

NEWSPACE MARKET · COMPANY PROFILE



Vulcan Wireless

United States · vulcanwireless.com

6

PRODUCTS

5

SERVICES

newspacemarket.com/companies/vulcan-wireless/

as of 20 August 2026



Vulcan Wireless

Vulcan Wireless designs and builds digital communication solutions for terrestrial and space applications, with core expertise in embedded software, digital signal processing, and radio (RF) design. The company's flagship line of NSR-SDR software-defined radio transponders spans S-band, X-band, X/S-band, and K/Ka-band, along with MUOS/UHF SATCOM terminals and NSA-certified ethernet encryptors, serving CubeSat, smallsat, LEO, GTO, and cislunar/lunar missions. The company's CubeSat-heritage CSR-SDR software-defined radio flew to orbit in 2010, establishing an early flight-proven track record in the small satellite communications market. Since then Vulcan Wireless has grown into a supplier for U.S. government and commercial space programs, delivering turnkey, high-reliability, high-assurance communication systems that move efficiently from concept to production. Vulcan Wireless serves defense and civil customers including the U.S. Air Force, U.S. Army, U.S. Navy, U.S. Marines, and NASA (including NASA JPL), and has partnered with companies such as Firefly Aerospace and Omnispace. In 2025 its radios played a key communications role aboard Firefly Aerospace's Blue Ghost Mission 1, which achieved a successful robotic Moon landing in March 2025. The company's focus areas include on-orbit reprogrammable SDR transponders, NSA Type-1 and software-based encryption, MUOS/legacy UHF SATCOM waveforms, coherent turnaround/ranging, DVB-S2 high-rate downlink/uplink, and compatibility with major ground segment providers including AWS Ground Station, SSC, KSAT, Atlas Space, MC3, NASA NEN/DSN, and TDRS-MA.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Custom Signal Acquisition and Demodulator Development Vulcan Wireless develops custom signal acquisition, tracking techniques, and demodulators for various environments, including low SNR and high Doppler conditions.	Customized Designs Vulcan Wireless creates customized communication designs leveraging their core competencies to meet specific SWaP constraints and extreme environmental conditions.
Simulations and Analysis Vulcan Wireless conducts simulations and analysis of deployment environments to ensure quality and determine key communication system requirements, relieving customer risk.	Systems Engineering The Vulcan Wireless team supports customers with feasibility studies, mission planning, and design conception for communication systems, focusing on optimized solutions.
Turnkey Communications Solutions Vulcan Wireless provides complete, ready-to-use communication systems designed for extreme environments, handling all stages from initial systems engineering to production.	

Product catalogue



VULCAN WIRELESS

NEM-ETH

NSA-certified in-line Ethernet encryptor for Top Secret and Below (TSAB) satellite communication links, supporting data rates up to 640Mbps.

Type	In-Line Ethernet Encryptor up to 640Mbps
Duplex	Full Duplex with integrated BLACK Power Filter
BLACK side control interface	Up to 4 devices
Key Management	Supports OTAR (Over The Air Rekey)
Applications	LEO, GTO, and Cislunar/Lunar applications
Crypto Modes	GRYPHON
Crosslink Capability	NCS (Network Constellation of Small Satellites)

price on request



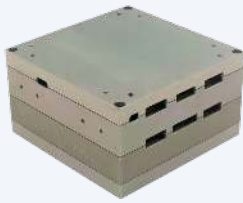
VULCAN WIRELESS

NSR-SDR-K/Ka-HDR-DVB

A high-speed K/Ka-band software-defined radio transceiver offering DVB-S2 uplink/downlink with variable modulation and coding for LEO, GTO, and Cislunar/Lunar missions.

Frequency Band	20-21.2GHz Transmitter / 30-31GHz Receiver (SDA Tranche)
Configuration	Full-Duplex
Downlink Speed	Low Mbps to >500Mbps
Uplink Speed	Low Mbps to >500Mbps
RF Power	5 Watts, Variable RF power
Modulation/Coding	DVB-S2 Uplink/Downlink with Variable Modulation and Coding
Encryption	Embedded Software-Based Encryption with optional Integrated TSAB (Type-1) Encryption

price on request



VULCAN WIRELESS

NSR-SDR-MUOS

Sub-1/2U CubeSat MUOS and legacy UHF SATCOM functional terminal with NSA Type-1 encryption.

Form factor	<1/2U CubeSat
Encryption	NSA TYPE-1
Mission life	5 years
Waveforms	Spread-spectrum anti-jam MUOS; legacy UHF SATCOM
Navigation	Integrated GPS

price on request



VULCAN WIRELESS

NSR-SDR-S/S

Full-duplex S-band software-defined radio transponder in a 1/3U CubeSat form factor.

Form factor	1/3U CubeSat
Frequency band	S-band
RF power output	up to 4 W
Duplex	Full-duplex
Mission life	5 years

Encryption	Software-based; optional integrated TSAB (Type-1)
Supported waveforms/services	NASA NEN, TDRS-MA, USB, coherent turnaround/ranging, PROXIMITY-1, crosslink

price on request



VULCAN WIRELESS

NSR-SDR-X/S

Full-duplex X/S-band SDR transponder for high-rate downlink/uplink on LEO, GTO, and cislunar missions.

Frequency band	X-band
Downlink data rate	low Mbps to >500 Mbps
Uplink data rate	low Mbps to >500 Mbps
Modulation/coding	DVB-S2, variable modulation and coding
RF power output	5 W SSPA (variable)
Duplex	Full-duplex
Encryption	Software-based; optional integrated TSAB (Type-1)

price on request



VULCAN WIRELESS

NSR-SDR-X/S HP

High-power variant of the X/S-band transponder with >10 W linear RF output for CubeSat missions.

Frequency bands	X/S-band
RF power output	>10 W (linear)
Form factor	CubeSat-compatible
Mission life	5 years
Data protocol	DVB-S2
Applications	Cislunar navigation, lunar surface communications

price on request

Contact Vulcan Wireless

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

<https://newspacemarket.com/companies/vulcan-wireless/>

<https://www.vulcanwireless.com>

© 2026 Vulcan Wireless — product data. Document compiled by NewSpace Market from the live catalogue on 20 August 2026. May be shared freely.