Keysight Technologies
N9062A & W9062A SCPI Language Compatibility

X-Series Measurement Application

Technical Overview

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Features

– R&S FSP/FSU/FSE spectrum analyzer emulation
  (SCPI programming only)
– Over 278 SCPI commands
– 16 IEEE488.2 standard SCPI commands
– License key upgradeable
– Remote operation through GPIB, LAN and USB

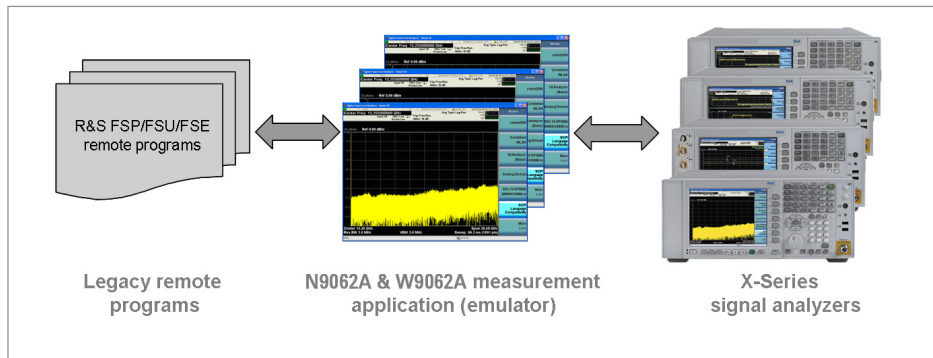## SCPI Language Compatibility Measurement Application

Figure 1. A simplified working block diagram for the SCPI language compatibility application

The SCPI language compatibility measurement application transforms the X-Series signal analyzers into SCPI commands compatibility mode, by supporting over 278 SCPI commands from R&S FSP/FSU/FSE spectrum analyzers. This application enables the X-Series signal analyzers to easily replace the R&S FSP/FSU/FSE spectrum analyzers in remotely controlled, automated test equipment (ATE) systems, with minimal or no modifications to your currently used measurement software. Figure 1 shows a simplified working block diagram for the X-series N9062A & W9062A application.
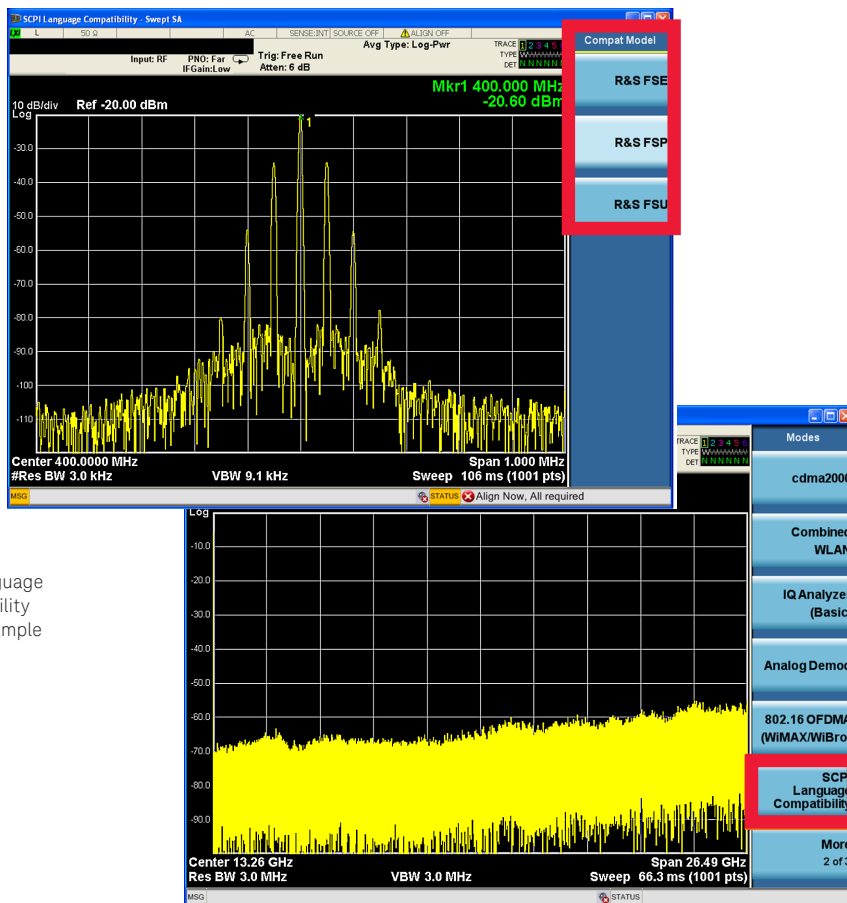
The SCPI language compatibility measurement application is just one in a common library of more than 25 measurement applications in the Keysight Technologies, Inc. X-Series, an evolutionary approach to signal analysis that spans instrumentation, measurements and software. The X-series analyzers, with upgradable CPU, memory, disk drives, and I/O ports, enable you to keep your test assets current and extend instrument longevity. Proven algorithms, a common UI, and 100% code-compatibility across the X-Series create a consistent measurement framework for signal analysis that ensures repeatable results and measurement integrity so you can leverage your test system software through all phases of product development.

Figure 2.
SCPI language compatibility mode example

SCPI language compatibility measurement application overview

The SCPI language compatibility measurement application provides an emulation process that enables the user's legacy FSP/FSU/FSE program and X-Series signal analyzers to understand each other: Not only does this application make the X-Series understand the legacy commands for the correct implementations, it also makes the response from the X-Series signal analyzers such as measurement results and query results, understandable to the legacy remote program.

By running the SCPI language compatibility measurement application, the X-Series signal analyzers support and emulate the following spectrum analyzer functions from your legacy FSP/FSU/FSE remote programs:

- General-purpose spectrum analysis settings: frequency, span, amplitude, RBW, VBW, sweep, detectors, trace averaging, data format and more
- General and delta marker functions, as well as marker noise, band power and power density functions
- Limit line and limit check functions
- Limit check for spectrum emission measurements
- Power measurements: channel power, ACP
- Statistical measurement function: CCDF
- Trace data transfer and IQ data handling
- File saving and screen copy

Refer to *N9062A & W9062A SCPI Language Compatibility User Guide* (literature number N9062-90001) for a complete list of compatible SCPI commands.

Two ways to access the application

The SCPI language compatibility application emulates FSP/FSU/FSE spectrum analyzers in SCPI programming environment only, but you can access this mode in two ways:

Depending upon use cases, some of the legacy commands may not technically be possible for the emulation due to the substantial differences in the architecture and implementation between the legacy and X-Series analyzers.

The SCPI language compatibility application supports commands from the spectrum analyzer mode of legacy FSP/FSU/FSE instruments, including major

commands for channel power, OBW/ACP measurements, and IQ traces. Commands from other options or modes are not supported. If a command or query is valid for FSP/FSU/FSE products but not supported by the SCPI language compatibility application, the X-Series analyzers generate an error message, indicating that this type of SCPI command is not covered in this application.

The SCPI language compatibility application only emulates the FSP/FSU/FSE spectrum analyzers in SCPI commands programming environment. It does not support the same front panel operations, user interfaces and measurement screen displays.
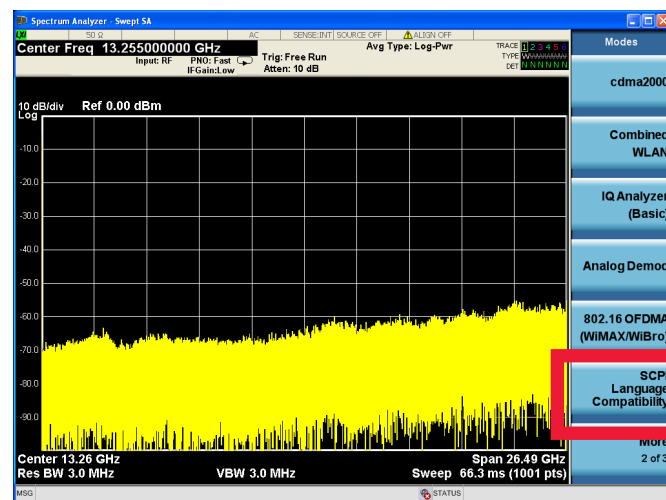

Figure 3. Accessing the SCPI language compatibility mode

1. Front panel access

Use the "SCPI Language Compatibility" soft-key under the "Mode" menu

2. Remote access

Activate the SCPI command mode :INST SCPIRLC ::INST:SELect 270

Ordering Information

Software licensing and configuration

N9062A & W9062A SCPI language compatibility measurement application

Model-option	Description	Notes
N9062A-2FP	R&S FSP/FSU/FSE SCPI language compatibility, fixed perpetual license	For PXA, MXA and EXA signal analyzers

W9062A SCPI language compatibility measurement application

Model-option	Description	Notes
W9062A-2FP	R&S FSP/FSU/FSE SCPI language compatibility, fixed perpetual license	For CXA signal analyzer

Note: Fixed, perpetual license allows you to run the application in the X-Series analyzer in which it is initially installed.

Hardware configuration

N9030A PXA signal analyzer

Model-Option	Description	Notes
N9030A-503, -508, -513, -526, -543, -544 or -550	3.6, 8.4, 13.6, 26.5, 43, 44, or 50 GHz frequency range	– One required – Firmware Rev A.06.00 or later

N9020A MXA signal analyzer

Model-Option	Description	Notes
N9020A-503, -508, -513 or -526	3.6, 8.4, 13.6, or 26.5 GHz frequency range	– One required – Firmware Rev A.06.00 or later

N9010A EXA signal analyzer

Model-Option	Description	Notes
N9010A-503, -507, -513 or -526	3.6, 7.0, 13.6, or 26.5 GHz frequency range	– One required – Firmware Rev A.06.00 or later

N9000A CXA signal analyzer

Model-Option	Description	Notes
N9000A-503, -507, -513 or -526	3.0, 7.5, 13.6, or 26.5 GHz frequency range	– One required – Firmware Rev A.14.00 or later

Additional Resources

Literature

N9062A & W9062A SCPI Language Compatibility User Guide, Literature Number N9062-90001

Web

Product pages:
www.keysight.com/find/N9062A
www.keysight.com/find/W9062A

X-Series applications:
www.keysight.com/find/X-Series_Apps

X-Series signal analyzers:
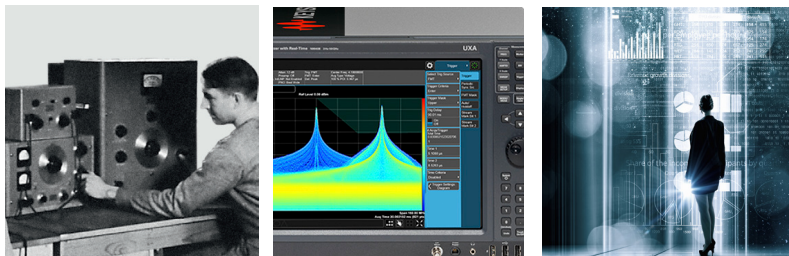**www.keysight.com/find/X-Series**

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