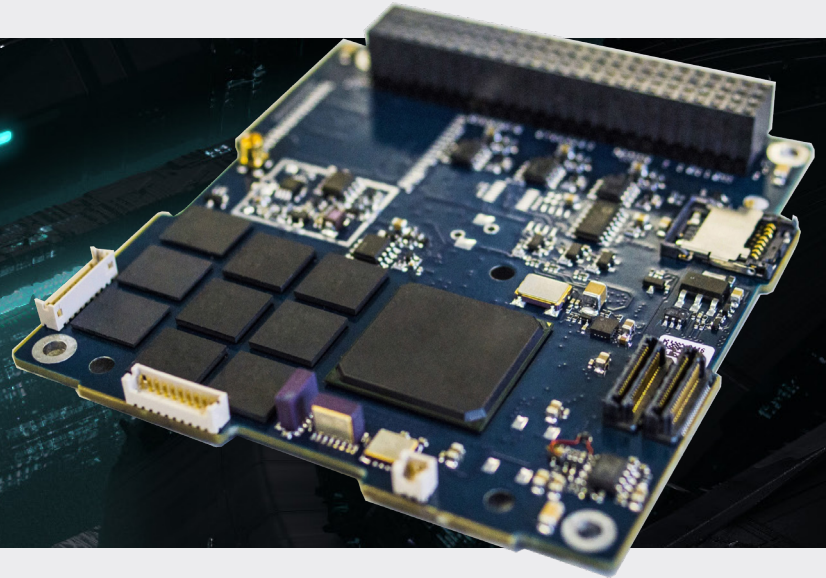


ADVANCED PRECISION PERFORMANCE



Developed to deliver 'always-on' operation, KRYTEN computing solutions work every time on time. Flight proven across multiple mission applications for a range of customer requirements this readily available solution has inherited advanced error detection and correction. Incorporating a Cortex-M3 processor and enhanced hardware/firmware recovery mechanisms the Kryten- M3 delivers advanced precision performance for the most demanding nanosatellite missions.

Our reliable space data handling solution is safeguarded with autonomous single event latch-up protections, delivering highperformance computing with integrated cache, Non-Volatile Memory and SECDDED protections. MRAM and Flash memories are protected via an EDAC mechanism to guard against radiation effects. This mechanism provides protection, not only against data modifications, but also against errors in the address decode logic. Non-volatile MRAM memory provides zero-boot and zero-sleep times for power efficiency. The inclusion of 4 GB of SLC flash memory provides ample space for mission data storage. For missions requiring GNSS, GPS is available on Kryten-M3- PLUS



PERFORMANCE

With SmartFusion 2 SoC including Cortex-M3 processor @ 50 MHz delivering 62.5 DMIPS, providing impressive performance. KRYTEN models have 8 MB MRAM for code storage and execution as well as 4 GB flash memory for bulk data storage provides ample space for mission data storage.



RELIABILITY

Our inbuilt protections are based on over a decade of design heritage guarantee real-time-on-time operations. KRYTEN solutions have autonomous single event latch-up protection, integrated cache and Memory Protection Unit, EDAC protected memories and FIFOs. JTAG with ETM support is available for programming and debugging.



EFFICIENCY

Requiring <1W during operations, it is one of the most power efficient off-the-shelf onboard computers available on the market. Data protections used, Cryptographic Accelerator and Reed Solomon Accelerator, simultaneously act as hardware accelerators for maximum performance.

TECHNICAL SPECIFICATIONS

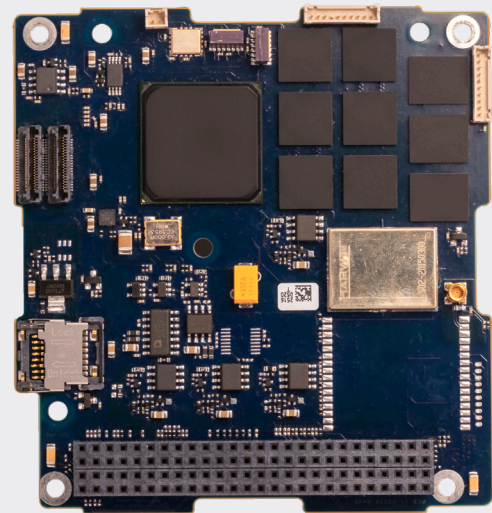
General	
Design Life	5 years in LEO
Processor	Smart Fusion 2 SoC including an ARM Cortex-M3 processor delivering 62.5 DMIPS
Processor Clock	50 MHz
SCET	Real time counter (w/40mins. Backup Power)
MRAM	16MB
Operating Temperature Range	-40°C to +80°C
Boot Image Storage	256 kB eNVM + 8MB MRAM
Radiation (TiD)	20 kRAD
Typical Energy Usage	6.4 mJ/DM
GPS (PLUS model only)	<10m RMS position accuracy <1m/s RMS velocity accuracy

Interfaces		
I2C		2
SPI	7 Chip Select Lines	1
UART	3.3 V Logic	8
RS422 1	(can be used as 2xRS485)	1
CAN		1
DTMF		1
	JTAG w/ETM Support + 1 Serial	
Debugging	Debug	1
LVDS	20x Lines, Expansion	1
QSPI	(2x LVDS, 1x 3V3 Logic)	3
GPIO	3.3 V Logic	17

* Not all interfaces available simultaneously

Size, Weight & Power	
Nominal Power Consumption	400 mW (typ), 1 W max
Mass	61.9 g
Length	95.89 mm
Width	90.17 mm
Height*	5.51 mm

* Height from top PCB to lowest component



To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact: enquiries@aac-clydespace.com



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