

**Anritsu** envision : ensure

# 5G NR Mobile Device Test Platform

## ME7834NR



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**Россия** (495)268-04-70

**Казахстан** (772)734-952-31

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# 5G, 4G and 3G Conformance and Carrier Acceptance Testing



# 5G NR Mobile Device Test Platform ME7834NR Features

## Key Features

5G NR Mobile Device Test Platform ME7834NR supports both protocol conformance test (PCT) and carrier acceptance test (CAT) for UE manufacturers and test houses. ME7834NR covers not only 5G but also LTE/LTE-Advanced and UMTS. It can flexibly configure PCT and CAT environment by combining components of Hardware, Software and Test Package.

### All-in-One 5G NR Support for Protocol Conformance Tests and Carrier Acceptance Test

The ME7834NR is the test platform for 3GPP based Protocol Conformance Tests (PCT) and Carrier Acceptance Testing (CAT) of mobile devices incorporating Multiple Radio Access Technologies (RAT). The ME7834NR supports 5G New Radio (NR) Technology in both Standalone and Non-Standalone mode, in addition to LTE, LTE-Advanced (LTE-A), LTE-A Pro, and W-CDMA.

### Supports 3GPP defined bands from Sub-6GHz to mm-Wave

The 5G NR Mobile Device Test Platform ME7834NR covers the 5G frequency bands defined by 3GPP including sub-6 GHz and millimeter Wave when combined with Anritsu's new OTA chamber MA8171A and RF converter.

### Upgrade your current ME7834 system for 5G

The 5G NR Mobile Device Test Platform ME7834NR provides a smooth transition to 5G whilst continuing to support LTE, LTE-Advanced (LTE-A), LTE-A Pro and legacy W-CDMA technologies. This enables existing customers to upgrade to 5G whilst capitalizing on a well proven LTE-A test environment and stay abreast of the latest technology evolution.

### Detailed Support System

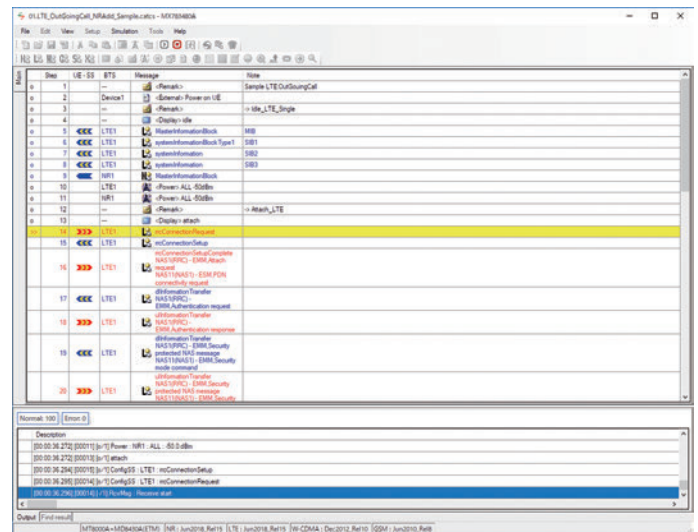
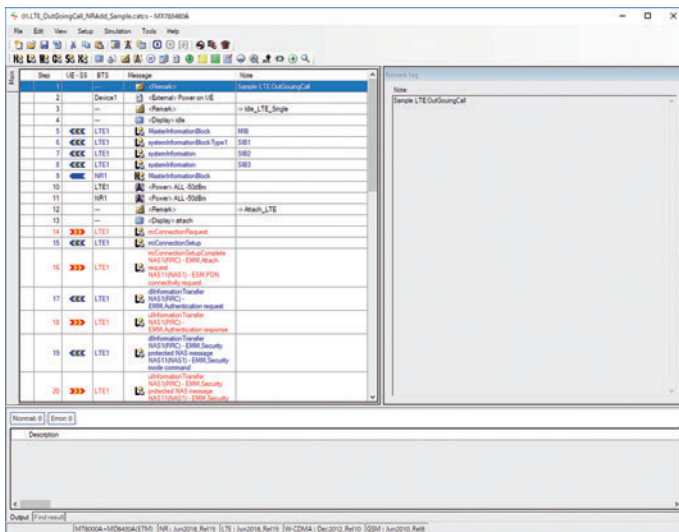
To assure more efficient use of this system, we offer installation and post-technical support services (fees apply to both), which help assure a smooth and trouble-free customer workflow.

## Software

The 5G NR Mobile Device Test Platform ME7834NR follows the conventional 4G Test Platform GUI. It is not necessary to train newly using measuring software since you can perform Protocol test of 5G terminal with the operation as before.

### Easy Sequence Creation and Editing

In the Carrier Acceptance Test (CAT), Adopted a GUI based on MSC (Message Sequence Chart) used in protocol test specification, so you can easily perform the test by reading it. You do not need detailed knowledge of programming for scenario creation when doing a signaling test.



Test Example

# 5G NR Mobile Device Test Platform ME7834NR Layout

## System Configuration



\* Example of maximum configuration for 5G NR NSA mmWave testing

- 1 Radio Communication Test Station MT8000A**  
All-in-one test platform that can perform 5G NR protocol testing.
- 2 Signalling Tester MD8430A**  
LTE/LTE-Advanced, W-CDMA compatible base station simulator for non-Standalone (NSA) mode testing.
- 3 RF Combiner Unit MN8142B**  
Connect the UE and transmit the RF signal to each instrument in the Test platform.
- 4 RF Converter**  
Convert mm-wave signal between MT8000A and RF Chamber.
- 5 RF Chamber MA8171A**  
Used for Over The Air (OTA) test.
- 6 Position Controller MA8174A**  
Control Positioner MA8175A in RF Chamber MA8171A.

# 5G NR Mobile Device Test Platform ME7834NR Specifications

## 5G NR Mobile Device Test Platform ME7834NR

Electrical Characteristics	<p>Downlink output accuracy ±3 dB (after system calibration implemented at MN8142B antenna port)</p> <p>Downlink frequency range 450 MHz to 6000 MHz (MD8430A signals. Option required from 3000 MHz to 6000 MHz) 500 MHz to 2650 MHz (MD8475A signals) 450 MHz to 6000 MHz (MT8000A signals)</p> <p>Uplink measurement accuracy ±3 dB (after system calibration implemented at MN8142B antenna port)</p> <p>Uplink frequency range 450 MHz to 6000 MHz (MD8430A signals. Option required from 3000 MHz to 6000 MHz) 500 MHz to 2530 MHz (MD8475A signals) 450 MHz to 6000 MHz (MT8000A signals)</p>
General	<p>Power Supply Power voltage: 100 V(ac) to 120 V(ac)/200 V(ac) to 240 V(ac) (-15/+10%, Except 250 V max.) Frequency: 50 Hz/60 Hz Power consumption: ≤8500 VA (maximum configuration)</p> <p>Dimensions 570 (W) × 1980 (H) × 797 (D) mm (1 rack, excluding projection) 1140 (W) × 1980 (H) × 797 (D) mm (2 racks, excluding projection)</p> <p>Mass ≤650 kg (maximum configuration)</p>
Environmental Conditions	<p>Temperature range +15°C to +35°C (operating, without rack) +15°C to +30°C (operating, with rack, space of 30 cm on the back and 30 cm on the side is necessary) 0°C to +50°C (storage)</p> <p>EMC: EN61326-1, EN61000-3-2, KN61000-6-1 LVD: EN61010-1 RoHS: EN50581</p>

## RF Combiner Unit MN8142B

Electrical Characteristics	<p>Frequency range 450 MHz to 6 GHz</p> <p>Maximum input level TRX1, RX1, TRX2, RX2: +33 dBm</p>
General	<p>Dimensions: 426 (W) × 264 (H) × 570 (D) mm (Excluding projection)</p> <p>Mass: ≤30 kg</p> <p>Power Supply Power voltage: 100 V(ac) to 120 V(ac)/200 V(ac) to 240 V(ac) (-15/+10%, Except 250 V max.) Frequency: 50 Hz/60 Hz (±5%) Power consumption: ≤150 VA</p> <p>Temperature range Operating temperature and humidity range: +15°C to +45°C, ≤95% (without condensation) Storage temperature range: -20°C to +60°C</p> <p>CE EMC: EN61326-1, EN61000-3-2 LVD: EN61010-1 RoHS: EN50581</p>

Key specifications are listed only. Contact your Anritsu sales representative for detailed.

See "OTA Product Catalog" for detailed information of RF Chamber MA8171A, Position Controller MA8174A, and Positioner MA8175A. Contact your Anritsu sales representative for further information.

## Supported Test Standards

The system design is based on the following standards:

### Protocol Conformance Test (PCT)

- 3GPP TS38.523-1 (5G NR)
- 3GPP TS36.523-1 (LTE)
- 3GPP TS34.123-1 (UMTS)

### Carrier Acceptance Test (CAT)

Complies with the standards of the world's major carriers.

Contact your Anritsu sales representative for supported test cases and carriers.

# 5G NR Mobile Device Test Platform ME7834NR Ordering Information

Only key components are listed. 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
ME7834NR	<b>Main Frame</b> 5G NR Mobile Device Test Platform
	<b>Accessories</b>
ME7834NR-AK000	Accessory Kit for ME7834NR
ME7834NR-AK001	Accessory Kit for ME7834NR-001
ME7834NR-AK003	Accessory Kit for ME7834NR-003 (OTA Chamber1)
ME7834LA-AK010	Accessory Kit for ME7834NR-010
ME7834LA-AK011	Accessory Kit for ME7834NR-011
ME7834LA-AK020	Accessory Kit for ME7834NR-020
ME7834LA-AK021	Accessory Kit for ME7834NR-021
ME7834LA-AK027	Accessory Kit for ME7834NR-027
ME7834LA-AK100	Accessory Kit for ME7834LA-to-NR
ME7834LA-AK103	Accessory Kit for ME7834NR-003 (LTE/FR1 OTA)
ME7834LA-AK203	Accessory Kit for ME7834NR-003 (LTE/FR1 Conducted)
	<b>Configuration Items</b>
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-022	3GHz-12GHz RF Sub Module
MN8142B	RF Combiner Unit
MN8142B-001	Sync Switch
	<b>Configuration Items for NSA</b>
MD8430A	Signalling Tester
MD8430A-002	Extended Frequency Range to 3.8GHz
MD8430A-005	Extended Frequency Range to 3.8GHz Hardware2
MD8430A-035	LTE Enhanced Test Model (ETM)
MD8430A-060	LTE FDD Option
MD8430A-061	LTE TDD Option
MD8430A-064	LTE Anchor Option
MD8430A-075	LTE DL 4x4 MIMO Option
MD8430A-081	LTE RoHC Option
MD8430A-086	Ciphering Option
MD8430A-087	LTE CoMP Option
	<b>Converter</b>
MA80001A	28GHz RF Converter
MA80002A	39GHz RF Converter
B0747A	Converter Rack
	<b>Chamber</b>
MA8171A	RF Chamber
MA8174A	Position Controller
MA8175A	Positioner
B0746A	Chamber Rack
Z1996A	28GHz/39GHz Test Antenna
	<b>Options</b>
ME7834NR-001	5G NR RF Combiner Unit 1
ME7834NR-003	5G NR OTA Chamber 1
ME7834NR-007	ME7834NR System Rack 1
ME7834NR-008	ME7834NR System Rack 2
ME7834NR-010	5G NR Signalling Unit 1
ME7834NR-011	5G NR Signalling Unit 2
ME7834NR-020	Positioner
ME7834NR-021	1st OTA unit for 28GHz
ME7834NR-022	2nd OTA unit for 28GHz
ME7834NR-024	1st OTA unit for 39GHz
ME7834NR-025	2nd OTA unit for 39GHz
ME7834NR-027	1st 28GHz/39GHz Test Antenna
ME7834NR-028	2nd 28GHz/39GHz Test Antenna
ME7834NR-070	CAT NR Application 1
ME7834NR-071	CAT NR Application 2
ME7834NR-080	PCT NR Application 1
ME7834NR-200	Common Platform SW 1
ME7834NR-201	Common Platform SW 2
ME7834NR-203	Common Platform SW 4

Model/Order No.	Name
ME7834NR-204	Common Platform SW 5
ME7834NR-205	Common Platform SW 6
ME7834NR-206	Common Platform SW 7
ME7834NR-207	Common Platform SW 8
ME7834NR-208	Common Platform SW 9
ME7834NR-209	Common Platform SW 10
ME7834NR-210	Common Platform SW 11
ME7834NR-211	Common Platform SW 12
ME7834NR-212	Common Platform SW 13
ME7834NR-213	Common Platform SW 14
ME7834NR-214	Common Platform SW 15
ME7834NR-290	Common Platform SW 28
ME7834NR-291	Common Platform SW 29
ME7834NR-292	Common Platform SW 30
ME7834NR-700	PCT NR Subscription, Rel-15 NSA Opt3 FR1
ME7834NR-701	PCT NR Subscription, Rel-15 NSA Opt3 FR2
ME7834NR-702	PCT NR Test Package, Rel-15 NSA Opt3 Phase1 FR1
ME7834NR-703	PCT NR Test Package, Rel-15 NSA Opt3 Phase1 FR2
ME7834NR-708	PCT NR Subscription for Verizon
ME7834NR-709	PCT NR Test Package for Verizon, Stage 1
ME7834NR-711	PCT NR Test Package, Rel-15 NSA Opt3 Phase3 FR1
ME7834NR-712	PCT NR Test Package, Rel-15 NSA Opt3 Phase3 FR2
ME7834LA-075	CAT Application 6
ME7834LA-076	CAT Application 7
	<b>Software</b>
MX783410A	NR Protocol System SW
MX783410A-001	NR TDD Platform
MX783410A-003	Ciphering
MX783410A-004	NR DL 2x2 MIMO
MX783410A-005	NR DL 4x4 MIMO
MX783410A-006	NR DL 2 CA
MX783410A-007	NR DL 3/4 CA
MX783410A-008	NR DL 5/6 CA
MX783410A-009	NR DL 7/8 CA
MX783410A-010	NR UL 2x2 MIMO
MX783410A-011	NR UL 2 CA
MX783410A-012	NR UL 3/4 CA
MX783410A-013	NR UL 5/6 CA
MX783410A-014	NR UL 7/8 CA
MX783410A-291	Band Option Sub6GHz
MX783410A-292	Band Option 28GHz
MX783410A-293	Band Option 39GHz
MX783420A-200	38.523 Rel-15 Subscription, NSA Opt3 FR1
MX783420A-201	38.523 Rel-15 Subscription, NSA Opt3 FR2
MX783420A-202	38.523 Rel-15 Test Package, NSA Opt3 Phase 1 FR1
MX783420A-203	38.523 Rel-15 Test Package, NSA Opt3 Phase 1 FR2
MX783420A-208	38.523 Subscription for Verizon
MX783420A-209	38.523 Test Package for Verizon, Stage 1
MX783420A-211	38.523 Rel-15 Test Package, NSA Opt3 Phase 3 FR1
MX783420A-212	38.523 Rel-15 Test Package, NSA Opt3 Phase 3 FR2
MX783480A	Carrier Acceptance Test Core Software
MX783480A-001	CAT Up to LTE Option
MX783480A-002	5G CAT Option3x Option
MX783480A-092	5G NR 2nd box Option
MX785220A	PROTOCOL CONFORMANCE TEST TOOLKIT CORE SOFTWARE
MX785220A-200	NR Rel-15 PCT NSA Opt3
MX787401A	SET OF SIGNALLING APPLICATION SUPPORT TOOLS
MX787401A-016	PROTOCOL ANALYSER (CAT)
MX800030A	NR Protocol Platform Software
MX800030A-081	Protocol System
	<b>Application Parts</b>
Z2018A	Standard PC for ME7834NR CAT/PCT (with monitor)
Z1452G	Data Server PC (CentOS)
Z1591A	USB Dongle (Protocol)
Z2021A	Upgrade Kit for ME7834LA-to-NR 1st Rack
Z2022A	Upgrade Kit for ME7834LA-to-NR 2nd Rack

Contact your Anritsu sales representative for detailed ordering information.

## Related Products



LTE-Advanced  
Mobile Device Test Platform  
ME7834LA



New Radio RF  
Conformance Test System  
ME7873NR



Shield Box  
MA8161A



RF Chamber  
MA8171A

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