

TC-3200A WiMAX Tester

*Combined all of the test features
required for WiMAX testing
within a single unit*



- ◆ Integration of All Required Functions for WiMAX Testing into a single unit
- ◆ Supports 20Mhz, 10Mhz, 8.75Mhz, 7Mhz, 5Mhz, and 3.25Mhz
- ◆ Supports RCT (Radio Conformance Test)
- ◆ RF Measurement – Spectrum, Power-Time, Constellation & RCE, PER
- ◆ Intuitive Link Analyzer
- ◆ All Modulation support: QPSK(DL/UL),16QAM(DL/UL), 64QAM(DL only)



Introduction

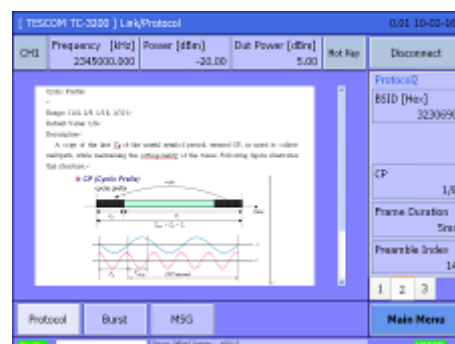
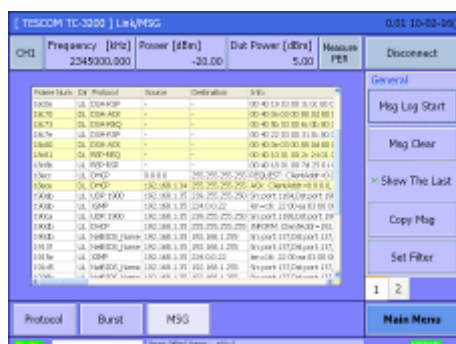
The TC-3200A WiMAX Tester (IEEE 802.16e) is a versatile all-in-one solution for your testing needs. The TC-3200A is optimized for use in R&D and manufacturing applications. Useful features include: RCT (*Radio Conformance Testing*), an intuitive Link Analyzer and a variety of measurement functions such as *Spectrum*, *Power-Time*, and *PER*.

Key Features

- ◆ P802.16e as a Base Station
- ◆ WiMAX support (20Mhz, 10Mhz, 8.75Mhz, 7Mhz, 5Mhz, 3.25Mhz)
- ◆ m-RCT(Release 1.0) support [*optional*]
- ◆ Multiple Access/Duplexing: OFDMA/TDD
- ◆ Scalable OFDMA:128, 512, 1024, 2048
- ◆ Pilot Tone-based Downlink & Uplink
- ◆ Channel Coding: CC, CTC
- ◆ PUSC, FUSC sub-channelization
- ◆ All Modulation support: QPSK(DL/UL),16QAM(DL/UL), 64QAM(DL only)
- ◆ Link Analyzer Display: MAC Management, Physical Layer & Network Messages
- ◆ Real-time m-WiMAX DL/UL Emulation
- ◆ Signaling/Non-Signaling Supported
- ◆ TX Diversity (STBC) Support [*optional*]
- ◆ MIMO: TX Diversity [*optional*]
- ◆ Remote Control Support (USB or GPIB)

Link Analyzer

The Tescom TC-3200A can operate as a base station and connect in signaling mode. The Link Analyzer displays messages on-screen according to the filter options during linkage. Users can also verify the link operation of the DUT (MS).

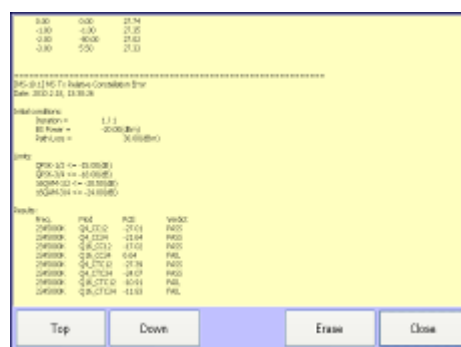
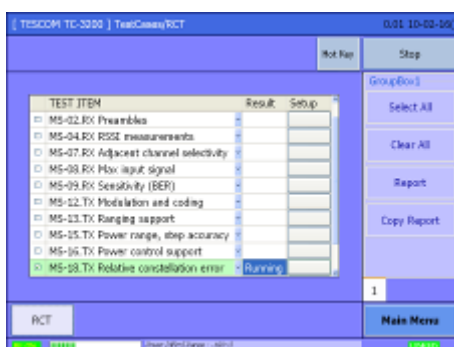


- ◆ User Burst Enabled
- ◆ Displays Link Messages
- ◆ Save all Messages using 'Copy Msg' Function
- ◆ Message Filter Function Support
- ◆ On-Screen Manual
- ◆ 'Hot Key' configurable to jump to additional pages or functions

RCT (Radio Conformance Testing) Support

The TC-3200A supports most RCT items of P802.11e (m-WiMAX).

Specified RCT test items can be combined and iterated. The test environment and parameters can be saved and recalled. The TC-3200A links automatically for RCT testing.



RCT Parameter Options

- ◆ Test order can be changed
- ◆ Test parameters can be set for individual items
- ◆ Display results after test
- ◆ Can be customized for mass production

Supported RCT List

- ◆ MS Receiver Maximum Tolerable Signal
- ◆ MS Receiver RSSI Measurements
- ◆ MS Receiver Physical CINR Measurements
- ◆ MS Receiver Adjacent & Non-Adjacent Channel Selectivity
- ◆ MS Receiver Maximum Input Signal
- ◆ MS Receiver Sensitivity
- ◆ MS Transmitter Modulation & Coding, Cyclic Prefix, Frame Duration Timing
- ◆ MS Transmit Ranging Support
- ◆ MS Transmitter Modulation & Coding
- ◆ MS Transmit Power Dynamic Range & Relative Step Accuracy
- ◆ MS Transmit Power Control

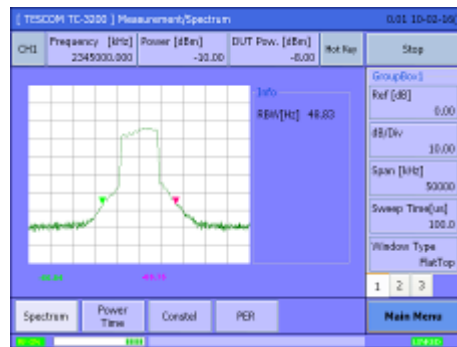
- ◆ MS Transmitter Spectral Flatness
- ◆ MS Transmitter RCE (Relative Constellation Error)
- ◆ MS Transmitter Synchronization
- ◆ MS Transmit/Receive Switching Gap

Easy Measurements for Mass Production

The TC-3200A provides a simple way of measuring RF performance for mass production. In addition to RF parameters (*Frequency, Power, etc.*), key protocol parameters (*UL Modulation type, Duration, etc.*) can also be changed while measurements are being conducted.

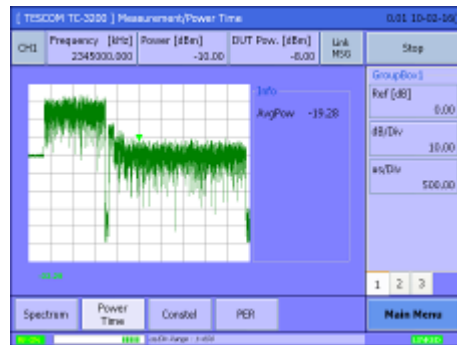
Spectrum

- ◆ Measure Spectrum
- ◆ Average Power of DUT
- ◆ Shows Spectrum MASK of DUT
- ◆ Window Type Options for Spectrum
- ◆ Scalable Reference & Span.



Power vs. Time

- ◆ Trigger Function: *Sync, Power*
- ◆ Scalable Start Time
- ◆ Average Power of Specified Time Duration
- ◆ Measure Time Accuracy of DUT



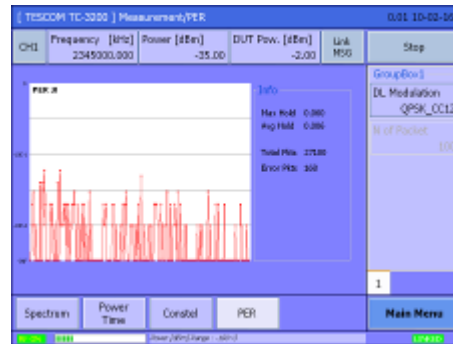
Measure Constellation & RCE

- ◆ Scalable number of samples
- ◆ Measure RCE Max, Min, Average
- ◆ Auto X-Y Axis-Scaling for best resolution



Measure PER using PING

- ◆ Scalable Number of Packets
- ◆ DL Modulation can be changed
- ◆ Display PER versus Time



Specification

Tx

Frequency: 2.3 ~ 2.7, 3.3 ~ 3.8GMz, 10Hz steps

Power Range: +3 ~ -100dBm

Power Accuracy: +/- 1dB

Channel BW: 20MHz

In Band spurious (20MHz): -45dBc

Out Band spurious: 65dBc

RMS Phase Jitter: < 0.7 degree

AM Noise: < 0.3%

I/Q Mismatch: <-40dBc

Rx

Frequency: 2.3 ~ 2.7, 3.3 ~ 3.8GMz, 10Hz steps

Power Range: +23 ~ -65dBm

Power Accuracy: +/- 1dB

Channel BW: 20MHz

RMS Phase Jitter: < 0.7 degree

Spurious (exclude image): <-50dBc

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE



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