



## Entry-level system for evaluation of RFeye system capability

- **Low cost evaluation system**
- **Allows users to evaluate RFeye Spectrum Monitoring Node capabilities**
- **Includes extensive accessories pack and application software**
- **Developer Pack (SDK) option to allow users to develop applications to run on RFeye Node**
- **Optional antenna arrays for exploration of DF capability**

The RFeye Evaluation System is designed to allow users to evaluate the capabilities of the RFeye Spectrum Monitoring Node. The system includes an RFeye node, broadband omni-directional measurement antenna, GPS and GPRS/HSPA antennas, and power supply, plus all necessary cables all contained in a rugged transit case. Also included in the kit is RFeyeScope software to allow users to control the unit from a PC, using a 'spectrum analyser' style interface.

Available as additional options are software packages that allow users to explore different uses of the RFeye node:

- Mapping data logged by a mobile node
- Developing applications to run on the Linux PC within the node, to control how the node collects and processes data

### Features

#### Kit Includes:

- RFeye Node (10 MHz - 6 GHz)
- Environmental protection cover
- Broadband omnidirectional antenna inc. mounting hardware
- GPS and GPRS/HSPA antennas
- Universal mains power supply
- RF and screened Ethernet cables
- Rugged carry case
- RFeyeScope application
- 4GB memory sticks (3)

#### Options:

- RFeyeView Data Viewer Software
- Developer Pack (SDK)
- Antenna arrays

## Technical specification

### Frequency

Range	10 MHz to 6 GHz
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### Sensitivity (equivalent noise figures at maximum sensitivity)

10 MHz - 4 GHz	8 dB typical
4 GHz - 6 GHz	11 dB typical

### Signal Input

Input connector	Four switchable signal inputs
Maximum input level	+15 dBm; 15 VDC

### Internal Frequency Reference

Initial accuracy	better than $\pm 2$ ppm at 20°C
Stability	better than $\pm 1$ ppm (10°C to 30°C)
Ageing	better than $\pm 2$ ppm per year

### Sweep and Triggering

Sweep time	10 MHz - 6 GHz: less than 100ms*
Sweep mode	Fully programmable: Free run continuous, single, timed, delay timed, user trigger, adaptive (if-then-else)
Trigger on event	Fully programmable: user-definable masks, user-definable action when mask exceeded

\*: Fast sweep mode

### Signal Analysis

Real-time analysis bandwidth	20 MHz maximum
Equivalent resolution bandwidth	20 kHz min. (max. analysis b/w) 2 kHz min. (reduced analysis b/w)

### Power Supply

DC power	10 - 48 VDC
Power consumption	12 - 18W, radio operational 6 W typical, radio idle

### Interfaces

RF input	SMA (X 4)
GPS antenna	SMA
UMTS/HSPA modem antenna	SMA
100 Base T Ethernet	1
USB	2
RFeyeSPI (expansion port)	2

### Mechanical

Dimensions (RFeye Node)	170 mm x 60 mm x 125 mm (6.7 in x 2.4 in x 4.9 in)
Weight (RFeye Node)	1.4 kg (3.1 lb) [Node only] 2.0 kg (4.4 lb) [with environmental protection cover]
Weight (shipping)	6.7 kg (14.8 lb) [inc. accessories]

### Environmental

Operating temperature	-30 to +55°C (-22 to 131 °F)
Storage temperature	-40 to +70°C (-40 to 158 °F)

### Accessories

Measurement antenna	Omnidirectional antenna (AOR DA5000, 700 MHz - 5 GHz). Including pole, mounting hardware and 1m (3 ft) cable
GPS antenna	Active type, panel mount inc. cable
GPRS/HSPA antenna	Panel mount, inc. cable
Environmental protection cover	
Universal power supply	90 - 264 V AC, 57 - 63 Hz
DC power lead	2m (6ft)
Logger Control Box	Inc. 1m (3ft) lead
Ethernet cable	2m (6ft), screened
Carry case	External dimensions: 455 mm x 368 mm x 166 mm (18 in x 14.5 in x 6.6 in)
USB memory sticks	4GB (x3), inc. demo/application software and documentation

## Options

### RFeyeView Data Viewer

- ▣ Allows users to import data from CRFS format data files created by RFeye node
- ▣ Data displayed onto OpenStreetMap graphical geographic database
- ▣ Data analysis modes inc. peak power, mean power and utilisation
- ▣ Radio spectrum display
- ▣ Waterfall (time series) display
- ▣ Data filtering by node, data stream ID, etc.



### Developer Pack (SDK)

- ▣ Allow users to develop Windows and Linux based applications to control node from development PC
- ▣ Allow users to develop vertical applications to run on the node
- ▣ Supports Windows and Linux development environments
- ▣ Remote procedure calls used to develop software on PC in any language
- ▣ Windows DLL supplied to interface to remote node RF analyser API
- ▣ Python and C libraries supplied for remote control of node
- ▣ Example source code supplied
- ▣ Allows users to develop APIs and application for other peripherals and sensors

## For more information