

Anritsu Protocol Conformance Test for TD-SCDMA

ME78070A

TD-SCDMA Protocol Conformance Test System



Anritsu Protocol Conformance Test for TD-SCDMA Product Introduction



引领 3 G 生活

Agenda

- **Overview**
- **Capability**
- **Test Cases**
- **System Configuration**

Overview

The TD-SCDMA Protocol Conformance Test System (PCTS) is an integrated solution for verifying that mobile terminals meet the 3GPP standard for TD-SCDMA, and to gain acceptance by China Mobile. The system will initially offer a test package containing TD-SCDMA/GERAN inter-working test cases from 3GPP TS 34.123-1 and 51.010-1, covering 3GPP Release 4, 5 (HSDPA) and 7 (HSUPA). This is the first and only test system designed specifically for TD-SCDMA Conformance Tests.

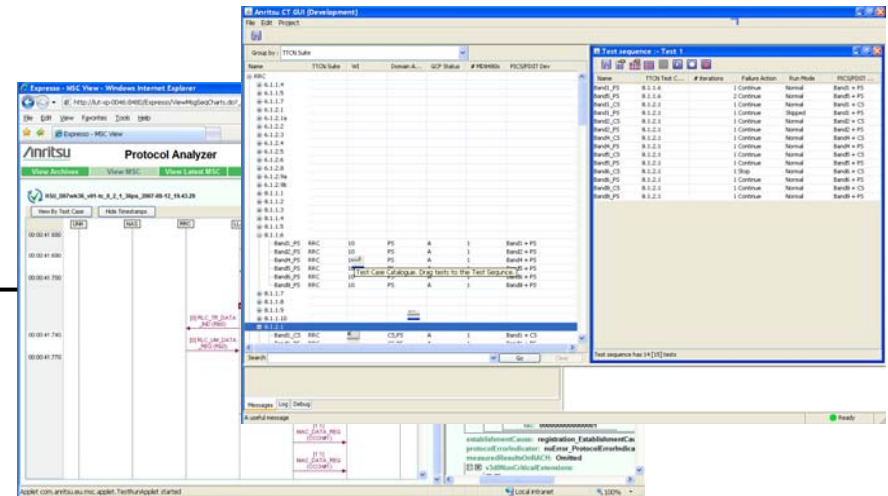
A combination of its test case coverage and robust execution environment means customers can:

- Perform pre-acceptance testing for TD-SCDMA/2G inter-working
- Provide Repeatable & Reliable test results
- Create test sequences efficiently using the Graphical User Interface



Capability

- The PCT is an upper layer software tool for UE protocol conformance test with an easy to use graphical interface
- Providing 50+ TD-SCDMA/GERAN Inter-working test cases, approved by China Mobile
- Intelligent test sequencer, remote control & UE control interface provide advanced automation capability
- Integrated protocol analyser for analysis and debug



Ease Of Use

- **Intelligent Test Sequencer** to schedule tests using Drag and Drop Graphical Interface
- **Conformance Test Package** providing over 50 test cases for TD-SCDMA/GERAN inter-working approved by China Mobile

Results : Test301107_Gui_301107_2007-12-02_09.49.40.ptmres

Results | Test Case Catalogue | UUT Configuration

Test Name	Iterations	Start Time	Execution...	Result Lo...	Verdict
6.1.1.5_BandI_CS	1	2007-11-30...	237	show	Passed
6.1.1.5_BandI_CS	1	2007-11-30...	257	show	Passed
6.1.1.5_BandI_PS	1	2007-11-30...	252	show	Passed
6.1.1.5_BandI_PS	1	2007-11-30...	256	show	Passed
6.1.1.7_BandI_CS	1	2007-11-30...	161	show	Passed
6.1.1.7_BandI_CS	1	2007-11-30...	159	show	Passed
6.1.1.7_BandI_PS	1	2007-11-30...	157	show	Passed
6.1.1.7_BandI_PS	1	2007-11-30...	237	show	Passed
6.1.2.10_BandI_CS	1	2007-11-30...	324	show	Passed
6.1.2.10_BandI_CS	1	2007-11-30...	234	show	Passed
6.1.2.10_BandI_PS	1	2007-11-30...	242	show	Passed
6.1.2.10_BandI_PS	1	2007-11-30...	238	show	Passed
6.1.2.10a(I-V)_BandI_CS	1	2007-11-30...	241	show	Passed
6.1.2.10a(I-V)_BandI_CS	1	2007-11-30...	233	show	Passed
6.1.2.10a(I-V)_BandI_PS	1	2007-11-30...	238	show	Passed
6.1.2.10a(I-V)_BandI_PS	1	2007-11-30...	233	show	Passed
6.1.2.1_BandI_CS	1	2007-11-30...	472	show	Failed
6.1.2.1_BandI_CS	1	2007-11-30...	472	show	Failed

Test Case Catalogue - MX785220A_2_10E1_CT_D08wk27_v02_A_CIPHER

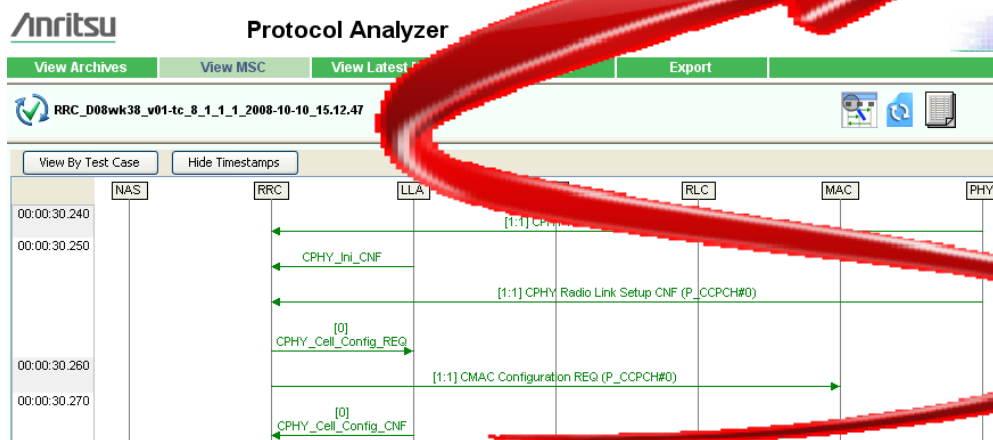
TTCN Suite

Test Name	TTCN Test...	TTCN Suite	WI	Supported...	TP Supported
HSD					
HSU					
IR_G					
20.22.29					
BandI_GSM900_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandI_DCS1800_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandII_GSM850_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandII_PCS1900_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandIV_GSM850_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandIV_PCS1900_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandV_GSM850_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandV_PCS1900_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandVIII_GSM900_PS	20.22.29	IR_G	012	Approved	TP17;TP62
BandVIII_DCS1800_PS	20.22.29	IR_G	012	Approved	TP17;TP62
20.25.2					
20.25.3					

- **Creation of PICS/PIXIT data automatically, and modification of deviations manually**
- **Analyse results by pass/fail verdict, and easily re-run failed tests**

Results Analysis

- **Protocol Analyser** shows time-stamped events at all layers of the protocol stack for analysis
- Ability to view **TTCN logs**
- **Detailed Analysis** of any message highlights difference in expected and received data.



CPHY_Cell_Config_REQ

RRC_D08wk38_v01-tc_8_1_1_1_2008-10-10_15.12.47

RRC → LLA @ 00:00:30.250

Cell ID: 0

Expand All Elements

Message Details:

CPHY_Cell_Config_REQ:

cellId: 0

tcell: 0

sfnOffset: 0

frequencyInfo:

modeSpecificInfo:

fdd: (FrequencyInfoFDD)

uarfcn_UL (UARFCN): Omit

uarfcn_DL (UARFCN): 10700

primaryScramblingCode_SS: 100

cellTxPowerLevel:

defaultCellTxPowerLvl: NULL

dLtxAttenuationLevel: 0

frequencyBandIndicator: (FrequencyBandFDD)

frequencyBandIndicator (RadioFrequencyBandFDD): fdd2100

Test Cases

- **Initially, the system will offer a package of 54 TD-SCDMA/GERAN inter-working test cases**
- **Test cases are defined by 3GPP in TS 34.123-1 and 51.010-1**
- **The test cases cover 3GPP Release 4, 5 (HSDPA) and 7 (HSUPA)**
- **They are implemented in TTCN-2 by ETSI STF160 team, funded by 3GPP RAN WG5**
- **All test cases in the Anritsu system will be verified and approved by 3GPP RAN WG5 following the existing working procedure**
- **They will also be approved by China Mobile to be used for UE acceptance purposes on their network**
- **The system is capable of running other test cases from 34.123-1. Anritsu's plan to develop further test cases is dependent on requirements from China Mobile**

ME78070A Configuration for TD-SCDMA

➤ System Platform

- Platform hardware (system racks, PSU, cables, etc.), and commissioning
- PCT software application (including GUI, remote control interface, protocol analyser)

➤ Installation/Re-Setup

- Test System Installation or Re-configuration

➤ Test Hardware

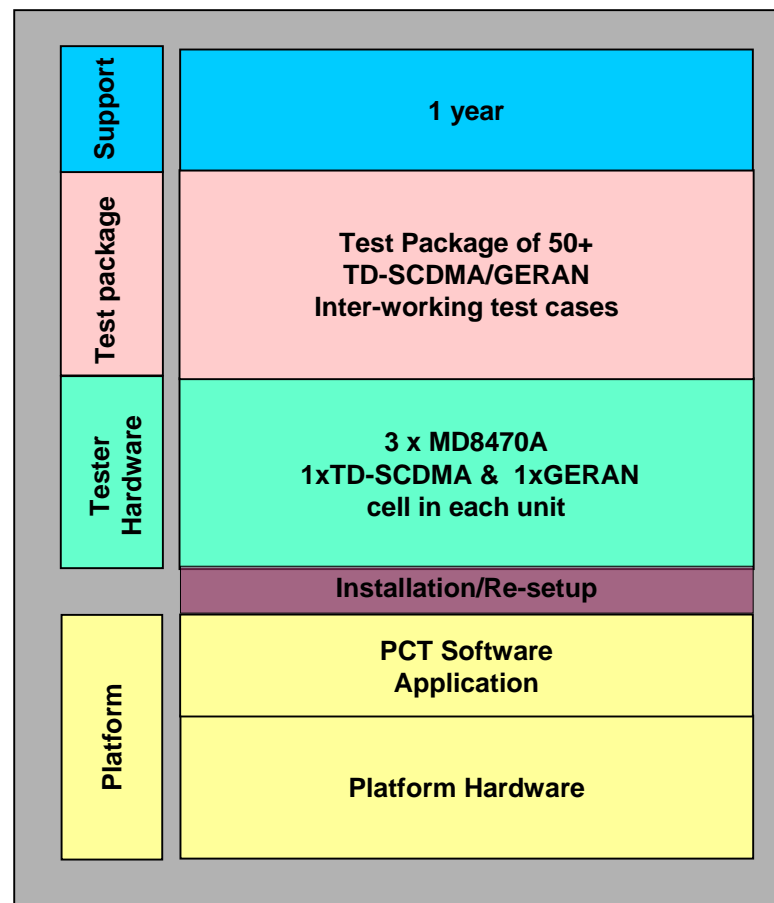
- 3 x MD8470A each with:-
 - 1 TD-SCDMA cell
 - 1 GERAN cell

➤ Test Package

- Over 50 test cases for TD-SCDMA/GERAN inter-working approved by China Mobile
- Test cases are from 3GPP TS 34.123-1 and 51.010-1

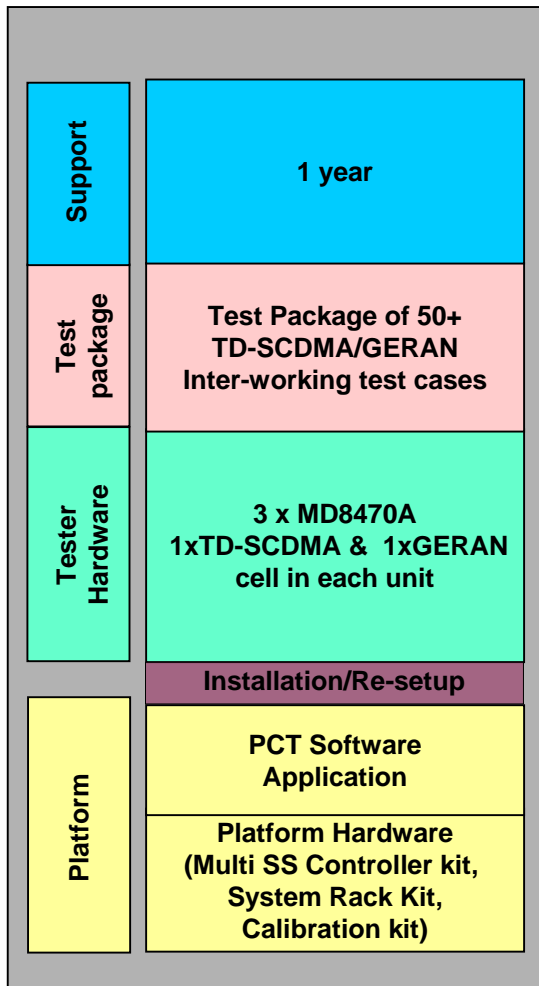
➤ One-year Support

- Hardware and software

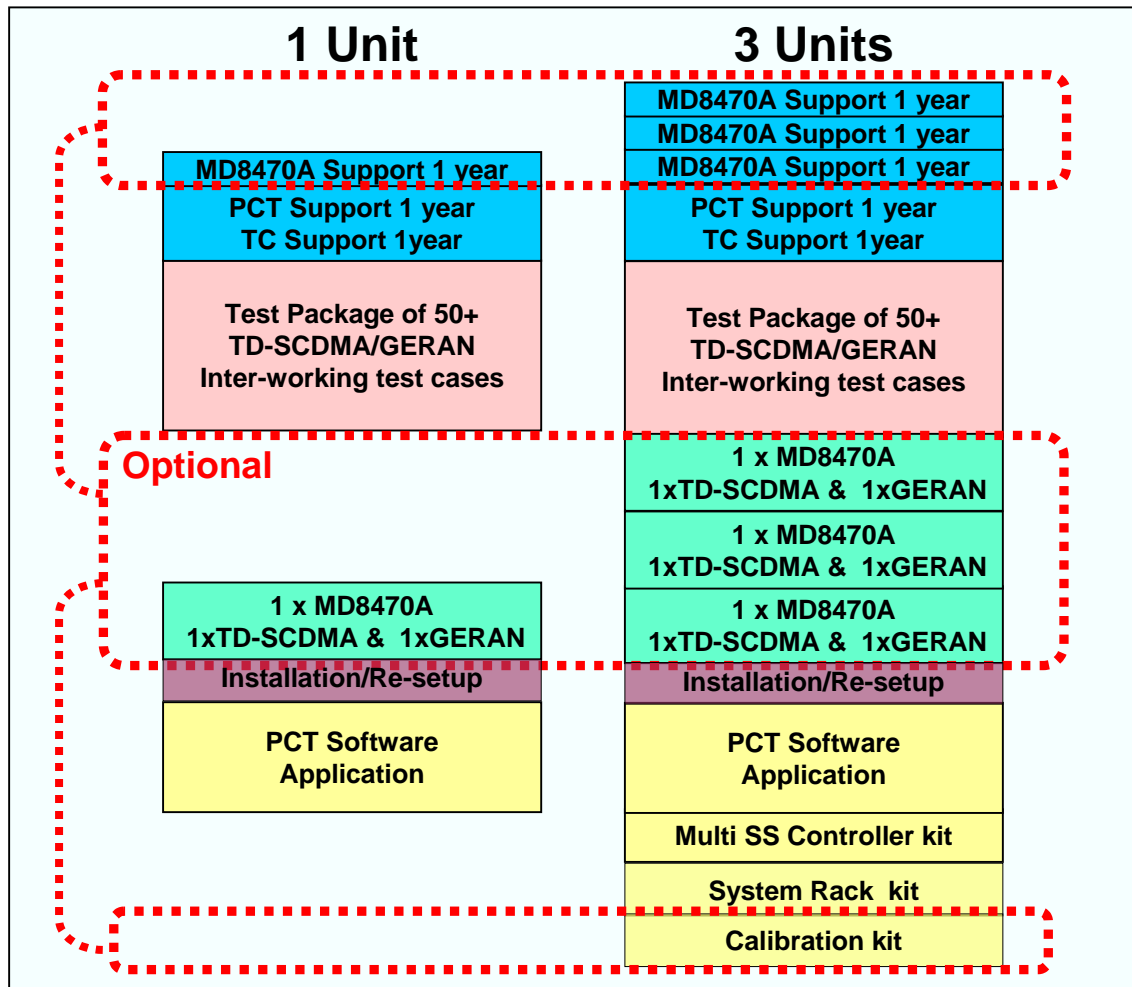


ME78070A Flexible Configurations

Standard Configuration



Valid Configurations in use



System Units	Test Cases (%)
1 MD8470A (TDx1, GSMx1)	39 (73%)
3 MD8470As (TDx1, GSMx1)	54 (100%)

Note

Anritsu Corporation

5-1-1 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan
Phone: +81-46-223-1111
Fax: +81-46-296-1238

● U.S.A.

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 - Brasil
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

● U.K.

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

Borgafjordsgatan 13, 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)
Kirkebjerg Allé 90, DK-2605 Brøndby, 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

● Singapore

Anritsu Pte. Ltd.

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

● India

Anritsu Pte. Ltd.

India Branch Office

3rd Floor, Shri Lakshminarayan Niwas, #2726, 80 ft Road,
HAL 3rd Stage, Bangalore - 560 075, India
Phone: +91-80-4058-1300
Fax: +91-80-4058-1301

● P.R. China (Hong Kong)

Anritsu Company Ltd.

Units 4 & 5, 28th Floor, Greenfield Tower, Concordia Plaza,
No. 1 Science Museum Road, Tsim Sha Tsui East,
Kowloon, Hong Kong
Phone: +852-2301-4980
Fax: +852-2301-3545

● P.R. China (Beijing)

Anritsu Company Ltd.

Beijing Representative Office

Room 2008, Beijing Fortune Building,
No. 5, Dong-San-Huan Bei Road,
Chao-Yang District, Beijing 100004, P.R. China
Phone: +86-10-6590-9230
Fax: +86-10-6590-9235

● Korea

Anritsu Corporation, Ltd.

8F Hyunjuk Building, 832-41, Yeoksam Dong,
Kangnam-ku, Seoul, 135-080, Korea
Phone: +82-2-553-6603
Fax: +82-2-553-6604

● 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:

