

UGX Optima Platform

Multiple UMTS/GSM Firewall and Analysis Tool

The cellXion range of GX & UGX Cellular Intercept, Firewall & Analysis products are designed to provide Law Enforcement, Security Services and Military officers with a comprehensive set of tools to combat the growing use of mobile communications technology in crime and terrorism.

The UGX Optima Platform offers a modular and versatile approach to configuring your cellular analysis requirements. It allows for the easy configuration and upgrade of numerous cellular frequencies and technologies (GSM/UMTS), allowing a greater flexibility and future proofing of the investment made in this platform.

KEY FEATURES

Identified Subscriber Information

- IMSI, IMEI, TMSI, system GPS latitude and longitude, SIM swap, MS activity, Timing Advance*, RxLev Measurements*, geolocation*.

Operation modes

- **Targeted mode:** Acquire, Lock Targets, Release Others
- **DF mode:** Acquire, Lock & Locate Targets, Release Others
- **Firewall mode:** Acquire, Lock All
- **Global Denial of Services:** Disable all handsets except operationally friendly
- **Virtual Network:** Clandestine "network in-a-box" feature for a standalone network for operations to use in place of no coverage or during times of real net instability.

Technology

- Integrated database engine: real time indexing, filtering and analysis, IMSI, IMEI, PLMN lookup, SIM swap detection, Roaming detection.
- New VC4/VC6 Voice and SMS interception option for designated targets (under development.)
- IP interconnection between hardware and client controllers.

- MySQL database ensures rapid and stable operation.
- Downloadable java client for both Windows and Android operating systems allows access to system from remote locations.
- Optimised for target acquisition and location.
- Custom designed mapping engine integrates with GPS and Measurement Reports.

Power output specification

The OPTIMA and 330 series are (per NodeB);

- CPICH: 32dBm / 1.6W
- Average: 35dBm / 3.2W
- Peak: 42dBm / 16W

The UMTS output power is checked against ETSI TS25.141 Test Model 1 for linearity and quality, measurements made on a R&S CMU300 cellular test set.



SPECIFICATION

- High Power Dedicated Embedded Controller PC
- Removable Hard Drive with Embedded Linux OS
- High Speed Digital Scanner for 850, 900, 1800, 1900, 2100 MHz frequency ranges
- Integrated Backup Power Supply for Data Preservation
- Controls up to ten transceivers (any combination; GSM UMTS/CDMA)
- USB port for extracting mission data & software updates via USB dongle
- Integrated 802.11b/g Wireless Router
- Six LAN Ethernet ports for connection to modules & Client PCs
- Internet facing firewall for remote client operation
- Web server provides software for Client PCs
- Web interface supports software updates for all modules
- Compact 19" 1U enclosure, 4.5 kilograms
- Carrying handles for use without rack enclosure
- Busbar support for tidy power pass-through
- Fan assisted cooling
- Network listen capability

Alternative Configurations

- High Speed Digital Scanner for GSM/UMTS/CDMA 850/1900 [USA]

- Automated 4-way switching of 5 separate GSM/UMTS signals for alternative antenna configuration (4 GSM, 1 UMTS2100)
- Software configuration for omni-directional and directional antennas supported
- Plug-n-play compatibility with cellXion's Optima platform
- 19" 2U enclosure, 6 kilos.
- Busbar support for integrated power management
- Fan assisted cooling
- VSWR < 1.5:1
- Colour coding of the different bands

- 110V or 220V AC mains operation (auto switching)
- 24V to 32V DC operation
- In-Vehicle Remote On/Off capability
- Compact 19" 1U enclosure, 5 kilograms
- Busbar support for tidy power pass-through
- Fan assisted cooling in AC operating mode



The OPTSCU is the system controller for the OPTIMA range of products and contains all the necessary embedded software and components to facilitate the correct operation of the OPTIMA plug-n-play transceiver architecture.



The antenna switch unit from cellXion allows for software controlled, automatic switching of the GSM and UMTS (2100MHz) transceiver signals to enable operators to quickly and easily switch between a combination of 4 different antennas. With plug-n-play technology, it is easy to upgrade your existing Optima solution giving an automated RF solution to a variety of different antenna configurations.



The OPTPSU is a power supply module dedicated for the OPTIMA's requirements.

*Included with all modules



The OPT3U21 is a three transceiver UMTS Base Station System for mobile identity acquisition on the UMTS 2100 MHz band. The OPT3U platform is based on real COTS transceivers, performing acquisition in 3G mode, not jamming.



The OPT2G918 is a dual transceiver GSM Base Station System for mobile identity acquisition, control and monitoring on the GSM900/1800 bands.

NEW UMTS 900



The OPT3U90 is a three transceiver UMTS Base Station System for mobile identity acquisition on the UMTS 900 MHz band. The OPT3U platform is based on real COTS transceivers, performing acquisition in 3G mode, not jamming.

Angle of Arrival (AoA)



The AoA receiver is a powerful vehicle based geo-location tool designed for the detection of GSM uplink traffic channels. It is designed to work in conjunction with the cellXion stimulation tools to tune to a specific mobile phone transmission. Working together with the digital mapping capability of the GUI, it will enable early identification and location of a specified MS.

SPECIFICATION

- High Power Dedicated Embedded Controller PC
- Up to three UMTS 2100 transceivers. The UMTS output power is checked against ETSI TS25.141 Test Model 1 for linearity and quality, measurements made on a R&S CMU300 cellular test set.
- CPICH Transmit Power Control in 2dB steps down to 320mW
- 3GPP R5 Compliance (Local Area Cell TS25.104/V6.8.0)
- Commercial Grade hardware
- HCS Priority makes cell more attractive to UEs
- Legitimate 3G identity acquisition without GSM mode
- Firmware upgradable via OPTSCU

Alternative Configurations

- Can be supplied as 1, 2 or 3 transceivers of any one band
- Flexible, inexpensive upgrade path

- Two 20W GSM transceivers
- Transmit Power Control in 2dB steps down to 130mW
- GSM05.05 Receiver Compliance
- "Feels Like" function makes cell more attractive to UEs
- Each transceiver independently configurable
- Busbar support for tidy power pass-through*
- Heat dependent fan assisted cooling*
- Compact 19" 2U enclosure, 9 kilograms*

Alternative Configurations

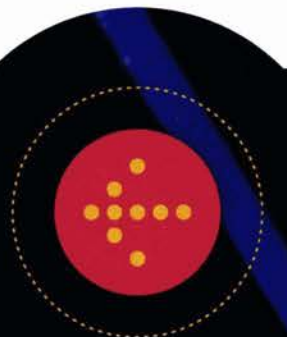
- Also available in 850/1900 MHz GSM
- Compatible with various Direction Finding (DF) equipment for enhanced geo-location capability

- Up to three UMTS 900 transceivers. The UMTS output power is checked against ETSI TS25.141 Test Model 1 for linearity and quality, measurements made on a R&S CMU300 cellular test set.
- CPICH Transmit Power Control in 2dB steps down to 320mW
- 3GPP R5 Compliance (Local Area Cell TS25.104/V6.8.0)
- Commercial Grade hardware
- HCS Priority makes cell more attractive to UEs
- Legitimate 3G identity acquisition without GSM mode
- Firmware upgradable via OPTSCU

Alternative Configurations

- Up to three UMTS 900 or three UMTS1900 transceivers
- Can be supplied as 1, 2 or 3 transceivers of any one band
- Flexible, inexpensive upgrade path

- State of the art timeslot driven solution for acquiring the direction of one or more stimulated GSM sources
- Plug and Play architecture
- Completely integrated with UGX platform and GUI
- Geo-location capability combined with OSM engine to give CEP with probability zones.
- LOB indication with +/- 2% accuracy
- Compact 2U module



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