Anritsu Advancing beyond

OTA Product Catalog

Shield Box	MA8161A
RF Chamber	MA8171A
CATR Anechoic Chamber	MA8172A
CATR Anechoic Chamber 2	MA8172B

5G Testing Anritsu

OTA Products

5G Testing Anritsu

5G network testing is not the same as testing 4G architectures, or any other previous wireless network type.
Traditionally, network engineers confirm base transceiver stations (BTS) and antennas are functioning properly and transmitting the design signal strength by connecting test instruments using a coaxial cable to the base station RF connector.

However, new 5G services use the sub-6 GHz and mmWave bands, and 3GPP recommends using over-the-air (OTA) call connections to test the mmWave band, requiring an OTA RF chamber for stable measurement.
Anritsu's reasonably priced OTA products support this wide frequency band with easy setup for shorter test times.

for 5G NR DUT Tests

*DUT=Device under test

Anritsu OTA Products Features

Wide Product Line Supporting Function to 3GPP Conformance Tests

MA8161A Shield Box

Supports simple OTA test environment for 5G/LTE protocol R&D tests, PCT/CAT pre-tests, etc.

- Small footprint for easy benchtop use and good handling
- Regression testing, etc., for 5G UE development stage
- Supports both sub-6 GHz and mmWave bands

MA8171A RF Chamber

Supports OTA environment for integrated RF/protocol tests, such as 5G NR mmWave beamforming management tests, etc.

- For development of 5G NR chipsets and devices as well as UE mmWave development
- Supports 5G NR mmWave RF ERP/TIRP measurements, etc.
- Both 5G NR Standalone (SA) and Non-standalone (NSA) modes

MA8172A CATR Anechoic Chamber/ MA8172B CATR Anechoic Chamber 2

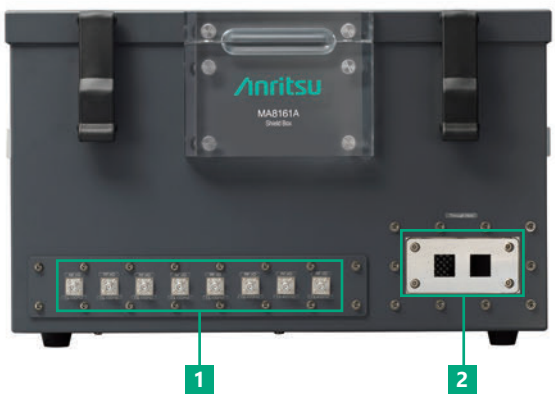
Supports 5G NR OTA environment using 3GPP-compliant Compact Antenna Test Range (CATR) method

- For mmWave development of 5G NR chipsets and devices, and UE conformance tests
- Supports 5G NR mmWave spurious tests
- Three component parts for easy transport and quick setup
- MA8172A can be upgraded to MA8172B at customer on site
- Supports 2 AoA (Angle of Arrival) with MA8172B

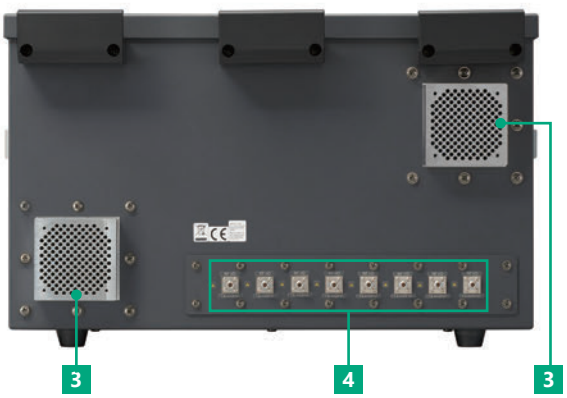
Anritsu OTA Products Layout

Shield Box MA8161A

Front



Rear



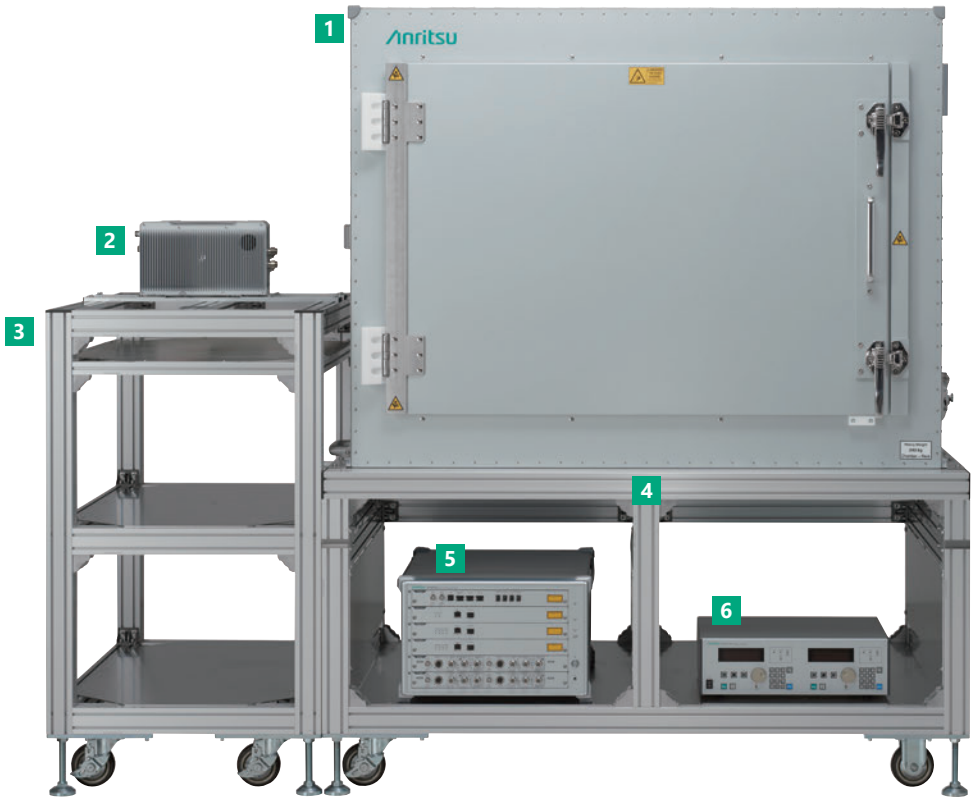
* Example selecting MA8161A-002

1 SMA (f) connector × 8
2 Through hole × 2
3 Ventilation hole × 2
4 K (f) connector × 8

Anritsu OTA Products Layout

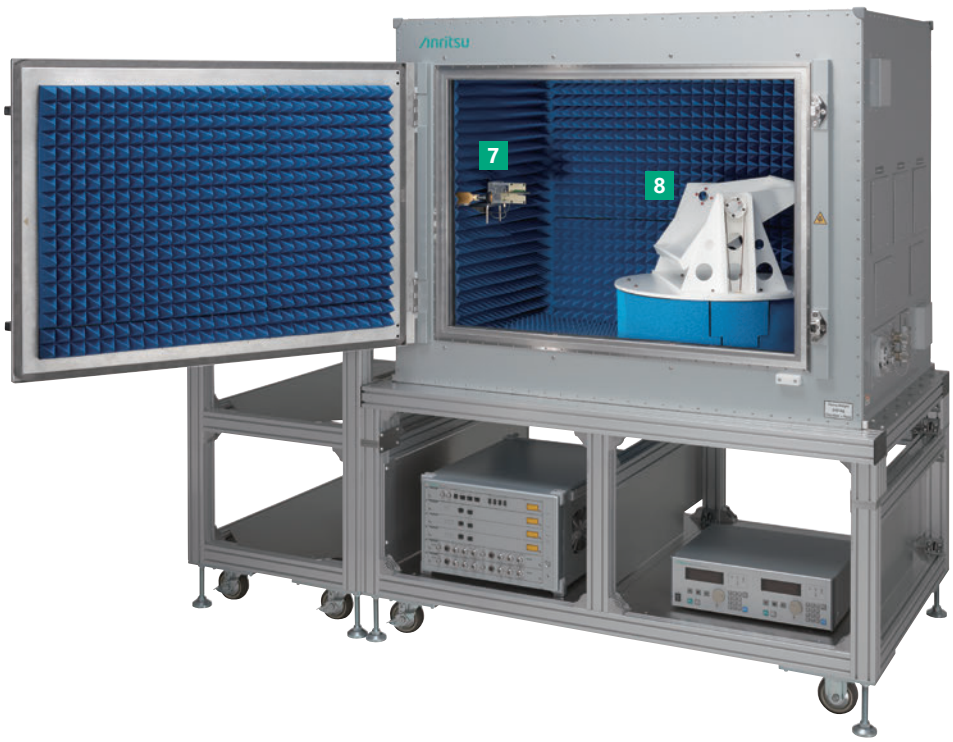
RF Chamber MA8171A

Setup Example



1 RF Chamber MA8171A
2 28 GHz RF Converter MA80001A/
39 GHz RF Converter MA80002A
3 Converter Rack B0747A
4 Chamber Rack B0746A
5 Radio Communication Test Station MT8000A
6 Position Controller MA8174A

Door Opening



7 Test Antenna
8 Positioner MA8175A

Anritsu OTA Products Layout

CATR Anechoic Chamber MA8172A

Front

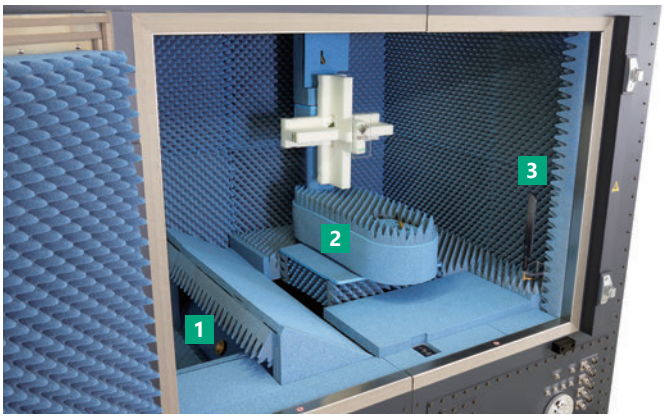
1 Door
2 Sealing handles
3 Handle
4 Ventilation hole
5 Position Controller MA8178A

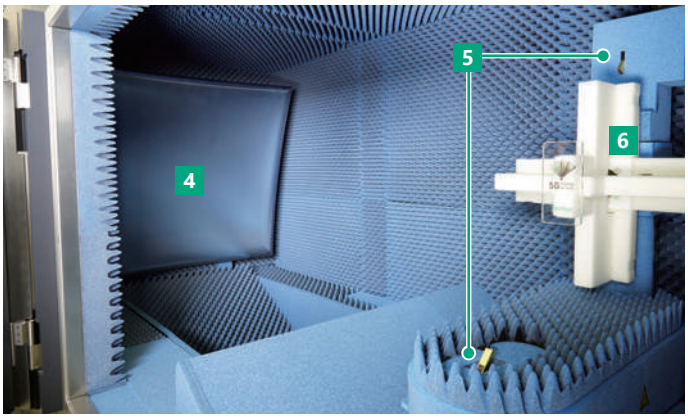
Enlarged View

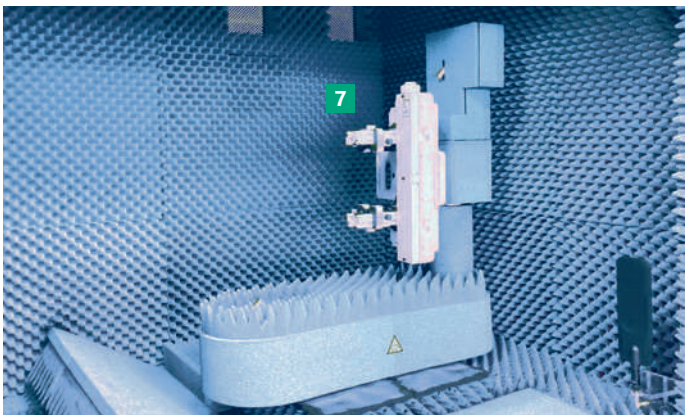
6 Connect to MA8178A (Theta/Phi)
7 USB3.0
8 Connect to MT8000A (5, 6)
9 For LTE Link Antenna
10 Through Hole 1
11 Through Hole 2
12 LAN
13 RF I/O
14 Through Hole 3
15 Connect to MT8000A (1, 2, 3, 4)

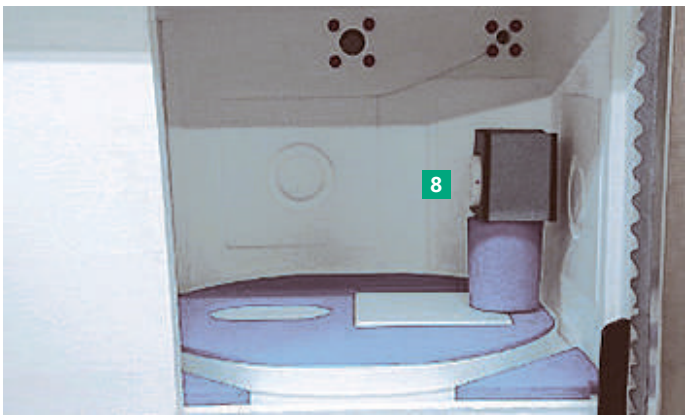
CATR Anechoic Chamber MA8172A (continued)

Insides









1 Feed antenna
2 Positioner MA8179A
3 LTE Link Antenna Kit MA8172A-AK023
4 Reflector
5 NR FR2 Link Antenna Kit MA8172A-AK022
6 DUT-supporting structure MA8179A-AK010
7 DUT Holder MA8179A-AK011
8 Temperature Testing Option MA8172A-010

Rear

1 Ventilation hole
2 Fans

Shield Box MA8161A

Shield Box MA8161A

Electrical Characteristics		Shielding characteristics: without cable connection via USB connector or Through Hole ≥50 dB (600 MHz ≤ frequency ≤ 6 GHz) ≥50 dB (24 GHz < frequency ≤ 43.5 GHz) (nom.)
Input/Output Connector		When Connector Panel 2 MA8161A-002 is selected SMA (f) — SMA (f): 8 K (f) — K (f): 8 Through Hole: 2
Dimensions and Mass		Outer dimensions: 434 (W) × 271 (H) × 328 (D) mm (excluding projections) Mass: ≤16 kg (Full option configuration) Maximum test UE size: 300 (W) × 50 (H) × 200 (D) mm (set the UE antenna face down) Maximum test UE mass: ≤1 kg Ventilation hole: 2
Environmental Conditions		Operating temperature range: +5°C to +40°C Storage temperature range: –20°C to +60°C (without condensation)
CE	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

Anritsu OTA Products Specifications

RF Chamber MA8171A

RF Chamber MA8171A

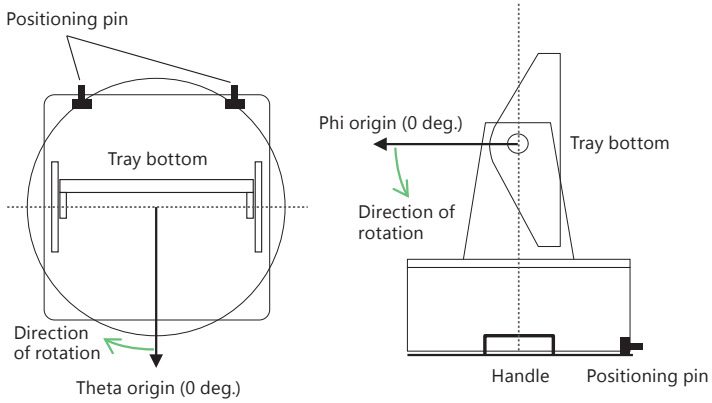
Electrical Characteristics		Shielding characteristics ≥70 dB (800 MHz ≤ frequency ≤ 3.8 GHz) (nom.) ≥60 dB (24 GHz ≤ frequency ≤ 40 GHz) (nom.) Anechoic performance Reflected wave Level by free space standing wave ratio method in QZ (quiet zone) in φ 300 mm sphere ≥30 dB (24 GHz ≤ frequency ≤ 40 GHz) (nom.)
General		External Interface RF connection: K (f) × 2 SMA (f) × 4 UE connection: USB 2.0 (type-A) (f) × 2 Position Controller: mini D-Sub 15 pin (m) × 2 Internal interface RF connection: K (f) × 2 SMA (f) × 4 UE connection: USB 2.0 (type-A) (f) × 2 Positioner connection: mini D-Sub 15 pin (f) × 2 Through sleeve pipe: 1 (φ 50 mm) Door: Unilateral door (left side opening) Outside door size: 1100 (W) × 800 (H) mm Aperture: 1000 (W) × 700 (H) mm Blank panel: 6 Ventilation hole: 2
Dimensions and Mass		Outer dimensions: 1460 (W) × 1210 (H) × 1000 (D) mm (excluding projections) Effective inner dimension: 1100 (W) × 800 (H) × 650 (D) mm (Inside dimension with radio wave absorber stuck) Mass: ≤150 kg Outer dimensions (with chamber rack): 1460 (W) × 1785 (H) × 1000 (D) mm (including casters, excluding projections) Mass (with chamber rack): ≤240 kg
CE	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

Position Controller MA8174A

External Interface		GPIB Trigger output: BNC (5 V, TTL, negative logic, pulse width 20 μs) × 1 Control connector: mini D-Sub 15 pin (f) × 2
Dimensions and Mass		Dimensions: 434 (W) × 141 (H) × 363 (D) mm Mass: ≤15 kg Rated voltage: 100 VAC to 120 VAC/200 VAC to 240 VAC Rated frequency: 50 Hz to 60 Hz Power consumption: ≤110 VA (when Positioner MA8175A connected)
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤85% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤85% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

RF Chamber MA8171A (continued)

Positioner MA8175A

General		Axis of rotation: 2 (Theta: Horizontal rotation, Phi: Vertical rotation) Rotational speed: 1.0 rpm to 15.0 rpm, 0.1 rpm step (nom.) Rotation angle resolution (Setting resolution): 0.1 deg. (nom.) Stop precision (Reproducibility): Specified stopping precision reproducibility when the center of gravity of UE of 1 kg or less is at rotation center Theta: ±0.5 deg. (nom.) Phi: ±0.5 deg. (nom.) Angle of rotation Theta: –20.0 deg. to 380.0 deg. (finite rotation) Phi: 0.0 to 359.9 deg. (infinite rotation), –720.0 deg. to 720.0 deg. (finite rotation) Angle origin Theta: According to figure below (left) Phi: According to figure below (right)  Allowable torque: 10 N · m (nom.) UE allowable size: Tray size within 400 × 400 mm, 200 mm or less from the bottom of the tray UE allowable mass: 1 kg Noise: ≤70 dB (Conforms to Machinery Directive 2006/42/EC Annex I)
External Connector		Theta: mini D-Sub 15 pin connector (m), 0.8 m from the end of the positioner body Phi: mini D-Sub 15 pin connector (m), 0.8 m from the end of the positioner body
Dimensions and Mass Power Supply		Dimensions: 600 (W) × 715 (H) × 600 (D) mm (excluding projections and cable) Tray size: 400 (W) × 400 (D) mm (excluding projections and screw) 70 (depth) mm (from the center of rotation to the bottom of the tray) Mass: ≤25 kg Power: Supplied from Position Controller MA8174A
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤85% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤85% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
	Machinery	2006/42/EC, EN60204-1
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

CATR Anechoic Chamber MA8172A

CATR Anechoic Chamber MA8172A
Spurious Measurement Kit 6 GHz-87 GHz MA8172A-003/-005
Temperature Testing Option MA8172A-010
Test Antenna MA8172A-021/-022/-023
Second Antenna MA8172A-033

Electrical Characteristics	Shielding characteristics: without cable connection via USB connector or Through Hole ≥60 dB (1 GHz ≤ frequency ≤ 6 GHz) ≥60 dB (600 MHz ≤ frequency < 1 GHz, 6 GHz < frequency ≤ 87 GHz) (nom.) Quiet Zone MA8179A: Specifies the flatness of the electric field amplitude and phase within a cylindrical area (QZ: quiet zone) with a diameter of 330 mm and a depth of 330 mm. MA8179B: Specifies the flatness of the electric field amplitude and phase within a cylindrical area (QZ: quiet zone) with a diameter of 400 mm and a depth of 400 mm. Amplitude taper MA8172A-021: ≤1.5 dB (23.4 GHz ≤ frequency ≤ 42 GHz) (nom.) (MA8179A) ≤2.0 dB (23.4 GHz ≤ frequency ≤ 42 GHz) (nom.) (MA8179B) MA8172A-022/-023: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179A) ≤1.7 dB (32.125 GHz < frequency ≤ 45.1 GHz) (nom.) (MA8179A) ≤2.2 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179B) ≤2.4 dB (32.125 GHz < frequency ≤ 45.1 GHz) (nom.) (MA8179B) MA8172A-033: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179A) ≤1.7 dB (32.125 GHz < frequency ≤ 49.8 GHz) (nom.) (MA8179A) ≤2.2 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179B) ≤2.4 dB (32.125 GHz < frequency ≤ 49.8 GHz) (nom.) (MA8179B) MA8172A-003/-005: ≤3 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) (MA8179A) ≤1.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) (MA8179A) ≤4 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) (MA8179B) ≤2.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) (MA8179B) Amplitude ripple MA8172A-021: ≤1.5 dB (23.4 GHz ≤ frequency ≤ 42 GHz) (nom.) MA8172A-022/-023: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 45.1 GHz) (nom.) MA8172A-033: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 49.8 GHz) (nom.) MA8172A-003/-005: ≤3 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) ≤1.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) Total phase deviation: excluding rotation of the phase distribution MA8172A-021: ≤22.5 deg. (23.4 GHz ≤ frequency ≤ 42 GHz) (nom.) MA8172A-022/-023: ≤22.5 deg. (22.65 GHz ≤ frequency ≤ 45.1 GHz) (nom.)
Antenna	Test Antenna MA8172A-021 Frequency: 23.4 GHz to 42 GHz Connector: K-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Test Antenna MA8172A-022/-023 Frequency: 22.65 GHz to 45.1 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Second Antenna MA8172A-033 Frequency: 22.65 GHz to 49.8 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Spurious Measurement Kit 6 GHz-87 GHz MA8172A-003/-005 Feed Antenna (6 – 20 GHz) Frequency: 6 GHz to 20 GHz Connector: K-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (20 – 40 GHz) Frequency: 20 GHz to 40 GHz Connector: K-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (40 – 60 GHz) Frequency: 40 GHz to 60 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (60 – 87 GHz) Frequency: 60 GHz to 87 GHz Connector: W-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.)

CATR Anechoic Chamber MA8172A (continued)

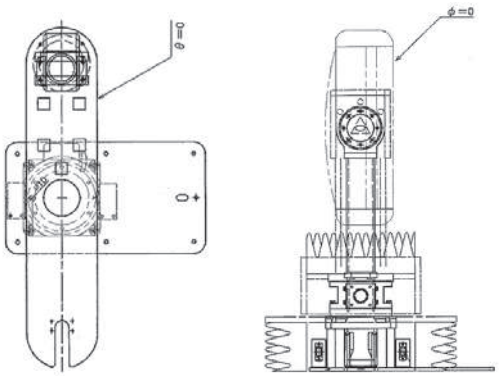
General		Exclusive interface Connect to MT8000A 1~6: Round multiway type connector, N (f) Connect to MA8178A/MA8178B (Theta, Phi): mini D-Sub 15 pin (m) For LTE Link Antenna: SMA (f) × 2 General interface RF I/O (≤ 40 GHz): K (f) to K (f) : 2 RF I/O (≤ 18 GHz): SMA (f) to SMA (f) : 4 USB 3.0: Type-A (f) to Type-A (f) : 2 Through Hole 1: φ 50 mm Through Hole 2: □ 18 mm (four screw stopping) Through Hole 3: φ 50 mm LAN: RJ-45 (Cat 6) Door: Unilateral door (left side opening) Aperture: 1035 (W) × 733 (H) mm
Power Supply		MA8172A Rated voltage: 100 VAC to 120 VAC/200 VAC to 240 VAC Rated frequency: 50 Hz to 60 Hz Power consumption: ≤100 VA ≤500 VA (when implementing MA8172A-010, Z2096A)
Dimensions and Mass		Outer dimensions MA8172A: 2200 (W) × 1980 (H) × 1200 (D) mm (excluding projections) MA8172A-003: 350 (W) × 145 (H) × 255 (D) mm (excluding projections and cables) MA8172A-005: 350 (W) × 145 (H) × 255 (D) mm (excluding projections and cables) MA8172A-010: 736 (W) × 790 (H) × 736 (D) mm (excluding projections and cables) MA8172A-021: 90 (W) × 60 (H) × 175 (D) mm (excluding projections and cables) MA8172A-022: 50 (W) × 50 (H) × 150 (D) mm (excluding projections and cables) MA8172A-023: 50 (W) × 50 (H) × 150 (D) mm (excluding projections and cables) MA8172B-033: 50 (W) × 65 (H) × 150 (D) mm (excluding projections and cables) Mass MA8172A: ≤700 kg (including all options, excluding rack) MA8172A-003: ≤10 kg MA8172A-005: ≤10 kg MA8172A-010: ≤15 kg MA8172A-021: ≤1 kg MA8172A-022: ≤1 kg MA8172A-023: ≤1 kg MA8172A-033: ≤1 kg
Environmental Conditions		Operating temperature range: +5°C to +35°C (MA8172A, MA8172A-003/-005/-021/-022/-023/-033, without condensation) +5°C to +30°C (MA8172A-010, without condensation) Operating humidity range: ≤85% (MA8172A-003/-005, without condensation) ≤75% (MA8172A-010, without condensation) Storage temperature: –20°C to +60°C (MA8172A, MA8172A-003/-005/-010/-021/-022/-023/-033, without condensation) Temperature range inside MA8172A-010 insulation box: –10°C to +55°C
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

CATR Anechoic Chamber MA8172A (continued)

Position Controller MA8178A

External Interface		Ethernet: RJ-45 × 1 (1000Base-T) Trigger Out: BNC × 1 (5 V, TTL, negative logic, pulse width 20 µs) Control connector Theta: mini D-Sub 15 pin (f) × 1 Phi: mini D-Sub 15 pin (f) × 1
Dimensions and Mass		Dimensions: 434 (W) × 180 (H) × 210 (D) mm Mass: ≤15 kg Rated voltage: 100 VAC to 120 VAC/200 VAC to 240 VAC Rated frequency: 50 Hz to 60 Hz Power consumption: ≤200 VA (when Positioner MA8179A connected)
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤80% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤80% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

Positioner MA8179A

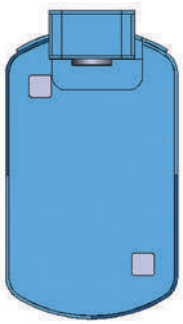
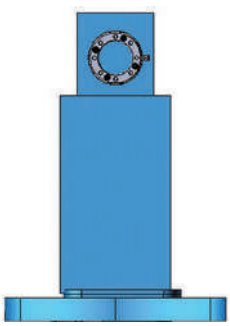
General		Axis of rotation: 2 (Theta: Horizontal rotation, Phi: Vertical rotation) Rotational speed: 0.1 rpm to 10.0 rpm, 0.1 rpm step (nom.) Rotation angle resolution (Setting resolution): 0.1 deg. (nom.) Stop precision (Reproducibility) (when the center of gravity of the load 1 kg or less is at the center of rotation): Theta: ±0.5 deg. (nom.) Phi: ±0.5 deg. (nom.) Angle of rotation Theta: –20.0 deg. to 380.0 deg. (finite rotation) Phi: infinite rotation Angle origin Theta: According to figure below (left) Phi: According to figure below (right)  ↓Door side Front view EUT allowable size: 330 mm diameter hemisphere around the axis of rotation EUT allowable mass: 2.0 kg Noise: ≤70 dB (Conforms to Machinery Directive 2006/42/EC Annex I) Power: Supplied from Position Controller MA8178A
Dimensions and Mass		Dimensions: 600 (W) × 360 (H) × 600 (D) mm (excluding projections and cables) Mass: ≤15 kg
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤80% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤80% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
	Machinery	2006/42/EC, EN60204-1
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

CATR Anechoic Chamber MA8172A (continued)

Position Controller MA8178B

External Interface		Ethernet: RJ-45 × 1 (100BASE-TX/10BASE-T) Trigger Out: BNC × 1 (5 V, TTL, negative logic, pulse width 380 µs) Control connector Theta: mini D-Sub 15 pin (f) × 1 Phi: mini D-Sub 15 pin (f) × 1
Dimensions and Mass		Dimensions: 426 (W) × 175 (H) × 400 (D) mm Mass: ≤10 kg
Power Supply		Rated voltage: 100 VAC to 120 VAC/200 VAC to 240 VAC Rated frequency: 50 Hz to 60 Hz Power consumption: ≤180 VA (when Positioner MA8179B connected) Power consumption: ≤120 VA (when Antenna Positioner MA8180A connected)
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤80% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤80% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

Positioner MA8179B

General		Axis of rotation: 2 (Theta: Horizontal rotation, Phi: Vertical rotation) Rotational speed: 0.1 rpm to 10.0 rpm, 0.1 rpm step (nom.) Rotation angle resolution (Setting resolution): 0.1 deg. (nom.) Stop precision (Reproducibility) (when the center of gravity of the load 1 kg or less is at the center of rotation): Theta: ±0.5 deg. (nom.) Phi: ±0.5 deg. (nom.) Angle of rotation Theta: –20.0 deg. to 380.0 deg. (finite rotation) Phi: infinite rotation, –720.0 deg. to 720.0 deg. (finite rotation) Angle origin Theta: According to figure below (left) Phi: According to figure below (right)  ↓Door side  Front view EUT allowable size: 400 mm diameter hemisphere around the axis of rotation EUT allowable mass: 2.0 kg with MA8179B-AK010/-AK011 5.0 kg with MA8179B-AK012 Noise: ≤70 dB (Conforms to Machinery Directive 2006/42/EC Annex I) Power: Supplied from Position Controller MA8178B
Dimensions and Mass		Dimensions: 576.5 (W) × 579.5 (H) × 322 (D) mm (excluding projections and cables) Mass: ≤20 kg
Environmental Conditions		Operating temperature range: +5°C to +40°C (without condensation) Operating humidity range: ≤80% (without condensation) Storage temperature range: –20°C to +60°C (without condensation) Storage humidity range: ≤80% (without condensation)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
	Machinery	2006/42/EC, EN60204-1
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

CATR Anechoic Chamber 2 MA8172B

CATR Anechoic Chamber 2 MA8172B
Spurious Measurement Kit 6 GHz-87 GHz MA8172B-003/005
Temperature Testing Option MA8172B-010
Test Antenna MA8172B-022/023
Second Antenna MA8172B-033

Electrical Characteristics	Shielding characteristics: without cable connection via USB connector or Through Hole ≥60 dB (1 GHz ≤ frequency ≤ 6 GHz) ≥60 dB (600 MHz ≤ frequency < 1 GHz, 6 GHz < frequency ≤ 87 GHz) (nom.) Quiet Zone MA8179A: Specifies the flatness of the electric field amplitude and phase within a cylindrical area (QZ: quiet zone) with a diameter of 330 mm and a depth of 330 mm. MA8179B: Specifies the flatness of the electric field amplitude and phase within a cylindrical area (QZ: quiet zone) with a diameter of 400 mm and a depth of 400 mm. Amplitude taper MA8172B-022/-023: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179A) ≤1.7 dB (32.125 GHz < frequency ≤ 45.1 GHz) (nom.) (MA8179A) ≤2.2 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179B) ≤2.4 dB (32.125 GHz < frequency ≤ 45.1 GHz) (nom.) (MA8179B) MA8172B-033: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179A) ≤1.7 dB (32.125 GHz < frequency ≤ 49.8 GHz) (nom.) (MA8179A) ≤2.2 dB (22.65 GHz ≤ frequency ≤ 32.125 GHz) (nom.) (MA8179B) ≤2.4 dB (32.125 GHz < frequency ≤ 49.8 GHz) (nom.) (MA8179B) MA8172-003/-005: ≤3 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) (MA8179A) ≤1.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) (MA8179A) ≤4 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) (MA8179B) ≤2.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) (MA8179B) Amplitude ripple MA8172B-022/-023: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 45.1 GHz) (nom.) MA8172B-033: ≤1.5 dB (22.65 GHz ≤ frequency ≤ 49.8 GHz) (nom.) MA8172B-003/-005: ≤3 dB (6 GHz ≤ frequency ≤ 20 GHz) (nom.) ≤1.5 dB (20 GHz < frequency ≤ 87 GHz) (nom.) Total phase deviation: excluding rotation of the phase distribution MA8172B-022/-023: ≤22.5 deg. (22.65 GHz ≤ frequency ≤ 45.1 GHz) (nom.)
Antenna	Test Antenna MA8172B-022/-023 Frequency: 22.65 GHz to 45.1 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Second Antenna MA8172B-033 Frequency: 22.65 GHz to 49.8 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Spurious Measurement Kit 6 GHz–87 GHz MA8172B-003/-005 Feed Antenna (6 – 20 GHz) Frequency: 6 GHz to 20 GHz Connector: K-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (20 – 40 GHz) Frequency: 20 GHz to 40 GHz Connector: K-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (40 – 60 GHz) Frequency: 40 GHz to 60 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.) Feed Antenna (60 – 87 GHz) Frequency: 60 GHz to 87 GHz Connector: W-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.)

CATR Anechoic Chamber 2 MA8172B (continued)

General		Exclusive interface RF Converter 5 – 8: Round multiway type connector, N (f) Positioner : Theta : mini D-Sub 15 pin (m) / Phi : mini D-Sub 15 pin (m) Positioner : Antenna Positioner: mini D-Sub 15 pin (m)/ Reserve : mini D-Sub 15 pin (m) LTE Link Antenna: SMA (f) × 2 General interface (Connector shape of MA8172B outside – Connector shape MA8172B inside) RF I/O (≤ 64 GHz): V (f) - V (f) : 8 RF I/O (≤ 40 GHz): K (f) - K (f) : 2 RF I/O (≤ 18 GHz): SMA (f) - SMA (f) : 4 USB 3.0: Type-A (f) - Type-A (f) : 2 Through Hole 1: φ 50 mm Through Hole 2: □ 18 mm (four screw stopping) Through Hole 3: φ 50 mm LAN: RJ-45 (Cat 6) Door: Unilateral door (left side opening) Aperture: 1035 (W) × 733 (H) mm
Dimensions and Mass		Outer dimensions MA8172B: 2700 (W) × 1980 (H) × 1500 (D) mm (excluding projections) MA8172B-003: 350 (W) × 145 (H) × 255 (D) mm (excluding projections and cables) MA8172B-005: 350 (W) × 145 (H) × 255 (D) mm (excluding projections and cables) MA8172B-010: 736 (W) × 790 (H) × 736 (D) mm (excluding projections and cables) MA8172B-022: 50 (W) × 50 (H) × 150 (D) mm (excluding projections and cables) MA8172B-023: 50 (W) × 50 (H) × 150 (D) mm (excluding projections and cables) MA8172B-033: 50 (W) × 65 (H) × 150 (D) mm (excluding projections and cables) Mass MA8172B: ≤750 kg (including all options, excluding rack) MA8172B-003: ≤10 kg MA8172B-005: ≤10 kg MA8172B-010: ≤20 kg MA8172B-022: ≤1 kg MA8172B-023: ≤1 kg MA8172B-033: ≤1 kg
Power Supply		MA8172B Rated voltage: 100 VAC to 120 VAC/200 VAC to 240 VAC Rated frequency: 50 Hz to 60 Hz Power consumption: ≤100 VA ≤500 VA (when implementing MA8172B-010, Z2096A)
Environmental Conditions		Operating temperature range (without condensation): +15°C to +30°C (MA8172B, MA8172B-003/-005/-010/-022/-023) Operating humidity range (without condensation): ≤85% (MA8172B-003/-005) ≤75% (MA8172B-010) Storage temperature (without condensation): –20°C to +60°C (MA8172B, MA8172B-003/-005/-010/-022/-023) Temperature range inside MA8172B-010 insulation box: –10°C to +55°C
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

CATR Anechoic Chamber 2 MA8172B (continued)

Antenna Positioner MA8180A
DFF Antenna MA8180A-001

General		Axis of rotation: Horizontal rotation Rotation speed: 1.8 rpm (max.) Rotation angle resolution (setting resolution): 0.1 deg. (nom.) Stop precision (Reproducibility): ±0.5 deg. (nom.) (when the load 30 kg or less) Angle of rotation: 30.0 deg. to 150.0 deg. (nom.) Load capacity: 30 kg or less Noise: ≤70 dB (Complied with Directive 2006/42/EC (Annex I) and amending Directive 95/16/EC)
Power		Supplied from Position Controller MA8178B
Antenna		Frequency: 22.65 GHz to 49.8 GHz Connector: V-type (m) Impedance: 50Ω (nom.) Polarization: Both (Vertical, Horizontal) (nom.)
Dimensions and Mass		MA8180A Dimensions: 1600 (W) × 950 (H) × 850 (D) mm (excluding projections and cables) Mass: ≤90 kg (including all options) MA8180A-001 Dimensions: 375 (W) × 650 (H) × 270 (D) mm (excluding projections and cables) Mass: ≤ 5 kg
Environmental Conditions		Operating temperature range (without condensation): +15°C to +40°C Operating humidity range (without condensation): ≤80% Storage temperature (without condensation): –20°C to +60°C Storage humidity range (without condensation): ≤80%
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
	Machinery	2006/42/EC, EN60204-1
UKCA	EMC	S.I. 2016 No.1091, EN 61326-1, EN61000-3-2
	LVD	S.I. 2016 No.1101, EN 61010-1
	RoHS	S.I. 2012 No.3032, EN IEC 63000: 2018

Anritsu OTA Products Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Model/Order No.	Name
	Shield Box
MA8161A	Shield Box
MA8161A-002	Control Panel 2
MA8161A-AK010	Shield Tube
Z1999A	28 GHz Antenna Unit
Z2000A	39 GHz Antenna Unit
K241C	Precision Power Splitter, DC to 40 GHz
	RF Chamber
MA8171A	RF Chamber
MA8174A	Position Controller
MA8175A	Positioner
MA8175A-AK001	Cable Management Kit
MA8181A	28 GHz Test Antenna
Z1996A	28 GHz/39 GHz Test Antenna
Z2031A	Test Antenna
B0746A	Chamber Rack
B0747A	Converter Rack
J0322A	Coaxial Cord, 0.5M
J0322B	Coaxial Cord, 1.0M
J0322C	Coaxial Cord, 1.5M
J0322D	Coaxial Cord, 2.0M
J1762A	Positioner Control Cable (3.0 m)
J1775A	Coaxial Cable (KM-KM, 0.3 m)
J1775B	Coaxial Cable (KM-KM, 1.0 m)
J1775C	Coaxial Cable (KM-KM, 2.0 m)
J1775D	Coaxial Cable (KM-KM, 3.0 m)
J1795A	Coaxial Cable (SMA (M)-SMA (M), 0.5 m)
J1795B	Coaxial Cable (SMA (M)-SMA (M), 1.0 m)
J1795C	Coaxial Cable (SMA (M)-SMA (M), 1.5 m)
J1795D	Coaxial Cable (SMA (M)-SMA (M), 2.0 m)
J1811A	Coaxial cable (VM-VM, 0.28 m)
J1811B	Coaxial cable (VML-VM 2.5 m)
Z1983A	Tray
Z1984A	Jig for DUT Tray
Z1985A	Wave Absorber
Z1986A	Hook and Loop Fastener
Z2009A	Link Antenna
Z2065A	Shield Tube
B0752A	Link Antenna Holder
J1798A	GPIB-USB-HS+
J1806A	VJ-VJ Adaptor
J1806B	VJ-KJ Adaptor
	CATR Anechoic Chamber
MA8172A	CATR Anechoic Chamber
MA8172A-003	Spurious Measurement Kit 6 GHz-87 GHz
MA8172A-005	Spurious Measurement Kit 6 GHz-87 GHz
MA8172A-010	Temperature Testing Option
MA8172A-021	Test Antenna
MA8172A-022	Test Antenna
MA8172A-023	Test Antenna
MA8172A-033	Second Antenna
MA8172A-AK011	Converter Install Kit
MA8172A-AK012	Converter Tray
MA8172A-AK013	Switching Hub
MA8172A-AK021	Antenna Mounting Base
MA8172A-AK022	NR FR2 Link Antenna Kit
MA8172A-AK023	LTE Link Antenna Kit
MA8172A-AK024	NR FR2 Link Antenna Kit
MA8172A-AK025	FR2 Link Antenna Angle Kit for MA8179B
MA8172A-AK031	Monitor Camera
MA8172A-AK032	Additional Rack (41U)
MA8172A-AK033	Interferer Accessory

Model/Order No.	Name
MA8172A-AK041	Sliding Door
MA8172A-AK091	Accessory Kit for NRTL
MA8172A-AK101	Temperature Testing Accessory for MA8179B
MA8172A-AK102	Positioner Base Kit for MA8179B
MA8178A	Position Controller
MA8178B	Position Controller
MA8178B-AK001	MA8178B Rack Mount Kit
MA8179A	Positioner
MA8179A-AK010	DUT-supporting structure
MA8179A-AK011	DUT Holder
MA8179B	Positioner
MA8179B-AK010	DUT-supporting structure
MA8179B-AK011	DUT Holder
MA8179B-AK012	DUT Pole mount structure
MA8179B-AK020	Positioner Control Cable (1.7 m)
MA8179B-AK021	Positioner Control Cable (3.0 m)
MA8179B-AK030	Jig For Reference Antenna
MA8179B-AK040	Rotary Table Wave Absorber
MA8179B-AK041	Wave Absorber
MA8179B-AK042	Non-slip Sheet (12 pcs)
Z1974A	Reference Antenna
Z2032A	Reference Antenna
Z2065A	Shield Tube
Z2096A	Heater Controller
J1806D	VJ-KP Adaptor
J1811B	Coaxial cable (VML-VM, 2.5 m)
ML2437A	Power Meter
MA2444D	High Accuracy Sensor
MA2445D	High Accuracy Sensor
41KC-10	Fixed Attenuator
41VA-10	Fixed Attenuator
34VFK50A	Precision Adapter, DC to 43.5 GHz, V (f) - K (m), 50Ω
	CATR Anechoic Chamber 2
MA8172B	CATR Anechoic Chamber 2
MA8172B-003	Spurious Measurement Kit 6GHz-87GHz
MA8172B-005	Spurious Measurement Kit 6GHz-87GHz
MA8172B-010	Temperature Testing Option
MA8172B-022	Test Antenna
MA8172B-023	Test Antenna
MA8172B-033	Second Antenna
MA8172B-AK011	Converter Install Kit
MA8172B-AK013	Switching Hub
MA8172B-AK021	Antenna Mounting Base
MA8172B-AK022	NR FR2 Link Antenna Kit
MA8172B-AK023	LTE Link Antenna Kit
MA8172B-AK024	NR FR2 Link Antenna Kit
MA8172B-AK025	FR2 Link Antenna Angle Kit for MA8179B
MA8172B-AK031	Monitor Camera
MA8172B-AK032	Additional Rack(41U)
MA8172B-AK033	Interferer Accessory
MA8172B-AK041	Sliding Door
MA8172B-AK091	Accessory Kit for NRTL
MA8172B-AK101	Temperature Testing Accessory for MA8179B
MA8172B-AK103	Positioner Base Kit for MA8179A
MA8172B-AK104	Additional Parts for Temperature Testing
MA8172B-AK105	Positioner Base Kit for MA8179B
MA8172B-UG301	MA8172A to MA8172B Upgrade
MA8172B-UG303	Spurious Measurement Kit Upgrade 3
MA8180A	Antenna Positioner
MA8180A-001	DFF Antenna
MA8180A-AK001	Converter Install Kit

Anritsu OTA Products Related Products

Radio Communication Test Station MT8000A

All-in-One 5G RF Measurements and Protocol Tests
- Flexible Platform using Modular Architecture
- Support both Standalone and non-Standalone modes

New Radio RF Conformance Test System ME7873NR

Trust 5G conformance test system
- Early 3GPP Compliant Test Case Release
- Support Global Mobile Terminals
- The System with Stable Measurement
- Measurement Functions for Efficient R&D

5G NR Mobile Device Test Platform ME7834NR

All-in-One 5G NR Support for Protocol Conformance Tests and Carrier Acceptance Test
- Supports 3GPP defined bands from Sub-6GHz to mm-Wave
- Support 5G New Radio (NR) Technology in both Standalone and Non-Standalone mode
- Support LTE, LTE-Advanced (LTE-A), LTE-A Pro, and W-CDMA
- Upgrade your current ME7834 system for 5G