Agilent
E6701F GSM/GPRS and
E6704A EGPRS Lab Applications
E6701T/U Special High Data Rate
GSM/GPRS Lab Application

For the 8960 (E5515C) Wireless Communications Test Set

Technical Overview
Combining the benefits of GSM/GPRS/EGPRS network emulation with Agilent’s global leadership in analysis technologies, the E5515C test set and the E6701 lab applications provide mobile development engineers with a single desktop instrument – helping you get better devices to market sooner.

**Develop, integrate, and validate high data rate EGPRS UE’s**

With the E6701F/E6704A GSM/GPRS/EGPRS Lab Application, developers have the only instrument available providing a systematic approach to root-cause analysis of high throughput issues in the mobile protocol stack; from decoded L1 to IP.

**Test all the critical RF parameters**

The E6701 provides flexible measurements including:

- Transmit power (TxP)
- Power vs time (PvT),
- RF output spectrum (ORFS)
- Error vector magnitude (EVM)
- Bad frame indicator (BFI)
- FACCH frame erasure rate (FER)
- All the connections types required to fully analyze and debug your mobile device RF characteristics

**Quick-turn just about any design change**

With support for voice, video, short message service (SMS), multi-media messaging service (MMS), cell broadcast SMS (CBSMS), circuit-switched data, and packet data call connections, DTM, multiple and secondary PDP contexts, design changes in anything from RF to TCP can be quickly validated with a complete regression test of mobile functions right at your desk.
Helping You Get Your Job Done Faster And For Less Money

Fast and flexible signaling – with you in control of network operations

Our network emulation is designed to make connecting calls fast and simple – and give you choices. We have pulled some of the most commonly requested parameters up from the protocol stack, providing many different connection scenarios without requiring you to fully understand the 3GPP stack and a complex scripting language. E6701 delivers the control you need to get your job done faster.

The world’s wireless applications brought right to your fingertips

Agilent lab applications bring testing and tuning end-user applications right to your desk – without limiting how far your device may search when looking for real content. With our industry-leading SMS/MMS/cell broadcast messaging capabilities, push-to-talk over cellular, and blazing fast packet connections to the Internet over RF, you have the capability to test most mobile applications fully without leaving your office.

Developing more than just GSM/GPRS/EGPRS devices? Just hook it up and go!

If your development needs go beyond GSM/GPRS/EGPRS, with additional firmware that same box on your desk can connect calls from AMPS to HSUPA and everything in between. What’s more, Agilent leads the industry in support of 3G and 3.5G solutions for 1xEV-DO and W-CDMA/HSPA. Contact your Agilent sales engineer to learn how the E5515C test set gives you the flexibility to adapt quickly to emerging standards and technologies.

Get started with the GSM/GPRS/EGPRS lab applications today
Find Design Issues Earlier, Resolve Them Faster

**Functional test analysis**
Reduce development and verification cycle time by systematically engaging mobile device layers “up the stack” to find design problems early - before they are found by your customers.

Validate phone’s data throughput capability while using SMS, MMS, data transfer, video, PoC, WAP, email, or other services.

Drive down defect resolution cost by finding complex hardware, protocol, and application related issues that are specific to how the phone will function on the network, early in the design cycle. All this for a price that is significantly less than traditional script-based test equipment. Find out more at:

**Base station emulation**
From basic network settings like country code and cell ID, lab application variables for network emulation extend into such things as network operating mode, TMSI assignment, authentication, neighbor list management, and PDP context rejection, giving you the flexibility you need.

Find out more at:

**The pulse of mobile/network interactions**
Wireless protocol advisor software gives you all messages for the mobile and network from MAC layer all the way to IP! And, with triggering and filtering functionality, you can set up troublesome scenarios that fail intermittently on Friday and come back Monday morning with a bounded and focused protocol log of exactly what happened surrounding the particular issue. Learn more at
**E6701 family of lab applications**

**E6701F** is our latest application release for the industry leading call box and the right choice for R&D engineers needing world-class functionality in a single instrument. E6701F added over 40 features and new capabilities compared with the previous revision E6701E, such as:

- UMA/GAN
- Authentication and ciphering
  (Encryption option E6705A)
- Digital audio interface (DAI) and real time vocoder for audio/SARS/EMC analysis and test
- Class 12 and 34 measurements
- 2-Cell handovers to/from W-CDMA (requires two instruments)


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**Technical Specifications**

These specifications apply to an E5515 mainframe with Option 002 installed when used with the latest shipping version of:

- E6701F lab application
- E6701T/U lab application

The above applications also include functionality described within the latest shipping version of E1968A GSM/GPRS/EGPRS Test Application with firmware. Please refer to the E1968A data sheet for details and specifications for all functionality covered within the E1968A at [http://www.agilent.com/find/E1968A](http://www.agilent.com/find/E1968A)

Specifications describe the test set’s warranted performance and are valid for the unit’s operation within the stated environmental ranges unless otherwise noted.

**E6701T/U lab application** specified performance for all parameters communicated in this data sheet and the referred to E1968A data sheet is 25 °C ±5 °C. E6701T/U operating conditions are 0 to 35 °C.

Supplemental characteristics are intended to provide typical but non-warranted, performance parameters that may be useful in applying the instrument. These characteristics are shown in italics and labeled as “typical” or “supplemental.” All units shipped form the factory meet these typical numbers at +25 °C ambient temperature without including measurement uncertainty.

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**General Specifications**

**Dimensions:**
(H x W x D): 8.75 x 16.75 x 24.63 inches (222 x 426 x 625 mm), 7 rack spaces high

**Weight:**
66 lbs (30 kg)

**Display:**
10.5 inches (26.7 cm), active matrix, color, liquid crystal

**Manual user interface:**
traditional front panel type or remote computer driven with graphical UI

**LAN (local area network) port**
(for firmware upgrades only):
RJ-45 connector, 10 base T Ethernet with TCP/IP support

**Operating conditions:**
0 to +55 °C, 30 g/m³ absolute humidity (95 percent/+32 °C, 28 percent/+55 °C relative humidity)

**Storage conditions:**
-20 to +70 °C, 50 g/m³ absolute humidity, non-condensing (90 percent/+65 °C relative humidity)

**Power:**
88 to 135 Vac, 193 to 269 Vac, 50 to 60 Hz, typically 550 VA maximum

**Calibration interval:**
2 years

**EMI:**
conducted and radiated interference meets CISPR-11, susceptibility meets IEC 1000-4-2, 1000-4-3, and 1000-4-4

**Radiated leakage due to RF generator:**
typically < 2.5 µV induced in a resonant dipole antenna one inch from any surface except the underside and rear panel at set RF generator output frequency and output level of -40 dBm

**Spurious leakage:**
typically < 5 µV induced in a resonant dipole antenna one inch from any surface except the underside and rear panel at frequencies other than the RF generator output frequency and output level of -40 dBm

**Power consumption:**
typically 400 to 450 W continuous
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Printed in USA, August 14, 2008
5989-5147EN