floor51

EXCEPTIONAL::SOFTWARE

Get In Touch

+44 (0) 7956 308115
enquiries@floor51.com
www.floor51.com

A suite of products to help wireless operators and service providers survey the radio environment

FLOOR51 ANNOUNCES RX-51 SENTRY, A RANGE OF HIGHLY AFFORDABLE NETWORK SCANNERS

Monitoring has never been so important and it is a crucial part of maintaining service integrity along with the need to verify the network, both in terms of optimisation and security

Add to this the advent of a number of hazards such as rogue cells, unlawful enhancers, IMSI sniffers, jammers, and cheap uncontrolled SDR platforms, there are plenty of unwelcome interference sources out there today, some unintentional and some not. RX-51 Sentry products help provide the required evidence which may be elusive.

As new sites are commissioned, the need to monitor the surrounding radio conditions very closely has become an increasingly important part of the initial optimisation process, particularly for small cells, which may span several weeks. RX-51 Sentry products provide visibility and save time for increasingly complex rollouts.

Constant and plentiful surveillance of the radio environment has been an expensive business for wireless operators and that is why floor51 had developed a range of cost-effective options for deploying radio scanners in the field to monitor the radio environment and alert operators to problems. floor51 offers three solutions:
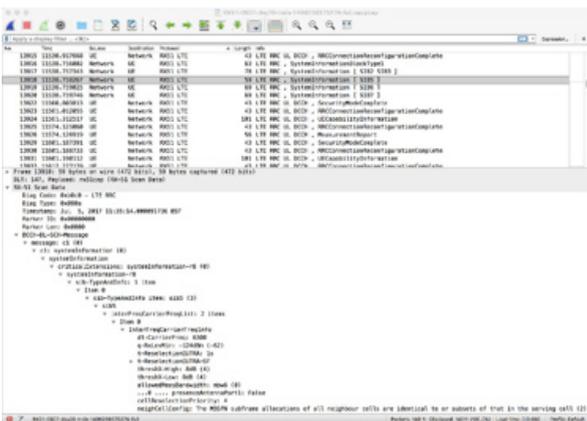
RX-51 SCAN

RX-51 Scan captures layer 3 data from select Android based devices including the Motorola G3.

Use cases include network settings verification, neighbour cell analysis, security checks of the layer 3 data for signs of malicious actors, and network optimisation as sites are brought into service.
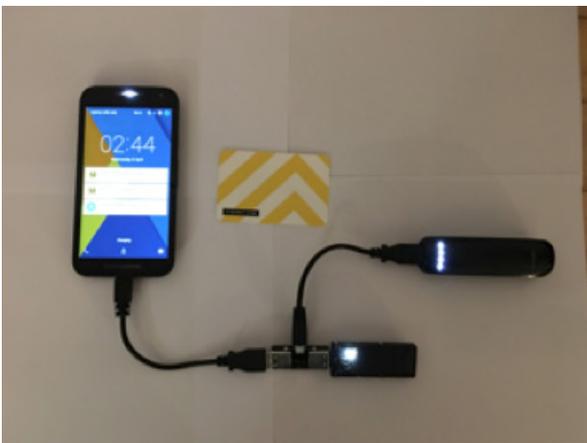
SCAN DEVICE IN SECURE MODE

WIRESHARK TRACE OUTPUT

Features include:

Captures layer 3 data

Configure automatic switching between 2G, 3G and 4G at a prescribed interval, generating signalling traffic

Keep the radio channels active by configuring an automatic ping, resulting in more Measurement Report events being captured

Confidential offline version includes a decoder running on a USB Armory Linux device that extracts and processes logs from the probe(s) and then makes the data available as a PCAP file on a Windows partition on a removable SD card. This provides a high degree of security and confidentiality over the collected data

Online version uploads data to a floor51 server with web based reporting

Optional support for layer 3 analytics and reporting for both the online and offline versions, for example, check all Security Mode Command events and confirm that the negotiated confidentiality and integrity algorithms are as expected

RX-51 MODULES

RX-51 Modules captures layer 3 radio data on GSM, UMTS and LTE bearers from all mobile network operators in a market simultaneously.

Contained in weatherproof and radio friendly enclosures, the scanner can be deployed anywhere in the field and can be fitted permanently in a location or moved around the network.

Use cases include network comparisons, neighbour cell analysis, security checks of the layer 3 data for signs of malicious actors, and network optimisation as sites are brought into service.

STACKED MODULES

TYPICAL ENCLOSURE

Features include:

Captures layer 3 data from cellular modules mounted on Raspberry Pi HATs

Collects data from multiple networks and bearers simultaneously, customers are free to specify

Full support for RAT and band locking

Configure automatic switching between 2G, 3G and 4G at a prescribed interval, generating signalling traffic

Keep the radio channels active by configuring an automatic ping, resulting in more Measurement Report events being capturedconfigurable via a web-based interface either locally over WiFi or remotely for the online version

Confidential offline private version and online upload versions are both supported

Optional support for layer 3 analytics and reporting for both the online and offline versions, eg. check all Security Mode Command events and confirm that the negotiated confidentiality and integrity algorithms are as expected

External antenna can be positioned by the customer and provides similar signal to a phone

Optional weather proof and radio friendly IP-67 rated enclosures and customer specific device and enclosure builds

RX-51 SDR

RX-51 SDR monitors physical waveforms on all bands on all networks in a market simultaneously.

An expected topology is automatically generated and is then used as a baseline from which anomalous activity can be identified.

Use cases include detecting and providing evidence of interference, identification of rogue cell sites and IMSI grabbers, and the verification of new cell sites as a key part of the optimisation process, especially significant in the context of small cells and increasingly so for heterogeneous radio environments.

LIME SDR PLATFORM
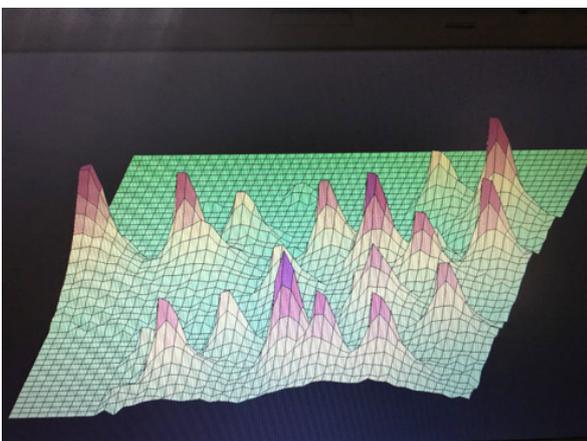
THE WATERFALL TOPOLOGY VIEW

Features include:

Captures the physical power levels of multiple base stations across multiple blocks of spectrum

Automatically create a reference topology of the local radio environment

Captures intermittent anomalies that may occur only very briefly, for as little as 80ms, for which manual data collection is too labour intensive

Confidential offline private version and online upload versions are both supported

Administer either via WiFi locally or via cellular remotely

Physical waveform analytics

Support for alarming and reporting of anomalies

Collected data is used to enhance the detection algorithms

Front end radio enhancements including limiters, band pass filters and low noise amplifiers

High quality external antennae provide the maximum sensitivity and longest range

Optional weather proof and radio friendly IP-67 rated enclosures and customer specific device and enclosure builds