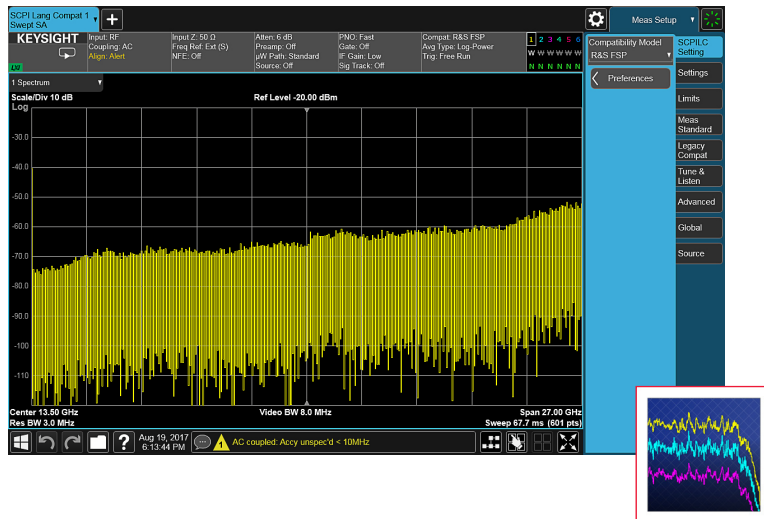# Keysight Technologies
SCPI Language Compatibility
X-Series Measurement Application, Multi-Touch
N9062C

Technical Overview

– Perform R&S FSP/FSU/FSE/ESU spectrum analyzer emulation (SCPI programming only)
– Access over 278 SCPI commands and 16 IEEE488.2 standard SCPI commands
– Easily upgrade with license keys
– Use multi-touch or SCPI remote interface through GPIB, LAN and USB

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SCPI Language Compatibility Measurement 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/ESU spectrum analyzers. This application enables the X-Series signal analyzers to easily replace the R&S FSP/FSU/FSE/ESU 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 N9062C application.

X-Series measurement applications

X-Series measurement applications increase the capability and functionality of Keysight Technologies, Inc. signal analyzers to speed time to insight. They provide essential measurements for specific tasks in general-purpose, cellular communications, wireless connectivity applications, covering established standards or modulation types. Applications are supported on both benchtop and modular, with the only difference being the level of performance achieved by the hardware you select.
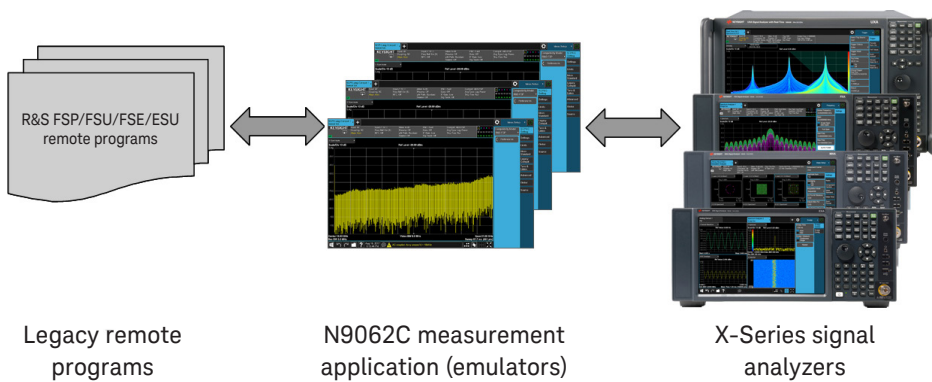
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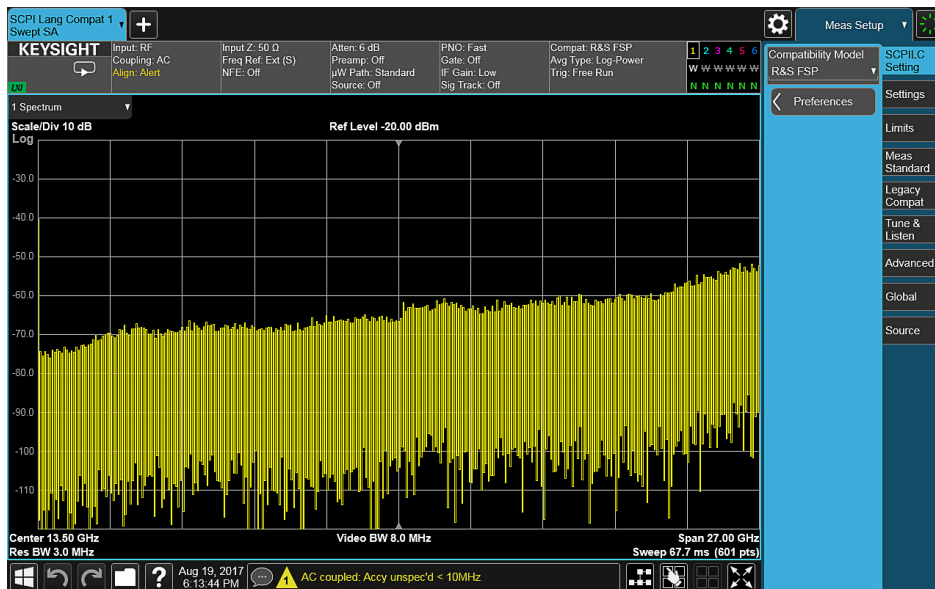

Legacy remote programs

N9062C measurement application (emulators)

X-Series signal analyzers

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

Figure 2. SCPI language compatibility mode example

Top Features

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/ESU 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/ESU 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/ESU 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/ESU 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/ESU spectrum analyzers in SCPI commands programming environment. It does not support the same front panel operations, user interfaces and measurement screen displays.
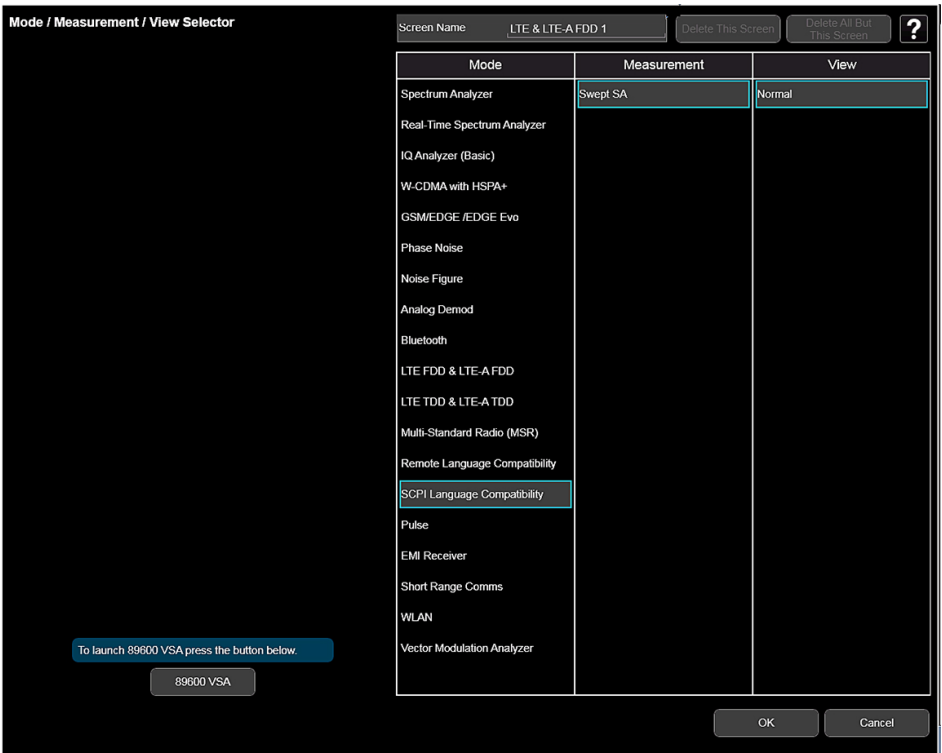

Figure 3. Accessing the SCPI language compatibility mode

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

Software Licensing and Configuration

We offer a fixed, perpetual license. This allows you to run the application in the X-Series analyzer in which it is initially installed.

For more information, please visit the respective product web pages.

N9062C SCPI language compatibility measurement application

Model-Option	Description	Additional information
N9062C-2FP	SCPI language compatibility, R&S FSP/FSU/FSE/ESU, fixed perpetual license	For UXA, PXA, MXA, EXA and CXA signal analyzers

Hardware configuration

For optimizing measurements on the SCPI language compatibility measurement applications, we require Keysight X-Series multi-touch firmware version 19.54 or higher.

Supported instruments include:

– UXA   N9040B
– PXA   N9030B
– MXA   N9020B
– EXA   N9010B
– CXA   N9000B

Additional Resources

Literature

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

Web

Product pages:
www.keysight.com/find/N9062C

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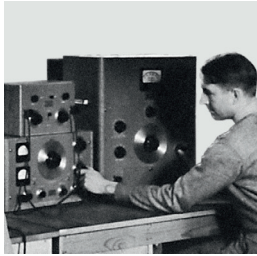**www.keysight.com/find/X-Series_Apps**

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