

ANRITSU

MG3700A

The Anritsu MG3700A is a high-performance Vector Signal Generator designed for digital modulation of signals across major wireless communication systems, including cellular and wireless LAN. Equipped with a standard 160 MHz high-speed arbitrary waveform generator and a built-in 40 GB hard disk, it provides robust baseband memory capacity and a wide vector modulation bandwidth to support current and next-generation high-bandwidth wireless communication standards.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	6 GHz (with Option 031) Hz
Frequency Resolution	0.01 Hz

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-140 dBm to +13 dBm (standard)
Phase Noise	<-133 dBc/Hz (typical at 1 GHz carrier, 20 kHz offset)

Modulation

Modulation	Vector, Digital I/Q
Sweep Modes	Frequency, Amplitude

General

Reference Oscillator	10 MHz
Interfaces	GPIB, 100BASE-TX Ethernet, USB 2.0
Display	8.4-inch color TFT LCD (VGA, 640 x 480)

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 60 Hz
Dimensions (W×H×D)	426 mm x 177 mm x 390 mm mm
Weight	15 kg kg

Frequency Specifications

Frequency Range	250 kHz to 3 GHz (standard), 250 kHz to 6 GHz (with Option 031)
Frequency Switching Speed	<10 ms
External Reference Input Frequency	10 MHz (±10 ppm)

Amplitude Specifications

Amplitude Resolution	0.01 dB
Output Impedance	50 ohms nominal
Output SWR	<1.5 (250 kHz to 3 GHz), <1.8 (3 GHz to 6 GHz)

Spectral Purity

Harmonics	<-30 dBc
Non-Harmonics (Spurious)	<-60 dBc
W-CDMA ACLR	≤-64 dBc (typical -68 dBc, 1-carrier, 5 MHz offset)

Vector Modulation and Baseband

Baseband Generator Bandwidth	120 MHz (Internal ARB)
Arbitrary Waveform Sampling Rate	20 kHz to 120 MHz
DAC Resolution	14-bit
Baseband Memory Depth	256 Msamples/channel
External I/Q Modulation Bandwidth	150 MHz
Internal Hard Disk Capacity	40 GB
Waveform Addition Function	Combines two independent baseband signals into one output channel

Bit Error Rate (BER) Analyzer

Built-in BER Analyzer Bit Rate	100 bps to 20 Mbps
BER Input Interface	TTL level

System Connectivity and Interfaces

RF Output Connector Type	N-type female
LAN Interface	100BASE-TX Ethernet
GPIO Interface	IEEE-488.2 compliant

Physical and Environmental

Operating Temperature Range	+5°C to +45°C
Storage Temperature Range	-20°C to +60°C

Power Requirements

Power Consumption	<300 VA
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Hardware and Software Options

Signal Creation Software	IQproducer (supports HSDPA, TDMA, 1xEV-DO, and wireless LAN standards)
Option 031	6 GHz Electronic Attenuator Frequency Extension
Option 002	High Stability Reference Oscillator (<1 x 10 ⁻⁸ /day aging)
Option 005	512 Msamples Baseband Memory Extension (256 Msamples/channel)

Options

Option 001	6 GHz Frequency Extension
Option 011	2nd RF Option (adds a second independent RF signal source)
Option 007 AWGN Source	Adds AWGN (Additive White Gaussian Noise) generation and addition function

Amplitude

Level Accuracy	±0.5 dB (typical, 250 kHz to 3 GHz, output level -120 to +5 dBm)
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System

Operating System	Windows XP Embedded
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Triggering

Trigger Sources	External, Frame, Internal (Trigger Button)
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Inputs & Outputs

Marker Outputs	3 channels (Marker 1, 2, 3, BNC female, rear panel)
External I/Q Input Impedance	50 ohms (nominal)

Protection

Reverse Power Protection	50 W max. (<= 1 GHz), 25 W max. (1 GHz to 3 GHz), 20 W max. (3 GHz to 6 GHz)
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Reference Frequency

Standard Frequency Stability	±1 x 10 ⁻⁷ /day
Reference Output Frequency	10 MHz

Interfaces

External Monitor Output	15-pin D-Sub (VGA)
PC Card Slot	Type II PCMCIA (front panel)

Modulation Performance

W-CDMA Modulation Accuracy (EVM)	<= 1.0% rms
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Baseband Generator

Standard ARB Waveform Memory	64 Msa/channel (I/Q)
Sampling Frequency Resolution	0.01 Hz

Power

AC Input Voltage Range	100 V to 120 V / 200 V to 240 V (auto-selecting), 47 Hz to 63 Hz
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TECHNOLOGY

Vector Signal Generation

APPLICATIONS

Wireless communication testing, cellular, WLAN, and R&D design validation

