

IQwave for WiMAX Software Suite

Simplified WiMAX Product Testing

The LitePoint IQwave™ for WiMAX Waveform Generator Software operates in combination with LitePoint IQmax™ Wireless Test Systems or IQnxn^{plus} MIMO Test Systems to facilitate both the development and manufacturing of WiMAX products.

IQwave for WiMAX is a PC-based tool that simplifies the generation of 802.16 test signals for verifying the operation and performance of receiver hardware or receiver algorithms. By modeling typical and worst-case conditions in a controlled and fully repeatable, IQwave for WiMAX helps create tests for conformance, interoperability, and volume-production quality assurance.

Customized Test Signals

Conduct receiver testing at either RF or baseband after the test waveform files generated by IQwave for WiMAX are transferred to the IQmax or IQnxn^{plus} Vector Signal Generator (VSG).

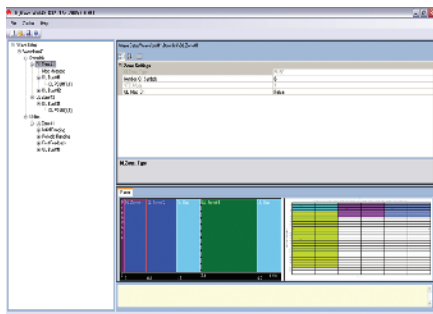
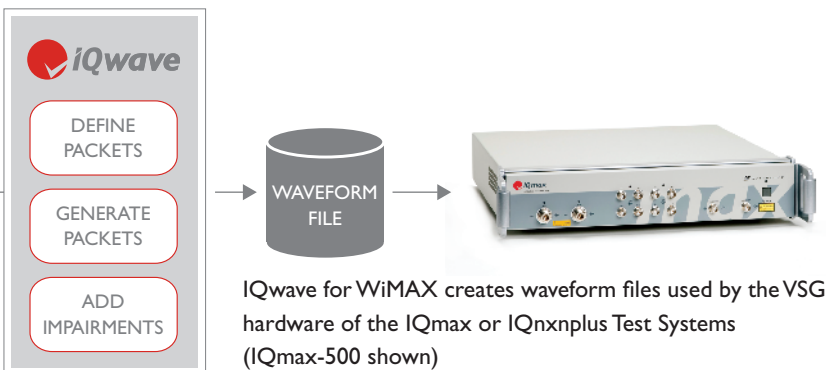
With IQwave for WiMAX, the frames and sub-frames can be constructed, the content of transmitted packets can be defined, the spectrum of the signal can be controlled, and various signal impairments can be applied to test and verify receiver performance under a variety of conditions.

Application areas:

- Component and System R&D
- Product Development and Debugging
- Design Verification Test
- System Test

Features

- Generates complex WiMAX waveforms for LitePoint IQmax or IQnxn^{plus} Test Systems to test receiver functionality and performance
- Allows signal parameters to be modified as needed for both R&D and Manufacturing test purposes
- Supports 802.16-2004 / OFDM (fixed WiMAX) and 802.16e-2005 / OFDMA (mobile WiMAX)
- Supports SISO and MIMO signals, all bandwidth versions, frame durations, and modulation types
- Allows the creation of a single frame or sub-frame, but also complex combinations (including interfering signals) or sequences
- Offers complete flexibility to construct (sub-) frames with arbitrary contents
- Models transmitter and receiver impairments and channel effects
 - LO leakage
 - I/Q amplitude imbalance
 - I/Q phase imbalance
 - Carrier frequency offset
 - Standard WiMAX channel models
 - User defined channel
 - Additive noise (AWGN)
 - Phase noise
 - Power amplifier non-linearity



IQwave for WiMAX Software





Waveform Generator

- Single or multiple frames (sequences or interferers)
- Power, frequency and/or time offset (for each frame)
- Configurable frame length, DL/UL ratio (for each frame)
- DL subframe only, UL only, or both (for each frame)
- Configurable signal bandwidth, CP, FFT size (for each frame)
- Construct subframes by defining arbitrary zones, bursts and data packets (PDUs)
- Create PUSC, FUSC and AMC2x3 zones
- Load PDUs with predefined or custom data
- Power boosting

Modulator

- All 802.16 OFDM and OFDMA modulation types
- 802.16 CC and CTC coding
- MIMO Matrix A, Matrix B, Collaborative

Impairments

- I/Q amplitude imbalance
- I/Q phase imbalance
- I & Q channel DC offsets
- Phase noise
- Power amplifier non-linearities
- Carrier frequency error
- Sample rate offset
- AWGN noise

Channel Effects

- Channel impulse response: flat, WiMAX models (Vehicular A, Pedestrian B; low, medium, or high antenna spatial correlation), user-defined

IQwave for WiMAX Views

- Frequency domain (power spectral density plot)
- Time domain (signal amplitude versus time)
- Logical views (frame, zone, burst contents)

Waveform File

- Save entire waveform or configuration only
- Waveform file can be used by IQsignal for WiMAX software to load onto VSG and generate actual RF or Baseband signal

System Requirements

- Intel® Pentium® Processor or Compatible
- Microsoft® Windows 2000, Windows XP
- 512MB of RAM
- 100MB of Available Hard Disk Space

Our commitment is to serve our customers' long-term technology and strategic needs.

LitePoint Corporation designs and markets innovative, dedicated test instrument solutions for existing high volume and emerging wireless products markets, such as IEEE 802.11 WLAN, WiMedia®, IEEE 802.16 (WiMAX), and Bluetooth®. LitePoint solutions are designed specifically to simplify and accelerate standards compliance and performance tests.

Demo IQwave Today!

- Online - go to www.litepoint.com/demos/
- Live WebEx - go to www.litepoint.com/demos/webex/
- In person - call your local rep for an appointment

LitePoint Corp. - Corporate Headquarters
575 Maude Court Sunnyvale, CA 94085 | +1.408.456.5000 | www.litepoint.com

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