Agilent Technologies
Signal Studio-802.11b for the ESG
Option 405

Product Overview

Use Signal Studio to Create IEEE 802.11b Test Signals

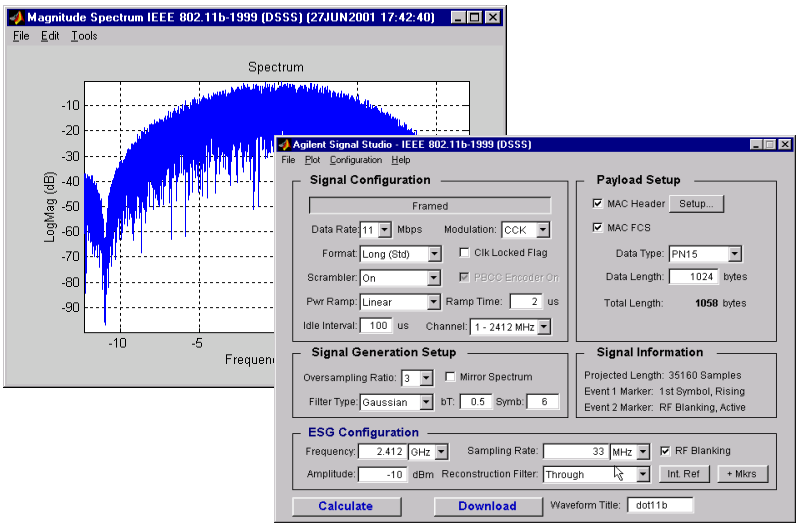
Signal Studio-802.11b software is a powerful tool for creating IEEE 802.11b baseband I/Q waveforms for use with the Agilent ESG digital series signal generator's dual arbitrary waveform generator.

Main Features

- Intuitive user interface makes waveform creation fast and easy
- Plot spectrum and I/Q components
- Selectable framing includes Preamble and Header
- Baseband filtering
- Scrambling On/Off or preamble
- Configure power ramp type and power ramp time
- Enable PBCC encoder
- Enable/disable FCS
- Remote control of basic ESG digital series RF signal generator functions from software

Try before you buy!

Signal Studio software can be downloaded free of charge from www.agilent.com/find/signalstudio for evaluation. A license key is required to load the waveforms created by the software into the ESG digital series RF signal generator. The license key can be ordered through your sales engineer or the nearest sales office, which can be found at http://www.agilent.com/find/assist.



Benefits

- Verify that the receiver decodes an independently generated 802.11b test signal correctly.
- Use as a test signal to perform standards-based tests.
- Use as test signal to stress components, such as power amplifiers, to determine basic performance such as adjacent channel interference.

I/Q Waveform Generation

Signal Studio-802.11b software is a tool for creating an IEEE 802.11a waveform in an intuitive Windows®[1]-based environment. The software calculates a baseband I/Q waveform file based on the user-defined 802.11b frame. The waveform file can then be downloaded to the ESG dual arbitrary waveform generator for playback.
Configuring and building WLAN 802.11b waveforms is made possible via Signal Studio's easy-to-use graphical interface. The configured I/Q waveform, along with basic instrument settings, is downloaded to the ESG and the signal generator automatically begins generating the modulated RF signal.

Ordering Information

Signal Studio-802.11a is Option 405 for the Agilent ESG Digital Series RF Signal Generators.

The Signal Studio software requires that the ESG is equipped with the optional dual arbitrary waveform generator (Option UND). Firmware Revision B.03.75, or better, is required to activate the License Key on the ESG signal generator.

Upgrade Kits

If you currently own an ESG and are interested in obtaining an upgrade kit only (license key) for that ESG, order:
E443xB Option 455 (x=0 thru 7, choose the instrument you own).

Data Sheet for Signal Studio-802.11b

Framing	• Framed: bursted packets includes a PLCP Preamble (short and long) and Header (Signal field) • Non-framed: Continuous non-bursted payload data (no PLCP Preamble and Header added to payload
Baseband filtering	• Rectangle • Gaussian o Alpha range: 0.05-1.0 Sample length: 0-1000 • Root-cosine o bT range: 0.1-1.0 Sample length: 0-1000
PBCC Encoder	Enable/Disable
Modulation formats	CCK, PBCC, DBPSK, DQPSK
Data source	1s, 0s, 01s, 10s, PN9, PN15
Data rates	1,2,5.5, 11 Mbps
Scrambler:	Enable/Disable
Data length	Maximum • 2312 Bytes Minimum • 0 Byte
Idle interval between frames	Range: 0-1000 microseconds
Power ramping	None Linear Cosine
Ramp time	Range: 0-1000 microseconds
Oversample ratio	2,2.5,3,3.5

[1]Windows is a U.S. registered trademark of Microsoft Corporation

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Asia Pacific:
(tel) (852) 3197 7777
(fax) (852) 2506 9284

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