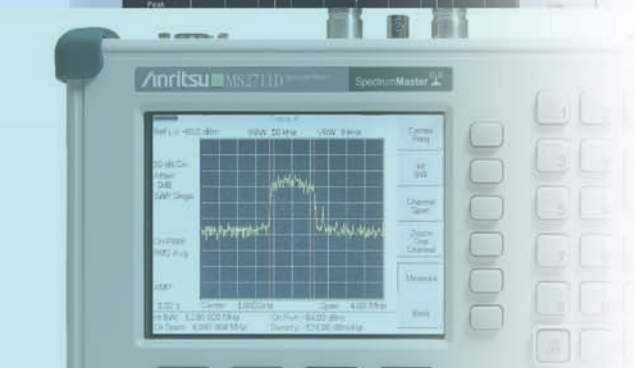
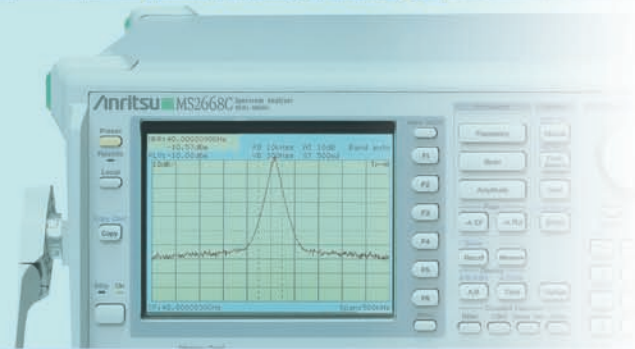
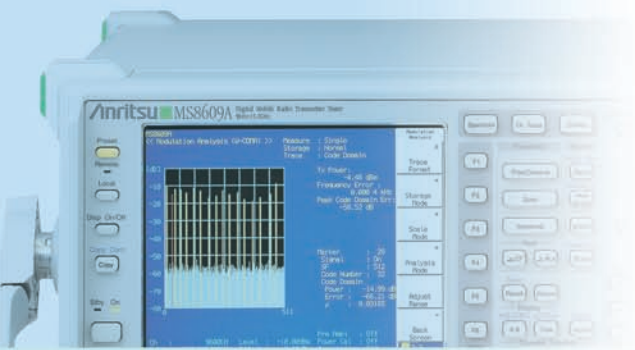


Signal Analyzer / Spectrum Analyzer **SELECTION GUIDE**



Anritsu Signal Analyzers/Spectrum Analyzers

Solve all your measurement needs with Anritsu's wide line-up of signal and spectrum analyzers, ranging from high-performance and multi-function, high-end models for R&D to handheld types for field use.

Supported Frequencies

Model/Name	Frequency coverage						Remarks
	50 Hz	9 kHz	1 GHz	10 GHz	25 GHz	50 GHz	
MS269xA series Signal Analyzer							50 Hz to 26.5 GHz
MS2830A series Signal Analyzer							9 kHz to 13.5 GHz
MS8608A/09A Digital Mobile Radio Transmitter Tester							9 kHz to 13.2 GHz
MS268x series Spectrum Analyzer							9 kHz to 30 GHz (MS2687B: external mixing to 110 GHz)
MS266xC series Spectrum Analyzer							9 kHz to 40 GHz (MS2667C/68C: external mixing to 110 GHz)
MS2717B/18B/19B Microwave Spectrum Analyzer							9 kHz to 20 GHz
MS272xB series High-Performance Handheld Spectrum Analyzer							9 kHz to 20 GHz
MT8221B BTS Master							150 kHz to 7.1 GHz
MS2712E/13E Spectrum Master							100 kHz to 6 GHz
MS2711D Handheld Spectrum Analyzer							100 kHz to 3 GHz

Application Comparison Chart

Measurement Applications	Bench-Top						Handheld			
	MS269xA series	MS2830A series	MS8608A/09A	MS268x series	MS266xC series	MS2717B/18B/19B	MS272xB series	MT8221B	MS2712E/13E	MS2711D
LTE	●	●		●			●*1	●*1	●*1	
W-CDMA/HSPA	●	●	●	●		●*1	●*1	●*1	●*1	
HSPA Evolution	●	●		●						
GSM/EDGE	●	●	●	●		●*1	●*1	●*1	●*1	
EDGE Evolution	●	●								
CDMA2000	●*1	●*1	●	●		●*1	●*1	●*1	●*1	
1xEV-DO	●*1	●*1	●	●		●*1	●*1	●*1	●*1	
TD-SCDMA with HSDPA/8PSK	●	●				●*1	●*1	●*1	●*1	
XG-PHS	●									
Fixed WiMAX						●*1	●*1	●*1	●*1	
Mobile WiMAX	●	●				●*1	●*1	●*1	●*1	
WLAN			●	●						
Flexible digital modulation analysis	●	●								
ISDB-T							●*2		●	
DVB-T/H							●*2			
MediaFLO	●									
Phase noise	●	●				●				
AM/FM tune and listen					●	●	●		●	●
AM/FM/PM Demodulator									●	

*1: Down link/Forward link only

*2: MS2721B only

- CDMA2000® is a registered trademark of the Telecommunications Industry Association (TIA-USA).
- WiMAX® is a trademark or registered trademark of WiMAX Forum.
- MediaFLO™ is a trademark of QUALCOMM Incorporated.

Key Specifications

• Bench-top type

Overview	MS269xA series	MS2830A series	MS8608A/09A	MS268x series	MS266xC series	MS2717B/ 18B/19B
Performance	◆◆◆◆◆	◆◆◆◆◆	◆◆◆◆	◆◆◆◆	◆◆	◆◆
Frequency range	50 Hz to 26.5 GHz	9 kHz to 13.5 GHz	9 kHz to 13.2 GHz	9 kHz to 30 GHz	9 kHz to 40 GHz	9 kHz to 20 GHz
Phase noise at 1 GHz (10-kHz offset)	-116 dBc/Hz (100 kHz offset)	-115 dBc/Hz (100 kHz offset)	-108 dBc/Hz	-108 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz
Dynamic range, 1 GHz*1	177 dB	168 dB	160.5 dB	160.5 dB	155 dB	147 dB
Displayed average noise at 1 GHz (without preamp)	-155 dBm	-153 dBm	-148 dBm	-148 dBm	-145 dBm	-137 dBm
Displayed average noise at 1 GHz (with preamp)	-166 dBm	-163 dBm	-160 dBm	-160 dBm*2	-164 dBm*3	-161 dBm
Displayed average noise at 5 GHz (without preamp)	-152 dBm	-146 dBm	-141 dBm	-141 dBm	-142.5 dBm	-127 dBm
Standard attenuator range/step	70 dB/ 2 dB step	60 dB/ 2 dB step	62 dB/ 2 dB step	62 dB/ 2 dB step*4	70 dB/ 10 dB step	65 dB/ 5 dB step
Overall amplitude accuracy	±0.5 dB	±0.5 dB	±1.3 dB	±1.3 dB	±1.3 dB	±1.25 dB
Resolution bandwidth	SPA: 30 Hz to 20 MHz VSA: 1 Hz to 1 MHz	SPA: 1 Hz to 31.25 MHz VSA: 1 Hz to 1 MHz	1 Hz*5 to 20 MHz	1 Hz*5 to 20 MHz	30 Hz*5 to 3 MHz	1 Hz to 10 MHz
Standard analysis bandwidth	31.25 MHz	–	20 MHz	20 MHz	–	10 MHz
Optional RF analysis bandwidth	125 MHz	31.25 MHz	–	–	–	–
Maximum digitize time (10-MHz SPAN)	4 hours	2 sec.	–	–	–	–
Signal Generator option	●	●	–	–	–	–
Tracking Generator option	–	–	–	–	●	●*6
Battery	–	–	–	–	–	–

• Handheld type

Overview	MS272xB series	MT8221B	MS2712E/13E	MS2711D
Performance	◆◆◆◆	◆◆◆◆	◆◆	◆
Frequency range	9 kHz to 20 GHz	150 kHz to 7.1 GHz	100 kHz to 6 GHz	100 kHz to 3 GHz
Phase noise at 1 GHz (10-kHz offset)	-100 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz	-75 dBc/Hz (30 kHz offset)
Dynamic range, 1 GHz*1	147 dB	147 dB	157 dB	–
Displayed average noise at 1 GHz (without preamp)	-137 dBm	-137 dBm	-141 dBm	–
Displayed average noise at 1 GHz (with preamp)	-161 dBm	-161 dBm	-157 dBm	-155 dBm (typ.)
Displayed average noise at 5 GHz (without preamp)	-127 dBm	-130 dBm	-134 dBm	–
Standard attenuator range/step	65 dB/ 5 dB step	65 dB/ 5 dB step	55 dB/ 5 dB step	51 dB/ 1 dB step
Overall amplitude accuracy	±1.25 dB	±1.25 dB	±1.25 dB	±1.5 dB
Resolution bandwidth	1 Hz to 3 MHz	1 Hz to 3 MHz	10 Hz to 3 MHz	100 Hz to 1 MHz
Standard analysis bandwidth	10 MHz	20 MHz	10 MHz	–
Optional RF analysis bandwidth	–	–	–	–
Maximum digitize time (10-MHz SPAN)	–	–	–	–
Signal Generator option	–	●	–	–
Tracking Generator option	●*7	–	●	●
Battery	●	●	●	●

*1: Calculation from TOI + DANL

*2: MS2681A/MS2683A only

*3: MS2661C data

*4: 70 dB/10 dB step for MS2687B

*5: Option

*6: MS2717B only

*7: MS2721B only

Signal Analyzer MS269xA/MS2830A Series

Recommended Model for Target Market

Market	DUT	Phase	MS269xA series	MS2830A series
Cellular Base Stations - 3GPP LTE, W-CDMA/HSPA, GSM/EDGE ...	RF Devices/Modules	R&D Production	⊙	
	Baseband	R&D	○	⊙
	Base Stations	R&D	⊙	
		Production	○	⊙
Cellular Handsets - 3GPP LTE, W-CDMA/HSPA, GSM/EDGE ...	RF Devices/Modules	R&D Production	○	⊙
	Baseband	R&D	○	⊙
	Handsets	R&D	○	⊙
		Production		⊙
Mobile WiMAX	RF Devices/Modules	R&D Production	⊙	
	Baseband	R&D	○	⊙
	Base Stations/Handsets	R&D	⊙	○
		Production	○	⊙
WLAN	RF Devices	Production	⊙	
XG-PHS (XGP)			⊙	
Public/Service Communications - RCR STD-39, ARIB STD-T61/T79/T86/T98 ...			○	⊙
Microwave Links			⊙	○
Other Communications			⊙	○
Broadcasting - MediaFLO ...			⊙	
R&D			⊙	○
Education			○	⊙

Signal Analyzer Series

SIGNAL ANALYZER

MS2690A/MS2691A/MS2692A
50 Hz to 6 GHz/13.5 GHz/26.5 GHz

Next-Generation Signal Analyzer for Wireless Solutions

- World-beating dynamic range and excellent total level accuracy
Noise Floor: -155 dBm/Hz, Total Level Accuracy: ±0.5 dB (50 Hz to 6 GHz)
- Industry-leading measurement speed
High-speed FFT analysis in 125-MHz band and 20 times faster high-speed modulation analysis (cf previous Anritsu instruments)
- Powerful Digitize function for high-accuracy capture of RF signals in 125-MHz band max.
- High-performance Vector SG option supporting up to 6 GHz
- Supports 3GPP LTE, Mobile WiMAX, W-CDMA/HSPA/HSPA Evolution, and ETC/DSRC analysis

The MS2690A/MS2691A/MS2692A are industry leading signal analyzers supporting next-generation mobile terminals with powerful measurement functions such as high-speed FFT measurement at bandwidths up to 125 MHz plus a Digitize functions for capturing RF waveforms with no dropouts.



SIGNAL ANALYZER

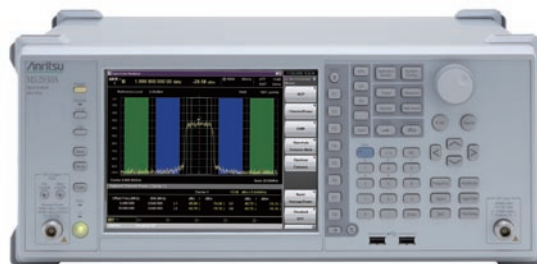
New!

MS2830A
9 kHz to 3.6 GHz/6 GHz /13.5 GHz

[High Speed + High Performance] × [Low Cost] + Eco-friendly

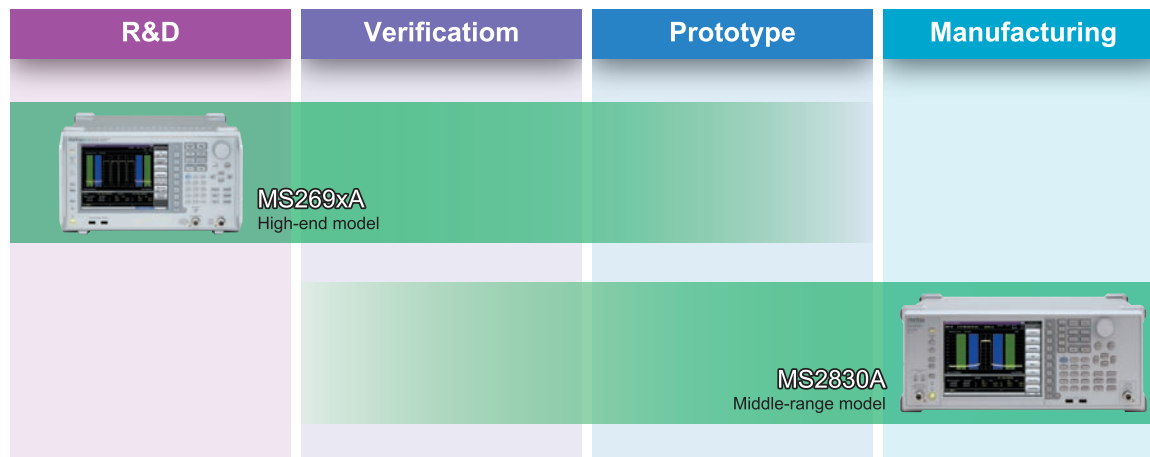
- Best-of-class measurement speed
- High RF performance
Noise floor: -153 dBm/Hz
Total level accuracy: ±0.5 dB (300 kHz to 4 GHz)
- Flexible solutions from Signal Analyzer to all-in-one Signal Generator and Signal Analyzer
- Low power consumption of 110 W for 45% lower power and CO₂ burdens
- 3GPP LTE, Mobile WiMAX, W-CDMA/HSPA/HSPA Evolution and Vector Modulation Analysis

The MS2830A is a new-generation signal analyzer supporting high-level measurement speeds and performance at low cost, as well as environmental conscious to help raise R&D efficiency and productivity.



Total Support from R&D to Manufacturing

The MS2830A supports multipurpose measurements ranging from R&D to manufacturing by expanding the base signal analyzer with optional signal generator, VSA, etc, functions. All MS269xA series and MS2830A series operations and remote commands are fully compatible, cutting training time and making it easy to port DUT evaluation software, which also cuts production line setup costs.



Model	MS269xA series High-end Model	MS2830A series Middle-range Model
RF Performance	★★★★★	★★★★★
Wide Band	★★★★★	★★★★★
Measurement Speed	★★★★★	★★★★★
Power Saving	★★★	★★★★★
Low Cost	★★	★★★★

- ★★★★★ : Best-of-class
- ★★★★ : Excellent
- ★★★ : Average
- ★★ : Poor
- ★ : Very poor

Spectrum Analyzer Series

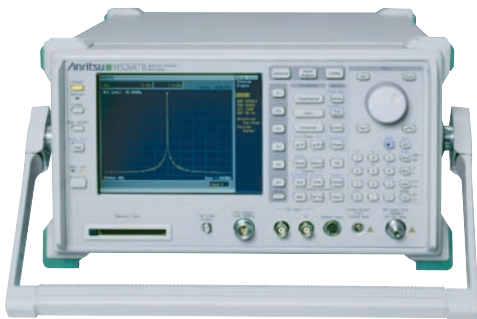
SPECTRUM ANALYZER

MS2681A/MS2683A/MS2687B
9 kHz to 3 GHz/7.8 GHz/30 GHz (18 GHz to 110 GHz)

For Evaluation of IMT-2000, MMAC, and Advanced Radio Communication Devices

- Wide resolution bandwidth up to 20 MHz.
- Optional measurement software (sold separately) for high-speed modulation analysis
- Optional power meter that measures up to 32 GHz. (Option: MS2687B)

The MS2681A/MS2683A/MS2687B Spectrum Analyzer has the wide dynamic range (156 dB typ.), wide resolution bandwidth (20 MHz), and high-speed sweep performance (20 times/s refresh rate) required for evaluating W-CDMA, GSM, W-LAN, etc., wireless systems and devices. In addition, fast Tx measurement for each application is made easy by installing software options.



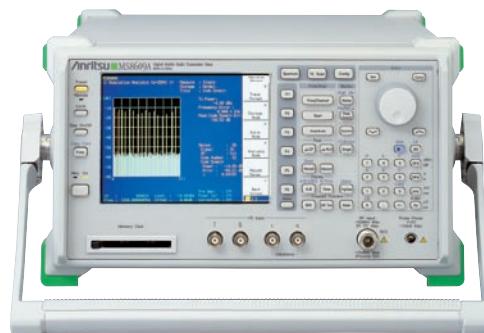
DIGITAL MOBILE RADIO TRANSMITTER TESTER

MS8608A/MS8609A
9 kHz to 7.8 GHz/13.2 GHz

All-in-one Tester for Base Station and Terminal R&D, Manufacturing, Installation, and Maintenance

- High-accuracy level measurement of ± 0.4 dB using built-in power meter
- Supports all digital wireless communications technologies from W-CDMA and GSM to digital information systems used in every city, town or village

The MS8608A/MS8609A wireless testers with built-in spectrum analyzer, modulation analyzer and power meter provide an all-in-one Tx test solution for base stations and mobile terminals.



ECONOMY MICROWAVE SPECTRUM ANALYZER

MS2717B/MS2718B/MS2719B
9 kHz to 7.1 GHz/13 GHz/20 GHz

Powerful Yet Affordable Solution for Microwave Spectrum Analysis

- Typical dynamic range of 100 dB
- Typical phase noise of -110 dBc/Hz at 10 kHz offsets up to 6 GHz
- RF and demodulator measurement capabilities with pass/fail functions
- 13 software options for wireless measurements from GSM to Mobile WiMAX

The MS2717B Economy Microwave Spectrum Analyzer is designed to be an affordable solution for bench testing of microwave components, subsystems, and systems. Designed for engineers and technicians needing advanced yet economical spectrum analysis tools, the MS2717B redefines the economy class by delivering impressive value and lowering cost-of-test.



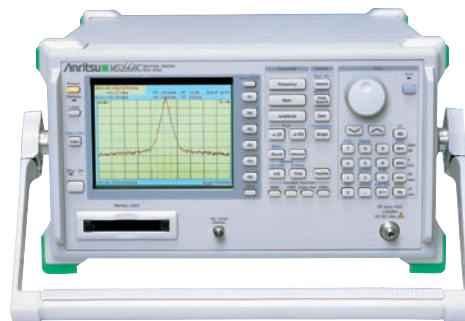
SPECTRUM ANALYZER

MS2661C/MS2663C/MS2665C/MS2667C/MS2668C
9 kHz to 3 GHz/8.1 GHz/21.2 GHz/30 GHz/40 GHz

Excellent Performance at Economical Price

- High C/N and superior distortion characteristics
- Compact and lightweight (10.8 kg to 15 kg)
- Versatile options supporting Wide Range of Applications

The MS266xC Spectrum Analyzer series combines easy-to-use operability with a full line of options to offer a cost-effective solution tailored to every measurement need.



Handheld • Spectrum Analyzer Series

SPECTRUM MASTER

MS2721B/MS2723B/MS2724B
9 kHz to 7.1 GHz/13 GHz/20 GHz

High-Performance Handheld Spectrum Analyzers

- Typical dynamic range of 100 dB
- Typical phase noise of -110 dBc/Hz at 10 kHz offsets up to 6 GHz
- RF and demodulator measurement capabilities with pass/fail functions
- 13 software options for wireless measurements from GSM to Mobile WiMAX

The Anritsu Spectrum Master series is the de facto standard of the industry providing ultimate measurement flexibility in a package that is ruggedized for field environments and light enough for mobile applications.



SPECTRUM MASTER

New!

MS2712E/MS2713E
100 kHz to 4 GHz/6 GHz

Compact Handheld Spectrum Analyzer

- Spectrum Analyzer, Interference Analyzer
- High Accuracy Power Meter, 2-port Transmission Measurements
- Channel Scanner, GPS, AM/FM/PM Analyzer
- 3GPP, 3GPP2, WiMAX, signal analyzers
- Field-proven design: Three-hour battery life, Rugged, Compact, Lightweight, Daylight viewable display
- Intuitive menu-driven touchscreen user interface

Spectrum Master allows you to monitor, locate, identify, and analyze a broad range of cellular, 2G/3G/4G, land mobile radio, Wi-Fi, and broadcast signals. And with a rich array of configuration options, the multi-functional Spectrum Master eliminates the need for you to learn and carry multiple instruments.



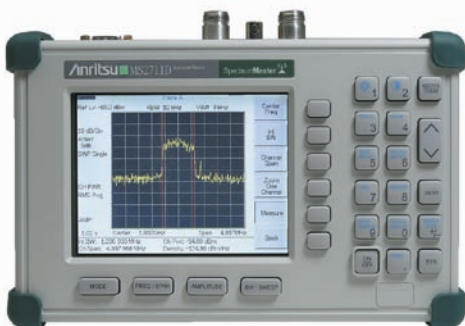
SPECTRUM MASTER

MS2711D
100 kHz to 3.0 GHz

Handheld Spectrum Analyzer

- Typical dynamic range of 100 dB
- Typical phase noise of -110 dBc/Hz at 10 kHz offsets up to 6 GHz
- RF and demodulator measurement capabilities with pass/fail functions
- 13 software options for wireless measurements from GSM to Mobile WiMAX

The MS2711D handheld spectrum analyzer is the proven solution for installing, provisioning, maintaining, and troubleshooting wireless systems and RF frequency spectrum interference issues.



BTS MASTER

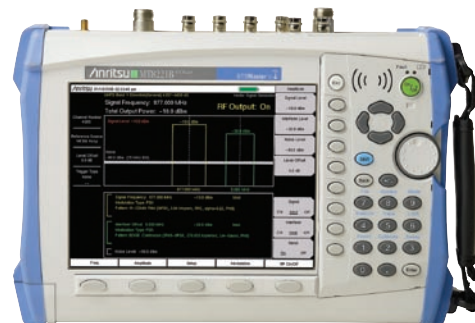
New!

MT8221B
400 MHz to 4.0 GHz

Handheld Base Station Analyzer

- 30 Analyzers in one
- 3GPP, 3GPP2, WiMAX, signal analyzers
- Easy-to-use Touch screen
- USB connectivity
- Most compact handheld

With BTS Master, you can troubleshoot problems quickly to significantly enhance network reliability to meet increasingly high customer expectations as well as rigorous KPIs. From cable/antenna quality to downlink over-the-air, RF, modulation, and backhaul quality, the BTS Master tests and verifies it all. And BTS Master does all this for advanced 3G and 4G networks while delivering the ease of use, rich functionality, and best-in-class performance you've come to expect from Anritsu.



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