DOCSIS
SOLUTION

Jupiter 310

Design Verification System





Automate your DOCSIS PHY-layer testing with the **industry-standard Jupiter 310** – a modular and **flexible** solution for **comprehensive** device **test coverage.**

Averna



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Highlights

DOCSIS 4.0, 3.1 & 3.0 PHY ATP, Averna Launch - automated test executive, Test Plan Editor, reports, Dashboard for instrument monitoring/control, logging and troubleshooting tools

→ Want to speed up your CPE design verification?

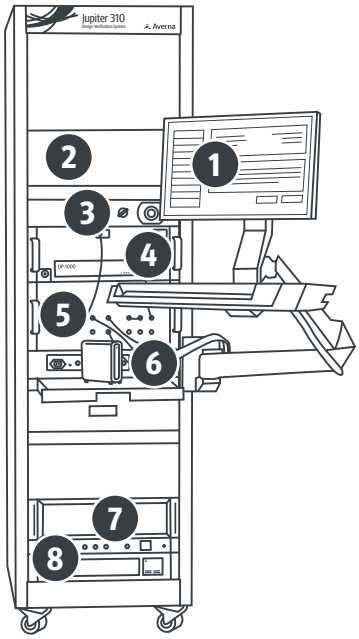
Jupiter is the industry standard for automated DOCSIS physical (PHY) layer testing. It provides the most comprehensive test coverage and accurate results on the market for DOCSIS 4.0, 3.1 & 3.0.

→ Accelerate Your Product Development and Time-to-Market

Certification labs, MSOs, standards bodies and leading product manufacturers use Jupiter to test cable modems, set-top boxes, residential gateways and other customer-premises equipment (CPE). It enables comprehensive, automated PHY layer testing, helping dramatically reduce DOCSIS 4.0, 3.1 & 3.0 design verification times early in the product lifecycle and speed up time-to-market.

→ A Complete DOCSIS Design Verification Solution

1. Built-in DOCSIS PHY ATP Test Scripts, Productivity Tools, Reports & More
2. Cable Modem Termination System (CMTS)
3. E-Stop Safety Button
4. DOCSIS Protocol Analyzer and Vector Signal Analyzer/Generator (VSA/VSG)
5. RF Interface Unit
6. CPE – Units Under Test (UUTs)
7. Packet Generator / Industrial PC
8. Power Distribution Unit (PDU) / Uninterruptible Power Supply (UPS)



A Wide Range of Features and Capabilities

Test & Productivity Tools

- Integrated CableLabs© PHY layer acceptance test plan (ATP)
- Averna Launch for automated testing and results
- Test Plan Editor to modify PHY procedure test cases
- Toolkit for updating test sequences and syncing the ATP
- Dashboard for instrument/modem monitoring and control
- Admin tools for measurement and trace queries/reports
- Diagnostic tools for quick troubleshooting and support

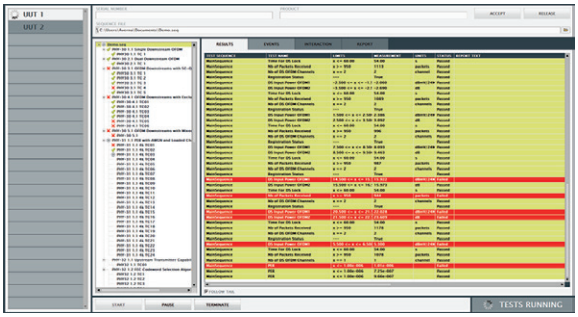
Instruments & Hardware

- Harmonic CMTS that supports FDD, FDX and D3.1/3.0 RPDs.
- Packet generator and DOCSIS Protocol Analyzer
- Wideband VSA to support measurements up to 2.5GHz
- RF Interface Unit that supports D3.0/D3.1 and D4.0 requirements.
- Self-testing fixture with automated calibration steps

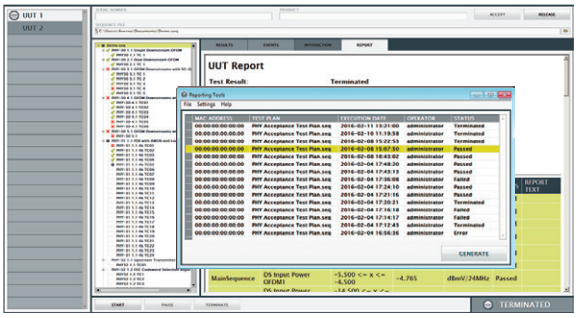
Services & Support

- Includes 1 week of onsite installation and Jupiter training
- Additional onsite training/support available for PHY layer testing
- Access to Averna engineers, knowledge base, documentation

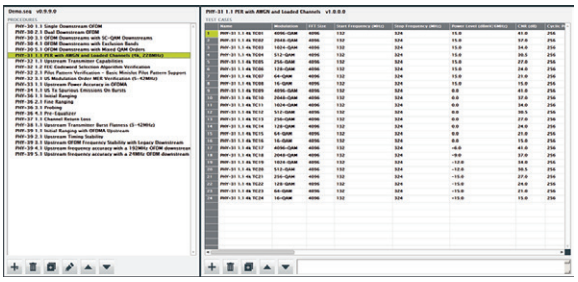
Powerful Productivity Tools



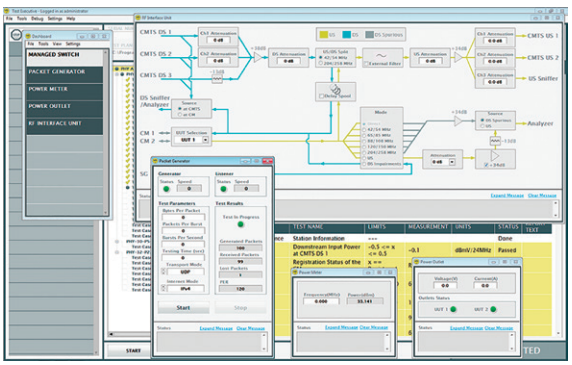
Averna Launch
Automate tests and get results fast



Reporting Tools
Generate reports and extract measurements



Test Plan Editor
Modify PHY procedure test cases



Dashboard
Control and monitor all integrated instruments

Complete DOCSIS PHY Test Coverage for Your CPE

Averna has integrated CableLabs© DOCSIS 4.0, 3.1 & 3.0 acceptance test plan (ATP) for the physical (PHY) layer into the Jupiter 310. With automated PHY tests, a Test Plan Editor, an update module and built-in reports, Jupiter indicates exactly when your CPE products are ready for certification.

DOCSIS 4.0 (FDX)

PHY Test Case	Transmission	Description
PHY 60.40	Downstream	Basic CM OFDM/FDD Input
PHY 61.40	Downstream	Error Rate Performance Tests
PHY 62.40	Upstream	Upstream Transmitter Capabilities
PHY 63.40	Upstream	Upstream Transmit Output Power
PHY 64.40	Upstream	Upstream Noise and Spurs with Transmitted Burst On
PHY 65.40	Upstream	Upstream Noise and Spurs with Transmitted Burst Off
PHY 68.40	Upstream	Upstream Transmitter Burst Flatness

DOCSIS 4.0 (FDD)

PHY Test Case	Transmission	Description
PHY 90.40	Downstream	Basic CM OFDM/FDD Input
PHY 91.40	Downstream	FDD CM Error Rate Performance
PHY 92.40	Upstream	Upstream Transmitter Capabilities
PHY 93.40	Upstream	Upstream Transmit Output Power
PHY 94.40	Upstream	Upstream Noise and Spurs with Transmitted Burst On
PHY 95.40	Upstream	Upstream Noise and Spurs with Transmitted Burst Off
PHY 98.40	Upstream	Upstream Transmitter Burst Flatness

DOCSIS 3.1

PHY Test Case	Transmission	Description
PHY 30	Downstream	Downstream Input
PHY 31	Downstream	Error Rate Performance Tests
PHY 32	Upstream	Upstream Transmitter Capabilities
PHY 33	Upstream	Upstream Transmit Output Power
PHY 34	Upstream	Upstream Noise and Spurs with Transmitted Burst On
PHY 35	Upstream	Upstream Noise and Spurs with Transmitted Burst Off
PHY 36	Upstream	Upstream Ranging and Equalization
PHY 38	Upstream	Upstream Transmitter Burst Flatness
PHY 39	Upstream	Cable Modem 3.0 PHYs Timing and Synchronization
PHY 40	Upstream	Proactive Network Maintenance

* Jupiter 310 provides the capability of testing special 5-45MHz CMs and is available as an add-on.

DOCSIS 3.0

PHY Test Case	Transmission	Description
PHY 01	Downstream	Downstream Input CM Input Power and Frequency Range
PHY 05	Downstream	ITU-T J.83 ANNEX B Interleaving
PHY 07	Downstream	Bit Error Rate and Codeword Error Rate
PHY 10	Upstream	Upstream Frequency Range
PHY 12	Upstream	Upstream Channel Transmit Power
PHY 15	Upstream	Carrier Power Flatness
PHY 16	Upstream	CM Upstream Randomizer and Preamble
PHY 17	Upstream	Upstream Spectrum and Out-of-band Noise and Spurs (On-Burst)
PHY 18	Upstream	Upstream Spectrum and Out-of-band Noise and Spurs (Off-Burst)
PHY 20	Upstream	Pre-equalizer Test
PHY 21	Upstream	CM Receive Power Test
PHY 23	Upstream	Symbol Rate Change

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