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 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

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
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 ± 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

Receiver Shown Full Size

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