High Performance Data Processing

VOLT Payloads

KP Labs' Leopard provides high performance data processing within VOLT. During nominal operations, the HPDPU acts primarily as the main payload controller. Responsible for triggering and monitoring payload modes and controlling the payload switchboard. This is where experimenters will upload their code to.

FEATURES

- Payload Controller
- Payload FDIR Monitoring
- Earth Observation Processing
- Data Processing
- OPS-SAT Experimenter Algorithm Deployment

TYPICAL SPECIFICATION

SYSTEM

Processing Cores : ZU6EG, ZU9EG and ZU15EG
FPGA for custom function implement
A radiation hardened payload controller

PHYSICAL

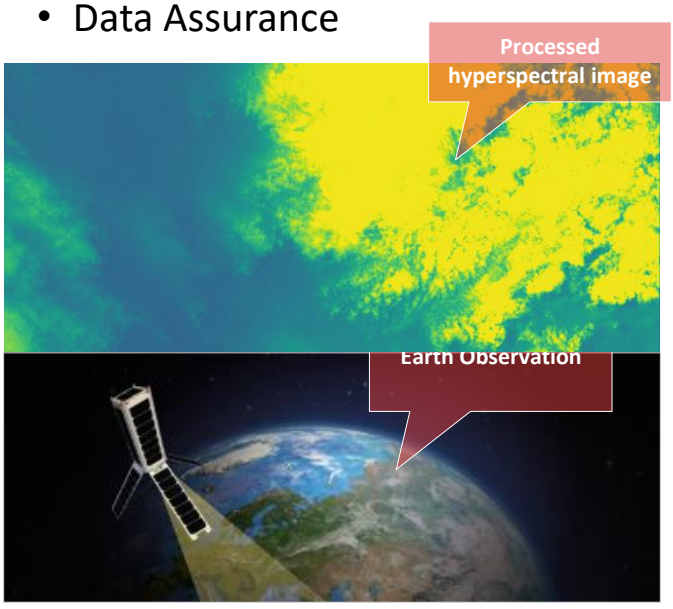
Supply Voltage : 6.5 to 14 V (VBAT)
Power Consumption : 7.5 to 40 W
Computational Throughput for Neural Networks : up to 3 TOPS
Thermal interface customizable for satellite architecture

INTERFACE

CAN, LVDS, SPI, RS422/485, UART, GTY and GTH transeivers

USE CASES

- Generation of Earth Observation Data products & deployment of Machine Learning algorithms
- Processing hyperspectral imagery
- Reconfigurable data processing chain
- Sandboxing for Ops-Sat experimentation
- Data Assurance



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