cellixion
L t d

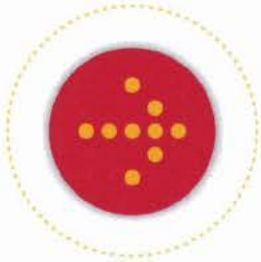CELLULAR INTELLIGENCE SOLUTIONS

NORTH AMERICA

CELLULAR SOLUTIONS

Technology leading multi-protocol, multi-frequency cellular intelligence solutions catering for law enforcement and military operational needs around the globe.

GEO-LOCATIONS TOOLS

Complimentary equipment to enable early identification and location of specified hardware devices.

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.

*Options available. Commercial in confidence

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 USM 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]

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.

- 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

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.

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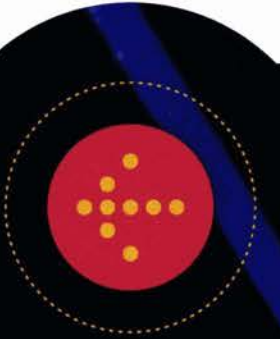
Alternative Configurations
- Also available in 850/1900 MHz GSM
- Compatible with various Direction Finding (DF) equipment for enhanced geo-location capability

- 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.
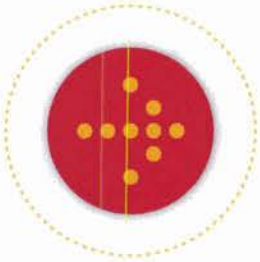- LOB indication with +/- 2% accuracy
- Compact 2U module

UGX Series 330

Transportable Dual GSM/ Triple UMTS 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.

KEY FEATURES

- Compact device integrated into custom 1550 Pelicase, capable of operation in Vehicle or a static location.

- Contains two fully functional commercial grade GSM (900/1800MHz or 850/1900, 20W) BTS transceivers and any combination of up to three UMTS 2100MHz, 3.2W) Node B transceivers.

- Built-in 'environment monitor' to assess the number of networks in an area, their respective configurations, and provide information to optimize user configuration of the BTS transceiver modules.

- Comprehensive identification of IMSI, IMEI and TMSI information with dynamic control capability including comprehensive denial of service.

- Simultaneous high speed acquisition of handsets (up to 1500 per minute), across up to five networks.

- The optional 'In Network Calling' allows calls to be made within the UGX system (GSM only).

- cellXion 'Feels Like' function uses BCCH manipulation to give a virtual power effect of up to several thousand watts.

- Excellent RF performance in high multi-path environments.

- Each transceiver is independently configurable for all network parameters, and can transmit between 130mW and it's maximum power in 2dB steps.

- The unique cellXion software client and GUI (graphical user interface) is consistent across the entire range of cellXion GX & UGX cellular intercept products.

Optional add-on
UGX Series 400

Slave unit with the capability of up to 3 transceivers on two different UMTS channels (850, 900, 1900, 2100MHz)

cellXion

- Optional Covert Call (TK) software application to provide a covert call capability to lock a target handset for direction finding using the cellXion MSL or other suitable DF systems.

- Optional Measurement Reports (MR) software application to provide handset geo-location and a mapping interface using timing advance, RxLev & RxQal measurement.

- Full support for GPS logging.

- Downloadable Java Client for use on alternative PC.

- Downloadable Android client for use on Android smart phone.

- Comprehensive database featuring handsets cross referenced against IMEI, and networks against PLMN.

- Built-in 802.11 Wireless Access point supporting full remote control. The communications protocol is proprietary and self-optimises to accommodate the bandwidth available.

- Uplink port for connection to a WAN facilitating remote diagnostics and simple software upgrading.

- Measurement reporting and full integration of DF equipment to facilitate a one-stop solution to target acquisition and geo-location.

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

- Dimensions: W428mm x D524mm x H206mm
- Weight: 19.5kg
- Two GSM (1 x 900/1 x 1800) transceivers
- Up to three UMTS 2100MHz transceivers
- Can be powered by vehicle battery, 24-32V DC (24Vdc recommended), or mains via an AC adaptor.
- Transmit Power Control in 2dB steps down to 130mW
- GSM05.05 Receiver Compliance
- 'Feels Like' function makes cell more attractive to UEs
- 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
- Each transceiver independently configurable
- Robust peli-case enclosure
- Easy access side panels
- Heat dependent fan assisted cooling
- 110v or 220V ac mains power supply included
- Controls up to ten transceivers (any combination; GSM/UMTS/CDMA)
- Integrated 802.11b/g Wireless Router
- Internet facing firewall for remote client operation and remote support
- Web server provides software for Client PCs
- Web interface supports software updates for all modules

ALTERNATIVE CONFIGURATION

- Also available in GSM850/1900 variant [USA]
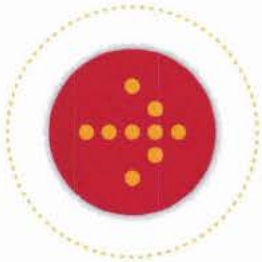- Compatible with various Direction Finding (DF) equipment for enhanced geo-location capability

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UGX PENTA
Portable Dual GSM/Triple UMTS 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.

KEY FEATURES

- Compact portable device designed for simple deployment in a rucksack or sports bag and supplied with an Android smart phone controller (or optional Windows Notebook pc).

- Contains two fully functional commercial grade GSM (900/1800MHz or 850/1900, 200mW) BTS transceivers and any combination of three UMTS (900 / 2100MHz 32mWav) Node B transceivers with excellent RF performance in high multi-path environments.

- The transceivers are independently configurable for all network parameters, and can transmit between 0.1mW and maximum power in 2dB steps.

- Built-in 'environment monitor' to assess the number of networks in an area, their respective configurations, and provide information to optimize user configuration of the BTS transceiver modules.

- Comprehensive identification of IMSI, IMEI and TMSI information with dynamic control capability including comprehensive denial of service.

- Simultaneous high speed acquisition of handsets (up to 1200 per minute), across up to five networks.

- The optional 'In Network Calling' allows calls to be made within the UGX system (GSM only).

- cellXion 'Feels Like' function uses BCCH manipulation to give a virtual power effect of up to several hundred watts.

- Comprehensive mySQL database featuring handsets cross-referenced against IMEI, and networks against PLMN.

- The unique cellXion software client and GUI (graphical user interface) is consistent across the entire range of cellXion GX & UGX cellular intercept products.

- Optional UGX PENTA Power Amplifier for vehicle fitting to provides increased power capability up to 20W per GSM transceiver channel and 3.2W CPICH for UMTS channels.

- Optional Covert Call (TK) software application to provide a covert call capability to lock a target handset for direction finding using the cellXion MSL or other suitable DF systems.

- Optional Measurement Reports (MR) software application to provide handset geo-location and a mapping interface using timing advance, RxLev & RxQal measurement.

SPECIFICATION

- Dimensions: W260mm x D300mm x H175mm
- Weight: 7Kg
- Two 200mW GSM transceivers (900MHz/1800MHz) or (850/1900)
- Three 32mW UMTS Node B transceivers of any combination of either 900 or 2100MHz
- Optional Power amplifier for vehicle fitting to give 20W GSM and 3.2W CPICH UMTS output power. 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.
- Power: 24-32V DC or mains via an AC adapter
- 110V or 220V ac mains power supply included
- Two 12Vdc batteries supplied
- Optional power amplifier runs off 12-32Vdc (24v recommended) or mains ac supply
- 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
- 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
- Heat dependent fan assisted cooling
- Integrated controller with embedded Linux OS
- Controls up to ten transceivers (any combination; GSM/UMTS/CDMA)
- Integrated 802.11b/g Wireless Router
- Internet facing firewall for remote client operation and remote support
- Web server provides software for Client PCs
- Web interface supports software updates for all modules

ALTERNATIVE CONFIGURATION

- Also available in 850/1900 MHz GSM and 850/900/1900 MHz UMTS
- Compatible with various Direction Finding (DF) systems

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UGX QUADRA
Portable Dual GSM/ Dual UMTS 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.

KEY FEATURES

- Compact portable device designed for simple deployment in a rucksack or sports bag and supplied with an Android smart phone controller (or optional Windows Notebook pc).

- Contains two fully functional commercial grade GSM (900/1800MHz or 850/1900, 200mW) BTS transceivers and two UMTS (2100MHz, 20mWav) Node B transceivers with excellent RF performance in high multi-path environments.

- The transceivers are independently configurable for all network parameters, and can transmit between 0.1mW and maximum power in 2dB steps.

- Built-in 'environment monitor' to assess the number of networks in an area, their respective configurations, and provide information to optimize user configuration of the BTS transceiver modules.

- Comprehensive identification of IMSI, IMEI and TMSI information with dynamic control capability including comprehensive denial of service.

- Simultaneous high speed acquisition of handsets (up to 800 per minute), across up to four networks.

- The optional 'In Network Calling' allows calls to be made within the UGX system (GSM only).

- cellXion 'Feels Like' function uses BCCH manipulation to give a virtual power effect of up to several hundred watts.

- Comprehensive mySQL database featuring handsets cross-referenced against IMEI, and networks against PLMN.

- The unique cellXion software client and GUI (graphical user interface) is consistent across the entire range of cellXion GX & UGX cellular intercept products.

- Optional UGX QUADRA Power Amplifier for vehicle fitting to provides increased power capability to 20W per GSM transceiver channel and 3.2W CPICH for UMTS channels.

- Optional Covert Call (TK) software application to provide a covert call capability to lock a target handset for direction finding using the cellXion MSL or other suitable DF systems.

- Optional Measurement Reports (MR) software application to provide handset geo-location and a mapping interface using timing advance, RxLev & RxQal measurement.
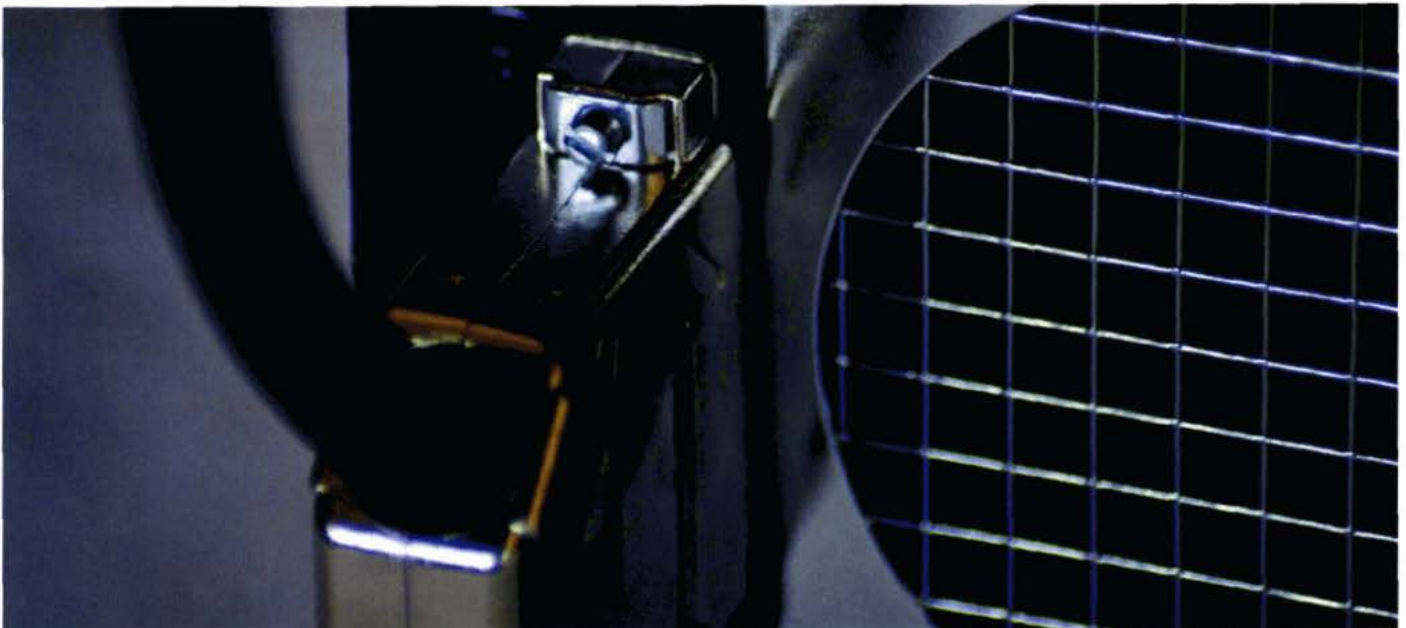
SPECIFICATION

- Dimensions: W257mm x D300mm x H134.5mm

- Weight: 6.5Kg

- Two 200mW GSM transceivers (900MHz/1800MHz)

- Two 20mW (average) UMTS transceivers (2100MHz)

- Power: 12-32V DC or mains via an AC adapter

- 110V or 220V ac mains power supply included

- Two 12Vdc batteries supplied

- Optional power amplifier runs off 12-32Vdc (24v recommended) or mains ac supply

- 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

- 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

- Heat dependent fan assisted cooling

- Integrated controller with embedded Linux OS

- Controls up to ten transceivers (any combination; GSM/UMTS/CDMA)

- Integrated 802.11b/g Wireless Router

- Internet facing firewall for remote client operation and remote support

- Web server provides software for Client PCs

- Web interface supports software updates for all modules

ALTERNATIVE CONFIGURATION

- Also available in 850/1900 MHz GSM and 850/900/1900 MHz UMTS

- Compatible with various Direction Finding (DF) systems

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GX DUO

Portable 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.

KEY FEATURES

- Compact portable device designed for simple deployment in a rucksack or sports bag and supplied with Android Smart phone controller (or optional Windows notebook pc).

- Contains two fully functional commercial grade 200mW GSM transceivers (900/1800MHz or 850/1900MHz or custom combination) with excellent RF performance in high multi-path environments.

- The transceivers are independently configurable for all network parameters and can transmit between 0.1mW and maximum power in 2dB steps.

- Built-in 'environment monitor' to assess all GSM networks in the area, their respective configurations, and provide information to optimize user configuration of the BTS modules.

- Comprehensive identification of IMSI, IMEI and TMSI information with dynamic control capability including comprehensive denial of service.

- Simultaneous high speed acquisition of handsets (> 200 per minute transceiver) across two GSM networks.

- The optional 'In Network Calling' allows calls within the GX system (GSM only).

- cellXion 'Feels Like' function uses BCCH manipulation to give a virtual power effect of up to several hundred watts.

- Comprehensive mySQL database featuring handsets cross-referenced against IMEI, and networks against PLMN.

- The unique cellXion software client and GUI (graphical user interface) is consistent across the entire range of cellXion GX & UGX cellular intercept products.

- Optional GX DUO Power Amplifier for vehicle fitting to provide increased power capability to 20W per GSM transceiver channel.

- Optional Covert Call (TK) software application to provide a covert call capability to lock a target handset for direction finding using the cellXion MSL or other suitable DF systems.

- Optional Measurement Reports (MR) software application to provide handset geo-location and a mapping interface using timing advance, RxLev & RxQal measurement.

SPECIFICATION

- Dimensions: W256mm x D250mm x H90mm
- Weight: 5kg
- Two 200mW GSM transceivers
- Can be powered by battery, 12-32V DC, or mains via an AC adaptor
- Can be powered by lithium laptop batteries (not supplied)
- Optional Power amplifier for vehicle fitting to give 20W GSM
- Power Amp runs off of 12-32Vdc input power, 24Vdc recommended
- Transmit Power Control in 2dB steps down to 0.1mW (130mW on Amp)
- GSM05.05 Receiver Compliance
- Commercial Grade hardware
- "Feels Like" function makes cell more attractive to UEs

- Each transceiver independently configurable
- Heat dependent fan assisted cooling
- 110v or 220V ac mains power supply included
- Amplifier automatically detected by client software
- Integrated 802.11b/g Wireless Router
- Internet facing firewall for remote client operation and remote support
- Web server provides software for Client PCs
- Web interface supports software updates for all modules

ALTERNATIVE CONFIGURATION

- Also available in GSM850/1900 variant [USA]
- Compatible with various Direction Finding (DF) equipment for enhanced geo-location capability

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Android OS Client

The Android OS Client works on Android ver 2.1 and higher smart phones and allows for discrete remote control over the full range of cellXion's GX/UGX products. The easy to use graphical interface communicates via WiFi and allows covert control and data access of the accompanying Cellular intelligence unit. The client software is held on the system controller and can be loaded onto any Android smart phone, enabling a flexible approach to covert, remote control of the equipment.

KEY FEATURES

- Runs on Android 2.1 or greater.

- Requires WiFi for direct connection to GX/UGX systems.

- Recommended handsets: HTC Desire, Galaxy S, Google Nexus One.

- Android Tablet compatible.

Interrogate Mode is designed to force all handsets in the coverage area of the GX system to identify their IMSI and IMEI, store them into a system database, and release the handsets back to the commercial network in a non-destructive manner.

Targeted Mode (GSM only) is designed to force all handsets in the coverage area of the GX system to identify their IMSI and IMEI, store them into a system database, and release the handsets back to the commercial network in a non-destructive manner, with the exception of those handsets designated as 'Targets'. They will be locked to the system until they either go out of range, or the system allows them to be released.

Firewall Mode (GSM only) is designed to force all handsets in the coverage area of the GX system to identify their IMSI and IMEI, store them into a system database, and lock them, thus controlling their capability to make or received calls, SMSs, etc. The exception are handsets designated as 'Operatives', which will be released back to the commercial network in a non-destructive manner.

DF Mode (Native GSM and UMTS via handover to GSM) is designed to force all handsets in the coverage area of the GX system to identify their IMSI and IMEI, store them into a system database, and release the them back to the commercial Network. 'Targets' are then able to be paged for the purposes of direction finding.

QMTS
Quad Modem Telemetry System

The quad modem telemetry system (QMTS) is a multi-role communications platform designed to simultaneously utilise the wireless data networks of up to 4 mobile network operators in a single geographic location. Data is shared between carrier networks and aggregated in a central secure server before being sent to any number of configured client machines. Sharing the data payload across multiple networks leads to higher throughput and greater resilience.

The device has an integrated router that manages the packet queue internally, with all traffic carried over secure tunnels between the QMTS and the secure server. In addition to providing secure, reliable IP transport at up to 4x a single modem solution, the QMTS has built-in GPS for accurate position reporting and tracking.

KEY APPLICATIONS

The QMTS has a wide variety of applications, including:

- Backhaul of video and other surveillance traffic
- Use as a high bandwidth wireless router
- Remote control of missions critical assets
- Vehicle tracking and monitoring
- As a secure communications tool

BENEFITS AND KEY FEATURES

The QMTS has a number of key benefits:

- Higher bandwidth than using a single operator
- Resilience from using multiple networks
- High security of data streams
- System is designed to use low cost standard data SIMs
- Built in router, switch & GPS
- Up to 64 GB of on board storage via micro SD card
- Secure server can be located anywhere including user's own secure data centres
- Secure server serves multiple QMTS devices
- On-board processor able to run bespoke user applications.

QMTS SYSTEM ARCHITECTURE

Data from the the QMTS is split up and transmitted across separate mobile networks to the secure server. The secure server aggregates the data streams in the correct order. Traffic streams to and from the secure server are encrypted and within VPN tunnels. Remote devices such as cameras and surveillance are connected to the QMTS via the two Ethernet interfaces.
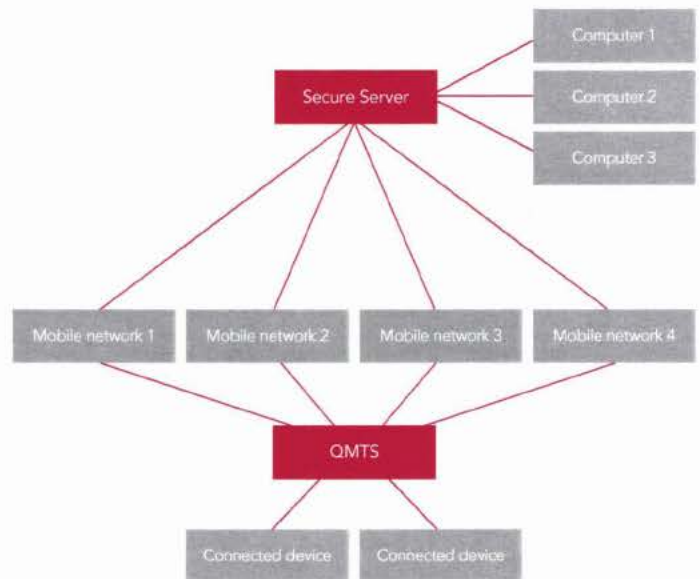
SPECIFICATION

Communications

■ LTE (in development/Q4)	700/800/1800/2600
■ UMTS/HSPA	850/900/1700/1900/2100 MHz
■ GSM/EDGE/GPRS	850/900/1800/1900 MHz
■ GPS	28 Channel Receiver
■ Ethernet	2 x 10/100
■ WiFi dongle included	
■ USB	1 x USB 2.0

Radio Bearers (x4)

■ HSUPA	8
■ UMTS	8
■ EDGE	2
■ GPRS	2

Note: Actual bearer rates depend on a wide range of parameters including distance from base station, number of users and network operator policy. In practice the rates seen by typical mobile data users are usually significantly less than the maximum bearer rates.

External Peripheral Control

- ■ 1x CANBUS for Automotive monitoring and control
- ■ 6x GPIO (3.3v)
- ■ 1x Serial Port (Rx/Tx, No Flow Control)

Encryption

- ■ AES-128, AES-256, DES, 3DES, ARC4 and Blowfish with SHA-1 HMAC for Authentication

Onboard Processing

■ Primary Processor	Freescale i.MX537 800 MHz ARM Cortex-A8
■ RAM	512 MB DDR2-667 SDRAM
■ ROM	128 MB NAND Flash
■ Solid State Memory	Micro SD up to 64GB
■ OS	Linux

Physical dimensions

■ W108.5mm X L104mm X H45mm	
■ Weight	1.1kg
■ Power	11V-33V DC

Secure Server Hardware Requirements

■ Processor	Intel:2 x BX80614L5630–Xeon L5630 2.13GHz Quad Core 12MB Cache (or AMD equivalent)
■ RAM	12 GB
■ Hard Disc	500 GB

For further information please contact us:

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Fax +44 (0) 20 3137 2637 | email sales@cellXion.net

cellXion Ltd Head Quarters:

Hallmark House, 2 Timber Hill Road, Caterham, Surrey CR3 6LD, United Kingdom

NetSecure
Cellular Network Intrusion Detector

Cellular phones are one of the continued biggest growth industries world-wide, and the reliance on them is ever more important. Information of all kinds is conveyed by cell phones, including voice, text messaging, email and internet data. Whilst these devices are highly immune to interception, it is not uncommon for law enforcement agencies to use spoof base station technology to invoke a dialogue with a target handset in order to identify and ultimately locate such devices.

The cellXion NetSecure product is designed to provide Government agencies with a method of identifying the correct operation of mobile handset identification technology and detect it's unauthorised use in sensitive areas.

NetSecure works by monitoring signalling information from legitimate GSM and UMTS base stations in an area and building a "digital fingerprint" of a normal operating environment. This information is analysed over time to establish normal operating heuristics and if a change is detected a warning or alarm state is established.

As well is having the ability to detect the correct functioning of mobile handset identification technology, NetSecure can be used to identify potential espionage risks for cell phone users who are in sensitive areas such as:

- Embassies
- Government buildings (such as police headquarters)
- Military installations

The NetSecure unit is highly portable, requires low power, and also features a GPS interface for accurate time stamping of events. The GPS engine is also used as a timing reference to further improve the accuracy of event detection particularly in the UMTS domain.

A web interface is used for the configuration of NetSecure devices, and SMTP/SMPP interfaces are used for the propagation of alarms to either email addresses or a mobile device via SMS. The detection routines are fully automatic and require no user interaction.

Commercial in confidence

KEY FEATURES

- Self contained high-speed GSM/UMTS wideband digital receiver

- Selectable technology modes: GSM only, UMTS only or both (CDMA under development)

- Available in 900/1800/2100 or 850/1900/2100 frequency variants

- All networks detected, analysed and continuously monitored

- Self-Teaching algorithms to learn local cellular environment

- Highly adaptive change recognition software

- Minimum user interaction required – true "power and go" functionality

- LED status "comfort/alarm" indicator

- Three level alarm status:
  – No Alarm
  – Warning (small change detected)
  – Alarm (highly probable detection of spoofing)

- Alerts for detection of event, and when event expires

- Alerts delivered by email through internal SMTP client or optionally by SMS via internal SMPP client

- Programmable via simple Web interface

- Web interface provides a visual indication of all cells and associated information in the area of operation

- Compact Size: 34mm x 76mm x 165mm
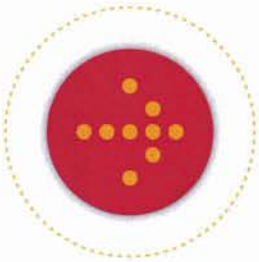
- Low power consumption
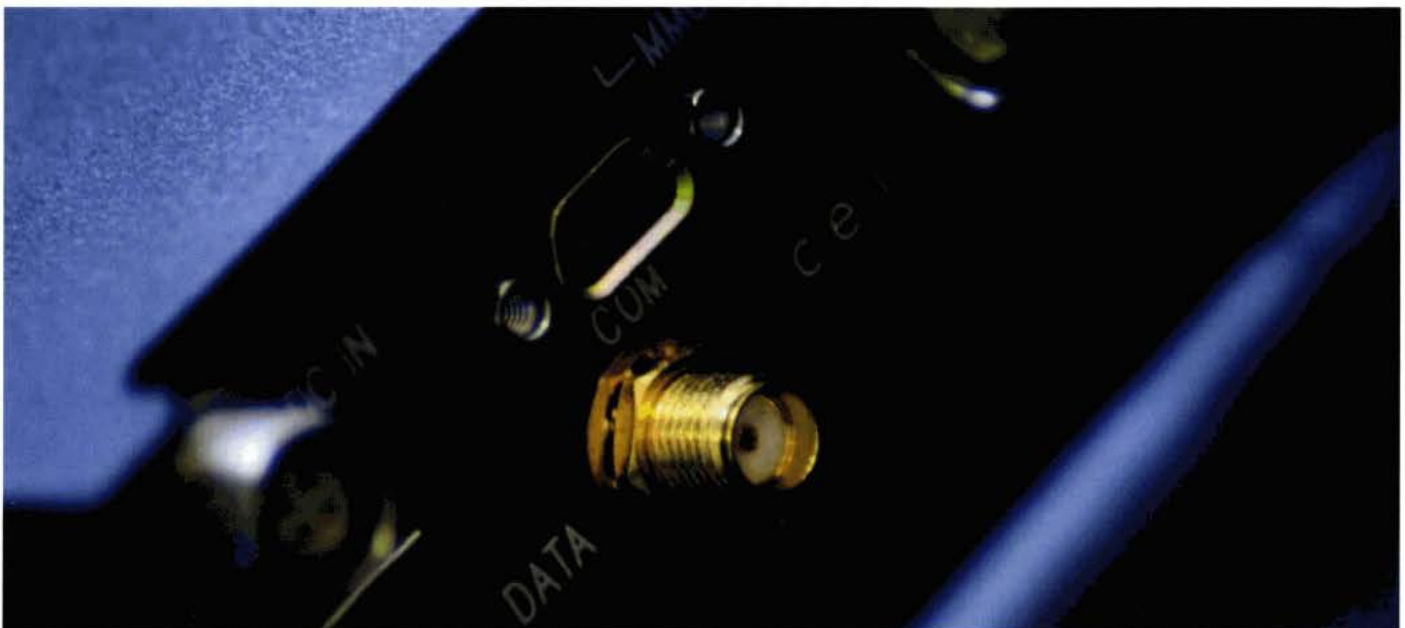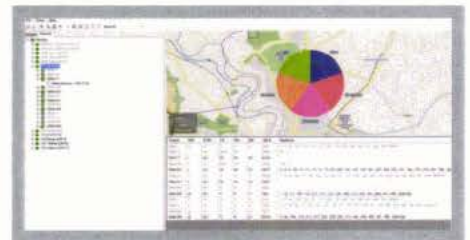
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Professional Services & Financial options

With over 50 years of combined experience in the cellular intelligence market, cellXion are pleased to offer a number of professional services to compliment the product portfolio. With a clear understanding of the customer's requirements, cellXion can offer additional services ranging from training on cellular technology and infrastructure to analysis of the RF environment and installation services.

Additionally, we also offer a number of different financial options for end users to realise the operational budgets as well as pure capital purchases.

Services including;

- Training (cellular infrastructure and operational)
- Cellular consultancy
- RF environmental analysis
- Vehicle installation consultancy
- RF safety measurements
- Alternative financial options

UGX Series 332

Transportable Dual GSM & multiple UMTS Firewall and Analysis Tool

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

KEY FEATURES

- Compact device integrated into custom 1550 Pelicase, capable of operation in Vehicle or a static location.

- Contains two fully functional commercial grade GSM 850/1900 or 900/1800 MHz BTS transceivers plus any combination of up to five UMTS Node B transceivers (3+2 combination only for existing frequencies (850, 900, 1700, 1900, & 2100 MHz).

- Built-in wide-band 'environment monitor' to simultaneously scan and provide information to optimize user configuration of the transceiver modules.

- Comprehensive identification of IMSI, IMEI and other RF identifier information with dynamic control capability.

- Simultaneous high speed acquisition of handsets across multiple networks with full multi-slot capability.

- cellXion 'Feels Like' function uses BCCH manipulation to give a virtual power effect of up to several thousand watts.

- Technology leading UMTS ranges of >1km

- Fully autonomous transceivers for complete operational flexibility

- The unique cellXion software client (both PC and Android) are consistent across the entire range of cellXion GX & UGX cellular intercept products

- Optional Covert Call (TK) software application to provide MS stimulation (GSM/3G) for geo-location of MS using the cellXion MSL or other suitable DF systems.

Continued...

Complimentary equipment
UGX Series 400

- Slave unit with the capability of up to 6 UMTS transceivers on two different UMTS frequencies (850, 900, 1700, 1900 & 2100 MHz)

- QMTS remote enabling device

For further information please contact sales on UK +44 (0) 20 3137 1637 | US +1 (704) 248 6229 or email sales@cellXion.net

- Optional Measurement Reports (MR) software application to provide a digital mapping interface and handset timing feedback for precision geo-location.
- Full support for GPS logging.
- Downloadable Java Client for use on PC and Android handset.
- Comprehensive database featuring handsets cross referenced against IMEI, and networks against PLMN.
- IP port for connection to the internet for remote diagnostics and facilitating easy software upgrading.
- Fully compatible with cellXion's QMTS remote enabling device.
- HCS Priority makes cell more attractive to UEs with legitimate 3G identity acquisition without GSM mode.
- Robust peli-case enclosure wit easy access side panels and heat dependent fan assisted cooling.
- Controls up to ten transceivers (any combination of GSM/UMTS/CDMA.)
- Internet facing firewall for remote client operation and remote support.

Power output specification

GSM 900/1800 maximum output power is 20W per channel (except when configured with UMTS 900 when GSM 900 & UMTS 900 is combined and the maximum output power from GSM 900 is 10W).

The 332 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

- Dimensions: W428mm x D524mm x H206mm
- Weight: 19.5kg
- Two GSM (1 x low band/1 x high band) transceivers
- Up to five UMTS Node B transceivers (Configuration on request)
- Can be powered by vehicle battery, 24-32V DC (24Vdc recommended), or mains via an AC adaptor.
- GSM Transmit Power Control in 2dB steps down to 130mW
- GSM05.05 Receiver Compliance
- UMTS CPICH Transmit Power Control in 2dB steps down to 320mW
- 3GPP R5 Compliance (Local Area Cell TS25.104/V6.8.0)
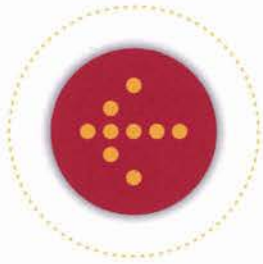
CELLULAR COUNTER-MEASURES

Detection and alerting of unclassified cellular signals in a given area.

PROFESSIONAL SERVICES

Highly focussed and experienced personnel offering complementary services including training, RF environmental analysis, installation consultancy and financial options.

cellxion
Ltd

FORMED IN 2004 BY A GROUP OF INDUSTRY LEADERS, CELLXION LTD ARE A PRIVATELY OWNED UK COMPANY SPECIALISING IN CELLULAR INTELLIGENCE AND GEO-LOCATION TOOLS FOR LAW ENFORCEMENT AND MILITARY USERS.

AN INNOVATIVE AND CREATIVE COMPANY, OUR CELLULAR SOLUTIONS ARE MARKET LEADING IN TERMS OF PERFORMANCE AND CAPABILITY, WITH MODULAR DESIGNS INCORPORATING MULTIPLE TECHNOLOGIES INCLUDING GSM, UMTS AND 4G.

WITH TWO SITES IN THE UK, A US SUBSIDIARY AND AN EXPANDING PORTFOLIO OF CELLULAR EQUIPMENT ON OFFER, CELLXION IS IDEALLY POSITIONED TO REACT QUICKLY AND DELIVER TO THE FAST CHANGING NEEDS OF THE SECURITY MARKET WHILST MAINTAINING THE EXEMPLARY CUSTOMER SUPPORT STANDARDS THAT HAVE BECOME EXPECTED OF THE COMPANY.

UK HQ

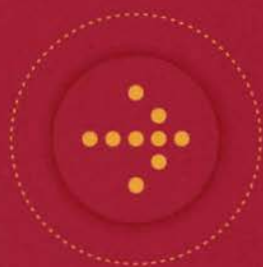EUROPE

MIDDLE EAST

SOUTHERN ASIA

SOUTH AMERICA

SOUTHERN AFRICA

OCEANIA

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