SWIFT™ -XTRX

Flexible High-Performance X-Band Communications

Description

The SWIFT-XTRX is an X-band software defined transceiver that has one of the smallest size, weight and power form factors in the industry for its capabilities. As an integrated system, it combines the data interface, RF transceiver chain and power amplifier in a single package. With a wide array of electrical interfaces and AES encryption, the SWIFT-XTRX is suited to many different applications, from the Earth to the Moon and anything in between.

Why XTRX?

Low SWaP

Weighs < 1 kg and ~29W Operating Power

Modulation Options

Tx and Rx can be modulated based on your requirements

Modulation can be configured on-orbit

Encrypted Networking

AES-256 can be added to base configurations

Flight Heritage

Leverages SWIFT on-orbit experience

Specifications

SDR Performance	Specification
Peak Throughput	Tx: Up to 100 Mbps (max 50 Mbps with HDLC framing) Rx: up to 5 Mbps
Frequency Range	Tx: 8 – 8.5 GHz Rx: 6.9 – 7.6 GHz
Tx Bandwidth	50 MHz
Tx Power	+33 dBm (Finely Adjustable)
Rx Bandwidth	9.9 MHz
Operating Dynamic Range	-120 to -50 dBm

Modulation Options- reconfigurable on-orbit	
Rx	**Tx**
BPSK, AMFSK, SGLS, USB	BPSK, QPSK, OQPSK, 8PSK, 16APSK, SGLS, USB

SWaP	Specification
Size (with connectors and mounting feet)	(L) 107 x (W) 98 x (H) 62 mm
Mass	946 grams
Input Voltage	9 – 34.6 VDC
Operating Power	29W
Standby Power	3W
Operating Temperature	-30C to +60C
Radiation	40 Krad TID, 200 MeV non-destructive latch-up, rad-hard flash
Vibration	22.6 Grms

Interfaces
RS-422 for TT&C (Prime and Redundant ports)
LVDS for Data Transfer
1 Tx port SMA
1 Rx port SMA

Encryption (Optional Add-On)
AES-256 up & down
Compatible with KI-55, KI-103, Iron Fortress (KI-18x2)

Forward Error Correction
Convolutional Coding, Reed Solomon, LDPC, BCH

Features
CCSDS TM/TC/AOS/Security Packet, Gryphon Framing
NTIA/SFCG Mask Compliant
PN Ranging (one-way, two-way)
Coherent or non-coherent

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