

RFeyeNode

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 to 8 GHz

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

Phase noise

Receiver input at 1 GHz -103 dBc/Hz at 20 kHz offset, typ.

Receiver input at 8 GHz -107 dBc/Hz at 20 kHz offset, typ.

Signal analysis

Instantaneous bandwidth 40 MHz

Tuning resolution 1 Hz

Internal frequency reference

Initial accuracy @20°C ±0.1 ppm typ.

Stability over temperature ±0.3 ppm

Ageing over 1 day ±0.04 ppm

Programmable sweep modes

Sweep speed at 2 MHz RBW 100 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 PoE

Universal Serial Bus 1 x USB3.0, 1 x USB2.0

2 x IEEE1394 expansion ports 2 x SyncLinc ext peripheral control

configurable as: 1 x SMA passive or active (3.3 VDC)

GNSS antenna input

Data storage

Internal SSD (optional) 512 GB

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 (Node only) 2.1 kg (5 lbs)

Weight (w. end plates & heatsink) 4.5 kg (10.7 lbs)

DC power 12 VDC

PoE 48 VDC

Power consumption

Typical 20 W

Maximum 25 W

Environmental

Operating temperature -30 to +55 °C (-22 to 131°F)

Storage temperature -40 to +71 °C (-40 to 160°F)

Ingress protection IP67 (w. optional end plates)



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