NEWSPACE MARKET

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Xiphos Technologies

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as of 20 August 2026

ABOUT

Xiphos Technologies

Xiphos Technologies is a Montreal, Quebec-based space electronics company specialising in flight-proven, low-SWaP (Size, Weight, and Power) processing modules for small satellites and commercial space missions. The company's core product philosophy centers on enabling ambitious satellite missions with compact, power-efficient computing hardware that incorporates two decades of fault-tolerant space architecture development. The Xiphos Q-Card family spans the full range of modern processing demands: from the dual-core ARM Cortex-A9 Q7 for embedded control tasks, through the Zynq UltraScale+ Q8 and Q8J modules for high-performance imaging and communications payloads, to the ZU28DR/ZU48DR RFSoC-based Q8RF and Q8RFG3 for direct RF sampling applications. The newly introduced Q9 harnesses AMD's Versal AI-edge SoC with 152 AI Engine-ML tiles for on-orbit machine learning inference. All products share a radiation effects mitigation suite derived from HARDSIL principles, with TID ratings up to 30 krad(Si). The company also offers a complete Q8 On-Board Computer (OBC) system for operators who need a ready-to-integrate spacecraft computer, delivering over 120 years of cumulative flight heritage across SmallSat constellations and missions for commercial and government customers. Expansion modules including the Q7 ACS Daughterboard, Q8 Optical Payload Processor, and Q8J SDR Dock allow the core processing modules to interface with attitude control sensors, camera systems, and software-defined radio payloads respectively. Xiphos serves the growing commercial constellation market, defense agencies, and scientific research organisations, and is a recognized partner in the AMD space-grade ecosystem. The company provides Linux SDKs, Vivado skeleton projects, and application notes to acc

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SERVICES

Services

Custom Development

Xiphos offers custom development services for hardware, firmware, and software, tailoring solutions to specific customer requirements for diverse applications.

Environmental Qualification

Xiphos performs environmental qualification testing, including TVAC, vibration, and shock testing, for their products.

Product Training

Xiphos provides training to customers, helping them understand and utilize their products effectively.

Radiation Qualification Test Campaign

Xiphos conducts radiation qualification testing, including board-level proton and TID (gamma ray) testing, to quantify radiation exposure.

Technical Support

Xiphos offers technical support to assist with product understanding, learning curves, and project-specific needs, including custom development and design reviews.

PRODUCTS

Product catalogue

XIPHOS TECHNOLOGIES

Q7 ACS Daughterboard

Attitude Control System expansion board for the Q7 processor, providing ACS interfaces, H-bridge drivers, and power switching.

Serial Interfaces	Multiple RS-422 / RS-485
Actuator Drivers	3x full H-bridge drivers
Switchable Output Voltages	5 V, 15 V, 28 V
Monitoring	Current and voltage monitoring & telemetry
Dimensions	100 x 76 x 14.5 mm (with Q7, excluding RJ45)
Input Voltage	25 to 34 V (28 V nominal)
Power Consumption (Idle)	2.7 W

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XIPHOS TECHNOLOGIES

Q7 Computer-on-Module

Ultra-low SWaP Zynq-based processor card for embedding in custom satellite payloads and bus subsystems.

Processor	Xilinx Zynq SoC
CPU	Dual-core ARM Cortex-A9 MPCore
Logic	Programmable FPGA fabric
RAM	LPDDR2 with ECC
Flash	2x QSPI Flash (NOR)
Storage	2x MicroSD
Interfaces	Gigabit Ethernet, USB 2.0, serial, 90 I/O via mezzanine connector

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XIPHOS TECHNOLOGIES

Q7 Processor

The Q7 is a space-qualified processor board featuring a Xilinx Zynq SoC with dual-core Cortex-A9 MPCore processors and reprogrammable logic, designed for high-performance computing

Processor	Xilinx Zynq SoC includes ARM dual-core Cortex-A9 MPCore processors supported by massive pr
Memory	LPDDR2 RAM (with ECC)
Memory	2x QSPI Flash (NOR)
Memory	2x MicroSD
Power	Typical 2W
Input Voltage	5V to 28V
Interfaces	Gigabit Ethernet, USB 2.0, serial, 90 I/O including LVDS, accessible through a mezzanine c

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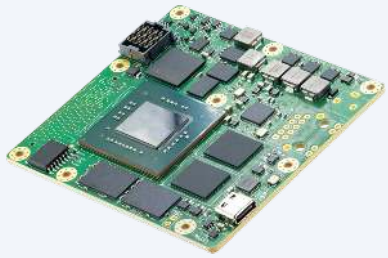

XIPHOS TECHNOLOGIES

Q8 Computer-on-Module

Low SWaP Zynq UltraScale+ MPSoC processor with 30 krad radiation tolerance for demanding satellite payloads and bus subsystems.

MPSoC	Xilinx Zynq UltraScale+
Application CPU	Quad-core ARM Cortex-A53
Real-Time CPU	Dual-core ARM Cortex-R5
GPU	ARM Mali-400
RAM	4 GB LPDDR4 (ECC)
Flash	2x 256 MB QSPI (NOR)
Storage	2x 128 GB eMMC

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XIPHOS TECHNOLOGIES

Q8 Low SWaP Computer-on-Module

The Q8 is a spaceflight-ready miniature processing board, building on the Xiphos Q-card family's heritage, offering high performance and flexibility for demanding space application

Processor	Xilinx Zynq UltraScale+ Multi-Processor System-on-Chip (MPSoC) Processing FPGA
CPU	quad-core ARM Cortex-A53 Application Processing Unit
Real-Time Processing Unit	dual-core ARM Cortex-R5
GPU	ARM Mali-400
RAM	4 GB LPDDR4 (with ECC)
QSPI Flash (NOR)	2 x 256 MB
eMMC	2 x 128 GB

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XIPHOS TECHNOLOGIES

Q8 On-Board Computer

Flight-proven SmallSat on-board computer based on the Q8 processor, providing full spacecraft control with 120+ years of flight heritage.

Processor	Xilinx Zynq SoC (ARM dual-core Cortex-A9 MPCore)
Control FPGA	Microchip ProASIC3
RAM	256 MB LPDDR2 (ECC)
Storage	2x MicroSD
Serial Interfaces	RS-422, RS-485, RS-232, CAN, LVDS-based protocols
Ethernet	Gigabit Ethernet
USB	USB 2.0

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XIPHOS TECHNOLOGIES

Q8 Optical Payload Processor

High-performance image processing daughterboard for the Q8, featuring dual Camera Link interfaces for space-based Earth observation.

Camera Interfaces	1x Base Camera Link, 1x Medium Camera Link (configurable as LVDS)
Serial Interfaces	RS-485 / RS-422
Network	Gigabit Ethernet
Timing	PPS input and output
Ancillary Functions	Heater power control, temperature sensing
Dimensions	150 x 110 x 10 mm (without Q8)
Input Voltage	9 to 13 V

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XIPHOS TECHNOLOGIES

Q8 SDR Dock Daughterboard

The Xiphos Q8 SDR Dock is a daughterboard for the Q8 processor board that integrates an Analog Devices AD9361 RF agile transceiver module, enabling the Q8 to interface with high-ba

RF Transceiver	Analog Devices AD9361
RF Outputs	2x
RF Inputs	2x
Other Interfaces	CAN Bus, USB 2.0, PPS input, LVDS GPIO (SpaceWire capable)
Dimensions	80 x 80 x 34.7 mm (with Q8 installed)
Input Voltage	5 V and 12 V
Power (Typical)	7.3 W (two RF transmitters active)

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XIPHOS TECHNOLOGIES

Q8J Computer-on-Module

Low SWaP Zynq UltraScale+ processor with GTH multi-Gbps transceivers and JESD204B support for next-generation SDR and high-speed payload applications.

MPSoC	Xilinx Zynq UltraScale+
Application CPU	Quad-core ARM Cortex-A53
Real-Time CPU	Dual-core ARM Cortex-R5
RAM	4 GB LPDDR4 (ECC)
Flash	2x 256 MB QSPI (NOR)
Storage	2x 128 GB eMMC
High-Speed Transceivers	GTH/GTR multi-Gbps (SATA, PCIe Gen 2, JESD204B)

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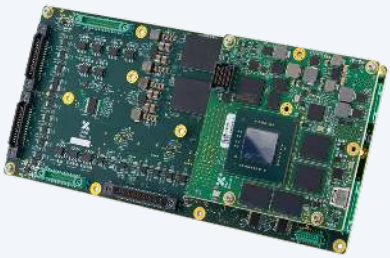

XIPHOS TECHNOLOGIES

Q8J Data Storage and Interface Board

High-capacity payload data storage and interface computer for the Q8J, providing 2 TB SSD storage and extensive high-speed I/O.

Storage	2x 1 TB SSD
Sustained Write Speed	>300 MB/s
Ethernet	4x GigE (1 Gbps) with magnetics
CAN	2x CAN controllers
RS-422	7x RS-422 ports
RS-485	1x RS-485 port
LVDS Outputs	16x

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XIPHOS TECHNOLOGIES

Q8J Low SWaP with GTH Computer-on-Module

The Q8J is a low SWaP processor board designed for space applications, featuring a Xilinx Zynq UltraScale+ MPSoC and multi-Gigabit transceivers for high-speed interfaces.

Processor	Xilinx Zynq UltraScale+ Multi-Processor System-on-Chip (MPSoC) Processing FPGA
Application Processing Unit	quad-core ARM Cortex-A53
Real-Time Processing Unit	dual-core ARM Cortex-R5
GPU	ARM Mali-400
RAM	4 GB LPDDR4 (with ECC)
QSPI Flash (NOR)	2 x 256 MB
eMMC	2 x 128 GB

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XIPHOS TECHNOLOGIES

Q8J SDR Daughterboard

The Xiphos Q8J SDR is an extremely high-performance software-defined radio platform built on the Xilinx Zynq UltraScale+ MPSoC (via the Q8J host board) and the Analog Devices AD936

RF Transceiver	Analog Devices AD9361 RF agile transceiver
RF Outputs	2x
RF Inputs	2x
PL Memory	1 GB DDR3
Flash	4 GB NAND Flash
Interfaces	Gigabit Ethernet, CAN Bus, SPI, GPS input, PPS input, LVDS GPIO
Dimensions	80 x 106 x 23.5 mm (with Q8J)

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XIPHOS TECHNOLOGIES

Q8RF Gen 1 RFSoC Processor

The Xiphos Q8RF is a space-qualified RFSoC processor built around the Xilinx Zynq UltraScale+ ZU28DR, which integrates high-speed RF-class ADCs and DACs, programmable FPGA logic, a

MPSoC	Xilinx Zynq UltraScale+ ZU28DR
Application CPU	Quad-core ARM Cortex-A53 @ up to 1.2 GHz
Real-Time CPU	Dual-core ARM Cortex-R5 @ 500 MHz
PS RAM	4 GB LPDDR4 DRAM (EDAC)
PL RAM	4 GB DDR4 DRAM
ADC Channels	8
ADC Sample Rate (max)	4.096 GSPS

price on request

XIPHOS TECHNOLOGIES

Q8RFG3 Gen 3 RFSoC Processor

Third-generation space-grade RFSoC processor with 8-channel 14-bit ADC/DAC up to 6 GHz RF input and multi-device synchronization for phased-array applications.

MPSoC	Xilinx Zynq UltraScale+ ZU48DR
Application CPU	Quad-core ARM Cortex-A53 @ up to 1.2 GHz
Real-Time CPU	Dual-core ARM Cortex-R5 @ 500 MHz
PS RAM	4 GB LPDDR4 DRAM (EDAC)
PL RAM	4 GB DDR4 DRAM
Storage	2x 128 GB eMMC
ADC Channels	8

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XIPHOS TECHNOLOGIES

Q9 Versal Computer-on-Module

High-performance AMD Versal AI-edge compute module with 152 AI Engine tiles, 2 TB NVMe storage, and 30-50 W power budget for satellite AI/ML payloads.

MPSoC	AMD Versal SoC
Application CPU	Dual-core ARM Cortex-A72 @ 1.7 GHz
Real-Time CPU	Dual-core ARM Cortex-R5F @ 750 MHz
AI Engines	152 AI Engine-ML tiles
System Logic Cells	820,000
DSP Slices	984
PS LPDDR4 RAM	8 GB

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XIPHOS TECHNOLOGIES

Xiphos Q8RF Family

Zynq UltraScale+ RFSoC-based space processor family (Q8RF Gen 1 and Q8RFG3 Gen 3) combining direct RF sampling, FPGA logic, and ARM processing for onboard SDR.

Operating temperature	-40 to +60 °C
Size	100 mm x 100 mm x 20 mm
Mass	200 g
Power (Q8RF)	20-30 W typical @ 5-9 V
Power (Q8RFG3)	25-35 W typical @ 5-15 V
Memory	4 GB PS LPDDR4 DRAM (with EDAC); 4 GB PL DDR4 DRAM; 2x 256 MB QSPI Flash (NOR)
Storage	2x 32 GB NAND Flash; 2x 128 GB eMMC

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XIPHOS TECHNOLOGIES

Xiphos Q9 Versal Computer-on-Module

High-performance AI/ML-capable Versal-based COTS computer-on-module in a tiny form factor, built for intensive onboard processing.

Operating temperature	-40 to +60 °C
Size	90 mm x 110 mm x 20 mm
Mass	56 g without connectors
Power	30-50 W typical; 8 to 14 VDC; over-current detection & protection (global and local) and b
Memory	16 GB LPDDR4 DRAM (2x8GB); 1GB (4x 256 MB) QSPI Flash (NOR); 2x NVMe SSD, 1,000 GB each, o
MPSoC model	AMD Versal System-on-Chip
Application Processing Unit	Dual core ARM Cortex A72 Application Processing Unit at up to 1.7 GHz

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Contact Xiphos Technologies

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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