

Agilent 802.11b WLAN Signal Studio Software for the E4438C ESG Vector Signal Generator

Option 405
Product Overview

IEEE 802.11b Test Signals

802.11b Signal Studio software is a powerful tool for creating IEEE 802.11b baseband I/Q waveforms for use with the Agilent E4438C ESG vector signal generator.

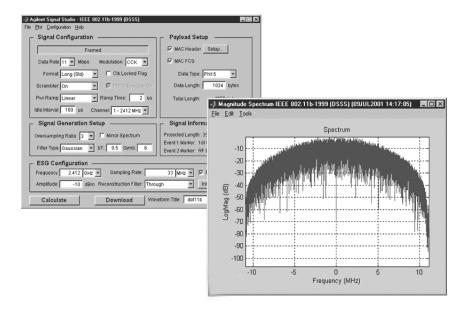
Main Features:

- · Intuitive user interface
- Configure fully-coded 802.11b frames and 802.11b modulated data streams
- · Add a user file as the payload data type
- Configure MAC header and enable MAC FCS
- Select scramble mode, burst shape, and baseband filtering
- Plot I/Q signals, spectrum, and CCDF curve
- 10B/T LAN or GPIB connectivity
- Remote control of basic ESG functions from the software

Try Before You Buy!

Go to www.agilent.com/find/signalstudio and download 802.11b Signal Studio to your PC to evaluate the signal configuration and plotting capabilities of the software. A license key is required to load the waveforms created by the software into the ESG. The license key can be ordered through your sales engineer or the nearest sales office, which can be found at

www.agilent.com/find/assist.



Benefits

Component test

- Determine performance characteristics of 802.11b components
- Modify signal parameters to meet customized test needs
- Generate statistically correct signals to properly stress components

Receiver test

- Fully-coded frames enable FER and BER testing for receiver sensitivity tests
- Verify demodulation capability of WLAN receivers

I/Q Waveform Generation

802.11b Signal Studio software is a Windows®-based utility that simplifies the creation of 802.11b I/Q waveforms. It is intended for use with the E4438C ESG vector signal generator's baseband generator operating in arbitrary waveform mode.

Configuring and building 802.11b I/Q waveforms is quick and easy with Signal Studio's graphical interface. The configured I/Q waveform is downloaded to the ESG and the signal generator automatically begins generating the modulated RF signal.



Recommended Configuration

E4438C ESG with the following options: E4438C-002* 32 Msample baseband generator E4438C-405* 802.11b WLAN Signal Studio software

E4438C-503 3 GHz frequency range E4438C-1E5 High-stability timebase E4438C-005 6 GB internal hard drive

*Indicates required options. The baseband generator may be either Option 001 or Option 002; option 001 contains 8 Msamples of memory.

Upgrade Kit

If you currently own an E4438C ESG vector signal generator and are interested in obtaining an upgrade kit only (license key) order: E4438CK and E4438CK-405.

802.11b Signal Studio Software Specifications

| Framing | Framed: bursted fully-coded 802.11b frames | |
|--------------------|--|-----------------------|
| | Non-framed: non-bursted 802.11b modulated data streams | |
| Baseband filtering | Rectangle | |
| | • Gaussian | |
| | • bT range: 0.1-1.0 | Sample length: 0-1000 |
| | Root cosine | |
| | • a (alpha) range: 0.05-1.0 | Sample length: 0-1000 |
| PBCC encoder | Enable/disable | |
| Modulation formats | CCK, PBCC, DBPSK, DQPSK | |
| Data source | 1s, 0s, 01s, 10s, PN9, PN15, user file | |
| Data rates | 1, 2, 5.5, 11 Mbps | |
| Scrambler | On, off, preamble only | |
| Data length | Maximum | |
| | 2312 bytes | |
| | Minimum | |
| | • 0 bytes | |
| Idle interval | Range: 0-100,000 microseconds | |
| between frames | | |
| Power ramping | None | |
| | Linear | |
| | Cosine | |
| Ramp time | Range: 0-1000 microseconds | |
| Oversample ratio | 2 to 9 | |
| · | · | · |

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