

RFeyeArray

300

DF and Spectrum Monitoring System



High performance twin channel system for simultaneous wideband radiomonitoring and direction finding.

The Array 300 is an intermediate sized system for vehicle mounted deployment or fixed installations. It is available in two different receiver configurations based on the class-leading RFeye Node 100-8 with 100 MHz IBW and 8 GHz upper frequency, or Node 100-18 with 100 MHz IBW and 18 GHz upper frequency.

The Array 300 uses a unique multi-layer approach that is more sophisticated and versatile than traditional direction finding. High performance spiral directional antenna modules are optimized for different frequency bands and arranged in multiple orientations. The Array is sensitive to the majority of incoming signal polarizations including all linear polarizations, allowing reliable detection of signals including those invisible to most DF systems.

Timing and synchronization features enable combined AOA, TDOA and POA techniques allowing all signal types in the range to be mapped, irrespective of signal power, bandwidth or frequency.

RFeyeArray

300 Specifications

DF and Geolocation

Direction finding method

Angle of arrival (AOA)	Switched directional arrays
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Geolocation frequency range

AOA DF	300 MHz to 8/18 GHz
VHF DF extender option	20 MHz to 300 MHz

Time difference of arrival (TDOA)	9 kHz to 8/18 GHz (external omni antenna)
Power on arrival (POA)	9 kHz to 8/18 GHz (external omni antenna)

DF coverage and accuracy

Polarization sensitivity	All linear (circular polarized Rx antennas)
Azimuth coverage	360°
Antenna switch time	1.5 µs (typical)

Array 300 System

I/O

Auxiliary RF input build options	2 x N-type or SMA (9 kHz to 8/18 GHz)
Network	2 x GbE with PoE

USB	2 x USB 3.0
Location	Internal GPS module & antenna (standard)
Heading	External GPS compass (option)

Data storage

External flash disks	via USB interfaces
Internal memory	256 GB SSD (per Node)

Size, weight and power

Dimensions (Ø, h) with radome	1.1 m x 0.8 m (43 x 31 in)
Weight	80 kg (176 lbs)
DC, PoE	48 VDC

Power consumption

Typical	50 W
Maximum	80 W

Environmental

Operating temperature range	-30 to +55°C (-22 to 131°F)
Storage temperature range	-40 to +70°C (-40 to 158°F)
Ingress protection	Node & electronics: IP67, system: IP55

Receivers, Option 1: Array 300-8

Channels

Dual	2 x Node 100-8
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Frequency

Range	9 kHz to 8 GHz
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Sweep speed

At 2 MHz resolution bandwidth	280 GHz/s typ.
At 61 kHz resolution bandwidth	245 GHz/s typ.

Noise figures at maximum sensitivity

9 kHz to 0.1 GHz	10 dB typical
0.1 GHz to 2.4 GHz	6 dB typical
2.4 GHz to 6 GHz	7 dB typical
6 GHz to 8 GHz	8 dB typical

Signal analysis

Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz

Sampling

Resolution	16 bits per channel (I&Q)
Rate	125 MS/s I&Q

Receivers, Option 2: Array 300-18

Channels

Dual	2 x Node 100-18
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Frequency

Range	9 kHz to 18 GHz
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Sweep speed

At 2 MHz resolution bandwidth	390 GHz/s typ.
At 61 kHz resolution bandwidth	320 GHz/s typ.

Noise figures at maximum sensitivity

9 kHz to 0.12 GHz	12 dB typical
0.12 GHz to 6 GHz	8.5 dB typical
6 GHz to 10 GHz	10.5 dB typical
10 GHz to 18 GHz	13 dB typical

Signal analysis

Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz

Sampling

Resolution	16 bits per channel (I&Q)
Rate	125 MS/s I&Q



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