

RFeye SenS

SenS Portable

Lightweight mobile I/Q Recorder



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

The SenS Portable recorder provides real-time spectrum analysis and long-duration recording capabilities in a compact, low-power, portable configuration. With built-in high-speed, solid-state memory of 12.8 or 25.6 TB, SenS interfaces to the Thunderbolt port of a desktop or laptop PC for seamless integration with the RFeye DeepView forensic signal analysis software.

Features:

- 9 kHz to 18 GHz frequency range for C, X and Ku bands and lower 5G recording
- Integrated SSD(s) for up to 12 hours of recording time at 100 MHz IBW
- Can be powered by vehicle DC adaptor
- Low SWaP for signal recording on the move
- Powerful visualization and analysis tools
- Time and frequency filtering to minimize file size of I/Q exports

Applications:

- Portable signal collection – record native RF environment outside of a lab
- Anechoic chambers – extract and test target signals with forensic DeepView software
- Stimulus/response system development – capture signal files with crystal-clear fidelity for digital manipulation and playback

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SenS Portable Specifications

Internal receiver: R-8

Switchable full-bandwidth RF inputs 3 x SMA connectors (rear)

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

Initial accuracy ± 1.0 ppm typical

Stability ± 1.5 ppm typical

Ageing ± 0.5 ppm per year

Sweep speed

Sweep speed at 2 MHz RBW 280 GHz/s typical

Sweep speed at 61 kHz RBW 245 GHz/s typical

Sampling

Resolution 16 bits I&Q

Rate 125 MS/s I&Q

Internal receiver: R-18

Switchable full-bandwidth RF inputs 3 x SMA connectors

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

Initial accuracy ± 1.0 ppm typical

Stability ± 1.5 ppm typical

Ageing ± 0.5 ppm per year

Sweep speed

Sweep speed at 2 MHz RBW 390 GHz/s typical

Sweep speed at 61 kHz RBW 320 GHz/s typical

Sampling

Resolution 16 bits I&Q

Rate 125 MS/s I&Q



DeepView forensic analysis software: Dataset overview provides an overall index for rapid navigation of files > 2 GB, and rapid FFT calculations facilitate quick zooming and reduced lag. Includes statistically weighted displays for frequency, time, power and I/Q along with many other powerful real time and historical data analysis options.

System components

Receiver	R-8 (8 GHz) or R-18 (18 GHz)
Built-in, enterprise-class SSD	12.8 TB or 25.6 TB

Connectivity USB-C (Thunderbolt 3)

Equivalent lanes	4 x Gen 2.0 PCIe
Total throughput	Up to 40 Gbps

Overall system Size, Weight and Power

Dimensions (w, h, d)	165 x 117 x 279 mm 6.5 x 4.6 x 11 inches
Weight*	5.5 lbs (1 x SSD) 6.0 lbs (2 x SSD)
Power consumption*	60 W typical

Environmental

Operating temperature range*	0 to +50°C (32 to 122°F)
Storage temperature range*	-40 to +70°C (-40 to 158°F)

*Estimated; subject to change after further design & testing.



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