

Detect. Demodulate. Hunt.





A best-in-class frequency analyser designed to evolve with emergent threats.

The Dark Compass is built from the ground up by TSCM operators for TSCM operators and runs real-time sweeps in the 70 MHz to 6 GHz spectrum. With over the air updates, you'll always stay one step ahead of the threat.

The Highlights:

- **Perform real-time broad sweeps** using the frequency analyser or for specific protocols like Cellular, Wi-Fi, Radio, or Bluetooth.
- Receive contextual insights (like device information), and **turn data into lightning fast visual guidance**—so you can quickly find devices or signals of interest.
- **Export all relevant sweep data and screenshots effortlessly** with the tap of a button to any flash drive of your choice.
- See all Wi-Fi network connections and uplink points / terminals using **our interactive network graph**.
- **Real-time indicators for active calls** found in Cellular 2G / 3G sweeps.
- **Remote over-the-air update** capability to bring new features to your Dark Compass.



* Subject to change without notice

Detection & Reporting Features



Frequency Analyser

- Perform real-time trace
- Scans 70 MHz - 6 GHz
 - **[NEW]** Quick scan options for user-defined bands (start/stop points).
 - **[NEW]** Clear trace window button to reset cluttered traces.
- Targeted scanning to increase scan performance
 - **[NEW]** Direct frequency input in Analyse mode (within active scan range).



Bluetooth

- Ability to analyse transmitting devices with:
 - Manufacturer name, MAC address, signal strength
 - **[NEW]** Search/filter function (e.g., type "Apple" to show matching devices).
 - **[NEW]** Enhanced passive metadata (RSSI history, connection intervals).



Wi-Fi

- Interactive network graph to view:
 - Discovered MAC addresses, connections, and device types
 - **[NEW]** Sort/search by SSID, vendor, or signal strength.
 - Note: Performance may slow in dense areas (>800 MACs).



Cellular

- 2G/3G:
 - Real-time analysis and detection
 - **[NEW]** Fixed memory leak in DCS1800/PCS1900 bands.
- 4G/5G NSA:
 - **[NEW]** Full 5G NSA uplink scanning (3.5GHz bands supported).



Radio

- Analog signal demodulation:
 - FM, Wideband, Narrowband
 - **[NEW]** Improved audio clarity and noise reduction.



Direction Finder

Lock-on and hunt potential threats using the Dark Compass' proprietary compass and proximity via Received Signal Strength Indicator (RSSI).



Create and Recall Scans

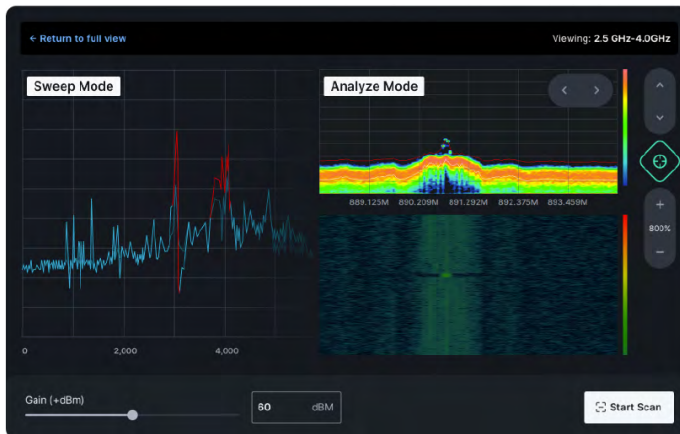
Create and standardise client information, (including site, room, and country details) for quick session setup at a later date.



In-Depth Reporting

Export all relevant sweep data into .csv files and screenshots with the tap of a button to any flash drive of your choice.

Feature Highlights

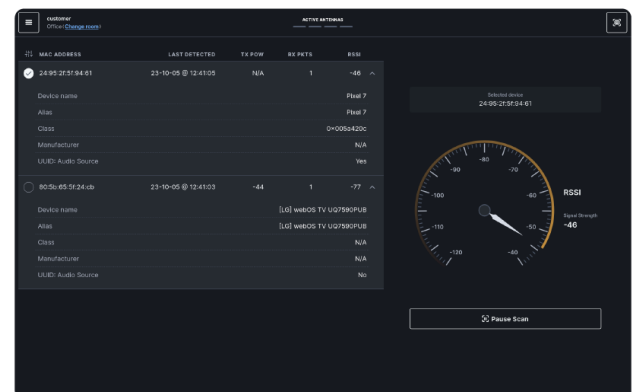


Frequency Analyser

- Real-time Trace and Peak Trace
- Scans 70 MHz - 6 GHz
- Visual indication of receive amplitude change
- Targeted scanning to increase scan performance and accuracy
- Save and Compare Trace
- Zoom in to further analyse frequency of interest or run analysis with raster waterfall

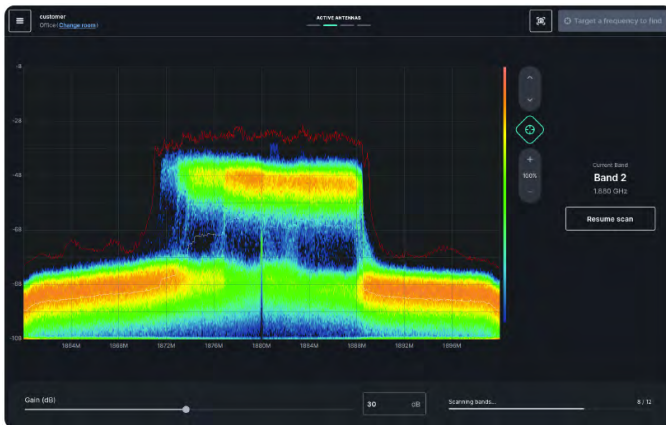
Bluetooth

- Real-time Bluetooth analysis
- Bluetooth and Bluetooth Low Energy (BLE) device scanning
- Ability to analyse transmitting devices with details like manufacturer name
- 80MHz Instantaneous Bandwidth
- Target device to find with RSSI meter



Cellular (2G, 3G)

- Real time 2G and 3G analysis and detection
- Pre-selected bands for local 2G and 3G networks
- Passive interception of devices
- No 'man-in-the-middle' scenario
- Displays active devices in your proximity
- Target device to find with Direction Finder

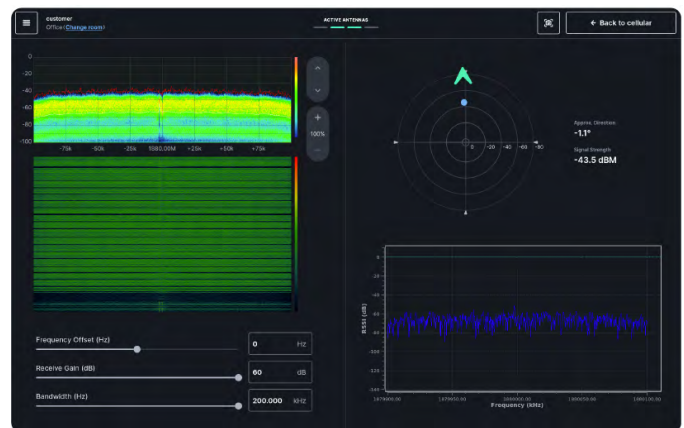


Cellular (4G, LTE, 5G NSA)

- Real-time 4G, LTE, and 5G NSA detection
- Passive detection and direction finding of multiple uplink signals
- Automated scanning of licensed bands within the chosen country
- Database supports 226 country codes
- Interactive raster waterfall to adjust amplitude, zoom view, and store center frequency
- Target frequency to find with Direction Finder

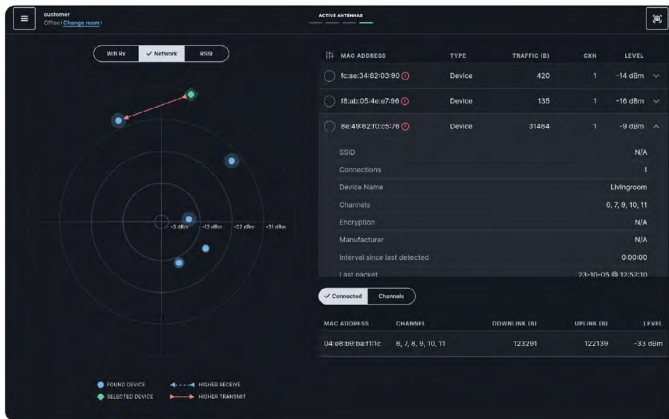
Direction Finder

- Provides captured direction combined with proximity location
- Intuitive frequency, receive gain, and bandwidth fine-tuning
- Interactive raster waterfall to adjust amplitude, zoom view, and store center frequency



Radio

- Real-time Radio Communications analysis
- Analog signal demodulation for FM, Wideband and Narrowband
- Digital signal identification for P25, NXDN, DMR, X2 and Dstar
- Target frequency to find with Direction Finder

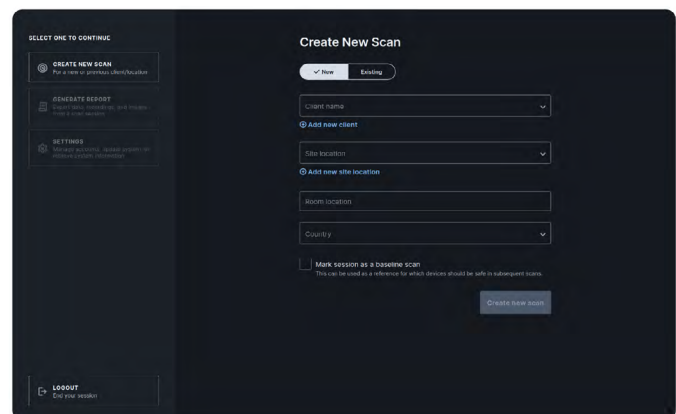


Wi-Fi

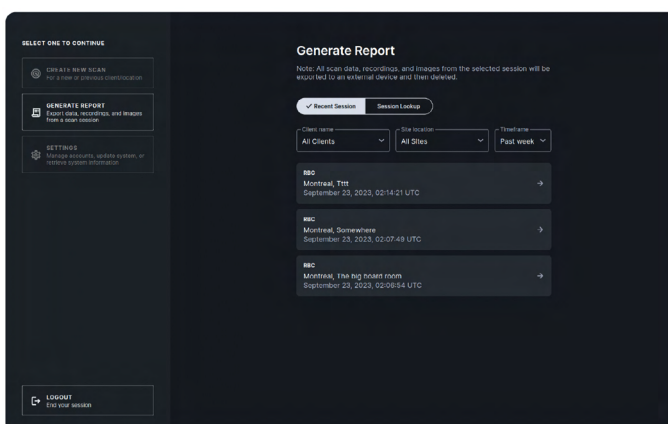
- Real-time analysis of IEEE802.11A/B/G/N/AC/AX (Dual-band under 6 GHz)
- Access point and device analysis on 2.4 GHz and 5 GHz spectrum
- Packet flow analysis to identify potential threats
- Interactive network graph to view all discovered MAC addresses, connections, and contextual data that has been received from devices
- RSSI Direction Finding via MAC address for both devices and access points

Create and Recall Scans

- Create and standardise client information by client name, site location, country, and room
- Recall previously stored client information for quick scan session setup



The screenshot shows the 'Create New Scan' form. It has a sidebar on the left with options: 'CREATE NEW SCAN', 'GENERATE REPORT', and 'SETTINGS'. The main form has fields for 'Client name', 'Add new client', 'Site location', 'Add new site location', 'Room location', and 'Country'. There is also a checkbox for 'Mark session as a baseline scan'.



The screenshot shows the 'Generate Report' form. It has a sidebar on the left with options: 'CREATE NEW SCAN', 'GENERATE REPORT', and 'SETTINGS'. The main form has a 'Generate Report' section with a note: 'Note: All scan data, recordings, and images from the selected session will be exported to an external device and then deleted.' Below this are filters for 'Client name', 'Site location', and 'Timeframe'. There is a table of generated reports with columns for 'Client name', 'Site location', and 'Timeframe'.

Client name	Site location	Timeframe
180	Montreal, TSC	September 23, 2023, 02:14:21 UTC
180	Montreal, Somewhere	September 23, 2023, 02:07:49 UTC
180	Montreal, The big hotel room	September 23, 2023, 02:06:54 UTC

In-Depth Reporting

- Conveniently export a recent session with a tap of a button or perform a session lookup
- Session data exported as .csv files along with screenshots to any flash drive of your choice for ease of data extraction for your reports
- Automatically clear exported session data to maximise device performance

Hardware

Hardware Overview



2x USB 3.2 Gen 1 Type-A port with PowerShare



2x USB 3.2 Gen 2 Type-C port with Power Delivery

- Ruggedised, ergonomic tablet
- Custom Linux Distribution OS
- 12" Full High-Definition Plus (FHD+) Touchscreen
- 35.6 Wh 1-cell interchangeable battery
- USB-C power adapter
- Powered by an ultra-fast receiver
- Fully assembled weight: 6lb 6oz

What's in the Box



Dark Compass Tablet + Mount



Dark Compass Receiver



90W USB-C Power Adapter



Mobile Stand



Shoulder Strap



Passive Pen

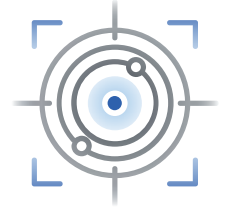


Rigid Tablet Handle

Optional Accessories Sold Separately

- Additional battery packs
- Fully rugged keyboard
- Mobile dual-bay battery charger
- Fast charging docking station
- Wired mouse

Accuracy Over Sweep Speeds



Precision in signal detection is paramount when locating hidden surveillance threats. The Dark Compass has optimised sweep speeds to deliver the most accurate data for you to:

Perform Comprehensive Threat Assessment

This provides a more complete picture of the security landscape by enabling a thorough examination of the electromagnetic spectrum—leaving no room for hidden electronic surveillance devices. This includes transmitters using low power or unconventional modulation.

Discriminate Between Signals

Distinguish between legitimate signals and unauthorised transmissions to ensure false positives are minimised, reducing the likelihood of unnecessary disruptions or false alarms that could compromise the integrity of the protected area.

Comply with Legal Requirements

Accuracy in signal detection and analysis is vital for ensuring evidence admissibility, maintaining transparency, and upholding ethical principles in TSCM operations—especially when conducted in corporate or government settings.

Apply Subsequent Countermeasure Tactics Effectively

The effectiveness of subsequent countermeasures depends on the accuracy of the initial assessment. Accurate data and precise localisation of signals empower TSCM operators to implement targeted and efficient countermeasures.

FOR MORE INFORMATION ON THE IMPORTANCE OF ACCURACY OVER
SPEED IN SPECTRUM ANALYSIS, REQUEST OUR WHITEPAPER:

✉ sales@darkcompass-tscm.com

Technical Specifications

Software

Database & Reporting

- Hardened SQL-based storage
- Digital reporting to USB flash drive in a CSV file with attached screenshots
- Integrated update server provides continuous RF systems updates and new RF detection schemes

Signal Analyzer

- Trace, save and compare
- Integrated raster waterfall with persistence
- Frequency zoom
- Rapid tune and retune capability

Direction Finder

- Integrated compass-based Direction Finding across applications

Bluetooth

- Passive real-time Bluetooth 5.3 with Bluetooth Low Energy Detection
- Integrated manufacturer database for quick device identification
- RSSI (Received Signal Strength Indicator) Hunt Mode

Radio

- Analog audio demodulation
- Digital demodulation providing signal technical specification and identification
- Supported digital modules: DMR+, NXDN, X2, P25, Dstar

Wifi

- IEEE 802.11 a,b,g,n,ac,ax (dual-band)
- Passive network listening
- Network connectivity and traffic detection
- RSSI Hunt Mode
- Device-to-device directional traffic monitoring

Cellular

2G, 3G

- Passive ARFCN scanning
- Uplink device scanning with network discovery

4G, LTE, 5G NSA

- Passive by-country specific band scanning
- Visual representation of uplink signal

Hardware

General

Casing	Rugged Control Tablet	Radio Attachment	VESA Magnet
Storage Capabilities	USB, Micro-USB	Battery	1-cell 35.6Wh Lithium Ion Replacement Battery

Receiver & Radio Frequency

ADC Sample Rate	Up to 61.44 MS/s	Frequency Accuracy	±2.0 ppm
ADC Resolution	12 bits	Radio Frequency Coverage	70 MHz – 6 GHz
DAC Sample Rate	Up to 61.44 MS/s	Instantaneous Bandwidth	56 MHz
DAC Resolution	12 bits		



For more information or
other inquiries, please contact

+353-1-5584076

sales@darkcompass-tscm.com

