# CESIUM ■

Software Defined Radio
SDR-1001

A high-performance, compact software-defined radio designed to operate in Low Earth Orbit (LEO) environments.

The Cesium SDR-1001 includes four receive channels, four transmit channels, and a state-of-the-art FPGA in a credit-card-sized footprint. The module is suitable for demanding digital signal processing and communications applications.

Use as a stand-alone SDR or combine with other Cesium modules for a complete bits-to-photons solution.
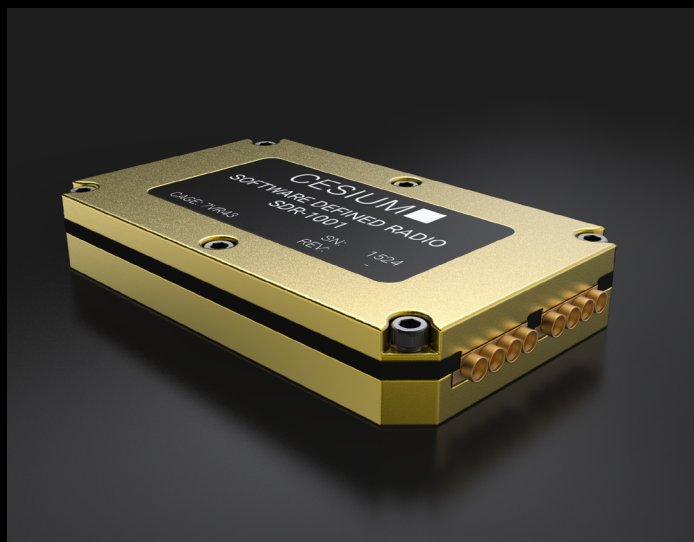
Key Features:

- Compact 50mm x 84mm x 13mm packaged form-factor
- 4x 100MHz receive channels
- 4x 100MHz transmit channels
- Customizable FPGA fabric enables user-defined comms system
- Supports DVB-S2X, LTE-grade waveforms, and other high-order modulations
- Transmit and receive frequencies adjustable 300MHz-6GHz
- Optional RF observation ports
- Field-updatable, redundant boot flash with automatic failover
- Data interfaces: SpaceWire and UART (10GBASE-KR & 1000BASE-X - option)
- On-board telemetry: temperature, power consumption, rail voltages, error reporting
- LEO, military and UAV applications
- Thermal pillars bring heat to flat surface

Cesium General-Purpose Modem:

- A pre-loaded comms solution that works out of the box
- Selectable Data Rate up to 62.5 MSym/s
- BPSK/QPSK
- Forward Error Correction
- Burst Mode
- SpaceWire and UART interfaces

Product Specifications:

DC Input Voltage:	9 to 13 V
Power Consumption:	10 to 20 W
Baseplate Operating Temp:	-24 to +61 °C
Mass:	100 g

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