CRFS | EXTRAORDINARY RF TECHNOLOGY

VDK TELECOMMUNICATIONS

DATA SHEET

RFEYE NODE 40-8

INTELLIGENT WIDEBAND RECEIVER

The RFeye Node 40-8 offers class-leading RF performance for advanced capability, real-time spectrum operations or deployment on any spectrum critical site.

The RFeye Node 40-8 uses the latest superheterodyne receiver technology to provide outstanding quality and performance at a competitive price. It is a complete spectrum monitoring and geolocation system designed for remote deployment in distributed networks both indoors and outdoors, including in hostile environments. Packaged in a compact, rugged and weatherproof housing, it has been optimized for size, weight and power (SWaP) and is simple to connect to power and network.

The Node 40-8 is characterized by outstanding noise figure, channel re-tune time and spurious free dynamic range parameters, well above any other product in its class. It also offers all of the multi-mission capability of the RFeye product range allowing multiple concurrent measurements and geolocations to be performed and multiple users to connect simultaneously from remote locations.



40-8 SPECIFICATIONS

Single channel receiver

Switchable RF inputs	4 x SMA connectors

Frequency

Range	9 kHz – 8 GHz

Noise figures at maximum sensitivity

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

Phase noise

Receiver input at 1 GHz	-110 dBc/Hz at 20 kHz offset, typ.
Receiver input at 8 GHz	-100 dBc/Hz at 20 kHz offset, typ.

Signal analysis

Instantaneous bandwidth	40 MHz
Tuning resolution	1 Hz

Internal frequency reference

Stability over temperature	±0.5 ppm
Ageing	±3 ppm

Programmable sweep modes

Sweep speed at 2 MHz RBW	245 GHz/s typ.
User programmable modes	free run continuous, single timed, user trigger and adaptive
Trigger-on-event modes	user defined masks, actions and alarms

Sampling

Rate	62.5 MS/s I&Q

Local oscillator emissions

Re-radiation	≤ -90 dBm typical

Frequency references

Selectable	Internal, GNSS or external
External input	10 MHz ± 10ppm

Location & Timing

GNSS device (standard)	GPS, GLONASS, Galileo
GNSS timing accuracy	< 20 ns

Processor sub-system

CPU	Intel E3845 quad core

I/O

Network	1 x 1 GigE, with POnE
Universal Serial Bus	1 x USB3.0, 1 x USB2.0
2 x IEEE1394 expansion ports configurable as	2 x SyncLinc ext peripheral control
GNSS antenna input	1 x SMA passive or active (3.3 VDC)

Data storage

External SSD (optional)	via USB interfaces

System software

Boot firmware	BIOS
Operating system	Linux, kernel v 2.6
RFeye Node Control Protocol	NCP Server (NCPd)
Node Apps (optional)	Logger, EMP, Detectors

Size, weight and power

Dimensions (Node only) (w, h, d)	200 x 50 x 130 mm (7.9 x 2.0 x 5.1 inches)
Dimensions (w. end plates & heatsink)	200 x 74 x 330 mm (7.9 x 3.0 x 13 inches)
Weight (inc heatsink)	2.8 kg (6.3 lbs)
Weight (inc noses / end plates)	5.2 kg (11.6 lbs)
DC power	12 VDC (max limit 30V)
POnE	56 VDC

Power consumption

Typical	20 W
Maximum	25 W

Environmental

Operating temperature	-30 – +55 °C (-22 – 131°F)
Storage temperature	-40 – +71 °C (-40 – 160°F)
Ingress protection	IP67 (w. optional end plates)

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