

RFeyeSystem

Portable Recorder

Portable Real-Time Spectrum Analyzer and Recorder



Modular RF digital recording solution for capture and analysis of RF signals

The RFeye Portable Recorder provides multi-channel real-time spectrum analysis and long duration record capabilities in a compact low power portable configuration. Modules interface to the USB-C port of a desktop or laptop PC and up to 6 receiver channels / memory modules can be supported simultaneously.

Features:

- 9 kHz to 8 GHz and 9 kHz to 18 GHz frequency range options
- Multiple independent simultaneous 100 MHz IBW channels
- Channel to channel time alignment to within 40 ns
- Signal data storage up to 32 TB
- Powerful visualization and analysis tools
- Export files in range of formats including XDAT and MATLAB

Applications:

- Portable signal collection – modular and low SWaP
- Test chambers – flexible multi-channel RF signal recording
- Stimulus/response system development – record and analyze actual RF signals for system performance evaluation



RFeyeSystem

Portable Recorder Available Modules

Internal receiver: Nexus R-8

Switchable full bandwidth RF inputs 2 x N-type connectors and 1 x SMA connector

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

Signal analysis

Instantaneous bandwidth 100 MHz

Tuning resolution 1 Hz

Internal frequency reference (pre-calibration)

Initial accuracy ± 1.0 ppm typ.

Stability ± 1.5 ppm typ.

Ageing ± 0.5 ppm per year

Sweep speed

Sweep speed at 2 MHz RBW 280 GHz/s typ.

Sweep speed at 61 kHz RBW 245 GHz/s typ.

Sampling

Resolution 16 bits per channel (I&Q)

Rate 125 MS/s I&Q

Internal receiver: Nexus R-18

Switchable full bandwidth RF inputs 2 x N-type connectors and 1 x SMA connector

Frequency

Range 9 kHz to 18 GHz

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

Internal frequency reference (pre-calibration)

Initial accuracy ± 1.0 ppm typ.

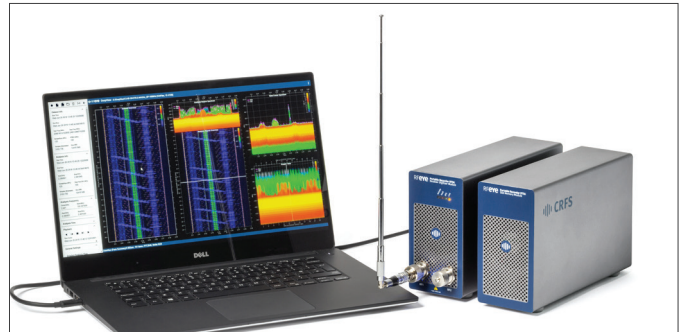
Stability ± 1.5 ppm typ.

Ageing ± 0.5 ppm per year

Sweep speed

Sweep speed at 2 MHz RBW 390 GHz/s typ.

Sweep speed at 61 kHz RBW 320 GHz/s typ.



Analysis software; Complete file is not loaded into memory, allowing work on files > 2 GB. Statistical heat map spectrum displays, IQ data views, spectrogram time heat maps and many other powerful real-time and historical data analysis options.

Sampling

Resolution 16 bits per channel (I&Q)

Rate 125 MS/s I&Q

System options

Choose up to a total of 6 modules from:

Receiver (at least 1)	Nexus R-8 (8 GHz) or Nexus R-18 (18 GHz)
SSD	High speed and RAID options, up to 6.4 TB per module

Connectivity USB-C (Thunderbolt 3)

Equivalent lanes 4 x Gen 3.0 PCIe

Total throughput Up to 40 Gbps

Overall system

Size, Weight and Power

Receiver module:

Dimensions (w, h, d) 233 x 75 x 150 mm
(9.2 x 3.0 x 5.9 inches)

Weight 2.65 kg (5 lb 13.5 oz)

Power consumption 30 W typ.

SSD memory module:

Dimensions (w, h, d) 233 x 75 x 150 mm
(9.2 x 3.0 x 5.9 inches)

Weight 1.7 kg (3 lb 12 oz)

Power consumption 20 W typ.

Environmental

Operating temperature range 0 to +50°C (32 to 122°F)

Storage temperature range -40 to +70°C (-40 to 158°F)



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