



Get to know:

**WAM - X25**



# Step 1: Initial Settings

**1**

**Antenna Connection**

**2**

**Region Selection**

**3**

**Band Selection**

**4**

**Setting Time & Date**

**5**

**Sensitivity Adjustment**

**6**

**Beep Mode**



# Step 2: Audio Confirmation/ Volume

## Audio Demodulation

Process of separating the original audio signal from a modulated carrier wave. It allows us to recover and hear the original sound that was encoded onto the carrier wave.



# Step 3: Understanding the Wide range of devices and their different frequencies

## 1. GPS Trackers (1.2 GHz, 1.5 GHz, and 1.6 GHz)

- GPS trackers typically operate in the L-band frequencies of the radio spectrum
- The GPS L1 frequency (1575.42 MHz) is the primary frequency, while L2 (1227.60 MHz) is often used for more advanced systems
- Some newer systems also use the L5 frequency (1176.45 MHz)
- When a GPS tracker is detected, the WAM-X25 will show a strong signal in this frequency range.



# Wide range of devices – different frequencies

## 2. Wi-Fi Devices (2.4 GHz and 5 GHz)

- Wi-Fi devices operate on two main frequency bands: 2.4 GHz and 5 GHz.
- This includes Wi-Fi cameras, microphones, and other surveillance devices that use Wi-Fi to transmit data.
- When a Wi-Fi device is detected, the WAM-X25 will show a strong signal in one of these frequency ranges.



# Wide range of devices – different frequencies

## 3. Cellular Devices (700 MHz to 2.7 GHz)

- Cellular devices, including cell phones and GSM/GPRS/3G/4G/5G trackers, operate on a variety of frequency bands depending on the technology and the country.
- In general, these frequencies range from about 700 MHz to 2.7 GHz.
- When a cellular device is detected, the WAM-X25 will show a strong signal in this frequency range.



# Wide range of devices – different frequencies

## 4. Bluetooth Devices (2.4 GHz)

- Bluetooth devices, including Bluetooth microphones and other surveillance devices, operate in the 2.4 GHz band.
- When a Bluetooth device is detected, the WAM-X25 will show a strong signal in this frequency range.



# Wide range of devices – different frequencies

## 5. UHF Bugs (400 MHz to 3 GHz)

- Ultra High Frequency (UHF) bugs are a type of covert listening device that operates in the UHF frequency range.
- When a UHF bug is detected, the WAM-X25 will show a strong signal in this frequency range.

# Step 4: Main/Split Screen



- Shows live detected signals
- *Band* -> 20-element bar graph running vertically
- *Number* of illuminated bars -> the strength of the detected signal



# Step 5: 2.4 GHz & 5 GHz Wi-Fi Detection



- *Separate* bands for detecting Wi-Fi, Bluetooth, Video and other 'Store & Forward' devices

# Step 6: Split Screen

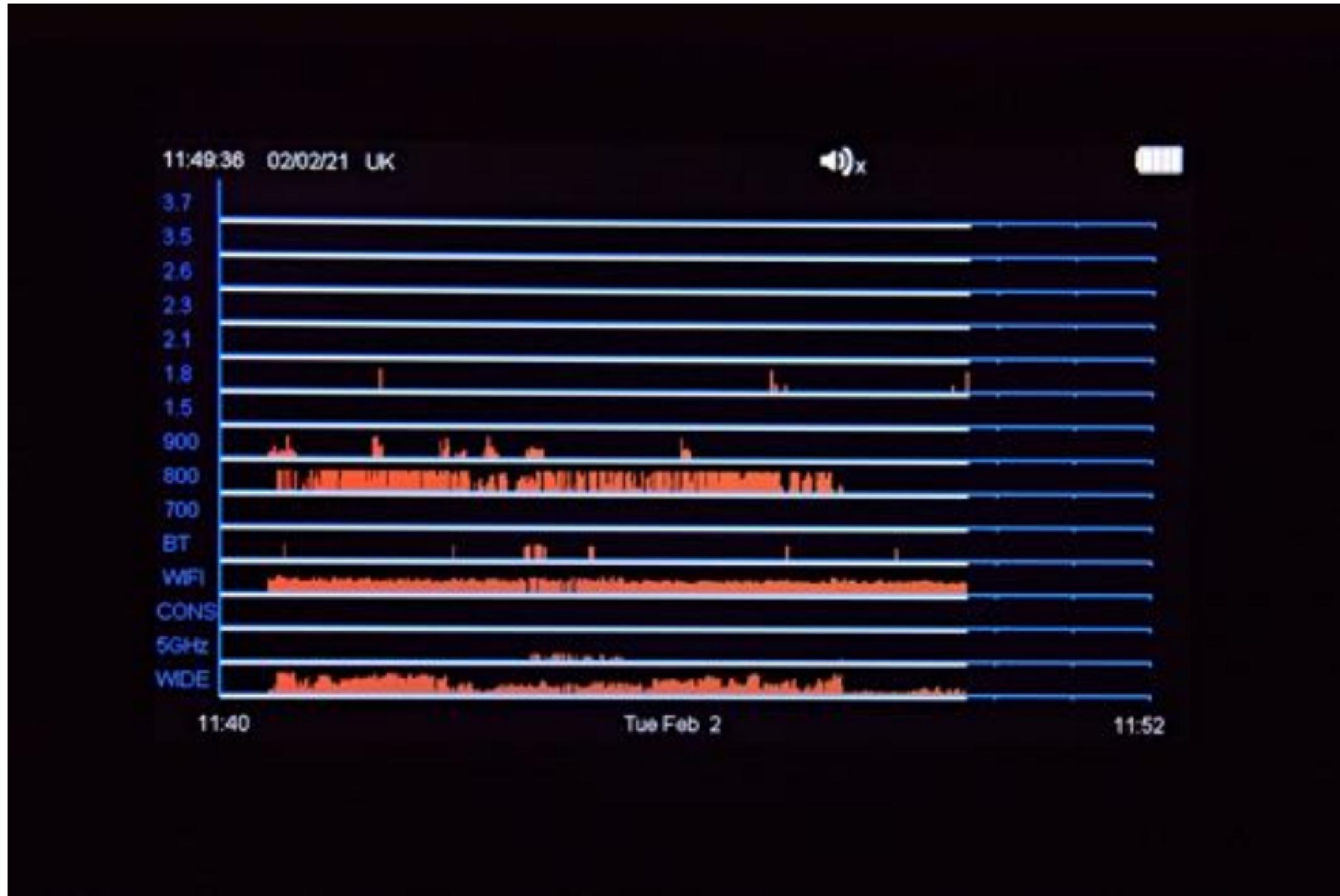


- Screen -> divided into 2 halves:

**Left side** - all live detected signals

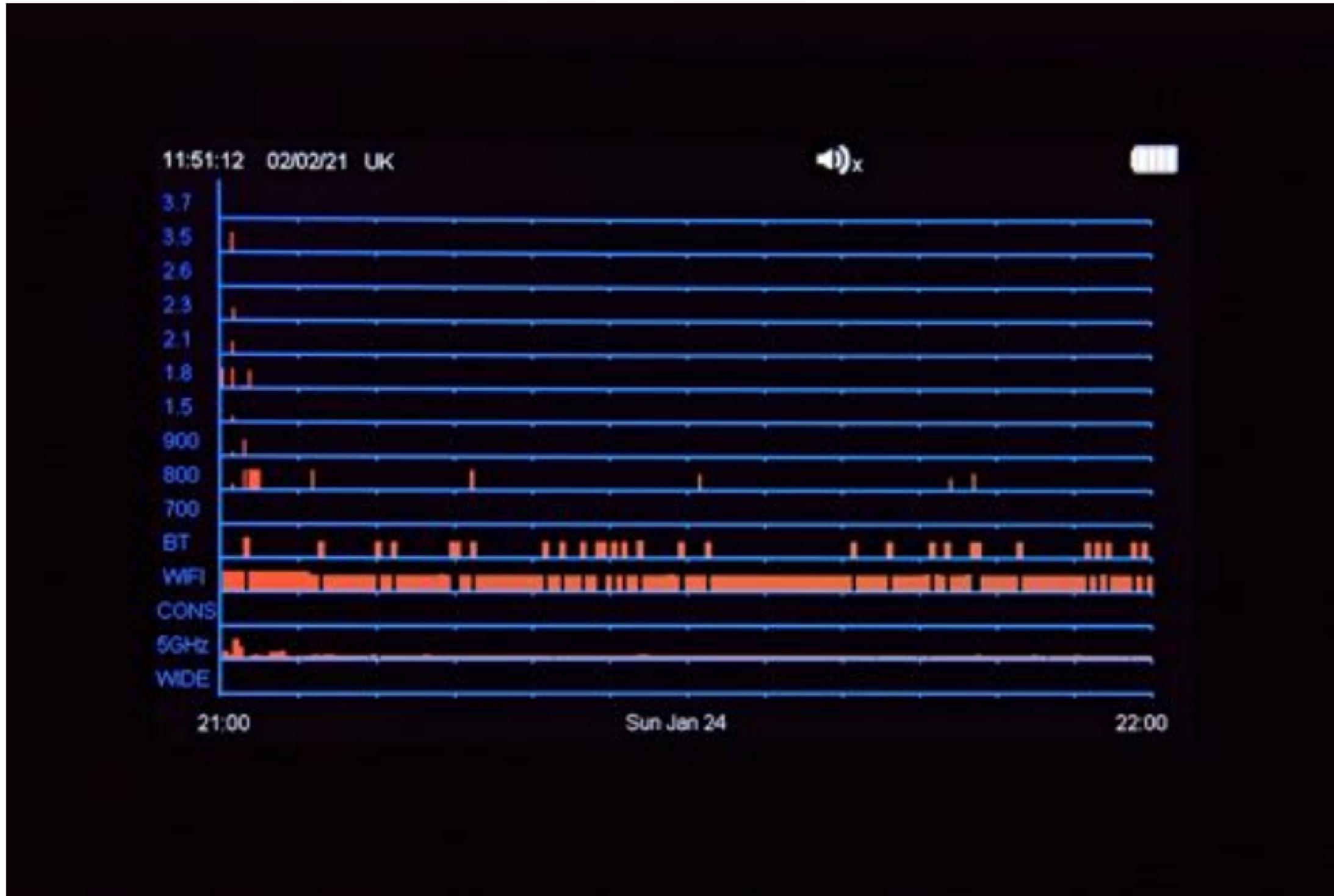
**Right side** - detected events log list

# Step 7: Live Graph Mode



- Detected signals are shown as vertical red lines on the graph
- Height represents the signal strength
- 12 minutes history

# Step 8: Log Graph



- View a graphical representation of logged events
- Useful for analyzing the data over time and identifying patterns or trends

# Step 9: Wi-Fi Network Analyser

11:29:16 02/02/21 UK 🔊x 

Date	Time	WiFi MAC Add	Manufacturer	Type	Pkt	WiFi - SSID	2.4/5
02:02:21	11:29:01	8020DAF1898A	Sagemcom Bro	AP	06	Progression	2.4
02:02:21	11:29:01	8220DAF1688B		AP	08	BTW-fi	2.4
02:02:21	11:29:01	B8E9378F4233	Sonos	Client	42	HF8D_10aHx59QT4f	2.4
02:02:21	11:28:52	8220DAF18A88		AP	69	BTW-fi	5.0
02:02:21	11:28:52	8020DAF1898B	Sagemcom Bro	AP	54	Progression	5.0
02:02:21	11:28:43	F4F26DA58048	TP-Link Tech	AP	943	TP-LINK_A58048	2.4
02:02:21	11:28:43	109ADDA19232	Apple	Client	48		2.4
02:02:21	11:28:43	C23BAFE630DF		Client	79		2.4
02:02:21	11:28:43	828EA07DFB82		Client	58		2.4
02:02:21	11:28:43	A483E742E7E0	Apple	Client	08		2.4
02:02:21	11:28:35	8220DAF18A89		AP	40	BTWfi-X	5.0
02:02:21	11:28:10	7C70BC59886C	lee Registr	Client	22		2.4
02:02:21	11:28:11	FEDE7A0F90F9		Client	02		2.4
02:02:21	11:25:54	6ADB7756FF96		AP	69	Justin's iPhone	2.4
02:02:21	11:25:21	CEE431137AFE		Client	31		2.4
02:02:21	11:25:21	807215EB34EA	BSkyB Ltd	Client	01	NOWTVXH6FA	2.4

Scanning WiFi Channel: 1      Next channel in 1 seconds.

CLEAR LIST
SCAN ACCESS POINTS
SCAN ALL DEVICES
SCAN FOR CLIENTS
ORDER BY TIME
ORDER BY PACKETS

- **Access Points** -> A device that allows wireless devices to connect to a wired network using Wi-Fi or related standards (e.g. WLAN routers)
- **Clients** -> The device with a wifi radio that you use to connect to a wireless access point (e.g. phones, laptops, printers)



# Step 10: Bluetooth Device Analyser

11:34:51 02/02/21 UK

Date	Time	BT MAC Add	Manufacturer	Str.	Pkt
02/02/21	11:34:45	728EFADC8F85		-71	135
02/02/21	11:34:45	43B4FB8BBEEF		-56	59
02/02/21	11:34:45	7DF9276FFF2E		-63	20
02/02/21	11:34:45	52457D316B93		-60	25
02/02/21	11:34:33	A483E720BCF0	Apple	-58	18
02/02/21	11:32:08	43E5B2845670		-60	24
02/02/21	11:31:55	44520D600759		-55	37
02/02/21	11:30:55	6135D2F48BFE		-61	35
02/02/21	11:30:19	5D9D9D0EFDE8		-92	05

Scanning for Bluetooth Devices. New scan in 5 seconds.

CLEAR LIST    ORDER BY TIME    ORDER BY PACKETS

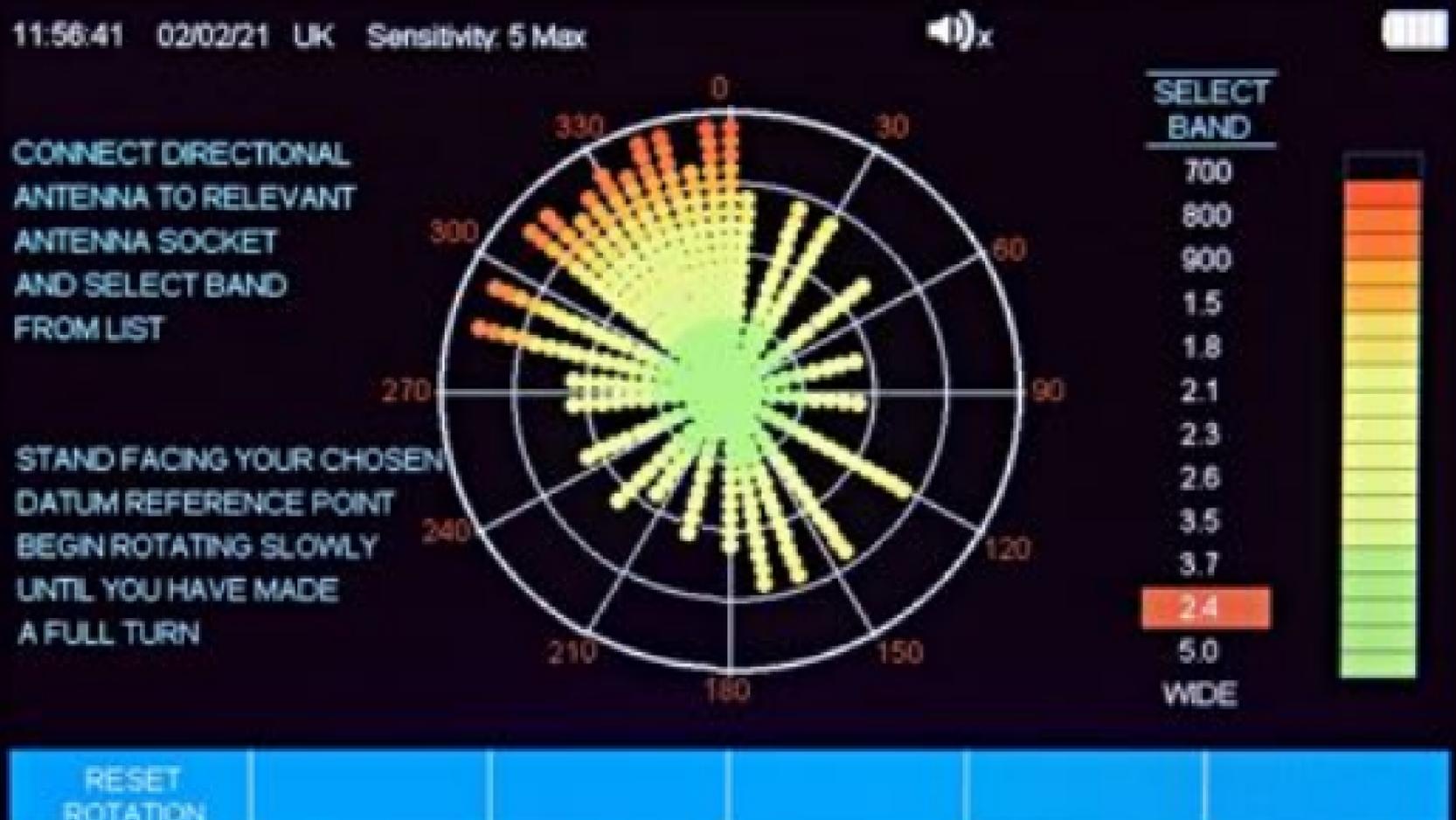
- Lists nearby active Bluetooth devices
- Includes: Date & Time of Event, Bluetooth MAC Address, Manufacturer, Signal Strength in dBm, number of Data Packets detected

# Step 11: Direction Find

11:56:41 02/02/21 UK Sensitivity: 5 Max

CONNECT DIRECTIONAL ANTENNA TO RELEVANT ANTENNA SOCKET AND SELECT BAND FROM LIST

STAND FACING YOUR CHOSEN DATUM REFERENCE POINT BEGIN ROTATING SLOWLY UNTIL YOU HAVE MADE A FULL TURN



RESET ROTATION

SELECT BAND
700
800
900
1.5
1.8
2.1
2.3
2.6
3.5
3.7
2.4
5.0
WIDE

- Used to locate the source of a detected signal
- The signal strength will increase as you get closer to the source of the signal
- Useful when trying to locate a hidden device



# Step 12: Using the WAM-X25 Data Viewer Software

- 1)** Download the log from your WAM-X25 onto a USB memory stick.
- 2)** Connect the USB memory stick to your computer.
- 3)** Open the WAM-X25 Data Viewer Software. You can find it in the 'Start' menu on your computer. If it's not visible there, select 'All Programs' and look for 'WAM-X25'.
- 4)** Once the software is open, click on 'Import Data from File' at the top left of the screen.
- 5)** A folder should open showing the files on the USB stick. If not, select the file location manually.
- 6)** Double click on the data file you wish to view. The data from the file should now be displayed in the WAM-X25 Data Viewer.



# Summary How To:

- 1. Charging and Powering On:** Ensure the device is fully charged and powered on.
- 2. Setting Up:** Connect the antennas and set the time, date, and region.
- 3. Sensitivity Adjustment:** Adjust the sensitivity according to the environment. Higher sensitivity levels will allow you to detect weaker signals, but may also result in more false positives.
- 4. Monitoring RF Activity:** Monitor the RF activity in the area. The WAM-X25 has a wideband detector that covers 0-14 GHz, allowing it to detect a wide range of devices. It also has separate bands for detecting cellular and Wi-Fi signals.



# Summary How To:

**5. Analyzing Detected Signals:** The WAM-X25 can demodulate and play back audio signals, allowing you to listen to any detected signals. It also has a live graph mode that shows a graph of all detected signals over a 12-minute period.

**6. Logging and Reviewing Data:** The WAM-X25 can log up to 10,000 events, allowing you to review detected signals at a later time. You can also use the WAM-X25 Data Viewer software to view stored data in a graphical format.



# Summary How To:

**7. Understanding Detected Frequencies:** When you detect a signal, try to identify the type of device it might be coming from based on its frequency. For example, a signal in the 2.4 GHz or 5 GHz band could be from a Wi-Fi device, while a signal in the 800 MHz to 2.2 GHz range could be from a cellular device.

**8. Bluetooth and Wi-Fi Analysis:** The WAM-X25 also has built-in Bluetooth and Wi-Fi analysers. The Bluetooth analyser can list nearby active Bluetooth devices, while the Wi-Fi analyser can provide detailed information about nearby Wi-Fi networks.