

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

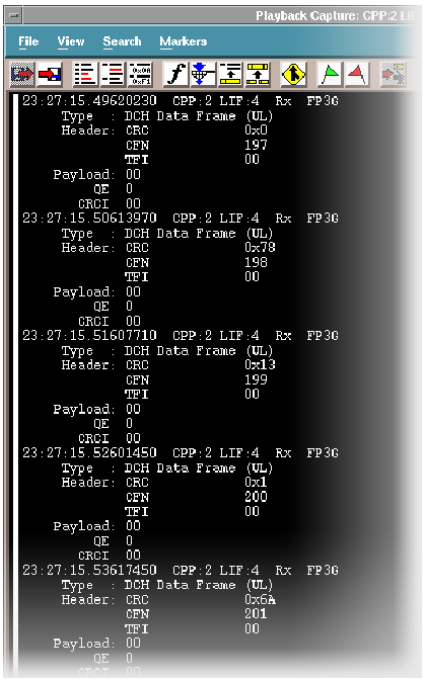
Find the *Keysight / Agilent E5162A* at our website: ***Click HERE***

UMTS W-CDMA Test Software

Agilent Technologies 3G Test System

E5160B

Technical Specifications



Key Features and Benefits

- Extensive capabilities to monitor, simulate and emulate 3G UTRAN protocols on Iu, Iub and Iur network interfaces
- Network speed protocol emulation performance
- Connection test capabilities for circuit and packet switched data
- Multi-port, multi-user testing
- Supports high-speed ATM interfaces from 1.5Mb/s to 622Mb/s
- 3GPP compliant

Agilent Technologies
Innovating the HP Way

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Accelerate development, deployment and test of your 3G Radio Access Network

The Agilent E5160B UMTS W-CDMA Test Software is the heart of Agilent's 3G Test System (3GTS). The 3GTS enables accelerated development, test and deployment of 3G Radio Access Networks. 3GTS is the most powerful and comprehensive solution available for testing UMTS W-CDMA Radio Access Networks. The E5160B UMTS W-CDMA Test Software delivers to 3GTS an extensive package of capabilities for testing

- the ATM transport network
- the Iu, Iub and Iur protocol layers and planes
- network bearers

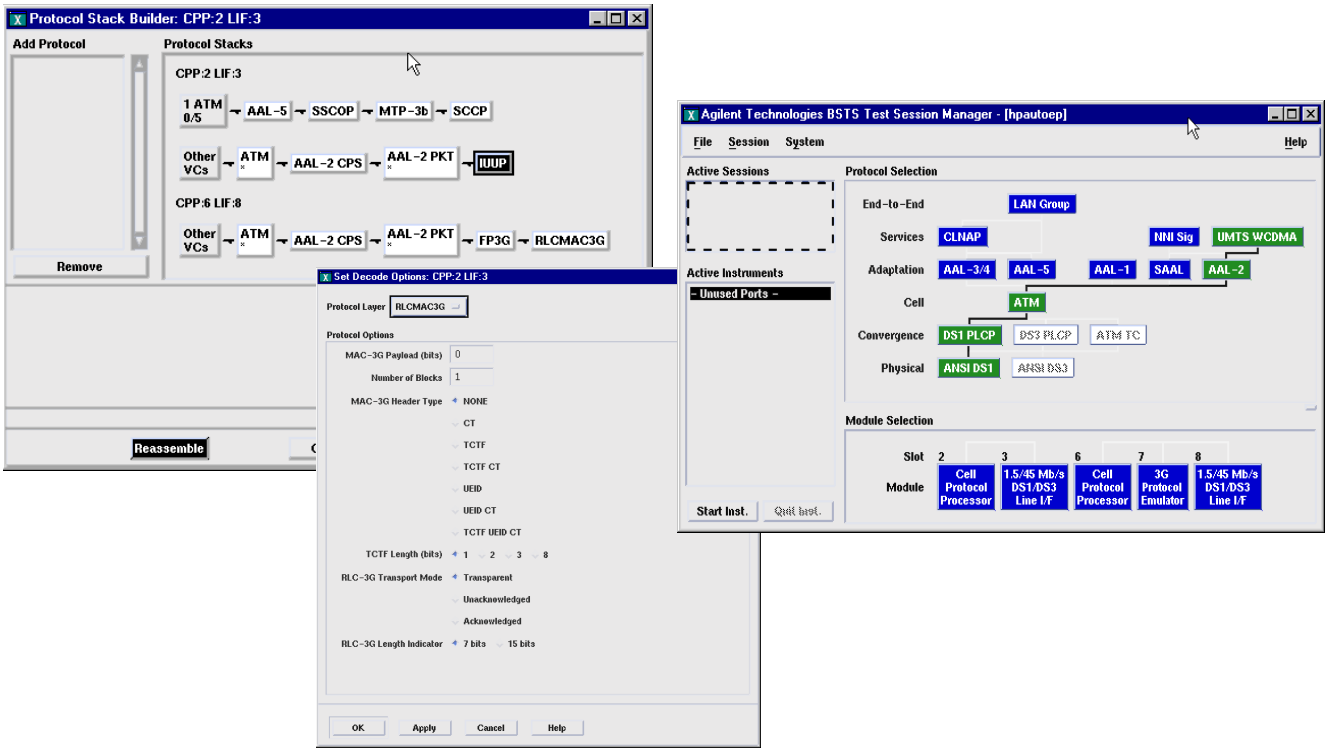
The highlight of the E5160B UMTS W-CDMA Test Software is its capability to assist developers in performing connection tests. Its extensive simulation and emulation capabilities allow the construction of test scenarios that verify the establishment, sustainability and use of Radio Access Bearer (RAB) connections. The software allows the construction of

- RRC connection for UE identification to RNC
- Signaling connection for transparent peer-to-peer signaling between UE and CN
- RAB connection for transport of user voice data across the RAN

Transceiver tests allow the verification of user data transported via the Radio Access Bearer connections.

Network equipment manufacturers find that 3GTS helps to reduce costs and accelerate development by allowing extremely thorough testing at each development stage, thereby reducing the number and cost of errors found in later development stages.

Service Providers find the 3GTS valuable in evaluating and judging acceptance of 3G network offerings, thus reducing risks and costs during network deployment and operation.



The 3GTS provides GUI control of test sessions. Configuration of ATM, AAL, and UMTS W-CDMA network protocols can also be analysed using the GUI.

Copyright 2000 Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Features

The E5160B UMTS W-CDMA Test Software provides a complete and comprehensive solution for your Transport, Protocol and Connection testing needs for the Iu, Iub and Iur interfaces on the Radio Network Control Planes, Transport Network Control Planes and User Planes. The E5160B software includes and builds upon stable, industry standard test solutions for ATM, B-ISDN and IP protocols from the Agilent Technologies Broadband Series Test System to maximize the value and minimize the risk of your 3G test investment. New 3G focused software solutions integrate seamlessly with existing solutions to provide a consistent single powerful E5160B UMTS W-CDMA Test Software package offering monitoring, simulation and emulation capabilities.

ATM Test Capabilities

The E5160B UMTS W-CDMA Test Software incorporates powerful capabilities for ATM, AAL-2 and AAL-5 layer testing allowing ATM cell reception up to full line rates, assorted traffic generation profiles and real time statistics with graph and counter views. These tests help ensure that your Radio Access Network is supported by a sound ATM transport network foundation upon which higher protocol layers can be developed.

Monitoring Capabilities

Monitoring capabilities help the user analyze network equipment response under simulation test and during system integration. Monitored Iu, Iub, Iur network interfaces can be viewed in real time via the live data viewer or captured and viewed via the Playback Capture Viewer, for more detailed analysis. Because of the high transmission speeds, you typically capture the data first, then analyze the captured data off-line, using the playback viewer. If you are testing a small set of messages at lower transmission rates, you may prefer to monitor data live, in real-time, so that you can see the data as it is being captured. You can monitor the exchange of data between two systems under test or, if emulating a signalling device, monitor the data sent between the 3GTS and the system under test.

The E5160B UMTS W-CDMA Test Software supports various filter, trigger and count pattern-matching options to make diagnosis and analysis easier. Triggers can be set to start and stop data captures and statistical counts. Patterns can be defined to capture or count only PDUs containing specific field data or error types.

Simulation Capabilities

The E5160B UMTS W-CDMA Test Software offers the industry's most comprehensive coverage of UTRAN protocols providing extensive stimulus-response test capabilities. The E5160B user environment provides direct access to network protocol layers and planes allowing the user to conduct a thorough and independent test of each protocol stack layer.

You can build libraries of both valid and errored PDUs to send to systems under test and to verify that systems handle them as per the 3GPP specifications. You can have the software segment messages and PDUs into their lower layer PDU or ATM cell components. You can then edit or error these lower layer components before sending them to systems under test.

Alternatively, you can build a PDU at a lower layer (e.g. AAL-2 or AAL-5 and fill its payload from an ASCII text file. This feature is useful when testing deviations from the 3G specifications.

You can transmit predefined, previously captured, or newly built PDUs and sequences individually, as a single shot, to test how a system responds to the data. You can also transmit PDUs or sequences continuously to simulate background network traffic.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Emulation Capabilities

Aside from receiving and transmitting data, the E5160B UMTS W-CDMA Test Software features extensive protocol emulation solutions accessible from the User Programming Environment. These emulation solutions allow the test system to emulate lower protocol layers while the tester concentrates simulation testing on higher protocol layers. In addition, emulation provides independent verification that the network equipment is operating according to the relevant specifications. Once you start an emulation, the protocol state machines operate for the most part independently, within the parameters you specify for the emulation. You can tailor the parameters of the emulation (e.g. timer durations, state machine behavior for the different protocols) to specify correct signalling operation. Additionally, the E5160B software emulation capabilities allow the user to mimic radio network equipment not currently available.

Other Test Features and Capabilities

The E5160B UMTS W-CDMA Test Software also contains the following useful test capabilities

Traffic Transceiver

Transmission of voice/data files on the Iu and Iub interfaces. This allows verification of the correct transmission of voice/data across the Frame Protocol layer.

User Environment

The Agilent 3G Test System with the E5160B UMTS W-CDMA Test Software provides

- Standard UNIX user environment
- UNIX utilities including rlogin, telnet, ftp, etc.
- Programming environment includes standard C compiler and development tools
- Agilent Common Desktop Environment(Agilent CDE) graphical user interface; based on X Window System (X11R5) and OSF/Motif 1.2

The 3GTS's embedded UNIX controller allows users the flexibility to develop and execute their own programs. This provides the user with the ability to automate testing or set-up complex test scenarios with the powerful simulation and emulation capabilities supplied by the E5160B UMTS W-CDMA Test Software. The integrated API allows users to access the full functionality of the E5160B software by simply linking their C code to User Programming Environment (UPE) libraries.

Online Help

The 3G Test System help covers two broad areas:

- The Users help explains how to use the Graphical User Interface to perform tasks such as configuring the system, and using the Capture system to capture and decode data.
- The Programmers help explains how to use the 3GTS User Programming Environment (UPE). You use the UPE to develop the C programs that perform 3G tests. The Programmers help includes general information and examples on using the UPE environment, as well as information on performing 3G-specific tasks, such as running emulations.

The Programmers help includes comprehensive data structure and function references, in Acrobat® PDF format, for all the available C libraries.

Copyright 2000 Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Warranty and Support

Hardware

All 3GTS hardware components are warranted for a period of 3 years. Products must be returned to an authorized Agilent service center for service.

Software

Agilent 3G Test System software and firmware products are supplied on transportable media such as disk, CD-ROM or integrated circuits. The warranty covers physical defects in the media, and defective media is replaced at no charge during the warranty period. When installed in an Agilent 3G Test System, the software/firmware media has the same warranty period as the product.

Configuration

The E5160B UMTS W-CDMA Test Software requires a minimum configuration of

- one E4210B BSTS Form-13 Mainframe with 128 MB RAM (option E4210#ANS)
- at least one test port configured as
  - one E5162A 3G Protocol Emulator
  - one E4209B Cell Protocol Processor
  - one Line Interface order option E5161A#91x

The software supports a maximum configuration of three test ports on one E4210B base.

A selection of monitors is available for use with the E5160B UMTS W-CDMA Test Software, as well as an optional CD-ROM drive.

- E4210B#AQ3 15 inch (38 cm) Color Monitor
- E4210B#AQ5 17 inch (43 cm) Color Monitor
- E4210B#ADJ 20 inch (51 cm) Color Monitor
- E4210#AM8 External DVD-ROM Drive

Product Numbers

E1610A	34 Mb/s E3 Line Interface
E1612A	155 Mb/s Line Interface
E1613A	6.3 Mb/s J2 Line Interface
E1614A	6.3 Mb/s Optical Line Interface
E1616A	1.5/45 Mb/s T1/T3 Line Interface
E1617A	52 Mb/s Optical Line Interface
E1697A	155 Mb/s STM-1/STS-3c Optical Line Interface
E4201A	2Mb/s E1 Line Interface
E4210B	BSTS Form-13 Mainframe Base
E4210#AM8	External DVD-ROM Drive
E4210#ANS	100 MHz PA-RISC Controller with 128MB memory
E4210B#AQ3	15 inch (38 cm) Color Monitor
E4210B#AQ5	17 inch (43 cm) Color Monitor
E4210B#ADJ	20 inch (51 cm) Color Monitor
E4205A	155 Mb/s UTP-5 Line Interface
E4209B	Cell Protocol Processor
E5160B	UMTS W-CDMA Test Software
E5161A#911	2 Mb/s E1 Port Bundle
E5161A#912	6.3 Mb/s Electrical Port Bundle
E5161A#913	6.3 Mb/s Optical Port Bundle
E5161A#914	1.5/45 Mb/s Port Bundle
E5161A#915	52 Mb/s Optical Port Bundle
E5161A#916	155 Mb/s UPT-5 Port Bundle
E5161A#917	155 Mb/s Optical Port Bundle
E5161A#918	155 Mb/s Electrical Port Bundle
E5162A	3G Protocol Emulator

Related Literature

Bundled Software

E4212B ATM AAL Test Software	5965-9889E
E4215B Internet Protocols Test Software	5965-5629E
E4217B Enhanced NNI Signalling Test Software	5965-9077E

Hardware

E4210B BSTS form-13 Mainframe	5966-0025E

Ordering Information

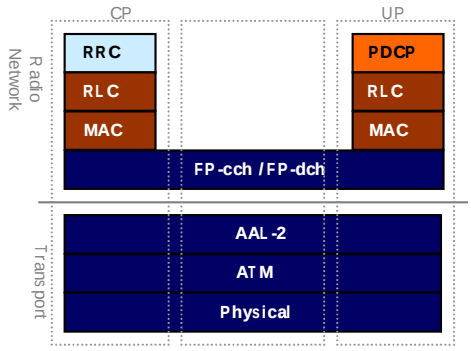
To order and configure the test system, consult your local Agilent field engineer through one of the Agilent sales offices listed on the last page of this technical specification.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

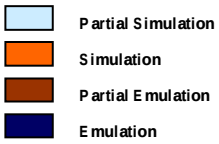
E5160B - UTRAN Protocol Coverage

These diagrams show the level of test functionality provided by the E5160B UMTS W-CDMA Test Software, for each of the interfaces in a 3G UMTS Radio Access Network.

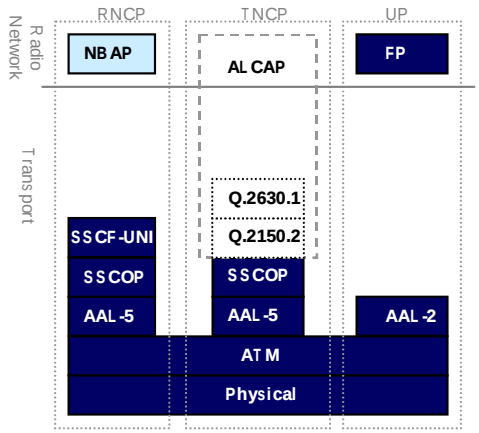
Iub (Ue - RNC)



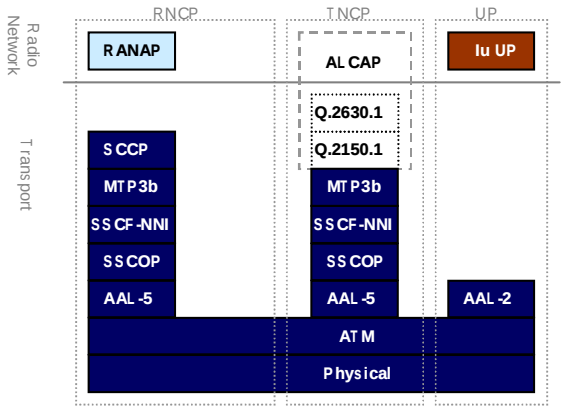
Legend



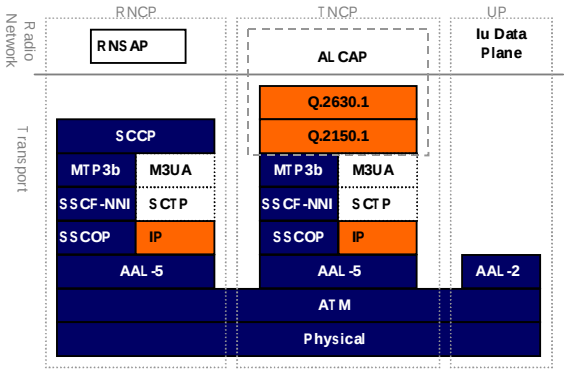
Iub (NodeB - RNC)



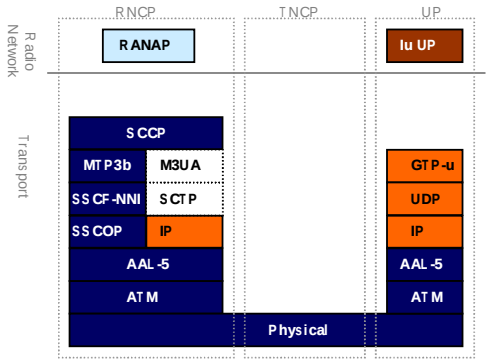
Iuc (RNC - UMSC/MSC)



Iur (RNC - RNC)



Iup (RNC - UMSC/SGSN)



Copyright 2000 Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Technical Specifications

Monitoring Features

Multiport Monitoring	• One to four port capability • Monitor independently on each test port • Synchronized timestamps correlate events from multiple ports • Merge data from multiple ports with live or playback viewers • 8MB capture buffer per test port
Monitoring Display	• Summary mode; single line description of each PDU • Detailed mode; multi-line field by field decoding • Hex mode; displays entire PDU in hexadecimal • Timestamp; toggle on/off the display of timestamps • Port identifier; toggle on/off the display of slot info (also indicates whether data was sent/received)
Save to Disk	• Save all captured data, or portion to named disk file • Save as ASCII text, ATM cells or PDUs which can be loaded into PDU builders for later retransmission
Trigger events	• Pattern match (1 to 8 patterns) • Any cell received • Cell error • Timer expired • Counter reached limit • Rising or falling edge on CPP trigger input
Trigger actions	• Stop/suspend capture • Suspend or stop capture • Capture cells • Increment counter • Reset counter • Start/restart timer • Stop timer • Assert trigger output • Pulse trigger output • Start transmitter
QAAL2/ALCAP Monitoring	• Playback and live viewers • Summary and detailed displays
ATM Monitoring	• Playback and live viewers • Summary and detailed displays • Up to two channels reassembled in real time • Statistics – Total cells received – Total unassigned cells – Total pattern matched cells – SAR errors – Number of reassembled PDUs • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
AAL-2 Monitoring	• Playback and live viewers • Summary and detailed displays • Monitoring errors (as per I.363.2) – 0 - parity error – 1 - sequence number error – 2 - OSF and LI mismatch – 3 - Illegal OSF value – 4 - HEC error – 5 - PAD extends to next – 6 - Partial reassembly did not complete – 7 - Overlap CPS PH error • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
AAL-5 Monitoring	• Play-back and live viewers • Summary and detailed displays • Monitoring errors – CRC-32 error – CPI (Common Part Indicator) error • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
FP Monitoring	• Play-back viewer only • Summary and detailed displays • Full and truncated payload display • Version switch: 3G TS 3.1.0 and v3.2.0 • Monitoring errors – Bad PDU length – Header CRC error – Payload CRC error – Unknown control frame type error
GTP-u Monitoring	• Not yet available

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

IP Monitoring	• Play-back and live viewers • Summary and detailed displays • Monitoring errors – Received PDU longer than 64 KB – IP header size is bigger than PDU length – Invalid version code – Header/total length field inconsistent – IP fragment/header length error – Non-zero type of service for ICMP datagram – Non-zero reserved type of service fields – Invalid IP header checksum – Invalid source address – Invalid address – Invalid total length of IP options – Non-zero pad octets • See also Agilent Technologies Technical Specification 5965-5629E for E4215B Internet Protocols Test Software
Iu UP Monitoring	• Available over AAL-2 only
MAC Monitoring	• Play-back viewer only • Summary and detailed displays • Monitoring errors – Invalid PDU length – Incompatible header type and PDU length – Invalid TCTF field – Invalid UEID type field
MTP3b Monitoring	• Play-back and live viewers • Summary and detailed displays • Parameter sizing (DPC, SLS, OPC) can be configured • Monitoring errors displayed in red • Diagnosis trace statements – signals and PDUs received – state changes – expired timers • See also Agilent Technologies Technical Specification 5965-9077E for E4217B Enhanced NNI Signalling Test Software
NBAP Monitoring	• Not yet available
PDCP Monitoring	• Not yet available
RANAP Monitoring	• Not yet available
RLC Monitoring	• Play-back viewer only • Summary and detailed displays • Monitoring errors – Invalid PDU size – Invalid length indictor – Incompatibility of length indicators and PDU size – Invalid SUFI field length
RRC Monitoring	• Not yet available
SCCP Monitoring	• Play-back and live viewers • Summary and detailed displays
SSCF-UNI Monitoring	• Play-back and live viewers • Summary and detailed displays • Diagnosis trace statements – signals and PDUs received – state changes – expired timers • See also Agilent Technologies Technical Specification 5965-9077E for E4217B Enhanced NNI Signalling Test Software
SSCF-NNI Monitoring	• Play-back and live viewers • Summary and detailed displays • Diagnosis trace statements – signals and PDUs received – state changes – expired timers • See also Agilent Technologies Technical Specification 5965-9077E for E4217B Enhanced NNI Signalling Test Software
SSCOP Monitoring	• Play-back and live viewers • Summary and detailed displays • Diagnosis trace statements – signals and PDUs received – state changes – expired timers • Monitoring errors – PDU is too short – Unknown PDU type – PDU alignment error – PDU length error – Reserved field is not zero – Information field is too long – SSCOP-UU field is too long
UDP Monitoring	• Play-back and live viewers • Summary and detailed displays • See also Agilent Technologies Technical Specification 5965-5629E for E4215B Internet Protocols Test Software

Simulation Features

QAAL2/ALCAP Simulation	• With UPE routines • Full message encode and decode
ATM Simulation	• Cell builder and UPE routines • ATM, OAM an RM cell types supported

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

ATM Traffic Simulation	• Traffic generator dialog • Auto cell payload fill options – User Value – Alternating – Incrementing – Pseudo-random • Single-shot or continuous cell transmission • Up to 8 independent user selected traffic streams • Foreground traffic modes with controls – Constant cell rate – Burst – Poisson – Sawtooth • Background traffic: constant cell rate with 0.5% bandwidth increments • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
AAL-2 Simulation	• PDU builder and UPE routines • Builder creates SSTED, PKT and CPS headers, trailers and payloads • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
AAL-5 Simulation	• PDU builder and UPE routines • Full encode and decode of trailers and payloads • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
FP Simulation	• With UPE routines • Version switch: 3G TS 3.1.0 or 3.2.0 • Full message encode and decode • Full message field encode and decode • Injection of bad header CRC • Injection of bad payload CRC • All optional parameters supported
GTP-u Simulation	• With UPE routines • Full message encode and decode • Full message field encode and decode
IP Simulation	• PDU builder and UPE routines for IPv4 • Full message encode and decode • Full message field encode and decode • See also Agilent Technologies Technical Specification 5965-5629E for E4215B Internet Protocols Test Software
Iu UP Simulation	• With UPE routines • Transparent and Support modes • Full message encode and decode • Full message field encode and decode
MAC Simulation	• With UPE routines • Full message encode and decode • Full message field encode and decode
MTP3b Simulation	• PDU builder and UPE routines • Full message encode and decode • Field options to adjust SLS and Point-code size • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
NBAP Simulation	• With UPE routines • Full message encode and decode • Full message field encode and decode
PDCP	• With UPE routines • Full message encode and decode • Full message field encode and decode
RANAP Simulation	• With UPE routines • Partial message encode and decode – INITIAL UE MESSAGE – IU RELEASE COMMAND – IU RELEASE COMPLETE – IU RELEASE REQUEST – DIRECT TRANSFER – RAB ASSIGNMENT REQUEST – RAB ASSIGNMENT RESPONSE – RESET – RESET ACKNOWLDEGE • Full message field encode and decode
RLC Simulation	• With UPE routines • Full message encode and decode • Full message field encode and decode
RRC Simulation	• With UPE routines • Partial message encode and decode – DOWN LINK DIRECT TRANSFER – INITIAL DIRECT TRANSFER – MEASUREMENT CONTROL – MEASUREMENT CONTROL FAILURE – (MEASUREMENT REPORT) – RADIO BEARER SETUP – RADIO BEARER SETUP COMPLETE – RADIO BEARER SETUP FAILURE – RRC CONNECTION REQUEST – RRC CONNECTION SETUP – RRC CONNECTION SETUP COMPLETE – RRC CONNECTION REJECT – RRC CONNECTION RELEASE – RRC CONNECTION RELEASE COMPLETE – UPLINK DIRECT TRANSFER • Full message field encode and decode not yet available

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

SCCP Simulation	• With UPE routines • Full message encode and decode • Full message field encode and decode
SSCF-UNI Simulation	• PDU builder and UPE routines • Full message encode and decode • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
SSCF-NNI Simulation	• PDU builder and UPE routines • Full message encode and decode • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
SSCOP Simulation	• PDU builder and UPE routines • Full message encode and decode • Full field encode and decode • List element builder for status PDUs • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
UDP Simulation	• PDU builder and UPE routines • Full message encode and decode • Full message field encode and decode • See also Agilent Technologies Technical Specification 5965-5629E for E4215B Internet Protocols Test Software

Emulation Features

Once you start emulation, the protocol state machines operate for the most part independently, within the parameters you specify for the emulation. In some situations, however, assumptions and decisions are made with respect to the emulation to address diverse issues such as ambiguous sections in the specifications; features deemed unnecessary or little used in an emulation/testing environment; and system constraints.

ALCAP Emulation	• Not yet available • Example emulation script with programmers help
ATM Emulation	• Not applicable
AAL-2 Emulation	• Real time support for CPS and PKT (required to support FP)
AAL-5 Emulation Services	• Cells reassembled into AAL-5 PDUs, from which higher layer PDUs (e.g. SSCOP PDUs and signalling messages) are extracted and processed automatically by the higher layer protocol state machines
AAL-5 Emulation Controllable Behaviors	• Traffic shaping to restrict the burst of cells to a small fraction of the line rate, to enable software on the system under test to buffer/process all messages • Number of idle cells to insert between transmitted ATM cells • See also Agilent Technologies Technical Specification 5965-9889E for the E4212B ATM AAL Test Software
FP Emulation Services	• Full Node B UL and DL emulation • Synchronized transmission of DCH UL data frames at 10ms intervals (or TTI)
FP Emulation Controllable Behaviors	• Data frame reassemble • Control frame reassemble • Reply to dl_node_synch, dl_synch, and generation of timing adjustment control frames • Control over CFN sequencing and encoded CFN values for DCH UL synchronized transmission
FP Emulation Controllable Timers	• TTI (transmission time interval) selectable for 10/20/40/80ms
GTP-u Emulation	• Not yet available
IP Emulation	• Not yet available
Iu UP Emulation Services	• Iuc emulation from the core network side • Support mode control procedures for initialization • Frames supported – PDU 0 – PDU 1 – PDU 14 • 63 RFCI's supported • 8 sub-flows
MAC Emulation Services	• Mapping logical and transport channels – BCCH-BCH – BCCH-FACH – PCCH-PCH – DCCH-RACH – DCCH-FACH – DCCH-DCH – CCCH-RACH – CCCH-FACH – CTCH-FACH – DTCH-FACH – DTCH-DCH • Identification of UEs on common transport channels – U-RNTI and C-RNTI are supported
MTP-3b Emulation	• Emulation available through GUI and UPE
NBAP Emulation	• Not yet available
PDCP Emulation	• Not yet available
RANAP Emulation	• Not yet available

Copyright 2000 Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

RLC Emulation Services	• Transparent and Unacknowledged mode • Acknowledged mode supported with limited error handling and detection
RRC Emulation	• Not yet available
SCCP	• Available with UPE
SSCF-UNI Emulation	• Available with GUI and UPE
SSCF-UNI Emulation Services	• Number of proving cells and cell rate • Link establishment timing control • Alignment timing control
SSCF-NNI Emulation	• Available with GUI and UPE
SSCF-NNI Emulation services	• Number of proving cells and cell rate • Link establishment timing control • Alignment timing control
SSCOP	• Available with GUI and UPE • Parameter limit control for MaxCC and MaxPP • PDU field length control • Timer control – no response – poll – idle – keep alive – CC • Receive window size
UDP Emulation	• N/A

Traffic Transceiver

- Transmit 1Mbyte file according to user defined Transmission Time Interval rate on FP (Iub)
- Receive 1 Mbyte file at selected full line rate on FP (Iub)

Applicable Technical Standards & Recommendations

ALCAP	ITU-T Q.2630.1 (12/99) ITU-T Q.2150.1 (12/99) ITU-T Q.2150.2 (12/99)
ATM	ITU-T I.361 (02/99)
AAL-2	ITU-T I.363.2 (09/97) ITU-T I.366.1 (06/98)
AAL-5	ITU-T I.361 (02/99)
FP	3GPP TS 25.435 v3.1.0 (1999-12) 3GPP TS 25.435 v3.2.0 (2000-03) 3GPP TS 25.427 v3.1.0 (1999-12) 3GPP TS 25.427 v3.2.0 (2000-03)
GTP-u	3GPP TS 29.060 v3.4.0 (2000-03)
IP	RFC 791
Iu UP	3GPP TS 25.415 v3.2.0 (2000-03)
MAC	3GPP TS 25.321 v3.2.0 (1999-12)
MTP3b	ITU-T Q.2210 (07/95)
NBAP	3GPP TS 25.433 v3.1.0 (2000-03)
PDCP	3GPP TS 25.323 v3.1.0 (2000-03)
RANAP	3GPP TS 25.413 v3.1.0 (2000-03)
RLC	3GPP TS 25.322 v3.1.2 (2000-01)
RRC	3GPP TS 25.331 v3.2.0 (2000-03)
SCCP	ITU-T Q.711 (07/96) ITU-T Q.712 (07/96) ITU-T Q.713 (07/96) ITU-T Q.714 (07/96)
SSCF-UNI	ITU-T Q.SAAL.2 (06/93)
SSCF-NNI	ITU-T Q.2140 (02/95)
SSCOP	ITU-T Q.SAAL.1 (05/93) ITU-T Q.2110 (07/94)
UDP	RFC 768 (08/80

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



Agilent Technologies 3G Test System

The 3GTS is the most powerful solution for testing UMTS W-CDMA Radio Access Networks, and the only tester able to provide comprehensive coverage of all layers of the protocol stack, from physical to application.

www.agilent.com/comms/3GTS

United States:
Agilent Technologies
Test and Measurement Call Center
P.O. Box 4026
Englewood, CO 80155-4026
1-800-452-4844

Canada:
Agilent Technologies Canada Inc.
5150 Spectrum Way
Mississauga, Ontario
L4W 5G1
Tel: 1-877-894-4414
Fax: (905) 206-4120

Europe:
Agilent Technologies
European Marketing Organisation
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
Tel: (31 20) 547-2323
Fax: (31-20) 547-2390

Japan:
Agilent Technologies Japan Ltd.
Measurement Assistance Center
9-1, Takakura-Cho, Hachioji-Shi,
Tokyo 192-8510, Japan
Tel: (81) 426-56-7832
Fax: (81) 426-56-7840

Latin America:
Agilent Technologies
Latin American Region Headquarters
5200 Blue Lagoon Drive, Suite #950
Miami, Florida 33126
U.S.A.
Tel: (305) 269-7500
Fax: (305) 269-7599

Asia Pacific:
Agilent Technologies
19/F, Cityplaza One, 1111 King's Road,
Taikoo Shing, Hong Kong, SAR
Tel: (852) 3197-7777
Fax: (852) 2506-9284

Australia/New Zealand:
Agilent Technologies Australia Pty Ltd
347 Burwood Highway
Forest Hill, Victoria 3131
Tel: 1-800-629-485 (Australia)
Fax: (61-3) 9272-0749
Tel: 0-800-738-378 (New Zealand)
Fax: (64-4) 495-8950

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.

Copyright © 2000 Agilent Technologies
Specifications subject to change.

5980-0823E 09/00 Rev B

Agilent Technologies
Innovating the HP Way

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP