MultiDSLA nodes datasheet

This datasheet outlines the features, specifications, and ordering information for the various node types that can be integrated into a MultiDSLA test system. A complete system includes the MultiDSLA Controller user interface application along with one or more of the node devices described in this document.

See also the following:
MultiDSLA Controller Datasheet, for details system features
MultiDSLA Brochure, for a general description of the MultiDSLA system

Node Selection Guide

- DSLA Series / Analog – Use for testing involving cellular phones, desk phones, analog (POTS/PSTN) phone lines, ATA's, PC sound cards (for soft phones), audio streaming devices...
- VPP Series – Use for VoIP network testing, VoLTE handset evaluation and in any testing

Node type—Quick reference

Model	Type	Interface	Harware	Software	No. of Nodes
DSLAIIC	Analog	RJ-22, RJ-11, 4mm Balanced	Desktop	(Measurement and control firmware in device)	2
DSLA3	Analog	RJ-22 and 3.5 mm jack handset module	Modular 19" rack mount	(Measurement and control firmware in module)	1 to 6 modules
		RJ-11 POTS module			
VPP-fn	VoIP/SIP	Ethernet	No	Windows service	1-5, 10, 20, 30, 50, 100
VPP+n-f					

DSLA Series / Analog Nodes

DSLA Technical Specification:
Dimensions (mm): DSLAIIC 72h x 218w x 200d
Net weight: DSLAIIC approx 3kg
Power: DSLAIIC 100-240Vac (external PSU) or 9-18Vdc, 12W
Operating temperature range: -2 to +40°C
Approvals & Compliance: CE Mark; FCC47 CFR Part15
Calibration: full calibration report supplied; recommended re-calibration cycle 3 years

Test Signal Generation

- DSLA Series / Analog – Use for testing involving cellular phones, desk phones, analog (POTS) phone lines, ATA's, PC sound cards (for soft phones), audio streaming devices...
- Any user-supplied speech material in wav or PCM format, generated with user-defi ned mean active speech level with setting range -99dBm to +10dBm
- Artifi cial Speech Test Stimulus (ASTS) British or American English; 8k and 16k sample rate
- Sine wave 20Hz to 22kHz, setting range -99dBm to +10dBm, any duration
- Swept sine wave 20Hz to 22kHz, setting range -99dBm to +10dBm, any duration
- White, Gaussian white or pink noise, setting range -99dBm to +10dBm, any duration
- DTMF setting range -99dBm to +10dBm any duration
- P.56 Method B
- Noise in speech to within 20dB of mean active speech level
- Noise in speech to within 20dB of mean active speech level
- Peak and True RMS Levels
- Units of measurement dBm, mV
- Tone burst measurement mode
- Measurement of doubletalk (percentage of measurement period where speech is present on both channels)
- Linearity 0.1dB for levels -60 to +10dBm
- Linearity 0.1dB for frequencies 20Hz to 22 kHz ☐ Noise floor -85dBm or better
- Range of measured levels -75dBm to +19dBm
- Minimum measurable mean active speech level -65dBm
- Dynamic range of 4-wire inputs 110dB
- Synchronization
- GPS (product option) - GPS time and position data
- Network Time Protocol (NTP)

DSLA Series Accessories

- GPS module
- Bluetooth adapters for Narrowband and Wideband speech, and audio streaming
- Universal Smartphone adapters with LRGM and LRMG pinouts
- DSLA Connection Cables - two sets of cables to link
- DSLA to PC and laptop sound cards

DSLA Series / DSLA 3

DSLA3 provides more density for analog testing driven by MultiDSLA platform.
This device is a 6-slot modular system that allows users to flexibly define which interfaces to use.
Build your own test system specifically according to your needs.

DSLA3's modular design offers a wide range of connection options, including PSTN lines, phone handsets, and legacy adapters used with the DSLA2c for Bluetooth, Push-to-Talk (PTT), and various mobile devices.

The DSLA3 features an integrated touchscreen for easy configuration of its IP settings and graphical view of its configuration.

Module Specifications

- Handset module
  4 wires RJ22 interface
  Control and sync 3.5 mm female jack
  Smartphone 3.5 mm female jack LRGM/LRMG
  Floating inputs (10 kΩ) and outputs (25 Ω)
  Output level attenuated by 28dB
- Line module
  2 wires RJ11 FXO interface
  Control and sync 3.5 mm female jack
  Phone line ports 600 Ω or complex impedance
  Output level limited to +6dB
  DTMF or Pulse dialing, Caller ID on line without adapter

Test Signal Generation

- Signal sampling rate capability up to 48kHz
- Any user-supplied speech material in WAV or PCM format, generated with user-defined mean active speech level with setting range -99dBm to +10dBm
- Sine wave, including swept and noise 20Hz to 22kHz, setting range -99dBm to +10dBm, any duration
- DTMF setting range -99dBm to +10dBm, any duration
- DTMF user-defined twist, frequency offset and break duration
- Conversational speech with/without double-talk
- Two independent tracks on each DSLA channel to create Complex mixed signals, e.g. speech plus noise

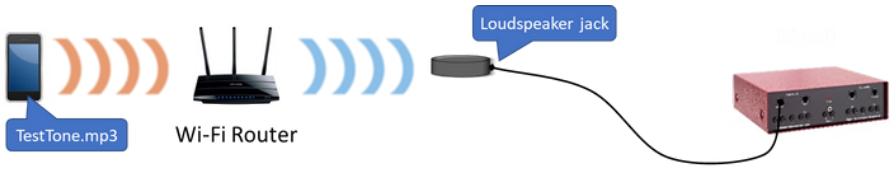
Measurements

- Linearity 0.1dB for levels -60 to +10 dBm
- Linearity 0.1dB for frequencies 20Hz to 22 kHz
- Noise floor -85dBm or better
- Range of measured levels -75dBm to +19dBm
- Minimum measurable mean active speech level -65dBm

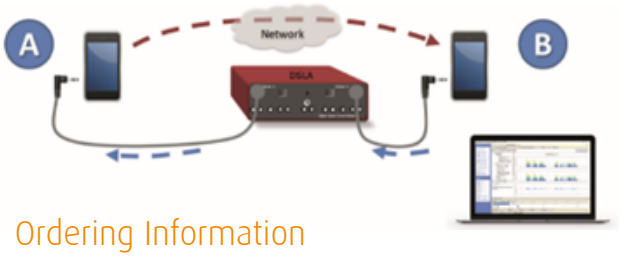
Dimensions: 89Hx244Wx440D (2U)
Net weight: 5Kg
Power: 100-220 V AC
Power Frequency 50-60 Hz
Power consumption:2.3 A max.
Operating Temperature: -2 to 40 °C
Approval and compliance: ongoing
Calibration: every 3 years for analog modules

DSLA Use cases

Audio Streaming Integrity



Wi-Fi enabled streaming/casting device to Wi-Fi adaptor, via home router



Cellular Voice Quality Testing using DSLA

Ordering Information

Product No.	Model	Description
Digital Speech Level Analyser		
DSLAII		
000029	DSLAIIC	DSLAIIC - 2 channel unit
DSLA3		
000165	DSLA3	DSLA3 - Chassis
000166	DSLA3-MO-AL	RJ11 PSTN FXO Analog Line Module
000167	DSLA3-MO-AH	RJ22 Analog Handset Module
DSLA Options and Accessories		
BlueTooth		
000011	APTX	Custom Bluetooth adaptor, NB/WB speech, APTx Low-Latency
000012	USP	Universal Smartphone LRGM Adapter
000013	USPR	Universal Smartphone LRMG Adapter
000224	USBC	USB Type C to Jack 3.5mm adapter for LRGM/LRMG
GPS		
000016	GPSM-USB	GPS Module - USB power supply connector
000017	GPSM-DSLA	GPS Module - DSLA power supply connector
000018	GPSM-SERIAL	GPS Module - DSLA Serial Connector (from DSLA S/N 5945)
000019	GPS-E25	GPS Extension Cable - 12V version - 25m for GPSM-DSLA
000020	GPS-E25S	GPS Extension Cable - 5V version - 25m for GPSM- SERIAL
000021	GPS-E50	GPS Extension Cable - 12V version - 50m for GPSM-DSLA
000022	GPS-E50S	GPS Extension Cable - 5V version - 50m for GPSM- SERIAL
000014	GPSCONV-USB	GPS Connection Cable Conversion for supplied Garmin GPS - USB power supply
000015	GPSCONV-DSLA	GPS Connection Cable Conversion for supplied Garmin GPS - DSLA power supply
Other Accessories		
000145	DSLA POWER SUPPLY	Power Supply for DSLAIIC (part number 000029)
000023	DCC	DSLA Connection Cables
000139	CID	Caller ID Cable Accessory
DSLA Upgrades		
000024	DSLA48kUPG	DSLAIIC upgrade for 48k sample rate support

VPP Series / VoIP Nodes

Vox Port Packet is the reference softphone within MultiDSLA systems. VPP is used in labs for mobile tests with base stations and as a SIP service testing tool, allowing to monitor service availability and performance, on premise or for cloud-based solutions.

Licensing is managed by MultiDSLA controller. .

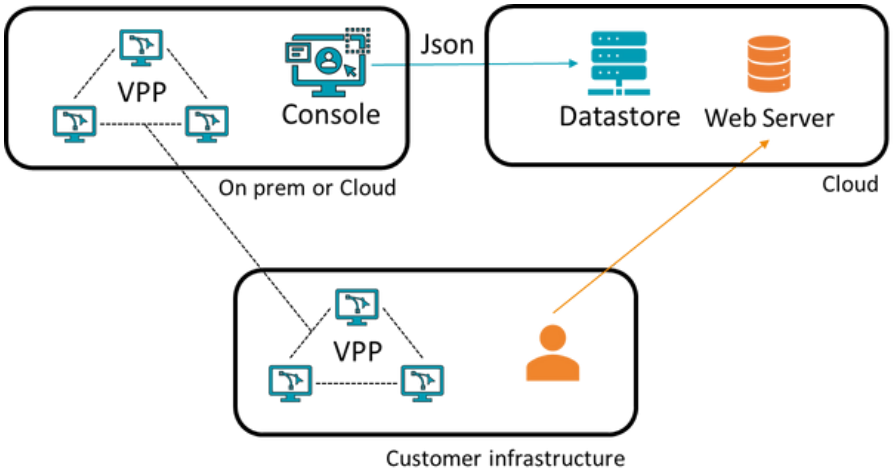
Item	VPPf	VPP+f
Requisites	Windows 10 / 11	
	Windows Server 2016 / 2019	
	Intel Core Duo, 2 GB RAM minimum	
Network Interface (NIC) and IP Management	Definable network test interface for each call	
	IPv4 / IPv6 support	
Codec Support	G.711, G.729, G.729A, G.729B, G.723.1, G.722, G.726, iLBC, Opus, 8k, 16k, 32k linear pcm	
More codec support	-	EVS all modes, AMR NB & WB with DTX,
Frame size	5, 10, 20, 30, 40, 50, 60ms codec dependent	
Parallel instances per VPP host	Maximum 30,	
	Can go up to 50 with specific hardware requisites	
User-defined static jitter buffer	X	X
Signaling capture	X	X
SIP over UDP	X	X
SIP over TCP		X
SIP over TLS		X
Secured RTP		X
IMS support		X
Inband and outband DTMF	X	X
SIPLess (no signaling, just RTP) support		X
DSCP tagging	X	X
Jitter and packet loss generation on output stream		X
AMR EVS in-call bit rate change		X
EVS to AMR interoperability		X
Packet based Loopback	X	X

Compliances
Signalling:
RFC2617
RFC2976
RFC3261
RFC3264
RFC3325
RFC3903
RFC4568
RFC5630

Media:
RFC3550
RFC3711

DTMF:
RFC4733

MultiDSLA Vox Port Packet use cases



24/7 SIP service monitoring

SIP quality and Root cause analysis
100% software
Cloud-based or on premise observability offer
Speech to text capabilities for IVR tests

Drive testing

Call are placed again if closed
GPS location
PESQ and POLQA scoring
Signal Strength (SMC)

Ordering Information

Product N°	Model	Description
Vox Port Packet Nodes one time licenses		
VPPf: Automatically re-assignable instances of VPP		
000210	VPPf-LIC	MultiDSLA Licence for VPPf Support - Includes 1x VPPf1 and 1x MUI-DS-1 node license
000184	VPPf-ADD-1	1 additional VPPf instance - Include 1x node licence for MultiDSLA (MUI-DS-1) - Requires VPPf
VPP+f: Automatically re-assignable instances of VPP		
000211	VPP+f-LIC	MultiDSLA Licence for VPPf+ Support - Includes 1x VPP+f1 and 1x MUI-DS-1 node license
000189	VPP+f1-ADD-1	1 additional VPPf+ instance - Include 1x node licence for MultiDSLA (MUI-DS-1) - Requires VPP+f
Vox Port Packet Yearly subscription licenses		
VPPf		
000212	VPP-Setup	One-Time Setup Fee for VPPf
000213	VPPf1-Sub	1x VPPf yearly licence subscription for MultiDSLA - Subscription Mode - Yearly price
VPP+f		
000214	VPP+-Setup	One-Time Setup Fee for VPP+f
000215	VPP+f1-Sub	1x VPP+f yearly licence subscription for MultiDSLA - Subscription Mode - Yearly price