

Supports the Evaluation of Digital Mobile Communications Evolving into 4G

MG3700A Vector Signal Generator

MG3700A is vector signal generator which built in the 160 MHz arbitrary waveform generator. MG3700A is equipped with the feature which can be used for the main present communication systems and various new wireless communications.



- Frequency Range : 250 kHz to 6 GHz
- HDD : 40 GB
- Waveform Memory : 512 Msample/ch

Features

- Frequency Range: 250 kHz to 6 GHz max.*1
- I/Q Modulation Bandwidth: 150 MHz (External IQ input)
120 MHz (Internal Baseband generator)
- Hard Disk Drive (HDD): 40 GB (Built-in)
- Large Capacity Baseband Memory: 512 Msample/ch max.*2
- Sample Rate: 20 kHz to 160 MHz
- Mass: <15 kg
- BER Analyzer: Bit rate 1 kbps to 20 Mbps (Standard)
Bit rate 100 bps to 120 Mbps (Option)
- Electric attenuator (Standard) or Mechanical attenuator (Option)
- Waveform Combine Function*3: Two signals, such as wanted signal + interfering signal or wanted signal + AWGN, can be combined and outputted.
- Custom-made waveform is generated arbitrarily

*1: Standard is 3 GHz at max., Expandable to 6 GHz with option.

*2: Standard is 256 Msample/ch., Expandable to 512 Msample/ch with option.

*3: This function can be used when there are two signals in vector modulation bandwidth 120 MHz.

Specifications

Items		Specifications	
Frequency	Range	250 kHz to 6 GHz (Option), 250 kHz to 3 GHz (Standard)	
	Resolution	0.01 Hz	
Output Level	Settable Range	-140 to +13 dBm (E-ATT), -140 to +19 dBm (M-ATT)	
	Accuracy Range	CW: -136 to +6 dBm (E-ATT), -136 to +10 dBm (M-ATT)	
	Accuracy	±0.5 dB (E-ATT, 25 MHz to 3 GHz, -120 to +6 dBm) ±0.8 dB (E-ATT, 3 GHz to 6 GHz, -120 to +3 dBm)	
		±0.5 dB (M-ATT, 25 MHz to 3 GHz, -120 to +10 dBm) ±0.8 dB (M-ATT, 3 GHz to 6 GHz, -100 to +7 dBm)	
Difference of CW and MOD	±0.2 dB (when outputting W-CDMA Downlink 1code, 1 carrier, RMS=1634)		
Signal Purity	Spurious/Harmonics	<-30 dBc (f > 300 MHz@E-ATT, f > 250 kHz@M-ATT)	
	Spurious/Non harmonics	<-60 dBc (Expect the intersection spurious of 2.4 GHz, 25 MHz to 3 GHz) <-54 dBc (Expect the intersection spurious of 4.4 GHz, 3 GHz to 6 GHz)	
Baseband Generator	Resolution	D/A 14 bit	
	Sample Rate	20 kHz to 160 MHz	
	Waveform Memory	2 GB = 512 Msample (Option) 1 GB = 256 Msample (Standard)	
		Waveform Output Mode	MG3700A contains two built-in arbitrary waveform memories, and these two memories can each choose one waveform pattern, respectively. MG3700A can output the signal of either one of the memories, and can also combine and output both signals simultaneously. • Defined Mode • Edit Mode
I/Q Modulation Bandwidth		120 MHz (Using internal baseband generator) 150 MHz (Using external IQ input)	
Mass		<15 kg (excluding option)	
BER Measurement Function	Standard	Input bit rate: 1 kbps to 20 Mbps Measurable patterns: PN9/11/15/20/23, ALL0, ALL1, Repetition of 0 and 1	
	Option	Input bit rate: 1 kbps to 120 Mbps Measurable patterns: PN9/11/15/20/23, PN9fix/11fix/15fix/20fix/23fix, ALL0, ALL1, Repetition of 0 and 1, UserDefine	
Storage of Waveform Data	HDD	40 GB HDD is built-in.	
	CF	CF slot is arranged at the front panel.	
Waveform Transmission	External → HDD	2 MB/s (typ., at 100Base Tx), or 1.5 MB/s (typ., CF card)	
	HDD → ARB memory	14 MB/s (typ.)	
Remote Control		GPIO, 100Base-Tx	
The Method of Waveform Offer	IQproducer	IQproducer is PC application software, that can generate waveform patterns and transmit them to MG3700A. IQproducer is provided with MG3700A as a standard feature, and has the following four functions. After trying the waveform pattern generation function with the IQproducer System function, in order to actually use a waveform pattern in MG3700A the license (option) corresponding to each system is required. System license (Option): [Model: MX3701xxA] MX370101A HSDPA IQproducer MX370102A TDMA IQproducer MX370103A CDMA2000 1xEV-DO IQproducer MX370104A Multi-carrier IQproducer MX370105A MOBILE WIMAX IQproducer MX370106A DVB-T/H IQproducer MX370107A Fading IQproducer MX370108A LTE IQproducer MX370109A XG-PHS IQproducer MX370110A LTE TDD IQproducer	
		Waveform Patterns	Waveform pattern options provide waveform data that meet the requirements of various communication systems and can be used by the MG3700A built-in arbitrary waveform generator. Waveform patterns are downloaded to MG3700A for use. Pre-installed waveform patterns: W-CDMA, GSM/EDGE, CDMA2000 1X, 1xEV-DO, PDC, PHS, AWGN, GPS, WLAN (IEEE802.11a/b/g), Digital Broadcast (ISDB-T/BS/CS/CATV), <i>Bluetooth</i> Optional waveform patterns (Option): [Model: MX3700xxA] MX370001A TD-SCDMA Waveform Pattern
		Generation of Custom Waveform Pattern	IQ sample data files (in ASCII format) programmed by using general EDA (Electronic Design Automation) tools such as MATLAB can also be converted to waveform patterns for MG3700A.

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