Anritsu envision : ensure

One Box Tester for LTE-Advanced UE Development

Radio Communication Analyzer
MT8821C

One Box Tester for LTE-Advanced UE Development

The new MT8821C is an one box tester designed for RF verification and functional tests of LTE-Advanced UE. It supports all systems supported by the MT8820C as well as LTE-Advanced.

- **LTE/LTE-Advanced**
  DL 4CC (with 2x2 MIMO) *
  UL 2CC
- W-CDMA/HSPA Evolution/
  (DB-)DC-HSDPA/
  4C-HSDPA/DC-HSUPA
- GSM/GPRS/EGPRS
- CDMA2000/EV-DO Rev.A
- TD-SCDMA/HSPA/HSPA Evolution

MT8821C

- Enhanced GUI with large touch panel
- Parallelphone measurement
- Internal server
- Compatibility with MT8820C

- Up to 8 TX RF / 2 RX RF
- Frequency Range : 30 MHz to 3.8 GHz
  3.8 GHz to 6.0 GHz (Option)
- Internal RF front-end

*: Supports up to 3CC MIMO now and 4CC MIMO in future

One Box Tester for LTE-Advanced UE Development

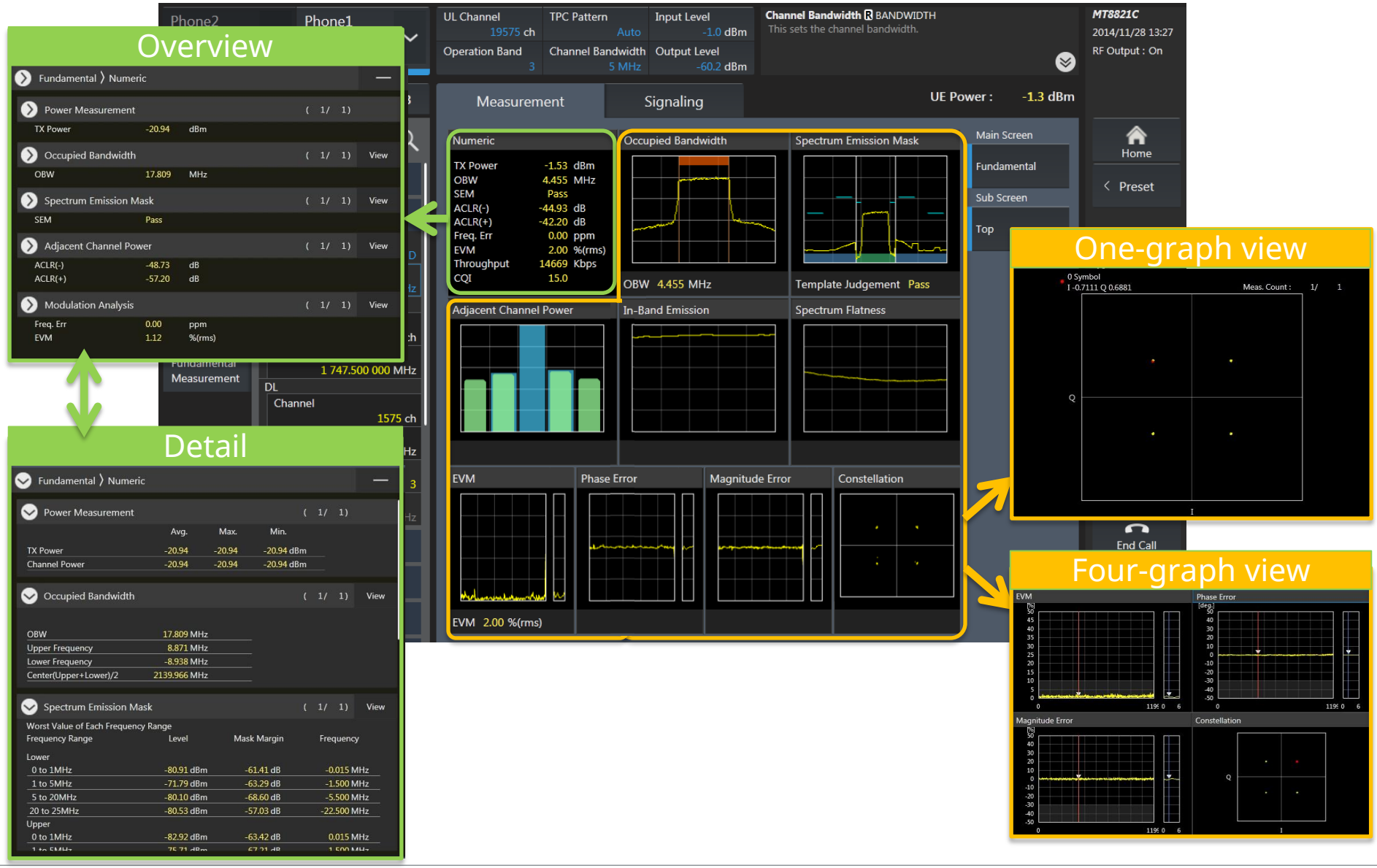
The MT8821C provides solutions from RF parametric tests through to UE functional and performance tests in one unit.
It is useful for RF chipset and UE R&D.

Functional Tests
- OTA
- IP throughput
- Power consumption

RF Verification Tests
- UE TRX test
- UE calibration
- RRM (Inter-RAT measurement)

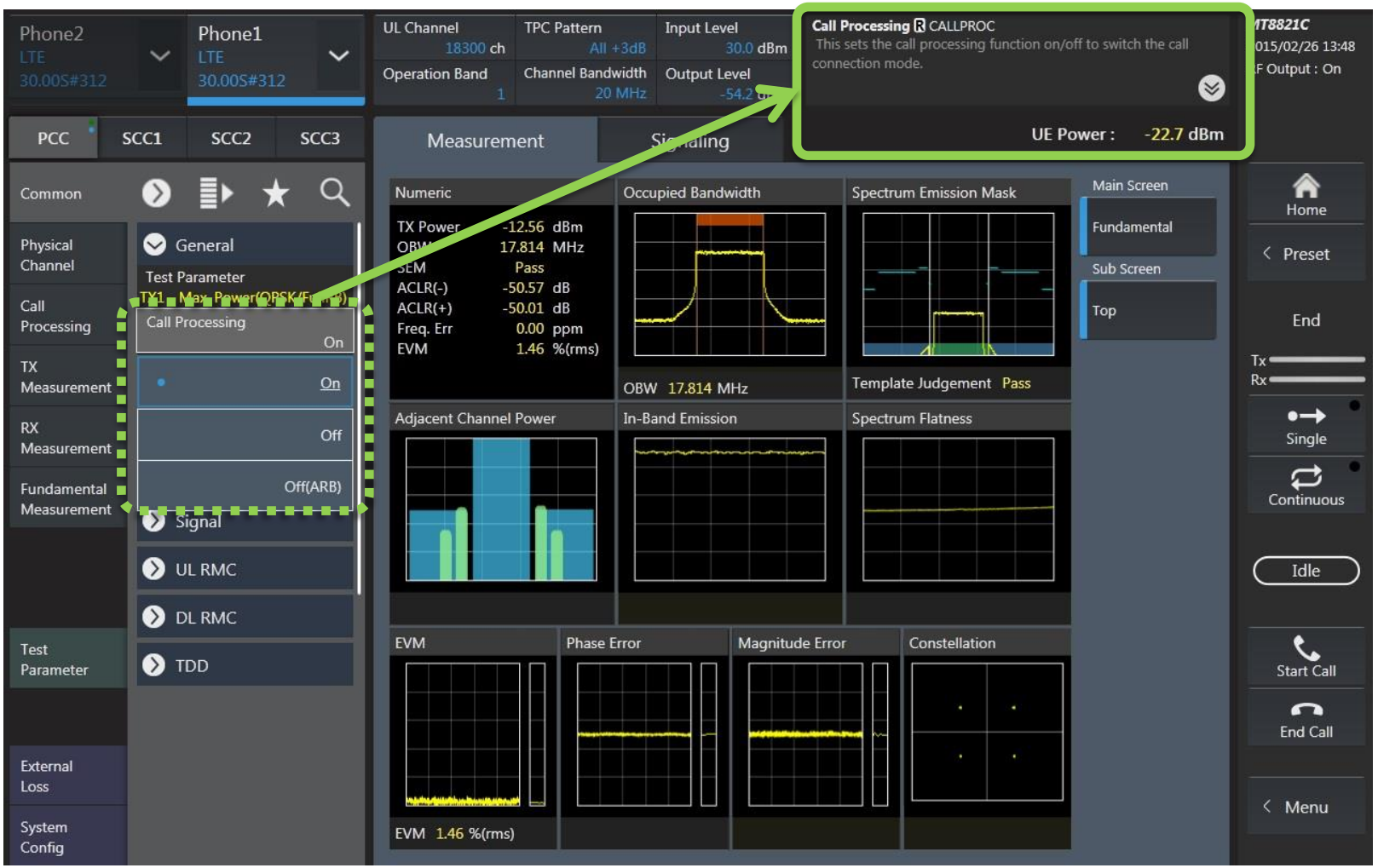
MT8821C

Enhanced GUI: Measurement (All Results)



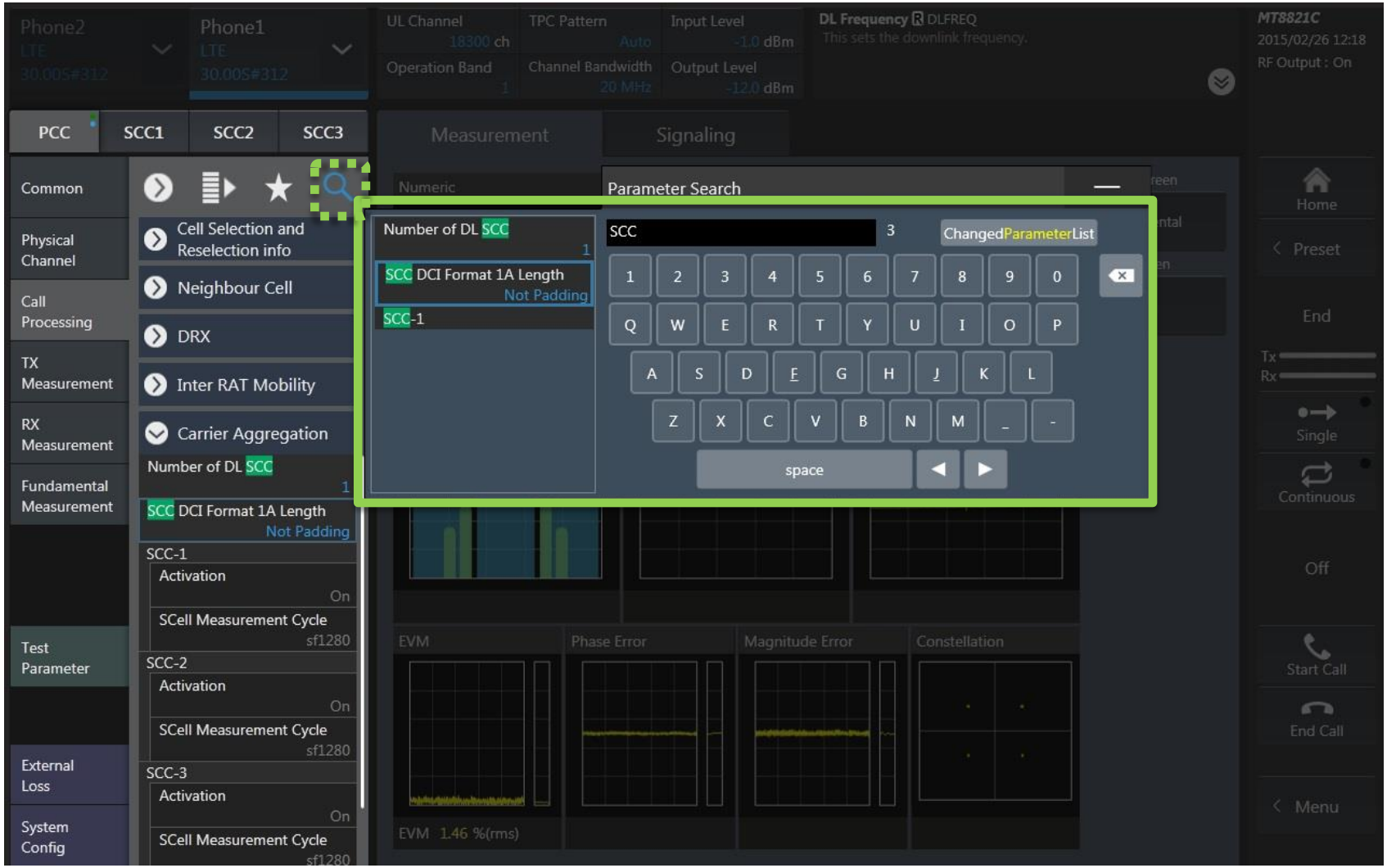
Enhanced GUI: Automatic Help Display

Touching the test parameter/measurement results displays an explanation or remote commands in the Help window.



Enhanced GUI: Parameter Search

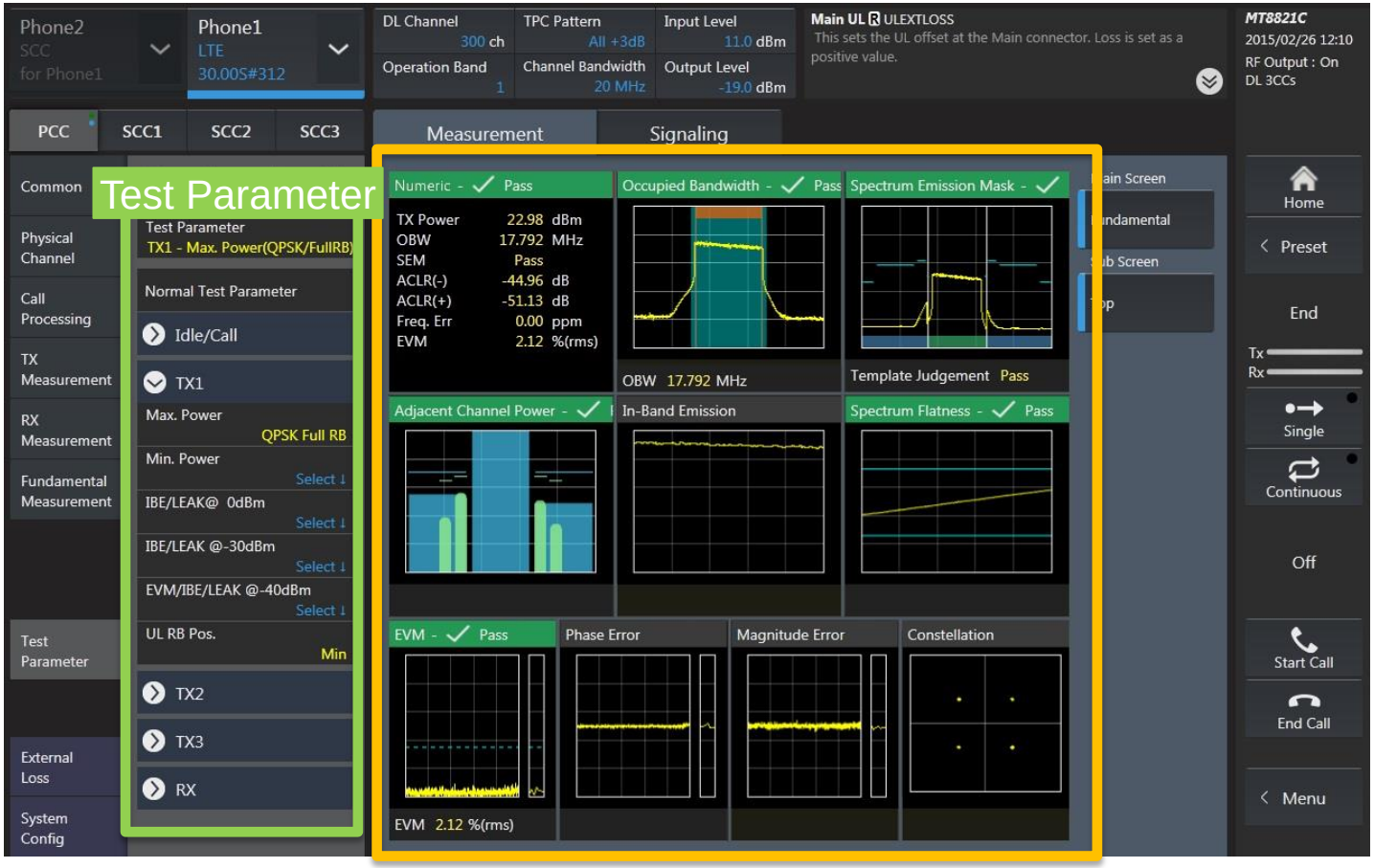
Parameters can be searched by text and settings can be changed.



RF TRX Measurement (Test Parameters)

The MT8821C has a “Test Parameter” function for 3GPP RF tests.
It supports following features.

- One-button parameter setting for 3GPP RF TRX tests
- PASS/FAIL judgment

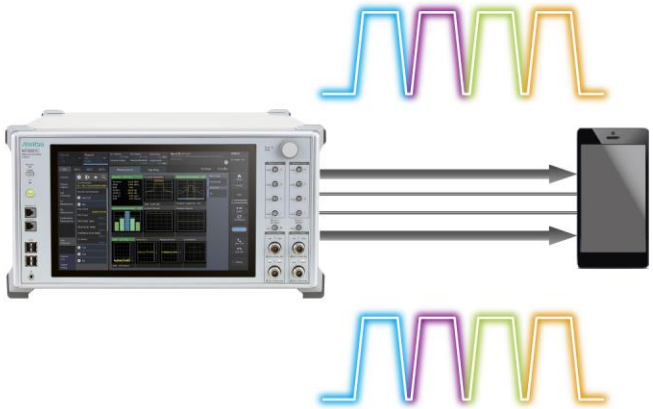


Internal RF Frontend

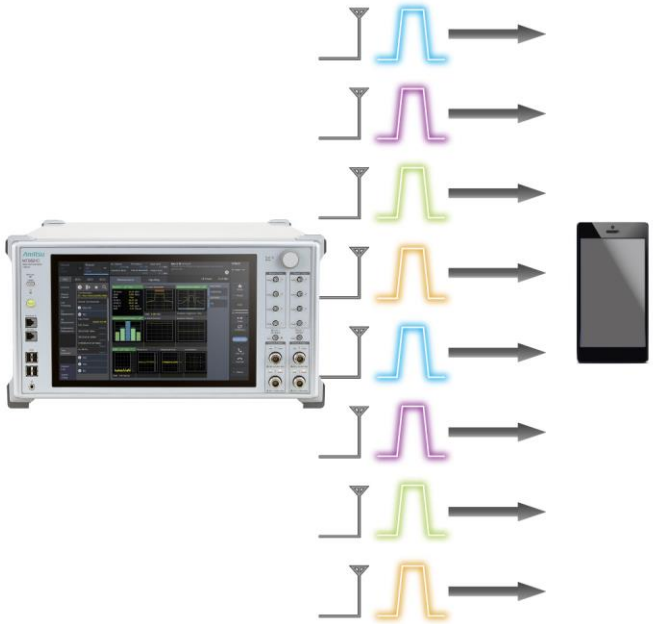
The MT8821C supports up to 8 TX RF (when AUX ports used).
It can also combine RF signals using the built-in RF frontend for LTE CA.

◆Combining RF signals

The following combination can be selected according to the customer's purpose.



[4CC 2x2 MIMO for throughput measurement]



[4CC 2x2 MIMO for OTA]

Internal Server

The MT8821C supports an internal server.

Without external server PC　　Internal server

◆ IP data transfer

The IP data transfer test is executed without needing an external server PC.
Customers can measure IP Throughput on the MT8821C.

Multi-RAT Measurement

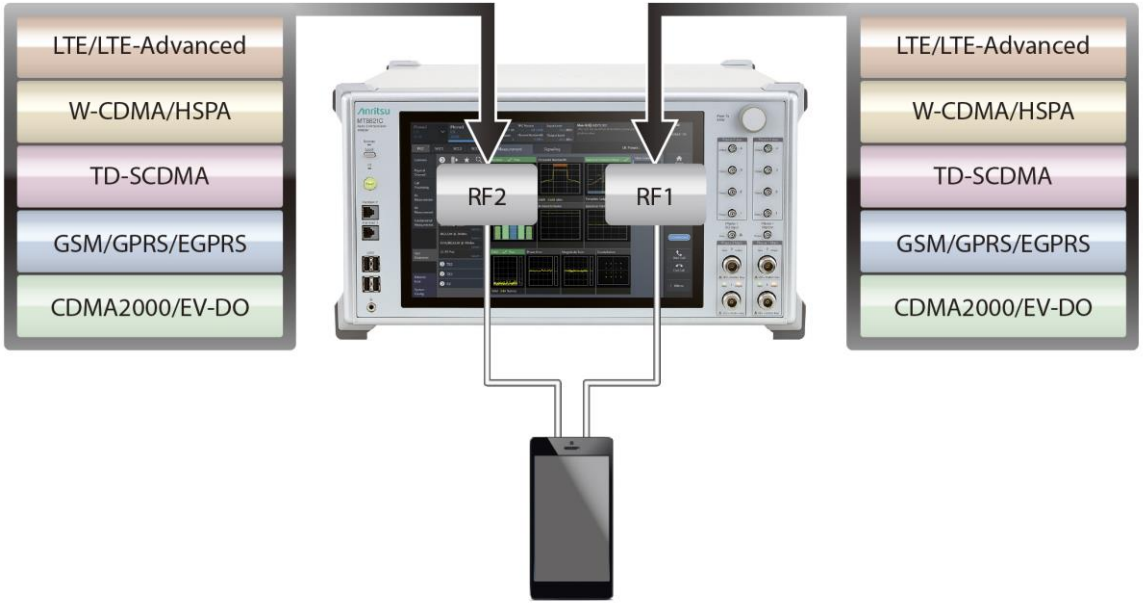
One MT8821C can perform two measurements simultaneously. Anritsu calls this function Parallelphone Measurement or PPM.
It supports simultaneous and independent testing of two UEs.

The MT8821C supports the following tests.

- SGLTE/SVLTE

- DSDA

- RRM (Inter-RAT measurement)



Compatibility with MT8820C

The MT8821C is compatible with MT8820C functions, performance, remote commands, etc. Previously developed control software and test sequences can be used with the MT8821C.

- **Reduces costs for test equipment and test environment configuration**
- **No risks rebuilding existing LTE and 3G/2G test environment**

Compatibility
- Functions and performance
- Remote commands

MT8820C

Control software and test environment can be reutilized.

MT8821C

MT8821C Options

Hardware No.	Hardware Name
MT8821C	Radio Communication Analyzer
MT8821C-001	W-CDMA Measurement Hardware
MT8821C-002	TDMA Measurement Hardware
MT8821C-003	CDMA2000 Measurement Hardware
MT8821C-005	1xEV-DO Measurement Hardware
MT8821C-007	TD-SCDMA Measurement Hardware
MT8821C-008	LTE Measurement Hardware
MT8821C-011	Audio Board
MT8821C-012	Parallel Phone Measurement Hardware
MT8821C-019	Extended RF 3.8GHz - 6GHz
MT8821C-025	2nd RF for Phone1
MT8821C-026	3rd RF for Phone1
MT8821C-027	4th RF for Phone1
MT8821C-028	2nd RF for Phone2
MT8821C-029	3rd RF for Phone2
MT8821C-030	4th RF for Phone2
MT8821C-043	CDMA2000 Time Offset CAL for GPS SG

Software No.	Software Name
MX882100C	W-CDMA Measurement Software
MX882100C-001	W-CDMA Voice Codec
MX882100C-002	W-CDMA External Packet Data
MX882100C-003	W-CDMA Video Phone Test
MX882100C-005	W-CDMA A-GPS
MX882100C-019	WCDMA HSPA Measurement Software
MX882100C-032	DC-HSDPA Measurement Software
MX882100C-033	DC-HSUPA Measurement Software
MX882100C-034	4C-HSDPA Measurement Software
MX882170C	W-CDMA Ciphering Software
MX882101C	GSM Measurement Software
MX882101C-001	GSM Voice Codec
MX882101C-002	GSM External Packet Data
MX882101C-005	GSM A-GPS
MX882101C-011	EGPRS Measurement Software
MX882102C	CDMA2000 Measurement Software
MX882102C-001	CDMA2000 Voice Codec
MX882102C-002	CDMA2000 External Packet Data
MX882106C	1xEV-DO Measurement Software
MX882106C-002	1xEV-DO External Packet Data

Software No.	Software Name
MX882107C	TD-SCDMA Measurement Software
MX882107C-001	TD-SCDMA Voice Codec
MX882107C-002	TD-SCDMA External Packet Data
MX882107C-003	TD-SCDMA Video Phone Test
MX882107C-011	TD-SCDMA HSDPA Measurement Software
MX882107C-012	TD-SCDMA HSDPA Evolution Measurement Software
MX882107C-021	TD-SCDMA HSUPA Measurement Software
MX882112C	LTE FDD Measurement Software
MX882112C-006	LTE FDD IP Data Transfer
MX882112C-011	LTE FDD 2x2 MIMO DL
MX882112C-016	LTE FDD CS Fallback to W-CDMA/GSM
MX882112C-017	LTE FDD CS Fallback to CDMA2000
MX882112C-021	LTE-Advanced FDD DL CA Measurement Software
MX882112C-022	LTE-Advanced FDD UL CA Measurement Software
MX882112C-026	LTE-Advanced FDD DL CA IP Data Transfer
MX882112C-031	LTE-Advanced FDD DL CA 3CCs Measurement Software
MX882112C-036	LTE-Advanced FDD DL CA 3CCs IP Data Transfer
MX882113C	LTE TDD Measurement Software
MX882113C-006	LTE TDD IP Data Transfer
MX882113C-011	LTE TDD 2x2 MIMO DL
MX882113C-016	LTE TDD CS Fallback to W-CDMA/GSM
MX882113C-017	LTE TDD CS Fallback to CDMA2000
MX882113C-018	LTE TDD CS Fallback to TD-SCDMA/GSM
MX882113C-021	LTE-Advanced TDD DL CA Measurement Software
MX882113C-022	LTE-Advanced TDD UL CA Measurement Software
MX882113C-026	LTE-Advanced TDD DL CA IP Data Transfer
MX882113C-031	LTE-Advanced TDD DL CA 3CCs Measurement Software
MX882113C-036	LTE-Advanced TDD DL CA 3CCs IP Data Transfer
MX882132C	CDMA2000 Measurement Software Lite
MX882136C	1xEV-DO Measurement Software Lite
MX882142C	LTE FDD Measurement Software Lite
MX882143C	LTE TDD Measurement Software Lite

* Red are MT8821C new options.
* Blue consolidate some MT8820C options.

MT8820C to MT8821C Upgrade

The MT8821C is upgradeable from the MT8820C. The existing MT8820C hardware and all measurement software can be re-used to make the most efficient use of your investment.

MT8820C

Hardware
Software

Upgrade Kit
MT8821C

MT8821C Specifications

Parameter	Specification
Frequency Range	30 MHz to 3.8 GHz (**3.8 GHz to 6.0 GHz** Option)
Interface	Main: RF In/Out (**Max. 4 ports**) Aux: RF Out (**Max. 8 ports**)
Output Level	–140 to –12 dBm (Main, LTE 1CC case) –140 to –18 dBm (Main, each CC in 4CC case) –125 to **+5 dBm** (Aux)
VSWR	<1.4 (30 MHz to 300 MHz), <1.3 (300 MHz to 3.8 GHz), <1.6 (3.8 GHz to 6 GHz)
Bandwidth	Generator bandwidth: **160 MHz** Analyzer bandwidth: **160 MHz**
System	- LTE FDD/TDD - LTE CA (**DL 4CC*(with 2x2 MIMO)/UL 2CC, LTE in unlicensed spectrum: 5 GHz**) - W-CDMA/HSPA/HSPA Evolution/(DB-)DC-HSDPA/4C-HSDPA/DC-HSUPA - GSM/GPRS/EGPRS - CDMA2000/EV-DO - TD-SCDMA/HSPA/HSDPA Evolution
Remote Control	Ethernet, GPIB
GUI	**Windows 7 OS, touch panel, USB interface**
Dimensions	426 (W) × 221.5 (H) × 578 (D) mm (excluding protrusions)

Blue indicates improvements over the MT8820C

*: Supports up to 3CC MIMO now and 4CC MIMO in future

APPENDIX

MT8821C vs. MT8820C

	MT8821C	MT8820C
Frequency Range	30 MHz to 6.0 GHz (3.8 GHz to 6.0 GHz Option)	30 MHz to 2.7 GHz, 3.4 GHz to 3.8 GHz (3.4 GHz to 3.8 GHz Option)
Interface	Main: RF In/Out (Max. 4 ports) Aux: RF Out (Max. 8 ports)	Main: RF In/Out (Max. 2 ports) Aux: RF Out (Max. 2 ports)
Output Level	–140 to –12 dBm (Main, LTE 1CC case) –125 to +5 dBm (Aux)	–140 to – 15 dBm (Main, LTE 1CC case) –130 to 0 dBm (Aux)
Bandwidth	Generator bandwidth: 160 MHz Analyzer bandwidth: 160 MHz	Generator bandwidth: 25 MHz Analyzer bandwidth: 25 MHz
System	- LTE FDD/TDD - LTE CA (DL 4CC*(with 2x2 MIMO)/UL 2CC, LTE in unlicensed spectrum: 5 GHz) - WCDMA/HSPA/HSPA Evolution/ (DB-)DC-HSDPA/4C-HSDPA/DC-HSUPA - GSM/GPRS/EGPRS - CDMA2000/EVDO - TD-SCDMA/HSPA/HSDPA Evolution	- LTE FDD/TDD (up to 2x2 MIMO) - LTE CA (DL 3CC + 2x2 MIMO by 3units/ UL 2CC) - WCDMA/HSPA/HSPA Evolution/ (DB-)DC-HSDPA/4C-HSDPA/DC-HSUPA - GSM/GPRS/EGPRS - CDMA2000/EVDO - TD-SCDMA/HSPA/HSDPA Evolution
GUI	Windows 7 OS, touch panel, USB interface	Unix OS, key panel, CF interface
Dimensions	426 (W) × 221.5 (H) × 578 (D) mm (excluding protrusions)	426 (W) × 221.5 (H) × 498 (D) mm (excluding protrusions)

*: Supports up to 3CC MIMO now and 4CC MIMO in future

Anritsu

envision : ensure

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