group 2000

Group 2000 B.V.

LIMA
CELL
MONITOR

Solution Brochure

YOUR ARCHITECTS
IN SAFETY AND
INTELLIGENCE

ACTUAL **CELL COVERAGE** AND **CELL SITE SURVEY**

Information on actual cell coverage in mobile networks is very valuable. It provides authorities with more precise information on the exact whereabouts of a cell phone.

Typically such information is provided by the mobile network operators using data from their Radio Planning System. However, this is often a theoretical model rather than the actual coverage of a cell tower in a certain area.

Actual field measurements provide a more accurate and more complete source of information. Such measures can be done through so-called drive tests or a Radio Frequency Propagation Survey (RFPS) covering various areas or focusing on a specific site.

The Group 2000 LIMA Cell Monitor is a valuable feature-rich device for carrying out such precise measurements.

1 Multi-Operator and Multi-Network
Supported in one device.

2 Actual Cell Coverages
Measured actual coverage vs theoretical models.

3 User-friendly GUI
Real time updated coverage information on maps.

LIMA Cell Monitor

The LIMA Cell Monitor is a multi-SIM RF survey device with a small form factor collecting information on mobile networks cells. It can host up to 12 modems and allows measurements to take place in parallel. The LIMA Cell Monitor simultaneously collects information on cells of different mobile operators and technologies (2G, 3G, 4G, and 5G). It is used mounted on a vehicle or fixed position but can also be carried around in a backpack for covert operations.

LIMA Cell Monitor also passively scans 2.4 and 5.0 GHz Wi-Fi SSIDs. The device carries out continuous measurements and binds that to a specific location through the internal or the optional external GPS receiver. A frequency sweep on all channels reads information on the active frequencies producing a single pass snapshot of the RF environment in GSM, UMTS, and LTE – typically within 90 seconds. A central server can upload the measurement information via a mobile data connection on a dedicated modem, stored on an SD card, or copied to an external USB stick.

Cell coverage information

All gathered data from the mobile network can create accurate coverage maps for 2G, 3G, 4G, and 5G networks with the collected information. Next to that, information for coverage maps on Wi-Fi access points is also collected. By importing the measurement files into the supplied database, results can be viewed, filtered, and exported using the Cell Monitor Manager application.

LIMA Cell Monitor Operation & Management

Autonomous operation

The LIMA Cell Monitor can work entirely autonomously without the need for any manual interaction. As such, the LIMA Cell Monitor is ideally suited to be fit to vehicles like police cars, military vehicles for continuously collecting coverage information on mobile and Wi-Fi networks.

Mobile App

To control the LIMA Cell Monitor during surveys or covert operations, a Companion App (Android) is available. The App provides the user with an overview of the Cell Monitor status, its modems, GPS, connected networks with serving cell information and storage status.

It also allows the user to control the assignment of modems to specific networks/technologies, lock modems to particular bands, dial out to a preconfigured number, and scan functionality on various technologies. Via the App, the user can also copy all measurement files to USB and clear the measurement files from the internal storage. The connection between the Companion App and the Cell Monitor is via Bluetooth.
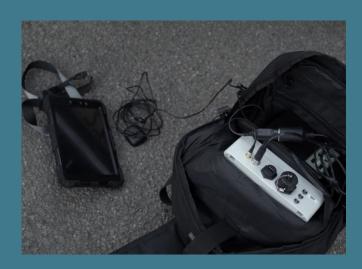
Cell Monitor Manager

While the App is used to control the LIMA Cell Monitor locally, remote management is provided through the Cell Monitor Manager. Using a 4G connection, multiple LIMA Cell Monitors (your fleet) can be controlled remotely from a central location, accessible via a Web interface.

This caters to situations where an expert user cannot go on-site but can support a user in the field. By carrying out the required configuration settings and measurements remotely, expert users can support colleagues, guaranteeing the site survey's quality.

The Companion App supports the main functions used in the field, and the Cell Monitor Manager provides access to the full range of functions. The Cell Monitor Manager can also be installed on a laptop using an Ethernet connection to control the LIMA Cell Monitor directly.

LIMA CELL MONITOR

Capabilities

Output Cell information (serving cells, neighbour cells), Wi-Fi information, GPS location in text files

Automatic configuration of networks based on inserted SIM cards

Measurement interval is 1 second per modem (configurable)

Remote management for configuration and upgrade of firmware LIMA Cell Monitor

Local management through Android Companion App

Passive Wi-Fi for scanning of 2.4 and 5.0Ghz networks

Supports GPS and GLONASS via internal or external antenna

A modem can be configured for transmitting measurement data

Allows measuring of multiple operators and technologies in parallel

Scanning on 2G, 3G and 4G. Also limited scanning support for 5G. Depending on the technology (and modem firmware) scanning functionality may vary.

Technical Specifications

10x 2G/3G/4G modems

2x 3G/4G/5G modems

1x 4G transmit modem

Micro SIM slots

Supported technologies: GSM, UMTS, LTE, NR(SA), Wi-Fi 802.11a/b/g/n/ac

Operating voltage range 8-36V DC

IP rating: IP64

Dimensions 254mm x 180 mm x 83 mm

Internal memory SD card - up to 32GB

Automatically switching External GPS antenna

External USB port

Ethernet adapter

230VAC adapter and 12V car adapter

Referrals

For more information, contact one of our experts:
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FOR YOU WE
CO-CREATE,
WE INNOVATE,
WE DIFFERENTIATE
IN AN EVER-CHANGING
WORLD