



## 4301A - Miniature Test Receiver - GSM

### *Ultra-Compact and Diverse Measurement Capability*

The DRT4301A provides the telecommunications industry with a miniature, yet powerful, receiver measurement capability to test and monitor wireless signals. DRT's advanced architecture offers a variety of solutions that are optimized to process different cellular protocols. These test receivers use the latest in digital signal processing (DSP) and microprocessor technology to provide the following capabilities:

- Real time decoding of GSM broadcast messages.
- Support for the most common wireless scanner measurements.
- Integrated Spectrum Analysis Tool for all protocols and bands.
- Embedded application ideal for OEM use or with DRT-supplied Pioneer™ collection tool.
- Optional removable flash device for localized logging.
- Quad-band model for switched support—band coverage of forward channels or dual-band model for both forward and reverse channels.
- GSM protocol support for measurements and decoding features with additional software supporting EDGE, cdma2000, WCDMA, WiMAX, TD-SCDMA, LTE, EV-DO...
- 100 Mbps Ethernet interface to the host allows for high throughput of logged test data and remote operation.
- Small Size, Low Power, Light Weight.
- 100% DRT warranty for two (2) years.

## Measurements and Features

### General:

- Quad Band Support
- Option for Dual-Band Forward and Reverse Channel Support
- Removable Flash Memory Card
- Integrated GPS Navigation and Disciplined Reference
- Software Defined Architecture
- Autonomous Operation
- Sleep Mode

### GSM Measurements:

- Channel Average Power
- CW Power
- Time Slot Power
- Spectral Display
- Interference Ratio

### GSM Decoding:

- BSIC
  - PLMN Color Code
  - Base Station Color Code
- Cell Identity
  - Location Area Identification
  - Mobile Country Code
  - Mobile Network Code
  - Location Area Code
- Control Channel Description
  - IMSI Attach/Detach Enable
  - Number Access Grant Blocks
  - Number CCCH Physical Channels
  - Combined SDCCCH
  - Multiframe Period Paging Request
  - Periodic Update Timeout
- Cell Allocation Information
  - Number of Channels
  - Channel List
- RACH Control Parameters
  - Max ReXmit
  - Xmit Slot Numbers
  - Cell Barred
  - Call Reestablishment Disable
  - Emergency Call Disable
  - Access Control Bitmap
- Cell Options
  - Power Control Indication
  - Uplink Discontinuous Xmit State
  - Radio Link Timeout
- Cell Selection Parameters
  - Cell Reselect Hysteresis
  - Maximum Transmit Power Index
  - New Establ. Causes Supported
  - Minimum Received Signal Level
- Neighbor Cell Information
  - Number of Channels
  - Channel List
- Additional Entries
  - GPRS Enabled Indication
  - GPRS RA Color
- AGCH Information
  - Immediate Assignment Message
  - ImmediateAssignment Extended Message
  - Message Type Reject

## Receiver Specifications

### Band Coverage:

869-894 MHz  
925-960 MHz  
1805-1880 MHz  
1930-1990 MHz  
(Other frequency bands are available.)

### Amplitude Accuracy:

-100 dBm to -25 dBm  $\pm$  1dB  
-110 dBm to -100 dBm  $\pm$  2 dB

### RSSI Scan Rate:

Contiguous  
>500 channels/sec

### Frequency Accuracy:

0.06 ppm, GPS Locked

### Noise Figure:

7.0 dB

### Input 3rd Order Intercept:

-10 dBm

### Phase Noise:

-95 dBc at 10 kHz offset

### VSWR:

<2.5:1

### Internal Generated Spurs:

<-115 dBm

### Maximum Safe Input:

+15 dBm

## Physical

### Dimensions:

1.3" H x 3.0" W x 6.2" D  
(3.3 cm H x 7.6 cm W x 15.7 cm D)

### Weight:

1.25 lbs. (567 g)

### Operating Temp:

+32° to +122°F (0° to +50°C)

### Storage Temp::

-40° to +185°F (-40° to +85°C)

### Humidity:

95%, Non-condensing

### Power Consumption:

8 W (max)

### Power Required:

6-30 VDC

## Interfaces

### DC IN:

Lemo P/N EXG.OB.304.HLN

### Host Link:

RJ45 - Ethernet 100Base-T

### RF Input:

SMA - 50 $\Omega$

### Internal GPS:

SMB - 50 $\Omega$

### Terminal:

Mini DB-9

### Removable Flash Memory Card:

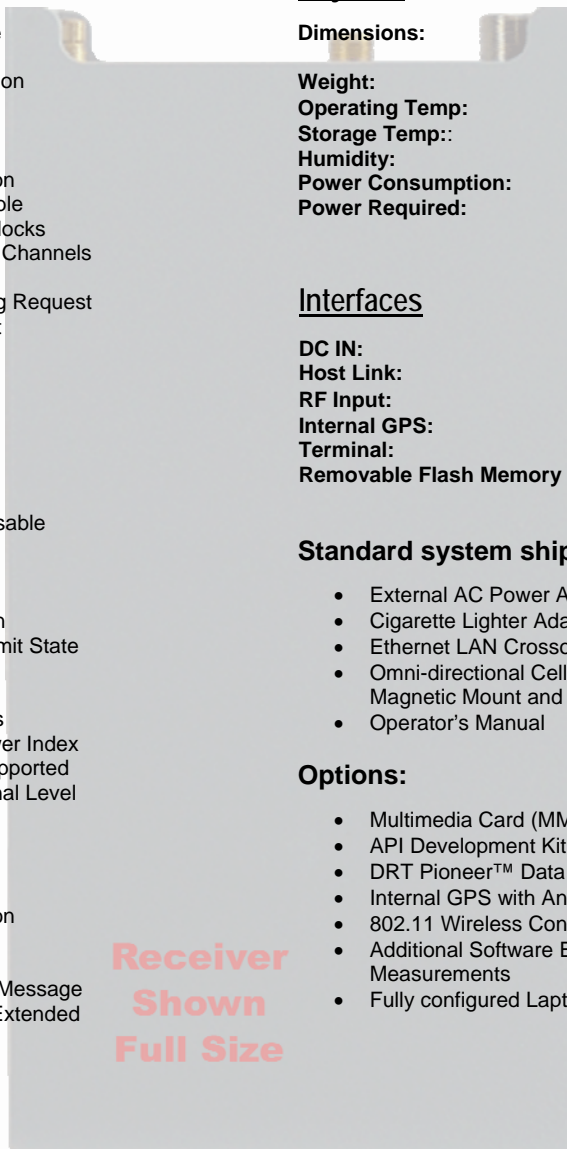
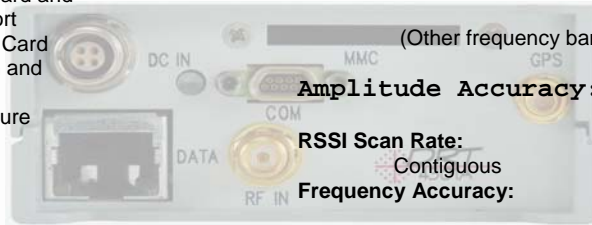
Multimedia Card (MMC)

### Standard system ships with:

- External AC Power Adapter & Cables
- Cigarette Lighter Adapter Cable
- Ethernet LAN Crossover Cable
- Omni-directional Cellular/PCS Band Antenna with Magnetic Mount and Coaxial Cable
- Operator's Manual

### Options:

- Multimedia Card (MMC)
- API Development Kit Software
- DRT Pioneer™ Data Collection Software
- Internal GPS with Antenna
- 802.11 Wireless Control
- Additional Software Enabled Protocols and Measurements
- Fully configured Laptop



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The One  
Measure for  
Wireless  
Performance