

R&S®FS-SNS

18/26/40/55/67/90/110

Smart Noise Source

Manual



1338805002

Version 06

ROHDE & SCHWARZ

Make ideas real



1 About the R&S®FS-SNS smart noise sources

The R&S®FS-SNS smart noise sources are especially designed for Rohde & Schwarz signal and spectrum analyzer families.

This manual applies to the following devices:

Product name	Order number
R&S FS-SNS18	1338.8008.18
R&S FS-SNS26	1338.8008.26
R&S FS-SNS40	1338.8008.40
R&S FS-SNS55	1338.8008.55
R&S FS-SNS67	1338.8008.67
R&S FS-SNS90	1338.8008.90
R&S FS-SNS110	1338.8008.11

You no longer have to enter complex ENR tables into the analyzer, or load them manually via USB stick, thus avoiding errors due to wrong or incomplete tables. The temperature is set automatically according to internal measurement. Uncertainty calculations are done automatically and can even be displayed in the result screen.

Key features

- Frequency range up to 18 GHz, 26.5 GHz, 40 GHz, 55 GHz, 67 GHz, 90 GHz or 110 GHz
- ENR table automatically loaded
- Automatic uncertainty calculation using ENR uncertainty and reflection coefficients table
- Improved accuracy due to temperature setting

2 Preparing for use

The R&S®FS-SNS is designated for use in industrial, administrative, and laboratory environments. Use the R&S®FS-SNS only for its designated purpose. Observe the usage instructions documented in this manual, as well as operating conditions and performance limits stated in the data sheet. The product documentation helps you use the R&S®FS-SNS safely and efficiently. Keep the product documentation in a safe place and pass it on to subsequent users.

- Before use, inspect the RF and interface connectors of the R&S®FS-SNS for damage. If there is any damage, contact Rohde & Schwarz for repair.
- Before use, inspect the R&S®SNSCABLE and R&S®SNSCABLE-Y cables for damage. If there is any damage, contact Rohde & Schwarz for repair.
- Always use an appropriate torque wrench when connecting the R&S®FS-SNS cables to an instrument to avoid excessive force.
- Ensure the instrument that you want to connect the R&S®FS-SNS to has an appropriate RF input connector.
 - R&S®FS-SNS18: SMA male
 - R&S®FS-SNS26: APC 3.5 mm male (compatible with SMA)
 - R&S®FS-SNS40: 2.92 mm male (compatible with SMA)
 - R&S®FS-SNS55/67: 1.85 mm male (compatible with 2.4 mm)
 - R&S®FS-SNS90: WR12
 - R&S®FS-SNS110: WR10

3 Measurement setup

Depending on the available connector types on the analyzer, connect the R&S®FS-SNS to the instrument as described below.



For sensitive DC-coupled amplifiers, we recommend using a DC blocker.

The identification and setup procedure after connecting the R&S®FS-SNS can take up to 10 seconds.

Setup for Lemosa noise source control connector



For instruments with the Lemosa noise source control connector, use the SNSCABLE.

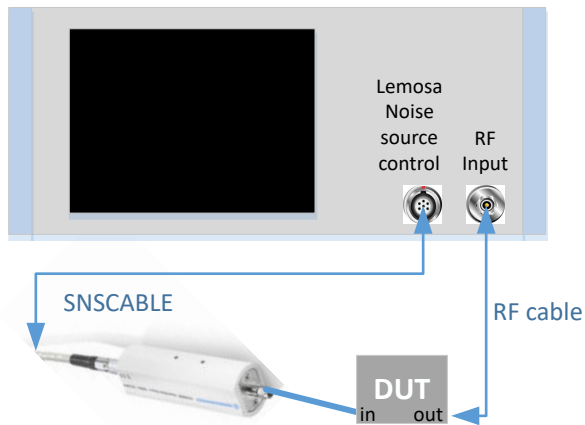


Figure 3-1: Setup with SNSCABLE

Setup with BNC connector or Lemosa noise source control connector without middle pin



For instruments with a BNC connector or a Lemosa noise source control connector without the middle pin, use the SNSCABLE-Y.

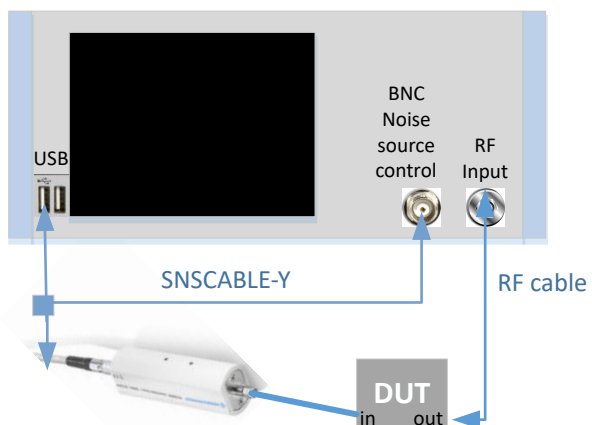


Figure 3-2: Setup with SNSCABLE-Y

Adapting waveguide to coax connectors

The R&S®FS-SNS90 and 110 models have waveguide connectors for output. If the DUT or the other connected devices have a coax connector, an adapter is required.

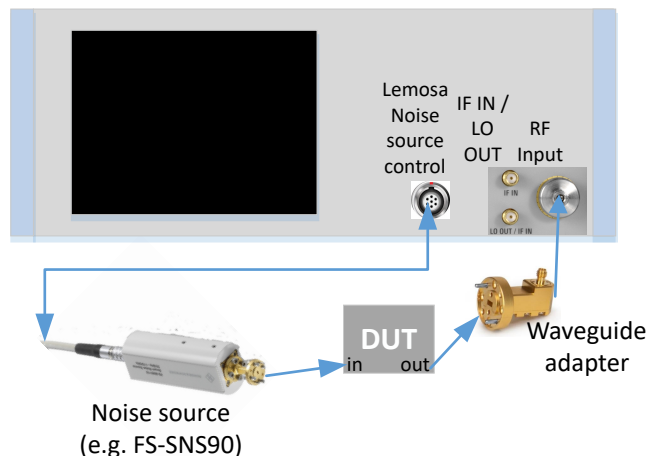


Figure 3-3: Setup using a waveguide adapter

Downconverting noise output

The frequency noise source together with the DUT can provide output frequencies that are higher than the connected analyzer can process. In this case, you have to connect an external mixer between the DUT and the analyzer. To improve accuracy of the measured signal, connecting an additional preamplifier to the external mixer is recommended. In this case, the complete measurement setup is demonstrated in [Figure 3-4](#).

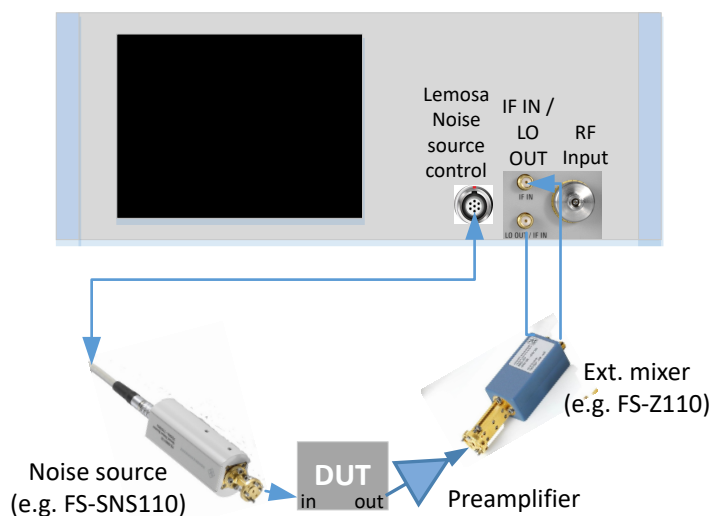


Figure 3-4: Setup using a preamplifier and external mixer

4 Spare parts

Article	Order number
DX SNSCABLE	1338.8020.00
DX SNSCABLE-Y	1338.8066.00

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