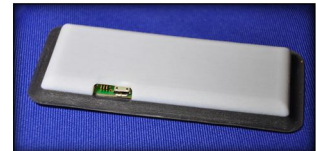


Arf Miniature Wireless Detector



FEATURES

- Detects all cell phone transmissions (LTE, WiMax, IDEN, GSM, CDMA) with options for Wi-Fi, ISM, Mobile SATCOM, Push to talk radios, and customized frequency bands.
- Multiple configurations: OEM board, Integrated into Android phone, body worn sensor, UAV payload, unattended ground sensor, and as part of an integrated sensor network.
- Exceptionally low false detection rate using specialized filtering – prevents false alarms from nearby cell tower down links .
- Internal non-volatile logging function to log all signal activity on 10 frequency bands with time stamp and GPS locations (when integrated into Android phone) .
- Integrated automatic reporting option to central facility.
- Miniature size allows concealment/embedding.
- Ideal for use with micro UAVs.



Embedded Arf Board

DESCRIPTION

The *Arf* cell detector provides the ability to detect, with an unprecedented low false alarm rate, any cell phone or wireless transmission in a room. The *Arf* uses an innovative design to scan and identify any cellular activity over the 450 MHz to 3 GHz frequency bands for both the US and international market. The unit scans 10 independent frequency bands, with each having a settable threshold level allowing for calibration to a specific room environment. Specialized software is built-in to automatically determine the threshold settings and attenuation level for each frequency band, allowing for easy installation. This auto-calibration routine determines the background spectrum statistics and sets the detection thresholds accordingly. Coupled with selective filters with exceptionally high out of band frequency rejection, these statistics, assure a very low false alarm rate.

The *Arf* logs up to 512 Mbytes of data to internal nonvolatile memory (band, power, time/date, optional GPS location). The log and control/alarm functions may also be accessed via built-in USB or serial port, or by use of a wireless data link with one of those ports. Additionally, an option for power and data over internet provides the ability to provide power and transport data over an Ethernet cable.

The *Arf* may be configured in a room or at a portal with a directional antenna, to allow the detector to be placed in a location that points away from a storage area of cell phones “checked in” prior to entering a secure area. The installation includes calibration to insure a phone placed in this storage area will not cause a false positive indication. A network of units may be placed in a room or facility with new patent pending DF Power Triangulation software to accurately locate the phone within a conference room or facility.

APPLICATIONS

- Detection of cell phones in restricted areas – automatic recording, logging, locating, etc.
- Perimeter security and force protection
- Detecting and locating wireless contraband in prisons and correctional institutions
- Wireless monitoring and automatic reporting in secure conference rooms and facilities
- Site survey of signals present in remote areas
- Determination of wireless formats utilized for military or law enforcement mission planning (micro UAV deployed)
- Detection of potential interference sources
- Integrated into other platforms for signals situational awareness
- Integrated into large network of sensors (body worn, UAV payload, vehicle mounted, unattended ground sensors) for detection and precision geolocation of suspect emitters
- Counter IED

SPECIFICATIONS

RECEIVER PARAMETERS

<i>Frequency range</i>	30 MHz to 3000 MHz (6000 MHz optionally)
<i>Bands</i>	10 bands, factory configurable
<i>Selectivity</i>	Set by filters (>80 dB out of band rejection)
<i>Sensitivity</i>	-80 dBm noise floor (typical)
<i>Dynamic range</i>	60 dB
<i>AGC range</i>	30 dB
<i>Scan speed</i>	Selectable 1/2/5/10/20/50/100 channels/second max
<i>Input Impedance</i>	50 ohms
<i>Antenna</i>	User-supplied, Optional integrated antenna for frequency bands from 700 MHz-3 GHz
<i>External power</i>	4-36 vdc, 50 ma, via solder terminals or mini-USB connector (stand. +5V USB power), inc. cell phone USB power
<i>Weight</i>	approximately 2 ounces (uncased)
<i>Size</i>	approximately 1.25x5.2x0.3 inches
<i>Connectors</i>	U.FL (antenna), Micro-USB, RS232 header
<i>Operating temperature range</i>	-20 to +55°C
<i>Non-operating temperature range</i>	-40 to +70°C
<i>Operating humidity</i>	10 to 90% non-condensing

US STANDARD FREQUENCY BANDS

<u>Channel</u>	<u>Frequency</u>	<u>Description</u>
1	1710-1785 MHz (Cell)	GSM 1800
2	2500-2570 MHz (Cell)	WiMAX
3	896-902 MHz (Cell)	IDEN 900
4	805-815 MHz (Cell)	IDEN 800
5	704-716 MHz (4G Mob)	LTE/AT&T
6	776-788 MHz (4G Base)	LTE/Verizon
7	870-925 MHz (Cell)	GSM/ISM
8	824-849 MHz (Cell,3G)	GSM 850/CDMA
9	1850-1910 MHz (Cell)	PCS 1900
10	1910-1999 MHz (Cell,3G)	PCS 1900

Specifications subject to change without notice as we improve our products.
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