



NEXT GENERATION
SIGNAL FINDING

Dark Compass Countermeasures

Detect. Hunt. Demodulate.



Technical
Data Sheet
VERSION 1.2.1

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

Dark Compass Countermeasures 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:

- **Remove all guesswork for signal quality** by leveraging real-time broad frequency sweeps or specific protocol scans such as 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.
- **Interact with a visual map of all Wi-Fi network connections**, uplink points and terminals—all passively.
- **Real-time indicators for active calls** found in Cellular 2G / 3G sweeps.
- **New features, same hardware—delivered via over-the-air updates.** Optional security upgrade available with advanced encryption and completely offline operations.



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

- Ruggedized, ergonomic tablet
- Custom Linux Distribution OS
- 12" Full High-Definition Plus (FHD+) Touchscreen
- 35.6 Wh 2-cell interchangeable battery
- USB-C power adapter
- Powered by an ultra-fast receiver with swappable Ultra-wideband antennas (4)
- Fully assembled weight: 6lb 6oz

What's In the Box



Dark Compass Tablet + Mount



Dark Compass Receiver



USB-C Power Adapter



Mobile External Battery Charger



Mobile Stand



Shoulder Strap



Passive Pen



Extra Battery

Optional Accessories Sold Separately



Additional Battery Packs



Fully Rugged Keyboard



Wired Mouse



Directional Antenna

Detection & Reporting Features



Frequency Analyzer

Perform real-time trace, peak trace and reference previously saved traces within a 70 MHz-6 GHz range.



Bluetooth

Perform real-time Bluetooth and BLE analysis for active devices with additional device information.



Cellular

Perform real-time analysis of GSM and UMTS devices; detect devices using 2G, 3G, 4G, LTE, and 5G NSA networks.



Direction Finder

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



Radio

Perform real-time signal analysis and demodulation for analog and digital radio communications (including DMR, NXDN, P25, X2, and DSTAR).



Wi-Fi

Perform real-time device and packet flow analysis. Gain a holistic view of the network via the Network Map, which supports up to Wi-Fi 6 detection.



Create and Recall Scans

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



In-Depth Reporting

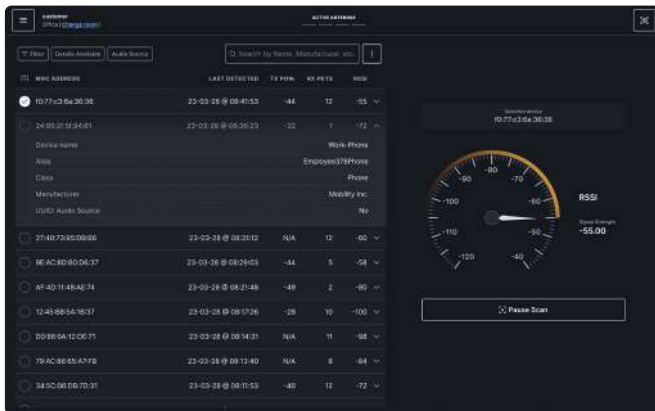
Export all relevant sweep data into .csv files and screenshots with the tap of a button to any flash drive of your choice.

Feature Highlights



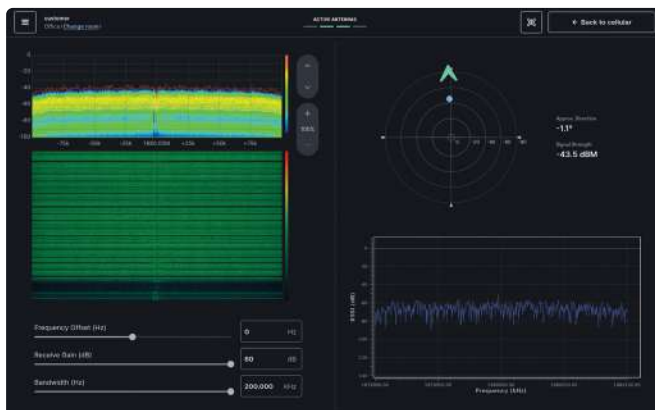
Frequency Analyzer

- Real-time Trace and Peak Trace with the ability to save and compare
- Scans 70 MHz–6 GHz with preset or custom frequency range options for more precision
- Visual indication of receive amplitude change
- Jump to specific frequencies of interest during Analysis mode for focused insights
- Zoom in to further analyze frequency of interest or run analysis with raster waterfall



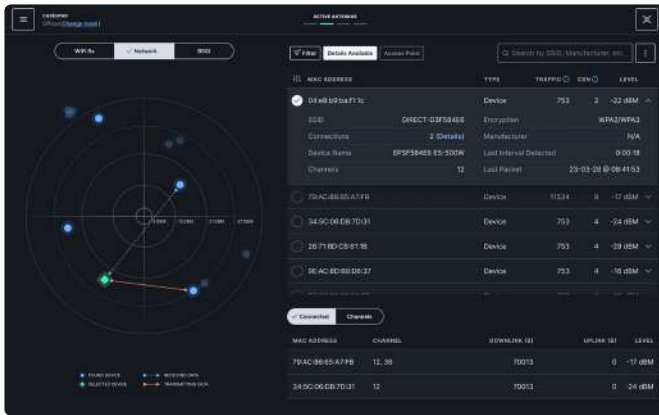
Bluetooth

- Real-time Bluetooth scanning and analysis with Bluetooth Low Energy (BLE) support
- 100 MHz Instantaneous Bandwidth
- Ability to analyze transmitting devices with details like manufacturer or class identification
- Advanced search and filtering to identify relevant Bluetooth devices
- Target device to find with RSSI meter



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



Wi-Fi

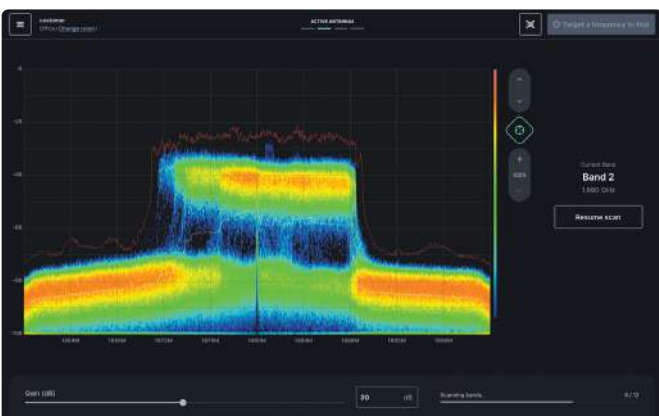
- Real-time analysis of IEEE802.11A/B/G/N/AC/AX (Dual-band under 6 GHz)
- Access point and device analysis on 2.4 GHz and 5 GHz spectrum
- Packet flow analysis to identify potential threats
- Interactive Network Map to view all discovered MAC addresses, connections, and contextual data that has been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



Cellular

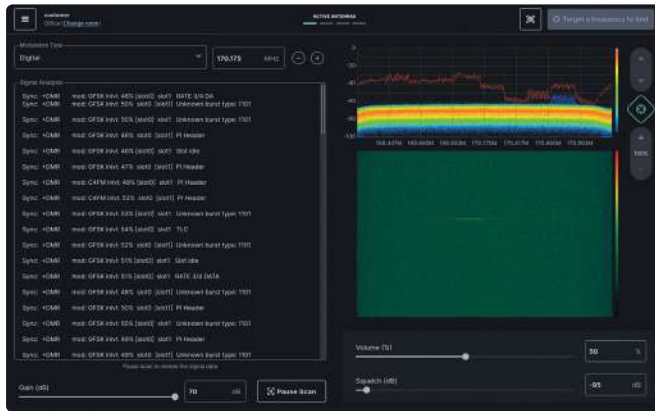
2G, 3G Protocols

- 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



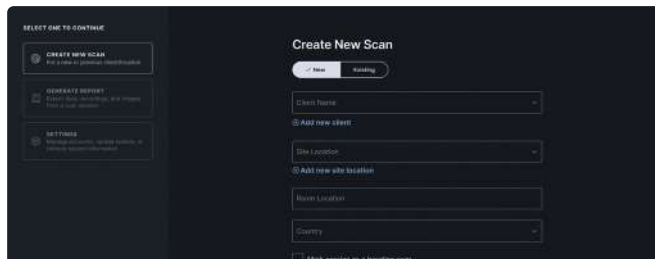
4G, LTE, 5G NSA Protocols

- 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



Radio

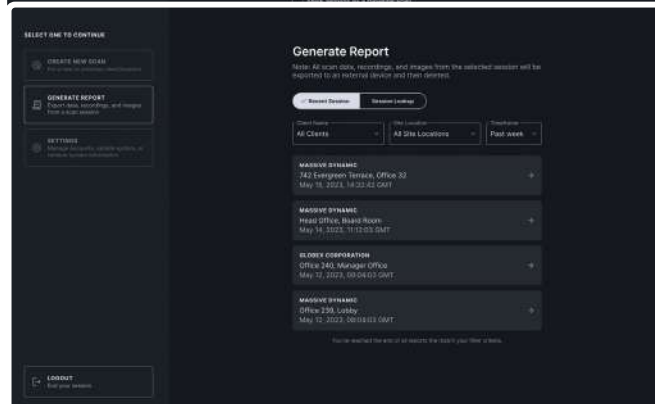
- Real-time Radio Communications analysis
- Analog signal demodulation for FM, Wideband and Narrowband
- Digital signal identification for P25, NXDN, DMR, X2 and Dstar
- Target frequency to find with Direction Finder



Streamlined Admin Processes

Create and Recall Scans

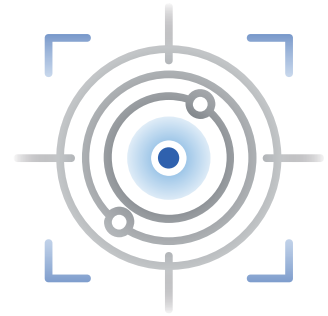
- Create and standardise client information by client name, site location, country, and room
- Recall previously stored client information for quick scan session setup



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 maximize device performance

Accuracy Over Sweep Speeds



Precision in signal detection is paramount when locating hidden surveillance threats. The Dark Compass has optimized 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.

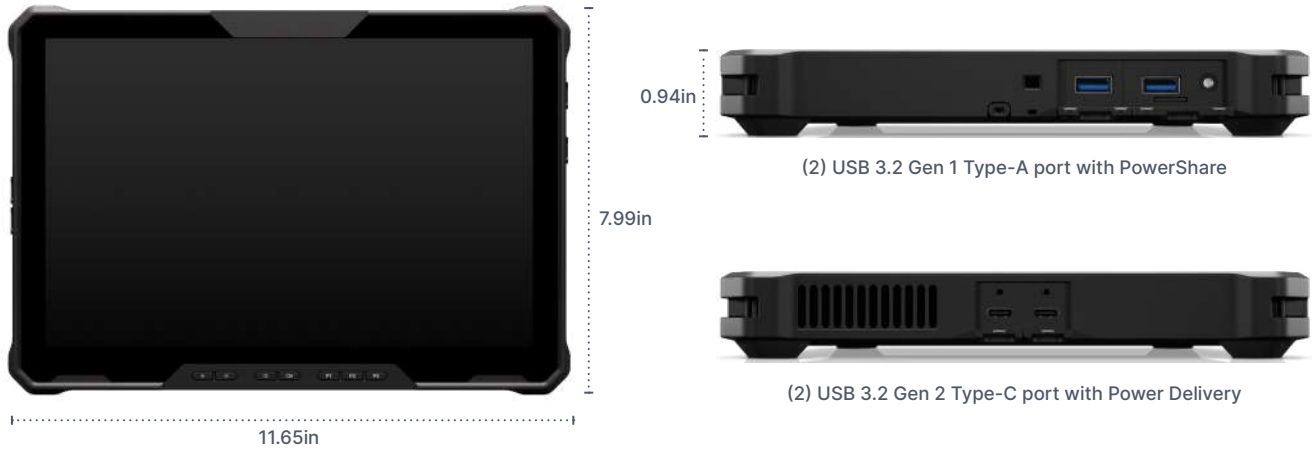
Comply with Legal Requirements

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 localization of signals empower TSCM operators to implement targeted and efficient countermeasures.

Hardware Specifications



Dark Compass Ruggedized Tablet

CPU	12th Gen Intel® Core™ i7, vPro	Radio Attachment	VESA Magnet
Operating System	Custom Linux Distribution	Power Source	USB-C Power Adapter
Display	12" FHD (1920 × 1200) Touchscreen	Dimensions (WxHxD)	11.65" x 7.99" x 0.94"
Storage	256 GB SSD M.2 NVMe	Weight	2.78 lbs
RAM	32 GB LPDDR5 Integrated	Ports & Slots	(2) USB 3.2 Gen 1 Type-A port with PowerShare; (2) USB 3.2 Gen 2 Type-C port with Power Delivery; (1) Micro-SD slot
Battery	35.6 Wh 2-Cell (Interchangeable)		

Receiver & Radio Frequency

Radio Frequency Coverage	70 MHz – 6 GHz	Frequency Accuracy	±2.0 ppm
ADC Sample Rate	Up to 61.44 MS/s	Instantaneous Bandwidth	56 MHz
ADC Resolution	12 bits	Dimensions (WxHxD)	4.9" x 9.5" x 1.7"
DAC Sample Rate	Up to 61.44 MS/s	Weight	3.2 lbs
DAC Resolution	12 bits		

Antenna

Type	Omnidirectional	Gain (max)	3.5 dBi
Frequency Range	Ultra-wideband	Connector	SMA (m)

Software Specifications

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

Frequency 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 manufacture 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

Wi-Fi

- 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

 **DARK
COMPASS**

