



UNIBAP
SPACE SOLUTIONS

Unibap iX20

In-orbit data processing and analysis with high adaptability and end-to-end cybersecurity

Unibap iX20 enables real-time in-orbit data processing and analysis with a focus on adaptability and end-to-end cybersecurity. It integrates high-speed ingestion, real-time preprocessing, and AI analytics in a unified pipeline. The modular Expansion Modules enable mission-specific customization while maintaining a consistent platform, with built-in integrity, secure updates, and recovery ensuring reliable operations.



HIGH-THROUGHPUT INTELLIGENCE

Transforms up to 100 Gbps of raw sensor data into actionable information through a real-time processing pipeline that combines hardware acceleration, image formation, and onboard AI.

- Up to 100 Gbps data throughput
- Ingest-to-APU zero-copy data pipeline with Unibap SDMA
- Real-time sensor preprocessing with Unibap LOOM
- AI analytics directly onboard
- Delivers information, not just data



STANDARDIZED ADAPTABILITY

A standardized Expansion Module architecture enables rapid adaptation to new spacecraft, payloads, and mission requirements without redesigning the core platform.

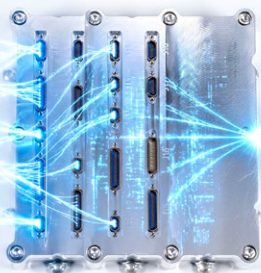
- Standardized Expansion Module architecture
- Rapid payload and spacecraft integration
- Standard and custom I/O options
- Upgradeable storage and security
- Future-proof software portability



SECURE BY DESIGN

Powered by Unibap SEQR, the iX20 protects mission systems and data through encryption, signing, tamper detection, and secure recovery, mechanisms aligned with the "CIA" security model.

- Root of Trust from boot to application
- Confidentiality through encryption and key management
- Integrity through signing, auditing, and tamper detection
- Availability through secure recovery and update mechanisms
- Hardware-accelerated cryptography with Unibap SEQR



Just Get the Answer.

Actionable insights from space for critical decisions on Earth.

Next-gen platform
Unibap iX20

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Technical specifications

COMPUTE	
CPU	AMD Ryzen 8000-series
GPU	AMD Radeon, 12-core, 2.7 GHz
VPU	4 x Hailo-8
RAM	64 GB DDR5 ECC (CPU/GPU)
Storage	4 x 4 TB NVMe SSD

THROUGHPUT	
Ingest-to-Storage	70-100 Gbps
Ingest-to-Inference	32 Gbps

INTERFACES*	
LVDS	48 x General purpose LVDS defined in HDL. Usage examples: CameraLink, SpaceWire and radio
Camera link	Up to 4 x Camera Link Base
GPIO	24 x
USB	2 x USB 2.0
CAN	2 x 2.0A, 2.0 B and CAN FD
Ethernet	2 x 10 GbE (10GBASE-T)
I2C	2 x
PPS	Advanced PPS synchronization via proprietary PLET interface
Serial communication	Up to 7 x RS422
SpaceWire	Up to 8 x
ADC inputs	15 x for, e.g., thermistors
Expansion modules	Additional USB (2 x USB 3.2), PCIe x4 (gen4), and High-speed transceivers (8 x 25 Gb GTY, 6 x 10 Gb GTY) available

**Exact interface configuration may vary between product versions*

MECHANICAL	
Dimensions	177 x 177 x 45 mm
Mass	1,820 g +/- 15%
Enclosure	Aluminium, ~5 mm
Power	9-32 V
Power consumption	7 W idle, 40-50 W typical

ENVIRONMENTAL	
Qualification	Vibration, Shock, Thermal vacuum, EMC, Outgassing, Radiation (TID, proton)
Operating temperature	-20°C to 55°C
Target orbit	LEO, MEO, GEO, Interplanetary