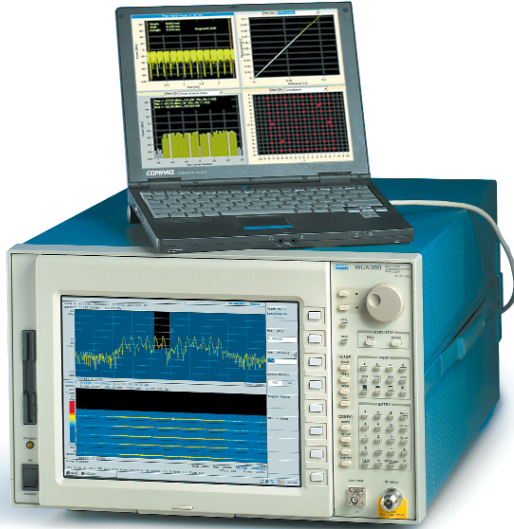


Signal Analysis Software for IEEE 802.11a, b and g

► WCA11G



Automatic Control for the WCA380 and Offline Analysis of 5 GHz Wireless LAN Signals

WCA11G Signal Analysis Software enhances the WCA380, 330 Wireless Communications Analyzer to provide the complete evaluation of RF signals in IEEE 802.11a 5 GHz, IEEE 802.11b, 11g 2.4 GHz high-speed wireless LAN (WCA380 up to 8 GHz: IEEE 802.11a, b, g, WCA330 up to 3 GHz: IEEE 802.11b, g).

The software runs on an external PC connected to the WCA300 over a wireline Ethernet link. The WCA11G automatically configures the WCA300 to acquire transmission data and transfers the results to the PC. Data is analyzed offline, where results can be easily organized, displayed, and documented.

The WCA300 performs real-time acquisition of signal with bandwidths of up to 30 MHz. With 30 MHz Span setting, the analyzer can capture up to 2000 Frame, which is equal 50 ms time length. The Spectrum MASK function can be used to automatically trigger an acquisition when predefined limits exceeded. Intermittent channel effects such as multi-path and transient noise can then be captured with the real-time trigger to ensure accurate analysis of the affected bursts.

► Features & Benefits

Automatically Controls the WCA380 to Evaluate Transmission Characteristics of IEEE 802.11a, b, and g RF Signals Precisely as Defined in the Standard, Ensuring Conformance

Automatically Detect Data Format and Bit Rate of Specified Standard

Simple, Familiar Configuration – Uses Standard External PC to Control the Analyzer and to Acquire, Store and Analyze Data Offline in a Standard Windows Environment, Eliminating Tedious Setups and Uncertainties

Frequency Domain Triggering Can Be Set to Capture Transient Events and Intermittent Signal Fluctuations, No Matter when They Occur

Powerful Spectrum Mask Testing Automatically Detects Out-of-Limit Conditions and Captures Signals to Help Identify and Troubleshoot the Causes

PC Connected Via Ethernet Link – Multiple Users Can Share the WCA380 on a Local Network

► Applications

Debugging and Troubleshooting Product Designs

Qualification Testing to Ensure that Products Conform with Standards

Documentation of Test Results to Demonstrate Conformance

COMPUTING

COMMUNICATIONS

VIDEO

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Conforms with the Standards and More

The combination of WCA11G software and the WCA380 provides the measurements needed to ensure technical conformance with IEEE 802.11a, b, and g. Measurements that have been defined in the standards are performed in full accordance with requirements. Additional tests beyond those defined in the standards, such as spurious response and crest factor, give further insight and assurance. Instrument setups, data acquisition conditions and analysis parameters are automatically configured, eliminating set up uncertainties.

Share Resources in a Local Network

Because the connection to an external PC is a standard Ethernet link, shared access to the WCA380 can be granted to multiple stations in a lab or test facility via an Ethernet LAN. Once an acquisition is completed by one station, the WCA380 is free to be used by another, to capture

► WCA11G Measurements Include

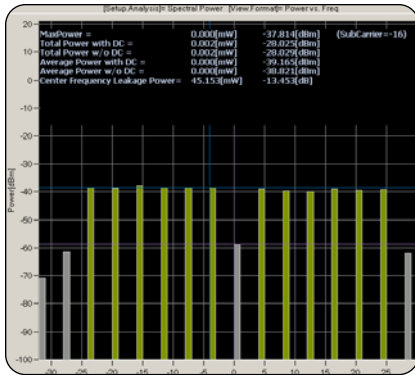
IEEE 802.11a Standard (5 GHz Band Use with WCA380)	IEEE 802.11b Standard (2.4 GHz Band Use with WCA330, 380)	IEEE 802.11g Standard (2.4 GHz Band Use with WCA330, 380)
Power vs. Time	Power vs. Time	Same as Standard IEEE 802.11a, IEEE 802.11b
Power vs. Sub-carrier	Constellation	
Flatness	Segment Constellation	
Constellation	EVM vs. Time	Additional Measurement: PBCC Modulation Analysis
Symbol Constellation	MagError vs. Time	
EVM vs. Time (and sub-carrier)	PhaseError vs. Time	Power vs. Time
MagError vs. Time (and sub-carrier)	Center Frequency Error	Constellation
PhaseError vs. Time (and sub-carrier)	Symbol Table	EVM vs. Time
Center Frequency Error	Spectrum MASK	MagError vs. Time
OFDM Transmitter Linearity	Transmit Power On, Power Down	PhaseError vs. Time
Symbol Table		Center Frequency Error
Spectrum MASK		Symbol Table
		Spectrum MASK
		Transmit Power On, Power Down

signals directly from its own PC. With the WCA11G software, analysis and documentation are done offline using data that has been downloaded and stored in each PC.

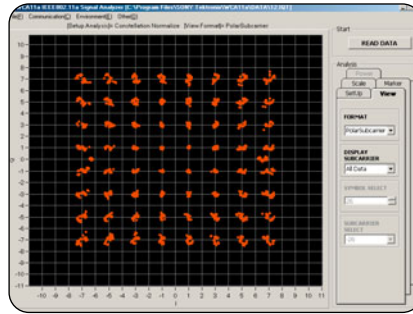
The WCA11G Software Can Be Run on Any Standard PC with a Minimum of:

- OS: Windows 98 SE, Windows 2000
- CPU: Intel Pentium 866 MHz
- Memory: 512 MB
- Display: 1280x1024
- Ethernet LAN Port

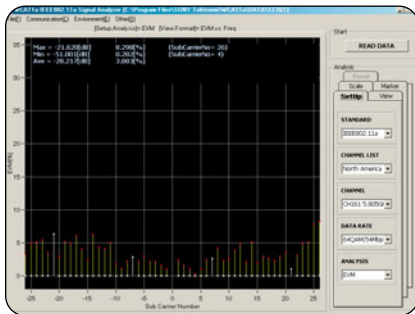
Examples of WCA11G Measurements



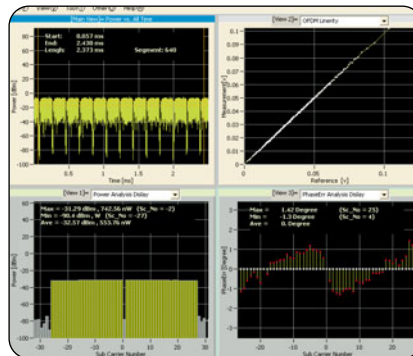
► **Figure 1.** Power (vertical axis) vs. Sub-carrier Number (-32 to +32) during training sequence. Marker measurement indicates sub-carrier power to 0 carrier power (20.2 dB).



► **Figure 2.** Constellation display of a selected sub-carrier (64QAM, including pilot).



► **Figure 3.** EVM (vertical axis) vs. Sub-carrier Number. EVM is displayed using OFDM symbols (selected symbols displayed in circle).



► **Figure 4.** Multi-domain view of 802.11g signal.

► Ordering Information

WCA11G

Signal Analysis Software for IEEE 802.11a, b and g.

Included Accessories – Operators manual.

Signal Analysis Software for IEEE 802.11a, 11b and 11g

▶ WCA11G

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