

MS8911B

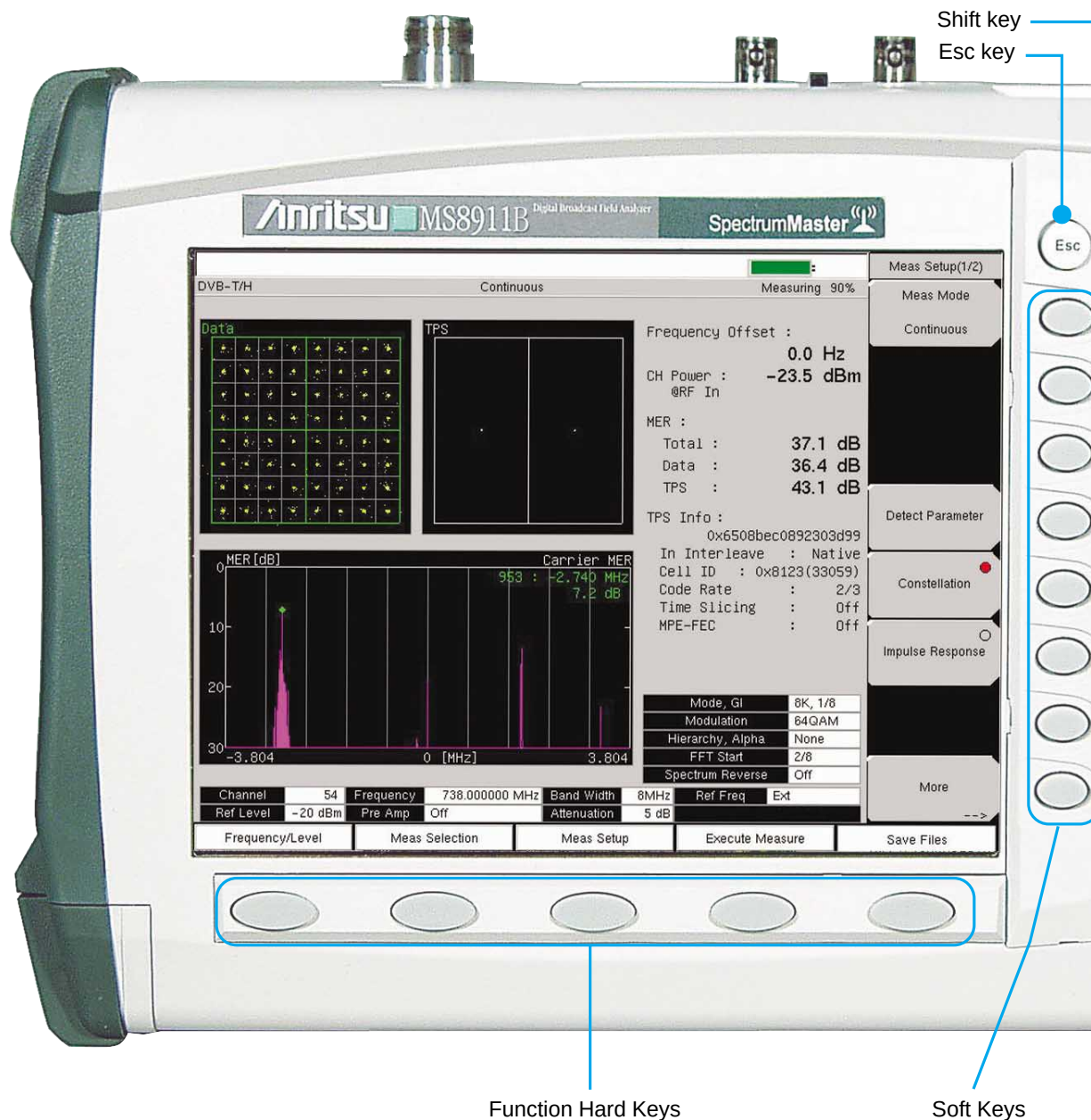
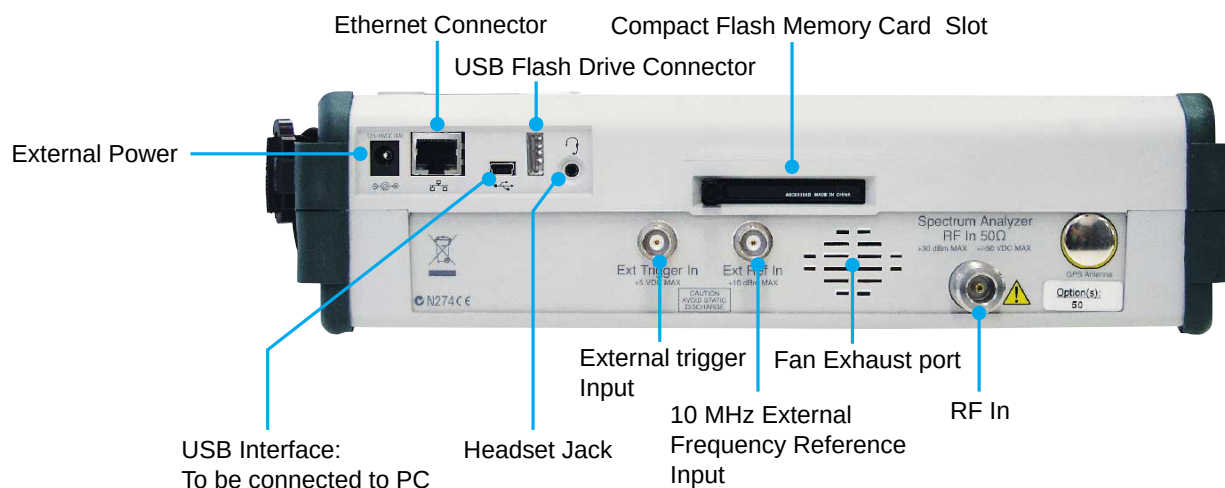
Digital Broadcast Field Analyzer 100 kHz to 7.1 GHz

MS8911B-050

DVB-T/H Analysis Software 30 MHz to 990 MHz

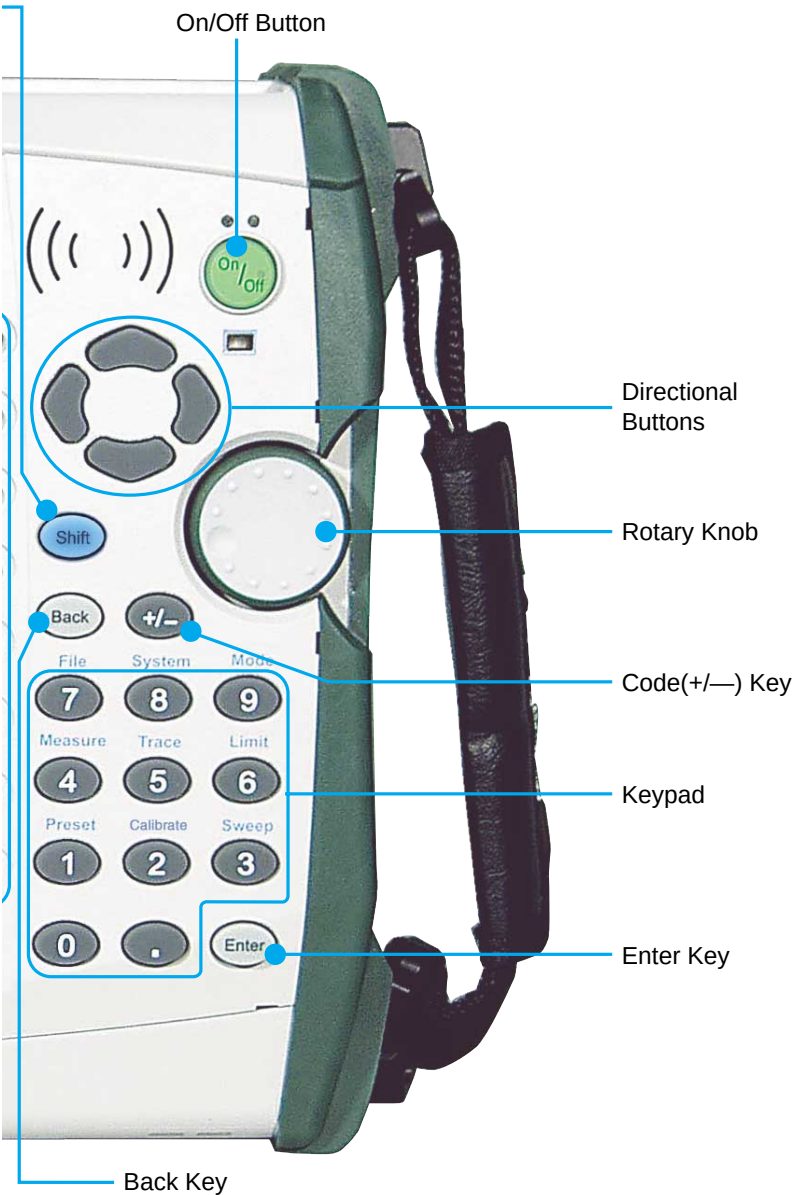


The Digital Broadcast Field Analyzer features high performance spectrum analyzer functions in a compact battery-operated unit. The MS8911B is very useful for area survey and field maintenance of digital broadcasting equipment.



MS8911B Digital Broadcast Field Analyzer

MS8911B-050 DVB-T/H Analysis Software



High Performance Handheld Spectrum Analyzer

This analyzer is equipped with a high performance spectrum analyzer from 100 kHz to 7.1 GHz.

DVB-T/H Terrestrial Digital Broadcasting Measurement

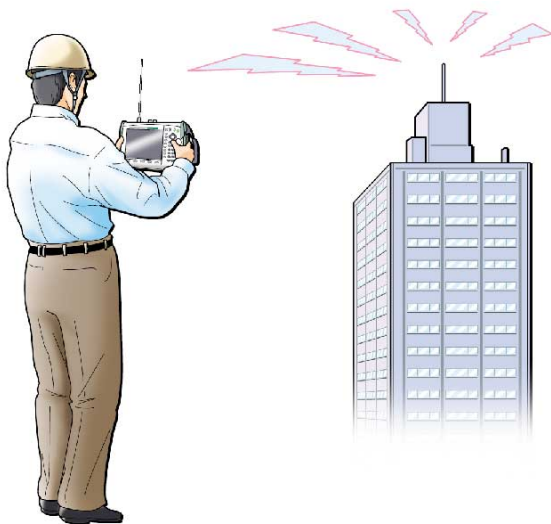
DVB-T/H field strength measurement, modulation analysis MER, constellation, frequency offset, impulse response and frequency response are integrated. This analyzer is ideal for the area survey and maintenance of DVB-T/H equipment.

Usability

MS8911B-050 is designed to minimize the steps required to measure DVB-T/H signals so even beginners can analyze the signals quickly.

High Performance Handheld Spectrum Analyzer Functions

The MS8911B Digital Broadcasting Field Analyzer has the spectrum analyzer function from 100 kHz to 7.1 GHz.



Field Measurements

The MS8911B shortens the measurement time in the field, while covering a wide dynamic range (Figure 1). User can save the measurement results to the internal memory.

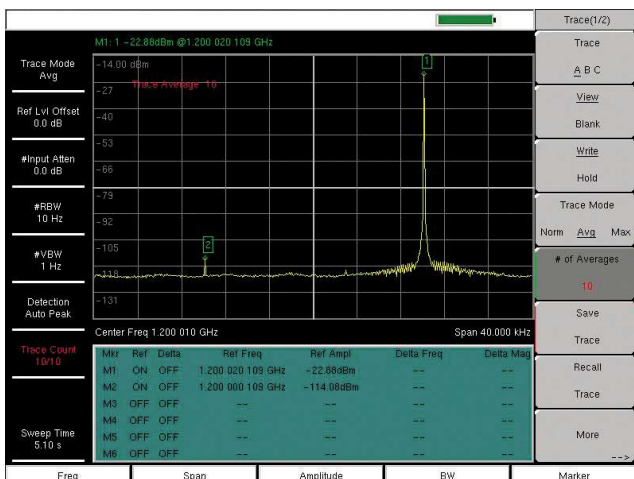


Figure 1: Measuring a small signal in the presence of a very large signal

R&D Measurements

This analyzer is equipped with various functions like the setting of RBW, VBW and span. This analyzer can be used as a high performance spectrum analyzer in development and manufacturing. The power line side-band noise of a signal source can be measured (Figure 2).

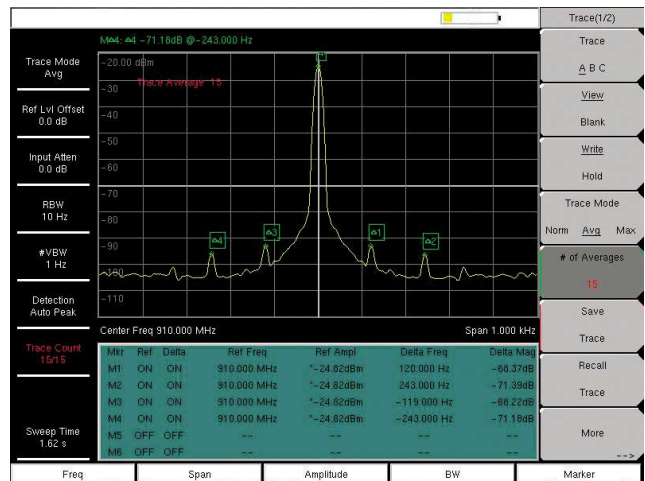


Figure 2: Power line related sidebands on a synthesized signal generator

Other Features

- High-speed sweep (900 ms: fullband, 50 μ s: Zero Span)
- Maximum input level + 43 dBm (20 W)
- Drawing the limit lines
- Multi-marker
- Noise marker
- Frequency counter marker (The frequency of the set marker point can be read in 1Hz resolution)
- One Button measurements (Channel power ^{*1}, field strength ^{*1}, occupied frequency bandwidth, adjacent channel leak power, C/I: carrier vs interference)
- AM/FM demodulation function
- External control tool (external control software tool using Ethernet or USB)
- Local language support (English, Japanese, French, German, Italian, Korean, Chinese, Spanish)

^{*1}: Method with the Spectrum Measurement

MS8911B-050 DVB-T/H Analysis Software Functions

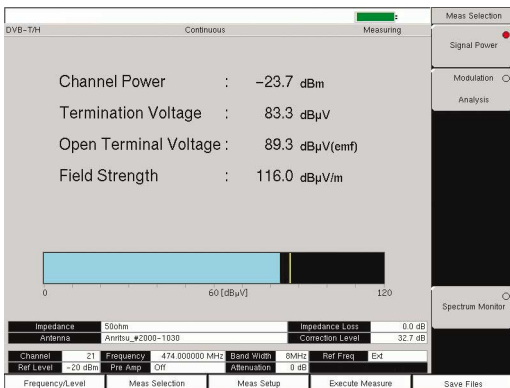
The MS8911B-050 DVB-T/H Analysis Software is the measurement software, which analyzes the terrestrial digital broadcasting (DVB-T) and the mobile terminal (DVB-H). This is very useful for area survey, installation and maintenance of terrestrial digital broadcasting equipment.

MS8911B-050 Measurement Items

- Terminal voltage, channel power and field strength measurement
- Impulse response
- MER, constellation and frequency offset measurement
- Detecting function of Mode, GI and TPS parameters

Signal Power Measurement

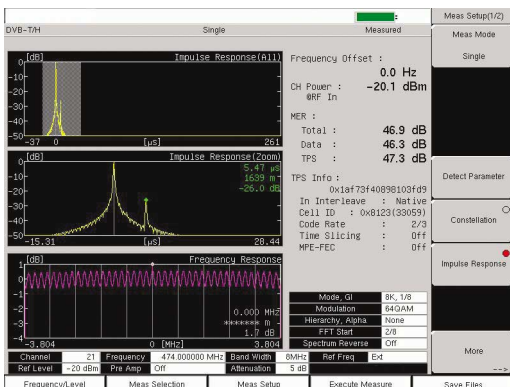
This function measures terminal voltage, channel power and field strength (dB μ V/m) accurately. The measurement results are displayed by numerical and bar graph. This function is useful when adjusting the antenna angle or area survey.



Signal Power Measurement

Impulse Response Measurement

This function measures the difference of time and level of the multi-path signals. By measuring the frequency response of the channel, the influence of multi-path or frequency selective fading can be observed. This is useful to adjust timing of the SFN repeaters.

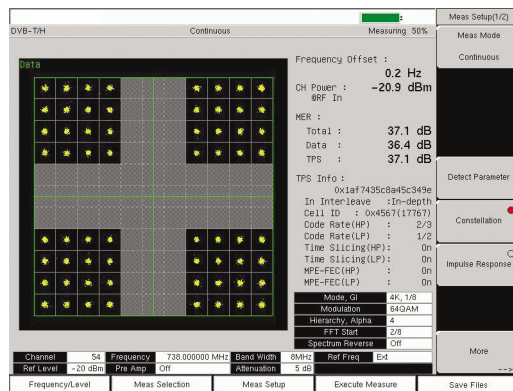


Impulse Response Measurement

MER/Constellation Measurement

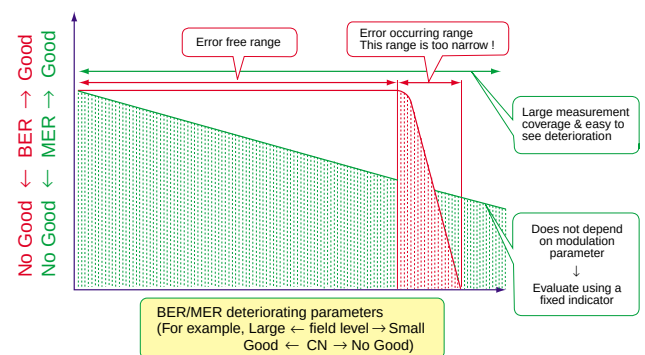
MER measurement function, which can evaluate the modulation signal quality of the digital broadcasting signal directly and quantitatively, is essential for the management of signal margin, fixed deterioration of equipment over time and to maintain the stable broadcast services. MER. (Residual MER: 47 dB (Typ.)) The constellation is very useful for analyzing the condition of the received signal by monitoring the modulation symbol movement.

Moreover this function measures the center frequency accurately by using a proprietary advanced signal processing technique.



MER / Constellation Measurement

Relationship between BER/MER and CN

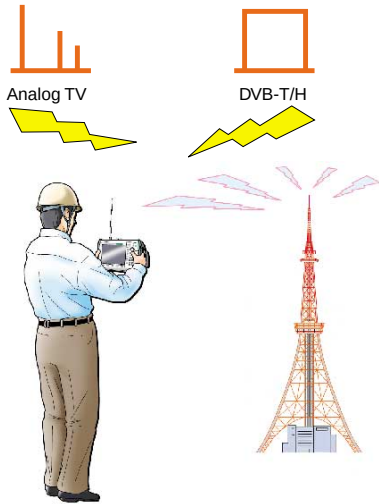
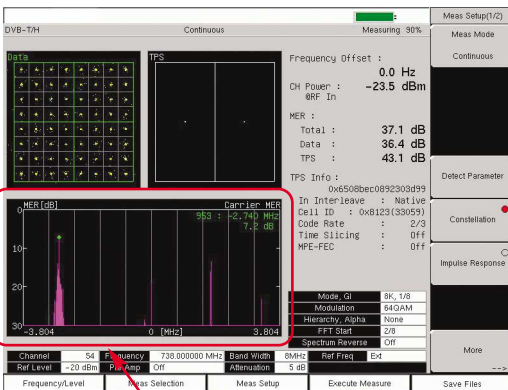


[Merits of measuring MER]

- MER shows the signal deterioration even if BER (Bit Error Rate) can't detect errors (Error free range).
 $\rightarrow$ Possible to maintain margin quality
- MER is not related to modulation parameters, so MER result is easily comparable to other MER results.

The Measurement of in-band Interference

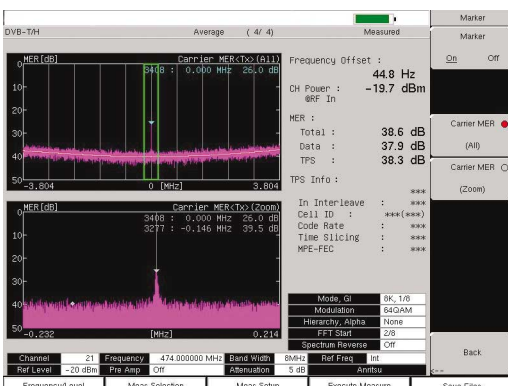
This function identifies the signal frequency of interfering or spurious signals which hide within the bandwidth of the DVB-T/H signal using the Carrier vs MER function.



Carrier MER Graph

Tx Meas Mode:Carrier vs MER

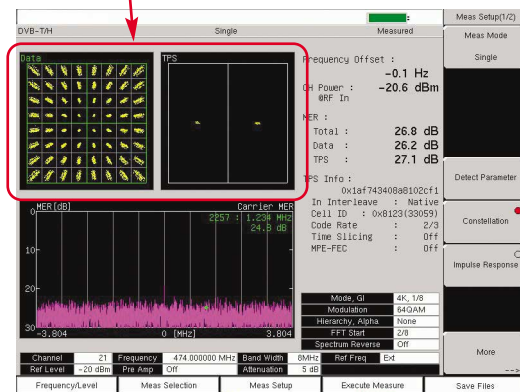
This function is very useful with cable for installation or maintenance of transmitters. This is very wide dynamic range (50dB) for high performance transmitter in vertical scale and very precise check of each carrier by zoom function with all carriers in horizontal scale.



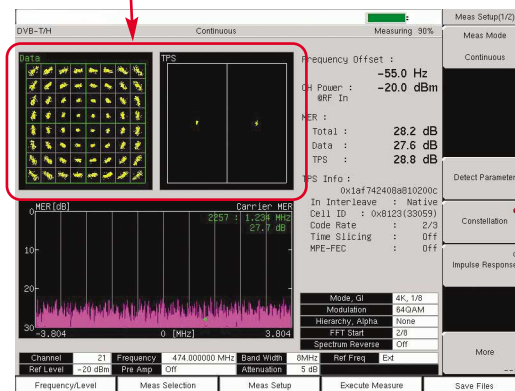
Investigation into the cause of trouble

The MS8911B-050 has the Anritsu proprietary analysis technique observing troubles such as AM or PM visually with the constellation.

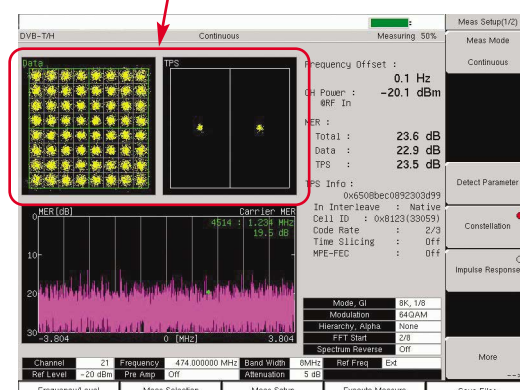
Example of amplitude fluctuated signal



Example of frequency fluctuated signal

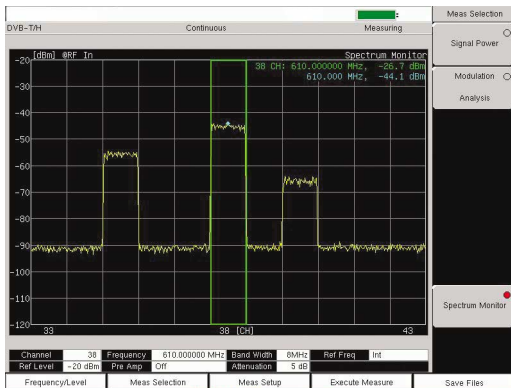


Example of signal distortion



Spectrum Monitor

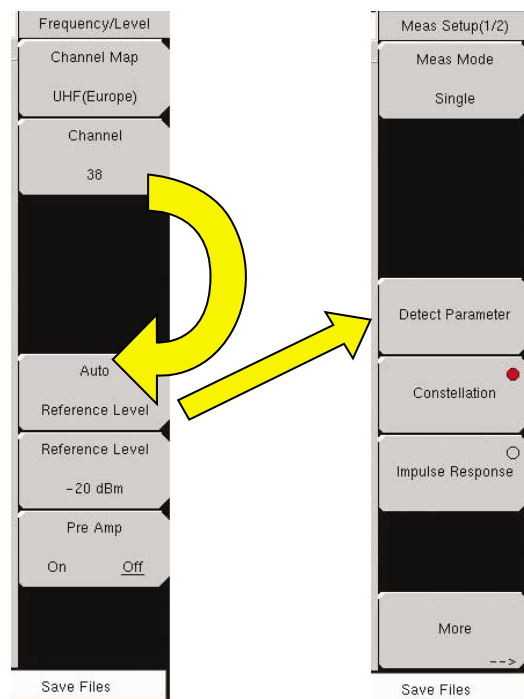
Spectrum Monitor function shows the frequency response around desired channel. The span is variable, so up to 51 channels can be displayed simultaneously. With this function, the broadcasting service signals can be checked at a glance.



Spectrum Monitor (Span = 11 Channels)

Ease of Use

In the field, there are lots of restrictions on time, place and the user's level of skill. The MS8911B-050 provides easy operation so that the beginner user can operate this instrument by only setting the desired channel number, Auto Reference Level and Detect Parameter buttons are used to set the reference level and transmission parameters automatically.



Basic Operation to Analyze the Signal:
Channel -> Auto Reference Level -> Detect Parameter



Optional Accessories



65729 Soft Carrying Case



Soft Carrying Case (With Cover Opened)



633-44 Rechargeable battery, Li-Ion



64343 Tilt Bail Accessory



760-235 Transit Case





Specifications

■ MS8911B Digital Broadcast Field Analyzer

Frequency	Frequency Range	100 kHz to 7.1 GHz					
	Tuning Range	9 kHz to 7.1 GHz					
	Tuning Resolution	1 Hz					
	Frequency Reference	Frequency 10 MHz Aging: ±0.1 ppm/ year Accuracy: ±0.1 ppm (25°C ±25°C) +long term drift					
	Frequency Span	10 Hz to 7.1 GHz plus 0 Hz (zero span)					
	Span Accuracy	Same as frequency reference accuracy					
	Sweep Time	Minimum 100ms, 10 μs in zero span					
	Sweep Time Accuracy	±2% in zero span					
	Sweep Trigger	Free run, Single, Video, External					
	Resolution Bandwidth	(−3 dB width) 10 Hz to 3 MHz in 1–3 sequence ±10%, 8 MHz demodulation bandwidth					
	Video Bandwidth	(−3 dB) 1 Hz to 3 MHz in 1–3 sequence					
	SSB Phase Noise	−100 dBc/Hz max at 10, 20 and 30 kHz offset from carrier −102 dBc/Hz max at 100 kHz offset from carrier					
Amplitude	Measurement Range	DANL to +30 dBm					
	Absolute amplitude accuracy Power levels ≥−50 dBm, <35dB input attenuation, preamp off	100 kHz to 10 MHz ±1.5 dB >10 MHz to 4 GHz ±1.25 dB >4 GHz to 7.1 GHz ±1.75 dB					
	Second Harmonic Distortion (0 dB input attenuation, −30 dBm input)	−50 dB: 0.05 to 0.75 GHz −40 dB: >0.75 to 1.05 GHz −50 dB: >1.05 to 1.4 GHz −70 dB: >1.4 to 2 GHz −80 dB: >2 GHz					
	Third Order Intercept (TOI) (preamplifier off)	Frequency 50 MHz to 300 MHz >8 dBm >300 MHz to 2.2 GHz >10 dBm >2.2 GHz to 2.8 GHz >15 dBm >2.8 GHz to 4.0 GHz >10 dBm >4.0 GHz to 7.1 GHz >13 dBm					
	Displayed Average Noise Level DANL in 10 Hz RBW, 0 dB attenuation reference level −50 dBm	Frequency	Preamp On		Preamp Off		
			Typical	Max	Typical	Max	
		>10 MHz to 1 GHz	−153	−151	−130	−127	
		>1 GHz to 2.2 GHz	−150	−149	−126	−123	
		>2.2 GHz to 2.8 GHz	−146	−143	−120	−116	
		>2.8 GHz to 4.0 GHz	−150	−149	−129	−126	
		>4.0 GHz to 7.1 GHz	−148	−146	−121	−117	dBm
	Noise Figure (Derived from DANL measurement) 0 dB attenuation, reference level −50dBm, 23°C, preamp on	Frequency	Typical				
>10 MHz to 1 GHz		11 dB					
>1 GHz to 2.2 GHz		14 dB					
>2.2 GHz to 2.8 GHz		18 dB					
>2.8 GHz to 4.0 GHz		14 dB					
>4.0 GHz to 7.1 GHz		16 dB					
Display Range	1 to 15 dB/div in 1 dB steps. Ten divisions displayed						
Amplitude Units	Log Scale modes: dBm, dBV, dBmV, dBμV Linear Scale modes: nV, μV, mV, V, kV, nW, μW, mW, W, kW						
Attenuator Range	0 to 65 dB						
Attenuator Resolution	5 dB steps						
Input Related Spurious *Exceptions: Input Frequency 1674 MHz >1674 to 1774 MHz	−60 dBc max*, (<−70 dBc Typical), −30 dBm input, 0 dB RF attenuation) Spur Level −46 dBc max (−56 dBc typical), 0 to 2800 MHz −50 dBc max (−60 dBc typical), at F input −1674 MHz						

Amplitude	Residual Spurious, Preamp Off (RF input terminated, 0 dB RF attenuation) **Exceptions Frequency 250, 300 and 350 MHz to 4010 MHz to 5084 MHz to 5894 MHz to 7028 MHz	<p>–90 dBm max**, 100 kHz to <3200 MHz –84 dBm max**, 3200 kHz to 7100 MHz</p> <p>Spur Level –85 dBm max –80 dBm max (–90 dBm typical) –70 dBm max (–83 dBm typical) –75 dBm max (–87 dBm typical) –80 dBm max (–92 dBm typical)</p>
	Residual Spurious, Preamp On	–100 dBm max (RF input terminated, 0 dB RF attenuation)
General	RF Input VSWR	2.0: 1 maximum, 1.5: 1 typical $\geq$ (10 dB attenuation)
	Maximum Continuous Input	$\geq$ 10 dB attenuation, +30 dBm
	Input Damage Level	<p>$\geq$10dB attenuation, >+43 dBm, $\pm$50 Vdc <10dB attenuation, >+23 dBm, $\pm$50 Vdc Input protection relay opens at >30 dBm with $\geq$10 dB input attenuation and approximately 10 to 23 dBm with <10 dB attenuation</p>
	ESD Damage Level	>10 kV $\geq$ 10 dB attenuation
	External Standard Frequency	1 MHz, 1.2288 MHz, 1.544 MHz, 2.048 MHz, 2.4576 MHz, 4.8 MHz, 4.9152 MHz, 5 MHz, 9.8304 MHz, 10 MHz, 13 MHz, 19.6608 MHz, Input level: –10 to +10 dBm
	Display	Bright Color Transmissive LCD, Full SVGA, 8.4"
	Languages	Built-in English, Spanish, French, German, Japanese, Chinese, Italian and Korean.
	Marker Modes	Six Markers, Seven Modes: Normal, Delta, Marker to Center, Marker to Reference Level, Next Peak Left, Next Peak Right, All Markers Off, Noise Marker, Frequency Counter Marker (1 Hz resolution)
	Sweeps	Full span, Zero span, Span Up/Span Down in 1-2-5 increments
	Detection	Peak, Negative, Sample, RMS, Quasi peak
	Memory	The internal memory provides for the storage and recall of more than 1000 measurement setups and more than 1000 traces. The contents of the internal memory can be copied to and from a removable Compact Flash card.
	Traces	Displayed Traces: Three traces overlay. One trace is always the live data, two traces can be either stored data or traces which have been mathematically manipulated.
	Interfaces	<p>Type N Female RF Connector BNC female connectors for external frequency reference and external trigger Mini-B USB 2.0 for data transfer to a PC A-type USB Flash Drive Connector to USB Flash Drive RJ45 connector for Ethernet 10/100-BaseT 2.5mm 3-wire Headset Connector</p>
	Size and Weight	313 x 211 x 77 mm, <2.9 kg typical
	Environmental	<p>MIL-PRF-28800F Class 2 Operating: –10°C to 55°C, humidity 85% or less Storage: –51°C to 71°C</p>
	Safety	Conforms to EN 61010-1 for Class 1 portable equipment
	Electromagnetic Compatibility	Meets European Community requirements for CE marking



Specifications

■ The following shows the standard when this software is installed into the MS8911B.

Electric Characteristic	These specifications are based on when the MS8911B-050 is installed in the MS8911B. For performance specifications, each value is assumed to be obtained from measurement after 10-minute preheating under constant ambient temperature conditions.		
Setting	Common	Channel Map	UHF(Australia), UHF(Europe), None
		Channel	When channel map is UHF(Australia), the numerical value 28 to 69 (setting resolution: 1 channel) can be set to channel. This time, the central frequency is set to $529.5 + (\text{channel} - 28) \times 7 \text{ MHz}$
			When channel map is UHF(Europe), the numerical value 21 to 69 (setting resolution: 1 channel) can be set to channel. This time, the central frequency is set to $474 + (\text{channel} - 21) \times 8 \text{ MHz}$
		Frequency	When channel map is None, frequency range is 30 to 990 MHz (setting resolution: 1 Hz).
		Band Width	7 MHz, 8 MHz
		Pre Amp	On, Off
		Reference Level	+20 dBm to -25 dBm/ 5 dB step (Pre Amp = Off) -10 dBm to -50 dBm/ 10 dB step (Pre Amp = On)
	Signal Power	Meas Mode	Single, Continuous, Average, Moving Average, Max Hold
		Average Count	1 to 100
		Correction table for Field Strength	Level correction data table for measuring the Field Strength can be stored within the measurement instrument.
		Impedance	50 Ω , 75 Ω (External impedance converter corresponds with the case of 75 Ω)
	Modulation Analysis	Meas Mode	Single, Continuous, Average, Moving Average
		Average Count	1 to 100
		Screen Select	Constellation, Impulse Response
		Mode	2K, 4K, 8K
		GI	1/4, 1/8, 1/16, 1/32
		Modulation	QPSK, 16QAM, 64QAM
		Hierarchy	None, $\alpha=1$, $\alpha=2$, $\alpha=4$
		FFT Start Position	0/8, 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8, 8/8
		Spectrum Reverse	On, Off
		Detect Parameters	Automatic detection for the Mode, GI, Modulation, and Hierarchy parameter
	Spectrum Monitor	Meas Mode	Single, Continuous
		Span	1, 3, 5, 11, 31, 51 Channel
	Carrier MER<Tx>	Meas Mode	Single, Continuous, Average, Moving Average
		Average Count	1 to 100
		Mode	2K, 4K, 8K
		GI	1/4, 1/8, 1/16, 1/32
		Modulation	QPSK, 16QAM, 64QAM
		Hierarchy	None, $a = 1$, $a = 2$, $a = 4$
		FFT Start Position	0/8, 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8, 8/8
		Spectrum Reverse	On, Off
		Detect Parameters	Automatic detection for the Mode, GI, Modulation, and Hierarchy parameter

Results	Common	Reference Frequency	Internal, External (10 MHz)
	Signal Power	DVB-T/H signal, 1 channel input	
		Channel Power	Measures the channel power
		Resolution	0.1 dB
		Accuracy	Channel Map:UHF(Europe), Channel:21 to 69, Band Width: 8 MHz, Averaging Count: 10, Target's VSWR is under 1.5, 50 Ω termination Preamplifier: Off ± 2.0 dB (-10 to 20 dBm, typical) ± 2.0 dB (-60 to -10 dBm) Preamplifier: On ± 2.0 dB (-84 to -20 dBm)
		DANL (Display Average Noise Level)	Channel Map:UHF(Europe), Channel: 21 to 69, Band Width: 8 MHz, Averaging Count: 50, RF input 50 Ω termination, 20 to 30°C Preamplifier: Off, Reference Level: -25 dBm $\leq$ -69 dBm Preamplifier: On, Reference Level: -50 dBm $\leq$ -93 dBm
		1 dB Compression Level	Channel Map:UHF(Europe), Channel: 21 to 69, CW, 20 to 30°C Preamplifier: Off, Reference Level: -25 dBm $\geq$ -15 dBm Preamplifier: On, Reference Level: -50 dBm $\geq$ -43 dBm
		Unit	dBm
		Termination Voltage, Open Terminal	Voltage, Field Strength
		Display Item	Termination Voltage [dBuV], Open Terminal Voltage [dBuV (emf)], Field Strength [dBuV/m]
		Graph	Termination Voltage [dBuV] is displayed as bar chart
	Modulation Analysis	DVB-T/H signal, 1 channel input	
		Common	Frequency Lock Range ± 90 kHz
			Frequency Offset
			Measures the central frequency offset of the modulation signal
			Unit
			Hz
			Display Resolution
			0.1 Hz
			Accuracy
			-20 dBm, MER>40 dB, Preamplifier: off, Average Count 10, Channel Map: UHF(Europe), Channel: 21 to 69, Band Width: 8 MHz, Mode: 8K GI: 1/8, Modulation: 64QAM, Hierarchy: None $\pm$ (Measurement frequency x Reference frequency accuracy) ± 0.3 Hz
			Channel Power
			Measures the channel power (@RF In)
			Resolution
			0.1 dB
			MER
			Measures MER (Modulation Error Ratio)
			Display Item
			Total, Data, TPS
			Display Resolution
			0.1 dB
			Residual MER
			MER: Total, Channel Map:UHF(Europe), Channel : 21 to 69, Band Width: 8 MHz, Mode: 8K, GI:1/8, Modulation: 64 QAM, Hierarchy: None, Average Count: 10, Typical Preamplifier: Off, Reference Level: -20 dBm input ≥ 42 dB Preamplifier: On, Reference Level: -50 dBm input ≥ 37 dB
			Interference
			MER: Total, Channel Map:UHF(Europe), Channel : 21 to 69, Band Width: 8 MHz, Mode: 8K, GI:1/8, Modulation: 64 QAM, Hierarchy: None, Average Count: ten, Reference Level: -25 dBm, ± 2 ch interfering wave, 0 dBm typical for the desired wave ≥ 30 dB (Preamplifier: Off, -35 dBm)
			TPS
			TPS information (68 bits) is displayed in hexadecimal
			Inner Interleave
			Native, In-depth
			Cell ID
			Cell ID (16 bits) is displayed in hexadecimal and decimal
			Code Rate
			1/2, 2/3, 3/4, 5/6, 7/8 HP and LP are displayed in hierarchical mode
			Time Slicing
			On, Off HP and LP are displayed in hierarchical mode
			MPE-FEC
			On, Off HP and LP are displayed in hierarchical mode

Results	Modulation Analysis	Constellation	Constellation	
			Display Item	Data, TPS
			Carrier MER Graph	For field measurement
			Horizontal Axis	Frequency Displays the central frequency as 0 MHz
			Display Range	When Band Width is 7 MHz: -3.328 to 3.328 MHz When Band Width is 8 MHz: -3.804 to 3.804 MHz
			Valid Range	Band Width : 7 MHz When Mode is 2K: -3.234 to 3.234 MHz When Mode is 4K: -3.281 to 3.281 MHz When Mode is 8K: -3.305 to 3.305 MHz Band Width : 8 MHz When Mode is 2K: -3.696 to 3.696 MHz When Mode is 4K: -3.750 to 3.750 MHz When Mode is 8K: -3.777 to 3.777 MHz
			Resolution	Band Width : 7 MHz When Mode is 2K: 3.906 kHz When Mode is 4K: 1.953 kHz When Mode is 8K: 0.977 kHz Band Width : 8 MHz When Mode is 2K: 4.464 kHz When Mode is 4K: 2.232 kHz When Mode is 8K: 1.116 kHz
			Vertical Axis	MER
			Display Range	0 to 30 dB
			Resolution	0.1 dB
			Marker	Carrier number, Offset frequency and MER are displayed
		Impulse Response	Impulse Response Graph	
			Horizontal Axis	Delayed time Displays the maximal level signal as 0 μ s
			Display Range	All graph: -1/24 of the valid symbol length to 7/24 of the valid symbol length Zoom graph: 50.00us(Band Width : 7 MHz) or 43.75us (Band Width : 8 MHz) width at the optional position within the whole graph
			Valid Range	0 μ s to guard interval
			Resolution	0.13 us(Band Width : 7MHz) 0.11 us(Band Width : 8MHz)
			Vertical Axis	Level
			Display Range	5 dB, 10 dB, 25 dB, 50 dB
			Marker	On, Off When marker is on, Delay, Distance and Level are displayed
			Frequency Response Graph	
			Horizontal axis	Displays the central frequency as 0 MHz
			Display Range	When Band Width is 7 MHz: -3.328 to 3.328 MHz When Band Width is 8 MHz: -3.804 to 3.804 MHz
			Valid Range	Band Width : 7 MHz When Mode is 2K: -3.234 to 3.234 MHz When Mode is 4K: -3.281 to 3.281 MHz When Mode is 8K: -3.305 to 3.305 MHz Band Width : 8 MHz When Mode is 2K: -3.696 to 3.696 MHz When Mode is 4K: -3.750 to 3.750 MHz When Mode is 8K: -3.777 to 3.777 MHz
			Resolution	Band Width : 7 MHz When Mode is 2K: 3.906 kHz When Mode is 4K: 1.953 MHz When Mode is 8K: 0.977 MHz Band Width : 8 MHz When Mode is 2K: 4.464 kHz When Mode is 4K: 2.232 MHz When Mode is 8K: 1.116 MHz
			Vertical Axis	
			Display Range	5 dB, 10 dB, 25 dB, 50 dB
			Marker	On, Off When marker is on, the offset frequency and the relative level are displayed

Results	Spectrum Monitor		Spectrum Graph				
			Horizontal axis		Channel or Frequency		
			Display width		1, 3, 5, 11, 31, 51 Channel		
			Vertical Axis				
			Display Range		100 dB of the range between -150 to 20 dB (Preamplifier: On, Reference level: Over -50 dBm, Preamplifier: Off, Reference level: 20 dBm)		
			Channel Power		Measures the channel power (@RF In)		
			Display Resolution		0.1 dB		
	Carrier MER<Tx>		DVB-T/H signal, 1 channel input for stable signal like transmitter				
			Common		Frequency Offset		Measures the central frequency offset of the modulation signal
					Unit		Hz
					Display Resolution		0.1 Hz
					Channel Power		Measures the channel power (@RF In)
					Resolution		0.1 dB
					MER		Measures MER (Modulation Error Ratio)
					Display Item		Total, Data, TPS
					Display Resolution		0.1 dB
					TPS		TPS information (68 bits) is displayed in hexadecimal
					Inner Interleave		Native, In-depth
					Cell ID		Cell ID (16 bits) is displayed in hexadecimal and decimal
					Code Rate		1/2, 2/3, 3/4, 5/6, 7/8 HP and LP are displayed in hierarchical mode
					Time Slicing		On, Off HP and LP are displayed in hierarchical mode
					MPE-FEC		On, Off HP and LP are displayed in hierarchical mode
					Carrier MER Graph		For Transmitter measurement
					Horizontal Axis		Frequency Displays the central frequency as 0 MHz.
					Display Range		When Band Width is 7 MHz: -3.328 to 3.328 MHz When Band Width is 8 MHz: -3.804 to 3.804 MHz
					Valid Range		When Band Width is 7 MHz: -3.328 to 3.328 MHz When Band Width is 8 MHz: -3.804 to 3.804 MHz
					Resolution		Band Width: 7 MHz When Mode is 2K: 3.906 kHz When Mode is 4K: 1.953 kHz When Mode is 8K: 0.977 kHz Band Width: 8 MHz When Mode is 2K: 4.464 kHz When Mode is 4K: 2.232 kHz When Mode is 8K: 1.116 kHz
					Vertical Axis		MER
			Display Range		0 to 50 dB		
			Resolution		0.1 dB		
			Marker		Carrier number, Offset frequency and MER are displayed		
Other	Reference Frequency		Frequency		10 MHz		
			Level		-10 dBm to +10 dBm		
	Save the Measurement Results		JPEG file on the measurement screen and the CSV file of the numerical data (Except for graph data) can be stored within the internal memory. The file of the measurement results within the memory can be copied to the external memory.				
	Save Recall of the Setting Information		Saves the panel setting information into the internal memory. Recalls the panel set information which is saved, to reflect to the panel setting				
	Display Language		English or Japanese is selectable				

Compliant with ETSI EN 300 744 and TR 101 290.

To the current MS8911B users who think to add the option software : MS8911B is adjusted when the option software is added. You are recommended to calibrate MS8911B after the software addition even if it has already been calibrated before.



Ordering Information

■ Please specify the model/order number, name and quantity when ordering.

Part Number	Description	Remarks
Main frame		
MS8911B	Digital Broadcast Field Analyzer	
	Standard Accessories	
W2819AE	Operation Manual	
65729	Soft Carrying Case	
2300-498	Master Software Tools Program CD ROM	
633-44	Rechargeable battery, Li-Ion	
40-168	AC-DC Adapter	
806-141	Automotive Cigarette Lighter/12 Volt DC Adapter	
64343	Tilt Bail Accessory	
3-2000-1360	USB Cable (A-mini B)	
2000-1371	Ethernet Cable 7 feet (213 cm)	
3-2000-1500	256MB Compact Flash Memory	
1091-27	Adapter, N (m) to SMA (f), 50 Ω	
1091-172	Adapter, N (m) to BNC, 50 Ω	
Software		
MS8911B-050	DVB-T/H Analysis Software	
	Standard Accessory	
W2833AE	Operation Manual	
Optional Accessories		
65729	Soft Carrying Case	
2300-498	Master Software Tools Program CD ROM	
633-44	Rechargeable battery, Li-Ion	
40-168	AC-DC Adapter	
806-141	Automotive Cigarette Lighter/12 Volt DC Adapter	
64343	Tilt Bail Accessory	
3-2000-1360	USB Cable (A-mini B)	
2000-1371	Ethernet Cable 7 feet (213 cm)	
3-2000-1500	256 MB Compact Flash Memory	
1091-27	Adapter, N (m) to SMA (f), 50 Ω	
1091-172	Adapter, N (m) to BNC, 50 Ω	
42N50A-30	Attenuator 30 dB, 50 W, Bi-directional, DC-18 GHz, N (m)-N (f)	
15NNF50-1.5C	Test port cable armored	1.5 m, N (m)-N (f), 6 GHz
J0576D	Coaxial cord N, 2 m	
J0127C	Coaxial cord BNC, 0.5 m	
J0127A	Coaxial cord BNC, 1 m	
MP640A	Coaxial cord DC to 1700 MHz	
MP721A	Attenuator 3 dB	
MP721B	Attenuator 6 dB	
MP721C	Attenuator 10 dB	
MP721D	Attenuator 20 dB	
MP721E	Attenuator 30 dB	
MA1621A	50 Ω to 75 Ω impedance converter	Insertion Loss: 1.9 dB, 25 Ω resistance
MA8994A	Impedance converter	N to F
12N50-75B	N (m) 50 Ω to N (f) 75 Ω	Impedance Converter Insertion Loss: 7.5 dB, resistance-pad
760-235	Transit Case for MS8911B	
2000-1374	Dual External, Li-Ion charger with universal power supply	
MP651A	Dipole Antenna	470 MHz to 1700 MHz, Equipped with 5D-2W cable
MP651B	Dipole Antenna	470 MHz to 1700 MHz, Equipped with RG-55/U cable
MP635A	Log-Periodic Antenna	80 MHz to 1000 MHz
MP666A	Log-Periodic Antenna	200 MHz to 2000 MHz
2000-1501	USB Frash Drive	

Anritsu Corporation

5-1-1 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan
Phone: +81-46-223-1111
Fax: +81-46-296-1264

● U.S.A.

Anritsu Company

1155 East Collins Blvd., Richardson, TX 75081, U.S.A.
Toll Free: 1-800-267-4878
Phone: +1-972-644-1777
Fax: +1-972-671-1877

● Canada

Anritsu Electronics Ltd.

700 Silver Seven Road, Suite 120, Kanata,
Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

● Brazil

Anritsu Eletrônica Ltda.

Praca Amadeu Amaral, 27 - 1 Andar
01327-010-Paraiso-São Paulo-Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

● U.K.

Anritsu EMEA Ltd.

200 Capability Green, Luton, Bedfordshire, LU1 3LU, U.K.
Phone: +44-1582-433200
Fax: +44-1582-731303

● France

Anritsu S.A.

9 Avenue du Québec, Z.A. de Courtabœuf
91951 Les Ulis Cedex, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

● Germany

Anritsu GmbH

Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49-89-442308-0
Fax: +49-89-442308-55

● Italy

Anritsu S.p.A.

Via Elio Vittorini 129, 00144 Roma, Italy
Phone: +39-6-509-9711
Fax: +39-6-502-2425

● Sweden

Anritsu AB

Borgafjordsgatan 13, 164 40 KISTA, Sweden
Phone: +46-8-534-707-00
Fax: +46-8-534-707-30

● Finland

Anritsu AB

Teknobulevardi 3-5, FI-01530 VANTAA, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

● Denmark

Anritsu A/S

Kirkebjerg Allé 90, DK-2605 Brøndby, Denmark
Phone: +45-72112200
Fax: +45-72112210

● United Arab Emirates

Anritsu EMEA Ltd.

Dubai Liaison Office
P O Box 500413 - Dubai Internet City
Al Thuraya Building, Tower 1, Suit 701, 7th Floor
Dubai, United Arab Emirates
Phone: +971-4-3670352
Fax: +971-4-3688460

● Singapore

Anritsu Pte. Ltd.

10, Hoe Chiang Road, #07-01/02, Keppel Towers,
Singapore 089315
Phone: +65-6282-2400
Fax: +65-6282-2533

● P.R. China (Hong Kong)

Anritsu Company Ltd.

Suite 923, 9/F., Chinachem Golden Plaza, 77 Mody Road,
Tsimshatsui East, Kowloon, Hong Kong, P.R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

● P.R. China (Beijing)

Anritsu Company Ltd.

Beijing Representative Office

Room 1515, Beijing Fortune Building,
No. 5, Dong-San-Huan Bei Road,
Chao-Yang District, Beijing 10004, P.R. China
Phone: +86-10-6590-9230
Fax: +86-10-6590-9235

● Korea

Anritsu Corporation, Ltd.

8F Hyunjuk Building, 832-41, Yeoksam Dong,
Kangnam-ku, Seoul, 135-080, Korea
Phone: +82-2-553-6603
Fax: +82-2-553-6604

● Australia

Anritsu Pty. Ltd.

Unit 21/270 Ferntree Gully Road, Notting Hill,
Victoria 3168, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

● Taiwan

Anritsu Company Inc.

7F, No. 316, Sec. 1, Neihu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817

● India

Anritsu Corporation

India Liaison Office

Unit No. S-3, Second Floor, Esteem Red Cross Bhavan,
No. 26, Race Course Road, Bangalore 560 001, India
Phone: +91-80-32944707
Fax: +91-80-22356648

Please Contact: