

### Overview

WiLANTA LVSA11abg is a powerful validation platform for research, design, and evaluation of IEEE 802.11a, b and g transmitters.

WiLANTA LVSA11 bg seamlessly integrates with the NI PXI RFSA 5660/5661 to provide a powerful and flexible tool for analysis of IEEE 802.11b/g-compliant signals. It supports analysis of all the modulation schemes of both standards and provides the user with extensive features for RF and Baseband analysis.

WiLANTA LVSA11abg displays PHY layer characteristics including IQ and spectral measurements as well as MAC parameters. The solutions architecture allows high-efficiency testing and measurements by defining suitable span, trigger, attenuation, and reference levels. WiLANTA LVSA11abg allows analysis of offline signal data stored on the disk in

various formats (.rtf/.bin). This enables importing of signal data captured elsewhere, including any third party signal generator.

Advanced rich graphical features like colorful waveforms of data along with markers and zoom options add a third dimension to signal analysis. Its powerful analysis capabilities help scientists, engineers, and researchers to investigate the transmitter characteristics of a WLAN DUT at the RF and baseband levels.

Engineers use WiLANTA LVSA11abg to build products in less time with the desired attributes and performance. This helps in improving manufacturing yields which directly contributes to overall product quality and profitability.

WiLANTA LVSA11abg provides a complete cost effective validation tool for testing 802.11 devices.

### Features

#### Standards Supported

- IEEE 802.11g
- IEEE 802.11a
- IEEE 802.11b

#### Supported frequency range

- 2.4 GHz and 5 GHz band

#### Data Rates Supported

- 1,2,5,5.5,6,9,11,12,18,24,36,48,54 Mbps

#### Modulation formats Supported

- OFDM
- CCK/DSSS

#### Supports real time and offline analysis

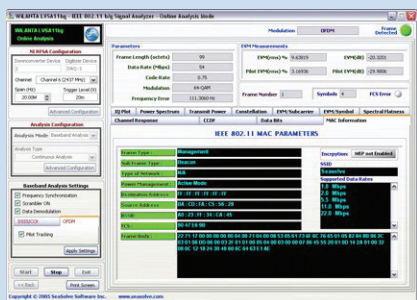
#### Supports Multi Frame analysis

#### Measurements

- RF Measurements
  - Power spectral Density
  - Occupied bandwidth
  - Power in Band

#### MAC Information

- Decoding of Frames
  - Data
  - Management
  - Control
- Displays Frame, Sub Frame, and network type
- Power Management status
- Decodes and displays Destination Address, Source Address, BSSID, SSID and FCS



IEEE 802.11 MAC Frame Decoding

- Displays WEP security Encryption Status
- Displays the entire Frame Body (MPDU)
- Displays Frame Data rates

#### Baseband Measurements

- IQ plot
- EVM/Symbol
- EVM/Subcarrier
- Constellation Diagram
- Power Spectrum
- CCDF
- Channel response
- Spectral flatness
- Transmit Power
- Data Bits

#### Importing Options

- .txt - Individual I and Q files
- .txt - WiLANTA IQ generator file
- .rtf - WiLANTA LVSA11bg ASCII IQ file
- .bin - WiLANTA LVSA11bg binary IQ file
- .bin directory - collection of binary IQ files
- .rtf directory - collection of .rtf IQ files

#### Saving options

- Save IQ data in .bin or .rtf format
- Save MAC data in .rtf format

#### Easy to use interface allows to

- Configure acquisition period
- Configure Reference Level
- Enable/Disable Auto attenuation
- Configure attenuation level
- Configure sampling rate
- Enable/Disable Pulse shaping
- Enable/Disable frequency synchronization
- Enable/Disable Scrambler
- Enable/Disable data demodulation
- Enable/Disable Channel Equalization

#### Display Parameters

- Modulation
- Frame length
- Data Rate

- Code Rate
- Frequency error
- Number of Symbols
- Preamble

#### EVM

- EVM in rms% and db
- Pilot EVM in rms% and db<sup>1</sup>

#### Graphical Utilities

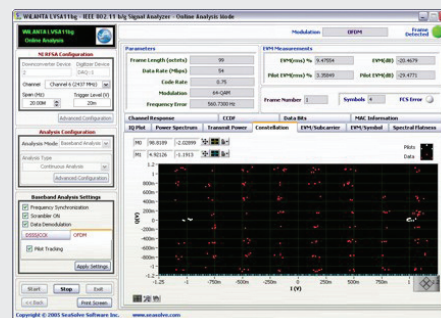
- User defined plot color and style of lines
- Zoom
- Markers
- Auto Scale for better viewing of PSD plot
- Print data

#### Error indication

- Indicates valid Frame detection
- Reports on erratic or incomplete loading of signal files
- Indicates SFD detect (fail/pass)
- Indicates FCS error
- Indicates PHY CRC error

#### Comprehensive Help

<sup>1</sup>For OFDM Modulation Only



IEEE 802.11 Constellation Diagram