

Noise Figure Measurement in D-Band

6G Research in D-Band

Building upon Keysight's leadership and expertise in 5G, we can also help you make the vision of 6G a reality. 6G research addresses a multitude of frequency bands, frequency bandwidth, and waveform types. The potential 6G frequency bands include D-band (110-170 GHz), G-band (140-220 GHz), and H-band (220-330 GHz). Some recent 6G research paper claim that the millimeter bands (mmWave) – specifically D-band – are the channels that 6G technology will travel.

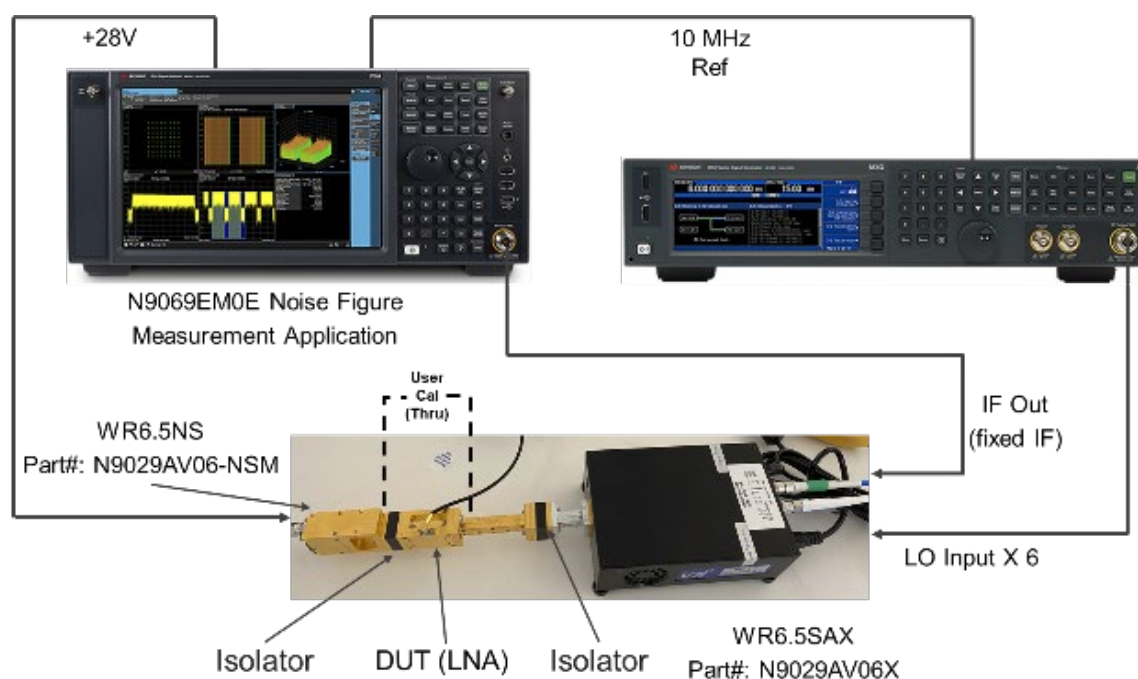


Figure 1. D-Band LNA Noise Figure Measurement Configuration

Noise Figure Measurement

Noise figure is one of the fundamental parameters that differentiates one system, amplifier, or transistor from another. N9069EM0E noise figure measurement application offers development engineers a simple tool to make accurate and repeatable noise figure measurements.

It allows engineers to rapidly measure any one of the following in their test racks:

1. noise figure/factor
2. gain
3. effective temperature
4. Y-factor
5. hot/cold power density

By using the signal analyzer with a down-converter and a noise source, it can quickly determine the noise of the device under test working in D-band.

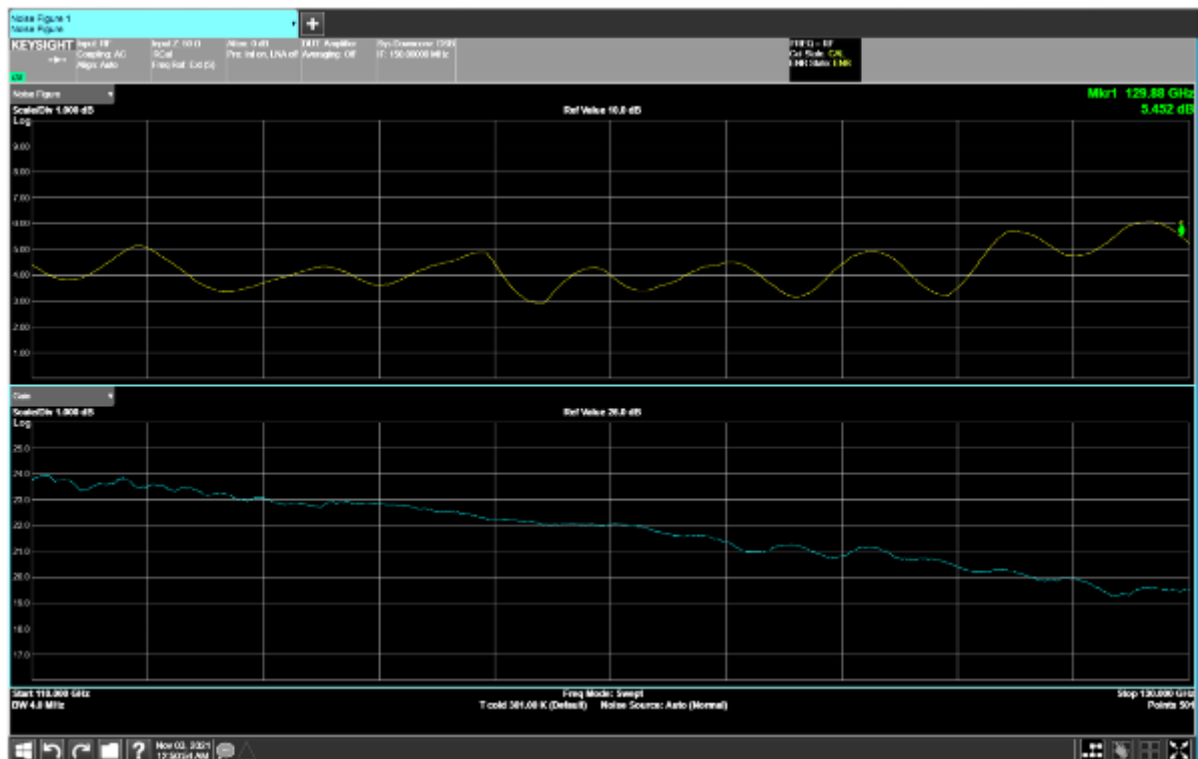


Figure 2. Noise Figure Measurement in D-Band

D-Band Noise Figure Measurement Configuration

Model/option	Description	Frequency range
N9029AV06-DC9	Down-converter with 9VDC supply from VDI	110 to 170 GHz
N9029AV06-NSM	Noise Source Module from VDI	110 to 170 GHz
N5183B	Microwave analog signal generator	9 kHz to 40 GHz
N9020B, N9021B, N9030B, N9032B, N9040B, N9042B	X-Series Signal Analyzer	2 Hz to 50 GHz
N9069EM0E	Noise Figure Measurement	

Learn more at: www.keysight.com/find/N9069EM0E