



DRT

Digital Receiver Technology, Inc.



4301A - Miniature Test Receiver - WCDMA

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 WCDMA 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.
- Option of localized logging to removable flash device.
- Quad-band model for switched support—band coverage of forward channels or dual band model for both forward and reverse channels.
- WCDMA protocol support for measurements and decoding features with additional software supporting GSM, cdma2000, 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.

The One
Measure for
Wireless
Performance

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.

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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

WCDMA Measurements:

Channel Average Power
Spectral Display
Synchronization Channel
-PSCH Ec/Io, time
-SSCH Ec/Io, time
CPICH Pilot Measurements
-Ec/Io
-Pilot Time Domain
-Delay Spread
-Secondary Pilots
-Diversity STTD
Code Domain
PCCPCH Measurements and Decode

WCDMA Decoding:

Channel Number
Scrambling Code
Identification Info (MIB, SIB1, SIB3)
-Cell Identity
-PLMN Type
-Mobile Country Code
-Mobile Network Code
-URA Identity
Cell Selection Parameters (SIB3)
-Search Thresholds
-RAT List
-RAT Identifier
-Qual min
-RxLev min
-Hysteresis
-HCS Serving Cell
-Max UL Power
-Cell Barred Indication
-Operation Reservation
-Access Class List
Common Channel Configuration (SIB5)
-PICH Power Offset
-AICH Power Offset
-PCCPCH Diversity Indication
-PRACH Info
-Primary CPICH Tx Power
-PRACH Power Offset
-RACH Transmission Parameters
-AICH Info
-SCCPCH Info
-FACH/PCH Info
-PICH Info
-CTCH Allocation Period
Dynamic and Interference Parameters (SIB7)
CPCH Information
Measurement Control Information (SIB11)
Neighbor Cells (SIB11, SIB18)
-Idle mode Neighbors
-MCC, MNC
-Connected mode Neighbors
-MCC, MNC
Network Information (SIB1)

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 ± 1dB
-110 dBm to -100 dBm ± 2dB

Ec/Io Sensitivity:

-21 dB ; 2048 taps

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)

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
- Internal GPS with Antenna
- Operator's Manual

Options:

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

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