

# PRODUCT SHEET

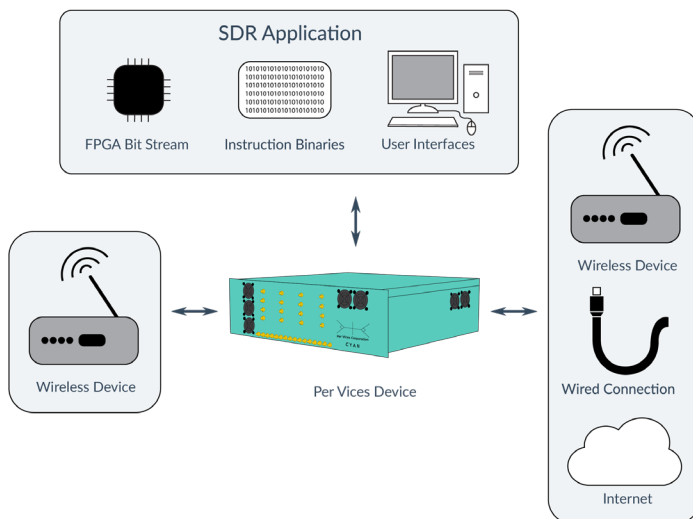
Per Vices Corporation

High Performance Software Defined Radio for Test & Measurement

## OVERVIEW

Software Defined Radios (SDRs) are platforms with more flexible signal processing components that are designed to run on high-speed embedded systems. Processing of radio waves takes place on field-programmable gate arrays (FPGAs) on the device which can perform various DSP. Changing the SDR application changes the FPGA layout causing the SDR to change it's internal behaviour as if it had a whole different set of circuitry. SDRs function as a powerful development tool, as various tests and measurements can be carried out on one device. Whether it be testing new modulation/demodulation schemes, long-duration remote field testing, or in a lab use to generate signals or measure the power of signals, an SDR can do it all.

## WHERE WE FIT IN



Each radio has a set of boards for transmitting and receiving signals. This is where the conversion between analog and digital signals happen via an ADC or DAC. Cyan offers a sample rate of 1 GSPS (upgradeable to 3 GSPS) with 16 bit resolution, enabling high performance T&M applications. Our flexible radio front ends allow for sending and receiving very high frequencies (up to 18 GHz for Cyan and 6 GHz for Crimson), while the FPGA can have different IP cores enabled for on-board processing for various T&M functions. Alternatively, our out-of-the-box support with GNU Radio and

other development tool kits allows for more to be done in software on a host system. Our multichannel system (4 Rx and 4 Tx for Crimson TNG and up to 16 radio chains for Cyan) allows for testing of MIMO systems or various different transmit/ receiver functions concurrently.

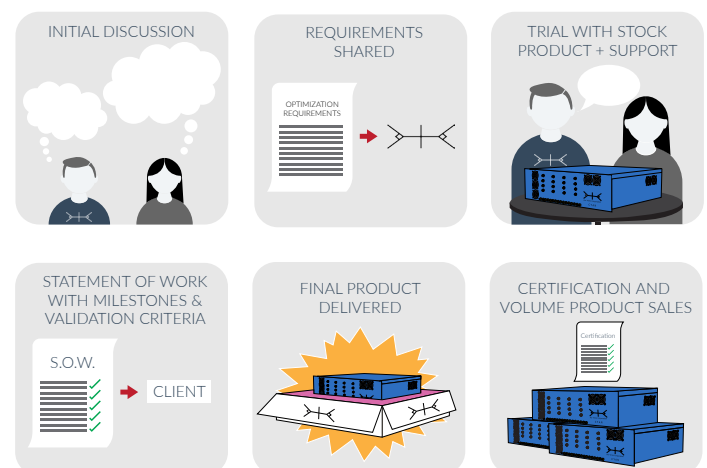
## KEY INTEGRATION VALUE

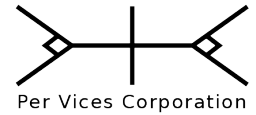
Our ability to create custom form factors can allow for us to be integrated into any system. In the past, T&M engineers would require many different devices, but now a user can perform various T&M functions with one device thanks to a reconfigurable FPGA and different IP cores with various DSP functionality. We are able to provide storage solutions for testing out in the field or when doing remote measurements requiring wireless access.

## END CUSTOMER BENEFITS

You will be able to save time and money due to the multifunctionality of our SDR products. Our reconfigurable platform means the device will stand the test of time when used for new development requiring T&M. As standards, protocols, operating frequencies, processing algorithms, etc. change, so can the SDR device.

## PER VICES COLLABORATIVE PROCESS





More information is  
available at  
[www.pervices.com](http://www.pervices.com)

If you have any questions,  
please contact us at  
[solutions@pervices.com](mailto:solutions@pervices.com)

## WHAT WE NEED FROM YOU

- Requirements of your T&M application; signal-to-noise requirements, form factor requirements, recording solution, types of measurements you wish to make, etc.
- What function we are responsible for. For example: all equipment specification and purchasing, site set-ups/T&M demonstration, only our radios, etc.
- Timelines and Priorities. Most of our solutions are COTS products with very short lead times, however, if you need something optimized for your project, we will work with you to meet the timeline and goals you set for the project. We will also discuss the priorities of the project as they relate to costs and performance to ensure you have exactly what you need within your given budget.

## WHAT TO SHARE WITH US

The most important things we need are the performance requirements that you are looking to hit so we can ensure that we can provide an effective solution meeting your RF performance, digital resource requirements, digital backhaul, number of channels, and form factor. During these discussions we will also discuss timelines and goals for the project as they relate to optimizing for lower immediate costs vs. unit costs, volumes, timelines, and support. All of this information helps us make sure that we are providing you with the solution best matching your needs while managing your own risks associated with new projects.

## WORKING TOGETHER

Please contact us at [solutions@pervices.com](mailto:solutions@pervices.com) to learn more about how we can help you. Following our initial discussion, our team will support you throughout the whole process, from a trial with a stock product, to developing out specific requirements for a statement of work, all the way to the volume integration for a certification stage. Our sales engineers work with you each step of the way to ensure it's a smooth and easy integration of our product into your systems.