

LSX 500 Coax DLS

ITU-T G.9700, G.9701

* Interoperability * Performance * Benchmark *



Worlds' unique Programmable Coax simulator

G.fast ITU-T G.9700, G.9701 TDD technology (time division duplexing) and FDX (Full Duplex Symmetric datarate) require accurate simulation of delay/phase/impedance in frequency bands of 106 MHz, 212 MHz & 424 MHz (MG.fast) for both twisted pair and coax cable. The industry reference 'LSX 2200' is the Sparnex Instruments physical layer platform for testing G.fast over twisted pair.

- The Coax DLS type 'LSX 500' simulates popular RG-6 coax cable acc TR-285 referenced in technical performance recommendations like TR-380 and WT-476.
- The coax simulator creates an unfluctuating coax cable characteristic that allows to accurately define the speed and quality of the coax broadband modem under test.
- Broadband-over-coax performance measurement is possible with 5 meter stepsize
- Referenced in the industry for comparable coax modem performance test results
- RPF ETSI-524 SR2 transparency allows testing of transmission quality in presence of Reverse Power Feeding or PoE for any coax modem technology
- Coax line types (RG-6, RG-59, ..) are programmable. The spectrum can be expanded for other technologies like MoCa and DOCSIS 3.0 and DOCSIS 3.1

LSX 500 Coax DLS is an accurate coax simulator for testing the performance of coax modems in a programmable use case setup



Step size 25 m
noise floor -155 dBm
600 meter RG-6

Several coax type Attenuations in dB/MHz, m or ft



Main features

LSX 500 Coax DLS

Interoperability * Performance * Benchmark



- accurate with 5 meter / 15 feet stepsize up to 600 m of coax type RG-6
- programmable coax types / simulation of coax cable typical transfer function
- By-pass crosstalk better than -75dB@100 Mhz
- Compatible with Arbitrary Noise Generator ANG 2240 / ARB 576
- Symmetric and constant electrical coax simulation
- Reference for modem benchmarking of broadband transmission over coax
- Test results are repeatable and comparable with any other lab that uses LSX
- Chip Vendors, Equipment Vendors and Telco's can now compare performance reach over coax as single solution or in combination with fibre networks
- the only programmable coax simulator on the market
- Easy GUI, simple CLI commands, proven concept



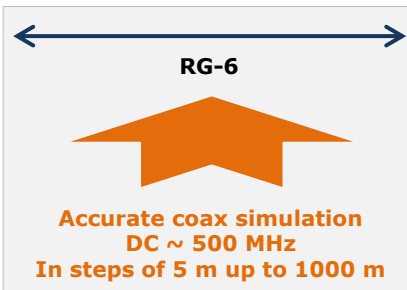
Conversion of length into electrical attenuation @ frequency

- MAE < 1 dB reference line
- Impedance ~ +/- 10 %
- Delay/phase ~ +/- 10 %
- Noise floor < -155 dBm/Hz
- Auto & Remote Calibration
- Always reproducible results

Interoperability * Performance * Benchmark

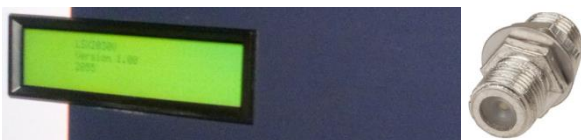


**G.fast/mgfast/G.hn
Performance
Benchmark & Reference**



**G.fast WT-380 (mgfast)
G.Hn – Docsis – MoCA**

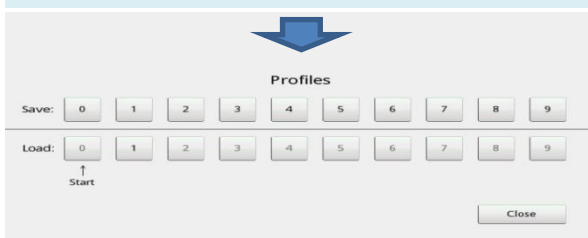
- Coax type library RG-6, RG-59...
- ICL – CLI remote control
- PDS / Pre-Defined Test Scenario
- TSP Test Scenario Programmer for proprietary Use Cases
- RPG Report Generators
- expand bandwidth to 1.5 GHz
- expand with Arbitrary Noise Generator ANG 2240
- expand with ASM 421 automation DUT/SUT Switch
- expand with home network simulator PLS 2016
- Expand with use case diplexers, triplexers, splitters, baluns
- Expand with dual port Coax and Twisted Pair
- Expand with TGA-10 Traffic Generation platform & scripts



Finger-touch controlled display

AUTOMATION SOFTWARE INSIDE

Pre-programmed test cases



Technical specifications LSX 500 Coax DLS

Interoperability * Performance * Benchmark

frequency band :	25 kHz ~ 500 MHz / symmetric (1500 MHz optional)
Coax line type:	RG-6
reach:	600 m
accuracy	stepsize: 5 meter
	MAE: 0,5 dB/10 MHz
	MAE Ref: < 1 dB acc reference line @100 MHz
	impedance: $\pm 10 \%$
	phase/delay: $\pm 10 \%$
electrical length calculator:	dB/1-50-100-200-400 -500 MHz
by-pass crosstalk:	< -75 dB@100 MHz
dynamic range:	95 dB@212 MHz
noise floor:	< -155 dBm/Hz
Return loss:	better than -15 dB
micro-interrupts:	Left port, Right port – programmable
other coax line types:	RG-59 Customized coax type libraries - on demand-
Bandwidth expansion:	RG-6 / 1.5 GHz (Optional)
212 MHz ENI Noise Injector	Compatible with Dual port Noise Generator ANG 2240 ~ 212 MHz external coaxial splitter with SLC (signal loss compensation)
Automation:	CLI – ICL remote control (Telnet sessions) PDS pre-defined scripts acc. testplan 337, 380 and WT-476 PDS pre-defined scripts for country/telco proprietary testplans RPG report generator when DPU-drivers installed TGA-10 Traffic Generator use case programming software
manual operation:	colour touch screen
read-out:	m/ft, electrical length in dB/Hz, settings
selection:	line-type, m/ft, Bridge tap coax on/off, ARB-WGN Noise on/off
memory:	10 pre-programmed settings on top of unlimited ICL/CLI control
program:	with ARB 576 micro-interrupts in ms, interval time, total test time
function:	by-pass, CPE leave, DPU leave
electrical:	110/240 VAC ~ 50/60 Hz / protected 250 VDC
Reverse Power Feeding: (PoE)	transparent to TNV-1 RPF Class SR2 ETSI TS101.548 V2.11 60 VDC on line, 15 VA
Connectors:	Coaxial connection 2 x female F-connector Ethernet 10/100 base-T CLI 50 Ohm SMA to Arbitrary Noise Generator ANG (Optional TP ENI) Dual port RJ-45 twisted pair entrance (optional)
Mechanical:	19" subrack
Weight:	19.5 kg (37,7lbs) / 27 kg packed 55 x 55 x 50 cm
Ordering number:	91.57.6050 (LSX 500 standard) 91.57.6051 (LSX 500+ with RG-6/1.5 GHz extension)
Service contracts:	Extended Warranty – Service support– Service 24/7 – Calibration – Software Upgrade Service