



## 4301A+ - Miniature Test Receiver – E-UTRA (LTE)

### *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 E-UTRA (LTE) 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.
- Internal GPS receiver with frequency and timing discipline.
- Optional removable flash device for localized logging.
- MIMO Support
- Quad-band model for switched support—band coverage of forward channels or dual-band model for both forward and reverse channels.
- E-UTRA (LTE) protocol support for measurements and decoding features with additional software supporting WCDMA, GSM, cdma2000/EV-DO, WiMAX, TD-SCDMA,... .
- 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 three (3) 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

### Measurements:

E-UTRA Carrier RSSI  
UTRA FDD Carrier RSSI  
GSM Carrier RSSI  
RS CINR  
Reference Signal Received Power (RSRP)  
Reference Signal Received Quality (RSRQ)  
Spectral Display  
Channel Response  
Delay Spread  
Multipath Count  
Carrier Frequency Offset  
SCH CINR  
PSCH Detection

- Physical Layer Cell Identity
- PSCH Power
- PSCH Quality

SSCH Detection

- Physical Layer Cell Identity Group
- SSCH Power
- SSCH Quality

### E-UTRA Decoding:

BCCH

- Broadcast Channel (BCH)
  - MIB
  - Downlink System Bandwidth
  - Number Tx Antennas
  - Reference-Signal Tx Power
  - System Frame Number
  - SU-1 Scheduling Information
- Downlink Shared Channel (DL-SCH)
  - SIBs
  - PLMN Identities
  - Tracking Area Code
  - Cell Identity
  - Cell Barring
  - Cell Reserved
  - Cell Reservation Extension
  - Value Tag
  - SU Scheduling Info
  - SIB Mapping Information

## Receiver Specifications

### Frequency Coverage:

ITU Quad-Band Tuner	925-960 MHz 1805-1880 MHz 2110-2170 MHz 2590-2690 MHz
ANSI Quad-Band Tuner	690-800 MHz 869-894 MHz 1930-1990 MHz 2110-2170 MHz

(Other frequency bands are available.)

### Amplitude Accuracy:

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

### 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
- Vehicle Power Outlet Adapter Cable
- Ethernet LAN Crossover cable
- Omni-directional Cellular/PCS Band Antenna with Magnetic Mount and Coaxial Cable
- Internal GPS with Antenna
- Operator's Manual

### Options:

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

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20250 Century Blvd., Suite 300 | Germantown, MD 20874-1114  
Phone: (301) 916-5554 | Fax: (301) 916-5787  
www.drtd.com | marketing@drtd.com