Per Vices Corporation

TECHNICAL DATASHEET

Per Vices Corporation
High Performance Software Defined for Spectrum Monitoring and Data Recording

TECHNICAL SPECIFICATIONS	
Frequency range	9kHz to 18GHz
Number of channels	1 to 16
Bandwidth	1GHz per channel
SFDR (dB)	60 to 65
Typical Rx Noise figure (dB) (see Note 1)	3.1 to 7
Sensitivity (dBm)	-150 to -103
Frequency resolution (Hz)	0.0625
Frequency accuracy	50 ppb
Sweep Speed	16GHz/ms
Fast Tuning Time between Frequencies (See Note 2)	40us
Antenna Interface (See Note 1)	50Ω SMA
Data Interface (See Note 1)	4 x 40GBASE-R qSFP+
Management Interface (See Note 1)	RJ45
MTBF (See Note 3)	23.6k hrs @ 40degC
Volume (See Note 4)	3U, 19” rackmount server
Storage space (See Note 5)	2-100TB

Note 1: This parameter may be adjusted to customer requirements.
Note 2: Product supports fast tuning times between frequencies that are integer multiples of one another. Arbitrary frequencies may take longer.
Note 3: Mean Time Between Failure is calculated assumes sustained operation at environmental limits, and includes any single source of failures, including fans.
Note 4: The form factor may be optimized to accommodate SWaP requirements
Note 5: The storage space is for the data storage solution which Cyan can connect to. .

INTERNAL ARCHITECTURE

The spectrum monitoring and data recording solution consists of our Cyan software defined radio (SDR) and a robust storage and processing solution. The Cyan SDR incorporates both radio and digital resources to allow for radio tuning, configuration, conversion of analog to digital signals, DSP on an FPGA, and passing the data over four 40Gbps ports. We also have an on-board time PCB which distributes clock signals to all boards, from either internal reference crystal or user provided reference through a 50 Ohm SMA. With it’s coordination, the digital and radio receive circuit boards communicate through high speed interfaces. The radio front end (RFE) can be used to control the aliasing, attenuation levels and gain characteristics of the analogue signal.

INTEGRATION CAPABILITIES
Extended operating frequencies
Flexible independent receive channel count
Custom RF performance
Expandable data storage solutions
API documentation and GNUradio support
Antenna interface
Data interface
Management interface
FPGA logic elements and available DSP
Size, weight, and power (SWaP)

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HOW SDR INTEGRATES INTO YOUR SYSTEM

Cyan is the most powerful spectrum monitoring platform available and when paired with our storage and processing solution, it provides a full solution to your spectrum monitoring, recording, and playback requirements. It offers either the use of external timing triggers or the use of a high stability, built in crystal reference. You can utilize up to 16 independently tunable radio channels, each offering 1GHz of bandwidth to ensure wide spectrum sweeping and high resolution through the dedication of separate channels to be used for analysis on signals of interest. The Cyan platform offers 50 ohm SMA ports for all radio interfaces and four 40Gbps qSFP+ ports for the digital data interface. The full solution will incorporate storage and processing capabilities on a host system already configured to work with Cyan for lossless data transfer and storage.

PRODUCTION CAPABILITIES

Per Vices scales low, medium, and high volume capabilities to match the size of your project. Our build-your-own SDR tool allows you select from a wide range of features and certifications. The tool will also provide a rough order of magnitude (ROM) estimate. For more information or if you have more niche requirements, contact us directly and we'll help you out. We provide guaranteed performance on all our SDRs with standard factory test reports and customer specified reports.

EVALUATION REQUIREMENTS

Get started quickly with our COTS solutions, before proceeding with any optimizations required. This will allow you to use one of our stock products with a host system and UHD compatibility to demonstrate proof of concepts (POCs) and reduce overall risks associated with your project.

CONTACT US

More information is available at www.pervices.com.
If you have any questions, please contact us at solutions@pervices.com.