BLUE CANYON TECHNOLOGIES

SPACECRAFT BUSES,
SYSTEMS & SOLUTIONS

SOFTWARE DEFINED RADIOS

Flexible software defined radio (SDR) solutions are designed in-house. The radios combine tunable transmitter and receiver functionality into one compact design. The radios are perfect for small satellites looking for flexibility and data rates up to 100 Mbps using DVB-S2 will be available mid-2023.

The SDRs are compatible with Type-1 encryption modules such as the KI-55 and can support AES-256 GCM software encryption natively. Their form factor support CubeSats and microsats.

BCT SDR products are designed for interoperability with industry standard ground networks such as KSAT, SSC, AFSCN, and NEN. Full product lines include, L-band, S-band, and X-band radios.

FEATURES INCLUDE:

- Flexible software defined radio – uplink / downlink / crosslink applications
- High downlink data rate (up to 100 Mbps) available mid-2023
- Flight proven full duplex radio integrated with BCT avionics
- Maximizes payload volume
- Supports configutations from 3U to ESPA

SOFTWARE DEFINED RADIOS

MICROSAT FORM FACTOR MODEL

DOWNLINK FREQUENCY	S-band (2.2 - 2.3 GHz), X-band (8 - 8.5 GHz)
UPLINK FREQUENCY	L-band (1.76 - 1.84 GHz), S-band (2.025 - 2.110 GHz)
MAX BANDWIDTH	50 MHz
POWER CONSUMPTION	2 Watts RX only, 18 Watts RX + TX (S-band), 26 Watts RX + TX (X-band)
RF OUTPUT POWER	Adjustable with nominal 2 Watts RF output
DOWNLINK MODULATION SCHEMES	BPSK / OQPSK / DVB-S2 (mid-2023)
UPLINK MODULATION SCHEMES	BPSK
SUPPORTED STANDARDS	CCSDS-TC (uplink), CCSDS-TM (downlink)
OVERALL SIZE	3.2 x 3.15 x 0.63 in (S-band), 3.2 x 3.15 x 0.88 in (X-band)
ELECTRICAL INTERFACE	LVDS
DOWNLINKFORWARD ERRORCORRECTION	Convolutional (K=7, R=1/2), DVB-S2 LDPC (mid-2023)
OPERATING VOLTAGE	9-34V

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