ATM Device Testing
SmartSignaling™

Product Overview

SmartSignaling is an easy-to-use Windows® application for all SmartBits® ATM SmartCards. SmartSignaling consists of two pre-programmed tests that measure the capabilities of ATM switch devices and ATM/LAN edge devices to accept calls and to set up and tear down switched virtual circuits.

Key Features

Test Configurations:

- 1-to-1 port
- 1-to-many ports
- Many-to-many ports

Pre-programmed Tests:

- Call Capacity Test
- Peak Call Rate Test

SmartSignaling benchmarks UNI 3.0, 3.1, and 4.0 signaling performance of any standards-compliant ATM switch. Testing is performed with two or more ATM SmartCards acting as the user-side of the UNI interface.

SmartSignaling Test Suite

Call Capacity Test

The Call Capacity test measures the number of concurrent virtual circuit connections that can be established and maintained by the device under test.

Peak Call Rate

The Peak Call Rate test measures the maximum number of call setups and teardowns that a device under test can process per second without failure.

Common Test Setup

Each test is configurable in three modes:

- 1 port to 1 port, uni-directional or bi-directional
- 1 port to many ports, uni-directional or bi-directional
- Many ports to many ports, mesh test

Forward and backward descriptors for call setups are user-definable.

Technical Support

Test Capacity

- Advanced SmartSignaling test support for up to 800 (AT-9045B, AT-9155C, and AT-9622) calls per second per port. This amounts to support for a total of 32,000 calls per second for a test suite of 40 ATM ports.
- Support for up to 8,388,606 (AT-9045B, AT-9155C, and AT-9622) VCCs per port, for a total of 33,544,240 VCCs in a 40 port ATM test suite; the maximum possible per the ATM Forum UNI Specifications.

Line Interface

- Framing: DS1, E1, ATM 25 Mbps, DS3, E3, OC-3c, STM-1, OC-12c, and STM-4
- Cell Scrambling: Enable/Disable
- HEC Coset: Enable/Disable
- Transmitter Clock: Internal/Loop Timed
- Errored Cell Handling: Drop/Receive/Correct and Receive
- Idle Cell Header: Fully Configurable

SSCOP (Service Specific Connection Oriented Protocol)

Standard parameters according to ITU-T Recommendation Q.2110:

- PDU parameters: Max CC, Max PD, Max STAT, Max. Reseq., Max. Rx. Windows
- Timer parameters: CC, KeepAlive, Idle, No Response, Poll

UNI Signaling Parameters

Standard parameters according to ATM Forum:

- UNI Version: 3.0 User, 3.1 User, 4.0 User
- Timer parameters: T303, T308, T310, T313, T322, T398, T399, T316, T317, T309

Broadband Bearer

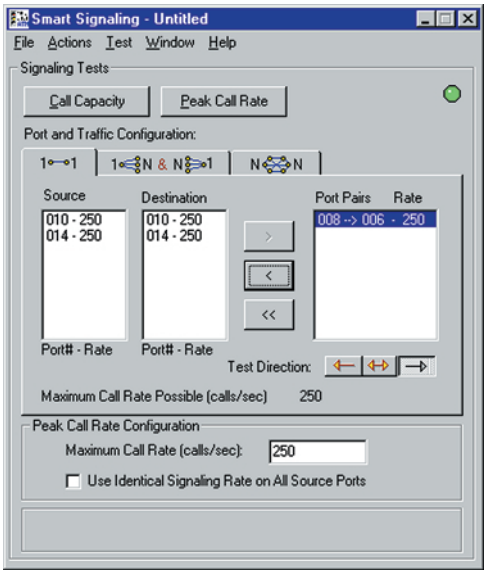
Capability: Class, timing, clipping susceptibility, traffic type

ILMI Parameters

- End System Identifier: Upper 5 bytes fully specified
- Timer parameters: Cold start timer, Address register timeout
- End System Identifier (ESI)

Traffic Descriptors

- Forward/backward type, associated cell rates
- Quality of Service: Forward/backward QoS type



SmartBits Division
26750 Agoura Road
Calabasas, CA
91302 USA
Tel: 818-676-2300
Fax: 818-676-2700
Toll Free: 800-927-2660
www.spirentcom.com

SPIRENT Communications

Requirements

- An SMB-200 or SMB-2000 chassis with the appropriate SmartCards for the test.
- The proper cabling for the test (for example, cat 5, straight-through or cross-over, depending on the DUT).
- An IBM or compatible Pentium PC running Windows 95/98/NT, with mouse and color monitor.

Maximum Per Port Specifications

Card	Description	VCCs	SmartSignaling		Interface
		(PVC/SVC)	VCCs	CPS*	
AT-9622	OC-12c/STM-4 622 Mbps	2,048	8,388,606	800	SC Multi-mode fiber 1300 nm
AT-9622s	OC-12c/STM-4 622 Mbps	2,048	8,388,606	800	SC Single mode fiber 1300 nm
AT-9155C	OC-3c/STM-1 155 Mbps	2,048	8,388,606	800	SC Multi-mode fiber 1300 nm
AT-9155Cs	OC-3c/STM-1 155 Mbps	2,048	8,388,606	800	SC Single mode fiber 1300 nm
AT-9045B	DS3 45 Mbps	2,048	8,388,606	800	BNC
AT-9045	DS3 45 Mbps	2,048	8,388,606	512	BNC
AT-9034	E3 34 Mbps	256	8,388,606	512	BNC
AT-9025	25 Mbps	256	8,388,606	512	RJ-45
AT-9020	E1 2.048 Mbps	256	8,388,606	512	RJ-45
AT-9015	DS1 1.544 Mbps	256	8,388,606	512	RJ-45

* calls per second

Maximum Specifications for a Test Suite of 320 ATM Ports

40 Cards	VCCs	SmartSignaling		Interface	Ports
	(PVC/SVC)	VCCs	CPS*		
AT-9622	81,920	335,544,240	32,000	SC Multi-mode fiber 1300 nm	0
AT-9622s	81,920	335,544,240	32,000	SC Single mode fiber 1300 nm	40
AT-9155C	81,920	335,544,240	32,000	SC Multi-mode fiber 1300 nm	40
AT-9155Cs	81,920	335,544,240	32,000	SC Single mode fiber 1300 nm	40
AT-9045B	81,920	335,544,240	32,000	BNC	40
AT-9045	10,240	335,544,240	20,480	BNC	40
AT-9034	10,240	335,544,240	20,480	BNC	40
AT-9025	10,240	335,544,240	20,480	RJ-45	40
AT-9020	10,240	335,544,240	20,480	RJ-45	40
AT-9015	10,240	335,544,240	20,480	RJ-45	40

Ordering Information

SMB-SST

SmartSignaling

SUS-SMB

12-month Software Update Support Service

SmartBits Division
26750 Agoura Road
Calabasas, CA
91302 USA
Tel: 818-676-2300
Fax: 818-676-2700
Toll Free: 800-927-2660
www.spirentcom.com

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