

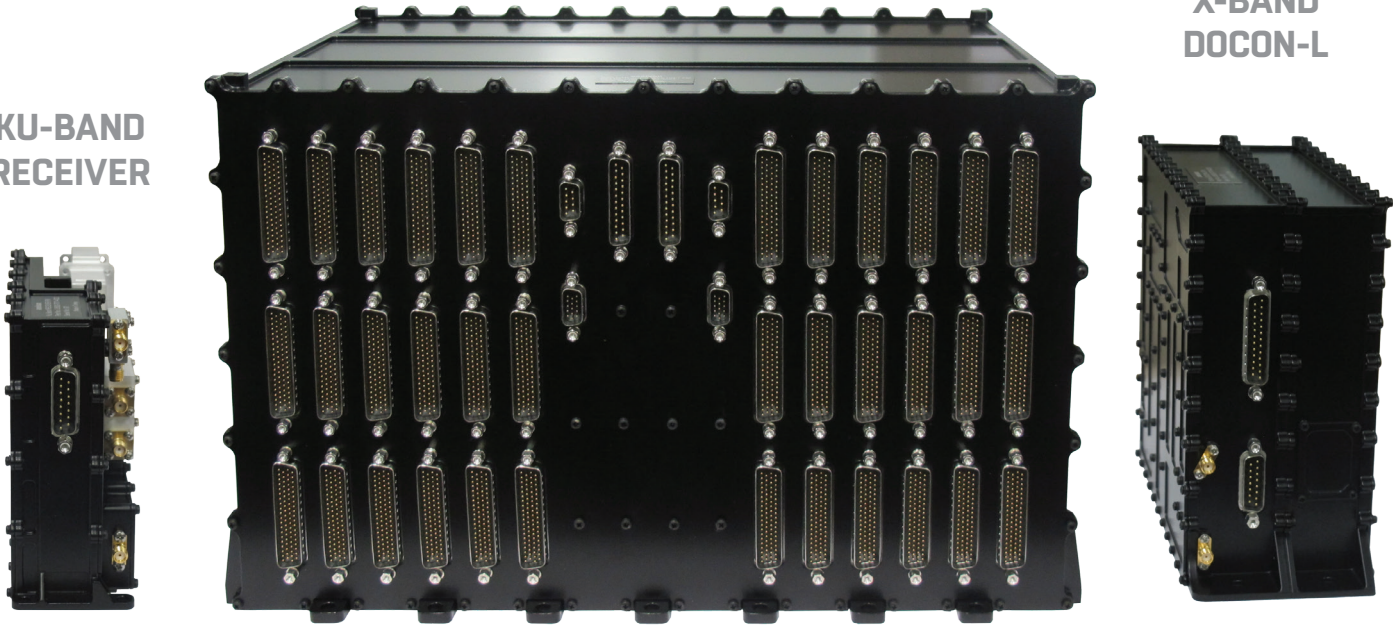
SATELLITE PAYLOAD EQUIPMENT

PAYLOAD INTERFACE UNIT (PIU)
KU-BAND RECEIVER
X-BAND DOCON-L

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X-BAND
DOCON-L

KU-BAND
RECEIVER



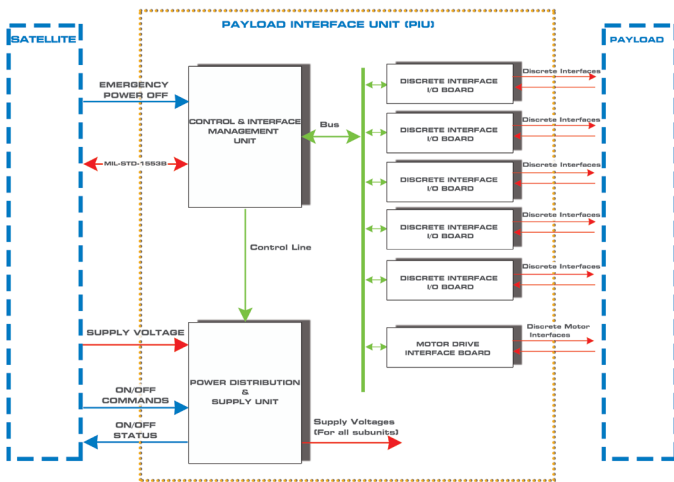
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PAYLOAD INTERFACE UNIT (PIU) KU-BAND RECEIVER X-BAND DOCON-L

PAYLOAD INTERFACE UNIT (PIU)

Payload Interface Unit provides telecommand and telemetry interface between the payload units and the on-board computer.

Functional Block Diagram



Technical Specification

Controlled and Monitored Payload Units	<ul style="list-style-type: none"> Active Assemblies Switch Matrices Antenna Deployment and Pointing Mechanism
Redundancy	Assembly internal redundancy (dual redundancy)
Satellite Platform Data Interface	MIL-STD-1553B
Satellite Power Interface	100V DC
Assembly Interface	D-Sub Connectors
Nominal Supply Voltage	100V ± 3V
Maximum Operating Voltage	110V
Under Voltage Turn-off Level	85V ± 3V

KU-BAND RECEIVER

Technical Specification

General Specification	
RF Input Frequency Band	17300 - 18350 MHz
RF Output Frequency Band	11700-12750 MHz
Gain	60 dB
Noise Figure (Ambient Temperature)	1.9 dB max
Noise Figure @ 65 °C	2.2 dB max
RF Input	WR 62
RF Output	SMA Coax
Supply/Telecommand Telemetry Interface	D-Sub Connector
Telecommand	Power On/Off
Telemetry	Power On/Off Status
Supply Voltage	100 V
Power Consumption	0.2 W (Off mode)/ 12 W (On mode)/ 14W (Startup)
Mass	< 1.8 kg
Natural Frequency	> 150 Hz
Lifetime	15 years
Reliability	<300 FIT @ 35 °C

RF Specification

RF Input Power Level	Maximum Operation: -45dBm Survival Level: -30 dBm
RF Output Power Level	Saturation Level Output: +29 dBm

Environmental Specification

Operating Temperature	Range -5 °C to +60 °C (Operating Mode) Range -35 °C to +70 °C (Survival/ Non-operating mode) -25 °C (Cold Start)
Orbit	GEO

X-BAND DOCON-L

Technical Specification

General Specification	
RF Input Frequency Band	7900 - 8400 MHz
RF Output Frequency Band	7250 - 7750 MHz
Operating Modes	Linear Mode: Fixed gain control Limited Mode: Automatic gain control
RF Gain (Linear Mode)	30-63 dB
RF Input/Output Interface	SMA
Supply/Telecommand Telemetry Interface	D-Sub Connector
Supply Voltage	100V
Power Consumption	0.2 W (Off mode) / 21 W (On mode)
Mass	< 3.12 kg
Natural Frequency	> 150 Hz
Lifetime	15 years
Reliability	<275 FIT @ 35 °C

Environmental Specification

Operating Temperature	Range -5 °C to +60 °C (Operating Mode) Range -35 °C to +70 °C (Survival/ Non-operating mode) -25 °C (Cold Start)
Orbit	GEO

