

Spirent **Landslide™ E10**

Small Form Factor, Mobile Core, Wi-Fi, Diameter, and IMS Test System

The Spirent Landslide E10 offers the end-to-end coverage of Spirent's industry leading Landslide test solution in a portable form factor. The system comes with 2 Gigabit Ethernet and 1 multi-client Wi-Fi test ports and Multi-Client OTA LTE supports the complete suite of Landslide test functions that Carriers and Equipment Manufacturers around the world rely on for validating their mobile and Wi-Fi networks, devices and services.

Solution Overview

The Spirent Landslide E10 is a small form factor test platform that supports applications for benchtop, lab and distributed testing of Mobile and Wi-Fi networks. It can be used either as a test server connected to a Landslide C100 or C50 manager or as a standalone system.

The E10 supports testing Mobile Core, Wi-Fi, Diameter and IMS networks including Over-the-Air LTE testing with Spirent's Landslide application for development, product verification and predeployment scenarios.

- **User and Application Emulation**—Emulate users roaming and handing over through out the mobile and Wi-Fi networks
- **Test Network Functions**—Validate physical and virtual network functions for Mobile Core, Wi-Fi, Diameter and IMS nodes
- **Network Emulation**—Emulate adjacent network interfaces and nodes to create complete network topologies on a desktop
- **Distributed Wi-Fi Testing**—Combine up to 100 E10 systems distributed throughout a Wi-Fi network to validate network and service performance for enterprise and carrier Wi-Fi
- **Over the Air Testing**—Test Wi-Fi and Mobile RF network access devices using U1 LTE Module or a real handset



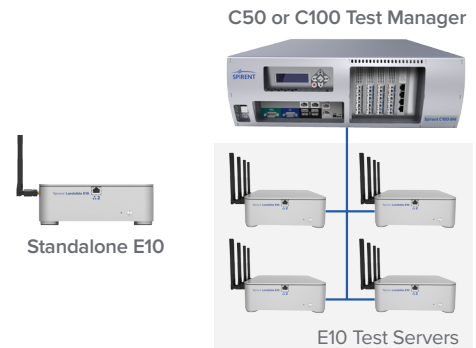
U1 LTE Module

The new U1 module Landslide now supports LTE Over-the-Air tests. The module emulates a single LTE UE and supports a wide range of LTE bands. Up to four U1s can be controlled by the Landslide E10 and conveniently snap into the new top plate.



Configuration

The Landslide E10 platform is available as a standalone system that is designed for test applications where portability, small form factor and quietness are critical or as a Landslide Test Server that is connected to a C50 or C100 Test Manager for applications where multiple E10s will be deployed within the same test network. In the Test Server configuration the E10 adopts the licensing from the Test Manager controlling it.



Landslide E10 Technical Specifications

Dimensions	Height: 72mm (2.8 in) Width: 197mm x 197mm (7.76 in x 7.76 in)
Weight	1.63 KG (3.6 lbs)
Operating Environment	0° C to +35° C
Non-Operating Environment	-20° C to + 70° C
Relative Humidity	10% to 70% RH, non-condensing
Power Requirements	100-240VAC, 50/60Hz, 2.0A Max
Test Ports	2 x 10/100/1000 Copper Ethernet 1 x Wi-Fi 4x4 MIMO 4x OTA LTE Modules
Wi-Fi Options	802.11 a/b/g/n/ AC Wave 1 and Wave 2
Supported LTE Bands	1,2,3,4,5,7,8,12,13,20,25,26,29,30,41
Management Port	10/100/1000M Copper Ethernet
Regulatory Approvals	FCC Part 15, class A CE EN55022 EN 55024 EN 60950 FCC ID on internal Wi-Fi Transmitter FCC ID on U1 LTE Module

Client PC Requirements

The Landslide Client hardware requirements depend on the system license and the testing activity. The recommended values are:

- 64-bit Operating System with 4 GB RAM and 1GB memory assigned to client
- Minimum 10 GB available disk space
- 100 MB/1G Ethernet connection to the LAN

The Landslide software requirements are:

- Test system web pages are best viewed with Internet Explorer 10+ or Firefox 30+
- JavaScript and Java Web Start must be enabled in the browser
- Popup blockers should be disabled before starting
- Cookies should be allowed if you want your memory settings to save
- Java™ Runtime Environment 1.8.0 (or later)

Ordering Information

Part number	Description	Test Coverage
Landslide E10 Test Server Options		
L-E10-N-TS	Landslide E10 Test Server with 802.11N Wi-Fi	Landslide E10 Test Server with 802.11N—Must be purchased as an expansion to an existing Landslide test system. Includes 802.11N Wi-Fi.
L-E10-AC1-TS	Landslide E10 Test Server with 802.11AC Wi-Fi	Landslide E10 Test Server with 802.11AC—Must be purchased as an expansion to an existing Landslide test system. Includes 802.11AC Wi-Fi.
L-E10-AC2-TS	Landslide E10 Test Server with 802.11AC Wave 2 Wi-Fi	Landslide E10 Test Server with 802.11AC Wave 2—Must be purchased as an expansion to an existing Landslide test system. Includes 802.11AC Wave 2 Wi-Fi.
L-E10-FT-001	Landslide E10 add Standalone License to E10 Test Server	Landslide E10 add Standalone License to E10 Test Server—Adds Standalone System (SAS) capability to existing E10 Test Server.

The Landslide C50 Test Manager can support up to 16 E10 Test Servers
The Landslide C100 Test Manager can support up to 100 E10 Test Servers

U1 LTE Module Options		
L-U1-LTE-001	U1 LTE module with standard SIM card plug-in	U1 LTE Module with standard SIM card plug-in. Must be purchased as an expansion to an existing Landslide test system.
L-U1-LTE-002	U1 LTE module with SIM adapter inside	U1 LTE Module SIM adapter inside for SIM server deployment. Must be purchased as an expansion to an existing Landslide test system.
L-APP-050	Landslide LTE OTA module application software	Landslide LTE OTA module application software -- requires U1 LTE over-the-air module. Works with LTE MME nodal application (license not required). Fingerprint of existing manager required.

Landslide E10 Standalone Options		
L-KIT-E10-SAS-1001	E10 Standalone System with 802.11N Wi-Fi	Landslide 802.11N 3x3 MIMO E10 mini-appliance with combined manager & test server SW. Includes IP Data & Wi-Fi UE Emulation applications. Additional SW bundles available. Scales to 1000 UEs.
L-KIT-E10-SAS-1002	E10 Standalone System with 802.11AC Wave 1 Wi-Fi	Landslide 802.11AC Wave 1 3x3 MIMO E10 mini-appliance with combined manager & test server SW. Includes IP Data & Wi-Fi UE Emulation applications. Additional SW bundles available. Scales to 1000 UEs.
L-KIT-E10-SAS-1003	E10 Standalone System with 802.11AC Wave 2 Wi-Fi	Landslide 802.11AC Wave 2 4x4 MIMO E10 mini-appliance with combined manager & test server SW. Includes IP Data & Wi-Fi UE Emulation applications. Additional SW bundles available. Scales to 1000 UEs.
L-SB-E10-SAS-001	E10 Standalone LTE Test Bundle	Bundle of LTE S/P-GW & MME test applications. Includes on-demand commands, failure scenarios and SMS client emulation.
L-SB-E10-SAS-002	E10 Standalone LTE Emulation Bundle	Bundle of LTE Core node emulations. Includes 3GPP MSC and X2 HO emulations.
L-SB-E10-SAS-003	E10 Standalone Diameter Test Bundle	Bundle of Diameter test applications for testing AAA, PCRF, HSS, DRA & OFCS network nodes. Includes related interfaces and generic Diameter message editor.
L-SB-E10-SAS-004	E10 Standalone Diameter Emulation Bundle	Bundle of Diameter node emulators and related interfaces. Includes L-FT-010 AAA Diameter Server, L-FT-026 PCRF Node, L-FT-037 HSS Node and more.
L-SB-E10-SAS-005	E10 Standalone UMTS/GPRS Test Bundle	Bundle of UMTS/GPRS test applications. Includes HNB abd 3G voice emulation.
L-SB-E10-SAS-006	E10 Standalone UMTS/GPRS Emulation Bundle	Bundle of UMTS/GPRS node emulators. Includes NSC and 3G voice option.
L-SB-E10-SAS-007	E10 Standalone SIP Voice/Video Test Bundle	Bundle of VoLTE and IMS test features for testing SIP-based voice and video. Includes IMS node emulation and interfaces.
L-SB-E10-SAS-008	E10 Standalone IP Data & Ipsec Test Bundle	Bundle of IP data, IPsec and VPN test features for testing SGWs and secure VoIP. Includes IPsec, data plane scenarios and TLS/SRTP for VoIP.
L-SB-E10-SAS-009	E10 Standalone Wi-Fi Offload GW Test Bundle	Bundle of Wi-Fi Offload Gateway test and emulation application and features.

About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks.

We help bring clarity to increasingly complex technological and business challenges.

Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled.

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Professional Services

- Test lab optimization: Test automation engineering services
- Service deployment and service-level optimization: Vendor acceptance testing, SLA benchmarking, infrastructure and security validation
- Device scalability optimization: POC high scalability validation testing

Resident Engineering

- Hit the ground running: Eliminate the time to recruit and train highly skilled test engineers
- Results: Quickly turn high level test requirements in to methodologies and results
- The inside track: Leverage expertise in products and automation and direct access to resources within the greater Spirent organization

Education Services

- Web-based training: 24x7 hardware and software training
- Instructor-led training: Hands-on methodology and product training
- Certifications: SCPA and SCPE certifications

Implementation Services

- Optimized new customer productivity with up to three days of on-site assistance