HEADer:PATH

This command sets or returns the Header filename and filepath for the selected frame.

Conditions Header input mode must be set to use a file.

Group Header

Syntax OFDM:FRAME:HEADer:PATH <filepath>
OFDM:FRAME:HEADer:PATH?

Related Commands [OFDM:FRAME:HEADer:SELEctOFDM:FRAME:HEADer:MODE](#)

Arguments <filepath>::=<string> defines filename and filepath of the Header file.

Returns A single <filepath> string.

Examples OFDM:FRAME:HEADer:PATH"C:\HeaderFile.txt" sets the filename and filepath of the header for the selected frame.

OFDM:FRAME:HEADer:PATH? might return "C:\HeaderFile.txt" as the filename and filepath for the header for the selected frame.

OFDM:FRAME:HEADer:REPeat

This command sets or returns the Repeat count for the user supplied header file for the selected frame.

Group Header

Syntax OFDM:FRAME:HEADer:REPeat <repeat>
OFDM:FRAME:HEADer:REPeat?

Arguments <repeat>::=<NR3>

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR2> value.

Examples OFDM:FRAME:HEADER:REPEAT 5 sets the repeat count for the header file to 5 for the selected frame.

OFDM:FRAME:HEADER:REPEAT? might return 12.0000000000, indicating that the Repeat count for the header file is set to 12 for the selected frame.

OFDM:FRAME:HEADer:SElect

This command sets or returns the selected (active) row from the Header custom symbols table for the selected frame. Other commands act on the selected row.

Group	Header
Syntax	OFDM:FRAME:HEADer:SElect <index> OFDM:FRAME:HEADer:SElect?
Arguments	<index>::= <NR3> value.
Returns	A single <NR1> value.
Examples	OFDM:FRAME:HEADER:SELECT 4 sets the 4th row in the Header custom symbols table as the active row for the selected frame. OFDM:FRAME:HEADER:SELECT? might return 3, indicating that the 3rd row from the Header custom symbols table is selected for the selected frame.

OFDM:FRAME:HEADer:SNAME

This command sets or returns the symbol name for the currently selected row in the Header custom symbol table for the selected frame. The new name must already exist in the Symbol List.

Group Header

Syntax OFDM:FRAME:HEADer:SNAME <new_name>
OFDM:FRAME:HEADer:SNAME?

Arguments <new_name>::= <string>. The name must exist in the Symbol List

Returns A single <string> value.

Examples OFDM:FRAME:HEADer:SNAME "Symbol_23" sets the currently selected row's symbol name to "Symbol_23" for the selected frame if it exists in the Symbol List.

OFDM:FRAME:HEADer:SNAME? might return "Symbol_2", indicating that the currently selected row's symbol name is Symbol_2 for the selected frame.

OFDM:FRAME:HEADer:SRATe

This command sets or returns the Sampling Rate for the user supplied header file for the selected frame.

Conditions The domain for the user supplied header file must be set to Time.

Group Header

Syntax OFDM:FRAME:HEADer:SRATe <sample_rate>
OFDM:FRAME:HEADer:SRATe?

Related Commands [OFDM:FRAME:HEADer:DOMain](#)

Arguments <sample_rate>::= <NR3> value.
Range: 10 kHz to 100 GHz.
Defaults to 500 MHz.

Returns A single <NR3> value.

Examples OFDM:FRAME:HEADer:SRATE 500E3 sets the Sampling Rate for the header file to 500 kHz for selected frame.

OFDM:FRAME:HEADer:SRATE? might return 1.0000000000E+9, indicating that the Sampling Rate for the header file is set to 1 GHz for selected frame.

OFDM:FRAME:HEADer:SREPeat

This command sets or returns the Repeat count for the currently selected row in the Header custom symbols table.

Group	Header
Syntax	OFDM:FRAME:HEADer:SREPeat <repeat_count> OFDM:FRAME:HEADer:SREPeat?
Arguments	<repeat_count>::= <NR3> value. Range: 1 to 4096. Defaults to 1.
Returns	A single <NR3> value.
Examples	OFDM:FRAME:HEADer:SREPEAT 3 sets repeat count to 3 for the currently selected row in the Header custom symbols table for the selected frame. OFDM:FRAME:HEADer:SREPEAT? might return 2.0000000000, indicating that the repeat count value of the selected row in Header custom symbols table is 2 for the selected frame.

OFDM:FRAME:HEADer:SSPacing

This command sets or returns the Header Subcarriers Spacing for the user supplied header file for the selected frame.

Conditions The domain for the user supplied header file must be set to Frequency.

Group Header

Syntax OFDM:FRAME:HEADer:SSPacing <spacing>
OFDM:FRAME:HEADer:SSPacing?

Related Commands [OFDM:FRAME:HEADer:DOMain](#)

Arguments <spacing> ::= <NR3> value.
Range: 1 Hz to 40 MHz.
Defaults to 100 kHz.

Returns A single <NR3> value.

Examples OFDM:FRAME:HEADer:SSPACING 5E6 sets the Header Subcarriers Spacing to 5 MHz for selected frame.

OFDM:FRAME:HEADer:SSPACING? might return 100.0000000000E+3, indicating that the Subcarrier spacing of the header is 100 kHz for the selected frame.

OFDM:FRAME:HENable

This command sets or returns the status (enabled or disabled) of including a Header for the selected frame.

Group Header

Syntax `OFDM:FRAME:HENable {0|1|OFF|ON}`
`OFDM:FRAME:HENable?`

Arguments OFF or 0 disables the Header.
ON or 1 enables the Header.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:HENABLE 1` enables the Header for the selected frame.
`OFDM:FRAME:HENABLE?` might return 0, indicating that the Header is disabled for the selected frame.

OFDM:FRAME:HOPPING:ENABLE

This command sets or returns the Hopping state (enabled or disabled) for the selected frame in the Frame List.

Group Hopping

Syntax OFDM:FRAME:HOPPING:ENABLE {1|0|ON|OFF}
OFDM:FRAME:HOPPING:ENABLE?

Arguments OFF or 0 disables Hopping. OFF or 0 is the default value.
ON or 1 enables Hopping.

Returns A single <Boolean> value.

Examples OFDM:FRAME:HOPPING:ENABLE ON enables Hopping.
OFDM:FRAME:HOPPING:ENABLE? might return 0, indicating that Hopping is disabled.

OFDM:FRAME:HOPping:HTIME

This command sets or returns the Hop Time type for the selected frame in the Frame List.

Group Hopping

Syntax OFDM:FRAME:HOPping:HTIME {SPHop|SSINdex}
 OFDM:FRAME:HOPping:HTIME?

Arguments SPHop sets Hop Time to Symbols Per Hop.
 SSINdex sets Hop Time to Symbol Start Index.

Returns SPH
 SSIN

Examples OFDM:FRAME:HOPPING:HTIME SPH sets the Hop Time to Symbols Per Hop.
 OFDM:FRAME:HOPPING:HTIME? might return SSIN, indicating that the Hop Time is set to Symbol Start Index.

OFDM:FRAME:HOPping[:LIST]:ADD (No Query Form)

This command adds a single entry to the end of the Frequency Hop List for the selected frame in the Frame List

Group Hopping

Syntax OFDM:FRAME:HOPping[:LIST]:ADD

Related Commands [OFDM:FRAME:HOPping\[:LIST\]:DELeTe](#),
[OFDM:FRAME:HOPping\[:LIST\]:INSert](#)

Examples OFDM:FRAME:HOPping:LIST:ADD creates a single entry to the end of the Hop List table.

OFDM:FRAME:HOPping[:LIST]:AOFFset

This command sets or returns the Amplitude Offset of the currently selected hop of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.

Group Hopping

Syntax OFDM:FRAME:HOPping[:LIST]:AOFFset <offset>
OFDM:FRAME:HOPping[:LIST]:AOFFset?

Arguments <offset>::= <NR3> value.
Range: -100 dBm to 0 dBm.
Default: 0 dBm.

Returns A single <NR2> value.

Examples OFDM:FRAME:HOPPING:LIST:AOFFSET -10 sets the Amplitude Offset of the currently selected hop index to -10 dB.

OFDM:FRAME:HOPPING:LIST:AOFFSET? might return -15.0000000000, indicating that the Amplitude Offset of the currently selected hop is set to -15 dB.

OFDM:FRAME:HOPPING[:LIST]:COUNT? (Query Only)

This command returns the number of hops in the Hop List for the selected frame in the Frame List.

Group Hopping

Syntax OFDM:FRAME:HOPPING[:LIST]:COUNT?

Returns A single <NR1> value.

Examples OFDM:FRAME:HOPPING:LIST:COUNT? might return 15, indicating that there are 15 entries in the Hop list.

OFDM:FRAME:HOPPing[:LIST]:DELeTe (No Query Form)

This command removes entries from the Frequency Hop List for the selected frame in the Frame List.

Group Hopping

Syntax `OFDM:FRAME:HOPPing[:LIST]:DELeTe {ALL|<index>}`

Related Commands [OFDM:FRAME:HOPPing\[:LIST\]:COUNt?](#), [OFDM:FRAME:HOPPing\[:LIST\]:INSert](#),
[OFDM:FRAME:HOPPing\[:LIST\]:ADD](#)

Arguments ALL – Deletes all entries in the Hop List table.

<index>::= <NR1> value. Specifies the index number to delete from the Hop List table.

Examples `OFDM:FRAME:HOPPING:LIST:DELETE ALL` removes all entries from the Hop List table.

OFDM:FRAME:HOPping[:LIST]:FREQUENCY

This command sets or returns the Frequency of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.

Group	Hopping
Syntax	OFDM:FRAME:HOPping[:LIST]:FREQUENCY <frequency> OFDM:FRAME:HOPping[:LIST]:FREQUENCY?
Arguments	<frequency> ::= <NRf> value. Range: 1 Hz to 2.5 GHz. Default: 1 GHz.
Returns	A single <NR2> value.
Examples	OFDM:FRAME:HOPping:LIST:FREQUENCY 1E9 sets the Frequency to 1 GHz of the currently selected hop index. OFDM:FRAME:HOPping:LIST:FREQUENCY? might return 1000000000, indicating that the Frequency of the currently selected hop index is set to 100 MHz.

OFDM:FRAME:HOPping[:LIST]:INsErT (No Query Form)

This command inserts a single entry into the Frequency Hop List above the specified index for the selected frame in the Frames List. The selected entry point must already exist in the Hop List table.

Group Hopping

Syntax `OFDM:FRAME:HOPping[:LIST]:INsErT <insertion>`

Related Commands [OFDM:FRAME:HOPping\[:LIST\]:COUnT?](#),
[OFDM:FRAME:HOPping\[:LIST\]:DELeTe](#),
[OFDM:FRAME:HOPping\[:LIST\]:ADD](#)

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

Examples `OFDM:FRAME:HOPping:LIST:INsErT 10` inserts a single entry above the 10th index in the Hop List table.

OFDM:FRAME:HOPping[:LIST]:RFfrequency

This command sets or returns the Frequency Offset (Relative Frequency) of the currently selected hop in the Frequency Hop List for the selected frame in the Frame List.

Group	Hopping
Syntax	OFDM:FRAME:HOPping[:LIST]:RFfrequency <frequency> OFDM:FRAME:HOPping[:LIST]:RFfrequency?
Arguments	<frequency> ::= <NRf> value. Range: -999.999999 MHz to 1.5 GHz. Default: 0 Hz.
Returns	A single <NR2> value.
Examples	OFDM:FRAME:HOPping:LIST:RFfrequency 1E9 sets the Relative Frequency to 1 GHz of the currently selected hop index. OFDM:FRAME:HOPping:LIST:RFfrequency? might return 1000000, indicating that the Relative Frequency of the currently selected hop index is set to 10 MHz.

OFDM:FRAME:HOPping[:LIST]:SElect

This command sets or returns the selected Hop number in the Frequency Hop List for the selected frame in the Frame List.

Group Hopping

Syntax OFDM:FRAME:HOPping[:LIST]:SElect <index>
OFDM:FRAME:HOPping[:LIST]:SElect?

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

Returns A single <NR1> value.

Examples OFDM:FRAME:HOPping:LIST:SElect 3 selects index 3 in the hopping table (Hop list).

OFDM:FRAME:HOPping:LIST:SElect? might return 1, indicating that index 1 is currently selected in the hopping table (Hop list).

OFDM:FRAME:HOPping[:LIST]:SSIndex

This command sets or returns the Symbol Start Index (Symbol Index) for the selected frame in the Frame List.

Conditions The Hop Time must be set to Symbol Start Index.

Group Hopping

Syntax OFDM:FRAME:HOPping[:LIST]:SSIndex <start_index>
OFDM:FRAME:HOPping[:LIST]:SSIndex?

Related Commands [OFDM:FRAME:HOPping:HTIME](#)

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

Returns A single <NR1> value.

Examples OFDM:FRAME:HOPping:LIST:SSINDEX 10 sets the Symbol Start Index to symbol 10.

OFDM:FRAME:HOPping:LIST:SSINDEX? might return 6, indicating that the Symbol Start Index is set to 6.

OFDM:FRAME:HOPping:RLIST

This command sets or returns the Repeat List state (enabled or disabled) for the Frequency Hop List for the selected frame in the Frame List. When enabled, the Frequency Hop List repeats when the Hop List has been completed.

Conditions The Hop Time must be set to Symbols Per Hop.

Group Hopping

Syntax `OFDM:FRAME:HOPping:RLIST {1|0|ON|OFF}`
`OFDM:FRAME:HOPping:RLIST?`

Arguments OFF or 0 disables Repeat List. OFF or 0 is the default value.
ON or 1 enables Repeat List.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:HOPping:RLIST 1` enables the Repeat List so that the Frequency Hop List repeats when the Hop List has been completed.

`OFDM:FRAME:HOPping:RLIST?` might return 0, indicating that the Repeat List is disabled so that the Frequency Hop List is not repeated.

OFDM:FRAME:HOPping:SPHop

This command sets or returns the Symbols per Hop for the selected frame in the Frame List.

Conditions The Hop Time must be set to Symbols Per Hop.

Group Hopping

Syntax OFDM:FRAME:HOPping:SPHop <symbols>
OFDM:FRAME:HOPping:SPHop?

Related Commands [OFDM:FRAME:HOPping:HTIME](#)

Arguments <symbols> ::= <NRf> value.
Range: 1 to 5000000.
Default: 1.

Returns A single <NR1> value.

Examples OFDM:FRAME:HOPping:SPHOP 50 sets the Symbols Per Hop to 50 symbols.
OFDM:FRAME:HOPping:SPHOP? might return 1200, indicating that the Symbols per Hop is set to 1200.

OFDM:FRAME:MULTipath:ADD (No Query Form)

This command adds a new path in the Multipath table for the selected frame in the Frame List.

Group Multipath

Syntax OFDM:FRAME:MULTipath:ADD <path>

Related Commands [OFDM:FRAME:MULTipath:REMove](#)

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

Examples OFDM:FRAME:MULTIPATH:ADD 2 adds a new path to the end of the Multipath table.

OFDM:FRAME:MULTipath:AMPLitude

This command sets or returns the Multipath Amplitude of the currently selected path for the selected frame in the Frame List.

Group Multipath

Syntax OFDM:FRAME:MULTipath:AMPLitude <amplitude>
OFDM:FRAME:MULTipath:AMPLitude?

Related Commands [OFDM:FRAME:MULTipath:SElect](#)

Arguments <amplitude>::= <NR3> value.
Range: –100 dB to 0 dB.
Default: 0 dB.

Returns A single <NR3> value.

Examples OFDM:FRAME:MULTIPATH:AMPLITUDE –10 sets the Multipath Amplitude of the selected path to –10 dB.

OFDM:FRAME:MULTIPATH:AMPLITUDE? might return –200.0000000000E–3, indicating that the Amplitude of the selected path is –0.2 dB.

OFDM:FRAME:MULTipath:DElay

This command sets or returns the Multipath Delay in seconds of the currently selected path for the selected frame in the Frame List.

Group Multipath

Syntax OFDM:FRAME:MULTipath:DElay <delay>
OFDM:FRAME:MULTipath:DElay?

Related Commands [OFDM:FRAME:MULTipath:SElect](#)

Arguments <delay>::= <NR3> value.
Range: 0 s to 1 s.
Default: 0 s.

Returns A single <NR3> value.

Examples OFDM:FRAME:MULTIPATH:DELAY 1 sets the Multipath symbol Delay of the currently selected path to 1 second.

OFDM:FRAME:MULTIPATH:DELAY? might return 200.0000000000E-3, indicating that the Multipath Delay of the currently selected path is 200 ms.

OFDM:FRAME:MULTipath:ENABLE

This command sets or returns the Multipath state (enabled or disabled) for the selected frame in the Frame List.

Group Multipath

Syntax OFDM:FRAME:MULTipath:ENABLE {1|0|ON|OFF}
OFDM:FRAME:MULTipath:ENABLE?

Arguments OFF or 0 disables Multipath. OFF or 0 is the default value.
ON or 1 enables Multipath.

Returns A single <Boolean> value.

Examples OFDM:FRAME:MULTIPATH:ENABLE 1 enables Multipath.
OFDM:FRAME:MULTIPATH:ENABLE? might return 0, indicating that Hopping is disabled.

OFDM:FRAME:MULTipath:PHASe

This command sets or returns the Multipath Phase of the currently selected path for the selected frame in the Frame List.

Group Multipath

Syntax OFDM:FRAME:MULTipath:PHASe <phase>
OFDM:FRAME:MULTipath:PHASe?

Related Commands [OFDM:FRAME:MULTipath:SElect](#)

Arguments <phase> ::= <NR2> value.
Range: -180° to $+180^{\circ}$
Default: 0°

Returns A single <NR2> value.

Examples OFDM:FRAME:MULTIPATH:PHASE 10 sets the Multipath Phase of the currently selected path to 10 degrees.

OFDM:FRAME:MULTIPATH:PHASE? might return -20.000000000, indicating that the Multipath Phase of the currently selected path is set to -20° .

OFDM:FRAME:MULTipath:REMove (No Query Form)

This command deletes the specified path from the Multipath table for the selected frame in the Frame List.

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

Group Multipath

Syntax OFDM:FRAME:MULTipath:REMove <path>

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

Examples OFDM:FRAME:MULTIPATH:REMOVE 1 deletes the Multipath table path at index 1.

OFDM:FRAME:MULTipath:SElect

This command sets or returns the active MultiPath table index (row) for the selected frame in the Frame List.

Other commands act on the selected frame.

Group	Multipath
Syntax	OFDM:FRAME:MULTipath:SElect <index> OFDM:FRAME:MULTipath:SElect?
Arguments	<index> ::= <NR1> value.
Returns	A single <NR2> value.
Examples	OFDM:FRAME:MULTIPATH:SELECT 1 selects the first path in the MultiPath table as the active path. OFDM:FRAME:MULTIPATH:SELECT? might return 2.0000000000, indicating that the second path in the MultiPath table is the active path.

OFDM:FRAME:OTNoise:ENABLE

This command sets or returns the status (enabled or disabled) of the Off-Time SNR for the selected frame.

Conditions Frame Spacing must be enabled.

Group Frame

Syntax `OFDM:FRAME:OTNoise:ENABle {0|1|OFF|ON}`
`OFDM:FRAME:OTNoise:ENABle?`

Related Commands [OFDM:FRAME:FSPacing:ENABLE](#)

Arguments OFF or 0 disables Off-Time SNR.
 ON or 1 enables Off-Time SNR.
 OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:OTNOISE:ENABLE 1` enables the Off-Time SNR for the selected frame.
`OFDM:FRAME:OTNOISE:ENABLE?` might return 0, indicating that Off-Time SNR is disabled for the selected frame.

OFDM:FRAME:OTNoise:VALue

This command sets or returns the Frame Off-Time SNR (in dB) for selected frame.

Group	Frame
Syntax	OFDM:FRAME:OTNoise:VALue <off_time> OFDM:FRAME:OTNoise:VALue?
Arguments	<off_time> ::= <NR3> value. Range: -40 dB to 20 dB. Defaults to 0 dB.
Returns	A single <NR3> value.
Examples	OFDM:FRAME:OTNOISE:VALUE 19 sets the Off-Time SNR to 19 dB for selected frame . OFDM:FRAME:OTNOISE:VALUE? might return -1.5000000000, indicating that the Off-Time SNR is set to -1.5 dB for selected frame.

OFDM:FRAME:PAYLoad:ADD (No Query Form)

This command adds a row to the end of the Payload symbols table for the selected frame. Symbols are added from the Symbol List (defined in the Symbols tab). If a symbol name is not provided, a row is added using the first defined symbol in the Symbol List. The Symbol name must be a valid name available in the Symbol List.

Group Payload

Syntax `OFDM:FRAME:PAYLoad:ADD <symbol_name>`

Arguments `<symbol_name>::= <string>.`

Returns A single `<symbol_name>` string.

Examples `OFDM:FRAME:PAYLOAD:ADD` adds the first symbol from the Symbol List to the end of the Payload symbols table for the selected frame.

`OFDM:FRAME:PAYLOAD:ADD "MySymbol23"` adds the symbol named MySymbol23 to the end of the Payload symbols table for the selected frame.

OFDM:FRAME:PAYLoad:DElete (No Query Form)

This command deletes the specified row from the Payload symbols table for the selected frame.

Group Payload

Syntax OFDM:FRAME:PAYLoad:DElete <index>

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

Examples OFDM:FRAME:PAYLOAD:DELETE 3 deletes the third row from the Payload symbols table for the selected frame.

OFDM:FRAME:PAYLoad:ENABle

This command sets or returns the status (enabled or disabled) of the frame Payload for the selected frame.

Group	Payload
Syntax	OFDM:FRAME:PAYLoad:ENABle {0 1 OFF ON} OFDM:FRAME:PAYLoad:ENABle?
Arguments	OFF or 0 disables the Payload. ON or 1 enables the Payload. OFF or 0 is the default value.
Returns	A single <Boolean> value.
Examples	OFDM:FRAME:PAYLOAD:ENABLE 1 enables the Header Payload for the selected frame. OFDM:FRAME:PAYLOAD:ENABLE? might return 0, indicating that the Header Payload is disabled for the selected frame.

OFDM:FRAME:PAYLoad:SElect

This command sets or returns the selected (active) row from the Payload symbols table for the selected frame. Other commands act on the selected row.

Group	Payload
Syntax	OFDM:FRAME:PAYLoad:SElect <index> OFDM:FRAME:PAYLoad:SElect?
Arguments	<index>::= <NR3> value.
Returns	A single <NR1> value.
Examples	OFDM:FRAME:PAYLOAD:SELECT 4 sets the 4th row in the Payload symbols table as the active row for the selected frame. OFDM:FRAME:PAYLOAD:SELECT? might return 3, indicating that the 3rd row from the Payload symbols table is selected for the selected frame.

OFDM:FRAME:PAYLoad:SNAME

This command sets or returns the symbol name for the currently selected row in the Payload symbol table for the selected frame. The new name must already exist in the Symbol List.

Group	Payload
Syntax	OFDM:FRAME:PAYLoad:SNAME <new_name> OFDM:FRAME:PAYLoad:SNAME?
Arguments	<new_name>::= <string>. The name must exist in the Symbol List
Returns	A single <string> value.
Examples	OFDM:FRAME:PAYLOAD:SNAME "Symbol_23" sets the currently selected row's symbol to "Symbol_23" for the selected frame if it exists in the Symbol List for the selected frame. OFDM:FRAME:PAYLOAD:SNAME? might return "Symbol_2", indicating that the currently selected row's symbol name is Symbol_2 for the selected frame.

OFDM:FRAME:PAYLoad:SREPeat

This command sets or returns the Repeat count for the currently selected row in the Payload symbols table for the selected frame.

Group Payload

Syntax `OFDM:FRAME:PAYLoad:SREPeat <repeat_count>`
`OFDM:FRAME:PAYLoad:SREPeat?`

Arguments `<repeat_count>::= <NR3> value.`

Range: 1 to 4096.

Defaults to 1.

Returns A single `<NR3>` value.

Examples `OFDM:FRAME:PAYLOAD:SREPEAT 3` sets repeat count to 3 for the currently selected row in the Payload symbols table for the selected frame.

`OFDM:FRAME:PAYLOAD:SREPEAT?` might return `2.0000000000`, indicating that the repeat count value of the selected row in Payload symbol table is 2 for the selected frame.

OFDM:FRAME:PENable

This command sets or returns the status (enabled or disabled) of including a Preamble for the selected frame. Use the command [OFDM:FRAME:PREamble\[n\]:ENABLE](#) to enable one of the defined Preambles.

Group	Preamble
Syntax	OFDM:FRAME:PENable {0 1 OFF ON} OFDM:FRAME:PENable?
Related Commands	OFDM:FRAME:PREamble[n]:ENABLE
Arguments	OFF or 0 disables the Preamble. ON or 1 enables the Preamble. OFF or 0 is the default value.
Returns	A single <Boolean> value.
Examples	OFDM:FRAME:PENABLE 1 enables the Preamble for the selected frame. OFDM:FRAME:PENABLE? might return 0, indicating that the Preamble is disabled for the selected frame.

OFDM:FRAME:PLENable

This command sets or returns the status (enabled or disabled) of including a Payload for the selected frame.

Group Payload

Syntax `OFDM:FRAME:PLENable {0|1|OFF|ON}`
`OFDM:FRAME:PLENable?`

Arguments OFF or 0 disables the Payload.
ON or 1 enables the Payload.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:PLENABLE 1` enables the Payload for the selected frame.
`OFDM:FRAME:PLENABLE?` might return 0, indicating that the Payload is disabled for the selected frame.

OFDM:FRAME:PNOise:ADD (No Query Form)

This command adds a single row to the end of the Phase Noise Frequency Model table.

Group Phase noise

Syntax OFDM:FRAME:PNOise:ADD

Examples OFDM:FRAME:PNOISE:ADD adds a single row to the end of the Phase Noise Frequency Model table.

OFDM:FRAME:PNOise:BFrequency

This command sets or returns the Bandwidth Frequency value (to considered as the bandwidth for phase noise power spectral density) for the Phase Noise Frequency Model when the Bandwidth Type is set to Frequency.

Conditions Bandwidth Type must be set to Frequency for the Phase Noise Frequency Model.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:BFrequency <frequency>`
`OFDM:FRAME:PNOise:BFrequency?`

Related Commands [OFDM:FRAME:PNOise:MODE](#),
[OFDM:FRAME:PNOise:BTYPe](#)

Arguments `<frequency>::= <NRf> value.`
Range: Minimum = 10 Hz. Maximum is instrument dependent.
Defaults to 10 Hz.

Returns A single `<NR3>` value.

Examples `OFDM:FRAME:PNOISE:BFREQUENCY 50` sets the Bandwidth value to 50 Hz for the Phase Noise Frequency Model.
`OFDM:FRAME:PNOISE:BFREQUENCY?` might return `50.0000000000`, indicating that the Bandwidth value is set to 50 Hz for the Phase Noise Frequency Model.

OFDM:FRAME:PNOise:BLEVel

This command sets or returns the Bandwidth cutoff level (in dBc/Hz) for the Phase Noise Frequency Model when the Bandwidth Type is set to Level.

Conditions	Bandwidth Type must be set to Level for the Phase Noise Frequency Model.
Group	Phase noise
Syntax	OFDM:FRAME:PNOise:BLEVel <bw_level> OFDM:FRAME:PNOise:BLEVel?
Related Commands	OFDM:FRAME:PNOise:MODE , OFDM:FRAME:PNOise:BTYPe
Arguments	<bw_level> ::= <NR3> value. Range: –180 to 0. Defaults to 0.
Returns	A single <NR3> value.
Examples	OFDM:FRAME:PNOISE:BLEVEL –5 sets the Bandwidth Level to –5 dBc/Hz for the Phase Noise Frequency Model. OFDM:FRAME:PNOISE:BLEVEL? might return –20.0000000000, indicating that the PSD value for the currently selected row is –20 dBc/Hz.

OFDM:FRAME:PNOise:BTYPe

This command sets or returns the Bandwidth Type for the Phase Noise Frequency Model.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:BTYPe {AUTO|LEVe1|FREQuency}`
`OFDM:FRAME:PNOise:BTYPe?`

Arguments AUTO: Sets the bandwidth type to Auto.
 LEVe1: Sets the bandwidth type to Level.
 FREQuency: Sets the bandwidth type to Frequency.

Returns AUTO
 LEV
 FREQ

Examples `OFDM:FRAME:PNOISE:BTYPe AUTO` sets the Bandwidth Type to Auto for the Phase Noise Frequency Model.

`OFDM:FRAME:PNOISE:BTYPe?` might return FREQ, indicating that the Bandwidth Type is set to Frequency for the Phase Noise Frequency Model.

OFDM:FRAME:PNOise:DElete (No Query Form)

This command deletes the specified row (index) from the Phase Noise Frequency Model table.

Group Phase noise

Syntax OFDM:FRAME:PNOise:DElete <index>

Arguments <index>::=<NR1> value defines the row index number.

Examples OFDM:FRAME:PNOISE:DELETE3 deletes the third row from the Phase Noise Frequency Model table.

OFDM:FRAME:PNOise:ENABLE

This command sets or returns the Phase Noise state (enabled or disabled) for the selected frame in the Frame List.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:ENABLe {0|1|OFF|ON}`
`OFDM:FRAME:PNOise:ENABLe?`

Arguments OFF or 0 disables the phase noise feature.
ON or 1 enables the phase noise feature.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:PNOISE:ENABLE 1` enables Phase Noise for the selected frame.
`OFDM:FRAME:PNOISE:ENABLE?` might return 0, indicating that Phase Noise is disabled for the selected frame.

OFDM:FRAME:PNOise:FREQuency

This command sets or returns the Frequency Offset for the currently selected row in the Phase Noise Frequency Model table.

Group Phase noise

Syntax OFDM:FRAME:PNOise:FREQuency <freq_offset>
OFDM:FRAME:PNOise:FREQuency?

Arguments <freq_offset>::= <NRf> value.
Range: Minimum = 10 Hz. Maximum is instrument dependent.
Defaults to 10 Hz.

Returns A single <NR3> value.

Examples OFDM:FRAME:PNOISE:FREQUENCY 15 sets the frequency to 15 Hz for the currently selected row in the Phase Noise Frequency Model table.
OFDM:FRAME:PNOISE:FREQUENCY? might return 40.000000000E+3, indicating that the frequency for the selected row is 40 kHz.

OFDM:FRAME:PNOise:MODE

This command sets or returns the Model used for Phase Noise.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:MODE {TMODe1|FMODe1}`
`OFDM:FRAME:PNOise:MODE?`

Arguments TMODe1: Sets the Phase Noise Model to Time Model.
FMODe1: Sets the Phase Noise Model to Frequency Model.

Returns TMODe1: Time Model.
FMODe1: Frequency Model.

Examples `OFDM:FRAME:PNOISE:MODE TMODe1` sets the Model used for Phase Noise the Time Model.
`OFDM:FRAME:PNOISE:MODE?` might return FMODe1, indicating that Model used for Phase Noise the Frequency Model.

OFDM:FRAME:PNOise:PNOise

This command sets or gets the Phase Noise value for the Phase Noise Time Model.

Group Phase noise

Syntax OFDM:FRAME:PNOise:PNOise <phase_noise>
OFDM:FRAME:PNOise:PNOise?

Arguments <phase_noise>::= <NR3> value.
Range: 0.01 to 180

Returns A single <NR2> value.

Examples OFDM:FRAME:PNOISE:PNOISE 5 sets the Phase Noise to 5° for the Phase Noise Time Model.

OFDM:FRAME:PNOISE:PNOISE? might return 5.0000000000, indicating that the Phase Noise value is set to 5° for the Phase Noise Time Model.

OFDM:FRAME:PNOise:PROFile

This command sets or returns the Profile for the Phase Noise Time Model.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:PROFile {FPZero|FPONE|FPTwo|FPFour}`
`OFDM:FRAME:PNOise:PROFile?`

Arguments `FPZero`: Sets the phase noise profile to $0/f_l$.
`FPONE`: Sets the phase noise profile to $1/f_l$.
`FPTwo`: Sets the phase noise profile to $2/f_l$.
`FPFour`: Sets the phase noise profile to $4/f_l$.

Returns `FPZ` = $0/f_l$.
`FPON` = $1/f_l$.
`FPTW` = $2/f_l$.
`FPF` = $4/f_l$.

Examples `OFDM:FRAME:PNOISE:PROFILE FPONE` sets the Profile to $1/f_l$ for the Phase Noise Time Model.
`OFDM:FRAME:PNOISE:PROFILE?` might return `FPZ`, indicating that the Profile is set to $0/f_l$ for the Phase Noise Time Model.

OFDM:FRAME:PNOise:PSD

This command sets or returns the PSD (Power Spectral Density) dBc/Hz value for the currently selected row in the Phase Noise Frequency Model table.

Group Phase noise

Syntax OFDM:FRAME:PNOise:PSD <PSD_value>
OFDM:FRAME:PNOise:PSD?

Arguments <PSD_value>::= <NR3> value.
Range: -180 to 0.
Defaults to -45.

Returns A single <NR2> value.

Examples OFDM:FRAME:PNOISE:PSD -5 sets the PSD value to -5 dBc/Hz for the currently selected row in the Phase Noise Frequency Model table.

OFDM:FRAME:PNOISE:PSD? might return -47.0000000000, indicating that the PSD value for the currently selected row is -47 dBc/Hz.

OFDM:FRAME:PNOise:SElect

This command sets or returns the selected (active) row of the Phase Noise Frequency Model table. Other commands act on the selected row.

Group Phase noise

Syntax `OFDM:FRAME:PNOise:SElect <index>`
`OFDM:FRAME:PNOise:SElect?`

Related Commands [OFDM:FRAME:PNOise:MODE](#)

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

Returns A single `<NR2>` value.

Examples `OFDM:FRAME:PNOISE:SELECT 3` sets the third row in the Phase Noise Frequency Model table as the active row.

`OFDM:FRAME:PNOISE:SELECT?` might return `2.0000000000`, indicating that the second row in the Phase Noise Frequency Model table is the active row.

OFDM:FRAME:PNOise:VCOBandwidth

This command sets or gets the VCO Bandwidth (VCO cutoff) value for the Phase Noise Time Model.

Conditions VCO Bandwidth is not available if the Profile is set to 1/f0.

Group Phase noise

Syntax OFDM:FRAME:PNOise:VCOBandwidth <bandwidth>
OFDM:FRAME:PNOise:VCOBandwidth?

Arguments <bandwidth>::= <NRf> value.
Range: 1 Hz to ¼ the instrument sampling rate.

Returns A single <NR3> value.

Examples OFDM:FRAME:PNOISE:VCOBANDWIDTH 6E6 sets the VCO Bandwidth to 6 MHz for the Phase Noise Time Model.

OFDM:FRAME:PNOISE:VCOBANDWIDTH? might return 10.000000000E+6, indicating that the VCO bandwidth value is 10 MHz for the Phase Noise Time Model.

OFDM:FRAME:PREamble[n]:DOMain

This command sets or returns the Domain type of the specified Preamble for the selected frame.

Group Preamble

Syntax OFDM:FRAME:PREamble[n]:DOMain {FREquency|TIME}
OFDM:FRAME:PREamble[n]:DOMain?

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

FREquency: Sets the Preamble Domain to Frequency.

TIME: Sets the Preamble Domain to Time.

Returns FRE
TIM

Examples OFDM:FRAME:PREAMBLE1:DOMAIN TIME sets the Domain type to Time for Preamble 1 for the selected frame.

OFDM:FRAME:PREAMBLE2:DOMAIN ? might return FREQ, indicating that the Domain type is set to Frequency for Preamble 2 for the selected frame.

OFDM:FRAME:PREamble[n]:ENABLE

This command sets or returns the status of the specified Preamble (enabled or disabled) for the selected frame. Use the command [OFDM:FRAME:PENable](#) to enable one of the defined Preambles.

Group Preamble

Syntax `OFDM:FRAME:PREamble[n]:ENABLE {0|1|OFF|ON}`
`OFDM:FRAME:PREamble[n]:ENABLE?`

Related Commands [OFDM:FRAME:PENable](#)

Arguments `[n] ::= {1|2}` (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

OFF or 0 disables the specified preamble. OFF or 0 is the default value.
 ON or 1 enables the specified preamble.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:PREAMBLE1:ENABLE 1` enables the first Preamble of currently selected frame.

`OFDM:FRAME:PREAMBLE2:ENABLE?` might return 0, indicating that the second Preamble of currently selected frame is disabled.

OFDM:FRAME:PREamble[n]:PATH

This command sets or returns the specified Preamble filename and filepath for the selected frame.

Group Preamble

Syntax `OFDM:FRAME:PREamble[n]:PATH <filepath>`
`OFDM:FRAME:PREamble[n]:PATH?`

Arguments `[n] ::= {1|2}` (“n” determines the preamble (1 or 2).
If omitted, n is interpreted as 1.
`<filepath> ::= <string>` defines the filename and filepath of the file.

Returns A single `<filepath>` string.

Examples `OFDM:FRAME:PREamble1:PATH "C:\preambleFile.txt"` sets the filename and filepath for Preamble 1 for the selected frame.
`OFDM:FRAME:PREamble2:PATH?` might return `"C:\preambleFile.txt"` as the filename and filepath for Preamble 2 for the selected frame.

OFDM:FRAME:PREamble[n]:REPeat

This command sets or returns the Repeat count of the specified Preamble for the selected frame.

Group Preamble

Syntax OFDM:FRAME:PREamble[n]:REPeat <repeat_count>
OFDM:FRAME:PREamble[n]:REPeat?

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<repeat_count> ::= <NR3>

Range: 1 to 4096.

Defaults to 1.

Returns A single <NR3> value.

Examples OFDM:FRAME:PREAMBLE1:REPEAT 5 sets the Repeat count to 5 for Preamble 1 for selected frame.

OFDM:FRAME:PREAMBLE2:REPEAT? might return 15.0000000000, indicating that the Repeat count is set to 15 for Preamble 2 for selected frame.

OFDM:FRAME:PREamble[n]:SRATe

This command sets or returns the Sampling Rate of the specified Preamble for the selected frame.

Conditions The Preamble Domain must be set to Time.

Group Preamble

Syntax `OFDM:FRAME:PREamble[n]:SRATe <sample_rate>`
`OFDM:FRAME:PREamble[n]:SRATe?`

Related Commands [OFDM:FRAME:PREamble\[n\]:DOMain](#)

Arguments `[n] ::= {1|2}` (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

`<sample_rate> ::= <NR3>`

Range: 10 kHz to 100 GHz.

Defaults to 500 MHz.

Returns A single <NR3> value.

Examples `OFDM:FRAME:PREAMBLE1:SRATE 50E3` sets the Sampling Rate to 50 kHz for Preamble 2 for selected frame.

`OFDM:FRAME:PREAMBLE2:SRATE?` might return `500.0000000000E+6`, indicating that the Sampling rate is set to 500 MHz for Preamble 2 for selected frame.

OFDM:FRAME:PREamble[n]:SSPacing

This command sets or returns the Subcarrier Spacing of the specified Preamble for the selected frame.

Conditions The Preamble Domain must be set to Frequency.

Group Preamble

Syntax OFDM:FRAME:PREamble[n]:SSPacing <spacing>
OFDM:FRAME:PREamble[n]:SSPacing?

Related Commands [OFDM:FRAME:PREamble\[n\]:DOMain](#)

Arguments [n] ::= {1|2} (“n” determines the preamble (1 or 2).

If omitted, n is interpreted as 1.

<spacing> ::= <NR3> value.

Range: 1 Hz to 40 MHz.

Defaults to 1.

Returns A single <NR3> value.

Examples OFDM:FRAME:PREAMBLE1:SSPACING 5E3 sets the Subcarrier Spacing to 5 kHz for Preamble 1 for selected frame.

OFDM:FRAME:PREAMBLE2:SSPACING? might return 500.0000000000, indicating that the Subcarrier Spacing is set to 500 Hz for Preamble 2 for selected frame.

OFDM:FRAME:REName (No Query Form)

This command renames an existing frame name to a new name. The frame being renamed must exist in the Frames List.

Group Frame

Syntax OFDM:FRAME:REName <old_name>,<new_name>

Arguments <old_name>::=<string> defines the frame to be renamed.
 <new_name>::=<string> defines the new frame name.

Examples OFDM:FRAME:RENAME "SampFrame1",SampFrame1new" renames the frame SampFrame1 to SampFrame1new.

OFDM:FRAME:SElect

This command sets or returns the selected frame from the list of available frames in the Frames List.

Other commands act on the selected frame.

Conditions The named frame must exist in the Frames List

Group Frame

Syntax OFDM:FRAME:SElect <frame_name>

Arguments <frame_name>::=<string> defines the frame name to select.

Returns A single <frame_name> string.

Examples OFDM:FRAME:SELECT "Samp_Frame" selects the frame named Samp_Frame in the Frame List.

OFDM:FRAME:SELECT ? might return "Samp_Frame" as the selected frame in the Frame List.

OFDM:FRAME:WINDow:ENABLE

This command sets or returns the status (enabled or disabled) of the overlap Window type for the selected frame.

Group Frame

Syntax `OFDM:FRAME:WINDow:ENABLE {0|1|OFF|ON}`
`OFDM:FRAME:WINDow:ENABLE?`

Related Commands [OFDM:FRAME:WINDow:TYPE](#)

Arguments OFF or 0 disables the Window type.
ON or 1 enables the Window type.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:FRAME:WINDOW:ENABLE 1` enables the Window type for the selected frame.

`OFDM:FRAME:WINDOW:ENABLE?` might return 0, indicating that the Window type is disabled for the selected frame.

OFDM:FRAME:WINDow:TYPE

This command sets or returns the overlap Window type for the selected frame.

Group	Frame
Syntax	OFDM:FRAME:WINDow:TYPE {NONE TRIangular HANNing HAMMing KAISer BLACKman} OFDM:FRAME:WINDow:TYPE?
Arguments	NONE: Sets the overlap Window type to None. TRIangular: Sets the overlap Window type to Triangular. HANNing: Sets the overlap Window type to Hanning. HAMMing: Sets the overlap Window type to Hamming. KAISer: Sets the overlap Window type to Kaiser. BLACKman: Sets the overlap Window type to Blackman.
Returns	NONE TRI (Triangular) HANN (Hanning) HAMM (Hamming) KAIS (Kaiser) BLAC (Blackman)
Examples	OFDM:FRAME:WINDOW:TYPE TRIANGULAR sets the overlap Window type to Triangular for the selected frame. OFDM:FRAME:WINDOW:TYPE? might return BLAC, indicating that the overlap Window type is set to Blackman for the selected frame.

OFDM:RESet (No Query Form)

This command resets the OFDM 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 OFDM:RESet

Examples OFDM:RESET returns the OFDM plug-in to its default values.

OFDM:SFormat

This command sets or returns the OFDM signal format.

Group Compile

Syntax OFDM:SFormat {RF|IQ}
 OFDM:SFormat?

Arguments RF sets the signal format to RF.
 IQ sets the signal format to IQ.

Returns RF
 IQ

Examples OFDM:SFORMAT IQ sets the signal format to IQ mode.
 OFDM:SFORMAT? might return RF, indicating that the signal format is set to RF/IF mode.

OFDM:SPARAmeter:BANDwidth

This command sets or returns the S-Parameter bandwidth when setting manually.

Conditions Requires an S-Parameters license.

Group S-Parameters

Syntax OFDM:SPARAmeter:BANDwidth {FULL|<bandwidth>}
OFDM:SPARAmeter:BANDwidth?

Related Commands [OFDM:SPARAmeter:BANDwidth:AUTO](#)

Arguments FULL – The bandwidth is set to $\frac{1}{2}$ of the waveform's sample rate (i.e. Nyquist Frequency).

<bandwidth>::= <NR3> value.

Range: 1 Hz to $\frac{1}{2}$ 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 $\frac{1}{2}$ of the waveform's sample rate.

Returns FULL
A single <NR3> value.

Examples OFDM:SPARAMETER:BANDWIDTH 60E6 sets the S-Parameter Bandwidth Value to 60 MHz.

OFDM:SPARAMETER:BANDWIDTH? might return 1.000000000E+9, indicating the S-Parameter Bandwidth is set to 1 GHz.

OFDM: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 OFDM:SPARAmeter:BANDwidth:AUTO {0|1|OFF|ON}
OFDM:SPARAmeter:BANDwidth:AUTO?

Related Commands [OFDM: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 OFDM:SPARAMETER:BANDWIDTH:AUTO 0 disables the S-Parameter automatic bandwidth calculation and sets it to use a manual value.
OFDM:SPARAMETER:BANDWIDTH:AUTO? might return 1, indicating the S-Parameter automatic bandwidth calculation is enabled.

OFDM: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 OFDM:SPARAmeter:CASCading:AGGRessor2[:ENABLE] {0|1|ON|OFF}
OFDM:SPARAmeter:CASCading:AGGRessor2[:ENABLE]?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:AGGRESSOR2:ENABLE ON enables the aggressor 2 signal type, in Cascading mode.

OFDM:SPARAMETER:CASCADING:AGGRESSOR2:ENABLE? might return 0, indicating that the aggressor 2 signal type is disabled, in Cascading mode.

OFDM: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 OFDM:SPARAmeter:CASCading:AGGRessor[n]:AMPLitude <amplitude>
 OFDM:SPARAmeter:CASCading:AGGRessor[n]:AMPLitude?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:AGGRESSOR1:AMPLITUDE 200E-3 sets the first Aggressor's amplitude to 200 mV, in Cascading mode.

OFDM:SPARAMETER:CASCADING:AGGRESSOR2:AMPLITUDE? might return 100.0000000000E-3, indicating that the 2nd Aggressor's amplitude is set to 100 mV, in Cascading mode.

OFDM: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 OFDM:SPARAmeter:CASCading:AGGRessor[n]:CTALk
{NEXT|FEXT|BOTH}
OFDM:SPARAmeter:CASCading:AGGRessor[n]:CTALk?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:AGGRESSOR1:CTALK FEXT sets the first Aggressor's Crosstalk type to Far End Crosstalk, in Cascading mode.
OFDM:SPARAMETER:CASCADING:AGGRESSOR2:CTALK? might return NEXT, indicating that the 2nd Aggressor crosstalk type is set to Far End Crosstalk, in Cascading mode.

OFDM: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 OFDM:SPARAmeter:CASCading:AGGRessor[n]:DRATe <data_rate>
 OFDM:SPARAmeter:CASCading:AGGRessor[n]:DRATe?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:AGGRESSOR1:DRATE 4E9 sets the first Aggressor's data rate to 4 Gbps, in Cascading mode.
 OFDM: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.

OFDM: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 OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal
{CLOCK|PRBS|FILE|SAVictim}
OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM: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 PRBS pattern. You also must set the PRBS 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 OFDM:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL SAVICTIM sets the aggressor signal to be the same as the victim, in Cascading mode.
OFDM:SPARAMETER:CASCADING:AGGRESSOR2:SIGNAL? might return FILE, indicating that 2nd Aggressor has a signal type set to use a file, in Cascading mode.

OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal:FILE

This command sets or returns the filename and 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 OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal:FILE
 <filepath>
 OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal:FILE?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM: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 OFDM:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL:FILE
 "C:\temp\myFile.txt" sets the first Aggressor's filename and filepath when the aggressor is set to use a file, in Cascading mode.
 OFDM:SPARAMETER:CASCADING:AGGRESSOR2:SIGNAL:FILE? might return "C:\temp\myFile.txt" as the 2nd Aggressor filename and filepath, in Cascading mode.

OFDM: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	<pre>OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal:PRBS {PRBS7 PRBS9 PRBS15 PRBS16 PRBS20 PRBS21 PRBS23 PRBS29 PRBS31} OFDM:SPARAmeter:CASCading:AGGRessor[n]:SIGNal:PRBS?</pre>
Related Commands	OFDM:SPARAmeter:MODE OFDM: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	OFDM:SPARAMETER:CASCADING:AGGRESSOR1:SIGNAL:PRBS PRBS31 sets the first Aggressor's Signal type's PRBS value to PRBS31, in Cascading mode. OFDM: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.

OFDM: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 OFDM:SPARAmeter:CASCading:DEEMbed {0|1|OFF|ON}
OFDM:SPARAmeter:CASCading:DEEMbed?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:DEEMBED 1 will de-embed the S-Parameters for Cascading mode.

OFDM:SPARAMETER:CASCADING:DEEMBED? might return 0, indicating that S-Parameters will not be de-embedded for Cascading mode.

OFDM: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 OFDM:SPARAmeter:CASCading:STAGe[m]:DRX[n] <port number>
OFDM:SPARAmeter:CASCading:STAGe[m]:DRX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:CASCading:TYPE](#)
[OFDM: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 `OFDM: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.

`OFDM: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.

OFDM: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 OFDM:SPARAmeter:CASCading:STAGe[m]:DTX[n] <port number>
OFDM:SPARAmeter:CASCading:STAGe[m]:DTX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:CASCading:TYPE](#)
[OFDM: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 `OFDM: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.

`OFDM: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.

OFDM:SPARAmeter:CASCading:STAGe[m]:ENABle

This command sets or returns the state (enabled or disabled) of the specified Cascaded S-Parameter stage.

Conditions S-Parameter Mode must be set to Cascading.
Requires an S-Parameters license.

Group S-Parameters

Syntax OFDM:SPARAmeter:CASCading:STAGe[m]:ENABle {0|1|OFF|ON}
OFDM:SPARAmeter:CASCading:STAGe[m]:ENABle?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM: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 OFDM:SPARAMETER:CASCADING:STAGE6:ENABLE 1 enables Stage 6 in Cascading mode.
OFDM:SPARAMETER:CASCADING:STAGE6:ENABLE? might return 0, indicating that Stage 6 is not enabled in Cascading mode.

OFDM:SPARAmeter:CASCading:STAGe[m]:FILE

This command sets or returns the filename and 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 OFDM:SPARAmeter:CASCading:STAGe[m]:FILE <filepath>
OFDM:SPARAmeter:CASCading:STAGe[m]:FILE

Related Commands [OFDM: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 A single <filepath> string.

Examples OFDM:SPARAMETER:CASCADING:STAGE1:FILE "C:\temp\myFile.s12p"
sets the filename and filepath to "C:\temp\myFile.s12p" for use during compilation for Stage 1.

OFDM:SPARAMETER:CASCADING:STAGE1:FILE? might return
"C:\temp\myFile.s12p" as the filename and filepath for Stage 1.

OFDM: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 OFDM:SPARAmeter:CASCading:STAGe[m]:RX[n] <port_number>
OFDM:SPARAmeter:CASCading:STAGe[m]:RX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:CASCading:TYPE](#)
[OFDM: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 `OFDM: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.

`OFDM: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.

OFDM: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 OFDM:SPARAmeter:CASCading:STAGe[m]:SSCHeme
{SENDED|DIFFerential}
OFDM:SPARAmeter:CASCading:STAGe[m]:SSCHeme?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:STAGE2:SSCHEME DIFF sets the Stage 2 Signalling Scheme to Differential, in Cascading mode.
OFDM:SPARAMETER:CASCADING:STAGE3:SSCHEME? might return SEND, indicating that the Stage 3 Signalling Scheme is set to Single Ended, in Cascading mode.

OFDM: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 OFDM:SPARAmeter:CASCading:STAGe[m]:TX[n] <port number>
OFDM:SPARAmeter:CASCading:STAGe[m]:TX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:CASCading:TYPE](#)
[OFDM: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 `OFDM: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.

`OFDM: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.

OFDM: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 OFDM:SPARAmeter:CASCading:STYPe {VICTim|AGGRessor|BOTH}
 OFDM:SPARAmeter:CASCading:STYPe?

Related Commands [OFDM: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 OFDM:SPARAMETER:CASCADING:STYPe BOTH sets the signal type to include both the Victim and Aggressor signal types, in Cascading mode.
 OFDM:SPARAMETER:CASCADING:STYPe? might return AGGR, indicating that the S-Parameter signal type is currently set to be Aggressor, in Cascading mode.

OFDM: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 `OFDM:SPARAmeter:CASCading:TYPE {2|4|6|8|12}`
`OFDM:SPARAmeter:CASCading:TYPE?`

Arguments {2|4|6|8|12} – defines the number of S-Parameter ports.

Returns A single <NR1> value.

Examples `OFDM:SPARAMETER:CASCADING:TYPE 12` sets the S-Parameter type to a 12-Port system for the cascading mode.

`OFDM:SPARAMETER:CASCADING:TYPE?` might return 6, indicating that the S-Parameter type is a 6-Port system for Cascading mode.

OFDM: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	OFDM:SPARAmeter:MODE {CASC NCAS} OFDM: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	OFDM:SPARAMETER:MODE CASCADING sets the S-Parameter mode to cascading. OFDM:SPARAMETER:MODE? might return NCAS, indicating that the S-Parameter mode is set to Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:AGGRessor2[:ENABLe] {0|1|ON|OFF}
OFDM:SPARAmeter:NCAScading:AGGRessor2[:ENABLe]?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:AGGRESSOR2:ENABLE ON enables the aggressor 2 signal type, in Non-Cascading mode.
OFDM:SPARAMETER:NCASCADING:AGGRESSOR2:ENABLE? might return 0, indicating that the aggressor 2 signal type is disabled, in Non-Cascading mode.

OFDM: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 OFDM:SPARameter:NCAScading:AGGRessor[n]:AMPLitude
<amplitude>
OFDM:SPARameter:NCAScading:AGGRessor[n]:AMPLitude?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:AMPLITUDE 200E-3 sets the 1st Aggressor's amplitude to 200 mV, in Non-Cascading mode.
OFDM: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.

OFDM: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 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:CTALk
{NEXT|FEXT|BOTH}
OFDM:SPARAmeter:NCAScading:AGGRessor[n]:CTALk?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:CTALK FEXT sets the 1st Aggressor's Crosstalk type to Far End Crosstalk, in Non-Cascading mode.
OFDM:SPARAMETER:NCASCADING:AGGRESSOR2:CTALK? might return NEXT, indicating that the 2nd Aggressor crosstalk type is set to Near End Crosstalk, in Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:DRATe <data_rate>
 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:DRATe?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:DRATE 4E9 sets the 1st Aggressor's data rate to 4 Gbps, in Non-Cascading mode.
 OFDM: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.

OFDM: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 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal
{CLOCK|PRBS|FILE|SAVictim}
OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM: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 filepath.

SAVictim – Aggressor is the same as the victim.

Returns CLOC
PRBS
FILE
SAV

Examples OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL SAVICTIM sets the 1st aggressor signal to be the same as the victim, in Non-Cascading mode

OFDM:SPARAMETER:NCASCADING:AGGRESSOR2:SIGNAL? might return FILE, indicating that 2nd Aggressor has a signal type set to use a file, in Non-Cascading mode.

OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal:FILE

This command sets or returns the filename and 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 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal:FILE
 <filepath>
 OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal:FILE?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM: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 OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL:FILE
 "C:\temp\myFile.txt" sets the 1st Aggressor's filename and filepath, in Non-Cascading mode.
 OFDM:SPARAMETER:NCASCADING:AGGRESSOR2:SIGNAL:FILE? might return "C:\temp\myFile.txt" as the 2nd Aggressor filename and filepath in Non-Cascading mode.

OFDM: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	<pre>OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal:PRBS {PRBS7 PRBS9 PRBS15 PRBS16 PRBS20 PRBS21 PRBS23 PRBS29 PRBS31} OFDM:SPARAmeter:NCAScading:AGGRessor[n]:SIGNal:PRBS?</pre>
Related Commands	OFDM:SPARAmeter:MODE OFDM: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	OFDM:SPARAMETER:NCASCADING:AGGRESSOR1:SIGNAL:PRBS PRBS31 sets the 1st Aggressor's Signal type's PRBS value to PRBS31, in Non-Cascading mode. OFDM: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.

OFDM: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 OFDM:SPARAmeter:NCAScading:DEEMbed {0|1|OFF|ON}
OFDM:SPARAmeter:NCAScading:DEEMbed?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:DEEMBED 1 will de-embed the S-Parameters for Non-Cascading mode.

OFDM:SPARAMETER:NCASCADING:DEEMBED? might return 0, indicating that S-Parameters will not be de-embedded for Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:DRX[n] <port_number>
OFDM:SPARAmeter:NCAScading:DRX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:NCAScading:TYPE](#)
[OFDM: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 OFDM:SPARAMETER:NCASCADING:DTX2 4 assigns S-Parameter port 4 to channel's receiver port 2, in the Differential, Non-Cascading mode.

OFDM: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.

OFDM: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 OFDM:SPARAmeter:NCAScading:DTX[n] <port_number>
OFDM:SPARAmeter:NCAScading:DTX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:NCAScading:SType](#)
[OFDM:SPARAmeter:NCAScading:Type](#)
[OFDM: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 OFDM:SPARAMETER:NCASCADING:DTX2 4 assigns S-Parameter port 4 to channel's transmission port 2, in the Differential, Non-Cascading mode.

OFDM: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.

OFDM:SPARAmeter:NCAScading:FILE

This command sets or returns the filename and filepath 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 OFDM:SPARAmeter:NCAScading:FILE <filepath>

Related Commands [OFDM:SPARAmeter:MODE](#)

Arguments <filepath>::= <string> defines the path to the S-Parameter file.

Returns A single <filepath> string.

Examples OFDM:SPARAMETER:NCASCADING:FILE "C:\temp\myFile.s12p" sets the file and filepath to "C:\temp\myFile.s12p" for use during compilation.
OFDM:SPARAMETER:NCASCADING:FILE? might return "C:\temp\myOtherFile.s6p" as the current file.

OFDM: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 OFDM:SPARameter:NCAScading:LAYout {TYPical|ALTErnate}
OFDM:SPARameter:NCAScading:LAYout?

Related Commands [OFDM:SPARameter:MODE](#)

Arguments TYPical or ALTErnate: selects the S-Parameter Matrix.

S-Parmeter Matrix Typical				S-Parmeter Matrix Alternate			
SDD11	SDD12	SDC11	SDC12	SCC11	SCC12	SCD11	SCD12
SDD21	SDD22	SDC21	SDC22	SCC21	SCC22	SCD21	SCD22
SCD11	SCD12	SCC11	SCC12	SDC11	SDC12	SDD11	SDD12
SCD21	SCD22	SCC21	SCC22	SDC21	SDC22	SDD21	SDD22

Returns TYP
ALT

Examples OFDM:SPARAMETER:NCASCADING:LAYOUT TYPICAL sets the 4 port configuration's Layout to Typical, in Non-Cascading mode.

OFDM:SPARAMETER:NCASCADING:LAYOUT? might return TYP, indicating that configuration's Layout for port 4 is set to Typical, in Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:RX[n] <port number>
OFDM:SPARAmeter:NCAScading:RX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:NCAScading:TYPE](#)
[OFDM: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 `OFDM:SPARAMETER:NCASCADING:RX2 4` assigns S-Parameter port 4 to the channel's receiver port 2, in the Single-Ended, Non-Cascading mode.

`OFDM: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.

OFDM: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 OFDM:SPARAmeter:NCAScading:SSCHeme {SENDEd|DIFFerential}
OFDM:SPARAmeter:NCAScading:SSCHeme?

Related Commands [OFDM:SPARAmeter:MODE](#)

Arguments SENDEd – Single Ended Signal Scheme
DIFFerential – Differential Signal Scheme

Returns SEND
DIFF

Examples OFDM:SPARAMETER:NCASCADING:SSCHEME DIFF sets the Signalling Scheme to Differential, in Non-Cascading mode.
OFDM:SPARAMETER:NCASCADING:SSCHEME? might return SEND, indicating that the Signalling Scheme is set to Single Ended, in Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:STYPe {VICTim|AGGRessor|BOTH}
OFDM:SPARAmeter:NCAScading:STYPe?

Related Commands [OFDM: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 OFDM:SPARAMETER:NCASCADING:STYPe BOTH sets the signal type to include both the Victim and Aggressor signal types, in Non-Cascading mode.
OFDM:SPARAMETER:NCASCADING:STYPe? might return AGGR, indicating that the S-Parameter signal type is currently set to be Aggressor, in Non-Cascading mode.

OFDM: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 OFDM:SPARAmeter:NCAScading:TX[n] <port number>
OFDM:SPARAmeter:NCAScading:TX[n]?

Related Commands [OFDM:SPARAmeter:MODE](#)
[OFDM:SPARAmeter:CASCading:STYPe](#)
[OFDM:SPARAmeter:NCAScading:TYPE](#)
[OFDM: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 `OFDM:SPARAMETER:NCASCADING:TX2 4` assigns S-Parameter port 4 to the channel's transmission port 2, in the Single-Ended, Non-Cascading mode.

`OFDM: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.

OFDM: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 `OFDM: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 `OFDM:SPARAMETER:NCASCADING:TYPE 12` sets the S-Parameter type to a 12-Port system for Non-Cascading mode.

`OFDM:SPARAMETER:NCASCADING:TYPE?` might return 6, indicating that the S-Parameter type is a 6-Port system for Non-Cascading mode.

OFDM: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 `OFDM:SPARAmeter:SFORmat {RF|I|Q}`
`OFDM:SPARAmeter:SFORmat?`

Related Commands [OFDM: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 `OFDM:SPARAMETER:SFORMAT Q` applies the S-Parameters to the Q signal.
`OFDM:SPARAMETER:SFORMAT?` might return RF, indicating that all S-Parameters values are RF.

OFDM: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 `OFDM:SPARAmeter:SFORmat:LIQ {1|0|ON|OFF}`
`OFDM:SPARAmeter:SFORmat:LIQ?`

Related Commands [OFDM: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 `OFDM:SPARAMETER:SFORMAT:LIQ 1` enables the Couple Settings.
`OFDM:SPARAMETER:SFORMAT:LIQ?` might return 0, indicating that the Couple Settings is disabled.

OFDM:SPARAmeter:TON

This command sets or returns the S-Parameter state (enabled or disabled).

Conditions	Requires an S-Parameters license.
Group	S-Parameters
Syntax	OFDM:SPARAmeter:TON {1 0 ON OFF} OFDM: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	OFDM:SPARAMETER:TON 1 enables the S-Parameters. OFDM:SPARAMETER:TON? might return 0, indicating that the S-Parameters is disabled.

OFDM:SYMBOL:ADD (No Query Form)

This command adds a new symbol to the existing list of symbols within the Symbols List. The new symbol is created using the plug-in default settings.

If the name already exists, an error message is displayed.

Group Symbols

Syntax OFDM:SYMBOL:ADD <symbol_name>

Arguments <symbol_name>::=<string> defines the symbol name to be created.
If no name is given, the name defaults to “Symbol_x” where “x” is the next sequential number available.

Examples OFDM:SYMBOL:ADD “My_Symbol_1” adds a symbol named My_Symbol_1 to the end of the existing Symbol List.

OFDM:SYMBOL:APPROfile:CUSTOM:ADD (No Query Form)

This command adds a single row to the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.

Default subcarrier positions, amplitude, and phase are loaded into the new row.

Conditions Custom must be enabled for the subcarriers Amplitude/Phase Profile.

Group Symbols

Syntax `OFDM:SYMBOL:APPROfile:CUSTOM:ADD`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:APPROfile:TYPE](#)

Examples `OFDM:SYMBOL:APPROFILE:CUSTOM:ADD` adds a single row to the end of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROfile:CUSTOM:AMPLitude

This command sets or returns the amplitude of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.

Conditions The Amplitude/Phase Profile type must be set to Custom.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:CUSTOM:AMPLitude <amplitude>
OFDM:SYMBOL:APPROfile:CUSTOM:AMPLitude?

Related Commands [OFDM:SYMBOL:SElect](#), [OFDM:SYMBOL:APPROfile:CUSTOM:SElect](#),
[OFDM:SYMBOL:APPROfile:TYPE](#)

Arguments <amplitude>::=<NRf> value.
Range: –60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:CUSTOM:AMPLITUDE –20 sets the amplitude of the subcarrier positions to –20 dBm of the selected row of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROFILE:CUSTOM:AMPLITUDE? might return –24.0000000000, indicating that the amplitude of the subcarrier positions is set to –24 dBm of the selected row of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROfile:CUSTom:PHASe

This command sets or returns the phase of the subcarrier positions of the selected row in the Custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.

Conditions The Amplitude/Phase Profile type must be set to Custom.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:CUSTom:PHASe <phase>
OFDM:SYMBOL:APPROfile:CUSTom:PHASe?

Related Commands [OFDM:SYMBOL:SElect](#), [OFDM:SYMBOL:APPROfile:CUSTom:SElect](#),
[OFDM:SYMBOL:APPROfile:TYPE](#)

Arguments <phase>::=<NRf> value.
Range: -180° to 180° .
Defaults to 0° .

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:CUSTOM:PHASE -20 sets the phase of the subcarrier positions to -20° of the selected row of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROFILE:CUSTOM:PHASE? might return 10.0000000000, indicating that the phase of the subcarrier positions is set to 10° of the selected row of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROfile:CUSTOM:REMove

This command removes the specified row from the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.

Conditions Custom must be enabled for the subcarriers Amplitude/Phase Profile.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:CUSTOM:REMove <row>

Related Commands [OFDM:SYMBOL:APPROfile:CUSTOM:ADD](#) ,
[OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:APPROfile:TYPE](#)

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

Examples OFDM:SYMBOL:APPROFILE:CUSTOM:REMOVE removes the specified row from the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROfile:CUSTom:SElect

This command sets or returns the selected (active) row of the Custom Amplitude/Phase Profile table. Other commands act on the selected row.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:CUSTom:SElect <index>

Arguments <index>::=<NR1> value defines the row index number.

Returns A single <NR1> value.

Examples OFDM:SYMBOL:APPROFILE:CUSTOM:SELECT 2 sets row index 2 as the active row in the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROFILE:CUSTOM:SELECT? might return 4.0000000000, indicating row 4 of the Custom Amplitude/Phase Profile table is the active row.

OFDM:SYMBOL:APPROfile:CUSTOM:SPOS

This command sets or returns the subcarrier positions for the currently selected row in the custom Amplitude/Phase Profile table for the selected symbol in the Symbol List.

Use a colon to define a range of subcarrier positions and use a comma to separate individual subcarrier positions. For instance, `-11:12,15` selects subcarrier positions -11 through 12 and 15.

Group	Symbols
Syntax	OFDM:SYMBOL:APPROfile:CUSTOM:SPOS <positions> OFDM:SYMBOL:APPROfile:CUSTOM:SPOS?
Related Commands	OFDM:SYMBOL:SElect , OFDM:SYMBOL:APPROfile:CUSTOM:SElect
Arguments	<positions>::= <string>.
Returns	A single <positions> string.
Examples	OFDM:SYMBOL:APPROFILE:CUSTOM:SPOS "-11:12,15" sets the subcarrier positions as -11 to 12 and 15 of the currently selected row of the Custom Amplitude/Phase Profile table. OFDM:SYMBOL:APPROFILE:CUSTOM:SPOS? might return "-9,7:8,12", indicating the subcarrier positions are set to 9, 7 to 8, and 12 of the currently selected row of the Custom Amplitude/Phase Profile table.

OFDM:SYMBOL:APPROfile:DATA:AMPLitude

This command sets or returns the amplitude of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions Data must be enabled in the Amplitude/Phase Profile.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:DATA:AMPLitude <amplitude>
OFDM:SYMBOL:APPROfile:DATA:AMPLitude?

Arguments <amplitude>::=<NRf> value.
Range: -60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:DATA:AMPLITUDE -20 sets the amplitude of the Data subcarriers to -20 dBm.

OFDM:SYMBOL:APPROFILE:DATA:AMPLITUDE? might return -24.0000000000, indicating that the amplitude of the Data subcarriers is set to -24 dBm.

OFDM:SYMBOL:APPProfile:DATA:ENABLE

This command sets or returns the Data state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions The symbol subcarriers must have Data enabled.

Group Symbols

Syntax OFDM:SYMBOL:APPProfile:DATA:ENABLE {0|1|OFF|ON}
OFDM:SYMBOL:APPProfile:DATA:ENABLE?

Arguments OFF or 0 disables the Data subcarrier Amplitude/Phase Profile. OFF or 0 is the default value.
ON or 1 enables the Data subcarrier in the Amplitude/Phase Profile.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples OFDM:SYMBOL:APPProfile:DATA:ENABLE ON enables Data in the Amplitude/Phase Profile for the selected symbol.
OFDM:SYMBOL:APPProfile:DATA:ENABLE? might return 0, indicating that Data in the Amplitude/Phase Profile is disabled for the selected symbol.

OFDM:SYMBOL:APPROfile:DATA:PHASe

This command sets or returns the phase of the Data subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions Data must be enabled in the Amplitude/Phase Profile.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:DATA:PHASe <phase>
OFDM:SYMBOL:APPROfile:DATA:PHASe?

Arguments <phase>::=<NRf> value.
Range: -180° to 180° .
Defaults to 0° .

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:DATA:PHASE -20 sets the phase of the Data subcarriers to -20° .
OFDM:SYMBOL:APPROFILE:DATA:PHASE? might return 10.0000000000, indicating that the phase of the Data subcarriers is set to 10° .

OFDM:SYMBOL:APPROfile:ENABLE

This command sets or returns the Amplitude Phase Profile state (enabled or disabled) for the selected symbol in the Symbol List.

When enabled, you can apply attenuation and phase rotation to each subcarrier or each type of subcarrier.

Conditions The symbol subcarriers must have either Data or Pilot (or both) enabled.

Group Symbols

Syntax `OFDM:SYMBOL:APPROfile:ENABLE {0|1|OFF|ON}`
`OFDM:SYMBOL:APPROfile:ENABLE?`

Arguments OFF or 0 disables the Amplitude Phase Profile. OFF or 0 is the default value.
OFF or 0 is the default value.
ON or 1 enables the Amplitude Phase Profile.

Returns A single <Boolean> value.

Examples `OFDM:SYMBOL:APPROFILE:ENABLE ON` enables the Amplitude Phase Profile.
`OFDM:SYMBOL:APPROFILE:ENABLE?` might return 0, indicating that the Amplitude Phase Profile is disabled.

OFDM:SYMBOL:APPROfile:PILOt:AMPLitude

This command sets or returns the amplitude of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions Pilot must be enabled in the Amplitude/Phase Profile.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:PILOt:AMPLitude <amplitude>
OFDM:SYMBOL:APPROfile:PILOt:AMPLitude

Arguments <amplitude>::=<NRf> value.
Range: -60 dBm to 0 dBm.
Defaults to 0 dBm.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:PILOT:AMPLITUDE -20 sets the amplitude of the Pilot subcarriers to -20 dBm.

OFDM:SYMBOL:APPROFILE:PILOT:AMPLITUDE? might return -24.0000000000, indicating that the amplitude of the Pilot subcarriers is set to -24 dBm.

OFDM:SYMBOL:APPProfile:PILOT:ENABLE

This command sets or returns the Pilot state (enabled or disabled) of the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions	The symbol subcarriers must have Pilot enabled.
Group	Symbols
Syntax	<code>OFDM:SYMBOL:APPProfile:PILOT:ENABLE {0 1 OFF ON}</code> <code>OFDM:SYMBOL:APPProfile:PILOT:ENABLE?</code>
Arguments	OFF or 0 disables the Pilot subcarrier Amplitude/Phase Profile. OFF or 0 is the default value. OFF or 0 is the default value. ON or 1 enables the Pilot subcarrier in the Amplitude/Phase Profile.
Returns	A single <Boolean> value.
Examples	<code>OFDM:SYMBOL:APPProfile:PILOT:ENABLE ON</code> enables Pilot in the Amplitude/Phase Profile for the selected symbol. <code>OFDM:SYMBOL:APPProfile:PILOT:ENABLE?</code> might return 0, indicating that Pilot in the Amplitude/Phase Profile is disabled for the selected symbol.

OFDM:SYMBOL:APPROfile:PILOt:PHASe

This command sets or returns the Phase of the Pilot subcarriers when configuring the Amplitude/Phase Profile for the selected symbol in the Symbol List.

Conditions Pilot must be enabled in the Amplitude/Phase Profile.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:PILOt:PHASe <phase>
OFDM:SYMBOL:APPROfile:PILOt:PHASe

Arguments <phase>::=<NRf> value.
Range: -180° to 180° .
Defaults to 0° .

Returns A single <NR3> value.

Examples OFDM:SYMBOL:APPROFILE:PILOT:PHASE -20 sets the phase of the Pilot subcarriers to -20° .
OFDM:SYMBOL:APPROFILE:PILOT:PHASE? might return 10.0000000000, indicating that the phase of the Pilot subcarriers is set to 10° .

OFDM:SYMBOL:APPROfile:TYPE

This command sets or returns the Amplitude Phase Profile type for selected symbol.

Group Symbols

Syntax OFDM:SYMBOL:APPROfile:TYPE {FIXed|CUSTom}
OFDM:SYMBOL:APPROfile:TYPE?

Related Commands [OFDM:SYMBOL:APPROfile:ENABLE](#)

Arguments FIXed allows you to specify the amplitude and phase profile for all data and pilot positions.
CUSTom allows you to specify the amplitude and phase profile for any carrier position or positions.
Fixed is the default setting.

Returns FIX: Fixed
CUST: Custom

Examples OFDM:SYMBOL:APPROFILE:TYPE FIXed enables you to specify the amplitude and phase profile for all data and pilot subcarrier positions.
OFDM:SYMBOL:APPROFILE:TYPE? might return CUST, indicating that the custom amplitude and phase profile table is enabled.

OFDM:SYMBOL:CRATIO:ENABLE

This command sets or returns the Clipping Ratio state (enabled or disabled) for the selected symbol in the Symbol List.

Clipping Ratio is the Clip power level divided by Average Power.

Group Symbols

Syntax OFDM:SYMBOL:CRATIO:ENABLE {0|1|OFF|ON}
OFDM:SYMBOL:CRATIO:ENABLE?

Related Commands [OFDM:SYMBOL:CRATIO:VALUE](#)

Arguments OFF or 0 disables Clipping Ratio. OFF or 0 is the default value.
ON or 1 enables setting Clipping Ratio.

Returns A single <Boolean> value.

Examples OFDM:SYMBOL:CRATIO:ENABLE ON enables setting Clipping Ratio.
OFDM:SYMBOL:CRATIO:ENABLE? might return 0, indicating that Clipping Ratio is disabled.

OFDM:SYMBOL:CRATIO:VALUE

This command sets or returns the Clipping Ratio value for the selected symbol in the Symbol List.

Conditions Clipping Ratio must be enabled.

Group Symbols

Syntax OFDM:SYMBOL:CRATIO:VALUE <clipping_ratio>
OFDM:SYMBOL:CRATIO:VALUE?

Related Commands [OFDM:SYMBOL:CRATIO:ENABLE](#)

Arguments <clipping_ratio>::=<NRf> value.
Range: 0.01 dB to 50 dB.
Default: 1 dB.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:CRATIO:VALUE 10 sets the Clipping Ratio to 10 dB.
OFDM:SYMBOL:CRATIO:VALUE? might return 1.0000000000, indicating that the Clipping Ratio is set to 1 dB.

OFDM:SYMBol:DATA

This command sets or returns the Data subcarriers pattern type for the selected symbol in the Symbol List.

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 Symbols

Syntax `OFDM:SYMBol:DATA {AZERo|AONe|PRBS|PATTeRn|FILe}`
`OFDM:SYMBol:DATA?`

Arguments `AZERo` is a Data type of all zeroes.

`AONe` is a Data type of all ones.

`PRBS` is one of the available PRBS data types. Use the command [OFDM:SYMBol:DATA:PRBS](#) to set and query the actual PRBS Data type.

`PATTeRn` is a pattern Data type. Use the command [OFDM:SYMBol:DATA:PATTeRn](#) to set and query the pattern.

`FILe` is a file Data type. Use the command [OFDM:SYMBol:DATA:FILe](#) to set and query the pattern file and filepath.

Returns `AZER`: All zeros
`AON`: All ones
`PRBS`
`PATT`: Pattern
`FIL`: File

Examples `OFDM:SYMBOL:DATA AONE` sets the pattern type to all ones for the Data subcarriers.

`OFDM:SYMBOL:DATA?` might return `PRBS`, indicating that the pattern type is set one of the available PRBS selections for the Data subcarriers.

OFDM:SYMBOL:DATA:ENABLE

This command sets or returns the Data subcarriers state (enabled or disabled) for the selected symbol in the Symbol List.

When enabled, you can define the Data subcarriers.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:ENABLE {0|1|OFF|ON}`
`OFDM:SYMBOL:DATA:ENABLE?`

Related Commands [OFDM:SYMBOL:SELEct](#)

Arguments OFF or 0 disables Data subcarriers.
ON or 1 enables the Data subcarriers. ON or 1 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:SYMBOL:DATA:ENABLE ON` enables setting Data subcarriers.
`OFDM:SYMBOL:DATA:ENABLE?` might return 0, indicating that Data subcarriers are disabled.

OFDM:SYMBOL:DATA:FILE

This command sets or returns the Data Pattern filename and filepath for the selected symbol in the Symbol List.

Conditions	The Data subcarriers Pattern type must be set to File with the command OFDM:SYMBOL:PILOT .
Group	Symbols
Syntax	OFDM:SYMBOL:DATA:FILE <filepath> OFDM:SYMBOL:DATA:FILE?
Related Commands	OFDM:SYMBOL:SELECT , OFDM:SYMBOL:DATA
Arguments	<filepath>::= <string>.
Returns	A single <filepath> string.
Examples	OFDM:SYMBOL:DATA:FILE "C:\temp\dataPattern.txt" sets the symbol data pattern filename and filepath for the Data subcarriers. OFDM:SYMBOL:DATA:FILE? might return "C:\temp\dataPattern.txt" as the symbol data pattern filename and filepath for the Data subcarriers.

OFDM:SYMBOL:DATA:MODulation:PSK

This command sets or returns the Data subcarriers PSK modulation type for the selected symbol in the Symbol Table.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:MODulation:PSK {BPSK|QPSK|8PSK}`
`OFDM:SYMBOL:DATA:MODulation:PSK`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:DATA:MODulation:TYPE](#)

Arguments BPSK, QPSK, and 8PSK are the selectable PSK modulation types.

Returns BPSK, QPSK, or 8PSK

Examples `OFDM:SYMBOL:DATA:MODULATION:PSK 8PSK` sets the symbol PSK data modulation type to 8PSK for the Data subcarriers.

`OFDM:SYMBOL:DATA:MODULATION:PSK?` might return QPSK, indicating that the symbol PSK modulation type is set to QPSK for the Data subcarriers.

OFDM:SYMBOL:DATA:MODulation:QAM

This command sets or returns the Data subcarriers QAM modulation type for the selected symbol in the Symbol Table.

Group	Symbols
Syntax	OFDM:SYMBOL:DATA:MODulation:QAM {QAM8 QAM16 QAM32 QAM64 QAM128 QAM256 QAM512 QAM1024} OFDM:SYMBOL:DATA:MODulation:QAM?
Related Commands	OFDM:SYMBOL:SElect , OFDM:SYMBOL:DATA:MODulation:TYPE
Arguments	QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, and QAM1024 are the QAM modulation types.
Returns	QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, or QAM1024.
Examples	OFDM:SYMBOL:DATA:MODULATION:QAM QAM16 sets the QAM data modulation type to QAM16 for the Data subcarriers. OFDM:SYMBOL:DATA:MODULATION:QAM? might return QAM256, indicating that the QAM modulation type is set to QAM256 for the Data subcarriers.

OFDM:SYMBOL:DATA:MODulation:TYPE

This command sets or returns the Data subcarriers modulation type for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:MODulation:TYPE {PSK|QAM}`
`OFDM:SYMBOL:DATA:MODulation:TYPE?`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:DATA:MODulation:PSK](#),
[OFDM:SYMBOL:DATA:MODulation:QAM](#)

Arguments PSK and QAM are selectable modulation types.
PSK and QAM require further definition. See related commands.

Returns PSK or QAM.

Examples `OFDM:SYMBOL:DATA:MODULATION:TYPE PSK` sets the modulation type to PSK for the Data subcarriers.
`OFDM:SYMBOL:DATA:MODULATION:TYPE?` might return QAM, indicating the modulation type for the Data subcarriers.

OFDM:SYMBOL:DATA:PATTERN

This command sets or returns the user defined Data subcarriers pattern for the selected symbol in the Symbol Table.

Conditions	The Data Pattern type must be set to Pattern with the command OFDM:SYMBOL:DATA .
Group	Symbols
Syntax	OFDM:SYMBOL:DATA:PATTERN <pattern> OFDM:SYMBOL:DATA:PATTERN?
Related Commands	OFDM:SYMBOL:SElect , OFDM:SYMBOL:DATA
Arguments	<pattern>::= <string>.
Returns	A single <pattern> string.
Examples	OFDM:SYMBOL:DATA:PATTERN "11001111" sets the pattern for the Data subcarriers. OFDM:SYMBOL:DATA:PATTERN? might return "11001101", indicating this is the set pattern for the Data subcarriers.

OFDM:SYMBOL:DATA:POSITION

This command sets or returns the Data subcarrier positions of the selected symbol in the Symbol List.

Conditions Data subcarriers must be enabled for the selected symbol. You cannot have any duplicate positions.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:POSITION <data_positions>`
`OFDM:SYMBOL:DATA:POSITION?`

Related Commands [OFDM:SYMBOL:SELEct](#),
[OFDM:SYMBOL:PILOt:ENABle](#)

Arguments `<data_positions>::= <string>` defines the subcarriers data positions.

Returns A single `<data_positions>` string.

Examples `OFDM:SYMBOL:DATA:POSITION "-14:9,15"` sets the positions to -14 through +9 and 15 for the Data subcarriers.

`OFDM:SYMBOL:DATA:POSITION?` might return `"-14:9,15"`, indicating that the positions include -14 to +9 and 15 for the Data subcarriers.

OFDM:SYMBOL:DATA:PRBS

This command sets or returns the PRBS pattern type when the Data subcarriers pattern type is set to PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:PRBS {PRBS7|PRBS9|PRBS15|PRBS16
|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFined}`
`OFDM:SYMBOL:DATA:PRBS?`

Related Commands [OFDM:SYMBOL:DATA](#)

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

When setting to UDEF (User Defined), use the commands [OFDM:SYMBOL:DATA:PRBS:UDEFined:POLYnomial](#) and [OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGister](#) to define the PRBS Polynomial Expression and Shift register initial value.

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

Examples `OFDM:SYMBOL:DATA:PRBS PRBS15` sets the PRBS type to PRBS 15 for the Data subcarriers.

`OFDM:SYMBOL:DATA:PRBS?` might return PRBS15, indicating that the PRBS type is set to PRBS15 for the Data subcarriers.

OFDM:SYMBOL:DATA:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:DATA:PRBS:UDEFined:POLYnomial <polynomial>
OFDM:SYMBOL:DATA:PRBS:UDEFined:POLYnomial?

Related Commands [OFDM:SYMBOL:DATA](#),
[OFDM:SYMBOL:DATA:PRBS](#)

Arguments <polynomial>::= <string>.

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

Returns A single <polynomial> string.

Examples OFDM:SYMBOL:DATA:PRBS:UDEFINED:POLYNOMIAL "X12+X11+1" sets the User Defined PRBS Polynomial Expression to X12+X11+1 for the Data subcarriers.

OFDM:SYMBOL:DATA:PRBS:UDEFINED:POLYNOMIAL? might return "X12+X11+1", indicating this is the User Defined PRBS Polynomial Expression for the Data subcarriers.

OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGister

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS when the Data subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGister <shift_register>`
`OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGister?`

Related Commands [OFDM:SYMBOL:DATA](#),
[OFDM:SYMBOL:DATA:PRBS](#)

Arguments `<shift_register>::= <string>`.
 The number of shift register values should match the highest polynomial degree. For example, if the user defined polynomial is "X5+X4+1", then the initial shift register should have 5 values.

Returns A single `<shift_register>` string.

Examples `OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the Data subcarriers.
`OFDM:SYMBOL:DATA:PRBS:UDEFined:SREGISTER?` might return "11011", indicating this is the User Defined PRBS shift register for the Data subcarriers.

OFDM:SYMBOL:DELeTe (No Query Form)

This command deletes the specified symbol from the Symbol List.

Conditions The named symbol must exist in the Symbols List.

Group Symbols

Syntax OFDM:SYMBOL:DELeTe <symbol_name>

Arguments <symbol_name>::=<string> defines the symbol name to be deleted.

Examples OFDM:SYMBOL:DELETE "Samp_Symbol" deletes the symbol named Samp_Symbol from the Symbol List.

OFDM:SYMBOL:FOFFset:ENABle

This command sets or returns the Frequency Offset state (enabled or disabled) for the selected symbol in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:FOFFset:ENABle {0|1|OFF|ON}
OFDM:SYMBOL:FOFFset:ENABle?

Related Commands [OFDM:SYMBOL:FOFFset:VALue](#)

Arguments OFF or 0 disables Frequency Offset. OFF or 0 is the default value.
ON or 1 enables setting Frequency Offset.

Returns A single <Boolean> value.

Examples OFDM:SYMBOL:FOFFSET:ENABLE ON enables setting Frequency Offset.
OFDM:SYMBOL:FOFFSET:ENABLE? might return 0, indicating that Frequency Offset is disabled.

OFDM:SYMBOL:FOFFset:VALue

This command sets or returns the Frequency Offset value for the selected symbol in the Symbol List.

Conditions Frequency Offset must be enabled.

Group Symbols

Syntax OFDM:SYMBOL:FOFFset:VALue <frequency_offset>
OFDM:SYMBOL:FOFFset:VALue?

Related Commands [OFDM:SYMBOL:FOFFset:ENABLE](#)

Arguments <frequency_offset>::=<NRf> value.
Range: -20 MHz to +20 MHz.
Default: 0.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:FOFFSET:VALUE 1E6 sets the Frequency Offset to 1 MHz for the selected symbol.

OFDM:SYMBOL:FOFFSET:VALUE? might return 1.0000000000E+3, indicating that the Frequency Offset is set to 1 kHz for the selected symbol.

OFDM:SYMBOL:GINTerval:ENABLE

This command sets or returns the Symbols Guard Interval state (enabled or disabled) for the selected symbol in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:GINTerval:ENABLE {0|1|OFF|ON}
OFDM:SYMBOL:GINTerval:ENABLE?

Related Commands [OFDM:SYMBOL:SElect](#)

Arguments OFF or 0 disables Symbols Guard Interval. OFF or 0 is the default value.
ON or 1 enables Symbols Guard Interval.

Returns A single <Boolean> value.

Examples OFDM:SYMBOL:GINTERVAL:ENABLE ON enables the Guard Interval for the selected symbol.

OFDM:SYMBOL:GINTERVAL:ENABLE? might return 0, indicating that the Guard Interval is disabled for the selected symbol.

OFDM:SYMBOL:GINTerval:TYPE

This command sets or returns the Guard Interval type for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:GINTerval:TYPE {CPR|ZPAD}`
`OFDM:SYMBOL:GINTerval:TYPE?`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:GINTerval:ENABle](#)
[OFDM:SYMBOL:GINTerval:VALue](#)

Arguments CPR sets the symbol guard interval to Cyclic Prefix, copying samples from the end of the symbol and adding them to the front of the symbol.

ZPAD sets the symbol guard interval to Zero Padding, adding zeros to the end of the symbol.

Returns CPR: Cyclic Prefix
ZPAD: Zero Padding

Examples `OFDM:SYMBOL:GINTERVAL:TYPE ZPAD` sets the guard interval type to Cyclic Prefix for selected symbol.

`OFDM:SYMBOL:GINTERVAL:TYPE?` might return ZPAD, indicating that the guard interval type is set to Zero Padding for selected symbol.

OFDM:SYMBOL:GINTerval:VALue

This command sets or returns the value of the guard interval for the selected symbol in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:GINTerval:VALue <guard_int>

Related Commands [OFDM:SYMBOL:SElect](#)

Arguments <guard_int>::= <NR3> value.
Range: 100 ns to 5 μ s.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:GINTERVAL:VALUE 100E-9 sets the Guard Interval for the selected symbol to 10 ns.

OFDM:SYMBOL:GINTERVAL:VALUE might return 1.0000000000E-6, indicating that the Guard Interval for the selected symbol is set to 1 μ s.

OFDM:SYMBOL:GPOSITIONS

This command sets or returns the symbol's Subcarriers Guard positions of the selected symbol in the Symbol List.

Conditions Guard positions must be enabled for the selected symbol. You cannot have any duplicate positions.

Group Symbols

Syntax `OFDM:SYMBOL:GPOSITIONS <guard_positions>`
`OFDM:SYMBOL:GPOSITIONS?`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:GPOSITIONS:ENABLE](#)

Arguments `<guard_positions>::= <string>` defines the subcarriers guard positions.

Returns A single `<guard_positions>` string.

Examples `OFDM:SYMBOL:GPOSITIONS "-32,31"` sets the Subcarrier Guard positions to -32 and +31 for the selected symbol.

`OFDM:SYMBOL:GPOSITIONS?` might return `"-33:-31,30:32"`, indicating that the Subcarrier Guard positions include -32 to -31 and 30 to 32 for the selected symbol.

OFDM:SYMBOL:GPOSITIONS:ENABLE

This command sets or returns the subcarriers guard position state (enabled or disabled) for the selected symbol in the Symbol List.

When enabled, you can define the subcarrier guard positions.

Group	Symbols
Syntax	OFDM:SYMBOL:GPOSITIONS:ENABLE {0 1 OFF ON} OFDM:SYMBOL:GPOSITIONS:ENABLE?
Related Commands	OFDM:SYMBOL:SELEct , OFDM:SYMBOL:GPOSITIONS
Arguments	OFF or 0 disables setting guard positions. OFF or 0 is the default value. ON or 1 enables setting guard positions.
Returns	A single <Boolean> value.
Examples	OFDM:SYMBOL:GPOSITIONS:ENABLE ON enables setting guard positions for the selected symbol. OFDM:SYMBOL:GPOSITIONS:ENABLE? might return 0, indicating that guard positions is disabled for the selected symbol.

OFDM:SYMBOL:NPOSITIONS

This command sets or returns the Subcarrier Null positions of the selected symbol in the Symbol List.

Conditions Null positions must be enabled for the selected symbol. You cannot have any duplicate positions.

Group Symbols

Syntax `OFDM:SYMBOL:NPOSITIONS <null_positions>`
`OFDM:SYMBOL:NPOSITIONS?`

Related Commands [OFDM:SYMBOL:SELEct](#),
[OFDM:SYMBOL:NPOSITIONS:ENABle](#)

Arguments `<null_positions>::= <string>` defines the subcarriers null positions.

Returns A single `<null_positions>` string.

Examples `OFDM:SYMBOL:NPOSITIONS "-11:12"` sets the Subcarrier Null positions to -11 through +12 for the selected symbol.

`OFDM:SYMBOL:NPOSITIONS?` might return `"-32:-27,0,27:31"`, indicating that the Subcarrier Null positions include -32 to -27, 0, and 27 to 31 for the selected symbol.

OFDM:SYMBOL:NPOSITIONS:ENABLE

This command sets or returns the Subcarrier Null positions state (enabled or disabled) for the selected symbol in the Symbol List.

When enabled, you can define the Subcarrier Null positions.

Group	Symbols
Syntax	OFDM:SYMBOL:NPOSITIONS:ENABLE {0 1 OFF ON} OFDM:SYMBOL:NPOSITIONS:ENABLE?
Related Commands	OFDM:SYMBOL:SELEct , OFDM:SYMBOL:NPOSITIONS
Arguments	OFF or 0 disables setting null positions. OFF or 0 is the default value. OFF or 0 is the default value. ON or 1 enables setting null positions.
Returns	A single <Boolean> value.
Examples	OFDM:SYMBOL:NPOSITIONS:ENABLE ON enables setting Subcarrier Null positions for the selected symbol. OFDM:SYMBOL:NPOSITIONS:ENABLE? might return 0, indicating that Subcarrier Null positions is disabled for the selected symbol.

OFDM:SYMBOL:PILOT

This command sets or returns the Pilot subcarriers pattern type for the selected symbol in the Symbol List.

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	Symbols
Syntax	OFDM:SYMBOL:PILOT {AZERO AONE PRBS PATTERN FILE} OFDM:SYMBOL:PILOT?
Arguments	AZERO is a Pilot type of all zeroes. AONE is a Pilot type of all ones. PRBS is one of the available PRBS data types. Use the command OFDM:SYMBOL:PILOT:PRBS to set and query the actual PRBS Pilot type. PATTERN is a pattern Pilot type. Use the command OFDM:SYMBOL:PILOT:PATTERN to set and query the pattern. FILE is a file Pilot type. Use the command OFDM:SYMBOL:PILOT:FILE to set and query the pattern file and filepath.
Returns	AZER: All zeros AON: All ones PRBS PATT: Pattern FIL: File
Examples	OFDM:SYMBOL:PILOT AONE sets the pattern type to all ones for the Pilot subcarriers. OFDM:SYMBOL:PILOT? might return PRBS, indicating that the pattern type is set one of the available PRBS selections for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:ENABLE

This command sets or returns the Pilot subcarriers state (enabled or disabled) for the selected symbol in the Symbol List.

When enabled, you can define the Pilot subcarriers.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:ENABLE {0|1|OFF|ON}`
`OFDM:SYMBOL:PILOT:ENABLE?`

Related Commands [OFDM:SYMBOL:SELEct](#)

Arguments OFF or 0 disables Pilot subcarriers. OFF or 0 is the default value. OFF or 0 is the default value.
 ON or 1 enables Pilot subcarriers.

Returns A single <Boolean> value.

Examples `OFDM:SYMBOL:PILOT:ENABLE ON` enables setting Pilot subcarriers for the selected symbol.
`OFDM:SYMBOL:PILOT:ENABLE?` might return 0, indicating that Pilot subcarriers are disabled for the selected symbol.

OFDM:SYMBOL:PILOT:FILE

This command sets or returns the Pilot subcarriers pattern filename and filepath for the selected symbol in the Symbol List.

Conditions The Pilot subcarriers Pattern type must be set to File with the command [OFDM:SYMBOL:PILOT](#).

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:FILE <filepath>`
`OFDM:SYMBOL:PILOT:FILE?`

Related Commands [OFDM:SYMBOL:SELEct](#),
[OFDM:SYMBOL:PILOT](#)

Arguments `<filepath>::= <string>` defines the filename and filepath of the file.

Returns A single `<filepath>` string.

Examples `OFDM:SYMBOL:PILOT:FILE "C:\temp\PilotPattern.txt"` sets the pattern filename and filepath for the Pilot subcarriers for the selected symbol.

`OFDM:SYMBOL:PILOT:FILE?` might return `"C:\temp\PilotPattern.txt"` as the filename for the Pilot subcarriers for the selected symbol.

OFDM:SYMBOL:PILOT:MODULATION:PSK

This command sets or returns the Pilot subcarriers PSK modulation type for the selected symbol in the Symbol List.

Group	Symbols
Syntax	OFDM:SYMBOL:PILOT:MODULATION:PSK {BPSK QPSK 8PSK} OFDM:SYMBOL:PILOT:MODULATION:PSK
Related Commands	OFDM:SYMBOL:SElect , OFDM:SYMBOL:PILOT:MODULATION:TYPE
Arguments	BPSK, QPSK, and 8PSK are the selectable PSK modulation types.
Returns	BPSK, QPSK, or 8PSK
Examples	OFDM:SYMBOL:PILOT:MODULATION:PSK 8PSK sets the PSK data modulation type to 8PSK for the Pilot subcarriers for the selected symbol. OFDM:SYMBOL:PILOT:MODULATION:PSK? might return QPSK, indicating that the PSK modulation type is set to QPSK for the Pilot subcarriers for the selected symbol.

OFDM:SYMBOL:PILOT:MODULATION:QAM

This command sets or returns the Pilot subcarriers QAM modulation type for the selected symbol in the Symbol List.

Group	Symbols
Syntax	OFDM:SYMBOL:PILOT:MODULATION:QAM {QAM8 QAM16 QAM32 QAM64 QAM128 QAM256 QAM512 QAM1024} OFDM:SYMBOL:PILOT:MODULATION:QAM?
Related Commands	OFDM:SYMBOL:SELEct , OFDM:SYMBOL:PILOT:MODULATION:TYPE
Arguments	QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, and QAM1024 are the QAM modulation types.
Returns	QAM8, QAM16, QAM32, QAM64, QAM128, QAM256, QAM512, or QAM1024.
Examples	OFDM:SYMBOL:PILOT:MODULATION:QAM QAM16 sets the QAM modulation type to QAM16 for the Pilot subcarriers. OFDM:SYMBOL:PILOT:MODULATION:QAM? might return QAM256, indicating that the QAM modulation type is set to QAM256 for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:MODULATION:TYPE

This command sets or returns the Pilot subcarriers modulation type for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:MODULATION:TYPE {PSK|QAM}`
`OFDM:SYMBOL:PILOT:MODULATION:TYPE?`

Related Commands [OFDM:SYMBOL:SElect](#),
[OFDM:SYMBOL:PILOT:MODULATION:PSK](#),
[OFDM:SYMBOL:PILOT:MODULATION:QAM](#)

Arguments PSK and QAM are selectable modulation types.
 PSK and QAM require further definition. See related commands.

Returns PSK or QAM.

Examples `OFDM:SYMBOL:PILOT:MODULATION:TYPE PSK` sets the modulation type to PSK for the Pilot subcarriers.
`OFDM:SYMBOL:PILOT:MODULATION:TYPE?` might return QAM, indicating the modulation type for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:PATTERN

This command sets or returns the user defined Pilot subcarriers pattern for the selected symbol in the Symbol Table.

Conditions The Pilot Pattern type must be set to Pattern with the command [OFDM:SYMBOL:PILOT](#).

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:PATTERN <pattern>`
`OFDM:SYMBOL:PILOT:PATTERN?`

Related Commands [OFDM:SYMBOL:SELEct](#),
[OFDM:SYMBOL:PILOT](#)

Arguments `<pattern>::= <string>`.

Returns A single `<pattern>` string.

Examples `OFDM:SYMBOL:PILOT:PATTERN "11001111"` sets the user defined pattern for the Pilot subcarriers for the selected symbol.

`OFDM:SYMBOL:PILOT:PATTERN?` might return `"11001101"`, indicating the user defined pattern for the Pilot subcarriers for the selected symbol.

OFDM:SYMBOL:PILOT:POSITION

This command sets or returns the Pilot subcarrier positions of the selected symbol in the Symbol List.

Conditions Pilot subcarriers must be enabled for the selected symbol. You cannot have any duplicate positions.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:POSITION <pilot_positions>`
`OFDM:SYMBOL:PILOT:POSITION?`

Related Commands [OFDM:SYMBOL:SELEct](#),
[OFDM:SYMBOL:PILOT:ENABle](#)

Arguments `<pilot_positions>::= <string>` defines the Pilot subcarriers positions.

Returns A single `<pilot_positions>` string.

Examples `OFDM:SYMBOL:PILOT:POSITION "-14:9,15"` sets the positions to -14 through +9 and 15 for the Pilot subcarriers.

`OFDM:SYMBOL:PILOT:POSITION?` might return `"-14:9,15"`, indicating that the positions include -14 to +9 and 15 for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:PRBS

This command sets or returns the PRBS pattern type when the Pilot subcarriers pattern type is set to PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:PRBS {PRBS7|PRBS9|PRBS15|PRBS16
|PRBS20|PRBS21|PRBS23|PRBS29|PRBS31|UDEFined}
OFDM:SYMBOL:PILOT:PRBS?`

Related Commands [OFDM:SYMBOL:PILOT](#)

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

When setting to UDEF (User Defined), use the commands [OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial](#) and [OFDM:SYMBOL:PILOT:PRBS:UDEFined:SREGister](#) to define the PRBS Polynomial Expression and Shift register initial value.

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

Examples `OFDM:SYMBOL:PILOT:PRBS PRBS15` sets the PRBS type to PRBS 15 for the Pilot subcarriers.

`OFDM:SYMBOL:PILOT:PRBS?` might return PRBS15, indicating that the PRBS type is set to PRBS15 for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial

This command sets or returns the PRBS Polynomial Expression for the User Defined PRBS when the Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial <polynomial>`
`OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial?`

Related Commands [OFDM:SYMBOL:PILOT](#),
[OFDM:SYMBOL:PILOT:PRBS](#)

Arguments `<polynomial>::= <string>`.

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

Returns A single `<polynomial>` string.

Examples `OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial "X12+X11+1"` sets the User Defined PRBS Polynomial Expression to `X12+X11+1` for the Pilot subcarriers.

`OFDM:SYMBOL:PILOT:PRBS:UDEFined:POLYnomial?` might return `"X12+X11+1"`, indicating this is User Defined PRBS Polynomial Expression for the Pilot subcarriers.

OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER

This command sets or returns the PRBS Shift register initial value for the User Defined PRBS when the Pilot subcarriers pattern is set to User Defined PRBS for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER <shift_register>`
`OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER?`

Related Commands [OFDM:SYMBOL:PILOT](#),
[OFDM:SYMBOL:PILOT:PRBS](#)

Arguments `<shift_register>::= <string>`.

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

Returns A single `<shift_register>` string.

Examples `OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER "11011"` sets the User Defined PRBS Shift register to 11011 for the Pilot subcarriers.

`OFDM:SYMBOL:PILOT:PRBS:UDEFINED:SREGISTER?` might return "11011", indicating this is the User Defined PRBS shift register for the Pilot subcarriers.

OFDM:SYMBOL:POFFset:ENABLE

This command sets or returns the Phase Offset state (enabled or disabled) for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:POFFset:ENABLE {0|1|OFF|ON}`
`OFDM:SYMBOL:POFFset:ENABLE?`

Related Commands [OFDM:SYMBOL:POFFset:VALue](#)

Arguments OFF or 0 disables Phase Offset. OFF or 0 is the default value.
 ON or 1 enables setting Phase Offset.

Returns A single <Boolean> value.

Examples `OFDM:SYMBOL:POFFSET:ENABLE ON` enables setting Phase Offset.
`OFDM:SYMBOL:POFFSET:ENABLE?` might return 0, indicating that Phase Offset is disabled.

OFDM:SYMBOL:POFFset:VALue

This command sets or returns the Phase Offset value for the selected symbol in the Symbol List.

Conditions Phase Offset must be enabled.

Group Symbols

Syntax OFDM:SYMBOL:POFFset:VALue <phase_offset>
OFDM:SYMBOL:POFFset:VALue?

Related Commands [OFDM:SYMBOL:POFFset:ENABLE](#)

Arguments <phase_offset>::=<NRf> value.
Range: -180° to $+180^{\circ}$.
Default: 0.

Returns A single <NR3> value.

Examples OFDM:SYMBOL:POFFSET:VALUE 10 sets the Phase Offset to 10° for the selected symbol.
OFDM:SYMBOL:POFFSET:VALUE? might return 22.0000000000, indicating that the Phase Offset is set to 22° for the selected symbol.

OFDM:SYMBOL:REName (No Query Form)

This command renames an existing symbol name to a new name. The symbol being renamed must exist in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:REName <Old_name>,<New_name>

Arguments <Old_name>::=<string> defines the symbol to be renamed.
 <New_name>::=<string> defines the new symbol name.

Examples OFDM:SYMBOL:RENAME "SampSymbol1","SampSymbol1new" renames the symbol SampSymbol1 to SampSymbol1new.

OFDM:SYMBOL:SElect

This command sets or returns the selected symbol from the list of available symbols in the Symbol List. Other commands act on the selected symbol.

Group Symbols

Syntax `OFDM:SYMBOL:SElect <symbol_name>`

Arguments `<symbol_name>::=<string>` defines the symbol name to select.

Returns A single `<symbol_name>` string.

Examples `OFDM:SYMBOL:SELECT`

`OFDM:SYMBOL:SELECT "Samp_Symbol"` selects the symbol named `Samp_Symbol` in the Symbol List.

`OFDM:SYMBOL:SELECT ?` might return `"Samp_Symbol"` in the Symbol List.

OFDM:SYMBOL:SSPacing

This command sets or returns the Symbols Subcarriers Spacing for the selected symbol in the Symbol List.

Group Symbols

Syntax OFDM:SYMBOL:SSPacing <spacing>
OFDM:SYMBOL:SSPacing?

Related Commands [OFDM:SYMBOL:SElect](#)

Arguments <spacing> ::= <NRf> value.
Range: 1 Hz to 40 MHz

Returns A single <NR3> value.

Examples OFDM:SYMBOL:SSPACING 1E3 sets the Subcarriers Spacing to 1 kHz for the selected symbol.
OFDM:SYMBOL:SSPACING? might return 5.000000000E+3, indicating the Subcarriers Spacing is set to 5 kHz for the selected symbol.

OFDM:SYMBOL:TSUBcarriers

This command sets or returns the total number of subcarriers for the selected symbol in the Symbol List for the selected symbol in the Symbol List.

Group Symbols

Syntax `OFDM:SYMBOL:TSUBcarriers <subcarriers>`

Related Commands [OFDM:SYMBOL:SElect](#)

Arguments `<subcarriers>::=` A single `<NR3>` value.

Range: 2 to 4096.

Default: 64.

Returns A single `<NR2>` value.

Examples `OFDM:SYMBOL:TSUBCARRIERS 1E3` sets the number of subcarriers to 1000 for the selected symbol.

`OFDM:SYMBOL:TSUBCARRIERS?` might return `64.0000000000`, indicating that the number of subcarriers is set to 64 for the selected symbol.

OFDM:SYMBOL:TSUBcarriers:POSitions

This command sets or returns if the subcarriers show only the positive subcarriers or all subcarriers for the selected symbol in the Symbol List.

Group	Symbols
Syntax	OFDM:SYMBOL:TSUBcarriers:POSitions {MTPLus APLUs} OFDM:SYMBOL:TSUBcarriers:POSitions?
Arguments	MTPLus shows both the minus and plus subcarriers. APLUs shows only the plus subcarriers.
Returns	MTPL APLUs
Examples	OFDM:SYMBOL:TSUBCARRIERS:POSITIONS MTPLus sets the subcarriers to show both the positive and negative subcarriers for the selected symbol. OFDM:SYMBOL:TSUBCARRIERS:POSITIONS? might return APLU, indicating that the only the positive subcarriers are shown for the selected symbol.

OFDM:SYMBOL:UDEFined:ENABLE

This command sets or returns the User-defined frequency weight (enabled or disabled) of the selected symbol in the Symbol List. When enabled, a user supplied frequency weight file is used to define the subcarriers.

Conditions A path to a frequency weight file must be provided.

Group Symbols

Syntax `OFDM:SYMBOL:UDEFined:ENABLE {0|1|OFF|ON}`
`OFDM:SYMBOL:UDEFined:ENABLE?`

Related Commands [OFDM:SYMBOL:UDEFined:PATH](#)

Arguments OFF or 0 disables using a frequency weight file to define the subcarriers.
ON or 1 enables using a frequency weight file to define the subcarriers.
OFF or 0 is the default value.

Returns A single <Boolean> value.

Examples `OFDM:SYMBOL:UDEFined:ENABLE ON` enables using a frequency weight file for the selected symbol.
`OFDM:SYMBOL:UDEFined:ENABLE?` might return 0, indicating that using a frequency weight file is disabled for the selected symbol.

OFDM:SYMBOL:UDEFined:PATH

This command sets or returns the filename and filepath of the User Defined Weights File of the selected symbol in the Symbol List.

Conditions The User-defined frequency weight control must be enabled.

Group Symbols

Syntax OFDM:SYMBOL:UDEFined:PATH <filepath>
OFDM:SYMBOL:UDEFined:PATH?

Related Commands [OFDM:SYMBOL:UDEFined:ENABle](#)

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

Returns A single <filepath> string.

Examples OFDM:SYMBOL:UDEFINED:PATH "C:\temp\weightFile.txt" sets the User defined frequency weight filepath and filename of the selected symbol in the Symbol List.

OFDM:SYMBOL:UDEFINED:PATH? might return "C:\temp\weightFile.txt" as the frequency weight filepath and filename of the selected symbol in the Symbol List.

WPLugin:ACTive

This command sets or returns the active waveform plug-in.

To use the OFDM commands in this document, the active waveform plug-in must be set to OFDM.

Group Control

Syntax WPLugin:ACTive <plug-in_name>
WPLugin:ACTive?

Arguments <plug-in_name>::=<string>

A single string representing the waveform plug-in name.

"OFDM" is the proper string to activate the OFDM plug-in.

Returns A single <plug-in_name> string.

Examples WPLUGIN:ACTIVE "OFDM" sets the OFDM plug-in as the active plug-in.

WPLUGIN:ACTIVE? might return "OFDM", indicating OFDM is currently the active waveform plug-in.

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