MT8820C
Radio Communication Analyzer
Product Introduction

~ All-in-one tester for developing and manufacturing LTE mobile terminals ~

Version 10.00
July 2020

ANRITSU CORPORATION

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What is MT8820C?

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What is MT8820C?

New All-in-One Test Platform Supporting LTE-Advanced CA and Compatibility with Existing 3G/2G

The MT8820C is Anritsu's new all-in-one test platform for R&D and manufacturing of LTE/2G/3G UE (User Equipment); it is based on the popular MT8820B for the 2G/3G market.

The MT8820C supports manufacturing of LTE-Advanced DL CA mobiles, including RF calibration, RF parametric testing, and functional tests. It is backwards compatible with the MT8820B/15B.

It supports LTE-Advanced DL CA/3G/2G UE RF development as well as manufacturing of multi-systems. Backwards compatibility with the MT28820A/B helps reduce setup times and the MT8820B to MT8820C upgrade option cuts installation costs.

*1: Please contact our sales representative about LTE-Advanced CA and LTE(FDD/TDD).
*2: Parallelphone™ is a registered trademark of Anritsu Corporation.

Key Features

Supports 2G/3G to LTE with Signalling

LTE-Advanced CA[*1]/LTE
W-CDMA/HSPA/HSPA Evolution/DC-HSPA/4C-HSDPA
GSM/GPRS/EGPRS
TD-SCDMA/HSPA/HSDPA Evolution
PHS/ADVANCED PHS

- **Excellent TD-SCDMA functions**
- **Backwards compatibility with MT8820A/B**
- **Supports all manufacturing processes**
- **Parallelphone™ Measurement[*2]**
- **MT8820B to MT8820C Upgrade**

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All-In-One LTE/3G/2G UE Development and Manufacturing

The all-in-one MT8820C supporting all test functions, including signalling, is the ideal solution for LTE/3G/2G UE R&D and manufacturing. It saves both costs and space over other solutions and, in addition to fully supporting LTE-Advanced CA from the first product roll-out, also supports 3G/2G, because it is based on the popular MT8820B.

MT8820B

MT8820C

LTE

2G/3G

GSM/GPRS/EGPRS
W-CDMA/HSPA/HSPA Evolution
TD-SCDMA/HSPA
PHS/ADVANCED PHS

LTE-Advanced DL CA/LTE
GSM/GPRS/EGPRS
W-CDMA/HSPA/HSPA Evolution/DC-HDPA/4C-HSDPA
TD-SCDMA/HSPA/HSDPA Evolution
PHS/ADVANCED PHS

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Supports All Manufacturing Processes

The MT8820C solution supports all tests ranging from RF parametric to UE function and performance tests.

Function and Performance Tests
- Voice Call, Video Call
- External Packet Data
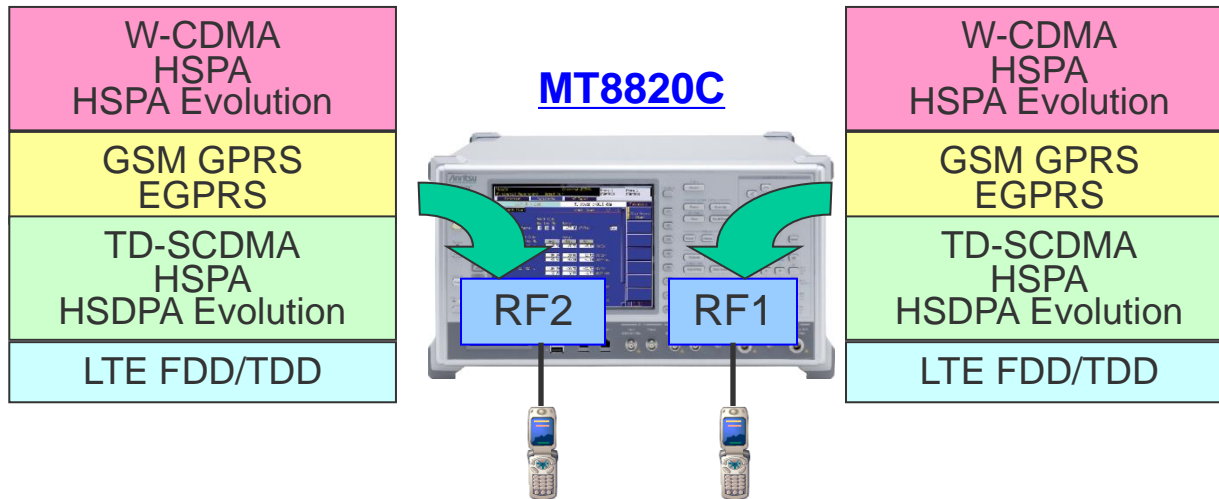- Current Consumption

RF Parametric Tests
- UE Transmitter Test
- UE Receiver Test
- Signalling/Non-Signalling Mode
- UE Calibration

MT8820C

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Using Parallelphone Measurement (PPM), one MT8820C can test two mobiles simultaneously and independently, cutting costs and saving space.

| W-CDMA HSPA HSPA Evolution |
| GSM GPRS EGPRS |
| TD-SCDMA HSPA HSDPA Evolution |
| LTE FDD/TDD |

MT8820C

RF2   RF1

| W-CDMA HSPA HSPA Evolution |
| GSM GPRS EGPRS |
| TD-SCDMA HSPA HSDPA Evolution |
| LTE FDD/TDD |

For example, two GSM mobiles can be tested simultaneously at RF1 and RF2, respectively.

MT8820C

GSM Mobile   GSM Mobile

*Since both phone terminals are occupied for LTE-Advanced FDD/TDD, 2x2 LTE MIMO and 4C-HSDPA/DC-HSPA, PPM measurements are not supported.
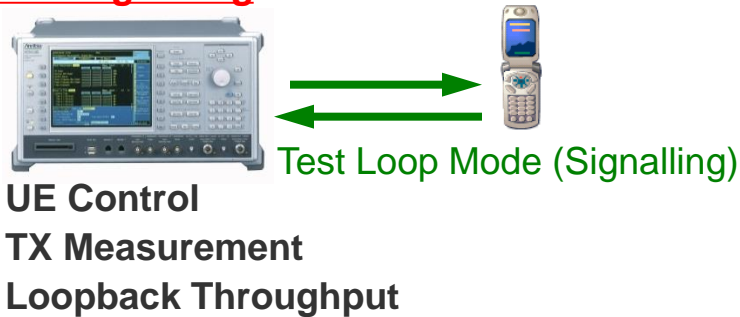
LTE FDD/TDD Features

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LTE Opt: with and without Signalling (DL Real Time)

The MT8820C can control the UE call processing to measure UE TX/RX characteristics in compliance with 3GPP test standards.

The MT8820C also supports non-call processing for RF Parametric Tests with the DL signal generated by real-time encoding. An external PC handles the UE test loop mode without signalling. This reduces test times.

With signalling

Test Loop Mode (Signalling)

UE Control
TX Measurement
Loopback Throughput

Without signalling

w/o signalling

TX Measurement

UE Control
Single-end Throughput

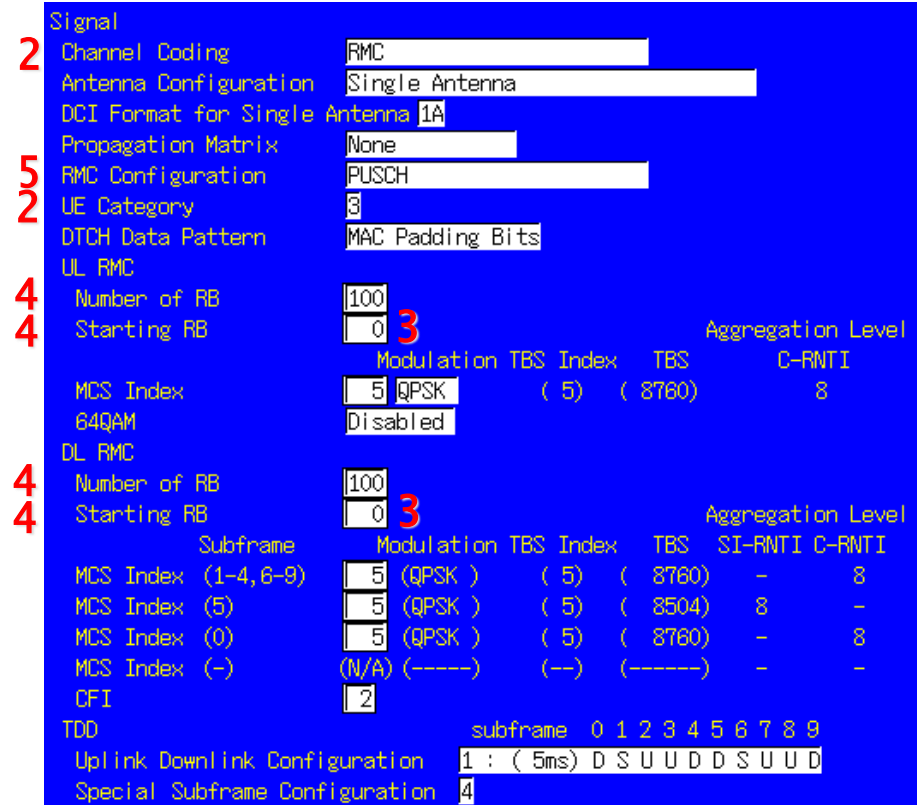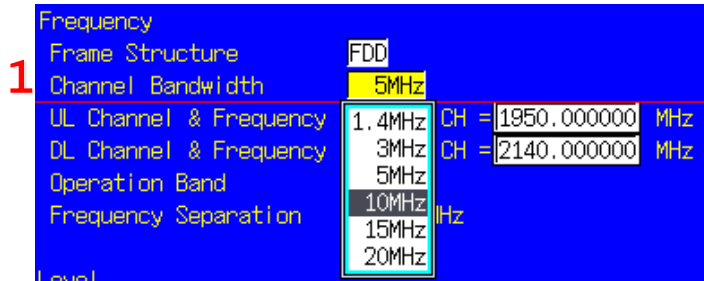| MT8820C Radio Communication Analyzer |
| --- |
| MT8820C-008 LTE Measurement Hardware |
| MX882012C LTE FDD Measurement Software |

*The above option configuration shows LTE FDD.

LTE: Example of parameters

As an example of parameter settings:

1. Selectable Channel Bandwidth from 1.4/3/5/10/15/20 MHz

2. Supports FRC of UE Category 1 to 5 for TRX measurements at SISO connection

3. Supports QPSK and 16QAM modulation for uplink, and QPSK,16QAM and 64QAM for downlink

4. Settable Resource Block (RB) and start position

5. Selection of PUSCH or PUCCH as measurement channel

*The above example shows LTE FDD (MX882012C).

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TX Measurements

Power Measurement

Occupied Bandwidth

Spectrum Emission Mask

Adjacent Channel Power Ratio

Modulation Analysis
 Frequency Error
 EVM
 Phase Error
 Magnitude Error
 Carrier Leakage
 In-Band Emissions
 Spectrum Flatness

*MX882012C example

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Screen Views – 1/2

The LTE FDD option supports various screens, such as Occupied Bandwidth, Spectrum Emission Mask, Adjacent Channel Power and Modulation Analysis (EVM, Phase Error, Magnitude Error Constellation, In-Band Emissions and Spectrum Flatness) for verifying detailed RF characteristics.

Occupied Bandwidth

Spectrum Emission Mask

Adjacent Channel Power

EVM

Phase Error

Magnitude Error

Constellation

In-Band Emissions (Full RB)

In-Band Emissions (Partial RB)

Spectrum Flatness

*The above example shows LTE FDD (MX882012C).

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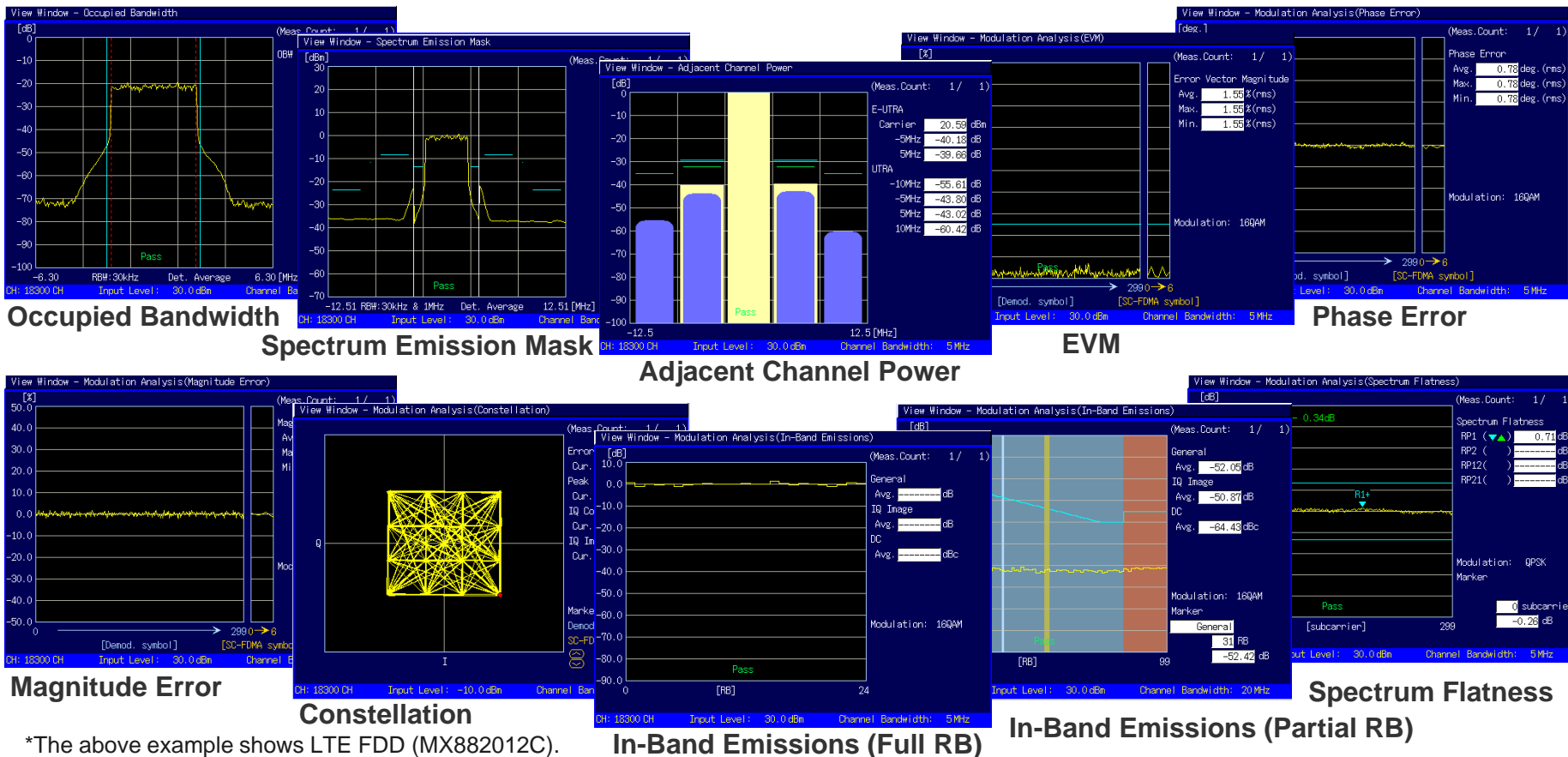
Screen Views – 2/2
TX Measurement - Power Control Tolerance/Power Template

The following items are difficult to execute without call processing, because conditions during communications are controlled by signaling messages, but the MT8820C makes these tests very easy.

6.2.5 Configured UE Transmitted Output Power

6.3.4.1 General ON/OFF time mask*

6.3.5.1 Power Control Absolute power tolerance

6.3.5.2 Power Control Relative power tolerance

6.3.5.3 Aggregate power control tolerance

*2010-06 version already supported.

Power Template   **Absolute Power**   **Relative Power**   **Aggregate Power**
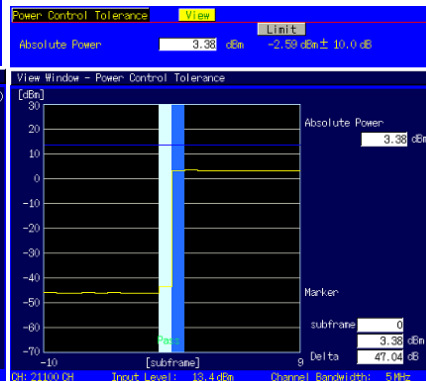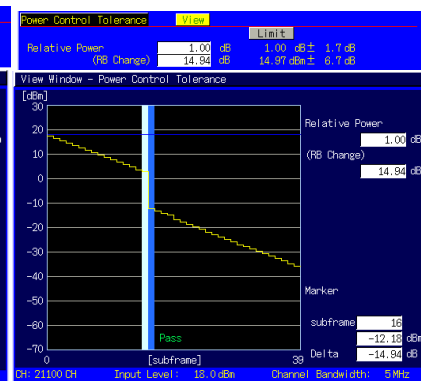
Anritsu envision:ensure
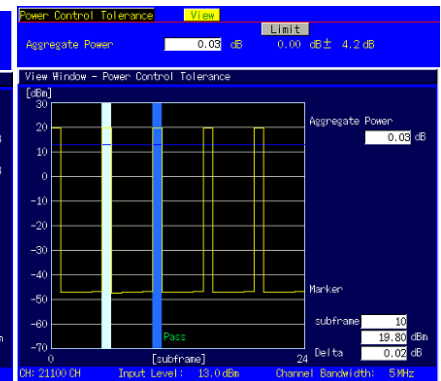
RX Measurements

RX Measurements – RF Throughput

Example: Single antenna, 10 MHz BW

Throughput	End				
DL					Limit
Throughput	3953	kbps (=	100.00	%)	≥ 95.0 %
(Code Word 0	---------	kbps (=	---------	%))	
(Code Word 1	---------	kbps (=	---------	%))	
Block Error Rate	0.0000				
	0.00E+00				
Error Count	0				
	(NACK	0	DTX	0)	
Transmitted/Sample	2007	/	2000 Block		
UL					
Throughput	5160	kbps (=	100.00	%)	
Error Count/Received	0	/	2000		

RX Measurements – CQI

CQI	End			
	Avg.	Median	Max.	Min.
CQI	15.0	15	15	14
Sum in Median CQI ± 3	2000			
Rate	100.00 %			
PMI	0 753	1 247	2 0	3 4022
RI	1 0	2 1000		
Received/Sample	2000	/	2000 Block	

*The above example shows LTE FDD (MX882012C).

Other Functions

Measurement Report – RSRP/RSRQ

Signalling Trace

*The above example shows LTE FDD (MX882012C).

One-touch 3GPP TS36.521-1 Settings – 1/3

One-touch setting supports the main 3GPP 36.521-1 TX test conditions, eliminating complex parameter settings and providing easy standard tests. In addition, GPIB commands offer simple and fast control.
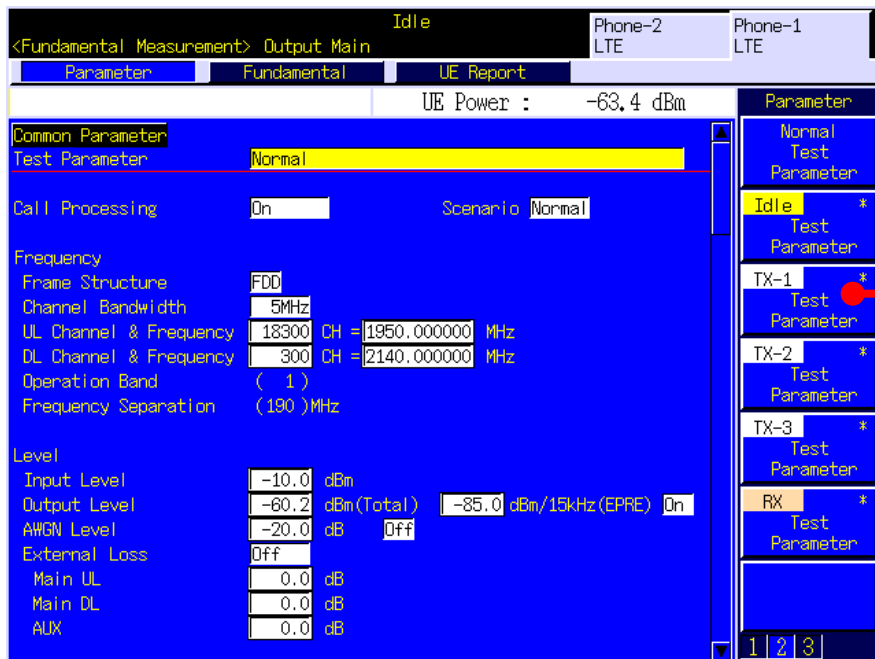
TX Test Parameters

*MX882012C example
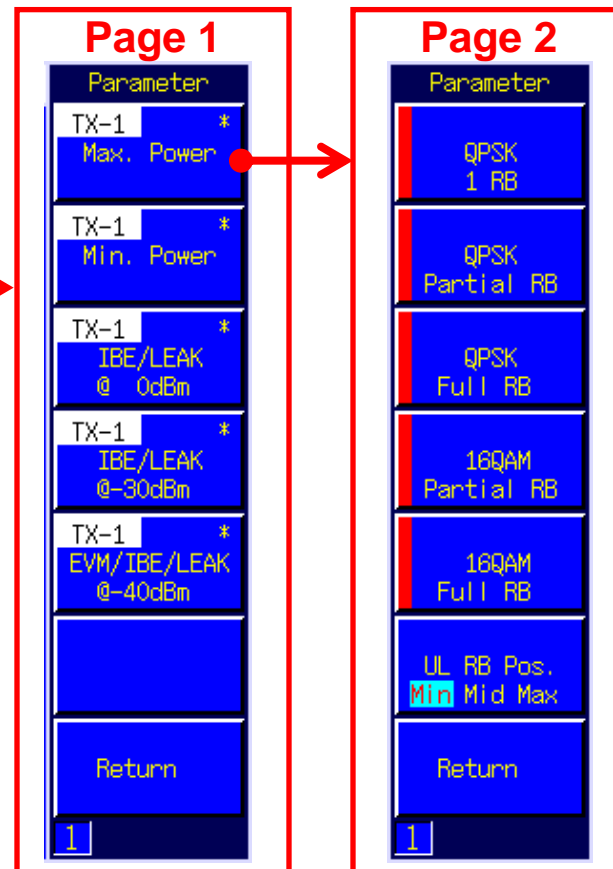
One-touch 3GPP TS36.521-1 Settings – 2/3

For example, pressing [TX-1 * Max. Power] **,** [QPSK Full RB] **sets the parameters to measure the UE maximum output (QPSL Full RB) automatically and simultaneously. The overall evaluation, and pass/fail items (displayed in red) can be seen at a glance at measurement completion.**

Setting

Measuring

+ **Single**

Result

Failed Items (Red)

Overall Evaluation

Sets Related Parameters and Measurement Items

*MX882012C example

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One-touch 3GPP TS36.521-1 Settings – 3/3

All One-touch keys
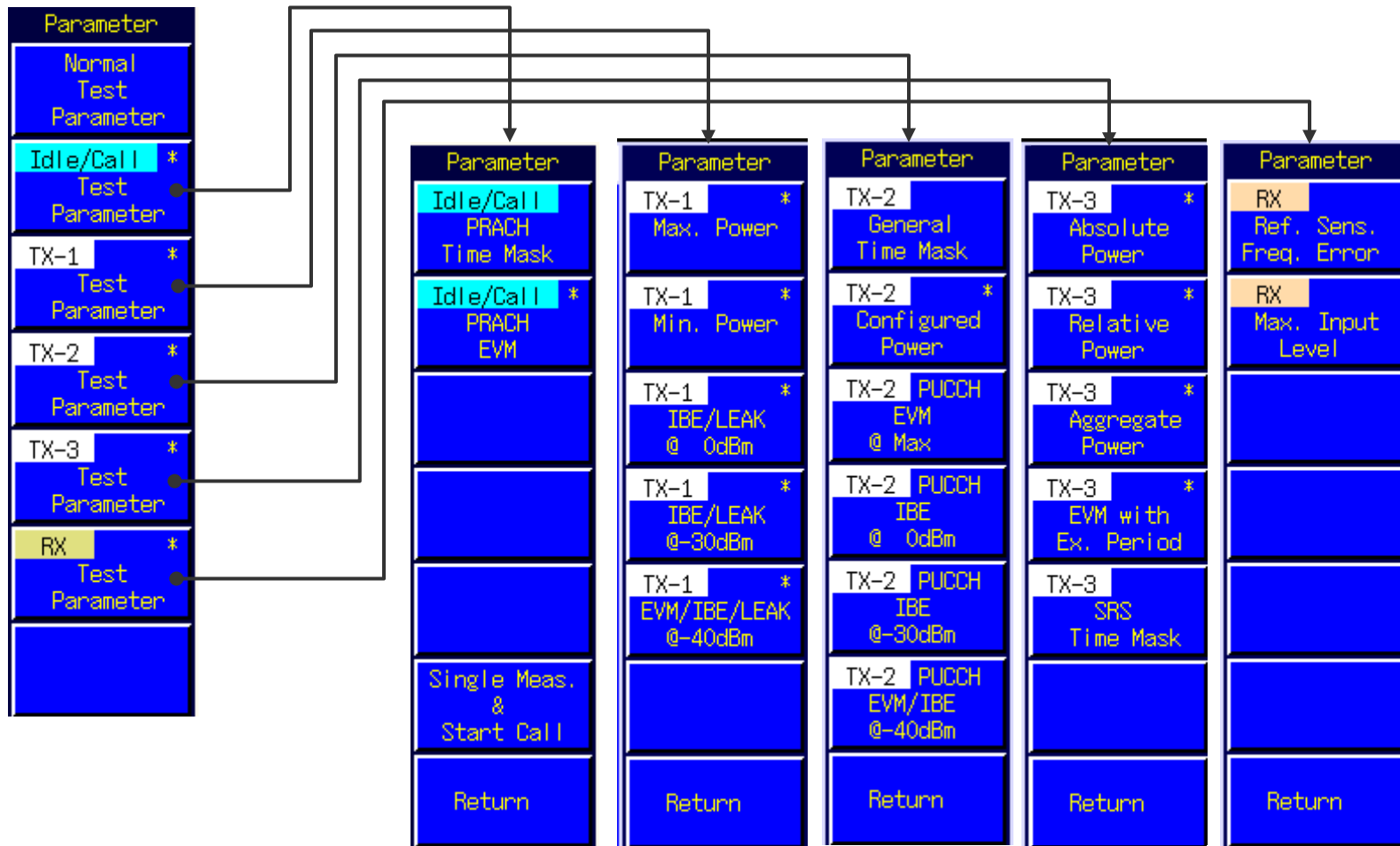
*The above example shows LTE FDD (MX882012C).

MT8820C Specifications

Parameter	Specification
Frequency Range	30 MHz to 2.7 GHz(3.4 GHz to 3.8 GHz Option)
Interface	MAIN: RF In/Out (Standard 1 port, max. 2 ports) AUX: RF Out (Standard 1 port, max. 2 ports)
System	- LTE-Advanced DL CA, LTE(FDD/TDD) - WCDMA (HSDPA/HSUPA/HSPA Evolution /DC-HSPA/4C-HSDPA) - GSM (GSM/GPRS/EGPRS) - TD-SCDMA (HSDPA/HSUPA/HSDPA Evolution) - PHS (Advanced PHS)
Remote Control	GPIB, Ethernet

MX882012C LTE FDD/MX882013C LTE TDD Measurement Software

Parameter	Specification
TX Measurements	Power
	Frequency Error
	Error Vector Magnitude (EVM)
	Phase Error
	In-band Emissions for Non-allocated RB
	Carrier Leakage
	Spectrum Flatness
	Occupied Bandwidth
	Spectrum Emission Mask
	Adjacent Channel Leakage Power Ratio
RX Measurements	Reference Sensitivity level
	Maximum Input Level

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3GPP LTE FDD/TDD Compliance – 1/2

3GPP TS 36.521-1 V12.3.0 (2014-09) Compliance Table

Section	Measurement Item	MX882012C(13C) LTE FDD(TDD) Call Processing	MT8820C Measuremet Item
6	**Transmitter characteristics**		
6.2	Transmit Power		
6.2.2	UE Maximum Output Power	Yes	Power Measurement
6.2.2_1	UE Maximum Output Power for HPUE	Yes	Power Measurement
6.2.3	Maximum Power Reduction (MPR)	Yes	Power Measurement
6.2.3_1	Maximum Power Reduction (MPR) for HPUE	Yes	Power Measurement
6.2.4	Additional Maximum Power Reduction (A-MPR)	Yes	Power Measurement
6.2.4_1	Additional Maximum Power Reduction (A-MPR)for HPUE	Yes	Power Measurement
6.2.5	Configured UE transmitted Output Power	Yes	Power Measurement
6.2.5_1	Configured UE transmitted Output Power for HPUE	Yes	Power Measurement
6.3	Output Power Dynamics		
6.3.1	Void		
6.3.2	Minimum Output Power	Yes	Power Measurement
6.3.3	Transmit Off power	Yes	Power Measurement
6.3.4	ON/OFF time mask		
6.3.4.1	General ON/OFF time mask	Yes	---
6.3.4.2	PRACH and SRS time mask		
6.3.4.2.1	PRACH time mask	Yes	---
6.3.4.2.2	SRS time mask	Yes	---
6.3.5	Power Control		
6.3.5.1	Power Control Absolute power tolerance	Yes	Power Control Measurement
6.3.5.2	Power Control Relative power tolerance	Yes	Power Control Measurement
6.3.5.3	Aggregate power control tolerance	Yes	Power Control Measurement
6.3.5_1	Power Control for HPUE		
6.3.5_1.1	Power Control Absolute power tolerance for HPUE	Yes	Power Control Measurement
6.3.5_1.2	Power Control Absolute power tolerance for HPUE	Yes	Power Control Measurement
6.3.5_1.3	Aggregate power control tolerance for HPUE	Yes	Power Control Measurement
6.4	Void		
6.5	Transmit signal quality		
6.5.1	Frequency Error	Yes	Modulation Analysis
6.5.2	Transmit modulation		
6.5.2.1	Error Vector Magnitude (EVM)	Yes	Modulation Analysis
6.5.2.1A	PUSCH-EVM with exclusion period	Yes	
6.5.2.2	Carrier leakage	Yes	Modulation Analysis
6.5.2.3	In-band emissions for non allocated RB	Yes	Modulation Analysis
6.5.2.4	Spectrum flatness	Yes	Modulation Analysis

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3GPP LTE FDD/TDD Compliance – 2/2

3GPP TS 36.521-1 V12.3.0 (2014-09) Compliance Table

Section	Measurement Item	MX882012C(13C) LTE FDD(TDD) Call Processing	MT8820C Measuremet Item
6	**Transmitter characteristics**		
6.6	Output RF spectrum emissions		
6.6.1	Occupied bandwidth	Yes	OBW
6.6.2	Out of band emission		
6.6.2.1	Spectrum Emission Mask	Yes	SEM
6.6.2.2	Additional Spectrum Emission Mask	Yes	SEM
6.6.2.3	Adjacent Channel Leakage power Ratio	Yes	ACLR
6.6.2.3_1	Adjacent Channel Leakage power Ratio for HPUE	Yes	ACLR
6.6.2.4	Additional ACLR requirements		
6.6.3	Spurious emissions		
6.6.3.1	Transmitter Spurious emissions (*1)	Yes	---
6.6.3.2	Spurious emission band UE co-existence (*1)	Yes	---
6.6.3.3	Additional spurious emissions (*1)	Yes	---
6.7	Tranmit Intermodulation (*1)	Yes	---
7	**Receiver characteristics**		
7.3	Reference sensitivity level	Yes	Throughput
7.4	Maximum input level	Yes	Throughput
7.5	Adjacent Channel Selectivity (ACS) (*1)	Yes	Throughput
7.6	Blocking Characteristics		
7.6.1	In-band blocking (*1)	Yes	Throughput
7.6.2	Out-of-band blocking (*1)	Yes	Throughput
7.6.3	Narrow band blocking (*1)	Yes	Throughput
7.7	Spurious response (*1)	Yes	Throughput
7.8	Intermodulation characteristics		
7.8.1	Wide band Intermodulation (*1)	Yes	Throughput
7.8.2	Void		
7.9	Spurious emissions (*1)	Yes	---

(*1): Requires external equipment (eg. signal generator) for interference signal, etc.

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LTE FDD/TDD Bands

3GPP TS 36.101-1 V11.7.0 (2013-12) Table 5.5-1E-UTRA operating bands

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit $F_{UL\_low} - F_{UL\_high}$	Downlink (DL) operating band BS transmit $F_{DL\_low} - F_{DL\_high}$	Duplex Mode	MX882012C LTE FDD Meas. SW v23.10
1	1920 MHz − 1980 MHz	2110 MHz − 2170 MHz	FDD	X
2	1850 MHz − 1910 MHz	1930 MHz − 1990 MHz	FDD	X
3	1710 MHz − 1785 MHz	1805 MHz − 1880 MHz	FDD	X
4	1710 MHz − 1755 MHz	2110 MHz − 2155 MHz	FDD	X
5	824 MHz − 849 MHz	869 MHz − 894MHz	FDD	X
6[NOTE 1]	830 MHz − 840 MHz	875 MHz − 885 MHz	FDD	X
7	2500 MHz − 2570 MHz	2620 MHz − 2690 MHz	FDD	X
8	880 MHz − 915 MHz	925 MHz − 960 MHz	FDD	X
9	1749.9 MHz − 1784.9 MHz	1844.9 MHz − 1879.9 MHz	FDD	X
10	1710 MHz − 1770 MHz	2110 MHz − 2170 MHz	FDD	X
11	1427.9 MHz − 1447.9 MHz	1475.9 MHz − 1495.9 MHz	FDD	X
12	698 MHz − 716 MHz	728 MHz − 746 MHz	FDD	X
13	777 MHz − 787 MHz	746 MHz − 756 MHz	FDD	X
14	788 MHz − 798 MHz	758 MHz − 768 MHz	FDD	X
15	Reserved	Reserved	FDD	-
16	Reserved	Reserved	FDD	-
17	704 MHz − 716 MHz	734 MHz − 746 MHz	FDD	X
18	815 MHz − 830 MHz	860 MHz − 875 MHz	FDD	X
19	830 MHz − 845 MHz	875 MHz − 890 MHz	FDD	X
20	832 MHz − 862 MHz	791 MHz − 821 MHz	FDD	X
21	1447.9 MHz − 1462.9 MHz	1495.9 MHz − 1510.9 MHz	FDD	X
22	3410 MHz − 3490 MHz	3510 MHz − 3590 MHz	FDD	X[*1]
23	2000 MHz − 2020 MHz	2180 MHz − 2200 MHz	FDD	X
24	1626.5 MHz − 1660.5 MHz	1525 MHz − 1559 MHz	FDD	X
25	1850 MHz − 1915 MHz	1930 MHz − 1995 MHz	FDD	X
26	814 MHz − 849 MHz	859 MHz − 894 MHz	FDD	X
27	807 MHz − 824 MHz	852 MHz − 869 MHz	FDD	X
28	703 MHz − 748 MHz	758 MHz − 803 MHz	FDD	X
29	NA	717 MHz − 728 MHz	FDD	X
30	2305 MHz − 2315 MHz	2350 MHz − 2360 MHz	FDD	X
31	452.5 MHz − 457.5 MHz	462.5 MHz − 467.5 MHz	FDD	X
...				
Note 1: Band 6 is not applicable				

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit $F_{UL\_low} - F_{UL\_high}$	Downlink (DL) operating band BS transmit $F_{DL\_low} - F_{DL\_high}$	Duplex Mode	MX882013C LTE TDD Meas. SW v23.10
33	1900 MHz – 1920 MHz	1900 MHz – 1920 MHz	TDD	X
34	2010 MHz – 2025 MHz	2010 MHz – 2025 MHz	TDD	X
35	1850 MHz – 1910 MHz	1850 MHz – 1910 MHz	TDD	X
36	1930 MHz – 1990 MHz	1930 MHz – 1990 MHz	TDD	X
37	1910 MHz – 1930 MHz	1910 MHz – 1930 MHz	TDD	X
38	2570 MHz – 2620 MHz	2570 MHz – 2620 MHz	TDD	X
39	1880 MHz – 1920 MHz	1880 MHz – 1920 MHz	TDD	X
40	2300 MHz – 2400 MHz	2300 MHz – 2400 MHz	TDD	X
41	2496 MHz – 2690 MHz	2496 MHz – 2690 MHz	TDD	X
42	3400 MHz – 3600 MHz	3400 MHz – 3600 MHz	TDD	X[*1]
43	3600 MHz – 3800 MHz	3600 MHz – 3800 MHz	TDD	X[*1]
44	703 MHz – 803 MHz	703 MHz – 803 MHz	TDD	X

X: Support

*1: Requires MT8820C-018

LTE FDD/TDD 2x2 MIMO RF Throughput – 1/2

One MT8820C with two ports supports RF throughput tests with 2x2 MIMO RX for LTE FDD UE Category 3 (DL 100 Mbps)

RF Throughput Measurement (@physical layer)

Condition: 2x2 MIMO RX

DL Signal: Fixed reference channel two antenna ports*
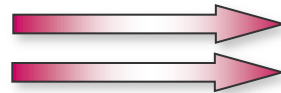
Changeable data rate up to UE Category 3 DL Max.(100 Mbps)

*: Defined in TS36.521-1 A.3.3.2.1 Two antenna ports

Connection example

RF Throughput Measurement
Up to UE Category 3 DL Max.
(LTE FDD, 100 Mbps)

2x2 MIMO

MT8820C

Port 1 to antenna 1

Port 2 to antenna 2

2x2 MIMO RF Throughput Configuration

MX882012C-011 LTE FDD 2x2 MIMO DL
MX882012C LTE FDD Measurement Software
MT8820C-008 LTE Measurement Hardware
MT8820C-012 Parallelphone Measurement Hardware
MT8820C Radio Communication Analyzer

● *Hardware configuration*
  ● *Uses two RF ports*
  ● *Requires one instrument supporting LTE*
*Supported by PPM configuration (with two MT8820C-008) as well. Note, 2x2 MIMO uses both phone terminals.

*The above example shows LTE FDD (MX882012C).
*The maximum LTE TDD 2x2MIMO download rate for UE Category 3 is 91.8 Mbps (ideal value).

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LTE FDD/TDD 2x2 MIMO RF Throughput – 2/2

Example: 2x2 MIMO, 20 MHz BW, UE Category 3, Maximum DL Rate 100 Mbps (LTE FDD)

The 100% throughput value can be changed by setting MCS Index parameters.

*The above example shows LTE FDD (MX882012C/-006/-011).

LTE FDD/TDD 2x2 MIMO IP Data Throughput – 1/2

Using the LTE FDD/TDD IP data transfer software option, the MT8820C can verify IP data communications between an external application server and LTE FDD/TDD UE. Moreover, in the 2x2 MIMO configuration, IP data throughput[1] is measured at the max. data rate[2] (LTE FDD, DL 100 Mbps, UL 50 Mbps) by an external client PC.

[1]: IP data throughput measured by external equipment such as PC.

[2]: Theoretical maximum data rate
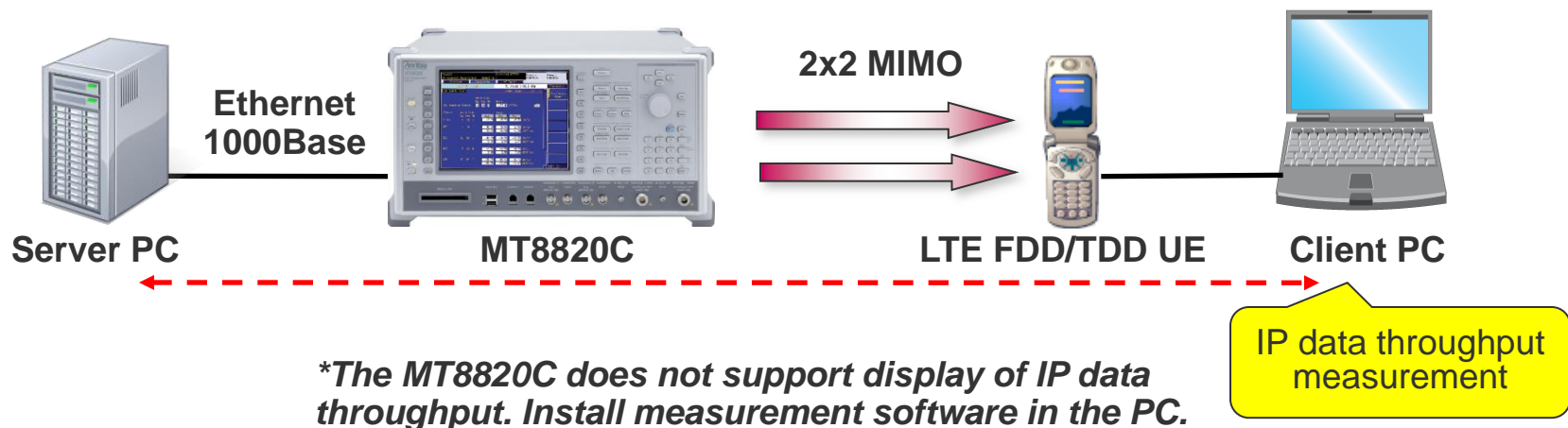
Ethernet 1000Base

2x2 MIMO

Server PC   MT8820C   LTE FDD/TDD UE   Client PC

IP data throughput measurement

*The MT8820C does not support display of IP data throughput. Install measurement software in the PC.

LTE FDD/TDD 2x2 MIMO IP Data Throughput – 2/2

Server PC — **Ethernet 1000BASE-T** — **MT8820C** — **2x2 MIMO** → **LTE FDD/TDD UE** — **Client PC**

Use UTP cable (CAT5e or better) for LAN cable
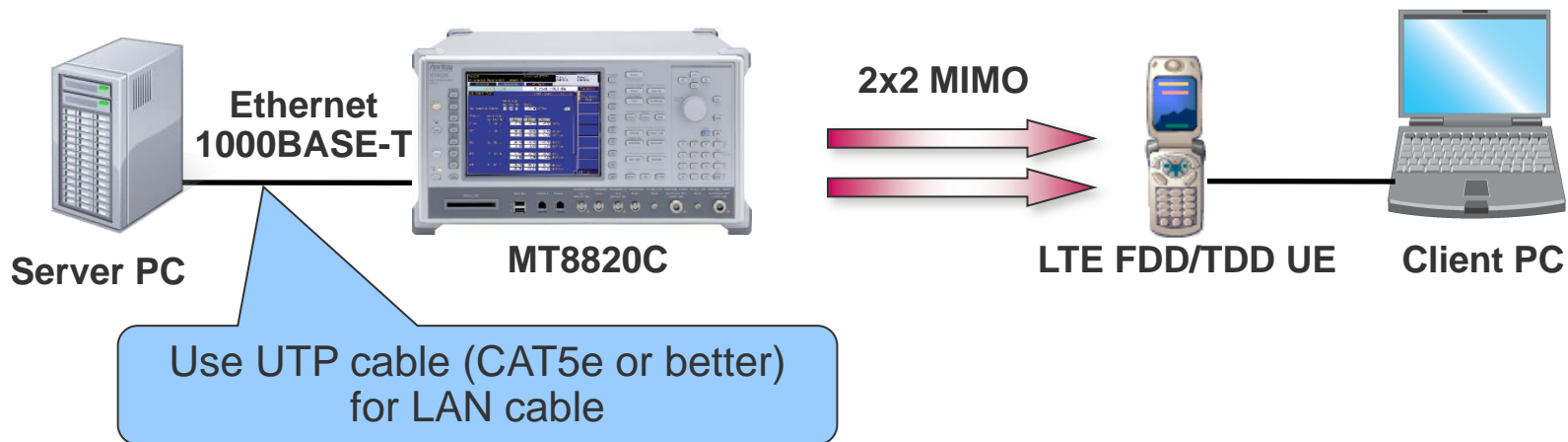
2x2 MIMO IP Data Throughput Configuration

MX882012C-011 LTE FDD 2x2 MIMO DL
MX882012C-006 LTE FDD IP Data Transfer
MX882012C LTE FDD Measurement Software
MT8820C-008 LTE Measurement Hardware
MT8820C-012 Parallelphone Measurement Hardware
MT8820C Radio Communication Analyzer

UTP: Unshielded Twisted Pair Cable
CAT5e: Enhanced Category 5 twisted pair cable

*The above example shows LTE FDD (MX882012C).

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LTE FDD CS Fallback to W-CDMA/GSM Function – 1/2

The LTE FDD CS Fallback to W-CDMA/GSM option supports simple CS Fallback function tests (redirection base)[1] with LTE FDD/3G/2G UEs.

➡ **Efficient for R&D, service and maintenance departments**

3G/2G

LTE FDD @Phone 1

(1) Voice callback

3G/2G   **LTE FDD**

(1)

(3) Voice call response

(4) Voice call

UE

3G/2G ← **LTE**

(2) Switches mode to 3G/2G
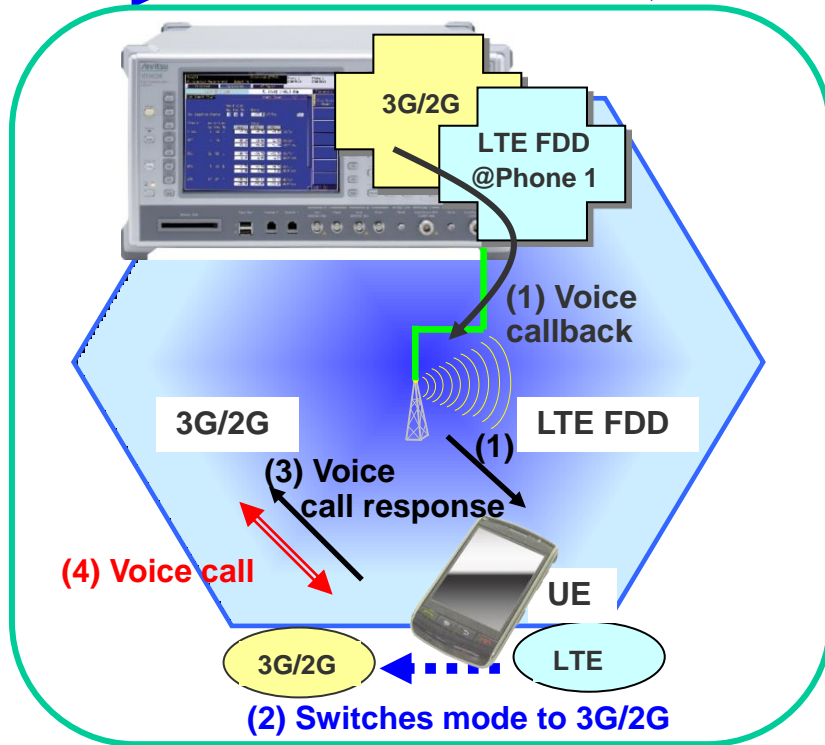
*LTE FDD CS Fallback example

(1) Voice callback made by LTE FDD
(2) LTE FDD/3G/2G UEs switch mode from LTE FDD to 3G/2G
(3) UE answers voice call from base station
(4) UE and base station start voice call.

[LTE system]

Inter RAT Mobility   CS Fallback to W-CDMA
LTE
  DL Channel   0
W-CDMA/TD-SCDMA
  DL Channel   10700
GSM
  Band Indicator   DCS1800
  Channel   1

Standard Change   On (for single RF port testing)
Select Parameter
☑ On ☐ Off

Parameter

CS Fallback To W-CDMA

Test execution key

*Above shows parameter setting example for MX882012C-016 LTE FDD CS Fallback to W-CDMA/GSM.
  The "1 Port CS Fallback function" is effective at the time of Standard Change [On].

[W-CDMA system]

Registration Mode   Auto
Connection Mode   CS Fallback
Normal
CS Fallback

*Above shows parameter setting example for MX882000C W-CDMA Measurement Software.

*1: LTE/3G/2G UEs must support CS Fallback function.

LTE FDD CS Fallback to W-CDMA/GSM Function – 2/2

3G/2G
@Phone 2

LTE FDD
@Phone 1

(1) Voice callback

3G/2G

LTE FDD

(1)

(3) Voice call response

(4) Voice call

UE

3G/2G ◀ ···· LTE

(2) Switches mode to 3G/2G

*LTE FDD CS Fallback example

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Benefits of MT8820C

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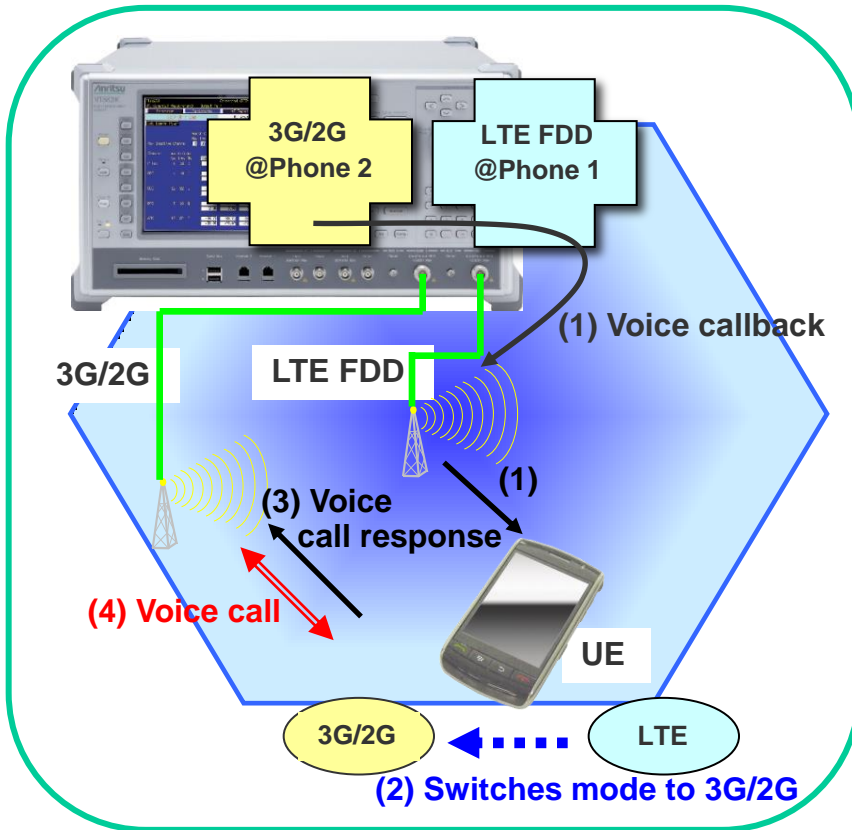
MT8820A/B Compatibility

All functions, performance, and remote commands are backwards compatible with the MT8820A/B, so customers can easily reusecontrol software developed for the MT8820A/B.

♦ **Cuts setup time and costs**

♦ **No reconfiguration of 3G/2G test environment**

MT8820A/20B

MT8820C

Compatibility
 Functions and performance
 Remote commands

Reuse control software and test environment

Cuts replacement costs
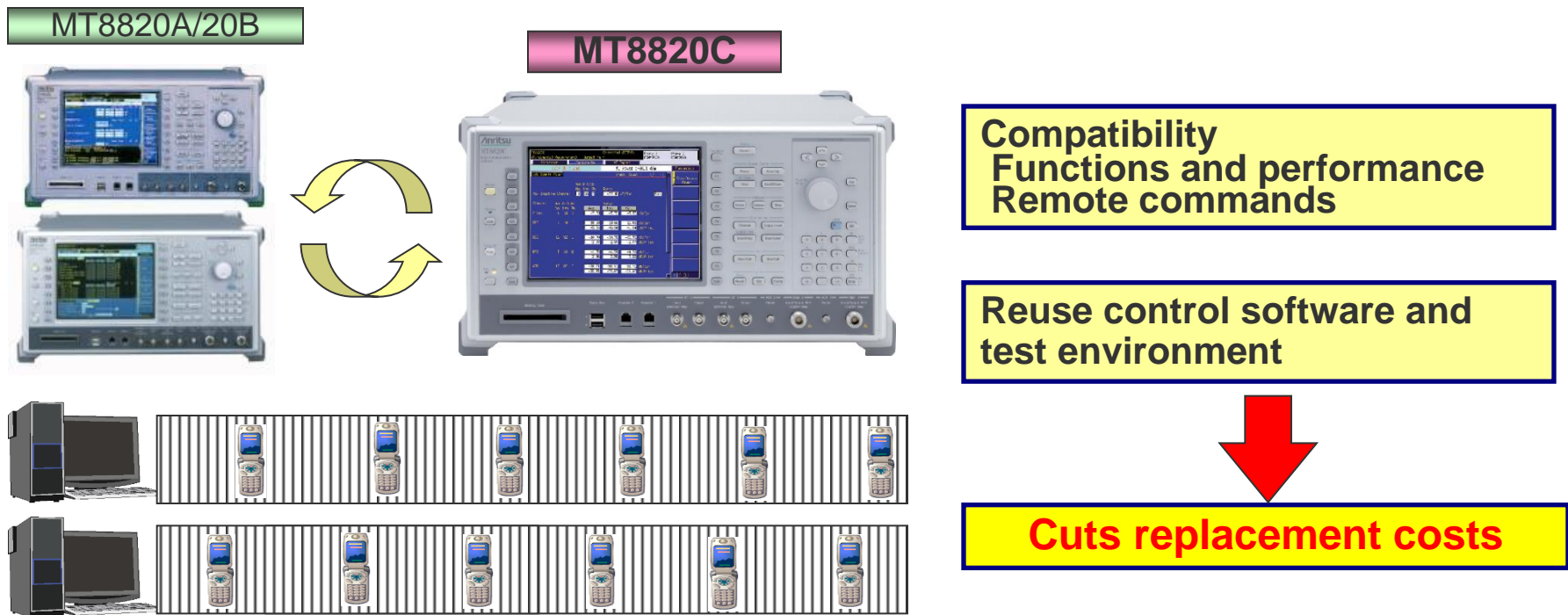
LTE Extensibility

The MT8820C platform is designed as an ideal manufacturing solution for LTE and 2G/3G mobiles. Just add the LTE option to start manufacturing LTE mobile terminals.

2G/3G Production Line

LTE Production Line

MT8820C

LTE Options

MT8820C

**TD-SCDMA/GSM
W-CDMA/GSM**

**LTE/TD-SCDMA/GSM
LTE/W-CDMA/GSM**

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LTE-Advanced DL CA 3CCs Extensibility

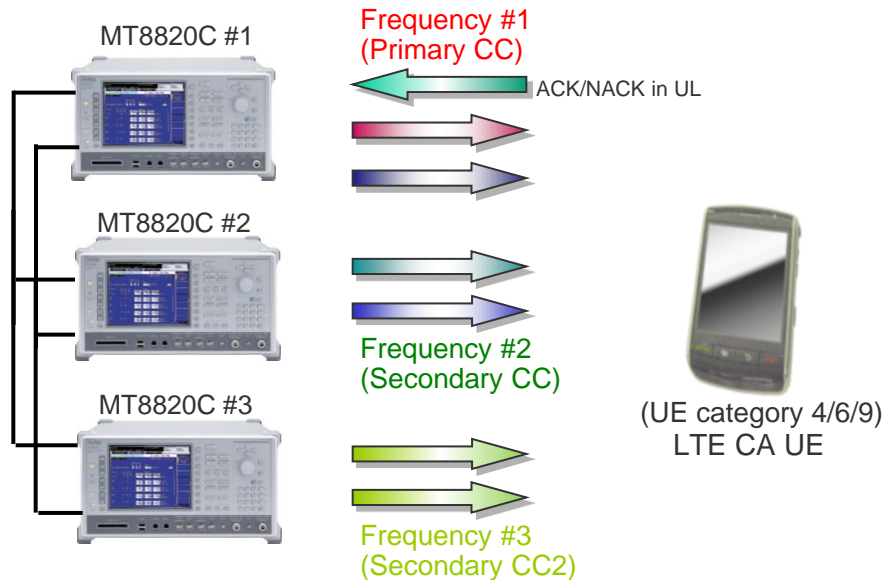## MT8820C with LTE-Advanced DL CA options

The MT8820C has supported LTE-Advanced FDD DL CA 2CCS since Jan. 2013, and its contribution to LTE-Advanced CA development is well-known.

*1: MT8820C supports LTE-Advanced FDD/TDD DL CA 2CCs and FDD/TDD DL CA 3CCs.

Key Features

- **Reliable LTE-Advanced DL CA 2CCs/3CCs with signalling**
- **3GPP TS36.521-1 TRX test items[2]**
- **Supports LTE-Advanced FDD(TDD) DL CA plus MIMO Physical throughput**

*2: 3GPP TS36.521-1 test description are not yet defined.

MT8820C #1

Frequency #1
(Primary CC)

ACK/NACK in UL

MT8820C #2

MT8820C #3

Frequency #2
(Secondary CC)

(UE category 4/6/9)
LTE CA UE

Frequency #3
(Secondary CC2)

Example of DL CA 3CCs（2x2 MIMO) Connection

*CA: Carrier Aggregation
*CC: Component Carrier

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Upgrade to MT8820C

The MT8820B/15B hardware and software can be upgraded to the MT8820C, helping maximize investment efficiency.

Upgrade

MT8815B/20B	MT8820C
GSM Measurement S/W	GSM Measurement S/W
TDMA Measurement H/W	TDMA Measurement H/W
W-CDMA Measurement S/W	W-CDMA Measurement S/W
W-CDMA Measurement H/W	W-CDMA Measurement H/W
	Scalable for LTE solutions

Cost Saving
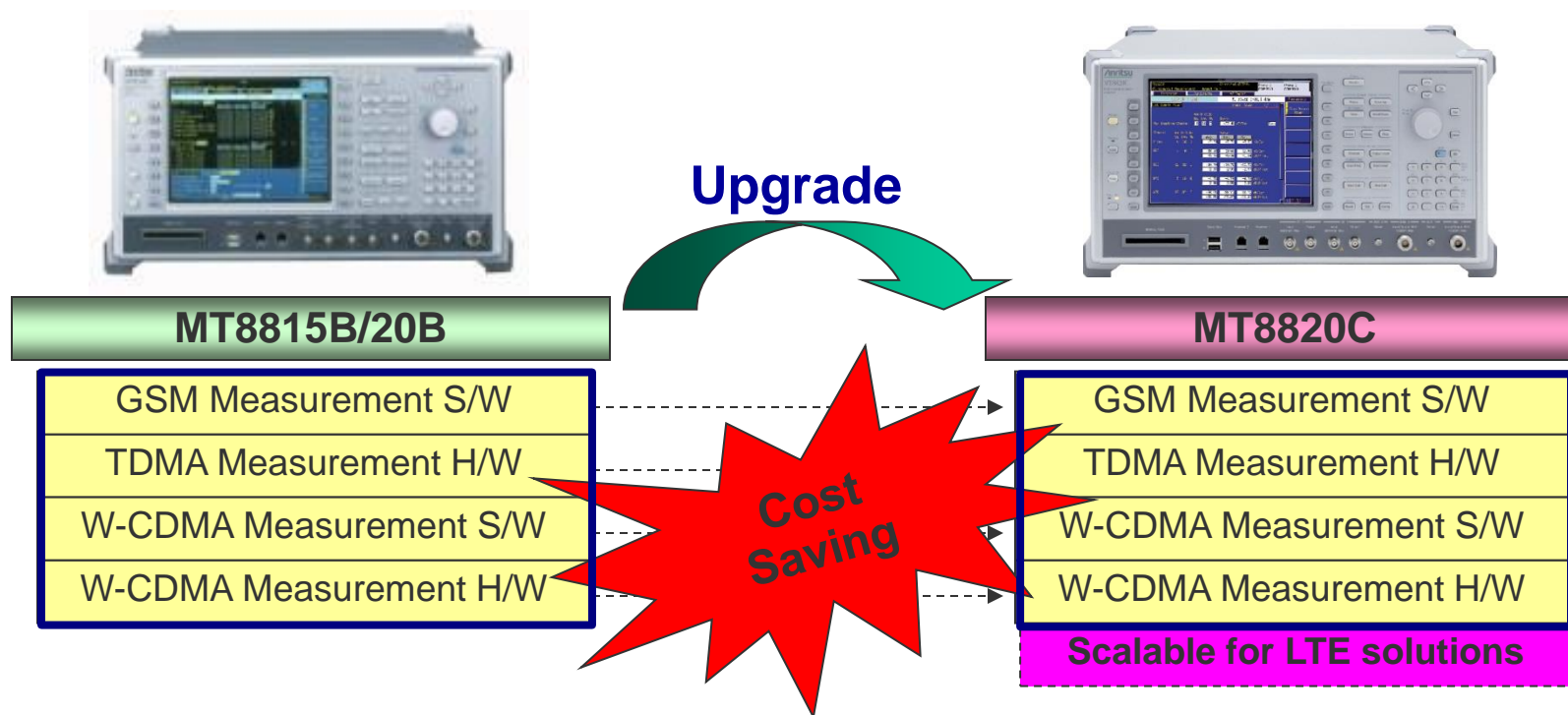
*Contact your Anritsu sales representative for upgrade details.

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MT8820x with TD-CDMA options

The MT8820B has supported TD-SCDMA since 2007, and its contribution to TD-SCDMA development is well-known.

The new MT8820C is also the ideal platform for R&D, manufacturing and service of TD-SCDMA/GSM mobiles.

Key Features

- **Reliable TD-SCDMA with signalling**
- **TD-SCDMA HSDPA/HSUPA tests**
- **3GPP TRX test items and one-touch 3GPP TS34.122 settings**
- **Voice codec and videophone tests**

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