Spirent TSN & Automotive C2 Appliance

Compact Layer 2–3 Test Platform

Solution Overview

Spirent Automotive C2 Appliance is capable of generating real world network scenarios and deterministic traffic patterns so in vehicle-networks, services and individual network elements can be validated quickly, reliable and in a repeatable manner.

This compact and portable 2U form factor network testing system enables companies of all sizes to test smarter and optimize their test investment by leveraging the industry-leading test capabilities Spirent offers, in a very cost efficient hardware package.

The C2 can accommodate up to two interface cards (NICs) and up to 8 Ethernet ports with fully synchronized hardware timing crossing NICs and ports, with a wide range of Base-T1 interfaces available, including 10Base-T1S and 100/1000Base-T1.

Applications

C2 is ideal for Automotive OEMs, Tier 1s, component manufacturers and chip makers performing:

- R&D testing involving technology feasibility studies and performance modeling
- Device and protocol functional testing
- Device, sub-system, or services performance characterization, scalability and availability
- Stress testing requiring higher device and traffic emulation scaling capability & higher physical interface connection
- Device benchmarking: test using IETF RFC 2544, RFC 2889 and RFC 3918 methodologies with easy test setup using dynamically bound traffic and automated wizards

Realism & Productivity

- Realistic Layer 2–3 traffic generation to test Quality of Service (QoS) and Time Sensitive Networking (TSN) & realistic user and endpoint emulation to test applications and the Software Defined Vehicles of the future
- Real-time traffic and protocol controls enable the tester to validate and troubleshoot problems by altering the test configuration while the test is running
- Real-time results views and analytics allow the user to see how the network responds to changes in specific test conditions without having to stop the test and save the results

Features & Benefits

- Multi-speed, 10M/100M/1G Ethernet for flexible interconnect with various options, including T1S, Base-T1 or Base-T copper.
- Flexible configurations, from 4 to 8 ports, with per-port reservation available
- 2.5 ns Tx timestamp resolution with intra-chassis and inter-chassis synchronization
- Full chassis chaining and external timing synch available via direct connect, NTP, PTP, GPS, and CDMA
- Very low noise for benchtop operation in proximity to users
- Full suite of Spirent TestCenter protocols and test packages are available
- Built-in wizards and automated test scenarios reduce test setup and execution times
- Now with MACsec supported

Technical Specifications

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Inter-NIC and Inter-system Time Synchronization	Stratum-3 rated oscillator is the default time source. Transmit line clock is at the precise nominal Ethernet rate ± < 1 PPM on initial shipment. Accurate to ± 4.6 PPM 15 years of operation. • Frame time-stamp resolution of 2.5ns • GPS and CDMA-based external time sources are supported • IEEE 1588v2 and NTP packet-based external time sources are supported • TIA/EIA-95B-based external time sources are supported
Histograms	Port-level histograms
Environmental Specifications (non-condensing)	• Operating: 0 C - 35 C, 10% - 70% • Storage: -20 C - 70 C, 0% to 100%
Altitude	-100 to 1500 feet
AC Power Adapter Specifications	Input voltage range: 100V-240V 50-60Hz; Output voltage range: 19.5V 16.9A 330W
Total DC Power	330W
Product Weight	Unit installed weight: 13 lb. (5.90 kg)
Product Dimensions	11.2" (D) x 13.9" (W) x 3.5" (H) or 28.45cm x 35.31cm x 8.89cm

Requirements

- Windows-based workstation with 10/100/1000 Mbps Ethernet NIC; mouse and color monitor required for GUI operation
- Linux- or Windows-based workstation for scripting
- Mac-, Linux-, or Windows-based workstation for Rest API support

Ordering Information

Kit Number	Media Support
AUTO-C2-KIT-01	AUTO C2 4-PORT 10M-T1S, HW TIME & PGA SW
AUTO-C2-KIT-02	AUTO C2 8-PORT 10M-T1S, HW TIME & PGA SW
AUTO-C2-KIT-03	AUTO C2 4-PORT 10M-T1S, 4-PORT FX2 1G SFP, HW TIME & PGA SW
AUTO-C2-KIT-04	AUTO C2 8-PORT FX2 1G SFP, HW TIME & PGA SW