

# Rel-6/Rel-7/Rel-8, Band XIX Functions

## **ME7873F**

W-CDMA TRX/Performance Test System

## **ME7874F**

W-CDMA RRM Test System

**ME7873F/ME7874F**  
**W-CDMA TRX/Performance Test System**  
**W-CDMA RRM Test System**

**Product Introduction**

**-Rel-6/Rel-7/Rel-8, Band XIX Functions-**

**July 2013**  
**Anritsu Corporation**  
**Version 7.0**

# Contents

## 1. UMTS Band XIX Function

## 2. Rel-8 Function

- ◆ WI-129 (DC-HSDPA)

## 3. Rel-7 Functions

- ◆ WI-069(64QAM for HSDPA) / WI-070 (CPC)

- ◆ WI-113 (Type3)

- NEW!** ◆ WI-148 (Enhanced receiver performance of type1 for DCH)

## 4. Rel-6 Functions

- ◆ WI-024 (Rel-6 Enhancements)

- ◆ WI-076 (HSDPA RF Performance)

- ◆ WI-025 (HSUPA)

## 5. Time-efficiency Automated Software

---



# 1. UMTS Band XIX Functions

# UMTS Band XIX Market Trend

The UMTS Band XIX newly defined by 3GPP is 800 MHz.

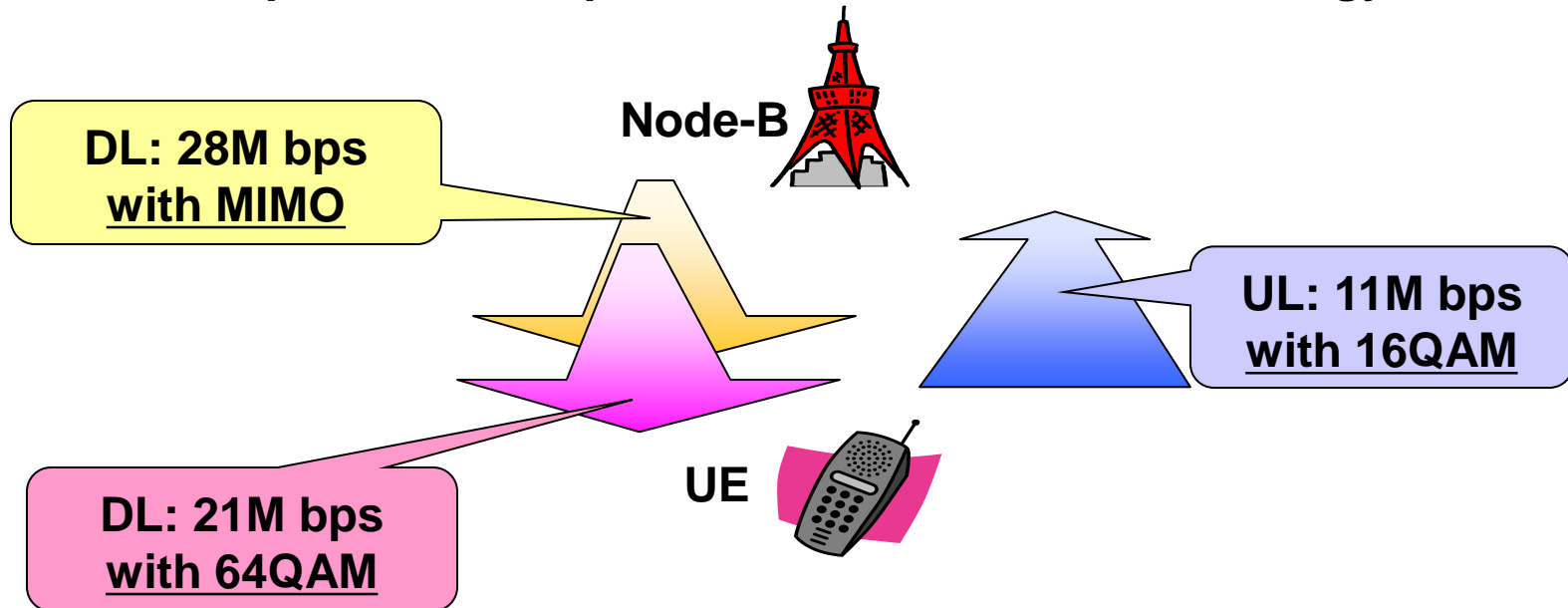
This band has been used previously in Japan for PDC 2G but following the closure of 2G services, the Japanese operator is planning to start W-CDMA services using it during 2011.

| Operating BAND | UL Frequency [MHz] | DL Frequency [MHz] | Condition | Option Model Name       |                         |             |
|----------------|--------------------|--------------------|-----------|-------------------------|-------------------------|-------------|
|                |                    |                    |           | For ME7873F Exclude RRM | For ME7873F Include RRM | For ME7874F |
| I              | 1920-1980          | 2110-2170          | Available | ME7873F-11              | ME7873F-21              | ME7874F-11  |
| II             | 1850-1910          | 1930-1990          | Available | ME7873F-12              | ME7873F-22              | ME7874F-12  |
| III            | 1710-1785          | 1805-1880          | Available | ME7873F-13              | ME7873F-23              | ME7874F-13  |
| IV             | 1710-1755          | 2110-2155          | Available | ME7873F-14              | ME7873F-24              | ME7874F-14  |
| V              | 824-849            | 869-894            | Available | ME7873F-15              | ME7873F-25              | ME7874F-15  |
| VI             | 830-840            | 875-885            | Available | ME7873F-16              | ME7873F-26              | ME7874F-16  |
| VII            | 2500-2570          | 2620-2690          | No plan   | No plan                 | No plan                 | No plan     |
| VIII           | 880-915            | 925-960            | Available | ME7873F-18              | ME7873F-28              | ME7874F-18  |
| IX             | 1749.9-1784.9      | 1844.9-1879.9      | Available | ME7873F-19              | ME7873F-29              | ME7874F-19  |
| X              | 1710-1770          | 2110-2170          | No plan   | No plan                 | No plan                 | No plan     |
| XI             | 1427.9-1452.9      | 1475.9-1500.9      | Available | ME7873F-31              | ME7873F-41              | ME7874F-31  |
| XIX            | 830-845            | 875-890            | Available | ME7873F-32              | ME7873F-42              | ME7874F-32  |

## 2. Rel-8 Function

# What is HSPA Evolution?

- HSPA Evolution: High Speed Packet Access Evolution
  - ◆ New functionality of 3GPP Release 7 specification
  - ◆ Max. packet DL speed of 28 Mbps and UL speed of 11 Mbps due to HSPA technology upgrade
  - ◆ Improve the latency, increased cell capability, and longer UE battery life
  - ◆ Service roll-out from 2009 worldwide
  - ◆ Also called HSPA+ or eHSPA
  - ◆ Max. DL speed of 42 Mbps due to the additional technology enhancement



# WI-129

## Dual Carrier HSDPA on Adjacent Carriers (FDD Rel-8)



# WI-129 DC-HSDPA Test Items (1/2)

## Rx Test

| <b>TS34.121-1<br/>TC #</b> | <b>TC item</b>                                            |
|----------------------------|-----------------------------------------------------------|
| <b>6.2A</b>                | <b>Reference Sensitivity Level for DC-HSDPA</b>           |
| <b>6.3C</b>                | <b>Maximum Input Level for DC-HSDPA Reception (16QAM)</b> |
| <b>6.3D</b>                | <b>Maximum Input Level for HS-PDSCH Reception (64QAM)</b> |
| <b>6.4B</b>                | <b>Adjacent Channel Selectivity (ACS) for DC-HSDPA</b>    |
| <b>6.5A</b>                | <b>Blocking Characteristics for DC-HSDPA</b>              |
| <b>6.6A</b>                | <b>Spurious Response for DC-HSDPA</b>                     |
| <b>6.7A</b>                | <b>Intermodulation Characteristics for DC-HSDPA</b>       |

# WI-129 DC-HSDPA Test Items (2/2)

## Performance Test (Rx Diversity)

| TS34.121-1<br>TC # | TC item                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------|
| 9.2.1GA            | Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A |
| 9.2.1IA            | Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8A         |
| 9.2.1KA            | Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A   |

## Performance Test (Non Rx Diversity)

| TS34.121-1<br>TC # | TC item                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------|
| 9.2.1FA            | Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A |
| 9.2.1HA            | Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8 A        |
| 9.2.1JA            | Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A   |
| 9.3.1B             | Single Link Performance - AWGN Propagation Conditions, Additional DC-HSDPA requirements                                    |
| 9.3.2A             | Single Link Performance - Fading Propagation Conditions, DC-HSDPA requirements                                             |

# WI-129 TRX/Performance Test Software Options

**MX787125F TRX/Performance Test Software (WI-129) supports Test Cases defined in WI-129 (DC-HSDPA). Anritsu provides 3 options for this software, and customers can select necessary option.**

## RX and Performance Test

### ◆ **MX787125F TRX/Performance Test Software (WI-129)**

#### ◆ **MX787125F-01 TRX Test Case (WI-129)**

#### ◆ **MX787125F-02 Performance Test Case (WI-129)**

**Supports TCs related to Rx Diveristy**

#### ◆ **MX787125F-03 Non RX Diversity**

#### **Performance Test Case(WI-129)**

**Supports TCs related to Non Rx Diveristy**

# WI-129 Upgrade Configuration

Requires additional items when upgrades from ME7873F Rel-7 configuration.

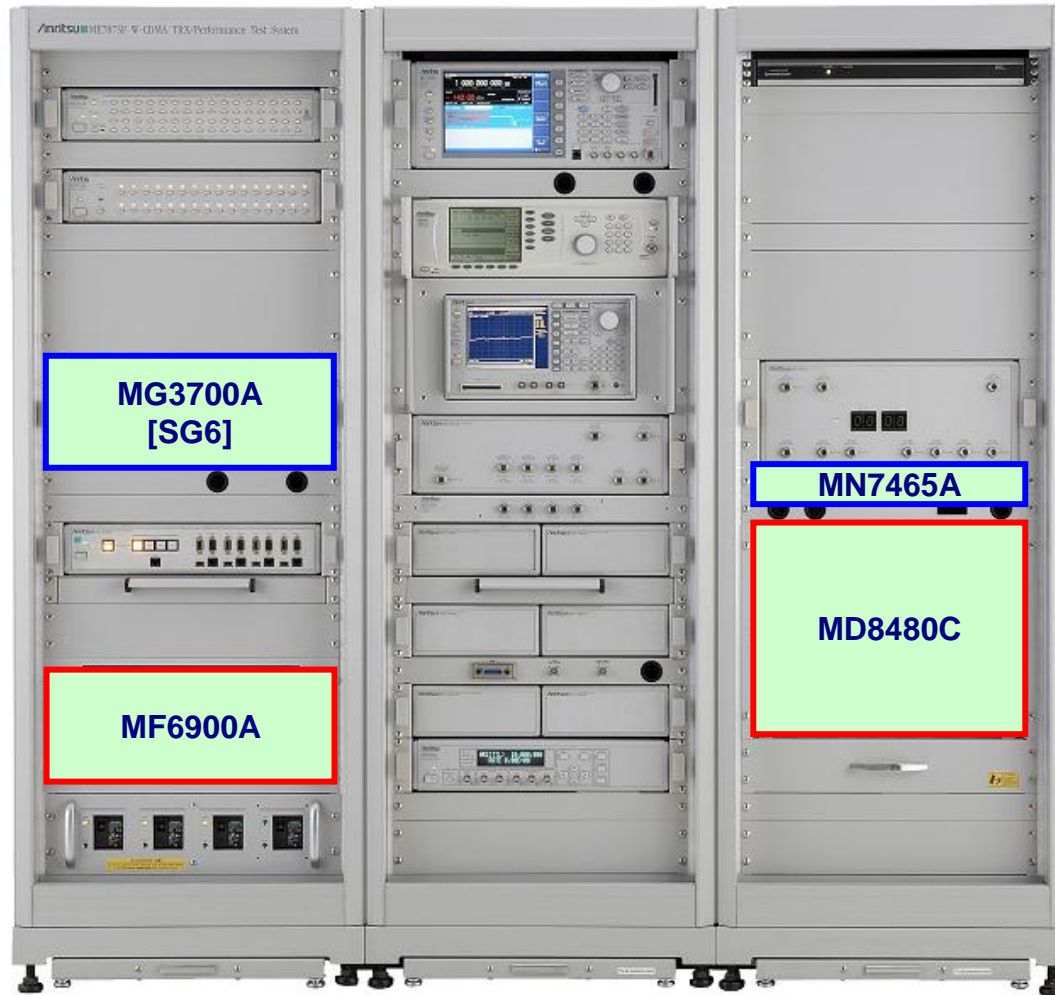
| Additional Items *1                      | TRX | RX Diversity | Non RX Diversity*3 |
|------------------------------------------|-----|--------------|--------------------|
| MN7465A RF Switch Unit *2                |     | V            | V                  |
| [SG6] MG3700A Vector Signal Generator *2 |     | V            |                    |
| MF6900A-x01 Additional LVDS Interface *2 |     | V            | V                  |
| DC-HSDPA Option for MD8480C              | V   | V            | V                  |
| TRX Test Case                            | V   |              |                    |
| Performance Test Case                    |     | V            |                    |
| Non RX Diversity Performance Test Case   |     |              | V                  |

\*1: Only the main items are described. Other accessories, etc., are required.

\*2: Not required if already implemented.

Please inquire of our sales representative about details of the system configuration that the customer is owned now.

# WI-129 Upgrade Rack Image (ME7873F-10 with RRM)



# 3. Rel-7 Functions

# WI-069

## 64QAM for HSDPA (FDD Rel-7)

# WI-069 64QAM for HSDPA Test Items

## RX Test

### 6.3B Maximum Input Level for HS-PDSCH Reception (64QAM)

Verifies that maximum input level for HS-PDSCH reception shall not degrade the specified HSDPA throughput performance for the DL reference channel H-Set 8.

## Performance Test

### 9.2.1H Single Link Performance –

#### Enhanced Performance Requirements Type 2 – 64QAM, Fixed Reference Channel (FRC) H-Set 8

Verifies that the throughput shall meet or exceed the minimum requirements for a particular UE belonging to HS-DSCH categories 13 and 14 and supporting the type 2.

### 9.2.1I Single Link Performance –

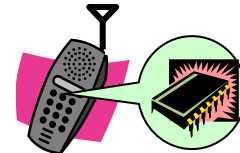
#### Enhanced Performance Requirements Type 3 – 64QAM, Fixed Reference Channel (FRC) H-Set 8

Verifies that the throughput shall meet or exceed the minimum requirements for a particular UE belonging to HS-DSCH categories 13 and 14 and supporting the optional enhanced performance requirements type 3.

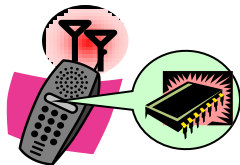
### 9.3.1A Single Link Performance –

#### AWGN Propagation Conditions, 64QAM

Measure the ratio of ACK/NACK under the AWGN environment of the UE according to Channel Quality Indicator (CQI) in 64QAM condition.



Equalizer  
(Type-2)



RX Diversity  
&  
Equalizer  
(Type-3)



# WI-069 TRX/Performance Test Software Options

**MX787122F TRX/Performance Test Software supports Test Cases defined in WI-069 (64QAM for HSDPA).**

## RX and Performance Test

- ◆ **MX787122F TRX/Performance Test Software (WI-069)**
  - ◆ **MX787122F-01 TRX Test Case (WI-069)**
  - ◆ **MX787122F-02 Performance Test Case (WI-069)**

# WI-070

## HSPA - CPC (FDD Rel-7)

# WI-070 HSPA -CPC Test Items

## Performance Test

### 9.5.1 HS-SCCH-less demodulation of HS-DSCH

Verifies that UE is capable of decoding the HS-PDSCH on the first transmission without the HS-SCCH, and be capable of combining the first transmission and second transmissions.

### 9.5.1A HS-SCCH-less demodulation of HS-DSCH - Enhanced Performance Requirements Type 1

Verifies that UE supporting the optional enhanced performance requirements type 1 is capable of decoding the HS-PDSCH on the first transmission without the HS-SCCH, and be capable of combining the first transmission and second transmissions.



**RX Diversity  
(Type-1)**

# WI-070 TRX/Performance Test Software Options

**MX787123F TRX/Performance Test Software supports Test Cases defined in WI-070 (HSPA -CPC).**

## Performance Test

- ◆ **MX787123F TRX/Performance Test Software (WI-070)**
  - ◆ **MX787123F-01 Performance Test Case (WI-070)**

# WI-113

## HSDPA Performance for Enhanced Receiver Type 3 (FDD Rel-7)

# WI-113 Type3 Test Items

## Performance Test

| TS34.121-1<br>TC # | TC item                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 9.2.1G             | Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3       |
| 9.2.2E             | Open Loop Diversity Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3 |
| 9.2.3E             | Closed Loop Diversity Performance Enhanced Performance Requirements Type 3, QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3  |
| 9.4.1A             | HS-SCCH Detection Performance - Single Link Performance – Enhanced Performance Requirements Type 1                             |
| 9.4.2A             | HS-SCCH Detection Performance - Open Loop Diversity Performance - Enhanced Performance Requirements Type 1                     |

# WI-113 TRX/Performance Test Software Options

**MX787124F TRX/Performance Test Software supports Test Cases defined in WI-113 (Type3).**

## Performance Test

- ◆ **MX787124F TRX/Performance Test Software (WI-113)**
  - ◆ **MX787124F-01 Performance Test Case (WI-113)**

# WI-148

## Enhanced receiver performance of type 1 for DCH (UTRA Rel-7)



# WI-148 Enhanced receiver performance of type 1 for DCH Test Items

## Tx Test

### 5.4.4A Out-of-synchronization handling of output power for a UE which supports type1 for DCH

To verify UE's ability to retain and release the synchronization correctly according to changes in DPCCH level



**RX Diversity  
(Type-1)**

# WI-148 TRX

## Test Software Option

**MX787103F-62 WI-148 Test Case supports test case defined in WI-148.**

### TX Test

- ◆ **MX787103F-62 WI-148 Test Case (TRX)**

# Rel-7 Upgrade Configuration (w/o RRM)

Requires additional items when upgrades from ME7873F w/o RRM basic configuration.

|                                                  |
|--------------------------------------------------|
| <b>Hardware Addition</b>                         |
| MF6900A Fading Simulator *1                      |
| MN7484A RF Interface Unit for Diversity *1       |
| <b>Hardware Modification</b>                     |
| MD8480C HSPA Evolution Upgrade                   |
| MD848072C-01/02 HSDPA/HSUPA option *1            |
| MN7463A-x07 Additional Path for Rx Diversity *1  |
| <b>Removal</b>                                   |
| PropSim C2 Fading Channel Emulator               |
| [SG5] MG3633A or MG3700A (Local signal for C2)   |
| [SG6] MG3700A Vector Signal Generator (For AWGN) |
| <b>Software Addition</b>                         |
| MX78712xF WI-xxx Test Software                   |
| MX848001C-11 HSDPA Tx Diversity *1               |
| MX848001C-12 HSPA Evolution                      |
| MX848001E-13 Higher Order Modulation             |

\*1: Not required if already purchasing

Requires accessories such as cables, panels and etc.

Please inquire of our sales representative about details of the system configuration that the customer is owned now.

# Rel-7 Upgrade Configuration (with RRM)

Requires additional items when upgrades from ME7873F with RRM basic configuration.

|                                                                 |
|-----------------------------------------------------------------|
| <b>Hardware Addition</b>                                        |
| MF6900A Fading Simulator *1                                     |
| [SG2] MG3700A Vector Signal Generator (Interference) *1         |
| MN7484A RF Interface Unit for Diversity *1                      |
| <b>Hardware Modification</b>                                    |
| MD8480C HSPA Evolution Upgrade                                  |
| MD848072C-01/02 HSDPA/HSUPA option *1                           |
| [SG2, SG6] G0251A HDD ASSY                                      |
| MN7463A-x07 Additional Path for Rx Diversity *1                 |
| <b>Removal</b>                                                  |
| PropSim C2 Fading Channel Emulator                              |
| [SG5] MG3633A or MG3700A (Local signal for C2)                  |
| [SG2] MG3681A Digital Modulated Signal Generator (Interference) |
| <b>Software Addition</b>                                        |
| MX78712xF WI-xxx Test Software                                  |
| MX848001C-11 HSDPA Tx Diversity *1                              |
| MX848001C-12 HSPA Evolution                                     |
| MX848001E-13 Higher Order Modulation                            |
| [SG2, SG6] MX370107F Fading IQproducer                          |

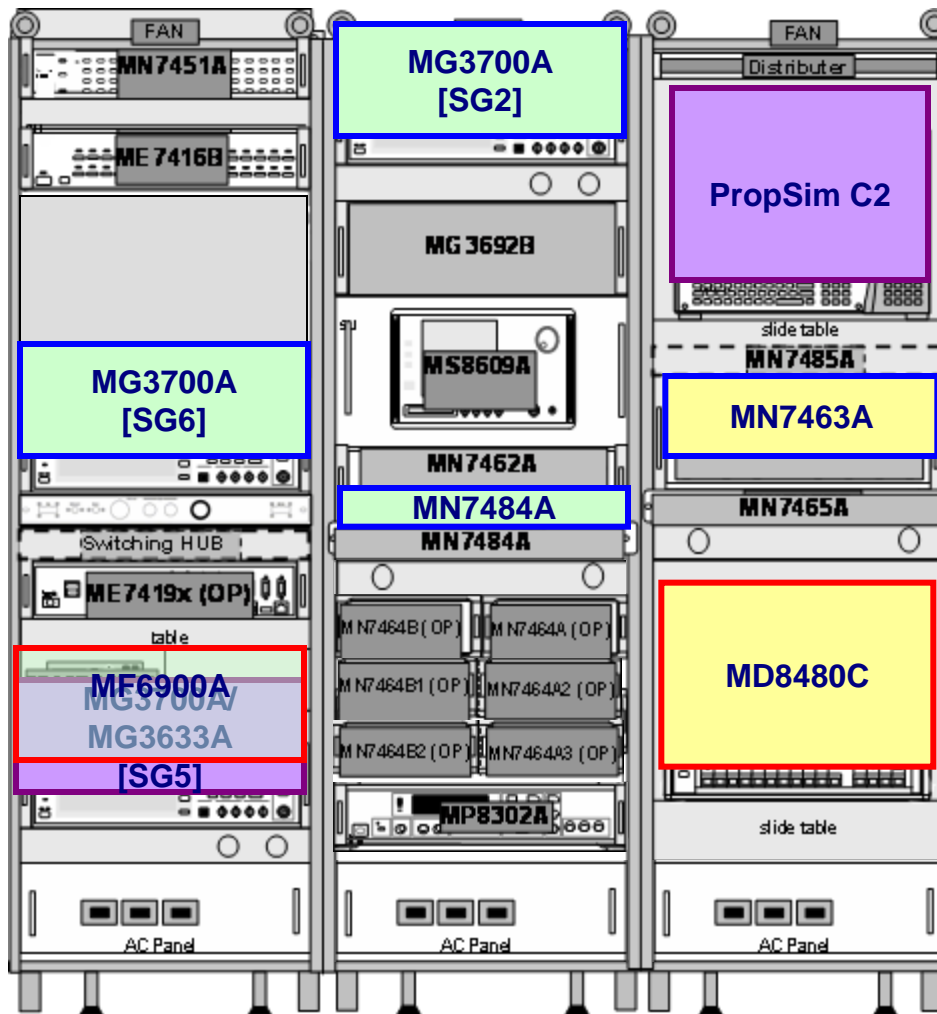
\*1: Not required if already purchasing

Requires accessories such as cables, panels and etc.

Please inquire of our sales representative about details of the system configuration that the customer is owned now.



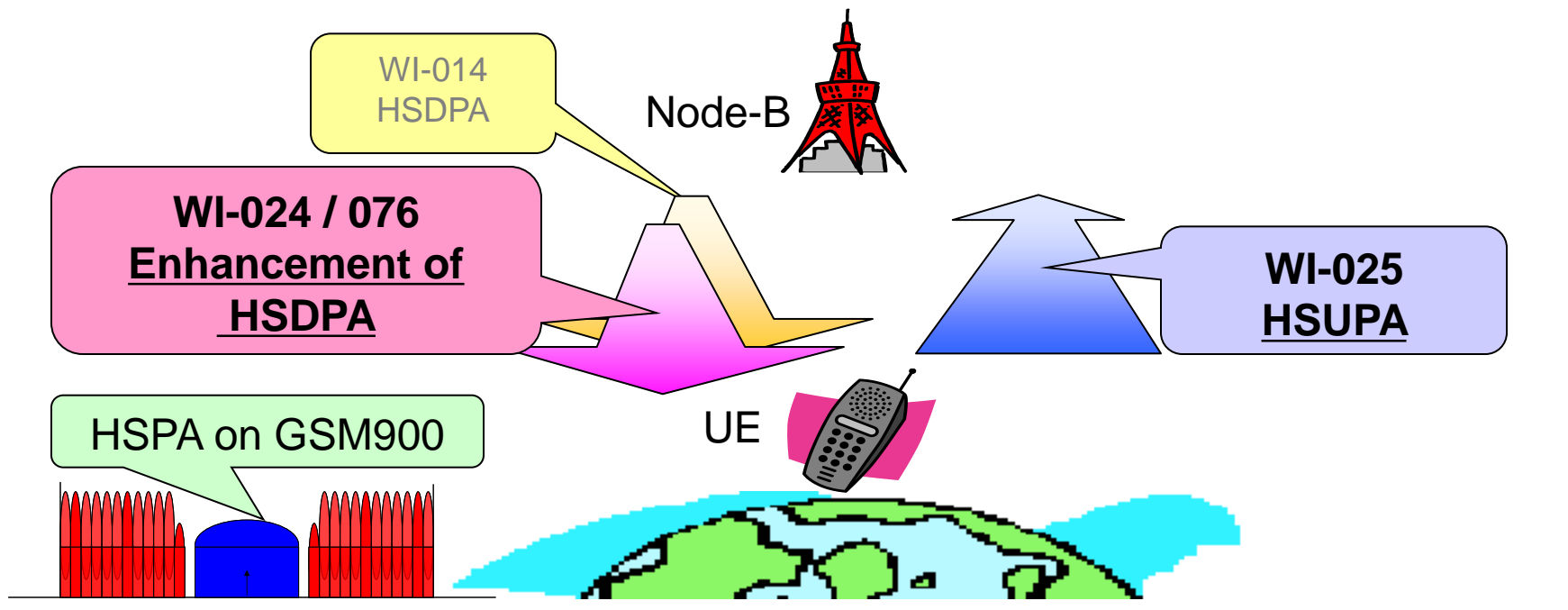
# Rel-7 Upgrade Rack Image (ME7873F-10 with RRM)



# 4. Rel-6 Functions

# Powerful Ability to Test World High-Speed Data Mobile Terminals

- Supports Enhanced High-speed downlink tests (WI-024/076)
- Supports HSUPA tests (WI-025)
- Supports UMTS 900 MHz, and most worldwide GSM operators offering HSPA



# WI-024 Rel-6 Enhancements WI-076 HSDPA RF Performance



# WI-024 Rel-6 Enhancements TRX/Performance Test Items

## TX and Performance Test

| <b>TS34.121<br/>TC #</b> | <b>TC item</b>                                                                                                                |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>5.2AA</b>             | <b>Maximum Output Power with HS-DPCCH (Release 6 and later)</b>                                                               |
| <b>5.13.1AA</b>          | <b>Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH</b>                                                     |
| <b>7.7.1A</b>            | <b>Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 1-4 (Release 6 and later)</b> |
| <b>7.8.1A</b>            | <b>Power control in downlink / Power control in the downlink, constant BLER target / Test 1-4 (Release 6 and later)</b>       |
| <b>7.8.3A</b>            | <b>Power control in downlink / Power control in the downlink, wind up effects / Test 1 (Release 6 and later)</b>              |
| <b>7.8.4</b>             | <b>Power control in the downlink, different transport formats</b>                                                             |
| <b>7.9.1A</b>            | <b>Downlink compressed mode / Single link performance / Test 1-2</b>                                                          |

# WI-024 Rel-6 Enhancements

## RRM Test Items (1/2)

### RRM Test

- RRM Enhanced Rel-6 Test Cases, such as Cell-Reselection, etc.

| <b>TS34.121<br/>TC #</b> | <b>TC item</b>                                                                                                         |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|
| 8.2.3.3                  | UTRAN to GSM Cell Re-Selection - Scenario 3: HCS with only UTRA level changed                                          |
| 8.3.8                    | Serving HS-DSCH cell change                                                                                            |
| 8.4.2.1A                 | Random Access - Correct behaviour when receiving an ACK – Release 6                                                    |
| 8.6.2.1A                 | FDD inter frequency measurements - Correct reporting of neighbours in AWGN propagation condition (Release 6 and later) |
| 8.6.5.1                  | Combined Interfrequency and GSM measurements - Correct reporting of neighbours in AWGN propagation condition           |
| 8.7.3.2                  | UTRA Carrier RSSI - Relative measurement accuracy requirement                                                          |
| 8.7.6.1A                 | UE Rx-Tx time difference type 1 (Release 6 and later)                                                                  |

# WI-024 Rel-6 Enhancements

## RRM Test Items (2/2)

### RRM Fading Test

#### ■ RRM Enhanced Rel-6 Test Cases in Fading Condition

| TS34.121<br>TC # | TC item                                                                                                                  |
|------------------|--------------------------------------------------------------------------------------------------------------------------|
| 8.6.2.2A         | FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition (Release 6 and later) |
| 8.6.2.3          | FDD inter frequency measurements – Correct reporting of neighbours in fading propagation condition using TGL1= 14        |



# WI-076 HSDPA RF Performance Performance Test Items (1/3)

## HSDPA RX Diversity Performance Test

| TS34.121<br>TC # | TC item                                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------------------|
| 9.2.1D           | Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3 |
| 9.2.1E           | Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3   |
| 9.4.1A           | HS-SCCH Detection Performance - Single Link Performance – Enhanced Performance Requirements Type 1                         |

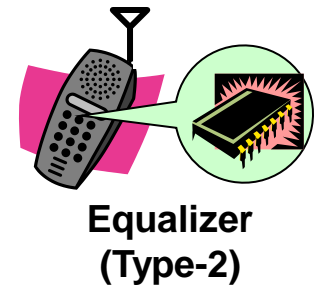


**RX Diversity  
(Type-1)**

# WI-076 HSDPA RF Performance Performance Test Items (2/3)

## HSDPA Non RX Diversity Performance Test

| TS34.121<br>TC #     | TC item                                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 9.2.1C               | Single Link Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3                                                      |
| 9.2.1F               | Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3           |
| 9.2.2D <sup>*1</sup> | Open Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3     |
| 9.2.3D <sup>*1</sup> | Closed Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3 |
| 9.3.3                | Reporting of Channel Quality Indicator - Open Loop Diversity Performance - AWGN Propagation Conditions                             |
| 9.3.4                | Reporting of Channel Quality Indicator - Open Loop Diversity Performance - Fading Propagation Conditions                           |
| 9.3.5                | Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - AWGN Propagation Conditions                           |
| 9.3.6                | Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - Fading Propagation Conditions                         |
| 9.4.2                | HS-SCCH Detection Performance - Open Loop Diversity Performance                                                                    |



\*1: Requires MCTS V6.18 or later

# WI-076 HSDPA RF Performance Performance Test Items (3/3)

## HSDPA TRX Diversity Performance Test

| TS34.121<br>TC #     | TC item                                                                                                                                  |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 9.2.2C <sup>*1</sup> | Open Loop Diversity Performance - Enhanced Performance<br>Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC)<br>H-Set 1/2/3 |
| 9.2.3C <sup>*1</sup> | Closed Loop Diversity Performance Enhanced Performance<br>Requirements Type 1, QPSK/16QAM, Fixed Reference Channel (FRC)<br>H-Set 1/2/3  |

\*1: Requires MCTS V6.18 or later



**RX Diversity  
(Type-1)**

# WI-024 TRX/Performance Test Software Options

**MX787106F TRX/Performance Test Software supports Test Cases defined in WI-024 (Rel-6 Enhancements). Anritsu provides 2 options for this software, and customers can select necessary option.**

## ◆ **MX787106F TRX/Performance Test Software (Release6)**

### ◆ **MX787106F-01 TRX/Performance Test Case (WI-024)**

**Supports TCs defined in WI-024 before CAG #11**

### ◆ **MX787106F-04 TRX/Performance Test Case (WI-024 Enhanced Package 1)**

**Supports TCs defined in WI-024 at CAG #12 and #13**

# WI-024 RRM Test Software Options

**MX787116F RRM Test Software supports Test Cases defined in WI-024 (Rel-6 Enhancements). Anritsu provides 3 options for this software, and customers can select necessary option.**

## ◆ **MX787116F RRM Test Software (WI-024)**

### ◆ **MX787116F-01 RRM Test Case**

**Supports TCs defined in WI-024 before CAG #11**

### ◆ **MX787116F-02 RRM Fading Test Case**

### ◆ **MX787116F-03 RRM Test Case (Enhanced Package 1)**

**Supports TCs defined in WI-024 at CAG #12 and #13**



# WI-076 TRX/Performance Test Software Options

**MX787106F TRX/Performance Test Software supports Test Cases defined in WI-076 (HSDPA RF Performance). Anritsu provides 3 options for this software, and customers can select necessary option.**

## ◆ **MX787106F TRX/Performance Test Software (Release6)**

- ◆ **MX787106F-02 HSDPA RX Diversity Performance**  
Test Case (WI-076)
- ◆ **MX787106F-03 HSDPA Non RX Diversity Performance**  
Test Case (WI-076)
- ◆ **MX787106F-05 HSDPA TRX Diversity Performance**  
Test Case (WI-076)

# WI-024 ToolKit Configuration

When adding the WI-024 ToolKit to the ME7873F, the following hardware and software are required.

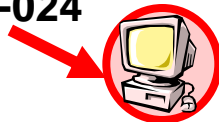
| Additional Items *1                               | TRX / Performance | RRM Test | RRM Fading Test |
|---------------------------------------------------|-------------------|----------|-----------------|
| HSDPA Option for MD8480C *2                       | V                 | V        | V               |
| MN7485A Additional Unit for Fading *2, *3         |                   |          | V               |
| TRX/Performance Test Case                         | V                 |          |                 |
| TRX/Performance Test Case<br>(Enhanced Package 1) | V                 |          |                 |
| RRM Test Case                                     |                   | V        | V               |
| RRM Fading Test Case                              |                   |          | V               |

\*1: Only the main items are described. Other accessories, etc., are required.

\*2: Not required if already implemented.

\*3: Required when Band XI installed.

Test Software  
for WI-024



MN7485A  
Additional Unit for Fading

HSDPA Option for  
MD8480C

# WI-076 ToolKit Configuration

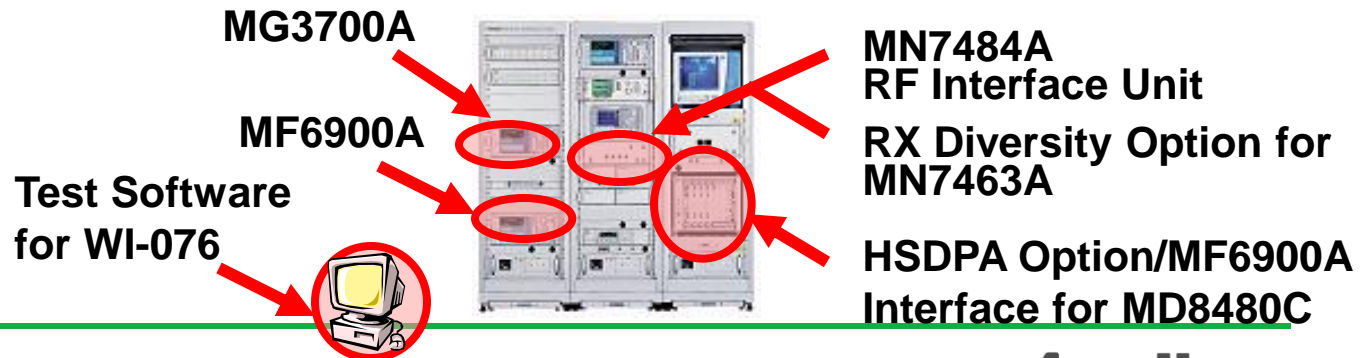
When adding the WI-076 ToolKit to the ME7873F, the following hardware and software are required.

| Additional Items *1                           | Non RX Diversity | RX Diversity | TRX Diversity*3 |
|-----------------------------------------------|------------------|--------------|-----------------|
| HSDPA Option for MD8480C *2                   | V                | V            | V               |
| MF6900A Interface for MD8480C *2              |                  |              |                 |
| MG3700A Vector Signal Generator (For AWGN) *2 |                  |              | V               |
| MN7484A RF Interface Unit for Diversity       |                  |              | V               |
| RX Diversity Option for MN7463A *2            |                  |              | V               |
| MF6900A Fading Simulator                      |                  |              |                 |
| Non RX Diversity Performance Test Case        | V                |              |                 |
| RX Diversity Performance Test Case            | V                |              |                 |
| TRX Diversity Performance Test Case (WI-076)  |                  |              | V               |

\*1: Only the main items are described. Other accessories, etc., are required.

\*2: Not required if already implemented.

\*3: Required some options depending on the configuration.



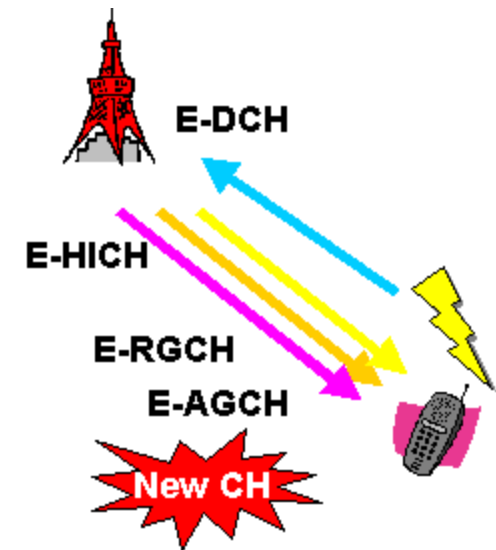
# WI-025

## Enhanced Uplink Release-6 (HSUPA)

# WI-025 Enhanced Uplink Rel-6 TRX and Performance Test Items (1/2)

## TX Test

| TS34.121<br>TC # | TC item                                                |
|------------------|--------------------------------------------------------|
| 5.2B             | Maximum Output Power with HS-DPCCH and E-DCH           |
| 5.9B             | Spectrum Emission Mask with E-DCH                      |
| 5.10B            | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH |



# WI-025 Enhanced Uplink Rel-6 TRX and Performance Test Items (2/2)

## Performance Test

| TS34.121<br>TC # | TC item                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------|
| 7.8.5            | Power control in the downlink for F-DPCH                                                            |
| 10.2.1.1         | Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (10 ms TTI)        |
| 10.2.1.2         | Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (2 ms TTI)         |
| 10.2.2.1.1       | Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (10 ms TTI) |
| 10.2.2.1.2       | Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (2 ms TTI)  |
| 10.2.2.2.1       | Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (10 ms TTI)     |
| 10.2.2.2.2       | Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (2 ms TTI)      |
| 10.3.1.1         | Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (10 ms TTI)            |
| 10.3.1.2         | Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (2 ms TTI)             |
| 10.3.2           | Detection of E-DCH Relative Grant Channel (E-RGCH) - Detection in Inter-Cell Handover conditions    |
| 10.4.1           | Demodulation of E-DCH Absolute Grant Channel (E-AGCH) - Single Link Performance                     |

# WI-025 Enhanced Uplink Rel-6

## RRM Test Items

### RRM Test

| <b>TS34.121<br/>TC #</b> | <b>TC item</b>                                                    |
|--------------------------|-------------------------------------------------------------------|
| <b>8.4.4.1</b>           | <b>E-TFC restriction in UE - 10ms TTI E-DCH E-TFC restriction</b> |
| <b>8.4.4.2</b>           | <b>E-TFC restriction in UE – 2ms TTI E-DCH E-TFC restriction</b>  |
| <b>8.7.9</b>             | <b>UE Transmission Power Headroom</b>                             |

# WI-025 Test Software Options

**MX787107F/17F TRX/Performance/RRM Test Software supports Test Cases defined in WI-025 (Enhanced Uplink Rel-6). Anritsu provides 3 options for this software, and customers can select necessary option.**

## TX and Performance Test

- ◆ **MX787107F TRX/Performance Test Software (WI-025)**
  - ◆ **MX787107F-01 E-DCH TX Test Case**
  - ◆ **MX787107F-02 E-DCH Performance Test Case**

## RRM Test

- ◆ **MX787117F RRM Test Software (WI-025)**
  - ◆ **MX787117F-01 E-DCH RRM Test Case**

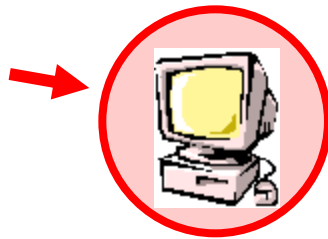


# WI-025 ToolKit Configuration

When adding the WI-025 Tool Kit to the ME7873F/74F, the following hardware and software are required.

| Additional Items *1                     | TRX | Performance | RRM |
|-----------------------------------------|-----|-------------|-----|
| HSDPA Option for MD8480C *2             | V   | V           | V   |
| HSUPA Option for MD8480C                | V   | V           | V   |
| HSUPA/EGPRS Modification for MD8480C *2 | V   | V           | V   |
| E-DCH TX Test Case                      | V   |             |     |
| E-DCH Performance Test Case             |     | V           |     |
| E-DCH RRM Test Case                     |     |             | V   |

Test Software  
for WI-025



HSDPA Option  
HSUPA Option  
HSUPA/EGPRS Modification  
for MD8480C

\*1: Only the main items are described. Other accessories, etc., are required.

\*2: Not required if already implemented.

# **5. Time-efficiency Automated Software**

# **MX787190F**

## **MCTS Integration Software**

# What is MCTS Integration Software?

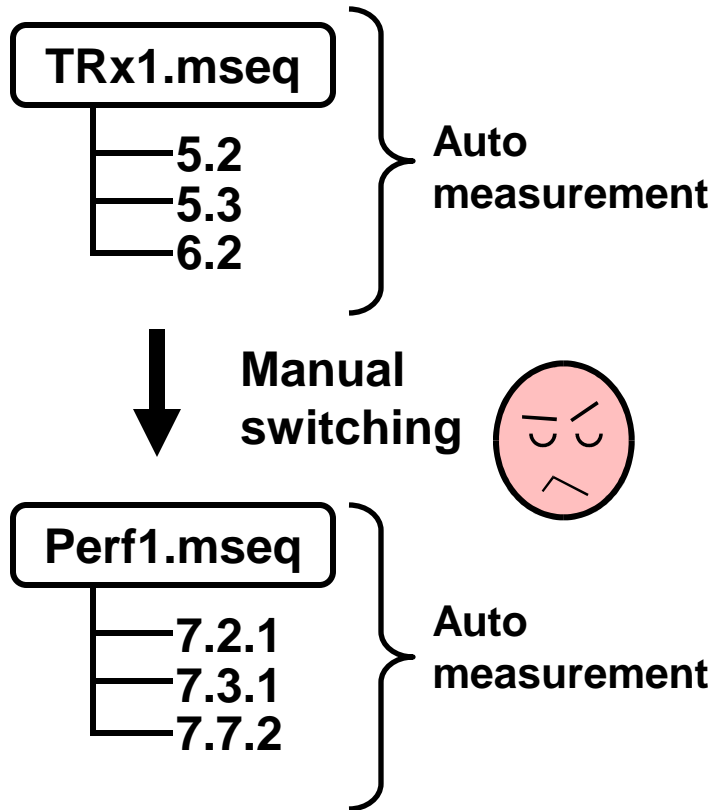
**The MCTS Integration Software performs external control of multiple MCTS sets so measurement items defined by different software can be tested continuously.**

**Measurement and test efficiency are enhanced because users can combine test sequences freely and execute long test items overnight to get results next morning.**

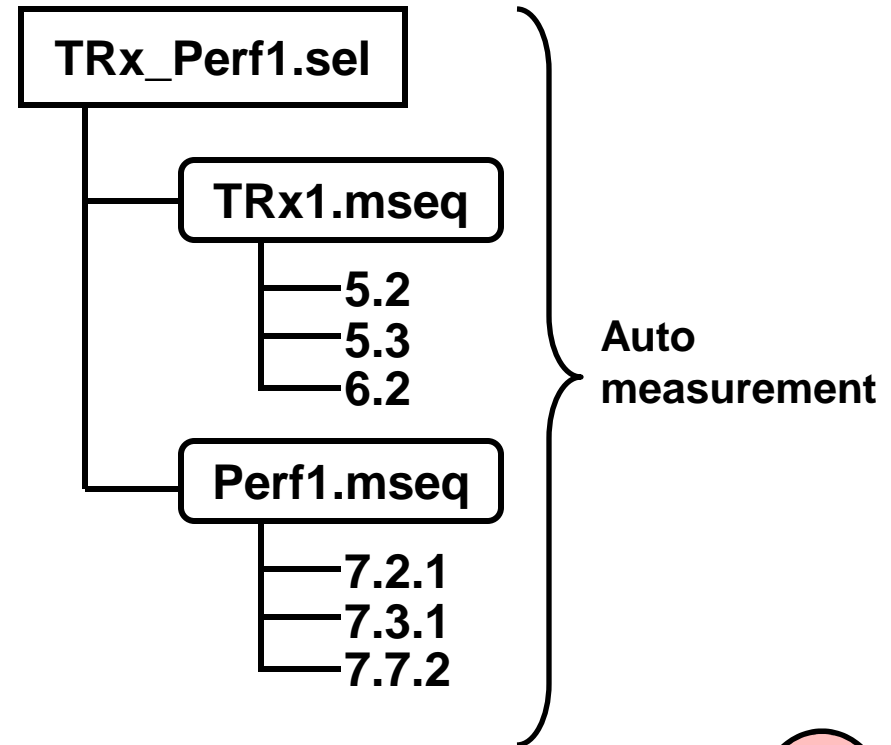
**For more details, please refer to the MX787190F Product Introduction material [MX787190F-E-L-1].**

# Successive TRX and Performance Tests

## ◆ Normal Measurement



## ◆ Measurement using MCTS Integration Software



**No need to set multiple MCTS software manually !**

● **United States**

**Anritsu Company**

1155 East Collins Blvd., Suite 100, Richardson,  
TX 75081, U.S.A.  
Toll Free: 1-800-267-4878  
Phone: +1-972-644-1777  
Fax: +1-972-671-1877

● **Canada**

**Anritsu Electronics Ltd.**

700 Silver Seven Road, Suite 120, Kanata,  
Ontario K2V 1C3, Canada  
Phone: +1-613-591-2003  
Fax: +1-613-591-1006

● **Brazil**

**Anritsu Eletrônica Ltda.**

Praça Amadeu Amaral, 27 - 1 Andar  
01327-010 - Bela Vista - São Paulo - SP - Brazil  
Phone: +55-11-3283-2511  
Fax: +55-11-3288-6940

● **Mexico**

**Anritsu Company, S.A. de C.V.**

Av. Ejército Nacional No. 579 Piso 9, Col. Granada  
11520 México, D.F., México  
Phone: +52-55-1101-2370  
Fax: +52-55-5254-3147

● **United Kingdom**

**Anritsu EMEA Ltd.**

200 Capability Green, Luton, Bedfordshire, LU1 3LU, U.K.  
Phone: +44-1582-433200  
Fax: +44-1582-731303

● **France**

**Anritsu S.A.**

12 avenue du Québec, Bâtiment Iris 1- Silic 612,  
91140 VILLEBON SUR YVETTE, France  
Phone: +33-1-60-92-15-50  
Fax: +33-1-64-46-10-65

● **Germany**

**Anritsu GmbH**

Nemetschek Haus, Konrad-Zuse-Platz 1  
81829 München, Germany  
Phone: +49-89-442308-0  
Fax: +49-89-442308-55

● **Italy**

**Anritsu S.r.l.**

Via Elio Vittorini 129, 00144 Roma, Italy  
Phone: +39-6-509-9711  
Fax: +39-6-502-2425

● **Sweden**

**Anritsu AB**

Borgarfjordsgatan 13A, 164 40 KISTA, Sweden  
Phone: +46-8-534-707-00  
Fax: +46-8-534-707-30

● **Finland**

**Anritsu AB**

Teknobulevardi 3-5, FI-01530 VANTAA, Finland  
Phone: +358-20-741-8100  
Fax: +358-20-741-8111

● **Denmark**

**Anritsu A/S (Service Assurance)**

**Anritsu AB (Test & Measurement)**

Kay Fiskers Plads 9, 2300 Copenhagen S, Denmark  
Phone: +45-7211-2200  
Fax: +45-7211-2210

● **Russia**

**Anritsu EMEA Ltd.**

**Representation Office in Russia**

Tverskaya str. 16/2, bld. 1, 7th floor.

Russia, 125009, Moscow  
Phone: +7-495-363-1694  
Fax: +7-495-935-8962

● **United Arab Emirates**

**Anritsu EMEA Ltd.**

**Dubai Liaison Office**

P O Box 500413 - Dubai Internet City  
Al Thuraya Building, Tower 1, Suit 701, 7th Floor  
Dubai, United Arab Emirates  
Phone: +971-4-3670352  
Fax: +971-4-3688460

● **India**

**Anritsu India Private Limited**

2nd & 3rd Floor, #837/1, Binnamangla 1st Stage,  
Indiranagar, 100ft Road, Bangalore - 560038, India  
Phone: +91-80-4058-1300  
Fax: +91-80-4058-1301

● **Singapore**

**Anritsu Pte. Ltd.**

60 Alexandra Terrace, #02-08, The Comtech (Lobby A)  
Singapore 118502  
Phone: +65-6282-2400  
Fax: +65-6282-2533

● **P.R. China (Shanghai)**

**Anritsu (China) Co., Ltd.**

Room 2701-2705, Tower A,  
New Caohejing International Business Center  
No. 391 Gui Ping Road Shanghai, 200233, P.R. China  
Phone: +86-21-6237-0898  
Fax: +86-21-6237-0899

● **P.R. China (Hong Kong)**

**Anritsu Company Ltd.**

Unit 1006-7, 10/F., Greenfield Tower, Concordia Plaza,  
No. 1 Science Museum Road, Tsim Sha Tsui East,  
Kowloon, Hong Kong, P.R. China  
Phone: +852-2301-4980  
Fax: +852-2301-3545

● **Japan**

**Anritsu Corporation**

8-5, Tamura-cho, Atsugi-shi, Kanagawa, 243-0016 Japan  
Phone: +81-46-296-1221  
Fax: +81-46-296-1238

● **Korea**

**Anritsu Corporation, Ltd.**

502, 5FL H-Square N B/D, 681  
Sampyeong-dong, Bundang-gu, Seongnam-si,  
Gyeonggi-do, 463-400 Korea  
Phone: +82-31-696-7750  
Fax: +82-31-696-7751

● **Australia**

**Anritsu Pty. Ltd.**

Unit 21/270 Ferntree Gully Road, Notting Hill,  
Victoria 3168, Australia  
Phone: +61-3-9558-8177  
Fax: +61-3-9558-8255

● **Taiwan**

**Anritsu Company Inc.**

7F, No. 316, Sec. 1, NeiHu Rd., Taipei 114, Taiwan  
Phone: +886-2-8751-1816  
Fax: +886-2-8751-1817

Please Contact: