

Instrument Messages

Agilent Technologies
N9020A MXA Signal Analyzer
N9010A EXA Signal Analyzer



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1 Introduction

The Error and Status messaging system of the Agilent Signal Analyzer reports events and conditions in a consistent fashion, as well as logging and reporting event history.

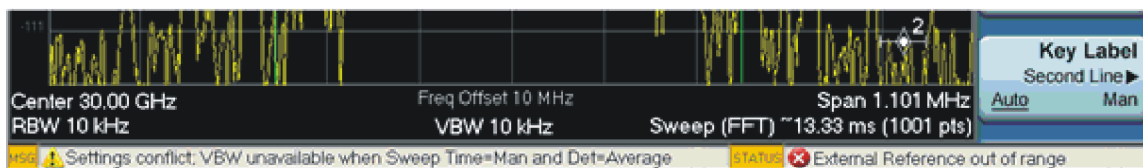
Event vs. Condition Messages

An **Event** is simply a message indicating that something has happened. Events are sub-divided according to their severity, into Error, Warning or Advisory categories. The sub-divisions are described in more detail in the section “[Event and Condition Categories](#)”.

Event messages appear in the **Message Line** at the bottom left of the analyzer’s display window.

A **Condition** is a state of the Analyzer, which is characterized by a **Detection** event and a **Clearing** event. Conditions may be Errors or Warnings.

Condition messages appear in the **Status Line** at the bottom right of the analyzer’s display screen.



Event and Condition Categories

The three categories of severity are described below, for both Events and Conditions.

Errors



Error messages appear when a requested operation has failed. (For example, “Detector not available”, “File not saved”.) Error messages are often generated during remote operation when an invalid programming command has been entered. (For example, “Undefined header”.)

Some errors are conditions rather than single events. They exist for a period of time, so they have associated “Detected” and “Cleared” events. (For example, “LO Unlocked” or “External reference out of range”)

Error messages appear in the Status Panel at the bottom of the display. A message remains until you press a key, or another message is displayed in its place.

Error messages are logged in the error queues. If the error is a condition, both the Detected and Cleared events are logged.

Warnings



Warning messages appear when a requested operation has completed successfully, but there are modifications and/or side effects. (For example, if you requested too high a stop frequency, then “Data out of range” is displayed and the analyzer sets itself to the highest available stop frequency.)

Some warnings are conditions rather than single events. They exist for a period of time, so they have a “Detected” event and a “Cleared” event. (For example, if you set the sweep time too fast for a measurement to meet the instrument specifications then the “Meas Uncal” message is displayed until you slow down the sweep time.)

Warning messages appear in the Status Panel at the bottom of the display. The message remains until you press a key, or another message is displayed in its place.

Warnings are logged in the error queues. If the warning is a condition, both the Detected and Cleared event messages are logged.

Advisories



Advisory messages tell the front panel user some useful information. (For example, “File saved successfully” or “Measuring the fundamental”.)

Advisory messages appear in the Status Panel at the bottom of the display. The message remains until you press a key, or another message is displayed in its place.

Advisory messages are not logged in the error queues.

Grayout messages are a special type of Advisory, which appear when you attempt to access a function that is not available. This could be a grayed out front panel key, or an inappropriate SCPI command. There are two types of grayout messages: Benign and Forced.

1. **Benign:** the requested function is not available because it does not make sense with the current instrument settings. Changing it does not affect the current measurement. (For example, setting the number of FFTs/Span when you are not in the FFT mode.)

A benign grayout gives an Advisory type of message only when the front panel key is pressed.

The requested function cannot be changed from the front panel, but it can be changed remotely.

2. **Forced:** the requested function is not available either because changing it would cause an invalid measurement, or because of hardware limitations, or because the selection conflicts with other settings. (For example, selecting the electrical attenuator when the frequency span includes frequencies above 3.6 GHz.)

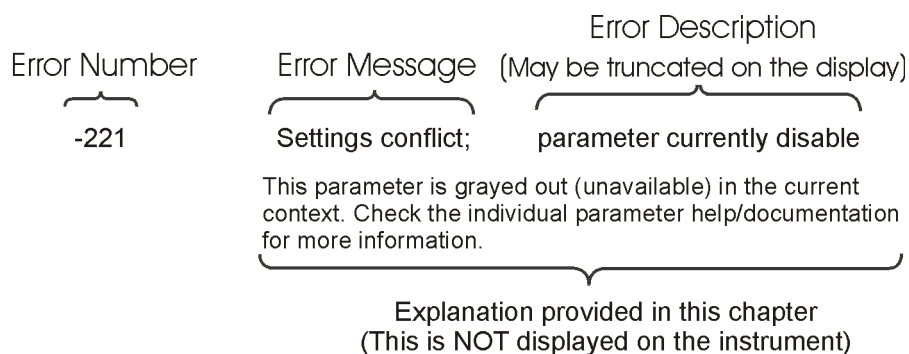
A forced grayout function cannot be changed either from the front panel or remotely. It generates a special type of Advisory message. It also only appears on the front panel when the key is pressed. Remotely, the message will appear in the event queue as a warning “-221, Settings conflict; <conflict description>”.

Event Message Format

The event messages are listed in numerical order according to their message number. Advisory messages do not have numbers, and are listed in alphabetical order.

An explanation is included with each error to further clarify its meaning. Some errors are specified in industry standards and there are references to the IEEE Standard 488.2-1992, *IEEE Standard Codes, Formats, Protocols and Common Commands for Use with ANSI / IEEE Std 488.1-1987*. New York, NY, 1992.

Figure 1-1. Error Message Example



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Event Queues

There are several different event queues that are viewed/queried and managed separately. Note that Conditions are logged in the queues as pairs of events: a “Detected” event and a corresponding “Cleared” event.

- Front Panel Status** Error messages can be viewed by pressing, **System, Show Errors, Status**. The Status screen shows error conditions that currently exist. When an error event is caused by a command sent over a remote interface, the resulting messages are logged in the queue for that interface. For convenience, they are also logged in the front panel queue.
- Front Panel History** Error messages can be viewed by pressing, **System, Show Errors, History**. The History screen shows all the error events that have occurred since the instrument was turned on, with a maximum of 100 messages. When an error situation is caused by a command sent over a remote interface, the resulting messages are logged in the queue for that interface. For convenience, they are also logged in the front panel queue.
- Remote interfaces (GPIB/LAN)** When an error event is caused by a command sent over a remote interface, the resulting messages are output to the queue for that interface. To return an error, you must query the queue for that interface. An error event that is caused by a front panel action is not reported to any remote interface queue. However, a status condition is usually caused by an internal event that is not related to a particular interface, so the Detected/Cleared events for status conditions are reported to all the error queues.

Table 1-1. Characteristics of the Event Queues

Characteristic	Front-Panel Status	Front-Panel History	Remote Interfaces (GPIB/LAN)
Capacity (maximum number of messages)	100	100	100
Overflow Handling	Circular (rotating). Drops oldest error as new error comes in.	Circular (rotating). Drops oldest error as new error comes in.	Linear, first-in/first-out. Replaces newest error with: -350, Queue overflow
Viewing Entries	Press: System, Show Errors, Status	Press: System, Show Errors, History	Send SCPI query to the desired interface. SYSTEM:ERROR?
Clearing the Queue	Press: System, Show Errors, Clear Error Queue Clears the errors in all the queues.	Press: System, Show Errors, Clear Error Queue Clears the errors in all the queues.	Send *CLS command to the desired interface. Clears errors in the queue for this particular interface only.

Table 1-2. Summary of Event Reporting Modes

Event Type	SCPI Error Queues	Front Panel History Queue	Status Panel Display
Error Event	Logged	Logged	Displayed in Message Line
Warning Event	Logged	Logged	Displayed in Message Line
Advisory Event	Logged	Logged	Displayed in Message Line
Error Condition Detected	Logged	Logged	Displayed in Status Line
Error Condition Cleared	Logged		
Warning Condition Detected	Logged	Logged	Displayed in Status Line
Warning Condition Cleared	Logged		
Grayout Advisory (Benign)	Not logged	Logged	Displayed in Message Line
Grayout Advisory (Forced)	See note ^a	Logged	Displayed in Message Line

a. Not logged, unless the cause of the Advisory was remotely generated, in which case a Warning message, type -221, is logged.

Advisory Messages

An advisory is simply a message that lets you know something useful - for example “File saved successfully” or “Measuring fundamental.” Operation completion and running status indications are common types of advisories. Advisories have no number and are not logged in the error queue.

Advisories include gray-out “settings conflict” errors. These gray-outs are benign (i.e. changing them has no impact on the current measurement).

Advisories are event-type errors only. They are never conditions.

Message	Description/Correction Information
1-port insertion loss state initialization complete...	
2-port insertion loss state initialization complete	
Adjacent channel state initialization complete	
All Auto/Man functions have been set to Auto.	Message generated by pressing the Auto Couple front-panel key.
Allowable Center Frequency exceeded for the current span	When rotating the knob or step up/down keys to change the Center frequency, the value of the Span is kept constant. Therefore, the center frequency is limited by the frequency range of the instrument.
Allowable Span exceeded for the current center frequency	When rotating the knob or step up/down keys to change the Span, the value of the Center frequency is kept constant. Therefore, the span is limited by the frequency range of the instrument.
Allowable Start Frequency exceeded for the current span	When rotating the knob or step up/down keys to change the Start frequency, the value of the Span is kept constant. Therefore, the start frequency is limited by the frequency range of the instrument.
Allowable Stop frequency exceeded for the current span	When rotating the knob or step up/down keys to change the Stop frequency, the value of the Span is kept constant. Therefore, the stop frequency is limited by the frequency range of the instrument.
Attenuation changes have no impact with external mixing	When using an external mixer, the attenuator is no longer in the signal path, so attenuation is not available.

Auto sweep time rules do not apply in FFT sweeps	FFT sweeps do not use the auto sweep time rules, so the rules setting cannot be changed from the front panel. The setting can be changed remotely and it will have no effect on the current operation unless the analyzer is switched out of FFT sweeps.
Band Adjust has no effect on a Fixed marker	If a Marker is a Fixed type marker, the marker's value does not change from when it first became fixed. So you cannot change the band of a fixed marker.
Band Adjust has no effect with Mkr Function Off	If Marker Function is off changing the band has no effect
Carrier power is too low for optimum dynamic range.	For better dynamic range, transmit band spur measurements require >10 dBm signal power at the RF input port.
Detector <X> changed due to physical constraints	You have selected more detectors than the instrument hardware can implement. An existing detector selection has been changed to allow the current detector choice to be selected. <X> indicates the trace number for which the detector was changed.
Distance to fault state initialization complete	
Dynamic range is not optimum. Set AUTO RF input.	
Exp. Averaging not available when AUTO PhNoise is active.	
FFT Width is not settable unless Sweep Type is set to FFT	You must select the FFT sweep type before you can set the FFT Width
File <filename> saved	The file save operation executed successfully.
Filter BW function is only available for Gaussian filter type	Flattop and CISPR/MIL filters have defined shapes that cannot be altered. So only the Gaussian filter type allows filter bandwidth definition changes.
Freq Scale Type=Log is not available in Zero Span	Logarithmic scaling cannot be used for time domain sweeps (0 Hz span).
Frequency Hopping enabled, waiting for valid burst	The demodulated burst type has not been found in the originally demodulated slot location within the frame.
Gate required for valid results	
Initializing 1-port insertion loss state...	
Initializing 2-port insertion loss state...	
Initializing adjacent channel state...	

Instrument Messages
Advisory Messages

Initializing distance to fault state...	
Initializing power supply monitor	
Initializing power supply state...	
Initializing return loss state...	
Initializing spectrum analyzer state...	
Initializing time and frequency reference settings	
Initializing time and frequency state...	
Input is internal	The instrument's input is set to internal (the internal amplitude reference signal). So any signals connected to the front/rear panel inputs cannot be measured.
Loading 1-port insertion loss measurement...	
Loading 2-port insertion loss state...	
Loading adjacent channel measurement...	
Loading distance to fault measurement...	
Loading return loss measurement...	
Loading spectrum analyzer measurement...	
Make calibration connections then press continue	
Making 1-port insertion loss measurement...	
Making 2-port insertion loss measurements...	
Making a single 1-port insertion loss measurement and pausing...	
Making a single adjacent channel measurement and pausing...	
Making a single distance to fault measurement and pausing...	
Making a single return loss measurement and pausing...	
Making a single spectrum measurement and pausing...	
Making adjacent channel measurements...	

Making distance to fault measurements...	
Making return loss measurement...	
Making spectrum measurements...	
No spurs have been found	You has started a measurement in examine meas type in single or continual sweep mode, or full meas type in single sweep mode, but no spurs were found.
NOT USED Peak found	The peak search activity was successful and located a peak.
Paused, press Continuous or Single to continue	
Performing calibration...	
Power supply state initialization complete...	
Preparing Calculation...	
Preselector is centered	The preselector has been successfully centered
Preselector not used in this frequency range.	You cannot center or adjust the preselector because it is not used at all at the current marker frequency or between the current start and stop frequencies
Preset, recalling power up state: %1	
Recalled File <filename>	A file recall (open/load) was successfully completed.
Recalling state: %1	
Reporting power supply monitor readings	
Reporting power supply monitor readings and pausing...	
Reporting time and frequency reference settings	
Reporting time and frequency reference settings and pausing...	
Requested timeslot number is not present.	The selected timeslot is not on. (Timeslot is referenced to the trigger point.)
Return loss state initialization complete	
Scale/Div only applies in Log Y Scale	Setting the Scale/Division only makes sense when you are using a logarithmic Y scale.
Signal Track is turned off when Zero Span is selected	Signal Track is not available when you have selected Zero Span. So if Zero Span is entered while in Signal Track is On, Signal Track is turned off.

Instrument Messages
Advisory Messages

Span is not coupled to RBW when EMI detector is selected	The span setting is not coupled to the resolution bandwidth setting, when the EMI Average detector is selected.
Spectrum analyzer state initialization complete	
Sweep Points/Span is < minimum. Results may be inaccurate.	The sweep point to span ratio is below the minimum required to ensure the bucket ratio is large enough to test DVB-T masks
Sweep Setup is not available in Zero Span	Zero span is a display at a single frequency, so there is no “sweeping” to set up.
Sync is RF Ampl (not Training Sequence). Bits are not accurate.	
Time and frequency state initialization complete	
Trace file saved.	The trace saving operation was successful.
Updated %1 device firmware from %2 to %3	
Updating firmware for %1 device from %2 to %3	
Waiting for start up initialization to complete...	

-800, Operation Complete Event (Standard SCPI)

Err#	Message	Verbose/Correction Information
-800	Operation complete	The instrument has completed all selected pending operations in accordance with the IEEE 488.2, 12.5.2 synchronization protocol.

-700, Request Control Event (Standard SCPI)

Err#	Message	Verbose/Correction Information
-700	Request control	The instrument requested to become the active IEEE 4881 controller-in-charge.

-600, User Request Event (Standard SCPI)

Err#	Message	Verbose/Correction Information
-600	User request	The instrument has detected the activation of a user request local control.

-500, Power on Event (Standard SCPI)

Err#	Message	Verbose/Correction Information
-500	Power on	The instrument has detected an off to on transition in its power supply.

-400 to -499, Query Errors (Standard SCPI)

Err#	Message	Verbose/Correction Information
-400	Query Error	There was a problem with a query command. The exact problem cannot be specifically identified.
-410	Query INTERRUPTED	Some condition caused an INTERRUPTED query to occur. For example, a query was followed by DAB or GET before a response was completely sent.
-420	Query UNTERMINATED	Some condition caused an UNTERMINATED query to occur. For example, the device was addressed to talk and an incomplete program message was received.
-430	Query DEADLOCKED	Some condition caused a DEADLOCKED query to occur. For example, both the input buffer and the output buffer are full and the analyzer cannot continue. The analyzer automatically discards output to correct the deadlock.
-440	Query UNTERMINATED after indefinite response	A query was received in the same program message after a query requesting an indefinite response was executed.

-300 to -399, Device-Specific Errors (Standard SCPI)

Err	Message	Verbose/Correction Information
-300	Device-specific error	An instrument error occurred and the exact problem cannot be specifically identified. Report this error to the nearest Agilent Technologies sales or service office.
-310	System error;	An internal system-type error has occurred. The exact problem cannot be specifically identified. Report this error to the nearest Agilent Technologies sales or service office.
-310	System error; <feature code> is missing a valid license key	
-310	System error; A license will soon expire; <feature code> will expire in <time>	The indicated feature/software will expire in the specified time. Contact Agilent Technologies to purchase continued use of this functionality.
-310	System error; Could not access the license file	
-310	System error; Failed to update %1 device firmware from %2 to %3	
-310	System error; feature <feature code> not licensed	The specified feature, for example “N9073A-TR2” is not licensed. The license may have expired. You cannot use it until you get a license.
-310	System error; Feature expired; <feature code>	The specified feature has expired. The license is no longer valid.
-310	System error; License installation failed; <feature code>	The license installation of the specified feature, for example “N9073A-TR2”, has failed. You should refer to the event log in the control panel for more details.
-310	System error; License removal failed; <feature code>	The license removal of the specified feature, for example “N9073A-TR2” has failed. You should refer to the event log in the control panel for more details.
-310	System error; No license; <feature code> will terminate in <time>	The specified feature will stop working in the specified time due to the license expiration. You will be prompted to save results and exit.

Err	Message	Verbose/Correction Information
-310	System error; Receiver communication retry, retry count: %1	
-310	System error; Resetting receiver, reset count: %1	
-310	System error; Suspected GUI problem, %1 hrs %2 mins since GUI response	
-310	System error; Warning on device %1, cumulative warning count: %2	
-311	Memory error	There is a physical problem with the instrument memory, such as a parity error.
-312	PUD memory lost	Protected user data saved by the *PUD command has been lost.
-313	Calibration memory lost	The nonvolatile calibration data used by the *CAL? command has been lost.
-314	Save/recall memory lost	The nonvolatile data saved by the *SAV? command has been lost.
-315	Configuration memory lost	The nonvolatile configuration data saved by the instrument has been lost.
-320	Storage fault;	A problem was found while using data storage. The error is not an indication of physical damage or failure of any mass storage element.
-320	Storage fault; External drive not found	Could not find an external drive to use. (USB?)
-321	Out of memory	An internal operation needed more memory than was available. Report this error to the nearest Agilent Technologies sales or service office.
-330	Self-test failed	A self-test failure occurred. Report this error to the nearest Agilent Technologies sales or service office.
-340	Calibration failed	The instrument requires an Align All Now. Restore the alignment by pressing System, Alignments, Align All Now.
-350	Queue overflow	An error occurred that did not get put in the error queue because the queue was full.
-360	Communication error	There was a problem with instrument remote communications. The exact problem cannot be specifically identified.

Instrument Messages
-300 to -399, Device-Specific Errors (Standard SCPI)

Err	Message	Verbose/Correction Information
-361	Parity error in program message	A parity bit was not correct when the data was received. For example, on a parallel port.
-362	Framing error in program message	A stop bit was not detected when data was received. For example, on a remote bus port.
-363	Input buffer overrun	A software or hardware input buffer on a port overflowed with data because of improper or nonexistent pacing.
-365	Time out error	There was a time-out problem in the instrument. The exact problem cannot be specifically identified.

-221 Settings Conflict Errors

This is one of the errors in the standard SCPI error range of -200 to -299. See the table in section -200 to -299, Execution Errors, (Standard SCPI) for the rest of those errors.

The <subtext> part of a Settings Conflict error should be worded so that the text is: “function1” is not whatever/with/while/when “function2”. This makes them easier to find - alphabetically, to avoid duplicates.

The entire message displays in the error history as “-221, Settings conflict; <subtext>”

For example, -221 displays as

-221, Settings conflict; Invalid trace number

Err#	Message	Verbose/Correction Information
-221	Setting Conflict; Cancellation trace has different X-Scale	Reference trace for the cancellation has a different range of X-axis against the target trace
-221	Setting Conflict; Code channel duplication	This error is reported when the given code channel overlaps other code channel
-221	Setting Conflict; FAST method can only be used while Radio Std is W-CDMA	
-221	Setting Conflict; MinPts/RBW limit not met	
-221	Setting Conflict; Span limited to XXX	
-221	Setting Conflict; The parameter cannot be changed in FAST mode	
-221	Settings conflict;	A legal command was received but it could not be executed due to the current device state.
-221	Settings conflict; *.CSV file format is not available in this measurement.	You cannot load or save base instrument traces, as this is not supported by the Log Plot measurement.
-221	Settings conflict; Antenna Unit is only available when antenna Correction is on	These special units only apply when you are doing antenna measurements with corrections enabled.
-221	Settings conflict; Averaging is not available when Signal ID is on	When in external mixing, with signal identification on, the Averaging feature is not available as a selection.

Instrument Messages
-221 Settings Conflict Errors

-221	Settings conflict; Band is not available when Mixer Type is Preselected	The K, E, W, F, D, G, Y, J band functionality is not available if the selected Mixer Type is Preselected.
-221	Settings conflict; BTS gain is not available in this Mode	Base Transceiver Station gain correction is not available in some Modes, or in some measurements (for example, the SA measurement).
-221	Settings conflict; Cancellation is not available while measuring DANL floor.	Phase Noise cancellation does not make sense when measuring the DANL Floor, so for this reason it has been disabled
-221	Settings conflict; Cancellation Ref trace has no data.	When performing phase noise cancellation, you need to supply a reference trace that will be used to cancel out the background noise of the analyzer. The reference trace must be in Reference (View) mode, and selected by the Ref Trace parameter under the Cancellation menu
-221	Settings conflict; Carrier freq not allowed with BMT. (Bottom/Middle/Top only)	The transmit band spur measurement only allows bottom (B), middle (M), and top (T) channel frequencies for each supported frequency band. The carrier frequency must be set to the bottom, middle or top frequency of the current frequency band.
-221	Settings conflict; CISPR/MIL type only available when an EMI detector is in use	The EMI detectors are specifically designed for use with the CISPR and MIL resolution bandwidth types.
-221	Settings conflict; Command is incompatible with band pair marker	Using remote commands, you have tried to adjust the start or stop frequency of a span pair marker. You can only adjust the center and span.
-221	Settings conflict; Continuous Peak is not available with Fixed marker	The continuous peak feature cannot be used with a marker that is fixed. By definition that marker value cannot change.
-221	Settings conflict; Continuous Peak is not available with Signal Track on	The continuous peak feature cannot be used while you are also using the signal tracking function.
-221	Settings conflict; Corrections with different antenna units not allowed	When a correction with antenna units is turned on, that is the only unit allowed. You can have two sets of antenna corrections turned on, but only if they have the same units.
-221	Settings conflict; Desired preamp setting is not available	Does this really exist? If so, what does it really mean?

-221	Settings conflict; Destination trace for Trace Math cannot be a trace operand	The resulting trace data (from doing a trace math function) cannot be put into the any of the traces that are being used by the math operation.
-221	Settings conflict; EDGE EVM only supports EDGE TCH burst type.	
-221	Settings conflict; Electronic attenuator is disabled	You are using the mechanical attenuator, and have not enabled the electronic attenuator. You cannot set the value of the electronic attenuator because it automatically sets/changes when enabled.
-221	Settings conflict; Electronic attenuator is not available above 3.6 GHz	The maximum frequency of the electronic attenuator is 3.6 GHz. This is because of switching capacitance.
-221	Settings conflict; Electronic attenuator unavailable in current state	
-221	Settings conflict; Electronic attenuator unavailable with Preamp on	The internal preamp is on. Electronic attenuator cannot be used while you are using the internal preamp.
-221	Settings conflict; EMI average detector is uncalibrated, select VBW Auto.	When the EMI Average detector is selected for an active trace, the Auto VBW for that trace becomes 1 Hz. The EMI Average detector uses its own VBW as long as it is in Auto, though the Auto VBW value shown on the VBW key is still the current coupled-to-RBW value. If VBW is changed to manual, then the VBW shown on the key is used even for the EMI Average detector, so it should be set back to Auto.
-221	Settings conflict; EMI detector is in use, only CISPR/MIL type is available	The EMI detectors are specifically designed for use with the CISPR and MIL resolution bandwidth types.
-221	Settings conflict; EMI Detectors are not available in FFT sweep	QPD, EMI Average, EMI Peak, and MIL Peak are not allowed when in the manually selected FFT sweep mode.
-221	Settings conflict; External mixing is unavailable when preamp on	The internal preamp is on. External mixing cannot be used while you are using the internal preamp.

Instrument Messages
-221 Settings Conflict Errors

-221	Settings conflict; Feature not supported for this measurement.	Some functionality is available in one measurement, but not in another. (See the measurements under the Meas key.) This error occurs if you send a SCPI command or push a gray-out key that is not available in the current selected measurement.
-221	Settings conflict; FFT IF Gain High not available when Swept IF Gain = Manual Low	When Swept IF Gain is manually set to Low, you cannot set the FFT IF Gain to High because that would make the Reference Level couplings wrong in FFT mode.
-221	Settings conflict; FFT is not available when Signal ID is on	When in external mixing, if you have signal identification on, then FFT sweep type cannot be selected.
-221	Settings conflict; FFT is not available when Signal ID is on	When in external mixing, if you have signal identification on, then FFT sweep type cannot be selected.
-221	Settings conflict; FFT is not available with EMI detector	FFT sweep type cannot be selected when the EMI detector is being used for a trace.
-221	Settings conflict; FFT sweep type is not available while in Gated LO	The gated LO function turns the LO on and off as it sweeps. So the FFT sweep type is not available if you have selected gated LO.
-221	Settings conflict; FFT sweep type is not available while in Gated Video	The FFT sweep type is not available if you have selected the gated video function.
-221	Settings conflict; Fixed marker adjust not available while Marker Function is on	If a Marker Function is on for a Fixed marker, the marker's reported value is derived from the function. Therefore, you cannot directly set the X or Y value of a Fixed marker that has a marker function turned on.
-221	Settings conflict; Fixed Marker Y value is not adjustable with Normalize On	If Normalize is on the Amplitude scale is in dB units, so adjusting the Y value of a Fixed marker is not possible.
-221	Settings conflict; Freq > 3.6 GHz unavailable while electronic attenuator enabled	The electronic attenuator does not function above 3.6 GHz. So if you have that attenuator enabled, you cannot change the center frequency so that frequencies above 3.6 GHz are displayed/measured.
-221	Settings conflict; Frequency Offset is not available with Segmented Sweep	The frequency offset feature cannot be used when you are using the segmented sweep capability.
-221	Settings conflict; Frequency Offset not available when Frequency Scale is Log	The frequency offset feature cannot be used when you have selected a log scale for the frequency axis.

-221	Settings conflict; Function unavailable with MW Presel off	You cannot center or adjust the preselector because the Microwave Preselector is currently off
-221	Settings conflict; Gate control is Edge for Gated FFT	You cannot use level triggering to control the gate if you are using the FFT gating method.
-221	Settings conflict; Gate control must be Edge for this Gate Source	You cannot use level triggering to control the gate when you are using the currently selected gate source.
-221	Settings conflict; Gate is not available when Marker Count on	The gate function cannot be used while you have marker count turned on.
-221	Settings conflict; Gate Length is not settable in FFT sweeps	The sweep time for FFT sweeps is set by the calculations. So sweep time settings cannot be adjusted.
-221	Settings conflict; Gate Length is not settable with Level controlled gate	If you are controlling the gate using a level, then the analyzer sets the gate length. Change to edge control if you want to control gate length.
-221	Settings conflict; Gate Method is not compatible with current Sweep Type setting	If the Gate is On and you have the FFT Sweep Type manually selected, then the Gate Method cannot be selected.
-221	Settings conflict; Incorrect RBW for demod. Change RBW	
-221	Settings conflict; Invalid trace number	The subopcode used to specify the trace number is invalid for this measurement or query
-221	Settings conflict; Knob is not available to modify this function	You should select a specific value for this function. So scrolling through values with the knob is not allowed.
-221	Settings conflict; Log Scale Type is not available when Detector Mode is Normal	Why?
-221	Settings conflict; Log Scale Type is not available with band marker functions on	The logarithmic scales are not available when you are using the marker functions that use defined bands of frequency.
-221	Settings conflict; Log Scale Type is not available with Demod View	The logarithmic x-axis scales are not available when you have the demod view turned on.
-221	Settings conflict; Log Scale Type is not available with External Mixing	The logarithmic x-axis scales are not available while you are using the external mixers.

Instrument Messages
-221 Settings Conflict Errors

-221	Settings conflict; Log Scale Type is not available with Signal ID	The logarithmic scales are not available when you have signal ID turned in external mixing.
-221	Settings conflict; Log Scale Type is not available with Signal Track	The logarithmic x-axis scales are not available while you are using signal tracking.
-221	Settings conflict; Log Scale Type is only available in swept measurement	Logarithmic scaling can be used when making a swept SA measurement. It is not available in the SA measurement when you are using FFT sweeps.
-221	Settings conflict; Log Scale Type not available when Segmented Sweep is on	The logarithmic scales are not available while you are using the segmented sweep capability.
-221	Settings conflict; Log Scale Type only available when Frequency Offset = 0 Hz	If you have any amount of frequency offset, then you cannot use logarithmic scaling for the X axis.
-221	Settings conflict; Marker 1 Trace Update=off turns off Signal Track	Signal Track not available unless the trace containing Marker 1 is updating
-221	Settings conflict; Marker cannot be relative to itself	A marker must be set relative to another marker, not to itself.
-221	Settings conflict; Marker Count is not available when Gate on	The marker count function cannot be used while you have gating turned on.
-221	Settings conflict; Marker Function is not available for a Fixed marker	If a Marker is a Fixed type marker, the marker's value does not change from when it first became fixed. You cannot turn on or change a Marker Function because there is no ongoing measurement data to use for the marker function calculation.
-221	Settings conflict; Marker type must be delta	Mkr Δ ->Span and Mkr Δ ->CF require that the selected marker be a delta marker.
-221	Settings conflict; Marker->command is not available with segmented sweep	Most of the "Marker To" commands are not available with segmented sweep turned on. So you cannot select these functions.
-221	Settings conflict; Marker->function is not available in zero span	Most of the "Marker To" functions are not available if you are in zero span (span = 0 Hz, or time domain). So you cannot send the commands for these functions.
-221	Settings conflict; Meas Type was changed to Examine for Exp Avg Mode.	Average Mode has been changed to Exponential. Full Meas Type is not available for Exponential Average Mode therefore Meas Type has been changed to Examine.
-221	Settings conflict; Meas Type was changed to Full for Repeat Avg Mode	Average Mode has been changed to Repeat. Examine Meas Type is not available for Repeat Average Mode therefore Meas Type has been changed to Full.

-221	Settings conflict; Mixer Type is not available when in this band	The Mixer Type selection is not available in the K, E, W, F, D, G, Y, J band because those bands do not allow Preselected Mixing.
-221	Settings conflict; Mkr -> CF is not available when the x-axis is time domain	The marker to center frequency functionality does not work when the x-axis is in the time domain.
-221	Settings conflict; MS gain is not available in this Mode	Mobile Station gain correction is not available in some Modes, or in some measurements (for example, the SA measurement).
-221	Settings conflict; Normal detector is not allowed with X scale is Log	The normal detector cannot be used when the x-axis scale is logarithmic. Why not? Are the results weird? Frequency slewed?
-221	Settings conflict; Normalize is not available when Scale Type = Lin	Normalize does not support Linear amplitude scale, since the results are always presented as a dB ratio.
-221	Settings conflict; Normalize is not available while Demod View is on	The normalization (correction) function cannot be used if you are using the Demod View.
-221	Settings conflict; Normalize is not available while Trace Math is on	The Normalize function works by doing trace manipulation. So if trace math is on you cannot turn on normalization.
-221	Settings conflict; Option not available	You have attempted to perform an action for which a required option is not installed
-221	Settings conflict; Parameter currently is disabled	This parameter is grayed out (unavailable) in the current context. Check the individual parameter help/documentation for more information.
-221	Settings conflict; Preamp gain is not available in this Mode	Preamp gain correction is not available in some Modes or Measurements
-221	Settings conflict; Preamp is unavailable when external mixing selected	With external mixing selected, you cannot use the internal preamp.
-221	Settings conflict; Preamp unavailable with electronic attenuator on	The electronic attenuator is on. Internal preamp cannot be used while you are using the electronic attenuator.
-221	Settings conflict; Presel Center not available for unpreselected external mixers	The selected mixer type is Unpreselected. Preselector power centering cannot be done on an unpreselected mixer.
-221	Settings conflict; Preselector Adjust not available for unpreselected Ext mixer	The selected mixer type is Unpreselected. The preselector adjustment cannot be done on an unpreselected mixer.

Instrument Messages
-221 Settings Conflict Errors

-221	Settings conflict; Res BW cannot be auto-coupled while in Zero Span	The resolution bandwidth cannot be set to auto while you are in zero span (time domain).
-221	Settings conflict; Scale Type = Lin is not available when Normalize is on	Only the Log amplitude scale is available in Normalize, since the results are always presented as a dB ratio.
-221	Settings conflict; Settings conflict; Mask unavailable for current Span. Increase to display mask.	The current span setting is either narrower than the mask width or so wide that there are too few display points to allow the mask to be drawn. Increase or decrease the span to display the mask.
-221	Settings conflict; Settings conflict; Pre-trigger is insufficient for demod. Decrease Trig Delay.	
-221	Settings conflict; Signal ID is not available when Averaging is on	The Signal ID function cannot be used while you are doing averaging.
-221	Settings conflict; Signal ID is not available when Signal Track is on	The Signal ID function cannot be used while you are using Signal Tracking.
-221	Settings conflict; Signal ID is not available when Sweep Type=Manual:FFT	The Signal ID function cannot be used while you have Manual:FFT sweeping selected.
-221	Settings conflict; Signal ID requires External Mixing selected	The Signal ID function can only be used while using external mixing (not internal mixing).
-221	Settings conflict; Signal Track is not available when Freq Scale=Log	The signal tracking feature cannot be used when you have selected a log scale for the frequency axis.
-221	Settings conflict; Signal Track is not available with Continuous Peak	The signal tracking feature cannot be used while you are also using the continuous peak function.
-221	Settings conflict; Signal Track is not available with Segmented Sweep	The signal tracking feature cannot be used when you are using the segmented sweep capability.
-221	Settings conflict; Signal Track is only available in Swept SA measurement	The signal track functionality can be used when making a swept SA measurement. It is not available in the SA measurement when you are using FFT sweeps.
-221	Settings conflict; Signal Track is turned off when Zero Span is selected	Signal Track is not available when you have selected Zero Span. So if Zero Span is entered while in Signal Track is On, Signal Track is turned off.

-221	Settings conflict; Signal Track not available when Signal ID is on	When using external mixing, if you have signal identification on, then the Signal Track function cannot be used.
-221	Settings conflict; Span is not available when Segmented Sweep is on	Segmented Sweep uses multiple sweeps, each with its own span setting. You cannot set the span when segmented sweep is selected because the function does not know which span to change.
-221	Settings conflict; Span Zoom is not available in Zero Span	Span Zoom does not work with a time domain x-axis. You must select a span greater than 0 Hz.
-221	Settings conflict; Span Zoom not available when Frequency Scale Type = Log	The Span Zoom feature cannot be used when the X-axis scale is logarithmic frequency.
-221	Settings conflict; Span Zoom not available when Segmented Sweep is on	Segmented Sweep uses multiple sweeps so it does not know what sweep to zoom in on. Also, it cannot zoom a span over a sweep boundary.
-221	Settings conflict; Step keys are not available to modify this function	You should select a specific value for this function. So using the Up/Down step keys to scroll through values is not allowed.
-221	Settings conflict; Sweep Setup only available in swept measurements	The current measurement uses FFT mode and so does not use the Sweep Setup menu
-221	Settings conflict; Sweep Time cannot be auto-coupled in FFT sweeps	The sweep time for FFT sweeps is set by the calculations. So sweep time settings cannot be adjusted.
-221	Settings conflict; Sweep Time cannot be auto-coupled while in Zero Span	You cannot send the remote command to set the sweep time to auto while you are in zero span.
-221	Settings conflict; Sweep Time cannot be set while in FFT sweeps	The sweep time for FFT sweeps is set by the calculations. It cannot be manually controlled.
-221	Settings conflict; Swept IF Gain High not available when FFT IF Gain = Manual Low	When FFT IF Gain is manually set to Low, you cannot set the Swept IF Gain to High because that would make the Reference Level couplings wrong in swept mode.
-221	Settings conflict; Swept Type=Swept is not available while in Gated FFT	If you have selected gated FFT then you are using the FFT sweep type and you cannot select the swept type of sweeping.

Instrument Messages
-221 Settings Conflict Errors

-221	Settings conflict; System Display Settings, Annotation is Off	This is an override that turns off many of the annotations. This is available as a security feature.
-221	Settings conflict; TG start freq is less than 1/2 Res BW	Tracking generator uncalibrated at start frequencies below 1/2 the current resolution bandwidth.
-221	Settings conflict; Trace Math is not available while Normalize is on	The Normalize function works by doing trace manipulation, so trace math is not available while normalization is running.
-221	Settings conflict; Trace menu is not available when Signal ID is ON	The Trace menu functionality is not available when signal ID is on (using external mixing).
-221	Settings conflict; Trace smoothing with VBW not available with Avg Detector	
-221	Settings conflict; Trigger is not available with span > 0 Hz.	
-221	Settings conflict; Tx Band Spur meas does not support this frequency band.	The transmit band spur measurement does not support all of the commercially available frequency bands. You need to change your selection under Mode Setup, Radio, Band to one of the supported bands.
-221	Settings conflict; Tx Band Spur measurement is not defined for mobiles.	Only base station testing is available.
-221	Settings conflict; Use Gate View Sweep Time in the Gate menu.	When in Gate View you use Gate View Sweep Time, rather than Sweep Time, to control the Gate View window
-221	Settings conflict; Y Axis Unit forced to match Antenna Unit of correction	An amplitude correction (that has antenna units selected) is ON. So the only Y axis unit that is valid is the one that matches the correction file.
-221	Settings conflict; Zero Span not available when Frequency Scale Type = Log	Logarithmic scales cannot be used for time domain sweeps (0 Hz span).
-221	Settings conflict; Zero Span not available when Segmented Sweep is on	Segmented Sweep uses multiple sweeps. It cannot combine sweeps with 0 Hz frequency (time domain sweeps).
-221	Settings conflict; Zone is not available when Segmented Sweep is on	The Zone functionality cannot be used while using segmented sweep.

-200 to -299, Execution Errors, (Standard SCPI)

For -221 error messages, see the previous sections.

Note that Execution Errors are divided into subclasses:

- 21x – Trigger errors
- 22x – Parameter error
- 23x – Data corrupt or stale (invalid data)
- 24x – Hardware error
- 25x – Mass storage error
- 26x – Expression data error
- 27x – Macro error
- 28x – Program error (a downloaded program-related execution error)
- 29x – Memory use error

Err	Message	Verbose/Correction Information
-200	Execution Error	A program execution error has occurred. The exact problem cannot be specifically identified.
-200	Execution error; Carrier frequency outside device's transmit band	The entered channel/carrier frequency is not within the range of your current mode setup selection of standard and device.
-200	Execution error; Invalid GSM burst timing	A GSM-like burst was acquired, but its timing is not valid. Ensure the correct Burst Type has been selected.
-200	Execution error; Invalid Marker Trace.	Cannot place markers on the reference trace, because the reference trace is currently turned off or has no data.
-200	Execution Error; No peak found.	No signal peak was found within the defined parameters of the search.
-200	Execution error; No ranges are defined. Activate a range.	There are no active ranges in the range table. You will need to activate at least one range.
-200	Execution Error; Preselector centering failed	Algorithm failed to center the preselector. This maybe caused by the signal peak being too low in amplitude. Or it could be from excessive CW input signal, alignment error, or hardware failure.

Instrument Messages
 -200 to -299, Execution Errors, (Standard SCPI)

Err	Message	Verbose/Correction Information
-200	Execution Error; Signal not stable enough to track	The signal that you have selected to track is changing too much for the function to track it properly.
-200	Execution Error; Store ref trace before turning on Normalize	The Reference trace data must be stored in the Ref trace before you turn on the Normalization function.
-200	Execution error; Sync word was not found.	NADC & PDC: In an EVM measurement, the sync word is not found and the synchronization cannot be established when Sync Word is selected in the Burst Sync menu. Flexible Digital Demodulation: The sync word cannot be detected because of inappropriate parameter settings or incorrect signal.
-200	Execution error; Trace file contains no compatible traces.	The trace file may have been created by another version of the Phase Noise personality, which uses a different trace format that is incompatible with the version you are running. Please check you are running the most up to date version of the personality.
-200	Execution error; Trace file created by incompatible version of Phase Noise App	The trace file may have been created by another version of the Phase Noise personality, which uses a different trace format that is incompatible with the version you are running. Please check you are running the most up to date version of the personality.
-200	Execution error; Trace file created by incompatible version of Phase Noise App	The trace file may have been created by another version of the Phase Noise personality, which uses a different trace format that is incompatible with the version you are running. Please check you are running the most up to date version of the personality.
-201	Invalid while in local	The command cannot be executed while the instrument in Local control.
-202	Settings lost due to rtl	A “return to local” control was forced and some settings were lost as a result of this.
-203	Command protected	The command could not be executed because it is disabled. It was disabled by licensing or password protection
-203	Command protected; feature not licensed	The specified feature, for example “N9073A-TR2” is not licensed. The license may have expired. You cannot use it until you get a license.

Err	Message	Verbose/Correction Information
-210	Trigger error	A trigger error has occurred, but the exact problem cannot be specifically identified.
-211	Trigger ignored	A GET, *TRG or other triggering signal was received, but it was ignored because of timing considerations. For example, maybe the instrument was not ready to respond when the command was received.
-212	Arm ignored	An arming signal was received, but it was ignored.
-213	Init ignored	An initiate trigger/sweep request was received and ignored, because another measurement was already in progress.
-214	Trigger deadlock	The trigger source for the initiation of a measurement is set to GET, and the following measurement query was received. The measurement cannot be started until a GET is received, but the GET would cause an INTERRUPTED error.
-215	Arm deadlock	The arm source for the initiation of a measurement is set to GET and the following measurement query is received. The measurement cannot be started until a GET is received and the GET would cause an INTERRUPTED error.
-220	Parameter error	A problem was found with a program data element. The exact problem cannot be specifically identified.
-221	Settings conflict;	There are many types of settings conflict errors. See section 3.5 for information about these errors.
-221	Settings conflict; Gated FFT is not available while Sweep Type is set to Swept	The gated FFT function is not available if you have selected the swept type of sweep. You must be in the FFT sweep type.
-221	Settings conflict; Gated LO is not available while Sweep Type is set to FFT	The FFT sweep type moves the LO frequency in steps. So the gated LO function is not available if you have selected FFT sweep.
-221	Settings conflict; Gated Video is not available while Sweep Type is set to FFT	The gated video function is not available if you have selected the FFT sweep type.
-222	Data out of range;	A data element was found but the instrument could not be set to that value because it was outside the range defined for the command. A descriptive message may be appended, such as "clipped to upper limit"

Instrument Messages
 -200 to -299, Execution Errors, (Standard SCPI)

Err	Message	Verbose/Correction Information
-222	Data out of range; Invalid list data	You tried to use a trace that has a number of sweep points that is different from the current setting of sweep points.
-222	Data out of range; Two entries already exist at this x-axis value.	When entering values for limit lines, you cannot have more than two y-axis (amplitude) values entered for a specific x-axis (frequency) value.
-223	Too much data	A data element (of block, expression, array type, or string type) had more data than allowed by the command, or by the available memory.
-223	Too much data; 200 spurs found. Additional spurs ignored.	There are too many spurs for the table (the limit is 200), and any additional spurs that are found will be ignored.
-224	Illegal parameter value	An exact data value (from a list of the allowed values) was required - but not found. See the feature description for information about the expected parameter values.
-224	Illegal parameter value; Exceeding the max list length	The list parameters have a maximum allowed length. You are trying to set a length longer than the maximum.
-224	Illegal parameter value; Invalid list length	You are trying to set some list measurement settings, but the multiple lists that you sent were not all the same length. The number of settings must be consistent from list to list.
-224	Illegal parameter value; Measurement not available	You tried to turn on a measurement that is not available in the current mode.
-224	Illegal parameter value; trace points not available for tier	You tried to import a trace file that contains trace points that don't match the number of trace points available for your software license tier.
-225	Out of memory	There is not enough memory to perform the requested operation.
-225	Out of memory; Memory limit caused Data Acquisition to be truncated	
-226	List not same length	You are using the LIST structure, but have individual lists that are not the same lengths.
-230	Data corrupt or stale;	A legal data element was found, but it could not be used because the data format or the data structure was not correct. Maybe a new measurement had been started but had not completed.

Err	Message	Verbose/Correction Information
-230	Data corrupt or stale; Measurement data is not available	Measurement data not available. The measurement that you are trying to get data from must be the current active measurement. Maybe you have not initiated the measurement, or it has not completed all the sweeps/averages needed.
-230	Data corrupt or stale; Trace contains no data.	Trace cannot be displayed because currently there is no data assigned to it. Use the functions under the Trace menu, or load a previously saved trace, to assign data to the trace.
-230	Data corrupt or stale; Unable to load state from file	There is something wrong with the state data in the desired file. Maybe the file is corrupt, or it is from an instrument/version that is not recognized by the current instrument.
-231	Data questionable	Indicates that the measurement accuracy is suspect
-232	Invalid format	A data element was found but it could not be used because the data format or the data structure was not correct.
-232	Invalid format; Map information not loaded	Instrument failed to load the burst mapping information from the selected file.
-233	Invalid version	A legal data element was found but could not be used because the version of the data is incorrect. For example, state data changes as new instrument features are added, so old state files may not work in an instrument with a newer version of software.
-240	Hardware error	A legal program command or query could not be executed because of a hardware error. The exact problem cannot be specifically identified.
-240	Hardware error; See details in Windows Event Log under SA	The internal data acquisition system detected a problem at startup and logged the details in the Windows Event Log.
-241	Hardware missing	The operation could not be performed because of missing hardware; perhaps the optional hardware is not installed.
-241	Hardware missing; not available for this model number	The hardware required is not part of this model
-241	Hardware missing; Option not installed	The optional hardware is not installed.

Instrument Messages
 -200 to -299, Execution Errors, (Standard SCPI)

Err	Message	Verbose/Correction Information
-250	Mass storage error;	A problem was found with the mass storage device (memory, disk drive, etc.). The exact problem cannot be specifically identified.
-250	Mass storage error; Access denied	Access is denied.
-250	Mass storage error; Bad path name	The specified path is invalid.
-250	Mass storage error; Cannot make	The directory or file cannot be created.
-250	Mass storage error; Different Antenna Unit already in use	Attempt to import Corrections file with Antenna Unit that differs from an in-use correction.
-250	Mass storage error; Directory not found	The system cannot find the path specified.
-250	Mass storage error; Failed to Load trace. Bad file format.	The load trace operation could not be completed, as the input file was not in the expected format. You can only load traces that were previously saved using the 'Save Trace' feature.
-250	Mass storage error; File <filename> and instrument version mismatch	While opening a file, there was a mismatch between file version or model number with instrument version or model number. The import still tried to load as much as possible, but you should check it closely.
-250	Mass storage error; File <filename> wrong type	Attempt to import a data file that is not the proper type for this operation.
-250	Mass storage error; File contains incorrect data for this operation	There is a mismatch between the file data type of the file specified and the destination indicated. For example, a correction set cannot be loaded/imported into a limit line.
-250	Mass storage error; File empty	Cannot save trace because it contains no data. Check that the trace is turned on and contains some valid data.
-250	Mass storage error; Invalid register number for *SAV or *RCL	You have used the *SAV command to save a state to a non-existent state register. Or You have used the *RCL command to recall a state register that wasn't previously saved with the *SAV command.
-250	Mass storage error; Lock violation	The process cannot access the file because another process has locked a portion of the file.
-250	Mass storage error; No file names available	Attempt to use the auto file name generation when all 10,000 file names are taken.

Err	Message	Verbose/Correction Information
-250	Mass storage error; Open failed	The system cannot open the device or file specified. This could be because the storage media is full, or possibly due to a filename error. If using an external storage device, check that the device is properly formatted.
-250	Mass storage error; Read fault	The system cannot read from the specified device.
-250	Mass storage error; Register <number> empty	Attempt to recall a register with nothing in it
-250	Mass storage error; Sharing violation	The process cannot access the file because it is being used by another process.
-250	Mass storage error; Too many open files	The system cannot open the file.
-250	Mass storage error; Write fault	The system cannot write to the specified device.
-252	Missing media	A legal command or query could not be executed because missing media.
-253	Corrupt media	A removable media was found to be bad or incorrectly formatted. Any existing data on the media may have been lost.
-254	Media full	A legal command/query could not be executed because the media was full
-255	Directory full	A legal command or query could not be executed because media directory was full.
-256	File name not found;	A legal command or query could not be executed because the file name was not found in the specified location.
-257	File name error;	A legal command or query could not be executed because there was an error with the file name on the device media. For example, maybe you tried to copy to a duplicate file name.
-257	File name error; Allowable extension is .csv	You are using the wrong type of file extension for the current data/file type.
-257.	File name error; Allowable extension is .png	You are using the wrong type of file extension for the current data/file type.
-257	File name error; Allowable extension is .state	You are using the wrong type of file extension for the current data/file type.
-257	File name error; Invalid file name	The filename, directory name, or volume label syntax is incorrect.

Instrument Messages
 -200 to -299, Execution Errors, (Standard SCPI)

Err	Message	Verbose/Correction Information
-257	File name error; name too long	
-258	Media protected	A legal command or query could not be executed because the media was protected. For example, the write-protect was set
-260	Expression error	An error was found with an expression type of data element. The exact problem cannot be specifically identified.
-261	Math error in expression	An expression that has legal syntax could not be executed because of a math error. For example, maybe you are dividing by zero.
-270	Macro error	Indicates that a macro-related execution error occurred.
-271	Macro syntax error	Indicates a syntax error within the macro definition
-272	Macro execution error	Indicates that a syntactically legal macro program data sequence could not be executed due to some error in the macro definition
-273	Illegal macro label	Indicates that the macro label defined in the *DMC command was a legal string syntax, but could not be accepted
-274	Macro parameter error	Indicates that the macro definition improperly used a macro parameter placeholder
-275	Macro definition too long	Indicates that a syntactically legal macro program data sequence could not be executed because the string or block contents were too long for the device to handle
-276	Macro recursion error	Indicates that a syntactically legal macro program data sequence could not be executed because the device found it to be recursive
-277	Macro redefinition\ not allowed	Indicates that a syntactically legal macro label in the *DMC command could not be executed because the macro label was already defined
-278	Macro header not found	Indicates that a syntactically legal macro label in the *GMC? query could not be executed because the header was not previously defined.
-280	Program error	There was an execution error in a down-loaded program. The exact problem cannot be specifically identified.

Err	Message	Verbose/Correction Information
-281	Cannot create program	Indicates that an attempt to create a program was unsuccessful. A reason for the failure might include not enough memory.
-282	Illegal program name	The name used to reference a program was invalid; for example, redefining an existing program, deleting a nonexistent program, or in general, referencing a nonexistent program.
-283	Illegal variable name	An attempt was made to reference a nonexistent variable in a program.
-284	Program currently running	Certain operations dealing with programs may be illegal while the program is running; for example, deleting a running program might not be possible.
-285	Program syntax error	Indicates that a syntax error appears in a downloaded program. The syntax used when parsing the downloaded program is device-specific.
-286	Program runtime error	
-290	Memory use errors	
-291	Out of memory	
-292	Referenced name does not exist	
-293	Referenced name already exists	
-294	Incompatible type	Indicates that the type or structure of a memory item is inadequate

-100 to -199, Command Errors (Standard SCPI)

Err#	Message	Verbose/Correction Information
-100	Command error	There is a problem with the command. The exact problem cannot be specifically identified.
-101	Invalid character	An invalid character was found in part of the command.
-102	Syntax error	An unrecognized command or data type was found, for example a string was received for a command that doesn't accept strings.
-103	Invalid separator	The command was supposed to contain a separator but we found an illegal character. For example, the semicolon was omitted after a command string.
-104	Data type error	We found a data type different than what was expected. For example, numeric or string data was expected, but block data was found.
-105	GET not allowed	A Group Execute Trigger was received within a program message.
-108	Parameter not allowed	More parameters were received than were expected for the command. For example, the *ESE common command only accepts one parameter, so sending *ESE 0,1 is not allowed.
-109	Missing parameter	Fewer parameters were received than required for this command.
-110	Command header error	This is a general error that is generated when a problem is found in a command header, but we can't tell more specifically what the problem is
-111	Header separator error	We found an illegal character in a command where we expected to find a separator.
-112	Program mnemonic too long	The command contains a keyword that is more than twelve characters.
-113	Undefined header	The command meets the SCPI syntax requirements, but is not valid in the current measurement environment.
-114	Header suffix out of range	The value of a numeric suffix that is attached to a program mnemonic makes the header invalid. (A suffix is usually units, like Hz or DB.)
-115	Unexpected number of parameters	The number of parameters received does not correspond to the number of parameters expected.

-120	Numeric data error	An error was found in a data element that appears to be numeric. The exact problem cannot be specifically identified.
-121	Invalid character in number	A character was found that is not valid for the data type. For example, an alpha in a decimal numeric or a “9” in octal data.
-123	Exponent too large	The magnitude of an exponent was greater than 32000.
-124	Too many digits	The mantissa of a decimal-numeric contained more than 255 digits, excluding leading zeros.
-128	Numeric data not allowed	A legal numeric data element was found, but that is not a valid element at this position in the command.
-130	Suffix error	A problem was found in a suffix (units). The exact problem cannot be specifically identified.
-131	Invalid suffix	There is a syntax problem with the suffix. You need to use the suffix (units) that are allowed by this command.
-134	Suffix too long	The suffix contained more than twelve characters.
-138	Suffix not allowed	A suffix was found after a numeric element that does not allow suffixes (units).
-140	Character data error	A problem was found with a character data element. The exact problem cannot be specifically identified.
-141	Invalid character data	Either the character data element contains an invalid character or the element itself is not valid for this command.
-144	Character data too long	The character data element contains more than twelve characters.
-148	Character data not allowed	A character data element that you sent is valid, but it is not allowed in this point in the parsing.
-150	String data error	A problem was found with a string data element. The exact problem cannot be specifically identified.
-151	Invalid string data	A string type of data element was expected, but it is invalid for some reason. For example, an END message was received before the terminal quote character.
-158	String data not allowed	A string data element that you sent is valid, but it is not allowed at this point in the parsing.
-160	Block data error	A problem was found with a block data element. The exact problem cannot be specifically identified.

Instrument Messages
 -100 to -199, Command Errors (Standard SCPI)

-161	Invalid block data	A block data element was expected, but it was invalid. For example, an END message was received before the end length was satisfied.
-168	Block data not allowed	A legal block data element was found, but it is not allowed at this point in the parsing.
-170	Expression error	A problem was found with an expression data element. The exact problem cannot be specifically identified.
-171	Invalid expression	An expression data element is not valid. For example, there may be unmatched parentheses or an illegal character.
-178	Expression data not allowed	A legal expression data was found, but it is not allowed at this point in the parsing.
-180	Macro error	A problem was found with a macro element. The exact problem cannot be specifically identified.
-181	Invalid outside macro definition	Indicates that a macro parameter placeholder was encountered outside of a macro definition.
-183	Invalid inside macro definition	Indicates that the program message unit sequence, sent with a *DDT or *DMC command, is syntactically invalid
-184	Macro parameter error	Indicates that a command inside the macro definition had the wrong number or type of parameters.

0 Error

Err#	Message	Verbose/Correction Information
0	No error	The queue is empty. Either every error in the queue has been read, or the queue was cleared by power-on or *CLS.

Condition errors 1 to 99, Calibration

Errors with instrument internal alignment routines.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 42 indicates an RF Alignment Failure has been detected, error 1042 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
36	DCFM Zero Failure	E	
38	IQ Calibration Failure	E	
40	TG Alignment Failure	E	
42	RF Alignment Failure	E	
44	IF Alignment Failure	E	
46	LO Alignment Failure	E	
48	ADC Alignment Failure	E	
50	FM Demod Alignment Failure	E	
52	Misc/System Alignment Failure	E	
54	Characterize Preselector Failure	E	
56	Tracking Peak Needed	W	
58	Align Skipped	E	
60	Align Now, RF required	E	
62	Corrections Off	W	
64	Align Now, All required	E	

Condition errors 101 to 199, Measurement Integrity

Errors with making measurements: triggering, over range, bad acquisition/data, bad settings.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 129 indicates a Meas Uncal condition has been detected, error 1129 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
133	Signal Summary	E	
135	No Result Available	E	
137	Measurement Timeout	E	
139	Uncalibrated Summary	E	
141	ADC over range	W	
143	Over Range	W	
145	Under Range	E	
147	Insufficient Data	E	
149	Acquisition Failure	E	
151	Memory Problem	E	
153	Auto-Trigger Timeout	E	
155	Trigger Problem	E	
157	Invalid Data		This is the “dirty marker”, no message in the status line and nothing in the history queue, but there IS an on screen indication so in that sense this is a special case.

159	LO may overload IF	W	If the sweep type is Swept, the start frequency of the instrument is less than 10 MHz, and you put Swept IF Gain in Manual High, then a warning condition is generated and remains in effect as long as this condition exists.
161	Setting Limited/Re-adjusted	W	

Condition errors 201 to 299, Signal Integrity

Errors with the signals being measured: signals not found (timing/frequency/amplitude), signals noisy or degraded.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 207 indicates a Burst Not Found condition has been detected, error 1207 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
203	unused bit0 is set	E	
205	Degraded Performance	E	

207	Burst Not Found	E	<p>The burst signal cannot be detected because of inappropriate parameter settings or incorrect signal.</p> <p>An in appropriate parameter setting could cause the signal to be partially, rather than fully, on the display, Burst Search Threshold and/or Burst Search Length may need to be adjusted.</p> <p>An incorrect signal could have either insufficient power, the rising or falling edges cannot be detected, or the burst is less than 126 microseconds.</p> <p>Carrier signal is not actually bursted.</p> <p>W-CDMA: Either the signal being analyzed has insufficient power, the rising or falling edges cannot be detected, or the burst is less than 126 microseconds.</p> <p>W_CDMA: Cannot synchronize measurement with PRACH channel for Power Control measurement, because the signal cannot be found. Make sure PRACH is present in the W-CDMA uplink signal, and that the preamble signature and scramble code are set correctly.</p> <p>GSM: Data was acquired but a GSM burst was not found, with the timeslot mode disabled.</p> <p>NADC, PDC: A valid burst is not found when the Device is MS.</p> <p>1xEV-DO: Data was acquired but a 1xEV burst was not found, with the timeslot mode disabled.</p> <p>Bluetooth: The burst that has been found does not correspond to the currently selected Bluetooth packet type (the burst length may be too short).</p> <p>WLAN: The instrument cannot find a valid WLAN burst. You may need to extend the search length.</p>
209	Incorrect Timing	E	
211	Carrier(s) incorrect or missing	E	
213	Frequency Out of Range	E	

215	Sync Error	E	<p>W-CDMA: Cannot sync DPCCH pilot.</p> <p>Cannot synchronize measurement with DPCCH pilot for Power Control measurement, because the pilot signal cannot be found. Make sure DPCCH is present in the W-CDMA uplink signal, and that the slot format and scramble code are set correctly.</p>
217	Demodulation Error	E	<p>This error is normally generated because of one of the following reasons:</p> <ol style="list-style-type: none"> 1. There is no carrier signal. 2. Walsh channels other than the pilot are active. 3. There is some other modulation problem that will prevent the measurement from being made. <p>This problem must be corrected before the measurement can continue.</p> <p>cdma 2000 & W-CDMA: Cannot correlate to the input signal and no active channel is found. (from composite EVM measurement) An active channel must meet the default threshold criteria that it is within 20 dB of the highest power code channel. The threshold can be changed using the active set threshold function in the Meas Setup menu.</p> <p>cdmaOne: A correlation failure with the pilot CDMA channel occurred during synchronous demodulation.</p> <p>1xEV-DO: Cannot correlate to the input signal and no active channel is found. (from composite EVM measurement) An active channel must meet the default threshold criteria that it is within 20 dB of the highest power code channel. The threshold can be changed using the active set threshold function in the Meas Setup menu.</p>
219	Signal Too Noisy	E	<p>NADC & PDC: The valid EVM measurement cannot be performed, because the input signal is too noisy.</p> <p>GSM & EDGE: In a GSM measurement, indicates that a burst could not be found in a signal that appears noisy.</p>
221	unused bit9 is set	E	
223	unused bit10 is set	E	

Instrument Messages

Instrument Messages
Condition errors 201 to 299, Signal Integrity

225	unused bit11 is set	E	
227	unused bit12 is set	E	
229	unused bit13 is set	E	
231	unused bit14 is set	E	

Condition errors 301 to 399, Uncalibrated Integrity

Errors with measurement calibration/alignment routines and signals.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 307 indicates an “AC: unspec’d below 10 MHz” condition has been detected; error 1307 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
301	Meas Uncal	W	
303	Signal Identification On	W	
305	No Long Code Phase	W	
307	AC coupled: Accy unspec’d <10 MHz	W	AC input coupling will function at lower frequencies, but the performance is not specified below 10 MHz.
309	unused bit4 is set	W	
311	unused bit5 is set	W	
313	unused bit6 is set	W	
315	unused bit7 is set	W	
317	unused bit8 is set	W	
319	unused bit9 is set	W	
321	unused bit10 is set	W	
323	unused bit11 is set	W	
325	unused bit12 is set	W	
327	unused bit13 is set	W	
329	unused bit14 is set	W	

Condition errors 401 to 499, Power

Errors with signal power unlevelled, overloaded, oscillating.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 409 indicates a 50 MHz Oscillator Unlevelled condition has been detected, error 1409 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
401	RPP Tripped	W	
403	Source Unlevelled	W	
405	Source LO Unlevelled	E	
407	LO Unlevelled	E	
409	50 MHz Oscillator Unlevelled	E	
411	50 MHz Input Power too High for Cal	W	
413	Input Overload	W	ADC Input overload or ADC Clipping
415	unused bit7 is set		
417	LO Out Unlevelled	W	
419	unused bit9 is set		
421	unused bit10 is set		
423	unused bit11 is set		
425	unused bit12 is set		
427	unused bit13 is set		
429	unused bit14 is set		

Condition errors 501 to 599, Frequency

Errors with signal frequency unlocked, span/bandwidth/freq reference problems.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 503 indicates a Frequency Reference Unlocked condition has been detected, error 1503 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
501	Source Synthesizer Unlocked	E	
503	Frequency Reference Unlocked	E	
505	1 GHz Reference Unlocked	E	
507	BB Data Clock Synth Unlocked	E	
509	LO Unlocked	E	
511	Invalid Span or BW	W	
513	IF Synthesizer Unlocked	E	
515	Calibration Oscillator Unlocked	E	
517	Even Second Clock Synth Unlocked	E	
519	Demodulation		
521	External ref out of range	E	The external frequency reference signal is missing or is not within the proper amplitude range.
523	unused bit11 is set		
525	unused bit12 is set		

Instrument Messages
Condition errors 501 to 599, Frequency

527	unused bit13 is set		
529	unused bit14 is set		

Condition errors 601 to 699, Error Summaries

The instrument hardware status registers keep track of various error conditions. The bits in this register summarize the status of several different status registers.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 601 indicates a bit in the Voltage Summary register has been set, error 1601 indicates that failure has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
601	Voltage		
603	Current		
605	Time		
607	Phase		
609	Modulation Summary		
611	unused bit10 is set		
613	unused bit11 is set		
615	unused bit12 is set		
617	unused bit13 is set		
619	Command Warning		

Condition errors 701 to 799, Operation

Errors showing that the instrument is busy doing something.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 711 indicates that the Waiting for Trigger condition has been detected; error 1711 indicates that condition has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
701	Calibrating		
703	Setting		
705	Ranging		
707	Sweeping		
709	Measuring		
711	Waiting for Trigger	W	
713	Waiting for ARM		
715	Waiting for Gate	W	
717	Paused		
719	NMR Ready Summary		
721	DC Coupled	W	
723	Printing		
725	Mass Memory Busy		
727	Instrument Summary		
729	Program Running		

Condition errors 801 to 899, Temperature

Errors with instrument internal temperatures.

An event with the error number shown in the table means the condition has been detected.

When the condition is cleared, an event with the error number plus 1000 is generated.

For example, error 801 indicates that the Ref Osc Oven Cold condition has been detected; error 1801 indicates that condition has been cleared.

An E in the Error or Warning column means that an error is put up on the front panel and sent out to SCPI when this condition is detected. A W in this column means that a Warning is put up on the front panel but nothing goes out to SCPI. Nothing in this column means nothing is put up; status bit only.

Err#	Message	Error or Warning	Verbose/Correction Information
801	Reference Oscillator Oven Cold	W	
803	unused bit1 is set		
805	unused bit2 is set		
807	unused bit3 is set		
809	unused bit4 is set		
811	unused bit5 is set		
813	unused bit6 is set		
815	unused bit7 is set		
817	unused bit8 is set		
819	unused bit9 is set		
821	unused bit10 is set		
823	unused bit11 is set		
825	unused bit12 is set		
827	unused bit13 is set		
829	unused bit14 is set		

Instrument Messages
Condition errors 801 to 899, Temperature