

COLLECT DATA ALL DAY PROCESS IN MINUTES

Xi GSM / WCDMA

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X-TEL's GSM / WCDMA test system provides performance data on both uplink and downlink paths to test GSM and WCDMA networks. X-TEL Xi applications include coverage verification, handover optimization, power control analysis and system performance troubleshooting. X-TEL Xi is the only integrated data collection and post processing system on the market that supports as many as 23 devices composed of test mobiles and instrument grade scanning receivers. All critical metrics can be displayed in tables, graphs and in user-defined maps.

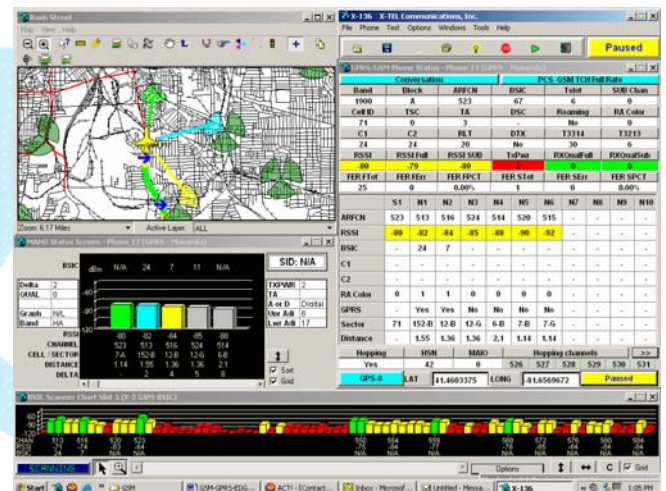


Dedicated WCDMA Scanner

X-TEL's WCDMA scanning receiver is an instrument grade software radio that provides unparalleled precision and user-defined options for the measurement of WCDMA networks.

X-TEL's WCDMA scanner supports RSSI scans, Spectrum Analyzer mode, Synchronization (SCH) scans, Primary Common Control Physical Channel (PCCPCH) scans and CPICH scans.

The CPICH scan measures and reports E_c/I_o for specified pilots in the CPICH. Additional parameters for each scan include Receive Strength Code Power (RSCP) E_c , peak, aggregate, delay spread and time offset.



CPICH (Common Pilot Channel) Pollution

Use X-TEL's Xi system to identify areas where the test mobile receives signal from too many cells. Cells that are not part of the Active set can cause interference and may not add to the soft handover gain. X-TEL's integrated WCDMA scanner automatically identifies these areas and alerts the engineer using CPICH pollution graph displays, events on the map and via user defined audio alarms.

CPICH Missing Neighbors

Missing neighbor analysis identifies cells with high CPICH that are not included in the Neighbor Cell set. These cells are not included in the Monitored Set and hence, will not be available to become part of the Active Set. This may decrease the quality and efficiency of the network.

Real Time Display

The real-time display shows many GSM / WCDMA specific screens consisting of engineering and network performance data. A moving map displays vehicle position, active serving base station, neighboring sites, and colored attributes depicting parameters such as: handover state, dropped calls, RxLev (RSSI), Aggregate E_c/I_o and many more. Color lines extending from the test vehicle's current location to base station sectors indicate whether the sector is a server, neighbor or candidate neighbor. These advanced capabilities of the real-time display enhance rapid identification of missing neighbor sites and serving sectors with poor signal or quality.

X-TEL GSM / WCDMA Functional Specifications

The Nokia 6550 test mobile is one of the first terminals supporting GSM/WCDMA for 900/1800 MHz networks. X-TEL will also offer a 1900 MHz solution once available.

Nokia 6550 UE Terminal

- Dual Band Terminal: 900 MHz and 1800 MHz Available; Models for Americas markets available soon.
- Integrated Digital VGA Camera
- High Speed Data
 - Up to 57.6 Kbs in circuit switched data networks
 - Up to 384 Kbs (DL) and 64 Kbs (UL) in WCDMA PS networks
- WAP 1.2.1 over GPRS data in both GSM and WCDMA modes

WCDMA Parameters

- MCC, MNC, URA, LAC, RAC, Cell ID, RRC State
- UARFCN
- Primary and Secondary Scrambling Code
- Primary CPICH Ec/I0 and CPICH RSCP
- UTRA carrier RSSI
- Actual and Target SIR
- Power Control and Initial transmission power
- Preamble step size and transmission count
- Tx power used in RACH message
- UE transmitted power
- Ack PRACH/PCPCH preambles

Inter-frequency neighbor cells: (8 neighbors, 1 frequency)

- UTRA Carrier
- Primary scrambling code
- Primary CPICH Ec/I0
- Primary CPICH RSCP
- UTRA carrier RSSI
- URA, LCA, RAC

Inter-system neighbor cells: (4 neighbors GSM)

- BSIC, Rx Level
- GSM Carrier number
- C1, C2

Traffic Volume Parameters

- Transport channel type
- Transport channel ID
- RLC buffer payload
- Average RLC payload
- Variance of the RLC payload

Quality Parameters

- Transport channel BLER
- DL CRC error statistics
- Raw BERTest Mobile Options

Xi GSM / WCDMA Standard Features

- Real time map display showing vehicle position and key metrics
- Base station database conversion and display
- Customizable screen and window configurations
- Automatic data testing with FTP connection
- Automatic Dial/Terminate with user defined timers and auto redial
- In-building / Campus Navigation Software
- Integrated data throughput analysis including application, RLC and LLC throughputs
- Audible alerts utilizing Windows standard WAV files
- User defined Heads Up Display (HUD)
- Auto post-processing and plot generation
- Call monitor (hand-over, dropped, RSSI, Ec/I0, etc.)
- Synchronized playback customizable windows and wave file support
- Planet, Wizard, ASCII export utilities

Xi WCDMA Scanner Specifications

- Frequency Range (Downlink): IMT-2000 2100MHz / PCS 1900 MHz
- SCH Scan: Measures and reports Eps/I0 and Ess/I0 for the synchronization channel for 2560 chips in the time slot
- CPICH Scan: Measures and reports Ec/I0 for specified pilots in the CPICH.
- Top N: Measures and reports on the top N CPICH pilots in descending Ec/I0 order where N<33.
- PCCPCH Scan: Measures and reports Epc/I0 for the specified scrambling codes in the Primary Common Control Physical Channel.
- Bandwidth: 3.84 MHz or 200 kHz
- Accuracy: +/- 1.0 dB on Ec/I0 and I0
- Minimum discernable signal: -22 dB with highest correlator length
- Operating RF Input Signal Range: -120 to -20 dBm
- Protection against spurious response interference: > 88 dB
- Operating Temperature Range: 0°C to +50°C

SERVICE AND MAINTENANCE

Each new EGPRS system comes standard with a 12-month repair/exchange warranty, 24X7 technical support, software upgrades and training.

Upgrade pricing are for units under a current service and maintenance agreement.