

# Detect. Demodulate. Hunt.

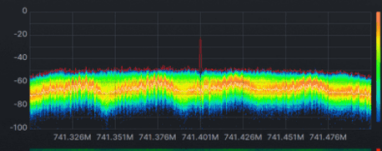




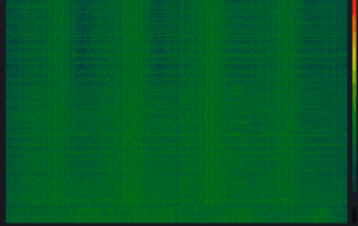
Client Name  
Room Name (Change room)

ACTIVE ANTENNAS

Back to analyzer



Approx. Direction  
45°  
Signal Strength  
-30.2 dBm



Frequency Offset (Hz)  kHz  
Receive Gain (dB)  dB  
Bandwidth (Hz)  kHz



\* \* <math>P1</math> <math>P2</math> <math>P3</math>

## 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

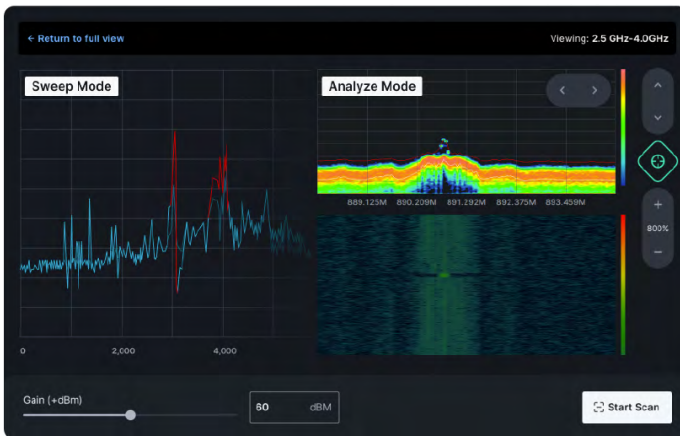
Create and standardise client information, (including site, room, and country details) for quick session setup at a later date.



## 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

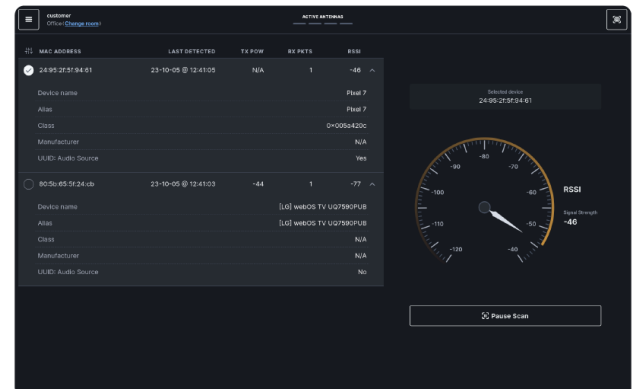


## Frequency Analyser

- 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

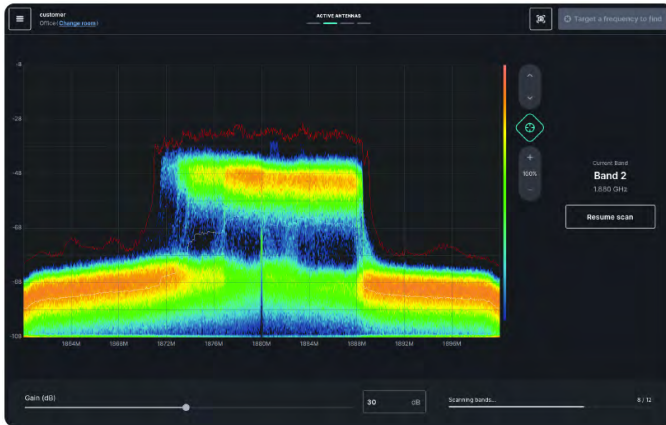
## Bluetooth

- 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

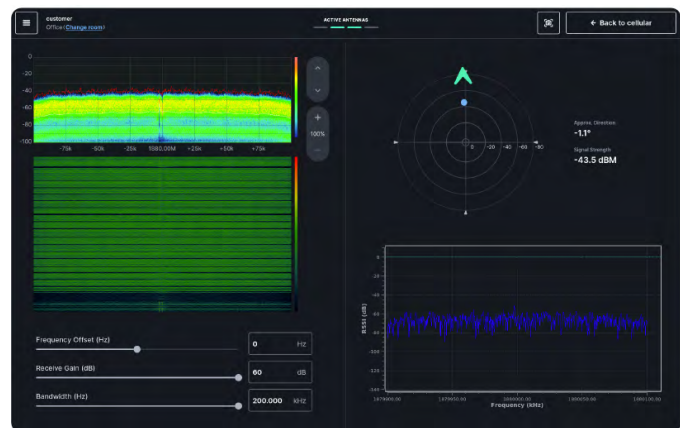


## Cellular (4G, LTE, 5G NSA)

- 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

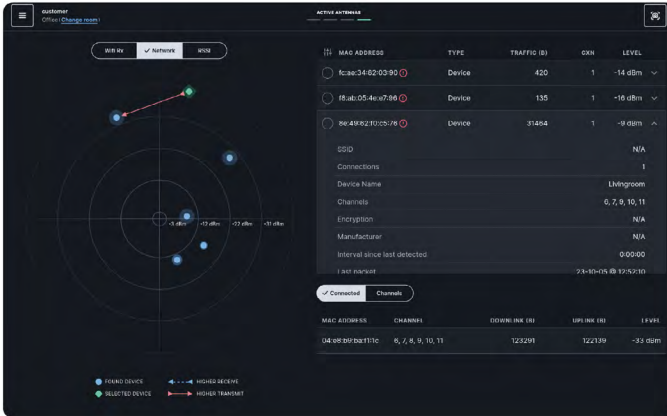
## Direction Finder

- 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

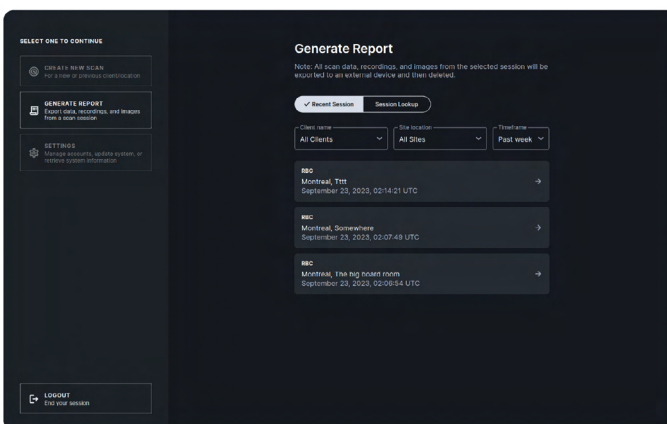
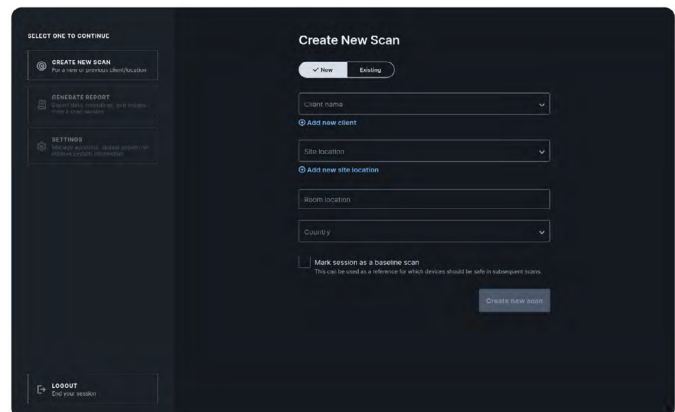


**Wi-Fi**

- 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



**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

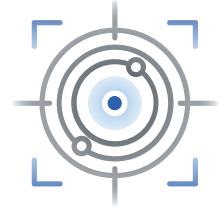


Rigid Tablet Handle

## 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:**

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## **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.

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## **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.

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## **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.

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## **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](mailto: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
- Frequency zoom
- Integrated raster waterfall with persistence
- 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)
- RSSI Hunt Mode
- Passive network listening
- Device-to-device directional traffic monitoring
- Network connectivity and traffic detection

### 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		



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 **DARK  
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