



4203A – Wireless Test Transceiver

The Benefits of Scanner and Phone Based Measurements, Combined

DESCRIPTION

Network operators know when it comes to wireless network performance, it is important to both find the problems and diagnose the causes. To address this need, DRT has created a transceiver solution that possesses the capability of both test mobiles and scanners. The 4231A has the following features:

- Support for a single protocol covering all appropriate bands, including both forward and reverse channels.
- Combined phone and scanner capability for more accurate representation of the subscriber experience.
- Onboard set management to emulate multiple phone operation.
- Cell reselection and handover processes managed within the platform.
- Support for up to 2,000 user scheduled measurement entries.
- Support of most popular drive test measurement along with data decoding capability beyond normal drive-test scanners.
- Support of indoor IS-95 pilot measurements without the need for GPS.
- Ability for time slot based measurements for TDMA, GSM, and iDEN. Slot type and activity may also be observed.
- Better QoS analysis through measurements that can follow channels that hand-off or are frequency hopped.
- Phone obsolescence no longer a problem
- Transceiver software customizable for other applications.
- 100 Mbps Ethernet interface to the host allows for high throughput of logged test data and remotable operation.
- Integrated Spectrum Analysis Tool for all protocols and bands.
- Small size and low weight.
- Low power

**The One
Measure for
Wireless
Performance**

Measurements Supported

GSM Transceiver:

Channel Average Power
CW Power
Time Slot Power
Spectral Display
Time Slot Activity
Hopping Parameters
Dropped/Blocked Call Activity
AMR Support
BER, BLER
C1, C2
RXLev, RXQual
BSIC
Cell Identity
MCC/MNC/LAC
RACH Parameters
Neighbor Cell List
Cell Selection Parameters
GPRS Indication
Other Broadcast Messages
Forward and Reverse Channel Support
EDGE Modulation Support *
GPRS PBCCH Info

cdma2000 Transceiver:

GPS Assisted Pilot Scan
Indoor Pilot Scan
Spectral Display
Dropped/Blocked Call Activity
BER/FER
Active/Candidate Set
Pilot Multipath
Code Domain
System Parameters
Access Parameters
Neighbor Cell List
Channel List

* Future

IS-136 Transceiver:

Channel Average Power
CW Power
Time Slot Power
Spectral Display
Time Slot Activity
Dropped/Blocked Call Activity
BER
SAT, DCC, DVCC
System Identity
DCCH Structure
Neighbor Cell Information
Registration Parameters
Access Parameters
Selection Parameters
Other Broadcast Messages
Forward and Reverse Channel Support
GAIT Support

WCDMA Transceiver:

TBA

iDEN Transceiver: *

Channel Average Power
SubCarrier Power
CW Power
Time Slot Power
Dropped/Blocked Call Estimate
Spectral Display
Time Slot Activity
DCC
Cell Identity
MCC/NDC/LAI
Access Parameters
Neighbor Cell List
Handover Parameters
Reselection Parameters
Forward and Reverse Channel Support

WLAN Transceiver:

Channel Average Power
Packet Length
Protocol Version
Packet Type
Packet Subtype
STA-AP, AP-AP Indication
WEP Indication
BSSID
MAC Parameters
Rate/Symbol Type
Code Multipath
Spectral Analysis
FER
Throughput

Interfaces

Host Link: RJ45 - Ethernet 100 Base T
RF Input: SMA - 50Ω
RF Output: SMA - 50Ω
Internal GPS: SMB - 50Ω
External GPS Data: Mini DIN - RS232
Dead Reckoning Input: Mini DIN

Physical

Dimensions: 1.2"H x 6.1"W x 6.7"D
Weight: 3.6 lbs.
Operating Temp: 0° to +50° C.
Power Consumption: 15 W
Power Required: 6-34 VDC

Host Application OS: Windows 2000, NT, XP

Standard system ships with:

- External AC Power Adapter & cables
- User Requested Protocol
- Basic Measurements
- User-friendly software with online help
- Ethernet crossover cable
- Omni-directional Cellular/PCS Band antennas with magnetic mount and coaxial cable
- Carrying Case
- Battery Cable
- Cigarette Lighter Adapter Cable

Options:

- Fully configured Laptop including installed Ethernet card & CD-ROM Drive
- Application Programming Interface Drivers and Documentation
- Internal GPS
- Internal GPS with Dead Reckoning
- Training Video on CD-ROM
- Advanced Measurements

Radio Specifications

Band Coverage:

Selected protocol bands in the range of 400-2500 MHz.

Amplitude Accuracy

-100dBm to -25 dBm +/- 1dB

RSSI Scan Rate

Contiguous, single protocol 300 channels/sec

Pilot Scan Time:

GPS assist IS-95/cdma2000: 500 msec
Indoor IS-95/cdma2000: 1400 msec
WCDMA: 480 msec

Frequency Accuracy:

0.06 ppm

Noise Figure:

10.0 dB

Input 3rd Order Intercept

-5 dBm

Phase Noise

-90 dBc at 10 kHz offset

VSWR

2.5:1

Internal Generated Spurs

-110 dBm

Maximum Safe Input

+15 dBm

Exiter Output Power

1 Watt

Output level Range

32 dB

Output level Resolution

1 dB

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