



4301A - Miniature Test Receiver – cdma2000 / EV-DO

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:

- cdma2000 and EV-DO pilot screening and measurements.
- Real time decoding of cdma2000 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 network discipline for indoor operation.
- 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.
- cdma2000 protocol support for measurements and decoding features with additional model software supporting GSM, WCDMA, WiMAX, TD-SCDMA, LTE...
- 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.

The products described in this document are subject to the export regulations of the Commerce Department. An export license may be required for the sale of these products outside the United States.

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



cdma2000 / EV-DO Measurements:

Channel Average Power
Spectral Display
Pilot Measurements
-Ec/Io
-Pilot Time Domain
-Delay Spread
-Auxiliary Pilots*
-Diversity Pilots*
Code Domain*
Broadcast Data Decode*
* cdma2000 Support Only

cdma2000 Decoding:

Channel Number
Pilot PN Offset
Sync Information
-SID / NID
-Pilot PN Offset
-Page Data Rate
-Protocol Revision
-Minimum Protocol Revision
-CDMA Channel Number
Paging System Information
-Station ID
-Latitude / Longitude
-Number of Paging Channels
-Pilot Detection Threshold
-Pilot Drop Threshold
-Extended Sys Parameters
-Neighbor List Message
-Global Redirect Message
-Home Registration
-Registration Period
-Registration Distance
Paging Channel Access Information
-Number Access Channels
-Max Capsule Size
-Max Preamble Size
-Nominal Transmit Power Offset
-Initial Transmit Power Offset
-Power Increment
-Time Randomization
-Authentication Mode
-Random Value
Extended Paging System Information
-Preferred MSID Type
-TMSI / IMSI_T Supported
-Add / Drop Active Pilot Threshold
-MCC
-IMSI_11_12
CDMA Code Channel Allocation
-Sync Code Channel
-Paging Code Channel
-Walsh Code

Receiver Specifications

Frequency Coverage:

ITU Quad-Band Tuner

400-500 MHz
925-960 MHz
1805-1880 MHz
2110-2170 MHz

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

Ec/Io Sensitivity:

-21 dB; 2048 taps (cdma2000)
-21 dB, 16 half-slots (EV-DO)

Pilot Scan Time:

10 - 250 msec; 2048 taps (70 msec typ.)

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)
1.25 lbs. (567 g)

Weight:

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 Ω

Internal GPS:

SMB - 50 Ω

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
- Internal GPS with Antenna
- Operator's Manual

Options:

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

Receiver
Shown
Full Size

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The One
Measure for
Wireless
Performance