



# Products on Display Enabling Advanced 5G/6G Applications

Maury Microwave solutions on display for advanced 5G and 6G applications support critical characterization and system testing requirements. Noise conditioning modules improve noise parameter measurement accuracy, while broadband noise sources provide controlled additive white Gaussian noise (AWGN) generation for evaluating performance under realistic impairment conditions.



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## Product Overview

### Noise Conditioning Modules

Maury Noise Receiver Modules (NRMs) and Noise Switching Modules (NSMs) enhance noise parameter measurement system accuracy for advanced RF and millimeter-wave device characterization applications. As 5G and 6G systems continue moving into higher frequencies and wider bandwidths, accurate characterization becomes increasingly important for device modeling and validation.

#### Noise Receiver Modules

**MT7553-series coaxial NRMs** integrate the entire output network of a typical noise parameter measurement system into a turnkey solution incorporating wideband LNAs, RF switching between VNA and NFA paths, and wideband bias tees for DUT biasing. Coaxial models support standalone Noise Analyzers or combined VNA/NFA systems. An NRM with an integrated downconverter module may be used when the NFA does not match the noise parameter frequency of interest, translating higher-frequency RF signals to intermediate frequencies directly measurable by lower-frequency NFAs.

**MT7553M-series waveguide NRMs** are designed for full millimeter-wave noise parameter measurements within the TE<sub>10</sub> waveguide band of operation and downconvert noise power densities from the frequency of interest to the NFA bandwidth using a double-sideband swept LO technique. Models are available covering 50–75 GHz (WR15), 60–90 GHz (WR12), and 75–100 GHz (WR10).

#### Noise Switching Modules

**MT7553N-series NSMs** integrate the entire input network of a typical noise parameter measurement system into a turnkey solution. These NSMs incorporate RF switching between the VNA and noise source paths along with wideband bias tees to provide DUT biasing. Models are available covering 0.1 GHz–26.5 GHz, 0.1 GHz–50 GHz, and 0.1 GHz–65 GHz.

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## Additive White Gaussian Noise Sources

Maury noise sources, from amplitude noise modules to noise diodes, provide AWGN generation for RF and millimeter-wave test applications. The higher bandwidths, higher frequencies, and complex modulation schemes of 5G/6G applications necessitates controlled noise generation for evaluating receiver sensitivity, BER, SNR, and performance under real-world impairment conditions.

### NC1000 Series

**NC1000 Series amplified noise modules** produce AWGN as high as +13 dBm with bandwidths up to 18 GHz. The high-power modules are designed for noise immunity testing, secure communications, and signal impairment applications, while the lower-power modules serve as random jitter sources for applications including BER and high-speed digital testing. Bandwidth, output power, and flatness can be modified for specific application requirements, and optional TTL-controlled attenuation enables dynamic noise control during testing.

### NC3000 Series

**NC3000 Series calibrated coaxial AWGN sources** are well suited for receiver testing, noise figure measurements, or applications that require broadband noise and fast switching times. Several models include output isolators, and voltage regulators that provide excellent stability over varying temperature and voltage ranges. The NC3000 Series includes the NC3100 units with 15 dB ENR output for noise-figure meters, and the NC3200 Series high-output noise sources with outputs between 26 and 35 dB ENR for radar and satellite communications system testing.

### Diodes

**Noise diodes and noise modules** provide the foundational building blocks for broadband AWGN generation and signal impairment applications. Designed for flat spectral response, stable output characteristics, and flexible integration into analog and RF systems, these components support applications ranging from BER and signal integrity testing to emerging 5G/6G wireless validation and receiver stress testing.

## See What Else We're Showcasing

Additional solutions on display include real-time RF power sensors, calibrated noise sources and noise diodes, RF signal generators and synthesizers, calibration kits, and precision interconnect solutions – all supporting the design and development of next-generation wireless systems.

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