

ANRITSU

MG3681A

The Anritsu MG3681A is a high-performance digital modulation vector signal generator designed to support the development and testing of mobile communications equipment. Covering a carrier frequency range from 250 kHz to 3 GHz, it features a wideband I/Q vector modulator, exceptional adjacent channel power performance, and precise 0.01 dB output level resolution, making it suitable for 3GPP, GSM, and cdmaOne system testing.

SPECIFICATIONS

Frequency

Minimum Frequency	250 kHz Hz
Maximum Frequency	3 GHz Hz
Frequency Resolution	0.01 Hz
Frequency Reference Temperature Stability	< +/- 5 x 10 ⁻⁸ (0 to 50 degC)
Frequency Reference Aging Rate	< 1 x 10 ⁻⁷ /year (standard)

Output

Maximum Output Power	+13 dBm dBm
Output Power Range	-143 dBm to +13 dBm
Phase Noise	<-120 dBc/Hz at 20 kHz offset (1 GHz carrier)

Modulation

Modulation	AM, FM, Vector I/Q, Digital (3GPP, GSM, cdmaOne)
Sweep Modes	Frequency and level (step sweep)
External I/Q Modulation Bandwidth	DC to 30 MHz (3 dB bandwidth, external I/Q inputs)
External I/Q Input Impedance	50 ohms
Residual EVM	< 1.0% rms (W-CDMA, typical)

General

Reference Oscillator	10 MHz (aging rate < 1 x 10 ⁻⁷ /year standard, ultra-high stability options available)
Interfaces	GPIO
Display	6.5-inch TFT color LCD

Physical

Power Supply	100 to 120 V AC / 200 to 240 V AC, 47.5 to 63 Hz, <= 300 VA
Dimensions (W×H×D)	426 mm x 177 mm x 451 mm mm
Weight	≤ 19 kg (without options) kg

Vector / Digital Modulation (I/Q)

Internal I/Q Modulator Bandwidth	DC to 30 MHz
Adjacent Channel Power at 5 MHz Offset	-68 dBc/Ch
Adjacent Channel Power at 10 MHz Offset	-75 dBc/Ch
Maximum Chip Rate	16.5 Mcps
3GPP FDD Signal Generation Option	Up-link and down-link signals supported
Power Control Function	Transmit Power Control (TPC)
Multiple Waveform Channels	Up to 512 channels (Phase 1, with option)
Digital Modulation System Support	3GPP, GSM, cdmaOne (with options)

Output Level (Power) Specifications

Output Power Resolution	0.01 dB
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Analog Modulation

Analog Modulation Functions	AM, FM
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Hardware Options and Upgrades

AWGN Source Option	Supported
Modulation Data Download Option	Supported

Level

Level Accuracy	+/- 1 dB (output level $\geq$ -100 dBm, 250 kHz to 3000 MHz)
Output Impedance	50 ohms
Output VSWR	< 1.5 (output level $\leq$ 0 dBm), < 2.0 (output level $>$ 0 dBm)

Environmental

Operating Temperature Range	0 to +50 degC
Storage Temperature Range	-20 to +60 degC

Power

Power Consumption	≤ 300 VA (with options)
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Inputs & Outputs

RF Output Connector	N-type female, 50 Ω
External Reference Input Connector	BNC female, 50 Ω
Internal Reference Output Connector	BNC female, 50 Ω
External I/Q Input Connectors	BNC female (rear panel, I and Q)
External I/Q Output Connectors	BNC female (rear panel, I and Q)

Reference

External Reference Input Frequency	1, 2, 5, 10, 13, 15.36, 19.2 MHz
External Reference Input Level	0.5 Vp-p to 5 Vp-p
Internal Reference Output Frequency	10 MHz
Internal Reference Output Level	≥ 1 Vp-p (into 50 Ω)

Spectral Purity

Harmonic Spurious	≤ -30 dBc (at output level ≤ +5 dBm)
Non-Harmonic Spurious	≤ -50 dBc (at ≥ 10 kHz offset, output level ≤ +5 dBm)

Interfaces

Memory Card Interface	PCMCIA Type II (front panel, 1 slot)
RS-232C Interface	D-sub 9-pin (rear panel)

TECHNOLOGY

RF Vector Signal Generator

APPLICATIONS

Mobile Communications Development and Testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.