

High Performance 9 kHz to 7.1 GHz Handheld Spectrum Analyzer

MS2721B Spectrum Master™

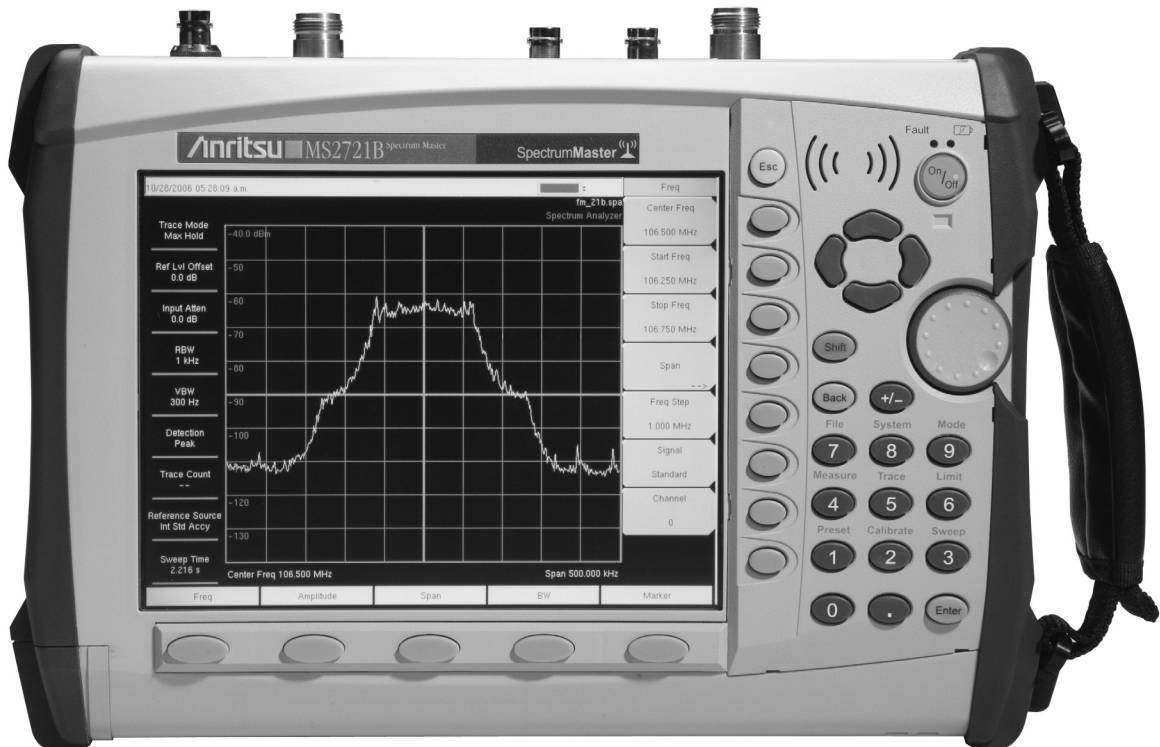
Introduction

Continuous frequency coverage from 9 kHz to 7.1 GHz gives the wireless professional the performance needed for the most demanding measurements in harsh RF and physical environments.

Whether you need spectrum monitoring, AM and FM broadcast proofing, WiFi and WiFi5 installation and testing, RF and microwave signal measurements or cellular signal measurements, the MS2721B Spectrum Master is the tool to make your job easier and more productive.

High Performance Highlights

- 9 kHz to 7.1 GHz Input
- 1 Hz to 3 MHz RBW Range
- Very Low Phase Noise
(-100 dBc/Hz Maximum at 10 kHz offset at 100 kHz to 7.1 GHz)
- Built-in AM/FM/SSB Demodulator
- Built-in Preamplifier
- 65 dB Step Attenuator
- Input Protected to 20 Watts
- True RMS Detection
- 2+ Hours of Battery Life
- 3.1 kg (<6.9 lbs)
- 3G Modulation options
- Tracking Generator option
- GPS Receiver option
- Quasi-peak detector and CISPR bandwidths



The Anritsu MS2721B is the most advanced ultra-portable spectrum analyzer on the market, featuring unparalleled performance at a modest price.

Features and Options

Functions

Multiple Marker: Display up to six markers on screen. Each marker includes a delta marker, effectively allowing up to 12 markers on screen.

The user may also set marker 1 to be the reference for 6 delta markers.

Marker Table: Display a table of up to six marker frequency and amplitude values plus delta marker frequency offset and amplitude.

Upper/Lower Limit

Fixed and segmented: Each upper and lower limit can be made up of between one and 40 segments.

Smart Measurements

Occupied Bandwidth: Measures 99% to 1% power channel of a signal.

Channel Power: Measures the total power in a specified bandwidth.

CI: Measures carrier to interference ratio.

ACPR: Measures power levels in the channels immediately above and below the center channel.

Field Strength: Uses antenna calibration tables to measure dBm/meter² or dBmV/meter.

Specifications

Frequency

Frequency Range: 9 kHz to 7.1 GHz

Tuning Resolution: 1 Hz

Frequency Reference:

Aging: ±1 ppm per 10 years

Accuracy: ±0.3 ppm (25° C ± 25° C) + aging

Frequency Span: 10 Hz to 7.1 GHz plus 0 Hz (zero span)

Span Accuracy: Same as frequency reference accuracy

Sweep Time:

Zero span: 10 ms to 600s

Spans >0 Hz: Sweep time is automatically optimized.

Can be manually increased

Sweep Time Accuracy: ±2% in zero span

Sweep Trigger: Free run, Single, Video, External

Resolution Bandwidth: (-3 dB) 1 Hz to 3 MHz in 1-3 sequence ±10%, 200 Hz, 9 kHz, 120 kHz when quasi-peak detector selected, 10 MHz demodulation bandwidth

Video Bandwidth: (-3 dB) 1 Hz to 3 MHz in 1-3 sequence

SSB Phase Noise:

| Offset from carrier | Max |
|---------------------|-------------|
| 10, 20 and 30 kHz | -100 dBc/Hz |
| 100 kHz | -102 dBc/Hz |

Amplitude

Measurement Range: DANL to +30 dBm

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

Absolute Amplitude Accuracy:

Power levels:

≥-50 dBm, ≤35 dB input attenuation

9 kHz to ≤10 MHz ±1.5 dB

>10 MHz to 4 GHz ±1.25 dB

>4 to 7.1 GHz ±1.75 dB

40 to 55 dB input attenuation

9 kHz to ≤10 MHz ±1.5 dB

>10 MHz to 4 GHz ±1.75 dB

>4 to 6.5 GHz ±1.75 dB

>6.5 to 7.1 GHz ±2 dB

60 to 65 dB input attenuation

9 kHz to ≤10 MHz ±1.5 dB

>10 MHz to 6.5 GHz ±1.75 dB

>6.5 to 7.1 GHz ±3 dB

Preamplifier on, 0 or 10 dB input attenuation

100 kHz to 4 GHz ±1.5 dB

>4 to 7.1 GHz ±1.75 dB

Second Harmonic Distortion

(0 dB input attenuation, -30 dBm input):

0.05 to 1.4 GHz -50 dBc

>1.4 to 2 GHz -70 dBc

>2 GHz -80 dBc

Third Order Intercept (TOI):

(-20 dBm tones 100 kHz apart, -20 dBm Ref level,

0 dB input attenuation, preamplifier off)

| Frequency | Min |
|-----------|--------|
| 600 MHz | +7 dBm |
| 3.5 GHz | +9 dBm |

| Frequency | Typical |
|---------------------|---------|
| 50 MHz to 300 MHz | >8 dBm |
| >300 MHz to 2.2 GHz | 10 dBm |
| >2.2 to 2.8 GHz | >15 dBm |
| >2.8 to 4.0 GHz | >10 dBm |
| >4.0 to 7.1 GHz | >13 dBm |

Dynamic Range 2/3 (TOI-DANL) in 1 Hz RBW:

600 MHz 95 dB min

3.5 GHz 96 dB min

Displayed Average Noise Level (DANL) in 1 Hz RBW:

| Frequency | Preamplifier On | | Preamplifier Off | |
|-------------------|-----------------|------|------------------|------|
| | Typical | Max | Typical | Max |
| 10 MHz to 1 GHz | -163 | -161 | -140 | -137 |
| >1 GHz to 2.2 GHz | -160 | -159 | -136 | -133 |
| >2.2 to 2.8 GHz | -156 | -153 | -130 | -126 |
| >2.8 to 4.0 GHz | -160 | -159 | -139 | -136 |
| >4.0 to 7.1 GHz | -158 | -154 | -131 | -127 |

(0 dB input attenuation, RMS detection, Reference level = -20 dBm for preamplifier off and -50 dBm for preamplifier on)

Note: Discrete spurious signals are not included in the measurement of DANL as they are covered by the residual spurious specification.

Equivalent Noise Figure, 23° C:

(Preamplifier on, 0 dB input attenuation)

| Frequency | Typical |
|-------------------|---------|
| 10 MHz to 1 GHz | 11 dB |
| >1 GHz to 2.2 GHz | 14 dB |
| >2.2 to 2.8 GHz | 18 dB |
| >2.8 to 4.0 GHz | 14 dB |
| >4.0 to 7.1 GHz | 16 dB |

Input-Related Spurious:

(-30 dBm input, 0 dB input attenuation, Span <1.7 GHz)

-70 dBc typical -60 dBc max*

*Exceptions:

| Input Frequency | Spur Level |
|-----------------|-----------------------|
| 1674 MHz | -38 dBc (-48 typical) |

Residual Spurious:

(Preamplifier on, RF input terminated, 0 dB input attenuation)

-100 dBm max

(Preamplifier off, RF input terminated, 0 dB input attenuation)

-90 dBm max**, 100 kHz to <3200 MHz

-84 dBm max**, 3200 to 7100 MHz

**Exceptions:

| Frequency | Max Spur Level (Typical) |
|-----------------------|--------------------------|
| 250, 300, and 350 MHz | -85 dBm |
| ~4010 MHz | -80 dBm (-90 dBm) |
| ~5084 MHz | -70 dBm (-83 dBm) |
| ~5894 MHz | -75 dBm (-87 dBm) |
| ~7028 MHz | -80 dBm (-92 dBm) |

Options Specifications

IQ Demodulation Hardware (Option 9)

Hardware needed to run any of the demodulation options

PSN50 High Accuracy Power Meter (Option 19)

PSN50 Sensor:

Measurement Range: -30 dBm to +20 dBm
Frequency Range: 50 MHz to 6 GHz
Input Connector: Type N, male, 50 Ω
Max Input Without Damage: +33 dBm, ± 25 VDC
Input Return Loss: 50 MHz to 2 GHz: ≥ 26 dB
2 GHz to 6 GHz: ≥ 20 dB

PSN50 Accuracy:

Total RSS Measurement Uncertainty (0° C to 50° C): ± 0.16 dB*
Noise: 20 nW max
Zero Set: 20 nW
Zero Drift: 10 nW max**
Sensor Linearity: ± 0.13 dB max
Sensor Cal Factor Uncertainty: ± 0.06 dB
Temperature Compensation: ± 0.06 dB max
Continuous digital modulation uncertainty:
 ± 0.06 dB (+17 to +20 dBm)

PSN50 System:

Measurement Resolution: 0.01 dB
Offset Range: ± 60 dB
Power Requirements:
Supply Voltage: 8 to 18 Vdc (supplied by instrument via USB connector)
Supply Current: <100 mA

High Accuracy Power Meter Specifications using MA24106A (Option 19)

Sensor

Measurement Range: -40 to +23 dBm
Frequency Range: 50 MHz to 6 GHz
Input Connector: Type N, male, 50 Ω
Max Input Without Damage: +33 dBm, ± 25 VDC
Input Return Loss: 50 MHz to 2 GHz: > 26 dB
2 GHz to 6 GHz: > 20 dB

Accuracy

Total RSS Measurement Uncertainty (0 to 50 °C): ± 0.16 dB*
Noise: 2.5 nW max
Zero Set: 10 nW
Zero Drift: 3 nW max**
Sensor Linearity: ± 0.18 dB max
Instrumentation Accuracy: 0.00 dB
Sensor Cal Factor Uncertainty: ± 0.06 dB
Temperature Compensation: ± 0.06 dB max
Continuous Digital Modulation Uncertainty:
 ± 0.02 dB (< +18 dBm)
 ± 0.10 dB ($\geq +18$ dB)

Tracking Generator (Option 20)

Frequency Range: 100 kHz to 7.1 GHz
Frequency Resolution: 1 Hz
Frequency Accuracy (25° C ± 25 ° C): Same as spectrum analyzer
Output Power: 0 dBm to -40 dBm
Step Size: 0.1 dB nominal
Level Accuracy (15° C to 35° C): ± 1.5 dB max, 450 kHz to 7.1 GHz, excluding SWR effects
Zero Span Behavior: CW Output
Output Connector: Type N female, 50 Ω
Damage Levels: +23 dBm
 ± 50 V DC (limited dv/dt)
2 kV ESD

Interference Analyzer (Option 25)

Signal Strength: Gives visual and aural indication of signal strength
RSSI: Collect data up to 72 hours
Spectrogram: Collect data up to 72 hours
Signal ID: Monitors one particular frequency or scan the span and identify up to 12 signals. Identifies CDMA, GSM and WCDMA signals with Signal-to-noise ratio greater than 10 dB.

Channel Scanner (Option 27)

Number of Channels: 1 to 20

GPS (Option 31)

GPS Location Indicator: Latitude, Longitude and Altitude on display
Latitude, Longitude and Altitude with trace storage

GPS High Frequency Accuracy when GPS antenna is connected:
 ± 25 ppb with GPS ON, 3 minutes after satellite lock in the selected operating mode

Internal High Accuracy, when GPS antenna is not connected:
Better than ± 50 ppb for 3 days from a High Accuracy GPS Lock and within 0° C to 50° C ambient temperature

Connector: Reverse polarity BNC

cdmaOne and CDMA2000 1xRTT Over The Air (OTA) (Option 33) and EVDO Over The Air (OTA) (Option 34)

Over the Air Measurement: Nine strongest pilots with Tau and Ec/Io
Six multipaths relative to strongest pilot

W-CDMA/HSDPA OTA (Option 35)

Resolution: 0.1 dB

GSM/GPRS/EDGE RF Measurements (Option 40)

Occupied Bandwidth: Bandwidth within which 99% of the power transmitted on a single channel lies
Burst Power: ± 1 dB typical for -50 dBm to +20 dBm (± 1.5 dB max)
Frequency Error: ± 10 Hz + time base error, 99% confidence level

GSM/GPRS/EDGE Demodulator (Option 41)

GSMK Modulation Quality (RMS Phase) Measurement Accuracy: $\pm 1^\circ$
Residual Error (GSMK): 1°
8PSK Modulation Quality (EVM) Measurement Accuracy: $\pm 1.5\%$
Residual Error (8PSK): 2.5%

* Excludes mismatch errors.

Excludes noise, zero set, zero drift for levels < -20 dBm.

Excludes digital modulation uncertainty between +17 and +20 dBm.

** After 30 min warm-up

*** Depends on reference level, input signal level and single channel conditions

*CDMA RF Measurements (Option 42) and
EVDO RF Measurements (Option 62)*

Channel Power Accuracy: ± 1 dB typical for RF Input from
+20 dBm to -50 dBm (± 1.5 dB maximum)

*cdmaOne and CDMA2000 1xRTT Demodulator
(Option 43)*

Residual Rho: >0.995 typical for RF Input from +20 dBm to -50 dBm
(>0.99 dB maximum)

Rho Accuracy: ± 0.005 for Rho > 0.9

Frequency Error: ± 10 Hz + Time base error, 99% confidence level
(in slow mode)

PN Offset: within 1 x 64 chips

Pilot Power Accuracy: ± 1 dB typical, relative to Channel Power

Tau: ± 0.5 μ s typical (± 1 μ s maximum)

W-CDMA/HSDPA RF Measurements (Option 44)

Frequency Ranges: 824 to 894 MHz, 1710 to 2170 MHz,
2300 to 2700 MHz

RF Channel Power (Temperature range 15°C to 35°C):
 ± 0.7 dB typical ± 1.25 dB max

Occupied Bandwidth Accuracy: ± 100 kHz

Residual Adjacent Channel Leakage Ratio (ACLR)***

(824 to 894 MHz, 1710 to 2170): -54 dB typical at 5 MHz offset
-59 dB typical at 10 MHz offset

Leakage Ratio (ACLR)***

(2300 to 2700 MHz): -54 dB typical at 5 MHz offset
-57 dB typical at 10 MHz offset

ACLR Accuracy (Single Channel Active)

(824 to 894 MHz, 1710 to 2170 MHz):

± 0.8 dB for ACLR ≥ -45 dB at 5 MHz offset

± 0.8 dB for ACLR ≥ -50 dB at 10 MHz offset

ACLR Accuracy (Single Channel Active) (2300 to 2700 MHz):

± 1.0 dB for ACLR ≥ -45 dB at 5 MHz offset

± 1.0 dB for ACLR ≥ -50 dB at 10 MHz offset

Frequency Error:

± 10 Hz + time base error, 99% confidence level

*W-CDMA Demodulation and W-CDMA/HSDPA
Demodulator (Options 45 and 65)*

EVM Accuracy* (824 to 894 MHz, 1710 to 2170 MHz):**

(3GPP Test Model 4) $\pm 2.5\%$; $6 \leq \text{EVM} \leq 25\%$

EVM Accuracy* (2300 MHz to 2700 MHz):**

(3GPP Test Model 5) $\pm 2.5\%$; $6 \leq \text{EVM} \leq 20\%$

Residual EVM: 2.5% typical

Code Domain Power: ± 0.5 dB for code channel power > -25 dB

16, 32, 64 DCPH (test model 1)

16, 32 DCPH (test model 2, 3)

CPICH (dBm) Accuracy: ± 0.8 dB typical

Scrambling Code: 3 seconds

Fixed WiMAX RF Measurements (Option 46)

Channel Power Accuracy**:** ± 1 dB typical for +20 dBm to -50 dBm
(± 1.5 dB max)

Fixed WiMAX Demodulator (Option 47)

Residual EVM (rms): 3% for +20 dBm to -50 dBm (3.5% max.)

Frequency Error: ± 0.1 ppm + time base error, 99% confidence level

Mobile WiMAX Specifications

Bandwidths: 3.5 MHz, 5 MHz, 7 MHz, 8.75 MHz, 10 MHz

Frame Length: 5ms, 10ms

Zone types: PUSC

DL-MAP Support: Regular and Compressed Map, DIUC support

DL-MAP Auto Decoding: Convolutional Coding (CC), Convolution Turbo
Coding (CTC)

*Mobile WiMAX Over the Air (OTA) Measurements
(Option 37)*

Time Interval: 1sec - 60sec

Measurement duration: 72 hours max

Auto Save: Yes

GPS logging: Yes

Mobile WiMAX RF Measurements (Option 66)

Channel Power Accuracy: ± 1 dB Typical (± 1.5 dB max)
for +20 dBm to -50 dBm

Mobile WiMAX Demodulator (Option 67)

For +20 dBm to -50 dBm, Residual EVM (rms): 2.5% typical (3% max),
@ -50 dbm on FCH

Frequency Error: ± 0.02 ppm + time base error, 99% confidence level

TD-SCDMA RF Measurements (Option 60)

Channel Power (RRC): ± 1 dB typical, 1.5 dB max
(slot power from +10 dBm to -40 dBm)

TD-SCDMA Demodulator (Option 61)

Residual EVM (rms): 3% typical (for P-CCPCH slot, slot power > -50 dBm)

Freq Error Accuracy: ± 10 Hz typical + time base error (in the presence
of a downlink slot)

Timing Error (Tau) for dominant SYNC-DL code:

± 0.2 μ s (external trigger)

Supported Modulation: QPSK

Spreading Factor: 1, 16

*TD-SCDMA Over the Air(OTA) Measurements
(Option 38)*

32 codes displaying Ec/Io, Tau

EVDO Demodulator (Option 63)

Demodulator Measurements are EVDO Rev A compatible.

Residual Rho: >0.995 typical for RF Input from +20 dBm to -50 dBm
(>0.99 dB maximum)

Rho Accuracy: ± 0.01 for Rho >0.9

Frequency Error: ± 20 Hz + Time base error, 99% confidence level

PN Offset: within 1 x 64 chips

Pilot Power Accuracy: ± 1 dB typical relative to Channel Power

Tau: ± 0.5 μ s typical (± 1 μ s maximum)

*** Depends on reference level, input signal level and single channel conditions

**** Will vary with amount of data burst traffic

General

RF Input VSWR: (≥ 10 dB input attenuation) 2.0:1 max, 1.5:1 typical

Maximum Continuous Input: (≥ 10 dB input attenuation) +30 dBm

Input Damage Level¹:

≥ 10 dB input attenuation, $> +43$ dBm, ± 50 Vdc

< 10 dB input attenuation, $> +23$ dBm, ± 50 Vdc²

¹Input protection relay opens at > 30 dBm with ≥ 10 dB input attenuation and at approximately 10 to 23 dBm with < 10 dB input attenuation.

²with limited dV/dt.

ESD Damage Level: (≥ 10 dB input attenuation) > 10 kV

External Reference Frequencies: 1, 1.2288, 1.544, 2.048, 2.4576, 4.8, 4.9152, 5, 9.8304, 10, 13 and 19.6608 MHz at -10 dBm to $+10$ dBm

Battery Life: 2.5 hours typical

Display

Bright daylight-viewable color transmissive LCD: Full SVGA, 8 in.

Languages

Built-in English, Spanish, Italian, French, German, Japanese, Korean, and Chinese. The instrument also has the capability to have two customized languages installed from Master Software Tools.

Marker Modes

6 Markers, 9 Modes: Normal, Delta, Marker to Peak, Marker to Center, Marker to Reference Level, Next Peak Left, Next Peak Right, All Markers Off, Noise Marker, Frequency Counter Marker (1 Hz resolution), Markers Tracking or Fixed, Marker 1 reference for all deltas.

Sweeps

Full span, Zero span, Span Up/Span Down

Detection

Peak, Negative peak, Sample, RMS, Quasi-peak

Memory

Trace and Setup storage is limited only by the capacity of the installed Compact Flash card or USB Flash drive. For a 512 MB card, storage is greater than 13000 spectrum analyzer traces and over 10000 setups.

Traces

Displayed Traces: Three Traces with trace overlay. Trace A is always the live data; Traces B and C can be either stored data or traces which have been mathematically manipulated. Also Trace C can show max hold or min hold.

Interfaces

Type N female RF connector for Spectrum Analyzer input

Type N female RF connector for optional Tracking Generator

Reverse polarity BNC jack for optional GPS antenna connector

BNC female connectors for ext. reference and ext. trigger

5-pin Mini-B USB 2.0 for data transfer to a PC

USB 2.0 Host connector used with PSN50 High Accuracy Power Meter and USB Flash Drives

RJ45 connector for Ethernet 10/100 Base T

2.5 mm 3-wire headset connector

Size and Weight

Size: 313W x 211H x 77D mm (12W x 8H x 3D in.)

Weight: 3.1 kg (<6.9 lbs.) typical

Environmental

MIL-PRF-28800F class 2

Operating: -10° C to 55° C, humidity 85% or less

Storage: -51° C to 71° C

Altitude: 4600 meters, operating and non-operating

Safety

Conforms to EN 61010-1 for Class 1 portable equipment

Electromagnetic Compatibility

Meets European Community requirements for CE marking.

Ordering Information

Model

MS2721B Handheld Spectrum Analyzer

9 kHz to 7.1 GHz

Options

| | |
|--------------------|--|
| Option MS2721B-009 | IQ Demodulation Hardware |
| Option MS2721B-019 | High Accuracy Power Meter (PSN50 sensor not included) |
| Option MS2721B-020 | Tracking Generator |
| Option MS2721B-025 | Interference Analysis |
| Option MS2721B-027 | Channel Scanner |
| Option MS2721B-031 | GPS (includes GPS antenna) |
| Option MS2721B-033 | cdmaOne and CDMA2000 1xRTT Over the Air (OTA) (requires Opt. 009, 031) |
| Option MS2721B-034 | EVDO Over The Air (OTA) Measurement (requires Opt. 009, 031) |
| Option MS2721B-035 | W-CDMA/HSDPA OTA (requires Opt. 009 and 031) |
| Option MS2721B-037 | Mobile WiMAX Over The Air (OTA) Measurement (requires Opt. 009) |
| Option MS2721B-038 | TD-SCDMA Over The Air (OTA) Measurements (requires Opt. 009) |
| Option MS2721B-040 | GSM/GPRS/EDGE RF Measurement (requires Opt. 009) |
| Option MS2721B-041 | GSM/GPRS/EDGE Demod (requires Opt. 009) |
| Option MS2721B-042 | CDMA RF Measurement (requires Opt. 009) |
| Option MS2721B-043 | cdmaOne and CDMA2000 1xRTT Demodulator (requires Opt. 009) |
| Option MS2721B-044 | W-CDMA/HSDPA RF Measurement (requires Opt. 009) |
| Option MS2721B-045 | W-CDMA Demodulation (requires Opt. 009) |
| Option MS2721B-046 | Fixed WiMAX RF Measurement (requires Opt. 009) |
| Option MS2721B-047 | Fixed WiMAX Demodulation (requires Opt. 009) |
| Option MS2721B-060 | TD-SCDMA RF Measurement (requires Opt. 009) |
| Option MS2721B-061 | TD-SCDMA Demodulation (requires Opt. 009) |
| Option MS2721B-062 | EVDO RF Measurement (requires Opt. 009) |
| Option MS2721B-063 | EVDO Demodulator (requires Opt. 009) |
| Option MS2721B-064 | DVB-T/H Digital Video Measurement (requires Opt 009) |
| Option MS2721B-065 | W-CDMA/HSDPA Demod (requires Opt. 009) |
| Option MS2721B-066 | Mobile WiMAX RF Measurement (requires Opt. 009) |
| Option MS2721B-067 | Mobile WiMAX Demodulator (requires Opt. 009) |

Standard Accessories Include:

| | |
|-------------|---|
| 10580-00175 | User's Guide |
| 65729 | Soft Carrying Case |
| 40-168-R | AC – DC Adapter |
| 806-141 | Automotive Cigarette Lighter/12 Volt DC Adapter |
| 2300-498 | CD ROM containing Master Software Tools |
| 2000-1371 | Ethernet Cable |
| 3-806-152 | Cross-over Ethernet Cable |
| 633-44 | Rechargeable battery, Li-Ion |
| 1091-27 | Type-N male to SMA female adapter |
| 1091-172 | Type-N male to BNC female adapter |
| 64343 | Tilt Bail Stand Accessory |
| 2000-1501-R | 256 MB USB Flash Drive |
| 3-2000-1498 | USB Type A to Mini-B Cable |
| | One Year Warranty |

Optional Accessories:

| | |
|--------------|---|
| 3-2000-1567 | 512 MB Compact Flash |
| 2000-1501-R | 256 MB USB Flash Drive |
| 2000-1520-R | 2 GB USB Flash Drive |
| 42N50A-30 | 30 dB, 50 watt, Bi-directional, DC to 18 GHz, N(m) to N(f) Attenuator |
| 34NN50A | Precision Adapter, DC to 18 GHz, 50 Ω , N(m) to N(m) |
| 34N50A | Precision Adapter, DC to 18 GHz, 50 Ω , N(f) to N(f) |
| PSN50 | High Accuracy Power Sensor, 50 MHz to 6 GHz |
| MA24106A | USB Power Sensor, 50 MHz to 6 GHz |
| 15NNF50-1.5B | Test port cable, armored, 1.5 meter N(m) to N(f) 18 GHz |
| 15NN50-1.5C | Test port cable armored, 1.5 meter, N(m) to N(m), 6 GHz |
| 15NN50-3.0C | Test port cable armored, 3.0 meter, N(m) to N(m), 6 GHz |
| 15NN50-5.0C | Test port cable armored, 5.0 meter, N(m) to N(m), 6 GHz |
| 15NNF50-1.5C | Test port cable armored, 1.5 meter, N(m) to N(f), 6 GHz |
| 15NNF50-3.0C | Test port cable armored, 3.0 meter, N(m) to N(f), 6 GHz |
| 15NNF50-5.0C | Test port cable armored, 5.0 meter, N(m) to N(f), 6 GHz |
| 15ND50-1.5C | Test port cable armored, 1.5 meter, N(m) to 7/16 DIN(m), 6.0 GHz |
| 15NDF50-1.5C | Test port cable armored, 1.5 meter, N(m) to 7/16 DIN(f), 6.0 GHz |
| 510-90 | Adapter, 7/16 DIN (f) to N(m), DC to 7.5 GHz, 50 Ω |
| 510-91 | Adapter, 7/16 DIN (f) to N(f), DC to 7.5 GHz, 50 Ω |
| 510-92 | Adapter, 7/16 DIN(m) to N(m), DC to 7.5 GHz, 50 Ω |
| 510-93 | Adapter, 7/16 DIN(m) to N(f), DC to 7.5 GHz, 50 Ω |
| 510-96 | Adapter 7/16 DIN(m) to 7/16 DIN(m), DC to 7.5 GHz, 50 Ω |
| 1030-105-R | Band Pass Filters, 890-915 MHz, N(m) to N(f), 50 Ω |
| 1030-106-R | Band Pass Filters, 1710-1790 MHz, N(m) to N(f), 50 Ω |
| 1030-107-R | Band Pass Filters, 1910-1990 MHz, N(m) to N(f), 50 Ω |
| 1030-109-R | Band Pass Filters, 824-849 MHz, N(m) to SMA(f), 50 Ω |
| 1030-110-R | Band Pass Filters, 880-915 MHz, N(m) to SMA(f), 50 Ω |
| 1030-111-R | Band Pass Filters, 1850-1910 MHz, N(m) to SMA(f), 50 Ω |
| 1030-112-R | Band Pass Filters, 2400-2484 MHz, N(m) to SMA(f), 50 Ω |
| 1030-114-R | Band Pass Filters, 806-869 MHz, N(m) to SMA(f), 50 Ω |
| 510-97 | Adapter 7/16 DIN(f) to 7/16 DIN(f), 7.5 GHz |
| 65729 | Spare soft carrying case |
| 64343 | Spare Tilt Bail Stand Accessory |
| 40-168 | Spare AC/DC adapter |
| 806-141 | Spare automotive cigarette lighter/12 Volt DC adapter |

| | | | |
|-------------|--|-----------|---|
| 760-243-R | Transit case with wheels and retractable handle for Anritsu Handheld Master products | 2000-1030 | Portable Antenna, SMA(m) 1.71 to 1.88 GHz, 50 Ω |
| 2300-498 | Anritsu Master Software Tools | 2000-1031 | Portable Antenna, SMA(m) 1.85 to 1.99 GHz, 50 Ω |
| 10580-00175 | Anritsu HHSAs User's Guide, Model MS2721B (spare) | 2000-1032 | Portable Antenna, SMA(m) 2.4 to 2.5 GHz, 50 Ω |
| 10580-00176 | Anritsu HHSAs Programming Manual, Model MS2721B | 2000-1035 | Portable Antenna, SMA(m) 896 to 941 MHz, 50 Ω |
| 10580-00177 | Anritsu HHSAs Maintenance Manual, Model MS2721B | 2000-1200 | Portable Antenna, SMA(m) 806 to 869 MHz, 50 Ω |
| 633-44 | Rechargeable battery, Li-Ion | 2000-1200 | Portable Antenna, SMA(m) 806 to 869 MHz, 50 Ω |
| 2000-1374 | Dual battery charger, Li-Ion with universal power supply | 2000-1361 | Portable Antenna, SMA(m) 5725 to 5825 MHz, 50 Ω |
| 2000-1411-R | Portable Yagi Antenna, 10 dBd, N(f) 822 to 900 MHz | 2000-1473 | Portable Antenna, SMA(m) 870 to 960 MHz, 50 Ω |
| 2000-1412-R | Portable Yagi Antenna, 10 dBd, N(f) 885 to 975 MHz | 2000-1474 | Portable Antenna, SMA(m) 2.4 to 2.5 GHz, 50 Ω |
| 2000-1413-R | Portable Yagi Antenna, 10 dBd, N(f) 1.71 to 1.88 GHz | 2000-1475 | Portable Antenna, SMA(m) 2.11 to 2.17 GHz, 50 Ω |
| 2000-1414-R | Portable Yagi Antenna, 9.3 dBd, N(f) 1.85 to 1.99 GHz | 61532 | Antenna Kit: 2000-1030, 2000-1031, 2000-1032, 2000-1035, 2000-1200, and 2000-1361 |
| 2000-1415-R | Portable Yagi Antenna, 10 dBd, N(f) 2.4 to 2.5 GHz | | |
| 2000-1416-R | Portable Yagi Antenna, 10 dBd, N(f) 1.92 to 2.17 GHz | | |

Anritsu

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 Boulevard, Suite 100,
Richardson, Texas 75081 U.S.A.
Toll Free: 1-800-ANRITSU (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 - Paraisópolis, São Paulo, Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3886940

• Mexico

Anritsu Company, S.A. de C.V.
Av. Ejército Nacional No. 579 Piso 9, Col. Granada
11520 México, D.F., México
Phone: +52-55-1101-2370
Fax: +52-55-5254-3147

• U.K.

Anritsu EMEA Ltd.

200 Capability Green, Luton, Bedfordshire LU1 3LU, U.K.
Phone: +44-1582-433280
Fax: +44-1582-731303

• France

Anritsu S.A.

16/18 Avenue du Québec-SILIC 720
91961 COURTABOEUF 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 (0) 89 442308-0
Fax: +49 (0) 89 442308-55

• Italy

Anritsu S.p.A.

Via Elio Vittorini, 129, 00144 Roma, Italy
Phone: +39-06-509-9711
Fax: +39-06-502-2425

• 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

• Spain

Anritsu EMEA Ltd.

Oficina de Representación en España

Edificio Veganova
Avda de la Vega, nº 1 (edf 8, pl1, of 8)
28108 ALCOBENDAS - Madrid, Spain
Phone: +34-914905761
Fax: +34-914905762

• Russia

Anritsu EMEA Ltd.

Representation Office in Russia

Tverskaya str. 16/2, bld. 1, 7th floor.
Russia, 125009, Moscow
Phone: +7-495-363-1694
Fax: +7-495-935-8962

• United Arab Emirates

Anritsu EMEA Ltd.

Dubai Liaison Office

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

• Singapore

Anritsu Pte. Ltd.

60 Alexandra Terrace, #02-08, The Comtech (Lobby A)
Singapore 118502
Phone: +65-6282-2400
Fax: +65-6282-2533

• India

Anritsu Pte. Ltd.

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

• P. R. China (Hong Kong)

Anritsu Company Ltd.

Units 4 & 5, 28th Floor, Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui 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 100004, P.R. China
Phone: +86-10-6590-9230
Fax: +82-10-6590-9235

• Korea

Anritsu Corporation, Ltd.

8F Hyunjuk Bldg. 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

