

# SOFTWARE-DEFINED RADIO AND SENSORS

The logo consists of three horizontal white bars of varying lengths, stacked vertically, resembling a stylized 'V' or a signal waveform.

VULCAN  
WIRELESS INC.

## WELCOME TO VULCAN WIRELESS.

We provide digital communications solutions for terrestrial and space applications. Our solutions take your communications requirements from conception to production and into space. Our customers are both military and commercial customers with demanding communications needs. Our core competencies are embedded software, digital signal processing, encryption and high performance radio design. Our designs leverage our core competencies into applications with severe Size, Weight and Power (SWaP) constraints and severe environments such as space. We are a leading provider of small satellite communications solutions for military and commercial customers. Our technology is on orbit today and demonstrates our commitment to quality.

Vulcan Wireless Inc. provides complete turnkey communications systems designs for our customers, both domestic and international customers. We utilize comprehensive, cost effective engineering processes. At Vulcan Wireless Inc., we enable our customers to smoothly transition from marketing concept to mass production and meet the critical market window while aggressively supporting their scheduling needs.



## OBJECTIVE

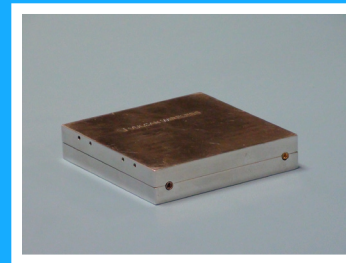
Vulcan Wireless Inc. strives to provide the highest performance communications solutions in very demanding environments. Our customers are bringing critical mission data down to earth from orbit and demand the highest performance and reliability. Vulcan Wireless Inc. is a proven partner in communications.

# PRODUCTS

## CSR-SDR-U/U

The CSR-SDR-U/U is a UHF transceiver for spacecraft communications with the following features:

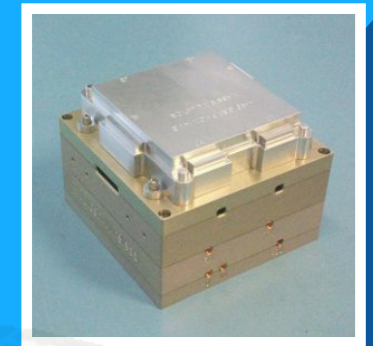
- Software Defined Radio Architecture
- Programmable Frequency and Waveforms
- Direct to War Fighter Voice and Data
- 1U CubeSat form factor
- Half duplex/Full Duplex Configurations
- Integrated AES 256 Encryption
- On orbit flight heritage



## ORS-SDR-U/U

The ORS-SDR is a fully integrated full duplex software defined radio with an S-Band transceiver and the following features:

- Software Defined Radio Architecture
- Programmable Frequency and Waveforms
- Integrated Type-1 AES 256 Encryption
- Direct to War Fighter Voice and Data
- 1U CubeSat form factor
- Half duplex/Full Duplex Configurations
- On orbit flight heritage



## CSR-SDR-S/S

The CSR-SDR-S/S is a fully integrated full duplex software defined radio transponder the following features:

- Integrated full duplex S-Band transponder
- 1/2 U CubeSat form factor
- Software Defined Radio Architecture
- Programmable Frequency and Waveforms
- TRRS and USB Waveforms
- Unified S-Band, STDN Tone Ranging, Coherent Turn Around, Telecommand and Telemetry
- Compatible with NASA NEN and DSN
- 1/2U CubeSat form factor
- Full Duplex Configuration
- Mission Radio for NASA SunJammer



## NSR-SDR-U/U

The NSR-SDR-U/U fully integrated full duplex MUOS and Legacy UHFSATCOM software defined radio with the following features:

- Software Defined Radio Architecture
- Spread Spectrum/Anti-Jam Waveforms
- NSA Suite B Encryption
- Direct to War Fighter Communications
- 1/2U CubeSat form factor
- Half duplex/Full Duplex Configurations



## LPR-SDR-S/S

The LPR-SDR-S/S fully integrated full duplex software defined radio transponder the following features:

- Integrated full duplex S-Band transponder
- <1/2 U CubeSat form factor
- Programmable Frequency and Waveforms
- TRRS, USB Waveforms and Coherent Turn Around
- Compatible with NASA NEN and DSN



## CORE COMPETENCIES

Our core competencies are embedded software, digital signal processing, encryption and high performance radio design. Our designs leverage our core competencies into applications with severe Size, Weight and Power (SWaP) constraints and severe environments such as space.

We implement a systems engineering centric approach to our engineering process. We analyze our customers' requirements and develop optimized solutions for their applications. Our hardware team realizes:

**SYSTEMS ENGINEERING:** Signal Acquisition, tracking techniques and demodulators

**HARDWARE DEVELOPMENT:** Digital Design, RF and Microwave Design

**SOFTWARE:** DSPs, microcontrollers, FPGAs and general purpose processors

**SYSTEM VERIFICATION:** RF and Microwave characterization equipment

## CORE ADVANTAGE

Vulcan Wireless provides turnkey communications solutions for extreme environments. Additionally, we tailor engineering services to all stages of the design process – from initial systems engineering and feasibility studies to implementation, hardware verification, and production.

## PROFILE

### MR. KEVIN LYNAUGH

With over thirty years of experience in leading organizations in the field of digital communications, assignments have included but are not limited to the conceptualization, prototype, and mass production phases of a wide variety of products such as tactical software defined radio for space communications, engineering design services in the RFIC and Systems Engineering space and bringing low cost electronic to the warfighter. Vulcan Wireless was first founded in May of 1996 and has continued to grow to supply over 40 clients. Mr. Lynaugh has an educational background that includes Master of Engineering from the California State Polytechnic University in Pomona, CA and a Bachelors of Science in Electrical and Electronic Engineering.

## MARKETS/CLIENTS

### MILITARY/GOVERNMENT SPACE

US Air Force • US Navy • US Army • NASA

### COMMERCIAL SPACE





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