Digital Receiver Technology, Inc.

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 three (3) years.

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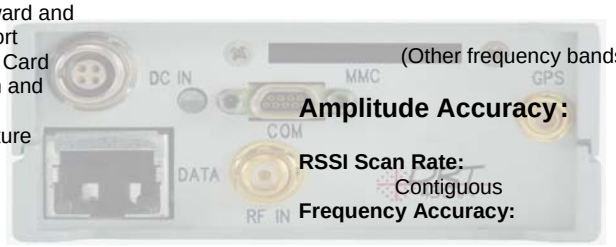
Measurements and Features

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 SDCCH
  - -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 ± 1dB -110 dBm to -100 dBm ± 2 dB
RSSI Scan Rate:	
Contiguous	>500 channels/sec
Frequency Accuracy:	0.06 ppm, GPS Locked 0.1 ppm, GPS Unlocked
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 - 50Ω
Internal GPS:	SMB - 50Ω
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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DRT Digital Receiver Technology, Inc.
20250 Century Blvd., Suite 300 | Germantown, MD 20874-1114
Phone: (301) 916-5554 | Fax: (301) 916-5787
www.drti.com | marketing@drti.com