

Spirent Landslide™

Wi-Fi RF Multi-Client Emulation

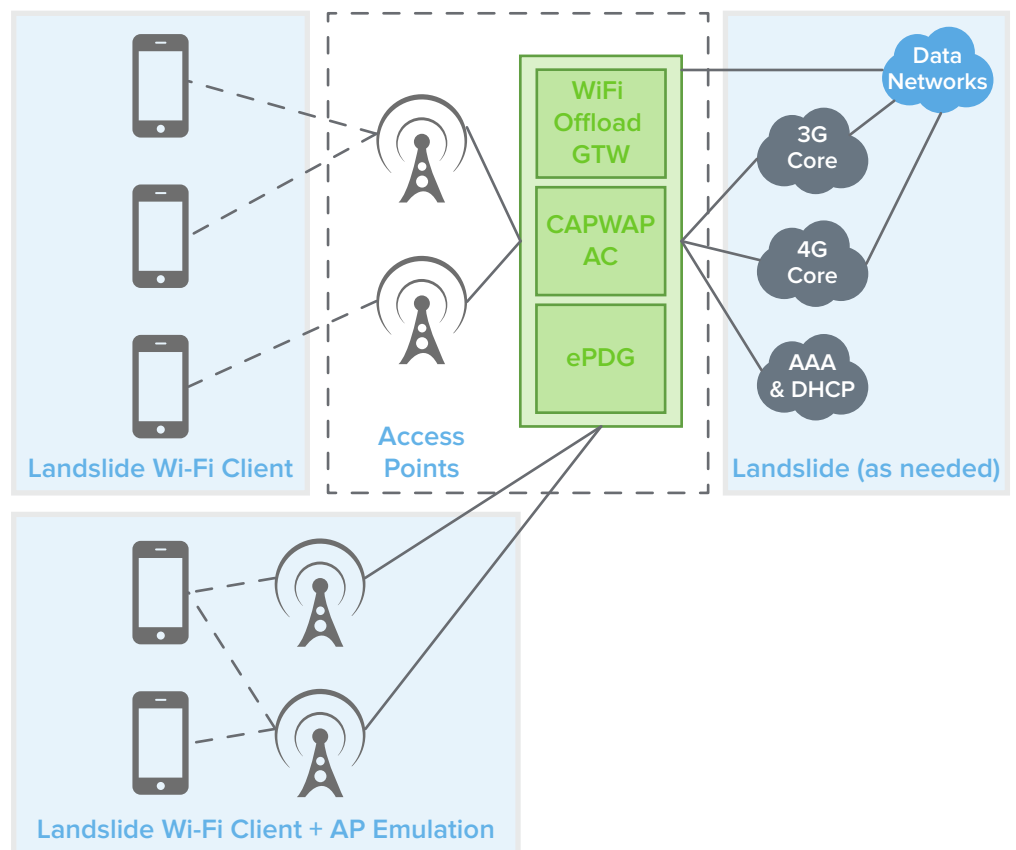
Applications

- Multi-client Wi-Fi RF testing scenarios
- AP only and combined AP and WLAN gateway testing
- Wi-Fi roaming
- Wi-Fi client to ePDG IPsec testing
- Long term stability testing
- Regression Testing

Standard Landslide features and benefits

- Multi-user test manager environment with support for up to 32 test servers under a single test manager
- Up to 3 simultaneous users per test server/48 per test manager
- Standard web browser interface. No need to load software on user PCs
- Interactive network topology diagrams to troubleshoot and visualize complex test setups
- Full TCL automation interface for both test creation and test execution. NTAF interface provided

Landslide supports Wi-Fi RF multi-client emulation for direct testing of Access Points (APs) and end-to-end testing of Wi-Fi ecosystems that include WLAN access controllers, gateways and ePDGs. By adding one or more Wi-Fi client emulation cards to the Landslide C50 or Landslide C100 test server, users can simulate a large number of 802.11a/b/g/n/ac RF clients toward an access point via a cabled connection or over-the-air link. SIM-based authentication, Wi-Fi roaming and sophisticated L4-7 data and voice over Wi-Fi are supported on the emulated clients. Simultaneous RF client emulation and high-scale client+AP emulation is supported for loading both APs and WLAN gateways at the same time.



Card types/part numbers

- L-NIC-51 -4 transceiver/radio card with support for up to 256 individual 802.11 a/b/g/n/ac clients; 3x3 MIMO
- L-WIFI-51 Includes L-NIC-51, 3x20DB attenuators, and 3x6 ft SMA Cables
- L-NIC-53 -4 transceiver/radio card with support for up to 800 individual 802.11 a/b/g/n clients; 3x3 MIMO
- L-WIFI-53 Includes L-NIC-53, 3x20DB attenuators, and 3x6 ft SMA Cables
- L-APP-041 Landslide Wi-Fi ClientEmulation Test Application
- L-APP-041-Landslide Wi-Fi ClientEmulation Test Application for C50

Specific features and benefits

- Independent MAC control per client
- Extensive data generation– high bandwidth application data generation including HTTP, HTTPS, HTTP redirect, FTP, RTP, SIP, etc., including “any protocol” capture and replay, network host/internet server emulation
- DNS support
- AMR-NB and AMR-WB voice codecs over Wi-Fi with POLQA quality measurements
- IR-94 video and SMSoIP
- Roaming between access points and SSIDs
- Client IPsec tunnel support for ePDG testing including APN specification and IP address assignment from 4G PGW
- EAP-SIM, EAP-AKA SIM-based mobile handset authentication
- WEP-PSK, EAP-TLS and EAP-PEAP authentication
- Web-authentication and WSPR 2.0 authentication
- Additional integrated simultaneous support for DHCP server emulation, AAA radius server emulation, AAA diameter server emulation (SWm interface), and PGW and GGSN emulation as needed
- Simultaneous Wi-Fi RF client emulation and high-scale Wi-Fi client+AP emulation (1.6 Million Clients/300,000 APs) for combined AP loading and WLAN gateway/AC/ePDG loading

Technical specification	L-NIC-51	L-NIC-53
802.11 modes	802.11a/b/g/n/ac	802.11 a/b/g/n
Maximum number of emulated clients	256	800
MIMO supported	Up to 3x3	Up to 3x3
Number of RF ports	3	3
Interface connector	SMA female connector, standard thread, AC coupled, 50 Ohms	
Frequency range	2.412 ~ 2.484GHz & 5.150 ~ 5.875 GHz	
Modulation techniques	OFDM: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM	OFDM: BPSK, QPSK, 16-QAM, 64-QAM
Coding supported	Supports Spatial Multiplexing, Cyclic-Delay Diversity (CDD), Low-Density Parity Check (LDPC), Maximum Ratio combining (MRC), Space Time Block Code (STBC)	
Supported CCK preamble types	Short and Long in 802.11n and 802.11ac modes	
OFDM guard intervals	400 and 800 ns	Short and long in 802.11n mode
Channel bandwidth	20 MHz, 40 MHz, 80 MHz	20 MHz, 40 MHz
MCS index support	0-31 MCS Index for 802.11n 0-9 MCS index for 802.11ac	0-31 MCS Index for 802.11n
Frame aggregation	RX and TX: A-MPDU, A-MSDU, and Block-ACK in 802.11n 802.11ac	
Maximum Phy rate	1.3Gbps for 802.11ac 80MHz channel operation 216.7 Mbps for 802.11n 20MHz channel operation 450 Mbps for 802.11n 40MHZ operation IEEE 802.11 a/b/g data rates: 54 Mbps(11a), 11 Mbps (11b), 54 Mbps (11g)	216.7 Mbps for 802.11n 20MHz channel operation 450 Mbps for 802.11n 40MHZ operation IEEE 802.11 a/b/g data rates: 54 Mbps(11a), 11 Mbps (11b), 54 Mbps (11g)
TX power control	1 db resolution	
802.11 MAC control	Independent per client	
RoHS compliance	Yes	

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