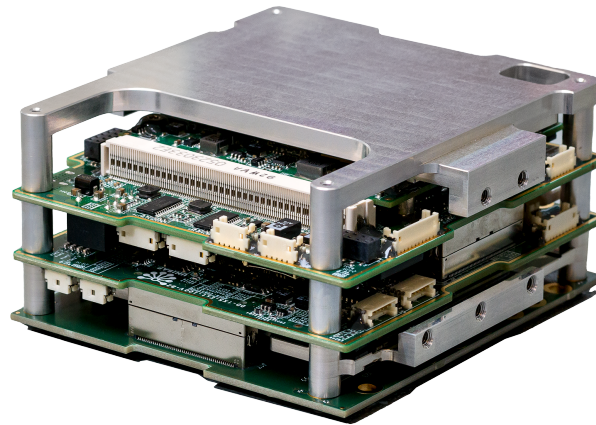


iX5-106

The iX5 family is Unibap's most robust and reliable computer solution for large and small spacecraft. It offers flight-proven processing capabilities, high-speed I/O interfaces, and minimized size and power consumption. Combined with Unibap's open software platform, it offers the perfect vehicle to bring high-performance computing to space.



VERSITILE



With its multifaceted processing and machine learning capabilities and significant interfacing capabilities, the iX5 is suitable for a wide range of mission profiles, ranging from edge computing and payload control to autonomous operation and cloud computing in space.

EFFICIENT



The iX5 is Unibap's most efficient computer solution with respect to power, mass and size. With a form-factor compatible with CubeSat platforms and an power consumption in the range 10-30 W, it is ideal for smaller spacecraft, but it can just as well service larger missions given its considerable computing performance.

RELIABLE



The iX5 is Unibap's most reliable and flight proven computer platform. It has been thoroughly qualified with respect to vibrations, shock and thermal vacuum. More importantly, it has been in space since 2021, on different 5 missions, operating more than 40 different software applications, without any destructive failures.

Hyperspectral IR Imager
(Camera Link interface)

Calibration motor



Unibap's iX5
Signal Acquisition
Image Pre-Processing and Refinement
Information Storage and Downlink

S-band

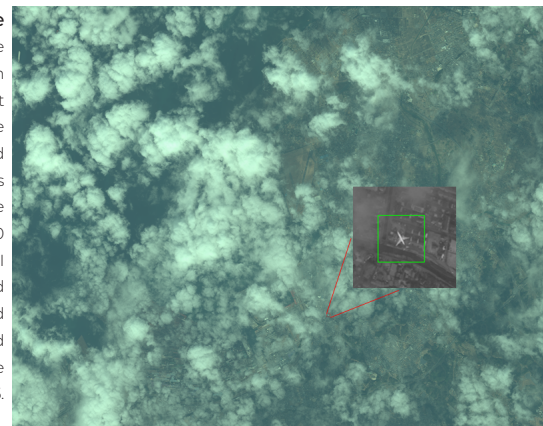
X-band

Mission example

HyTI (Hyperspectral Thermal Imager) 6U
CubeSat by Hawaii Space Flight Laboratory
and NASA JPL.

Application example

Mid-air airplane
detection application
developed by SaraniaSat
Inc for US Space Force
leveraging the onboard
ENVI/IDL L3 Harris
Geospatial software
suite. The app scans 100
km² of World View-3 MSI
spectral data and
produces geolocated
coordinates for detected
aircrafts under 1 minute
with the iX5.





Unibap's iX5-106 Radiation Tolerant Edge Computing, Storage, and Analytics Platform in Space

Model Name **iX5-106**

PROCESSING & MEMORY	
Intelligent Processing Core	Unibap Qseven e2160 compute module
CPU	AMD Steppe Eagel CPU
GPU	AMD Radeon GPU
VPU	Intel Movidius Myriad X
RAM	2 GB DDR3 ECC (CPU/GPU)
Storage	1 x 120 GB SATA SSD
I/O INTERFACE	
CAN	1 x v2.0b
Ethernet	1 x 1 GbE (1000BASE-T)
I2C	2 x isolated
Serial communication	5 x RS232/485/422
SpaceWire	2 x
SPI	1 x
Thermistor inputs	8 x
USB	2 x USB 2.0 1 x USB 3.0
MECHANICAL	
Dimensions (est).	100 (W) x 100 (H) x 50 (D) [mm]
Weight	421 g
Enclosure	On request
ENVIRONMENTAL & ELECTRICAL	
Power Consumption	10-30 W (Depending on processing and storage selection and use)
Input power voltage	12 V DC
Operating temperature	-20 °C to 55 °C
Vibration	Qualified for launch, details upon request
Certification	IPC 610-E Class III (RoHS)
SOFTWARE SUPPORT	
Operating System	Unibap OS (Linux)
Unibap Functions and Applications	Supported

Information may change at any time.