Anritsu Advancing beyond

Radio Communication Test Station MT8000A

with

RF Chamber MA8171A

CATR Anechoic Chamber MA8172A

Shield Box MA8161A

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1. Product Overview
2. Software/Hardware Option
3. Specification Overview

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1. Product Overview
2. Software/Hardware Option
3. Specification Overview

Product Overview

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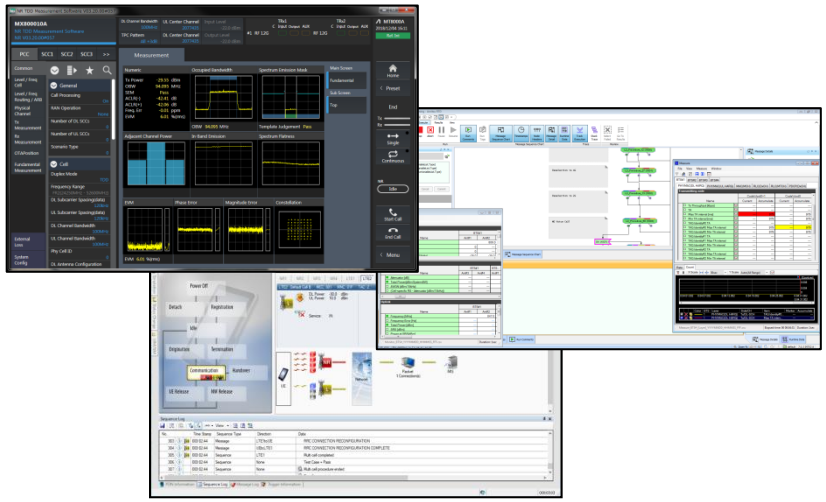
■High performance and scalable test platform for 5G NR



MT8000A

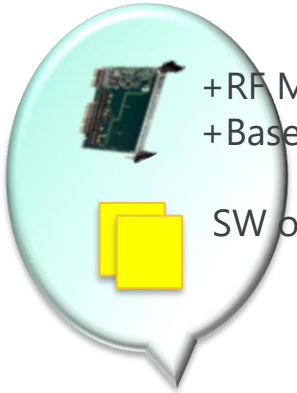
Radio Communication Test Station

- **Versatile and scalable** test platform for developing chipset and mobile devices for 5G.
- **Supports RF ,Protocol and Application test** for **FR1** and **FR2** with broadband signal process and beamforming technology.
- **Advanced module based and software defined architecture** ensures the expandability for future technology evolution.

Scalable Platform for 5G NR FR1 & FR2 in Long-Term

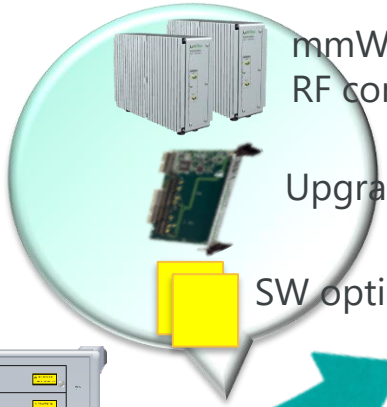
MT8000A has flexible functions scalability from minimum FR1 Basic feature set to FR2 test environment with common HW platform.

Full Configuration



+RF Module
+Baseband Module

SW option

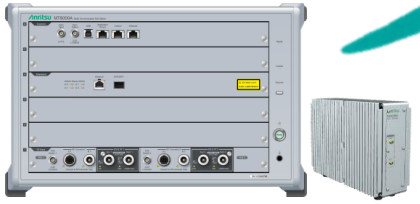


mmWave
RF converter

Upgrade to new RF Module

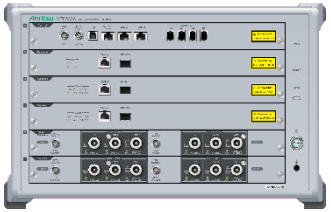
SW options

Minimum configuration



FR1/FR2 Basic

- Max BW: 200 MHz
- MIMO: DL SISO/2x2MIMO
- Modulation: 256QAM
- Frequency: **0.4G to 6 GHz**
- **24.25 to 43.5 GHz**
- Mainly for simple RF test



FR1 Enhanced

- Max BW: 200 MHz
- MIMO: DL **4x4MIMO**
  UL 2x2MIMO
- Modulation: **256QAM**
- Max Data TP: **over 2.5 Gbps**
- Frequency: **0.4G to 6 GHz**
- For IP/application test & RF test

upgrade

FR1 & FR2

- Max BW: **800 MHz**
- MIMO: DL 4x4MIMO
  UL 2x2MIMO
- Modulation: 256QAM
- Max Data TP: **over 5 Gbps**
- Frequency: **0.4G to 7.125 GHz**
- **24.25 to 43.5 GHz**
- For protocol stack verification and IP/application test & RF test

TRx Measurement Capability Overview

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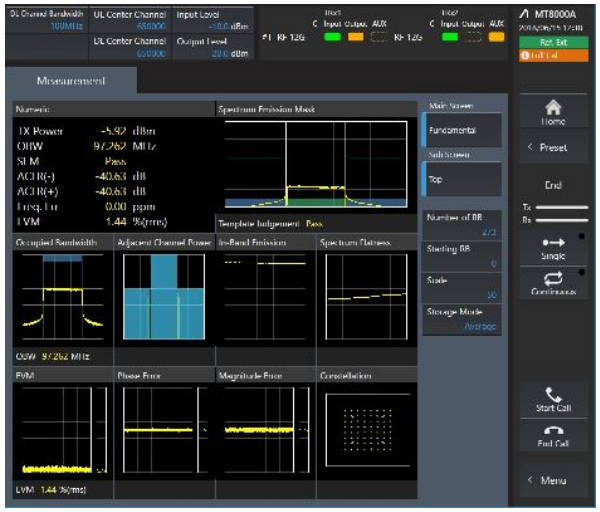
Advanced, intuitive and graphical user interface for various test parameters.

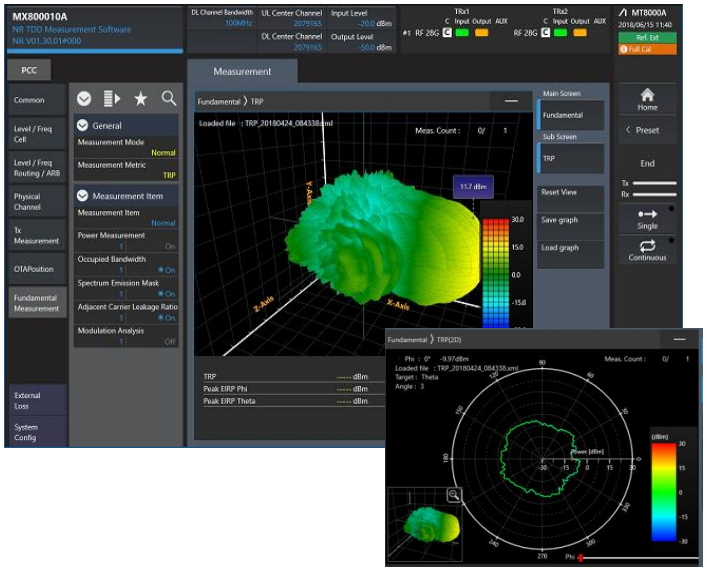
1. **RF TRx test item**
   - TX Power, OBW, SEM, ACLR, Frequency Error, EVM, Phase Error, Constellation
2. **FR2 measurement metric**

   TRP/EIRP/EIS/CDF/Peak Search are supported. The antenna characteristics are displayed in the 2D/3D graph to allow user to intuitively grasp results.
3. **Automation Test Software (ATS)**
   - 3GPP RF test standard compliant automatic remote control tool
   - Simple GUI for setting of test condition
   - Automatically output for measurement result (Pass/Fail)

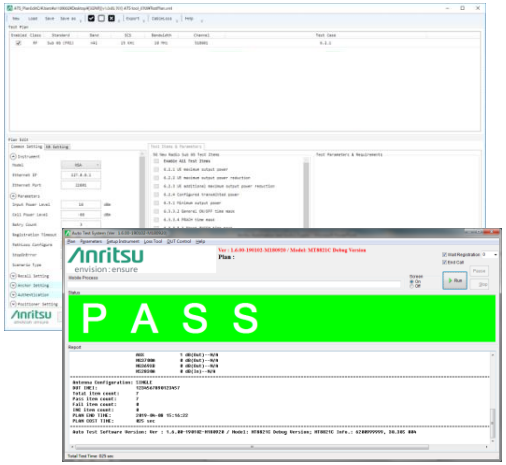
TRx test item GUI



FR2 Beam measure GUI



Automation Test Software



Protocol Test Capability Overview

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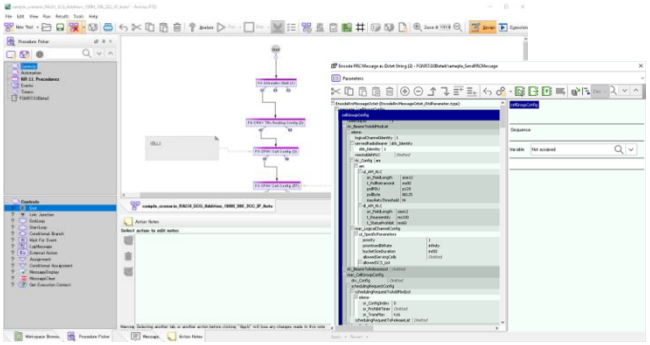
RTD – Integrated Protocol Test Environment

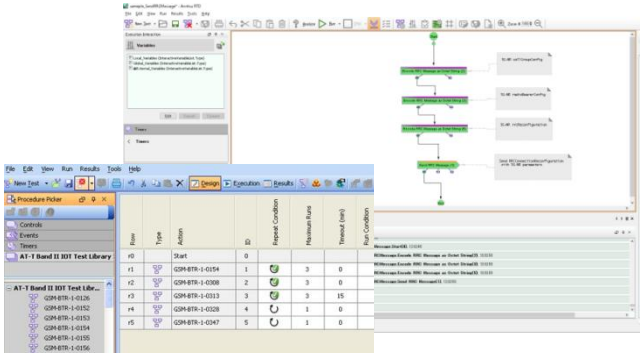
DESIGN TEST

LL Lib

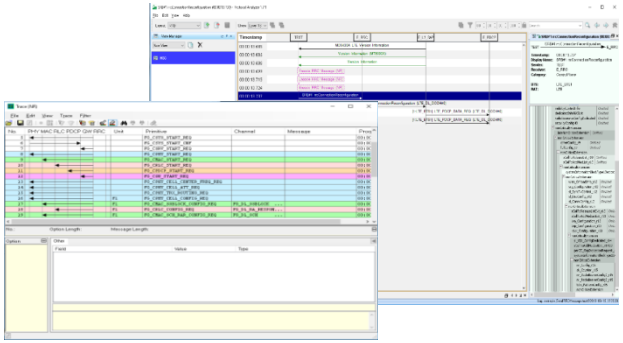
L3 Lib



EXECUTE & AUTOMATE



TRACE/LOG & ANALYZE



Protocol Test example
System Access
Cell Acquisition
Initial Access
Security setup
Radio bearer setup/release
Cell selection and reselection
Scell activation/Deactivation
Beam Acquisition
PHY DL/UL assignment
PHY Link Adaptations
Beam Tracking/Refinement
MAC H-ARQ operation
Data Performance
IP Data Transfer (IPv4/v6)
Traffic Monitor
Internal Traffic Generator

Application Test Capability Overview

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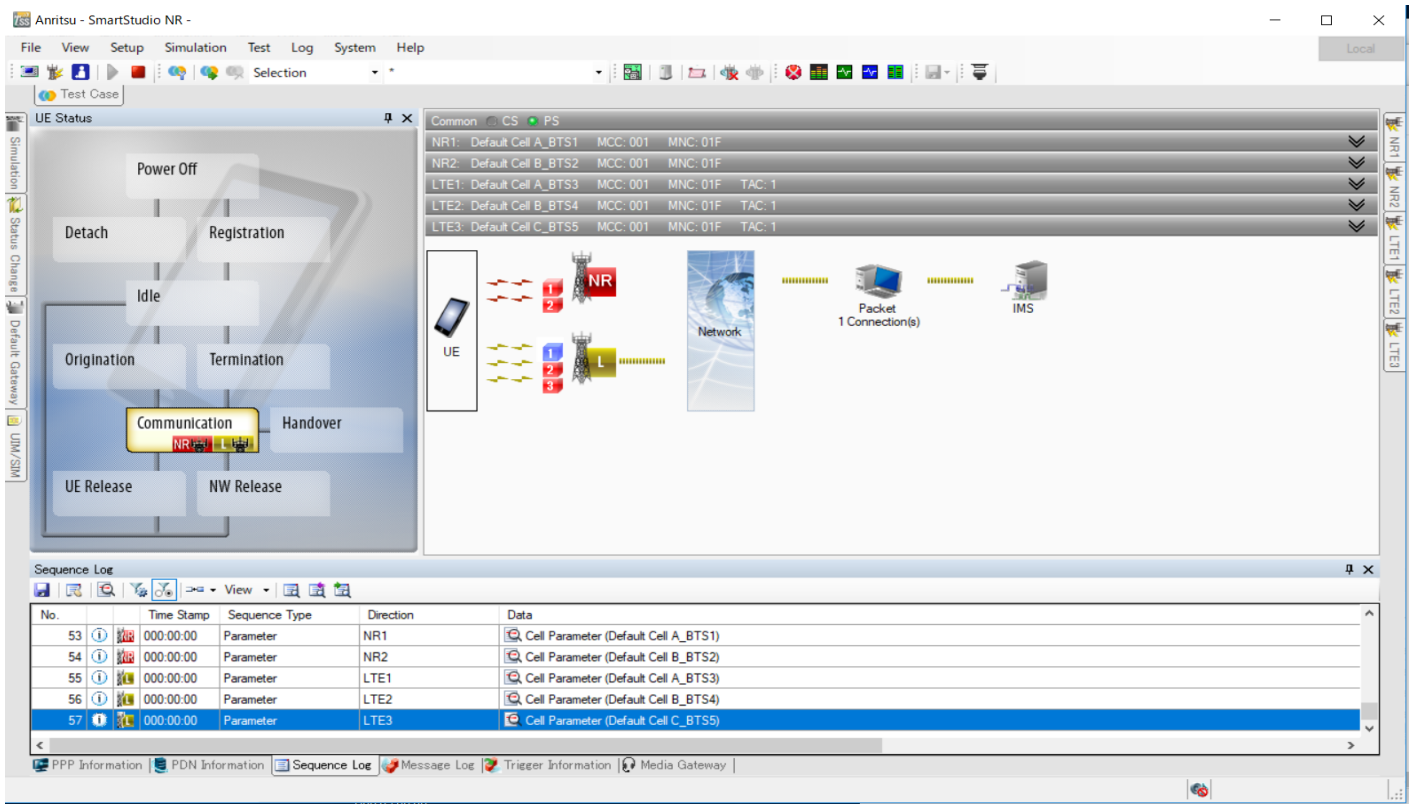
Easy Operation with State-machine GUI for 5G device application test



SmartStudio NR (SSNR)

- Interactive NR test environment **without any complex test scripts**
- Network parameter settings matching user test environment
- Included IMS server for SIP based application test
- Unique graphical SMS/PWS Centre applications for SMS/CMAS/ETWS service

Application/IP Throughput Test Capability Overview

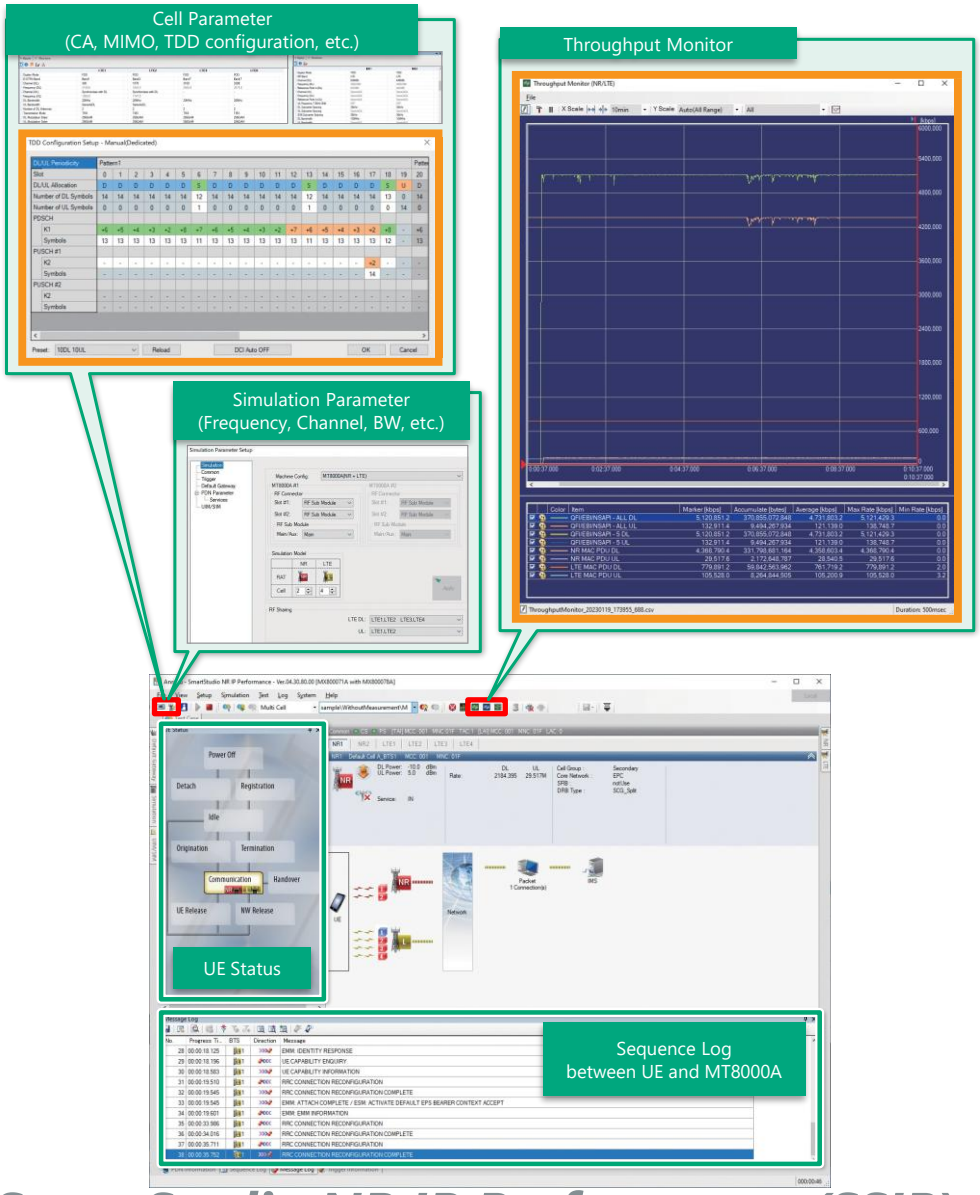
Anritsu
Advancing beyond

Efficient 5G Device IP Throughput Test

Best test solution to evaluate IP throughput performance with higher-layer CCs/MIMO at any band combination

- ✓ **Single platform** supports FR1 SA/NSA and LTE systems, contributing to **easy-to-use, small-footprint** test systems
- ✓ Supports **wide variety of CCs/MIMO combinations**
- ✓ **Easy testing start** by verifying connection with advanced chipsets
- ✓ **Cost effective** with scalable HW/SW platform
- ✓ **Intuitive state machine GUI**

MT8000A



SmartStudio NR IP Performance (SSIP)

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2. Software/Hardware Option
3. Specification Overview

Hardware Option - MT8000A Platform

Protocol
RF TRX
Application

■Flexible modular architecture for various test need

MT8000A-009 Multi-box Data Connection
For multiple uni

MT8000A-012 Data Test Module
Simulate U-plane stack with built-in IP generator

MT8000A-011 Baseband Module
Simulate full-stack 5G NR gNB signaling and/or LTE eNB signaling.

MT8000A-020 RF Base Module
For FR1 FDD/TDD :
- MT8000A-021 0.4GHz-6GHz RF Sub Module

For FR1 TDD/NR-U
- MT8000A-022 3GHz-12GHz RF Sub Module
- MT8000A-023 Extend RF 2.4GHz-3GHz
- MT8000A-024 Extend RF 6GHz – 7.125GHz

For FR1/FR2 simple test

MT8000A-031 0.4GHz-6GHz Multi RF Module
MT8000A-032 0.4GHz-6GHz Multi RF Extension

For FR1 4x4

MT8000A-033 0.4GHz-7.125GHz Enhanced RF Module

For FR1/FR2/NR-U
With multiple CA/MIMO

MA80003A Multiband RF Converter
for 2x2 MIMO, 2pcs converters required

MT8000A Mainframe

J1771A/B Coaxial Cord (N-N) 1.0m/3.0m
J1879B Coaxial Cord (N-SMA) 3.0m
RF Cable

J1772A/B Control Cable 1.0m/3.0m
Cable for Converter control signal

Warranty Service

MT8000A-ES210/ES310/ES510	2/3/5 Years Extended Warranty Service	Warranty service for MT8000A
MA80001A-ES210/ES310/ES510	2/3/5 Years Extended Warranty Service	Warranty service for MA80001A
MA80002A-ES210/ES310/ES510	2/3/5 Years Extended Warranty Service	Warranty service for MA80002A
MA80003A-ES210/ES310/ES510	2/3/5 Years Extended Warranty Service	Warranty service for MA80003A

Hardware Option - MA8171A OTA Test Environment

Integrated OTA environment for beamforming test

MA8181A
28GHz Test Antenna
Z1996A
28GHz/39GHz Test Antenna
Z2031A
Test Antenna

MA80001A
28GHz RF Converter
MA80002A
39GHz RF Converter
MA80003A
Multiband RF Converter

MT8000A
Radio Communication Test Station(5G NR Tester)

B0746A
RF Chamber Rack

B0747A
RF Converter Rack

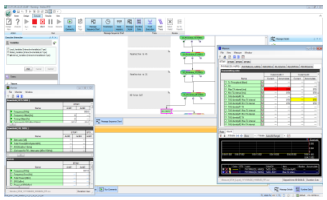
MA8171A
RF Chamber

MA8175A
Positioner

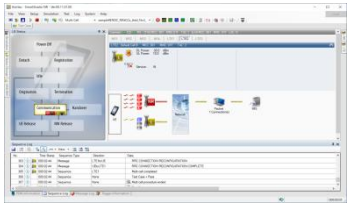
Z1984A
Jig for Tray

MA8174A
Position Controller

GUI



MX800030A/50A
Rapid Test Designer (RTD)
(for protocol test)



MX800070A
SmartStudio NR
(for functional test)

Hardware Option - MA8172A OTA Test Environment

RF TRX

■Integrated OTA environment for Black Box CATR TRx testing

MA8172A
CATR Chamber

Reflector

MT8821C
Radio Communication Test Station (LTE Tester)

MT8000A
Radio Communication Analyzer (5G NR Tester)

MA8172A-AK022/AK024
NR Link Antenna

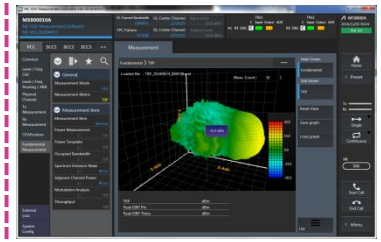
MA8179A/B
Positioner

MA8172A-021/022/023
Test Antenna

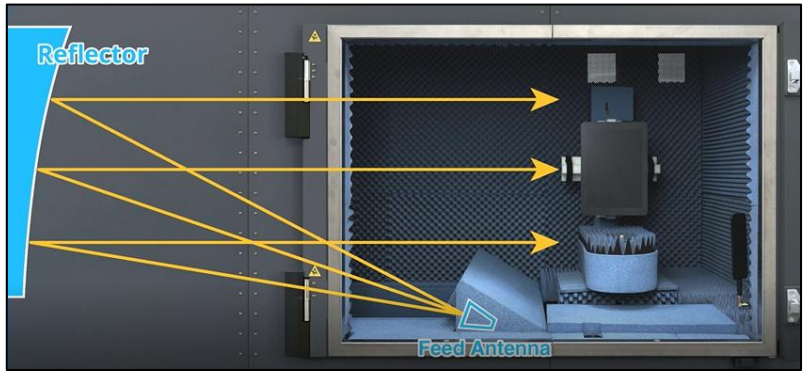
MA80001A/2A/3A
RF Converter (Inside)

MA8178A/B
Position Controller

GUI

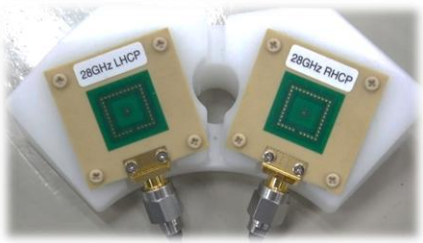


MX800010A-002
NR TDD OTA Measurement Software
(For RF TRx Test)



Hardware Option - MA8161A Shield Box

◆MA8161A Shield Box:
Desktop FR2 OTA test environment for Protocol test
(such as Call connection, Throughput, Application, etc…)



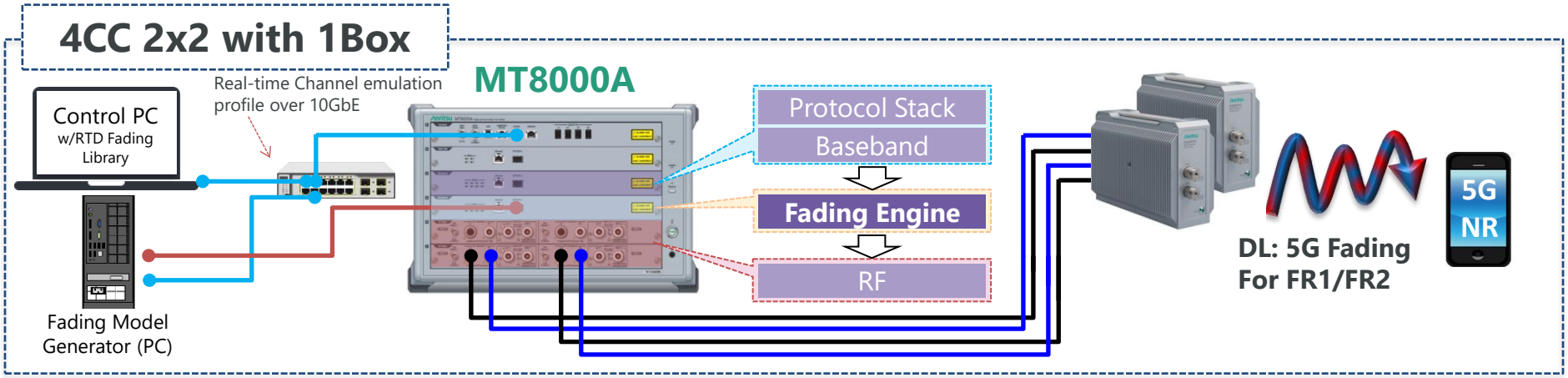
◆Overview

Model	MA8161A
Type	Shield Box
Solution	Protocol test for R&D, CAT (Under verification)
Compatible models	MT8000A
Antenna type	Spiral Antenna
Test environment	Shield Box, Radiative NFM
Shielding characteristics	≥50 dB (600 MHz ≤ frequency ≤ 43.5 GHz) (nom.)
Maximum Supported UE Size	300 (W) x 15 (H) x 200 (D) mm, *: without any cable
Outer size	434 (W) x 271 (H) x 328 (D) mm (excluding projections), ≤16kg (Max.)

Internal Fader (Protocol)

Fading Feature Concept

- Real-time Fading for FR1 and FR2
- All Features for requirements of 3GPP 5G NR UE Conformance Test
- NR + Fading on one MT8000A *Up to 4CC, need two boxes for up to 8CC



Model	Description	Qty.
NR Fading software		
MX800031A	NR Fading Basic	1
MX800031A-001	NR Fading 2x2 MIMO	1
MX800031A-002	NR Fading 4x2/4x4 MIMO	1
MX800031A-003	NR Fading 2CA-4CA	1
MX800031A-004	NR Fading 5CA-8CA	1
RTD		
MX800050A-012	5G Fading Library for RTD	1
MX800050A-SS112	5G Fading Support Service (Per Year)	1

- Channel Model
  - 3GPP 5G Channel Models (3GPP TS 38.101-4 Annex B V15.2.0, 2019-06)
  - Static Butler and Bypass models
  - High Speed Train
  - Custom Model Editor

LTE Anchor

Protocol
RF TRX
Application

■Minimum configuration as an LTE Anchor.

For RF Measurement (1CC, SISO)

Model No.	Description	Qty.
MT8821C	Radio Communication Analyzer	1
MT8821C-008	LTE Measurement Hardware	1
MX882112C	LTE FDD Measurement Software	1
MX882112C-010	LTE FDD Anchor For 5G NSA	1
MX882113C	LTE TDD Measurement Software	1
MX882113C-010	LTE TDD Anchor For 5G NSA	1

For Protocol Test (1CC, 2x2 MIMO)

Model No.	Description	Qty.
MD8430A	Signalling Tester	1
MD8430A-035	LTE Enhanced Test Model(ETM)	1
MD8430A-005	Extended Frequency Range to 3.8GHz Hardware2	1
MD8430A-060	LTE FDD Option	1
MD8430A-061	LTE TDD Option	1
MD8430A-064	LTE Anchor For 5G NSA Option	1
MD8430A-086	Ciphering Option	1

For Application Test (1CC, SISO)

Model No.	Description	Qty.
MD8475B	Signalling Tester	1
MD8475B-071	Enhanced Multi-signalling Unit	2
MX847550B	LTE Simulation Software	1
MX847550B-090	LTE Anchor For 5GNR Option	1

MT8000A NR/LTE Single Box Solution - Overview -

RF TRX
Application

MT8000A can configure EN-DC condition by 1box. It can be utilized for RF test, application test and IP throughput test.

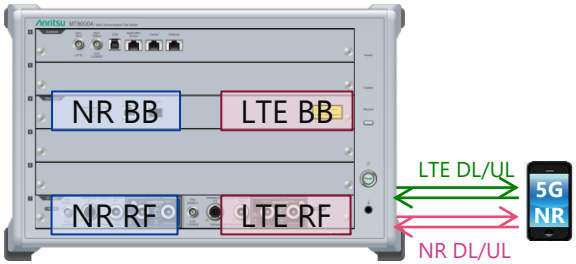
Feature concept

- EN-DC RF test and application test by 1box.
- Upgradable platform to higher capability.

- Entry model -

RF test

FR1/FR2 SISO
(MT8000A-020/021 x1 + BBM x1)

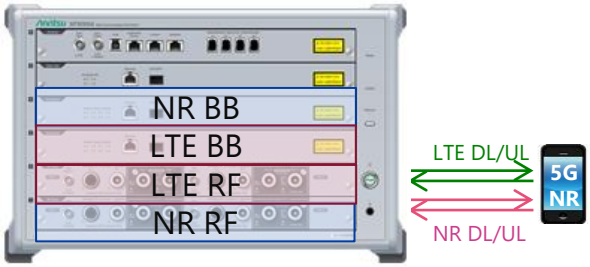


- Minimum hardware configuration
- LTE & EN-DC RF test
- Single carrier (LTE 1CC +NR 1CC)
- Supports FR1 / FR2

- Middle range model -

RF & Application/IP

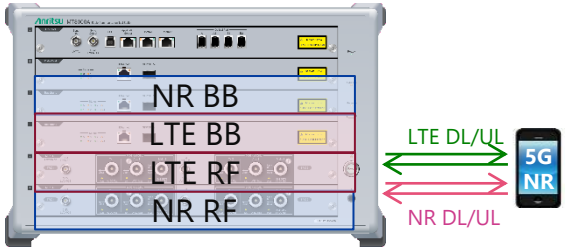
FR1/FR2 CA
(MT8000A-020/021 x2 + BBM x2)



- LTE & EN-DC RF test
- LTE & EN-DC application/IP test
- LTE CA, NR CA with 2x2 MIMO
- Supports FR1 / FR2

RF & Application/IP

FR1 MIMO/CA
(MT8000A-031/032 + BBMx2)



- LTE & EN-DC RF test
- LTE & EN-DC application/IP test
- LTE CA, NR CA with 4x4 MIMO
- Supports FR1 only

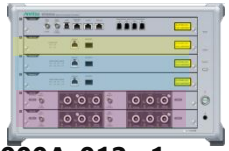
Upgradable

MT8000A NR/LTE Single Box Solution - Detail -

RF TRX
Application

5G EN-DC RF test, IP T-put test and Application test by 1 box.

- ***Entry Model*** — ***Supports RF Test for FR1 and FR2.***
- ***Mid range model*** — ***Supports RF test , Application test and IP T-put test.***
  Selectable RF Module (MT8000A-020/021 or -031/032) by Freq. Range, CA/MIMO demands

		Entry Model	*Mid range Model*	
HW Config.		*RF* **MT8000A-011 x1** **MT8000A-020/021 x1**	*RF* **MT8000A-011 x2** **MT8000A-020/021 x2** *RF + Application* + **MT8000A-012 x1**	*RF* **MT8000A-011 x2** **MT8000A-031/032** *RF + Application* +  **MT8000A-012 x1**
RF	LTE CA	DL1/UL1	DL4(2band)/UL1	DL4(4band)/UL1
	LTE MIMO	SISO	SISO	SISO
	NR CA	FR1 : DL1/UL1 FR2 : DL1/UL1 (Plan CY21.Dec)	FR1 : DL4CA(2band)/UL2CA FR2 : DL4/UL4	FR1 : DL4CA(4band)/UL2CA FR2 : ---
	NR MIMO	SISO	2x2MIMO	4x4MIMO
	NR/LTE RF Meas.	✔	✔	✔
Function	LTE CA	--	DL3/UL2	DL3/UL2
	LTE MIMO	--	2x2MIMO	4x4MIMO
	NR CA	--	FR1 : DL2/UL2 FR2 : DL4/UL2	FR1 : DL2/UL2
	NR MIMO	--	2x2MIMO	4x4MIMO
	IP Tput	--	**Option2(SA), 3x(NSA)**	**Option2(SA), 3x(NSA)**
Release Plan		**Available**	**Available**	**Available**

MT8000A/MX800010A Entry Model

- ***Support 5GNR EN-DC Condition by 1 box.***
- ***Possible to support FR2.***
- ***Upgradable to Mid/High test range configuration.***

■HW Configuration

MT8000A-001 Control Module

MT8000A-011 Baseband Module

MT8000A-020 RF Base Module

MT8000A-021 0.4GHz-6GHz RF Sub Module
(Installed on RF Base Module)

MA80003A
Multiband RF Converter

■Software

Model #	Model Name	Remarks
MX800010A	NR TDD Measurement Software	---
MX800010A-001	NR TDD SA Call Processing Software	Optional for SA
MX800010A-007	NR TDD sub-6 GHz Measurement	For FR1 operation
MX800010A-008	NR TDD mmWave Measurement	Optional for FR2 operation
MX800010A-009	NR FDD Measurement	For FR1 FDD band
MX800010A-070	LTE anchor Call Processing Software	For NSA
MX800010A-071	LTE TRx Measurement	For NSA LTE Measurement

■ Supportable function

LTE CA	DL1/UL1
LTE MIMO	SISO
LTE RF Meas.	✔
NR Freq. Range	FR1, FR2
NR CA	FR1 : DL1/UL1 FR2 : DL1/UL1
NR RF Meas.	✔
NR MIMO	SISO
IP Tput	-

NR & LTE Anchor Single Box (RF meas.)

Minimum configuration as NR/LTE single box.

For RF Measurement (1CC, SISO)

MT8000A LTE anchor Configuration for FR1

Model No.	Description	Qty.
MT8000A	Radio Communication Station	1
MT8000A-001	Control Module	1
MT8000A-011	Baseband Module	2
MT8000A-032	0.4GHz-6GHz Multi RF Module	1
MT8000A-031	0.4GHz-6GHz Multi RF Extension	1
MX800010A	NR TDD Measurement Software	1
MX800010A-007	NR TDD sub-6GHz Measurement	1
MX800010A-070	LTE anchor Call Processing Software	1

For RF Measurement (1CC, SISO)

MT8000A LTE anchor Configuration for FR1/FR2

Model No.	Description	Qty.
MT8000A	Radio Communication Station	1
MT8000A-001	Control Module	1
MT8000A-011	Baseband Module	2
MT8000A-020	RF Base Module	2
MT8000A-021	0.4GHz – 6GHz RF Sub Module	2
MX800010A	NR TDD Measurement Software	1
MX800010A-007	NR TDD sub-6GHz Measurement	1
MX800010A-008	NR TDD mmWave Measurement	1
MX800010A-070	LTE anchor Call Processing Software	1

NR & LTE Anchor Single Box (SSNR/SSIP)

Application

Minimum configuration as NR/LTE single box.

For Application (FR1)

MT8000A LTE/NR Single box

Model No.	Description	Qty.
MT8000A	Radio Communication Station	1
MT8000A-001	Control Module	1
MT8000A-011	Baseband Module	2
MT8000A-012	Data Test Module	1
MT8000A-032(*)	0.4GHz-6GHz Multi RF Module	1
MT8000A-031(*)	0.4GHz-6GHz Multi RF Extension	1
MX800078A	LTE/NR Platform Software for SmartStudio	1

Model No.	Description	Qty.
MX800070A/71A	SmartStudio NR/ SmartStudio NR IP Performance	1
MX800070A/71A-007	LTE Control for Control Module	1
MX800070A/71A-xxx	SSNR Option/SSIP Option	
MX800070A/71A-SS110	SmartStudio NR Support Service (Per Year)	1
Z2023A	USB Dongle (SmartStudio NR)	1

(*) For SSIP: MT8000A-033 (0.4–7.125 GHz Enhanced RF Module), Qty: 2

For Application (FR1/FR2)

MT8000A LTE/NR Single box

Model No.	Description	Qty.
MT8000A	Radio Communication Station	1
MT8000A-001	Control Module	1
MT8000A-011	Baseband Module	2
MT8000A-012	Data Test Module	1
MT8000A-020	RF Base Module	2
MT8000A-021	0.4GHz – 6GHz RF Sub Module	2
MX800078A	LTE/NR Platform Software for SmartStudio	1

Model No.	Description	Qty.
MX800070A	SmartStudio NR	1
MX800070A-007	LTE Control for Control Module	1
MX800070A-xxx	SSNR Option	
MX800070A-SS110	SmartStudio NR Support Service (Per Year)	1
Z2023A	USB Dongle (SmartStudio NR)	1

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2. Software/Hardware Options
3. Specification Overview

RF Module Portfolio

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User can select suitable RF module according to test purpose and can optimize investments.

Item	MT8000A-021	MT8000A-022/023/024			MT8000A-031/032	MT8000A-033
FR1 range	FR1 0.4 to 6 GHz	FR1 2.4 to 6 GHz	NR-U 6 to 7.125 GHz	UE High IF 7.125 to 12 GHz	FR1 0.4 to 6 GHz	**FR1 0.4 to 7.125 GHz**
FR2 Conv	4 (2 slot)				N/A	4 (2slot)
Downlink (Tx)	4Tx (2 slot)				8Tx (2slot)	**FR1 : 16Tx (2 slot) FR2 : 4Tx (2 slot)**
Bandwidth (Tx)	FR1 400 MHz FR2 1 GHz	FR1 200 MHz FR2 1 GHz	FR1 200 MHz FR2 1 GHz	1 GHz	FR1 200 MHz	**FR1 : 800 MHz (*) FR2 : 1 GHz**
Output range	-110 to -10 dBm	-110 to -10 dBm	-110 to -18 dBm		-110 to -10 dBm	-110 to -10 dBm
Accuracy	±0.7 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz)	±1.0 dB	±1.3 dB	---	±0.7 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz)	±0.7 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz) ±1.0 dB (6-7.125 GHz)
Uplink (Rx)	4Rx (2 slot)				4Rx (2slot)	**FR1 : 8Rx (2 slot) FR2 : 4Rx (2 slot)**
Bandwidth (Rx)	400 MHz	200 MHz	200 MHz	1 GHz	200 MHz	**800 to 1200 MHz**
Input range	-50 to +26 dBm				-50 to +26 dBm	**-60 to +30 dBm**
Accuracy (100MHz BW)	±0.5 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz)	±1.0 dB	±1.3 dB	---	±0.5 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz)	±0.5 dB typ (0.4-3 GHz) ±1.0 dB (3-6 GHz) ±1.3 dB (6-7.125 GHz)

(*) 2clusters of 400 MHz BW can be allocated within 1200 MHz BW

RF Base Module Specification (FR1 GHz and IF)

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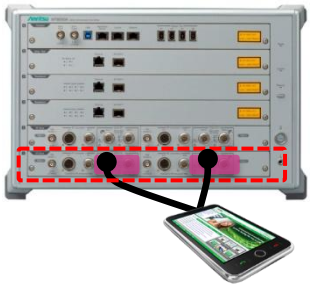
MT8000A supports FR1 and IF (Intermediate Frequency) up to 12 GHz.
MT8000A-020 has interface for FR2 RF converter and FR1(MT8000A-021, MT8000-022 with 023/024).

Item	MT8000A-024	MT8000A-023	MT8000A-022		MT8000A-021
Frequency range	6.0 to 7.125 GHz	2.4 to 3.0 GHz	3.0 to 6.0 GHz	6.0 to 12.0 GHz	0.4 to 6.0 GHz
Modulation BW	200 MHz			1 GHz	400 MHz*4
Connector	N – J				
Simplex/Duplex	Full Duplex, TX Simplex				
Downlink	2 TX				
Output level	-110 to -18 dBm	-110 to -10 dBm		-110 to -18 dBm	-110 to -10 dBm
Level Accuracy	±1.3 dB*1	±0.7 dB typ*1	±1.0 dB*1	-*3	±0.7 dB typ (0.4-3 GHz) *1 ±1.0 dB (3-6 GHz) *1
Uplink	2 RX				
Max input power(Setting)	+26 dBm				
Max input power	+30 dBm	+35 dBm		+30 dBm	+30 dBm
Level Accuracy (100MHz BW)	±1.3 dB	±0.5 dB typ*5	±1.0 dB*2	-*3	±0.5 dB typ(0.4-3 GHz) *5 ±1.0 dB(3-6 GHz) *5
Module View					



RF Base module

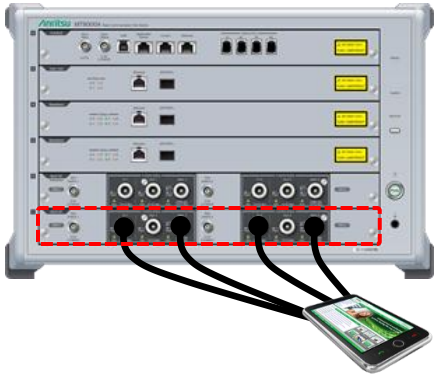
+18°C to +28°C
*1 : at Output Level ≥ –100 dBm , Main connector
*2 : at Input Level Setting ≥ –40 dBm
*3 : Level Accuracy is not specified.
*4 : 20 MHz (0.4 GHz ≤ f< 0.6 GHz), 200 MHz (0.6 GHz ≤ f< 3.3 GHz), 400 MHz (3.3 GHz ≤ f ≤ 6 GHz)
*5 : at Input Level Setting ≥ –20 dBm (±0.7 dB typ @-40 to-20 dBm)
*6 : 20 MHz (0.4 GHz ≤ f<0.6 GHz), 200 MHz (0.6 GHz ≤ f ≤ 6 GHz)

Multi RF Module Specification (FR1)

Anritsu
Advancing beyond

MT8000A-031 / 032 is an RF Module specialized for FR1.

Item	MT8000A-031	MT8000A-031/032
Frequency range	0.4 to 6.0 GHz	
Modulation BW	200 MHz*3	
Connector	N – J	
Simplex/Duplex	Full duplex	
Downlink	4 TX	8 TX
Output level	-110 to -10 dBm	
Level Accuracy	±0.7 dB typ (0.4-3 GHz)*1, ±1.0 dB (3-6 GHz)*1	
Uplink	2 RX	4 RX
Max input power (Setting)	+26 dBm	
Max input power	+35 dBm	
Level Accuracy (100 MHz BW)	±0.5 dB typ (0.4-3 GHz)*2, ±1.0 dB (3-6 GHz)*2	
Module View		



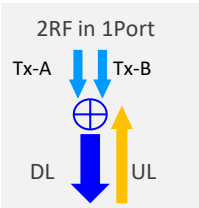
+18°C to +28°C
*1 : at Output Level ≥ –100 dBm, Main connector
*2 : at Input Level Setting ≥ –20 dBm (±0.7 dB typ @ -40 to -20 dBm)
*3 : 20 MHz (0.4 GHz ≤ f < 0.6 GHz), 200 MHz (0.6 GHz ≤ f ≤ 6 GHz)

Enhanced RF Module Specification

Anritsu
Advancing beyond

MT8000A-033 has 8Tx/4Rx RF interface for multiple CA/MIMO configuration.
This module has interface for FR2 RF converter and FR1, it can be utilized for NR-DC with multi bands CA.

Item	MT8000A-033 x 1	MT8000A-033 x 2
Frequency range	0.4 to 7.125 GHz	
Modulation BW	400 MHz + 400 MHz[*3,*4]	
Connector	N – J	
Simplex/Duplex	Full duplex	
Downlink	8 TX	16 TX
Output level	-110 to -10 dBm	
Level Accuracy	±0.7 dB typ (0.4-3 GHz)[*1], ±1.0 dB (3-7.125 GHz)[*1]	
Uplink	4 RX	8 RX
Max input power (Setting)	+30 dBm	
Max input power	+30 dBm	
Level Accuracy (100 MHz BW)	±0.5 dB typ (0.4-3 GHz)[*2, *5], ±1.0 dB (3-7.125 GHz)[*6]	
Module View		



+18°C to +28°C
*1 : at Output Level ≥ –100 dBm
*2 : at Input Level Setting ≥ –20 dBm (±0.7 dB typ @ -40 to -20 dBm)
*3 : 20 MHz (0.4 GHz ≤ f < 0.6 GHz), 400 MHz (0.6 GHz ≤ f ≤ 7.125 GHz)
*4 : 2clusters of 400MHz BW can be allocated within 1200MHz BW (≥ 0.6 GHz)
*5 : at total DL level of Tx-A and Tx-B ≤ -20 dBm
*6 : at Input Level Setting ≥ –20 dBm (±1.3dB @ ≤ -50 dBm)

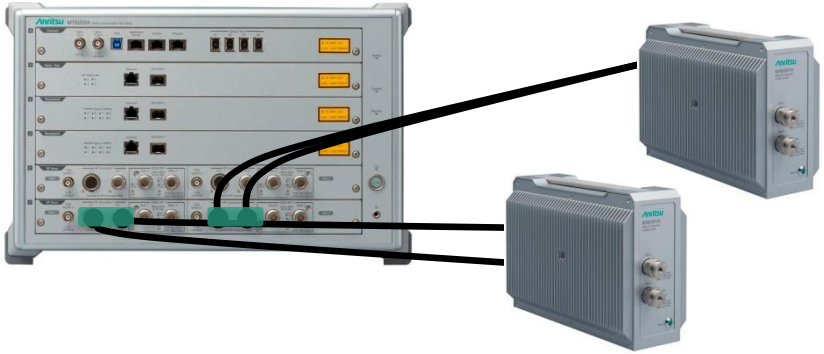
RF Converter Specification (for FR2)

Anritsu
Advancing beyond

MT8000A supports FR2 frequency range by RF Converter.

			MA80001A 28 GHz RF Converter	MA80002A 39 GHz RF Converter	MA80003A Multiband RF Converter
Frequency Range			24.25 to 29.5 GHz	37.0 to 40.0 GHz	24.25 to 29.5 GHz 37.00 to 43.5 GHz
Connector Type			K/P	K/P	V/P
Output level			-90 to +5 dBm	-90 to +5 dBm	-70 to +15 dBm
Level Accuracy			±1.5 dB*1	±2.0 dB*1	±1.5 dB*1 (24.25~29.5) ±2.0 dB*1 (37.00~43.5)
Maximum input Level			CW,+20 dBm 0VDC	CW,+17 dBm 0VDC	CW,+20 dBm 0VDC
Measurement Accuracy			±1.5 dB*1	±2.0 dB*1	±1.5 dB*1 (24.25~29.5) ±2.0 dB*1 (37.00~43.5)
n257	26500 –29500	TDD	✔	---	✔
n258	24250 – 27500	TDD	✔	---	✔
n259	39500 –43500	TDD	---	---	✔
n260	37000–40000	TDD	---	✔	✔
n261	27500 – 28350	TDD	✔	---	✔

MT8000A



RF Converter

28 GHz Converter / 39 GHz Converter/
Multiband RF Converter

+18°C to +28°C
*1 : 37.0 GHz to 40 GHz
*2 : at Measurement band width 100 MHz, Input Level Setting ≥ –50 dBm

MT8000A Fading Feature Specification

Anritsu
Advancing beyond

Fading Feature Concept

- **Real-time Fading** on external PC with Fading Engine on Baseband Board
- Support all fading features required for **3GPP 5G NR UE Conformance Test**

Key Specification

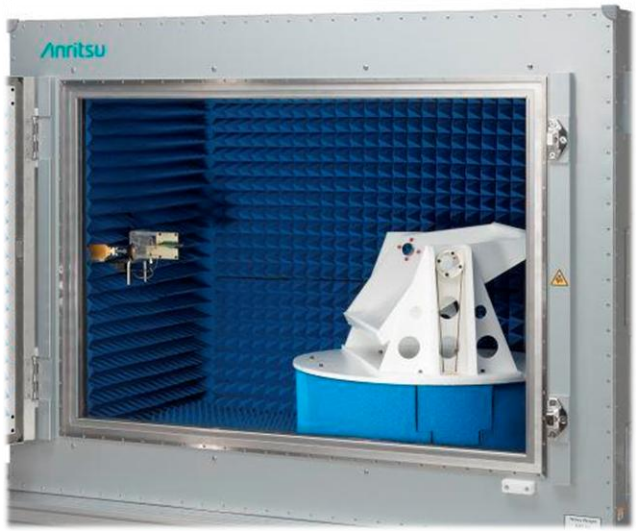
- Faded channel : 64 channels
  - FR1 - 1 gNodeB with **four 100 MHz CC** (**400 MHz per gNodeB – 2x2, 4x2, 4x4 links**)
  - FR2 (IF)- 1 gNodeB with **eight 100 MHz CC** (**800 MHz per gNodeB – only 2x2 links**)

4CC 4x4, 8CC 2x2
by 2 units

- Channel Model
  - 3GPP 5G Channel Models (3GPP TS 38.101-4 Annex B V15.2.0, 2019-06)
  - Static Butler and Bypass models
  - High Speed Train
- AWGN setting range is -99.99 to -15.0 [dBm/30 kHz]
- Maximum Doppler Frequency : 6 kHz

MA8171A OTA Chamber Specification

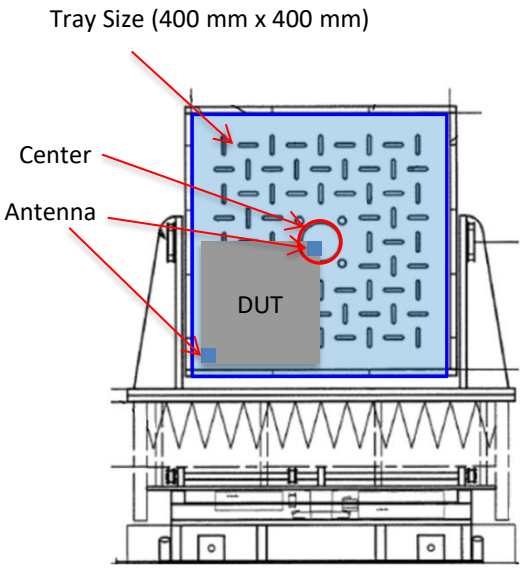
Anritsu
Advancing beyond



Item	Specification
Antenna Port	6 Ports
Max. Num. of Mounted Antenna	4 Antennas
Outer Size	Single: 1460 (W) x 1210 (H) x 1000 (D) mm with Rack: 1460 (W) x 1785 (H) x 1000 (D) mm
Weight	With Rack: 240 kg
Shielding Characteristics	≥60 dB (24 GHz – 40 GHz)
Reflectivity	≥30 dB (24 GHz – 40 GHz)
AUT to source horn distance	0.6 m (max.)
Path loss calibration	reference antenna method
Quiet zone size	MA8181A: 0.15 (m) diameter Z1996A: 0.3 (m) diameter Z2031A: 0.3 (m) diameter
Quiet zone test @28 GHz	TBD (3GPP (TS 34.114 G.2) as a reference)

3D Positioner Specification

Anritsu
Advancing beyond



Item		Specification
Max. DUT Size (longer side)		330 mm x 270 mm x 140 mm
Tray Size		400 x 400 mm
Allowable Capacity		1 kg
Axis		2-axes rotator
Azimuth (φ) / Elevation $(\theta)_{DUT}$	Rotation range	Φ: -20.0 deg. to 380.0 deg. θ : 0.0 deg. to 359.9 deg.
	Max. Rotation speed	15 rpm
	Rotation angle resolution	0.1 degree
	Stop accuracy	±0.5 degree (Difference between designated and actual positioner location)

Formed polystyrene (dielectric constant = 1.1) based positioner has excellent performance and lower reflection for OTA test environment.

Target DUT Size

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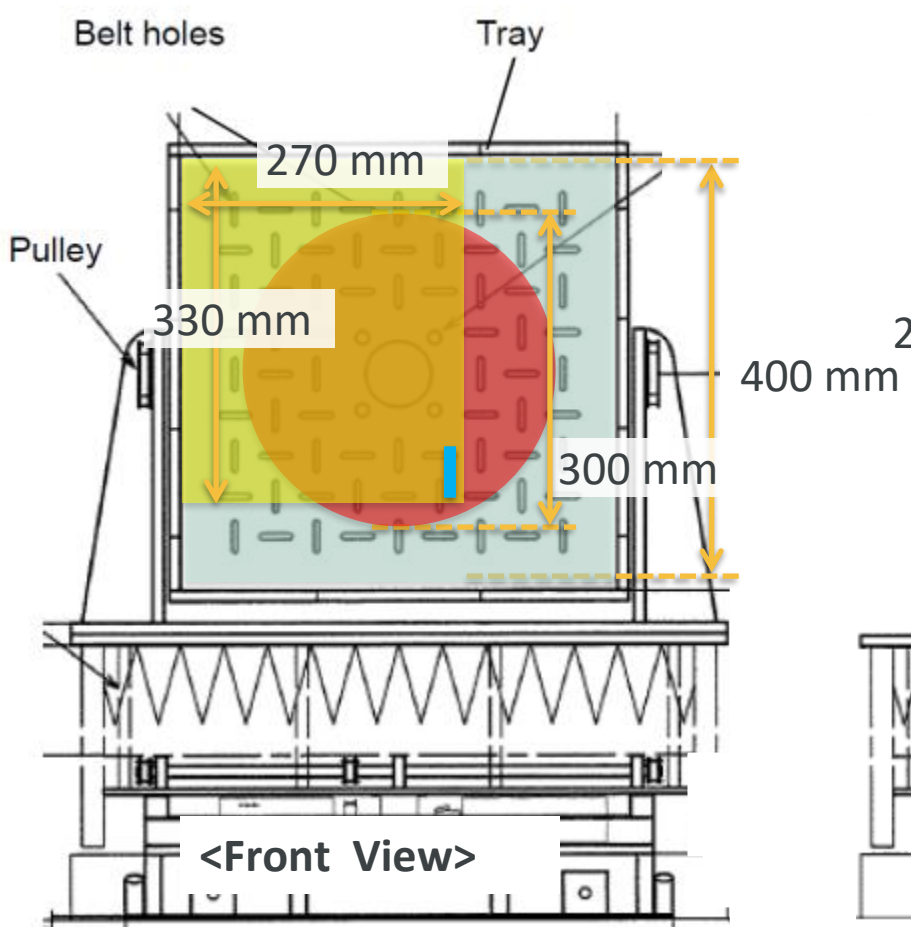
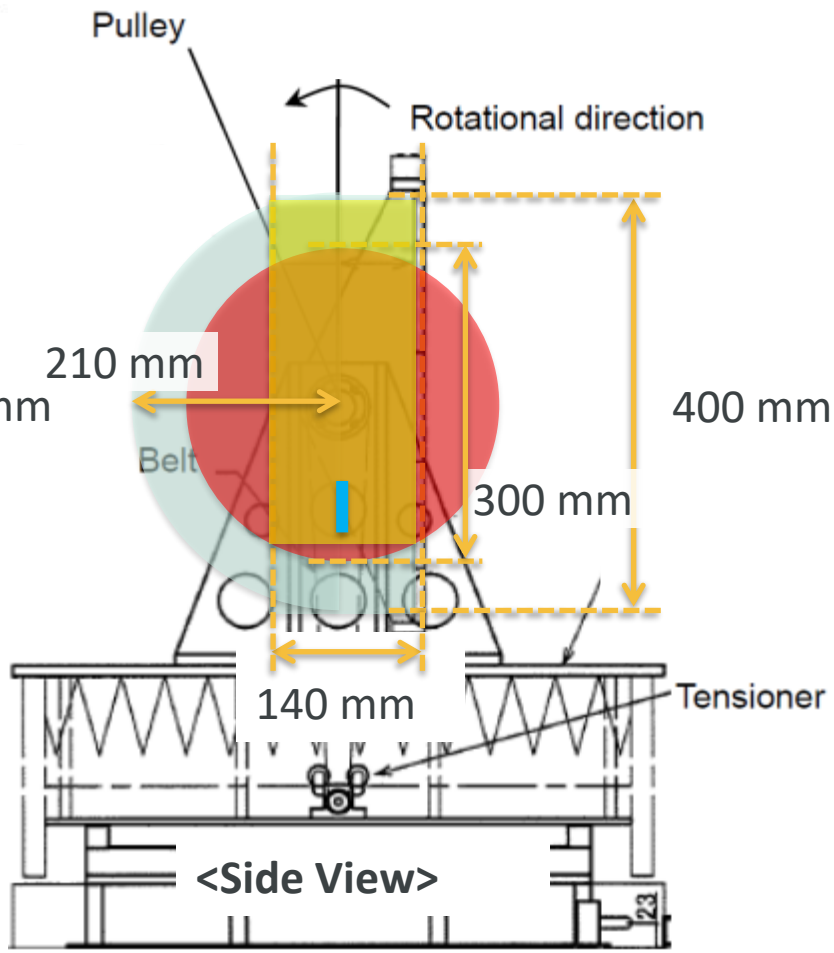
Supports 12.9-inch tablet by using Z2031A

- Maximum DUT size: **330 mm x 270 mm x 140 mm**
- Maximum DUT weight: **1.0 kg**
- Antenna mounted within Quiet Zone

: DUT installation range
: Quiet Zone
: DUT example
: Antenna example
(≤55 mm @ 29.5 GHz/ 46mm @ 42.5 GHz)





MA8172A OTA Chamber Specification

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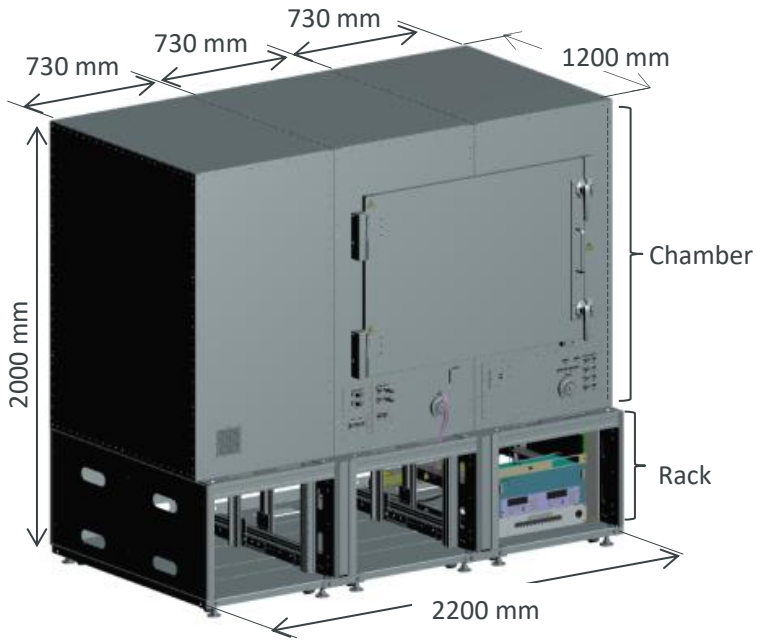
MA8172A CATR Anechoic Chamber



Frequency Range(for shielding)	600 MHz – 110 GHz
Shielding Characteristics	≥ 60 dB
Outer Size with Rack W x H x D (m)	2.20 x 2.00 x 1.20
Mass (kg)	≤ 700
Reflector Size (cm)	78 x 78
Reflector Type	Rolled edge
Quiet Zone	Spherical Φ 33 cm @ MA8179A Spherical Φ 40 cm @ MA8179B
Number of Antennas	FR2 In-band meas. x 1 FR2 Link x 2 LTE Link x 2

MA8172A-021 Test Antenna

Frequency	23.4 GHz – 42 GHz (n257, n258, n260, n261)
VSWR	≤ 2.2
Gain	12 ~ 16 dBi (nom.)
Polarization	Dual polarization
Cross Polarization Ratio	25 dB (nom.)
Isolation	≥ 20 dB (nom.)

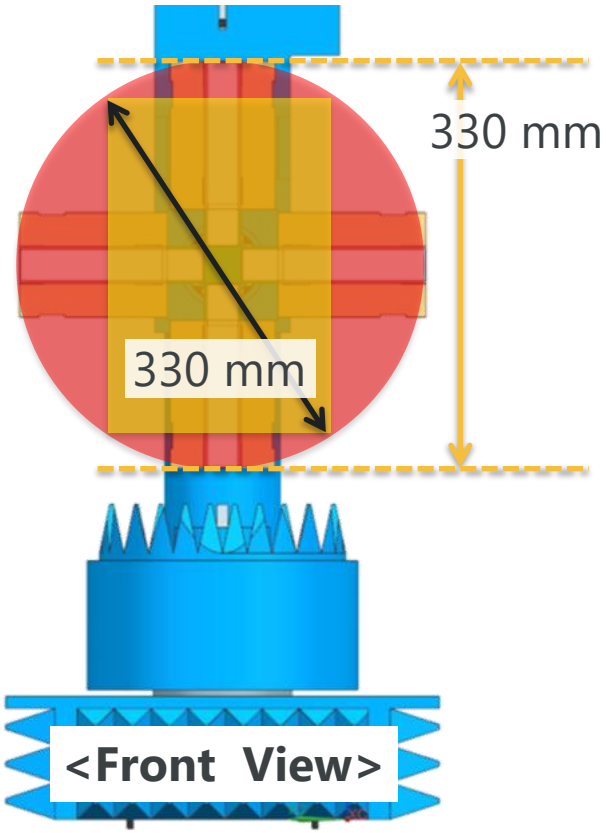
MA8172A-023 Test Antenna

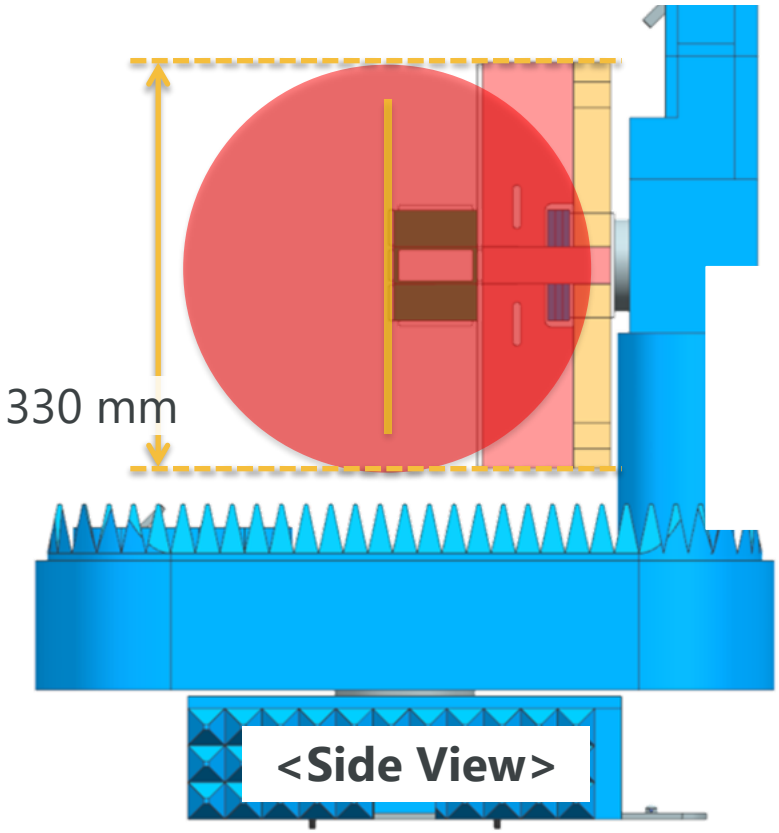
Frequency	22.65 GHz – 45.1 GHz
VSWR	≤ 2.6
Gain	≥ 10 dBi (22.65 – 24.25GHz) (nom.) 11 ~ 15 dBi (24.25 – 45.1GHz) (nom.)
Polarization	Dual polarization
Cross Polarization Ratio	20 dB (nom.)
Isolation	≥ 20 dB (nom.)

Target DUT Size for MA8172A with MA8179A

- Maximum DUT size: (Diagonal) **330 mm**
  -> for example 270 mm x 180 mm x 10 mm
- Maximum DUT weight: **2.0 kg**
- DUT should be mounted within Quiet Zone.
- Target DUT : Smartphone, Tablet (≤11-inch)

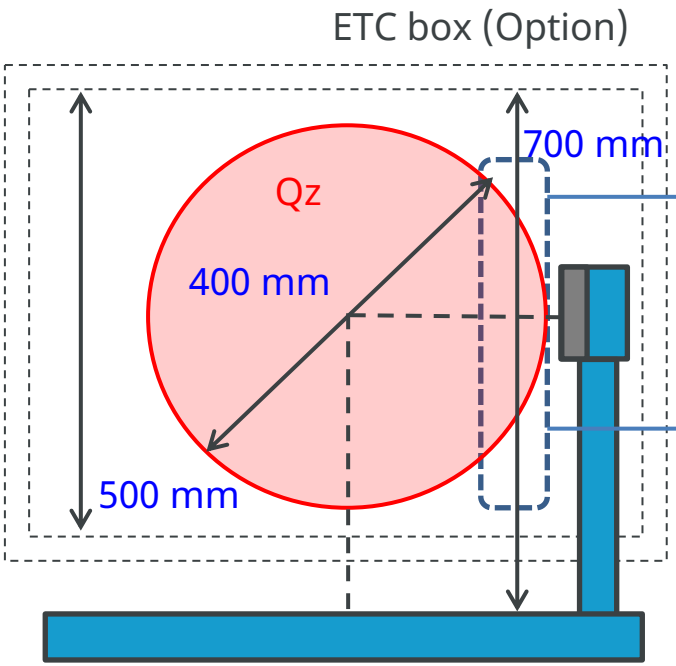
: Quiet Zone
: DUT example





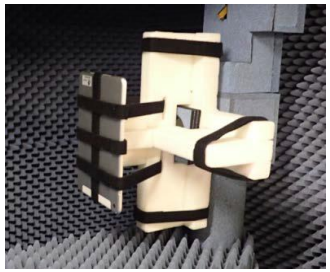
Target DUT Size for MA8172A with MA8179B

- Maximum DUT size: (Diagonal) **400 mm**
- Maximum DUT weight: 2.0 kg with MA8179B-AK010/AK011
  5.0 kg with MA8179B-AK012
- Gray-box approach can be supported
- Upgrade MA8179A to MA8179B is supported
- Target DUT : Smartphone, Tablet(≤14-inch), CPE

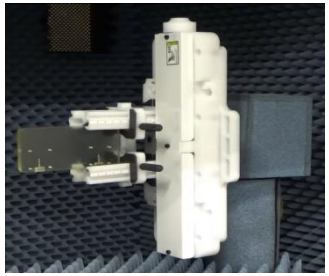


<MA8179B Side View>

Target DUT: Smartphone, Tablet(≦14-inchi)



MA8179B-AK010



MA8179B-AK011

Target DUT: CPE, pole mount type DUT

MA8179B-AK012

OTA TRx Test Environment

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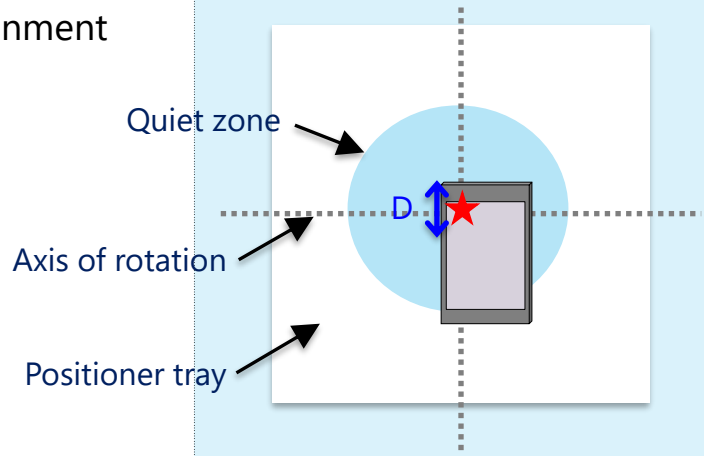
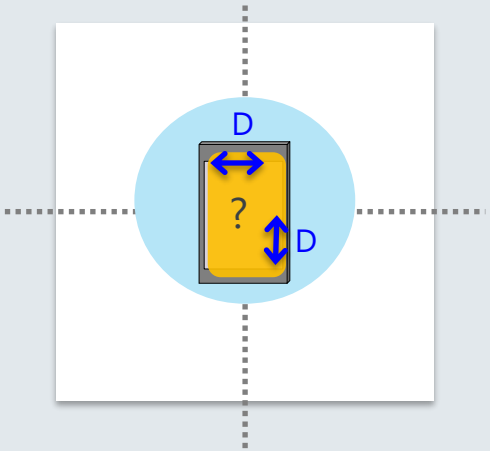
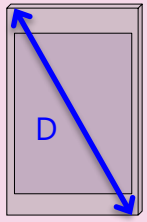
■OTA Test Approach: White box, Black box and Gray Box

White/ Gray box are supported by combining MT8000A and MA8171A

	For MA8171A	For MA8171A	For MA8172A
	White Box	**Gray Box**	**Black Box**
Antenna size	Known	Known	Unknown
Antenna position	Known	Unknown	Unknown
Setting image of DUT for OTA test environment	Put active antenna at the center of rotation.  ★ : activate antenna D : antenna size (= Actual antenna length)	Put active antenna in Quiet zone.  ■ : antenna allocated area D : antenna size (= Actual antenna length)	 D : antenna size (= UE diagonal length)

3GPP (under discussion in following condition)
- D ≤ 50 mm
- UE size ≤ 150 mm

Recommended PC Specifications

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Item	SSNR/SSIP	RF	Protocol/RTD	Server PC	Fading
Application parts	Z2035C	Z2017D	Z1320E	MT8000A-AK002	MT8000A-AK001
OS	Windows 11 64 bit	Windows 10 Professional 64 bit	Windows 10 64 bit	CentOS 6.8 Linux	Ubuntu 18.04.2 Server x64
CPU	Intel Core i7 or more (recommendation)	Intel Core i7 or more (recommendation)	Intel Core i7 or more (recommendation)	Intel® Xeon® E3-1220 v6 3.0 GHz, 8M Cache, 4Core / 4Thread, Turbo (72W)	Intel Core i7 or greater
Storage	1 TB SATA HDD (7200 rpm) or more/1TB SSD or SSD + HDD or more	Not specified	500 GB 2.5 inch SATA HDD (7200 rpm) or more	1 x 500 GB SATA, 3.5", 7.2K RPM, 3 Gbps	120 GB SSD
Memory	16 GB (8 GB x 2) or more Non-ECC DDR3 1600 MHz SDRAM Memory	8 GB or more (recommendation)	8 GB (4 GB x 2) or more Non-ECC DDR3 1600 MHz SDRAM Memory	1 x 8 GB UDIMM 2400MT/s, 1R, x8 Data Width	16 GB RAM
LCD size	24" Monitor with 1920 x 1080 screen resolution	12.1 inches or larger Screen resolution: 1280 x 800 or larger	24" Monitor with screen resolution 1920 x 1080	Not Required	Not Required
Interface	DVD drive (for installation) 1x open USB port for SmartStudio License (dongle) 2x 1-Gbps Ethernet cards Open serial and USB ports for AT and MMI command communication with UE Number of ports depends on UE requirements	Gigabit Ethernet (1000Base-T) network adapter USB 3.0 or more	DVD drive (for installation) 1x Spare USB port for dongle 2x 1 Gigabit Ethernet cards Serial and USB ports for AT and MMI command communication with UE. The number of ports depends on the UE requirements. 8.3 Short Filename Support enabled	SATA DVD+/-RW Broadcom BCM5720 1Gb Base-T 2port (On board)	Server Network Adapter: Intel E10G42BTDA X520-DA2 10Gbps PCI Express 2.0 x8 2x SFP+ SFP+ Transceiver: 8G FC/10G SR 850 nm SFP Ether cables: Cat 6
Required Pre-Install Software	Generic PDF reader such as Acrobat Reader (for reading Manual/Application Notes/Release Notes)	NI VISA (for Position Controller)	-	-	-

Ordering information –Mainframe/RF Converter

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■Mainframe

Model No.	Name
MT8000A	Radio Communication Test Station
MT8000A-001	Control Module
MT8000A-009	Multi-box Data Connection
MT8000A-011	Baseband Module
MT8000A-012	Data Test Module
MT8000A-020	RF Base Module
MT8000A-021	0.4GHz-6GHz RF Sub Module
MT8000A-022	3GHz-12GHz RF Sub Module
MT8000A-023	Extend RF 2.4GHz - 3GHz
MT8000A-024	Extend RF 6GHz-7.125GHz
MT8000A-031	0.4GHz-6GHz Multi RF Module
MT8000A-032	0.4GHz-6GHz Multi RF Extension
MT8000A-033	0.4GHz-7.125GHz Enhanced RF Module

■RF Converter

Model No.	Name
MA80001A	28GHz RF Converter
MA80002A	39GHz RF Converter
MA80003A	Multiband RF Converter
J1771A	Coaxial Cord (N-N, 1.0m)
J1771B	Coaxial Cord (N-N, 3.0m)
J1771C	Coaxial Cord (N-N, 5.0m)
J1879B	Coaxial Cord (N-SMA, 3.0m)
J1772A	Control Cable, 1.0m
J1772B	Control Cable, 3.0m
J1772C	Control Cable, 5.0m
J1806A	VJ-VJ Adaptor
J1806B	VJ-KJ Adaptor
J1806D	VJ-KP Adaptor
J1775A/B/C/D	Coaxial Cable (KM-KM, 0.3m/1.0m/2.0m/3.0m)
J1811A/B	Coaxial cable (VM-VM, 0.28m/2.5m)

■HW Retrofit *

Model No.	Name
MT8000A-109/209	Multi-box Data Connection Retrofit
MT8000A-111/211	Baseband Module Retrofit
MT8000A-112/212	Data Test Module Retrofit
MT8000A-120/220	RF Base Module Retrofit
MT8000A-121/220	0.4GHz-6GHz RF Sub Module Retrofit
MT8000A-UG121/UG221	RF Sub Module Replacement to 0.4GHz-6GHz
MT8000A-122/222	3GHz-12GHz RF Sub Module Retrofit
MT8000A-123/223	Extend RF 2.4GHz - 3GHz Retrofit
MT8000A-124/224	Extend RF 6GHz-7.125GHz Retrofit
MT8000A-132/232	0.4GHz-6GHz Multi RF Extension Retrofit
MT8000A-133/233	0.4GHz-7.125GHz Enhanced RF Module Retrofit

*: 1xx is retrofit option which take place at Tohoku Anritsu
2xx is retrofit option which take place at Service Center

■Warranty Service

Model No.	Name
MT8000A-ES210	2 Years Extended Warranty Service
MT8000A-ES310	3 Years Extended Warranty Service
MT8000A-ES510	5 Years Extended Warranty Service
MA80001A-ES210	2 Years Extended Warranty Service
MA80001A-ES310	3 Years Extended Warranty Service
MA80001A-ES510	5 Years Extended Warranty Service
MA80002A-ES210	2 Years Extended Warranty Service
MA80002A-ES310	3 Years Extended Warranty Service
MA80002A-ES510	5 Years Extended Warranty Service
MA80003A-ES210	2 Years Extended Warranty Service
MA80003A-ES310	3 Years Extended Warranty Service
MA80003A-ES510	5 Years Extended Warranty Service

Ordering information – OTA Environment

Anritsu
Advancing beyond

■RF Chamber MA8171A

Model No.	Name
MA8171A	RF Chamber
MA8174A	Position Controller
MA8175A	Positioner
MA8175A-AK001	Cable Management Kit
MA8181A	28GHz Test Antenna
Z1996A	28GHz/39GHz Test Antenna
Z2031A	Test Antenna
B0746A	Chamber Rack
B0747A	Converter Rack
B0750A	Anchor Plate
J0322A/B/C/D	COAXIAL CORD, 0.5M/1.0M/1.5M/2.0M
J1762A	Positioner Control Cable (3.0m)
J1775A/B/C/D	Coaxial Cable (KM-KM, 0.3m/1.0m/2.0m/3.0m)
Z1983A	Tray
Z1984A	Jig for DUT Tray
Z1985A	Wave Absorber
Z1986A	Hook and Loop Fastener
Z2009A	Link Antenna
B0752A	Link Antenna Holder
J1798A	GPIB-USB-HS+
J1795A	Coaxial Cable (SMA(M)-SMA(M), 0.5m)
J1795B	Coaxial Cable (SMA(M)-SMA(M), 1.0m)
J1795C	Coaxial Cable (SMA(M)-SMA(M), 1.5m)
J1795D	Coaxial Cable (SMA(M)-SMA(M), 2.0m)

■OTA Environment Calibration

Model No.	Name
ML2437A	Power Meter
MA2444D	Power Sensor
MA2445D	Power Sensor
MA24350A	USB Power Sensor
41KC-10	10 dB Attenuator
41V-10	10 dB Attenuator
J0004	COAXIAL ADAPTOR
J0008	GPIB CABLE, 2.0M
K222B	Coaxial Adapter
Z1974A	Reference Antenna
Z2032A	Reference Antenna

■Shield Box

Model No.	Name
MA8161A	Shield Box
MA8161A-001	Connector Panel 1
MA8161A-002	Connector Panel 2
Z1999A	28GHz Antenna Unit
Z2000A	39GHz Antenna Unit

Ordering information – OTA Environment

Anritsu
Advancing beyond

CATR Chamber MA8172A

Model No.	Name
MA8172A	CATR Anechoic Chamber
MA8172A-010	Temperature Testing Option
MA8172A-021	Test Antenna
MA8172A-022	Test Antenna
MA8172A-023	Test Antenna
MA8178A	Position Controller
MA8179A	Positioner
MA8172A-AK011	Converter Install Kit
MA8172A-AK012	Converter Tray
MA8172A-AK013	Switching Hub
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-AK041	Sliding Door
MA8172A-AK101	Temperature Testing Accessory for MA8179B
MA8172A-AK102	Positioner Base Kit for MA8179B
MA8178B	Position Controller
MA8178B-AK001	MA8178B Rack Mount Kit
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 (1.7m)
MA8179B-AK021	Positioner Control Cable (3.0m)
MA8179B-AK030	Jig For Reference Antenna
MA8179B-AK040	Rotary Table Wave Absorber
MA8179B-AK041	Wave Absorber
MA8179B-AK042	Non-slip Sheet (12 pcs)

Ordering information – RF TRx Measurement

Anritsu
Advancing beyond

■RF TRx Measurement

Model No.	Name
MX800010A	NR TDD Measurement Software
MX800010A-001	NR TDD SA Call Processing Software
MX800010A-002	NR TDD OTA Measurement Software
MX800010A-003	NR IP Data Transfer Software
MX800010A-007	NR TDD sub-6 GHz Measurement
MX800010A-008	NR TDD mmWave Measurement
MX800010A-009	NR FDD Measurement
MX800010A-010	NR Joint CA Measurement for sub-6 GHz
MX800010A-011	NR FR1+FR2 Interworking Measurement
MX800010A-012	NR Supplementary Uplink Measurement
MX800010A-024	NR BW 200MHz Per Cell
MX800010A-031	NR TDD DL 2x2 MIMO Up To Total BW 100MHz
MX800010A-032	NR TDD DL 2x2 MIMO Up To Total BW 200MHz
MX800010A-033	NR TDD DL 2x2 MIMO Up To Total BW 400MHz
MX800010A-034	NR TDD DL 2x2 MIMO Up To Total BW 600MHz
MX800010A-035	NR TDD DL 2x2 MIMO Up To Total BW 800MHz
MX800010A-036	NR TDD DL 4x4 MIMO Up To Total BW 100MHz
MX800010A-037	NR TDD DL 4x4 MIMO Up To Total BW 200MHz
MX800010A-038	NR TDD DL 4x4 MIMO Up To Total BW 400MHz
MX800010A-041	NR TDD DL 2CA For Rx Measurement
MX800010A-042	NR TDD DL 3CA For Rx Measurement
MX800010A-043	NR TDD DL 4CA For Rx Measurement
MX800010A-044	NR TDD DL 5CA For Rx Measurement
MX800010A-045	NR TDD DL 6CA For Rx Measurement
MX800010A-046	NR TDD DL 7CA For Rx Measurement
MX800010A-047	NR TDD DL 8CA For Rx Measurement
MX800010A-048	NR TDD DL 9CA For Rx Measurement
MX800010A-051	NR TDD UL 2x2 MIMO Up To Total BW 100MHz
MX800010A-052	NR TDD UL 2x2 MIMO Up To Total BW 200MHz
MX800010A-053	NR TDD UL 2x2 MIMO Up To Total BW 400MHz
MX800010A-061	NR TDD UL 2CA For Tx Measurement
MX800010A-062	NR TDD UL 3CA For Tx Measurement
MX800010A-063	NR TDD UL 4CA For Tx Measurement
MX800010A-064	NR TDD UL 5CA For Tx Measurement

■LTE Anchor (MT8000A NSA single box)

Model No.	Name
MX800010A-070	LTE anchor Call Processing Software
MX800010A-071	LTE TRx Measurement
MX800010A-072	LTE DL 2 to 4CA

■LTE Anchor

Model No.	Name
MT8821C	Radio Communication Analyzer
MT8821C-008	LTE Measurement Hardware
MX882112C	LTE FDD Measurement Software
MX882112C-010	LTE FDD Anchor For 5G NSA
MX882113C	LTE TDD Measurement Software
MX882113C-010	LTE TDD Anchor For 5G NSA

■Application Parts

Model No.	Name
MT8000A-AK002	IP Test Server PC
Z2017D	Standard PC (for MX800010A)
G0408A	10 Gig Ethernet SR 850nm SFP+
J1802A	Sync Cable
J1440A	LAN Cable
J0127A	COAXIAL CORD, 1.0M
J1398A	N-SMA ADAPTOR
J1773A	AUX Conversion Adapter
Z1858A	Divider
J0322B/D	COAXIAL CORD, 1.0M/2.0M

■RF TRx Support Option

Model No.	Name
MX800010A-SS101	5G NR RF Measurement Support Service (Per Year)
MX800010A-SS102	5G NR RF OTA Measurement Support Service (Per Year)

Ordering information – Protocol Test

Anritsu
Advancing beyond

Protocol Test

Model No.	Name
MX800030A	NR Protocol Platform Software
MX800030A-001	NR TDD Platform
MX800030A-002	NR FDD Platform
MX800030A-003	Ciphering
MX800030A-004	Internal Server
MX800030A-005	5G SA Protocol
MX800030A-006	NR SDAP
MX800030A-007	NR FDD/TDD Joint CA
MX800030A-008	NR FR1+FR2 DC Protocol
MX800030A-009	NR FR1+FR2 CA Protocol
MX800030A-010	RF/Fading Driver For Multiple box
MX800030A-027	Wake Up Indication For Power Saving
MX800030A-028	Dual Active Protocol Stack Handover For Mobility Enh.
MX800030A-031	NR DL 2x2 MIMO BW 50MHz Per Cell
MX800030A-032	NR DL 2x2 MIMO BW 100MHz Per Cell
MX800030A-033	NR DL 2x2 MIMO BW 200MHz Per Cell
MX800030A-035	NR DL 4×4 MIMO BW 50MHz Per Cell
MX800030A-036	NR DL 4×4 MIMO BW 100MHz Per Cell
MX800030A-041	NR UL 2×2 MIMO BW 50MHz Per Cell
MX800030A-042	NR UL 2×2 MIMO BW 100MHz Per Cell
MX800030A-043	NR UL 2×2 MIMO BW 200MHz Per Cell
MX800030A-051	NR DL 2CA For Protocol
MX800030A-052	NR DL 3CA For Protocol
MX800030A-053	NR DL 4CA For Protocol
MX800030A-054	NR DL 5CA For Protocol
MX800030A-055	NR DL 6CA For Protocol
MX800030A-056	NR DL 7CA For Protocol
MX800030A-057	NR DL 8CA For Protocol
MX800030A-058	NR DL 9CA For Protocol
MX800030A-059	NR DL 10CA For Protocol
MX800030A-061	NR UL 2CA For Protocol
MX800030A-062	NR UL 3CA For Protocol
MX800030A-063	NR UL 4CA For Protocol
MX800030A-071	Digital IQ Basic For Protocol

NR Fading Software

Model No.	Name
MX800031A	NR Fading Basic
MX800031A-001	NR Fading 2x2 MIMO
MX800031A-002	NR Fading 4x2/4x4 MIMO
MX800031A-003	NR Fading 2CA-4CA
MX800031A-004	NR Fading 5CA-8CA

LTE on MT8000A

Model No.	Name
MX800032A	LTE Protocol Platform Software
MX800032A-001	LTE Anchor For Protocol
MX800032A-002	LTE Advance Features
MX800032A-010	LTE RF/Fading Driver For Multiple box
MX800033A	LTE Fading Basic

RTD

Model No.	Name
MX800050A	Rapid Test Designer Platform (RTD)
MX800050A-001	5G NSA Framework For RTD
MX800050A-002	RTD LL/L3 Procedure Libraries (5G)
MX800050A-003	Core LTE Framework For RTD
MX800050A-004	UTRAN/GERAN Framework For RTD
MX800050A-005	IMS Framework For RTD
MX800050A-006	IoT Framework For RTD
MX800050A-007	LTE-A Framework For RTD
MX800050A-008	LTE-A Pro Framework For RTD
MX800050A-009	LTE MIMO Framework For RTD
MX800050A-010	LTE Unlicensed Framework For RTD
MX800050A-011	LTE/UTRAN/GERAN Fading Library For RTD
MX800050A-012	5G Fading Library For RTD
MX800050A-013	5G SA Framework For RTD
MX800050A-014	eMBMS Framework For RTD
MX800050A-020	5G NR Advanced Framework For RTD
MX800050A-021	5G NE-DC Framework For RTD
MX800050A-040	RTD Test Creation and Editing Tools
MX800050A-041	RTD Test Execution Tools
MX800050A-042	RTD Protocol Analyser
MX800050A-051	RTD Floating (Server Based) License
MX800050A-052	Modem Log Converter For Qualcomm
MX800050A-055	SMIT Advanced Features

Ordering information – Protocol Test

Anritsu
Advancing beyond

■Protocol Support Option

Model No.	Name
MX800050A-SS100	RTD Support Service (Per Year)
MX800050A-SS101	5G NSA Support Service (Per Year)
MX800050A-SS103	LTE Support Service (Per Year)
MX800050A-SS104	UTRAN/GERAN Support Service (Per Year)
MX800050A-SS105	IMS Support Service (Per Year)
MX800050A-SS106	IoT Support Service (Per Year)
MX800050A-SS107	LTE-A Support Service (Per Year)
MX800050A-SS108	LTE-A Pro Support Service (Per Year)
MX800050A-SS109	MIMO Support Service (Per Year)
MX800050A-SS110	LTE Unlicensed Support Service (Per Year)
MX800050A-SS111	LTE/UTRAN/GERAN Fading Support Service (Per Year)
MX800050A-SS112	5G Fading Support Service (Per Year)
MX800050A-SS114	eMBMS Support Service (Per Year)
MX800050A-SS120	5G NR Advanced Support Service (Per Year)
MX800050A-SS121	5G NE-DC Support Service (Per Year)
MX800050A-SS152	Modem Log Converter For Qualcomm Support Service (Per Year)
MX800050A-SS155	SMIT Advanced Features Support Service (Per Year)

■LTE Anchor

Model No.	Name
MD8430A	Signalling Tester
MD8430A-035	LTE Enhanced Test Model(ETM)
MD8430A-005	Extended Frequency Range to 3.8GHz Hardware2
MD8430A-060	LTE FDD Option
MD8430A-061	LTE TDD Option
MD8430A-064	LTE Anchor For 5G NSA Option
MD8430A-086	Ciphering Option
MD8430A-SS135	1 Year Support Service for LTE FDD(ETM)
MD8430A-SS136	1 Year Support Service for LTE TDD(ETM)

■Application Parts

Model No.	Name
MT8000A-AK001	Fading Control PC
MT8000A-AK002	IP Test Server PC
Z1320E	Standard PC for RTD (with monitor)
Z1591A	USB Dongle (Protocol)
G0408A	10 Gig Ethernet SR 850nm SFP+
J1581A	Optical cable MM LC/PC to LC/PC 3 meter
Z1993A	Optical Connector Cleaner (MPO)
J1773A	AUX Conversion Adapter
J1440A	LAN Cable
J0127A	COAXIAL CORD, 1.0M
J1398A	N-SMA ADAPTOR

Ordering information – Protocol Test

Anritsu
Advancing beyond

■Protocol Test - Term License

Model No.	Name
MX800030A-TL000	NR Protocol Platform Software
MX800030A-TL001	NR TDD Platform
MX800030A-TL002	NR FDD Platform
MX800030A-TL003	Ciphering
MX800030A-TL004	Internal Server
MX800030A-TL005	5G SA Protocol
MX800030A-TL006	NR SDAP
MX800030A-TL007	NR FDD/TDD Joint CA
MX800030A-TL008	NR FR1+FR2 DC Protocol
MX800030A-TL009	NR FR1+FR2 CA Protocol
MX800030A-TL010	RF/Fading Driver For Multiple box
MX800030A-TL027	Wake Up Indication For Power Saving
MX800030A-TL028	Dual Active Protocol Stack Handover For Mobility Enh.
MX800030A-TL031	NR DL 2x2 MIMO BW 50MHz Per Cell
MX800030A-TL032	NR DL 2x2 MIMO BW 100MHz Per Cell
MX800030A-TL033	NR DL 2x2 MIMO BW 200MHz Per Cell
MX800030A-TL035	NR DL 4x4 MIMO BW 50MHz Per Cell
MX800030A-TL036	NR DL 4x4 MIMO BW 100MHz Per Cell
MX800030A-TL041	NR UL 2x2 MIMO BW 50MHz Per Cell
MX800030A-TL042	NR UL 2x2 MIMO BW 100MHz Per Cell
MX800030A-TL043	NR UL 2x2 MIMO BW 200MHz Per Cell
MX800030A-TL051	NR DL 2CA For Protocol
MX800030A-TL052	NR DL 3CA For Protocol
MX800030A-TL053	NR DL 4CA For Protocol
MX800030A-TL054	NR DL 5CA For Protocol
MX800030A-TL055	NR DL 6CA For Protocol
MX800030A-TL056	NR DL 7CA For Protocol
MX800030A-TL057	NR DL 8CA For Protocol
MX800030A-TL058	NR DL 9CA For Protocol
MX800030A-TL059	NR DL 10CA For Protocol
MX800030A-TL061	NR UL 2CA For Protocol
MX800030A-TL062	NR UL 3CA For Protocol
MX800030A-TL063	NR UL 4CA For Protocol

■LTE on MT8000A - Term License

Model No.	Name
MX800032A-TL000	LTE Protocol Platform Software
MX800032A-TL001	LTE Anchor For Protocol
MX800032A-TL002	LTE Advance Features
MX800032A-TL010	LTE RF/Fading Driver For Multiple box

■RTD – Term License

Model No.	Name
MX800050A-TL001	5G NSA Framework For RTD (3 months)
MX800050A-TL002	RTD LL/L3 Procedure Libraries (5G) (3 months)
MX800050A-TL003	Core LTE Framework For RTD (3 months)
MX800050A-TL004	UTRAN/GERAN Framework For RTD (3 months)
MX800050A-TL005	IMS Framework For RTD (3 months)
MX800050A-TL006	IoT Framework For RTD (3 months)
MX800050A-TL007	LTE-A Framework For RTD (3 months)
MX800050A-TL008	LTE-A Pro Framework For RTD (3 months)
MX800050A-TL009	LTE MIMO Framework For RTD (3 months)
MX800050A-TL010	LTE Unlicensed Framework For RTD (3 months)
MX800050A-TL013	5G SA Framework For RTD (3 months)
MX800050A-TL020	5G NR Advanced Framework For RTD (3 months)
MX800050A-TL021	5G NE-DC Framework For RTD(3 months)
MX800050A-TL040	RTD Test Creation and Editing Tools (3 months)
MX800050A-TL041	RTD Test Execution Tools (3 months)
MX800050A-TL042	RTD Protocol Analyser (3 months)
MX800050A-TL052	Modem Log Converter For Qualcomm (3 months)
MX800050A-TL055	SMIT Advanced Features (3 months)

■Protocol Support Option – Term License

Model No.	Name
MX800050A-SS000	RTD Support Service (3 months)
MX800050A-SS001	5G NSA Support Service (3 months)
MX800050A-SS003	LTE Support Service (3 months)
MX800050A-SS004	UTRAN/GERAN Support Service (3 months)
MX800050A-SS005	IMS Support Service (3 months)
MX800050A-SS006	IoT Support Service (3 months)
MX800050A-SS007	LTE-A Support Service (3 months)
MX800050A-SS008	LTE-A Pro Support Service (3 months)
MX800050A-SS009	MIMO Support Service (3 months)
MX800050A-SS010	LTE Unlicensed Support Service (3 months)
MX800050A-SS013	5G SA Support Service (3 months)
MX800050A-SS020	5G NR Advanced Support Service (3 months)
MX800050A-SS021	5G NE-DC Support Service (3 months)
MX800050A-SS052	Modem Log Converter For Qualcomm Support Service (3 months)
MX800050A-SS055	SMIT Advanced Features Support Service (3 months)

Ordering information – Application Test

Anritsu
Advancing beyond

■Application Test

Model No.	Name
MX800070A	SmartStudio NR
MX800070A-001	5G NSA Option
MX800070A-002	5G SA Option
MX800070A-003	LTE Core Option
MX800070A-004	5G Core Option
MX800070A-011	NR TDD Option
MX800070A-012	NR FDD Option
MX800070A-013	SDAP Option
MX800070A-015	Supplementary Downlink Option
MX800070A-021	CMAS Periodic Paging Option
MX800070A-022	NR Access Control Option
MX800070A-023	UE Capability Information Segmentation
MX800070A-030	NR DL 2x2 MIMO BW 100MHz Per Cell
MX800070A-035	NR DL 4x4 MIMO BW 100MHz Per Cell
MX800070A-040	NR UL 2x2 MIMO BW 100MHz Per Cell
MX800070A-050	NR DL 2CA Option
MX800070A-051	NR DL 3CA Option
MX800070A-052	NR DL 4CA Option
MX800070A-053	NR DL 6CA Extension Option
MX800070A-054	NR DL 8CA Extension Option
MX800070A-060	NR UL 2CA Option
MX800070A-061	NR UL 3CA Option
MX800070A-062	NR UL 4CA Option
MX800070A-080	IMS Server Option
MX800070A-081	IMS Script Option
MX800070A-082	RTP Control Option
MX800070A-083	IMS Log Import Option
MX800070A-090	NR Neighbour Cell List
MX800070A-094	RedCap Option
MX800079A	NR Platform Software for SmartStudio

■Support Service

Model No.	Name
MX800070A-SS110	SmartStudio NR Support Service (Per Year)
MX800070A-TS181	MX800070A-081 1 Year Technical Support Service

■LTE Anchor (MT8000A LTE/NR single box)

Model No.	Name
MX800070A-007	LTE Control for MT8000A
MX800070A-070	LTE DL 2x2 MIMO Option
MX800070A-071	LTE DL 4x4 MIMO Option
MX800070A-072	LTE LAA Option
MX800070A-073	LTE 2CA Option
MX800070A-074	LTE 3CA Option
MX800078A	LTE/NR Platform Software for SmartStudio

■LTE Anchor (Example Configuration)

Model No.	Name
MD8475B	Signalling Tester
MD8475B-002	Extended RF
MD8475B-071	Enhanced Multi-signalling Unit
MX847502B	Multi-cell Software
MX847550B	LTE Simulation Software
MX847550B-020	LTE 2x2 MIMO Option
MX847550B-021	LTE 4x4 MIMO Option
MX847550B-040	LTE Carrier Aggregation Option
MX847550B-041	LTE Carrier Aggregation DL3CCs Option
MX847550B-090	LTE Anchor For 5GNR Option

■Application Parts

Model No.	Name
J1440A	LAN Cable
J1581A	Optical cable MM LC/PC to LC/PC 3 meter
G0356A	8G FC/10G SR 850 nm SFP+
MT8000A-AK002	IP Test Server PC
J0127B	COAXIAL CORD
J1416A	LVDS Cable
J1398A	N-SMA ADAPTOR
J1674A	SMA/P-SMA/P Soft Rigid Cable
Z2023A	USB dongle (SmartStudio NR)
Z2035A	Standard PC for SSNR (with monitor)
B0765A	Simulator Rack
MN8150A	RF Combiner Unit
N/A	1G Ethernet Switching HUB
N/A	10G Ethernet Switching HUB (ex. XS708T-100AJS)

*This information is about example configuration. Please check sales promotion note for correct information.

Ordering information – Application/IP T-PUT Test

Anritsu
Advancing beyond

■Application/IP Throughput Test

Model No.	Name
MX800071A	SmartStudio NR IP Performance
MX800071A-001	5G NSA Option
MX800071A-002	5G SA Option
MX800071A-003	LTE Core Option
MX800071A-004	5G Core Option
MX800071A-007	LTE Control for MT8000A
MX800071A-011	NR TDD Option
MX800071A-012	NR FDD Option
MX800071A-015	Supplementary Downlink Option
MX800071A-023	UE Capability Information Segmentation
MX800071A-030	NR DL 2x2 MIMO BW 100MHz Per Cell
MX800071A-035	NR DL 4x4 MIMO BW 100MHz Per Cell
MX800071A-040	NR UL 2x2 MIMO BW 100MHz Per Cell
MX800071A-050	NR DL 2CA Option
MX800071A-051	NR DL 3CA Option
MX800071A-052	NR DL 4CA Option
MX800071A-060	NR UL 2CA Option
MX800071A-094	RedCap Option
MX800079A	NR Platform Software for SmartStudio

■Support Service

Model No.	Name
MX800071A-SS110	SmartStudio NR IP Performance Support Service (Per Year)

■LTE Anchor (MT8000A LTE/NR single box)

Model No.	Name
MX800071A-007	LTE Control for MT8000A
MX800071A-070	LTE DL 2x2 MIMO Option
MX800071A-071	LTE DL 4x4 MIMO Option
MX800071A-072	LTE LAA Option
MX800071A-073	LTE 2CA Option
MX800071A-074	LTE 3CA Option
MX800071A-075	LTE 4CA Option
MX800071A-076	LTE 5CA Option
MX800071A-077	LTE 6CA Option
MX800071A-078	LTE 7CA Option
MX800077A	LTE Platform Software for SmartStudio
MX800078A	LTE/NR Platform Software for SmartStudio

■Application Parts

Model No.	Name
J1440A	LAN Cable
J1581A	Optical cable MM LC/PC to LC/PC 3 meter
G0356A	8G FC/10G SR 850 nm SFP+
MT8000A-AK002	IP Test Server PC
J0127B	COAXIAL CORD
J1398A	N-SMA ADAPTOR
J1674A	SMA/P-SMA/P Soft Rigid Cable
Z2023A	USB dongle (SmartStudio NR)
Z2035A	Standard PC for SSNR (with monitor)
B0765A	Simulator Rack
MN8150A	RF Combiner Unit
N/A	1G Ethernet Switching HUB
N/A	10G Ethernet Switching HUB (ex. XS708T-100AJS)

*This information is about example configuration. Please check sales promotion note for correct information.

Customer Supplied Parts

Anritsu
Advancing beyond

■The following parts need to be prepared by customer.

Model No.	Description	Note
-----	GPIB Controller	Used to control MA8174A from PC.
-----	1G Ethernet Switching Hub	Required when Control PC controls two or more measuring instruments.
J1440A*	LAN Cable	1pc is attached to MT8000A.
J0127A*	COAXIAL CORD, 1.0M	BNC Cable. Used to synchronize MT 8000A and external equipment.

*: These parts can be replaced with commercially available parts.

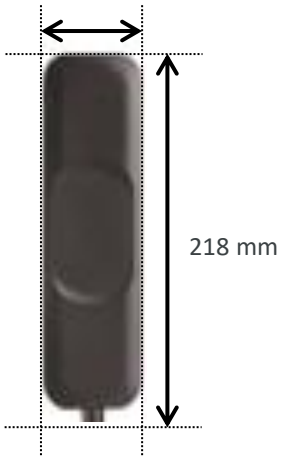
LTE Anchor for FR2

■LTE Link Antenna

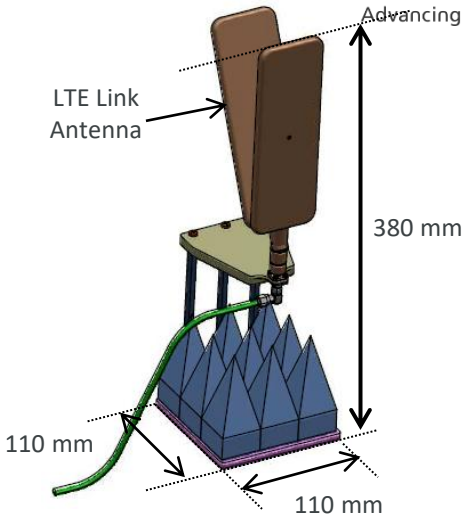
Z2009A Link Antenna:
B0752A Link Antenna holder:

✔ **All of LTE Operation Bands are supported.**

- Frequency range: 450-6000 MHz.
- This product is for establishing a call connection with NSA.



LTE Link Antenna

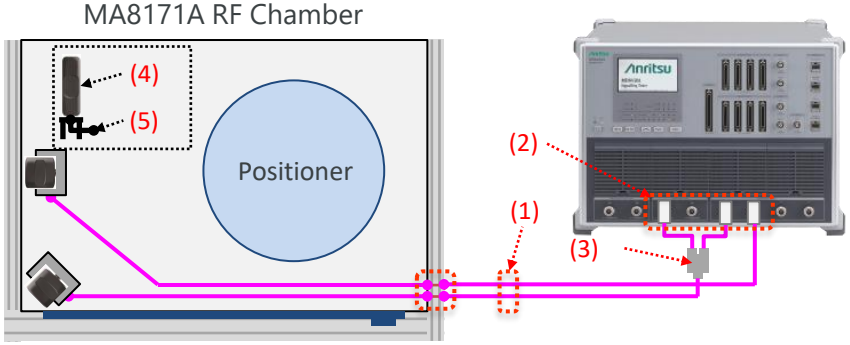


LTE Link Antenna Jig

■Connection Example

Protocol Test, 2x2 MIMO

MA8171A RF Chamber



No.	Model.	Description	Qty.	Note
(1)	J1795D	Coaxial Cable (SMA(M)-SMA(M), 2.0m)	6	SMA-SMA Cable
(2)	J0004	COAXIAL ADAPTOR	3	N-SMA Adaptor
(3)	Z1858A	Divider	1	2Way Divider
(4)	Z2009A	Link Antenna	2	
(5)	B0752A	LTE Link Antenna Holder	2	

Anritsu

Advancing beyond

公知 2026-6 MJM No. MT8000A-E-L-1-(16.00)