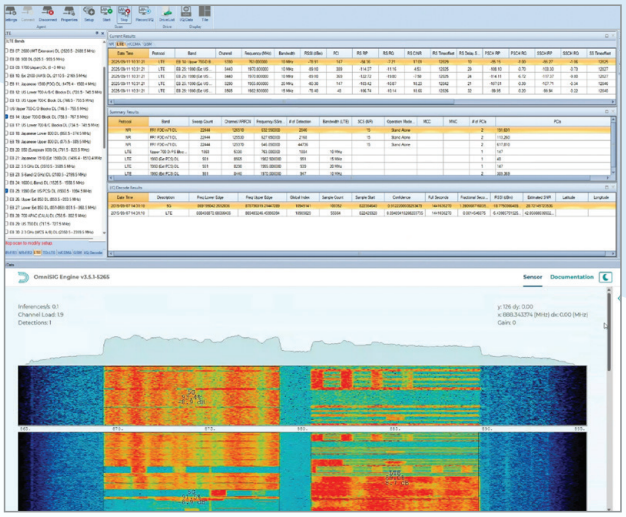
PRELIMINARY

SeeHawk® *Scout*

TACTICAL SIGNAL INTELLIGENCE PLATFORM



SeeHawk® *Scout* Receiver



SeeHawk® *Scout* Viewer

PCTEL's SeeHawk® *Scout* redefines signal intelligence. Designed for both real-time situational awareness and deep analysis, it combines superheterodyne Software Defined Radio (SDR) receiver technology with real-time AI-based signal analysis and advanced post-processing capabilities. The result is a portable platform for passive detection, analysis, and geolocation of wireless infrastructure — including adversary, rogue or unauthorized base stations.

MULTIPLE APPLICATIONS

- Monitor Spectrum
- Record & Identify Unknown RF Signals
- Estimate Locations of Base Stations
- Detect Interference
- Map Network Coverage

KEY FEATURES

- Autonomous Operation
- Real-time RF Signal Detection and 2G-5G Decoding
- I/Q Streaming with AI-Powered Signal Classification
- Up to 48 GHz with 100 MHz IF
- Portable, Lightweight and Battery Powered

MADE IN THE USA
of U.S. and imported parts

PCTEL
an **Amphenol** company

SeeHawk® *Scout* Receiver

ADVANCED SIGNAL PROCESSING

- Superheterodyne Receiver (10 MHz-8 GHz and 24-48 GHz)
- IQ Streaming with 20, 50 & 100 MHz Instantaneous Bandwidth
- Real-Time and Recorded Signal Analysis
- Integrated Real-Time AI-Based Signal Classification
- 3GPP (2G-5G) Signal Detection, Measurement & Layer 3 Decoding

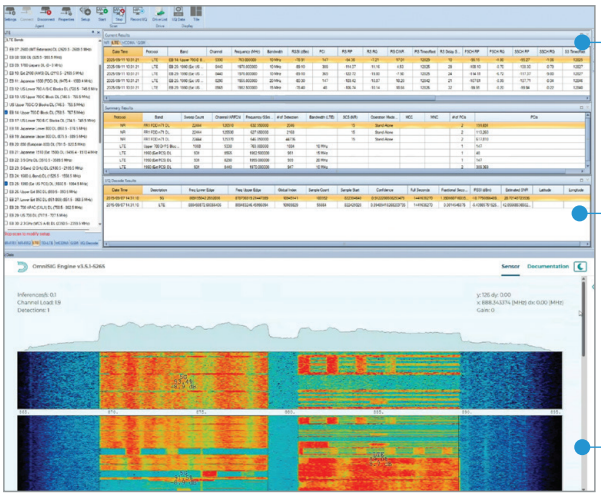


PORTABLE & AUTONOMOUS

- Standalone Operation
- Embedded GPU with Linux OS
- Hot-Swappable Dual Battery System
- Removable SSD Storage
- Lightweight and Fits in a Backpack

SeeHawk® *Scout* Viewer

- Advanced Signal Analytics User Interface
- Configure Receiver with Easy-to-Use Control Panel
- Real-Time, Summary, and Replay Views



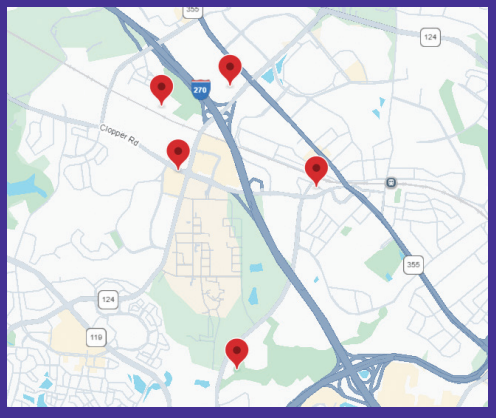
2G-5G Cellular (3GPP) Signal Decoding

AI-Based Signal Classification (All technologies)

Spectrum Waterfall

BASE STATION LOCATION OPTION

- Identify and Geolocate 2G-5G Network Base Stations
- Uses Recorded Data from the SeeHawk Scout Receiver
- Works Offline on your Viewer Laptop



SeeHawk® *Scout* Receiver

SPECIFICATIONS

5G New Radio (NR)

Measurements		PCI, Beam Index, PSS-RP [dBm], SSS-RP [dBm], PSS-RQ [dB], SSS-RQ [dB], PSS-CINR [dB], SSS-CINR [dB], RSPBCH-RP [dBm], RSPBCH-RQ [dB], RSPBCH-CINR [dB], SSB-RP [dBm], SSB-RQ [dB], SSB-CINR [dB], SSB-idx, SSB-RSSI, SSS-Delay-Spread, Time Offset; Layer 3 Reporting: MIB (FR1 and FR2), SIBs 1-9 (FR1), SIB1 (FR2)	
Sub carrier spacing		15/30/120/240 kHz	
Max. number of channels		60 (sub-8 GHz), 60 (mmWave)	
Max. number of PCIs		16 (sub-8 GHz), 16 (mmWave)	
Max. number of beams/PCI		8 (sub-8 GHz), 64 (mmWave)	
Measurement rate (typical)		Single channel: FR1: 44/sec (20 ms period) FR2: 44/sec (20 ms period)	Multi-channel: FR1: 33/sec sub-8 GHz (20 ms period) FR2: 25/sec mmWave (20 ms period)
Dynamic range (CINR)		PSS/SSS CINR: -21 to +33 dB (sub-8 GHz), -21 to +28 dB (mmWave) PBCH DMRS CINR: -16 to +40 dB	
Min. detection level	RP	SCS @15 kHz: -135 dBm, SCS @30 kHz: -132 dBm, SCS @120 kHz: -131 dBm, SCS @240 kHz: -130 dBm	
Accuracy (CINR)	PSS/SSS, PBCH DMRS	±2 dB	
SSB periodicities supported		5 ms, 10 ms, 20 ms, 40 ms, 80 ms, 160 ms	

LTE FDD and TD-LTE

Measurements		PCI, RP, RQ, CINR, Cyclic Prefix, Time Offsets, Delay Spread; ; Layer 3 Reporting: MIB (FR1 and FR2), SIBs 1-9 (FR1), SIB1 (FR2)	
Channel bandwidths		1.4 / 3 / 5 / 10 / 15 / 20 MHz	
Max. number of channels		48	
Measurement rates (LTE Ultra High Speed mode)	Sync Channel RS	Single channel: LTE FDD: 175/sec TD-LTE: 90/sec	Multi-channel: LTE FDD: 150/sec TD-LTE: 75/sec
Dynamic range (CINR) @ 10/15/20 MHz	RS P-SCH/S-SCH	-26 to + 40 dB -10 to +18 dB	
Min. detection level	P-SCH/S-SCH & RS	-147 dBm (RSRP @ 15 kHz)	
Accuracy (CINR)	P-SCH/S-SCH & RS	±1 dB	
Max. number of PCIs		24	

UMTS [WCDMA/HSPA(+)]

Measurements	Io, Ec/Io, Aggregate Ec/Io, SIR, Rake Finger Count, Time Offset, Delay Spread, Layer 3 Reporting
Channel bandwidths	200 kHz / 3.84 MHz
Max. number of channels	32
Measurement rate	50/sec (high dynamic range mode only)
Top N CPICH dynamic range (Ec/Io)	-26 dB
Min. detection level	-127 dBm
Accuracy	±1 dB
Max. number of Pilots	32

GSM

Measurements	BSIC, C/I, RSSI, Color Code, Layer 3 Reporting
Channel bandwidths	30 kHz / 200 kHz
Measurement rates	Up to 400 BSIC Decodes/sec
Dynamic range	+2 dB C/I
Min. basic detection level	-110 dBm
Accuracy	±1 dB

GPS/GNSS

Supported navigation systems	Galileo, GPS, GLONASS, BeiDou, QZSS
Type	72 channel internal receiver
Position accuracy	2.5 meters
Acquisition time	Cold start: <26 sec; Hot start: <2 sec
Sensitivity (tracking)	>-150 dBm

SPECIFICATIONS

VITA 49.2 I/Q Streaming/Capture

Frequency ranges	10-8000 MHz, 24-48 GHz
Instantaneous BW	20 MHz, 50 MHz, 100 MHz
Channel sampling rate	30.72 Msps, 61.44 Msps, 122.88 Msps
I/Q Data Format	16 bit I, 16 bit Q
Communication interfaces	10-GigE SFP+ (Continuous I/Q streaming @ 20, 50 or 100 MHz) for 10-8000 MHz, 24-48 GHz 10/100/1000 Ethernet RJ-45 (I/Q capture - 2 seconds maximum @ 20 MHz) for 10-8000 MHz
Communication protocol	UDP
Maximum data rate	5 Gbps for 10-GigE SFP+ @ 20, 50 or 100 MHz for 10-8000 MHz, 24-48 GHz 1 Gbps for 10/100/1000 Ethernet RJ-45 @ 20 MHz for 10-8000 MHz
Time base/ frequency accuracy	GPS disciplined; When lost, OCXO has a frequency stability of 5 ppb
NF at minimum attenuation	7 dB for f < 8 GHz, 12 dB for 24 GHz < f < 48 GHz
Attenuator range/step	7 attenuation indices from 0 dB to 30 dB in steps of 5 dB

General

Size	9.2" W x 12.5" D x 5.25" H (234 mm W x 317 mm D x 133 mm H)
Weight	18 lbs (8.2 kg)
Temperature range	Operating: 0°C to +50°C
Host data communications interface	USB 3.0, 10/100/1000 Ethernet RJ-45, 10-GigE SFP+, Bluetooth®
Antenna ports	RF (sub 8 GHz, Bluetooth): SMA Female (50 Ω); GPS: Male (50 Ω) SMB; RF (mmWave): 2.4 mm Female
Maximum power	65W
Input Voltage	12-17 VDC
Battery charging time	2 hours, 45 minutes
Operating time using dual battery system	3 hours
Safety	EN 62368-1
EMC	EU 2014/53/EU
Shock and vibration	SAE J1455
RoHS	Directive 2011/65/EU and amendment 2015/863 (RoHS 3)

RF Characteristics

Frequency ranges		Sub 8 GHz: 10 MHz – 8 GHz mmWave: 24.25-44 GHz (continuous), 47.2-48.2 GHz (continuous)
RF operating range	In-Band	- 20 dBm max.
Safe RF input range		≤ +0 dBm
Noise figure (typical)		10-600 MHz: 7 dB (5 dB after DSP noise compensation), 600-7000 MHz: 6 dB (4 dB after DSP noise compensation), 7-8 GHz: 7 dB (5 dB after DSP noise compensation), 24-44 GHz: 8 dB, 47.3-48.3 GHz: 12 dB

Available Accessories

- Sub-8 GHz (FR1) Antenna
- mmWave amplified (FR2) Antenna
- GPS Antenna
- USB Cable
- Extra batteries and charger



Sub-8 GHz Antenna



GPS Antenna



mmWave Antenna

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