ARGOTEC PRODUCTS
DATA SHEET

UST-LITE RADIO

Modular Multi-Band/Channel Software Defined Radio for Next-Generation Deep Space Missions

UST-Lite, developed in cooperation with NASA JPL, is a transponder designed to enable next-generation telecommunication services and science in Deep Space.

Thanks to its modularity and robustness, UST-Lite allows timely and reliable responses to the wide spectrum of needs for future missions for Moon and Mars exploration.



MODULAR DESIGN FOR SWIFT CUSTOMIZATION

UST-Lite modular architecture can host application-specific Radio Frequency modules (e.g., S, X, K, Ka bands) coupled with reprogrammable digital processing, timing, and power blocks.

Such as paradigm allows to readily respond to any communication need, including direct-to-Earth, user-terminal, and relay capabilities, even simultaneously in a unique product.

RELIABLE OPERATION IN DEEP SPACE

The UST-Lite radio can reliably operate in Deep Space, thanks to radiation hardening, improved signal coverage, and error-correction capabilities.

Built with high-reliability components and supporting legacy protocols, UST-Lite guarantees dependable communication with remote and harsh locations, such as Moon, Mars, and beyond.

DEVELOPED TO ENABLE CUTTING-EDGE SCIENCE

Developed in cooperation with JPL, UST-Lite leverages decades of know-how in challenging and pioneering missions.

For its unique capabilities, UST-Lite can be an enabler for cutting-edge scientific objectives, including future Service Infrastructures and User Communications in Lunar or Martian environment.

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TECHNICAL SPECIFICATION

BANDS AND THROUGHPUT	S, X, K, Ka bands and subsets Up to 100 Mbps Additional bands and higher data rates upon request
TELECOM STANDARDS & CODING SCHEMES	CCSDS LDPC Other standards and schemes upon request
TID RATING & SEL ON-SET THRESHOLD	TID_{th} 40 krad SEL immune up to 38 MeV*cm^2/mg
POWER SUPPLY	28 V (unregulated) Typical consumption: 35 W (Dual-band) Consumption depends on bands configuration
DIGITAL I/F	10 Gbps SerDes High-speed 4× SpW for TMTC/data 2× JTAG 3× UART
MASS	3.4 kg (Dual-band) Mass depends on bands configuration
VOLUME	113 × 121 × 200 mm (Dual-band) Volume depends on configuration
CONNECTORS TYPE	Space Grade MicroD and SMA Connectors
CAPABILITIES	Up to 4 Full duplex, Simultaneous, Independent Channels Expandable Digital Signal Processing Module Clock Disciplinable Ranging

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SPACE FOR AMBITIONS