Agilent Technologies
E7495A/B Base Station Test Set

E7495A/B Option 230 – GSM Analyzer
E7495A/B Option 235 – EDGE Analyzer
E7495A/B Option 270 – Interference Analyzer
Antenna Test Post Processing Software

GSM and EDGE

To meet the needs of network operators deploying 2-3G voice and data services, the industry standard E7495A/B base station test set now provides comprehensive GSM/EDGE downlink testing. Specifically, the E7495A/B Option 230/235 allows for easy observation and analysis of GSM/EDGE base station performance and verification of proper network operation.

GSM/EDGE transmitter analysis includes functionality to monitor and evaluate base station signal transmission (modulation quality) in an unobtrusive way. Specifically, the test set measures key GSM/EDGE transmission parameters that validate base station transmitter health when directly connected to a test port or over the air (OTA), without requiring the base station to be taken "off the air".

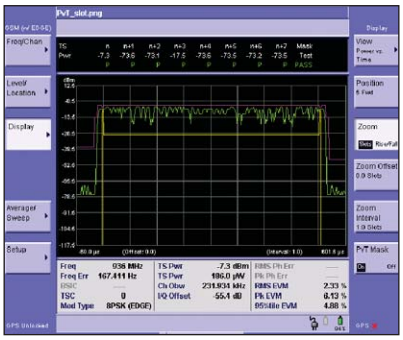
Channels are easily identified using Agilent's "channel scanning" display that visually illustrates power versus channel (or frequency) information in an easy-to-read bar chart. New Power vs. Time analysis provides deeper insight into individual time slots. Modulation metrics like phase error and EVM confirm signal quality.

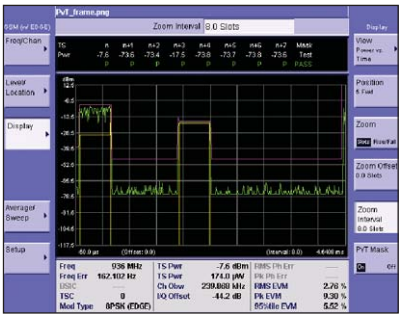
Key Features and Metrics

- Modulation type
- Zoomed in rise/fall view
- Peak channel power
- Limit mask test for individual slot and full frame (mixed GMSK and 8PSK signals)
- IQ offset
- Phase error (peak and RMS)
- Slot sync on either highest power/GMSK/8PSK/specified TS#
- EVM (RMS, peak, 95%tile)
- Gated spectrum view(spectrum view of individual slot)



GSM/EDGE measurements include frequency, frequency error, BSIC, TSC info, and modulation quality metrics such as RMS/peak phase error or EVM all on one easy to read display





Power vs. Time plot allows users to examine individual time slots of a GSM or EDGE signal. Flexible time domain analysis with zoom from full frame to 0.25 slot

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Interference analysis

Agilent's interference analysis option allows for location and identification of intermittent, interfering signals that cause dropped calls and negatively influence quality of service. Using a well-shielded, highly-sensitive receiver, the test set is capable of measuring down to –150 dBm. Included with the E7495A/B spectrum analysis functionality, is a spectrogram display that allows the user to capture historic spectrum activity, displaying frequency, power level, and time information. Option 270 adds a built-in modulation ID function that offers information on the likely modulation types, differentiating between W-CDMA, CDMA, GSM, TDMA, TACS, paging, and other analog signals. To complete this solution, a traditional spectrum analyzer 2-D view and level meter are also included.

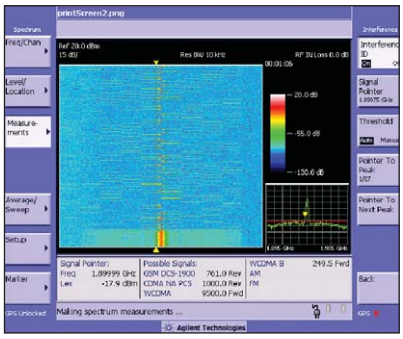
Antenna test post processing tool

The "E7495A/B antenna measurements post processor" tool is an external PC based application for the E7495A/B base station test set that provides an easy-to-use interface to analyze return loss and distance to fault-saved measurements. This application allows users to load "saved data" files from E7495A/B return loss or distance-to-fault measurements to graph the trace data, and provide additional graph manipulation functions (adding markers, zoom, scaling, comments, and trace overlays). The application will also allow the user to store and print the graphs along with the added comment field information.

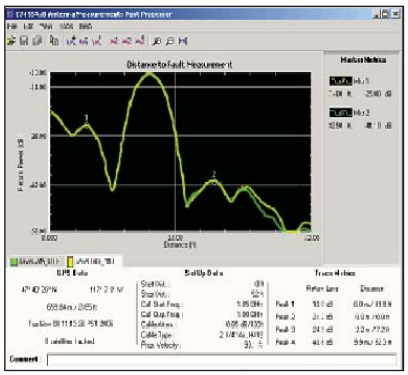
Ordering Instructions

(Note: upgrades are denoted with the prefix E7495XU.)

E7495A/B Option 230 GSM analyzer
E7495A/B Option 235 EDGE analyzer
E7495A/B Option 270 Interference analyzer
Antenna test post processing tool (free software at www.agilent.com/find/E7495_software)



Interference analyzer provides insight into possible interfering signal types, while displaying 2 - 3D visuals of spectrum



PC-based post processing tool enables detailed analysis and provides tools for easy report generation

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