

## 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.



# 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  $\pm 0.5$  ppm

Ageing  $\pm 3$  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  $\leq -90$  dBm typical

### Frequency references

Selectable Internal, GNSS or external

External input 10 MHz  $\pm 10$ ppm

### 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 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)