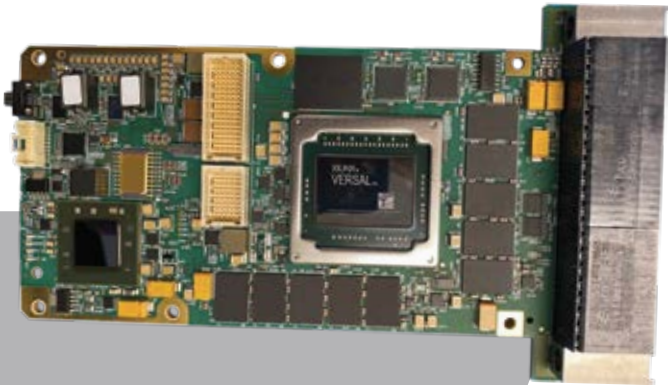


VERSAL DIGITAL RF TRANSCEIVER

The VDRT is a revolutionary 3U VPX processor based on the Xilinx VC1902 Adaptive Compute Acceleration Platform (ACAP) with AI core. The VDRT will provide never-before available processing power and mezzanine expansion in an industry leading C-SWaP product.



Breakthrough
Performance in a
3U VPX Module

RF and Processing On The Edge

Trident's VDRT leverages the full capability of the revolutionary Xilinx Versal ACAP. The VDRT combines Scalar Engines, Adaptable Engines, Intelligent Engines in a fully software programmable platform. Built on Trident's demonstrated 3U VPX architecture, the VDRT will enable a wide range of on-orbit RF and processing previously not available.

Mission Enabling

A proven Radiation Effects Mitigated architecture, coupled with radiation tolerant components, redundancy and a robust mechanical design, provide a low C-SWaP, high reliability module for a wide range of applications. Hardware, Software, Firmware customization available with a wide range of FW/SW deployment options.

Versal Digital RF Transceiver

Mezzanine Options

ADC/DAC/PLL



SSD Storage



Custom - Contact Us

Specifications

SWaP
Processor

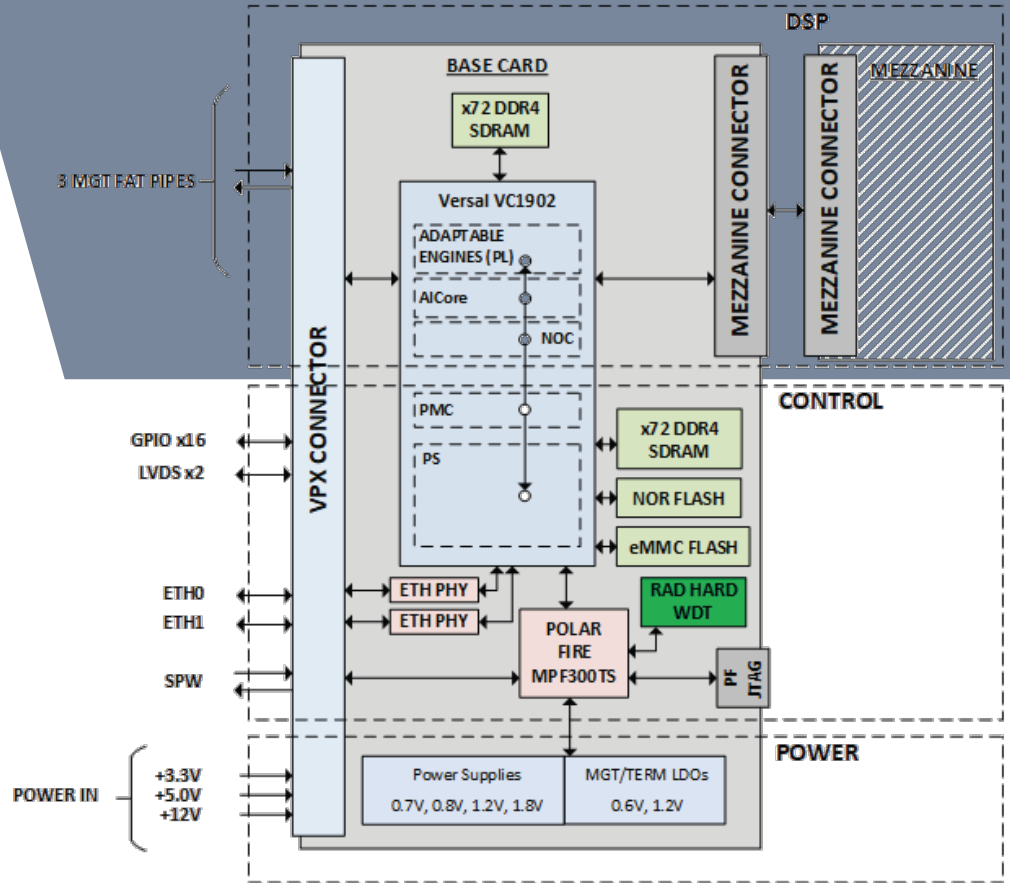
Memory

I/O
Mezzanine Site

Fault Tolerance

Reliability

3U VPX, 1" pitch, < 900g, ~TBD W (TYP), +65 C rail temp
Xilinx Versal AI Core XCVC1902-1MSIVIVA1596
Programmable Network on Chip (NoC)
Two (independent) 8 GB [TBR] x72 DDR4 Memory Banks with ECC
DDR4 banks are assignable based on application
32 GB (minimum) NAND Flash; 256 MB Redundant NOR Flash
PCIe Gen4 compliance; 32.75 Gb/s transceivers
14GTYS transceivers
Compatible with ADC/DAC/PLL, SSD, and Custom Mezzanine Cards
Configuration Upset Immune PolarFire System Controller
RHBD Watchdog Timer
Versal: no SEL and meets 5-7 year TID for LEO missions
Balanced design assurance plan for Class B-D Missions



VC1902 Features

Ruggedization
Application Processing Unit
Real-Time Processing Unit
AI Core Engines
Programmable Logic (PL)

7nm radiation tolerant SoC
Dual-Core ARM Cortex™-A72
Dual-core ARM Cortex™-R5F
400
899,840 LUTs, 191Mb Block RAM, 1,968 DSP Slices

VDRT DEVELOPMENT KITS AVAILABLE

Contact Us: SES-BD@tridsys.com