



# MAG4C PRO ADVANCED VIDEO CAPTURE, GPGPU & MULTIFUNCTION I/O MISSION COMPUTER\_09/24

# MAG4C PRO



The **MAG4C PRO** is an advanced VPX based 3G-SDI Video Capture and GPGPU mission computer with Multifunction I/O options, engineered to meet the rigorous demands of GPGPU computing, AI processing, deep learning, and H.265/H.264 encoding and decoding applications. It features advanced hardware and robust cooling, making it ideal for use in challenging environments.



Temperature & Humidity  
RTCA/DO-160G



Shock & Vibrations  
RTCA/DO-160G



EMI / EMC  
RTCA/DO-160G

# MAG4C PRO

## Target Markets



# MAG4C PRO

## Technical Features



8-Core Intel Xeon W-11865MRE Tiger Lake-H  
@ 2.6 GHz 32GB ECC DRAM

NVIDIA Ampere RTX A2000 GPU with 2560 CUDA cores  
and 8GB of GDDR6 graphics memory

3G-SDI Graphic Video Ports (in & out)

On-Board SATA SSD Chip

Internal 2.5" SATA SSD w/ Secure ERASE (hardware trigger)

I/O discretes

ARINC429 & MIL-1553 interfaces

# MAG4C PRO

## Technical Features



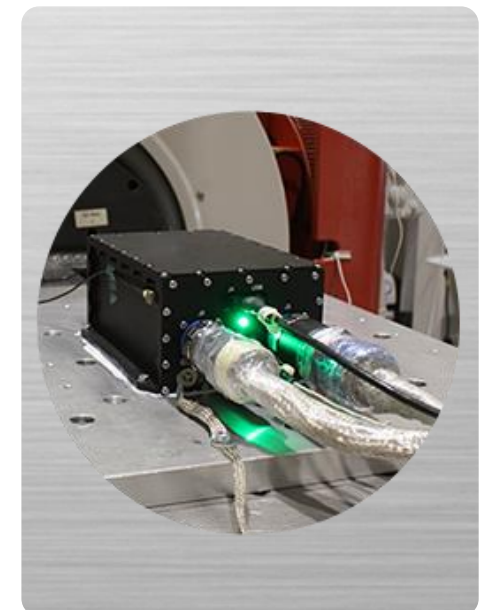
SWaP-C  
optimized



Air-Cooled  
Version



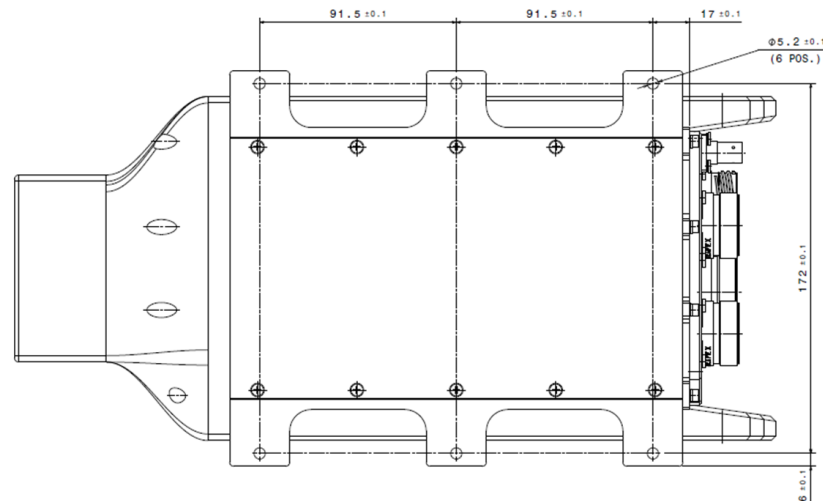
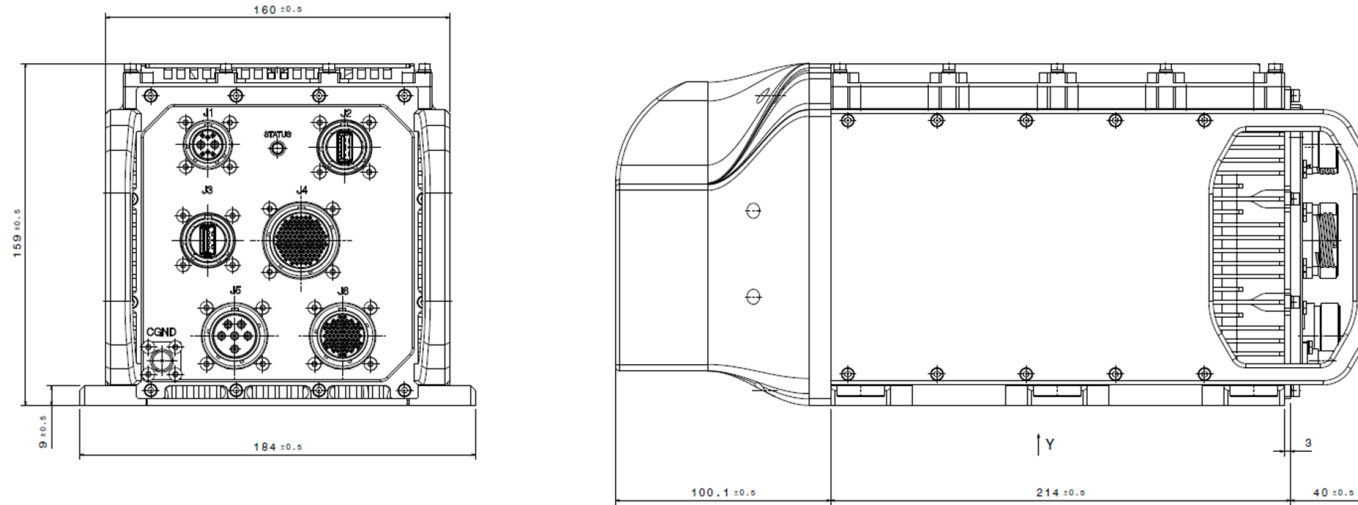
4 slots 3U VPX  
architecture



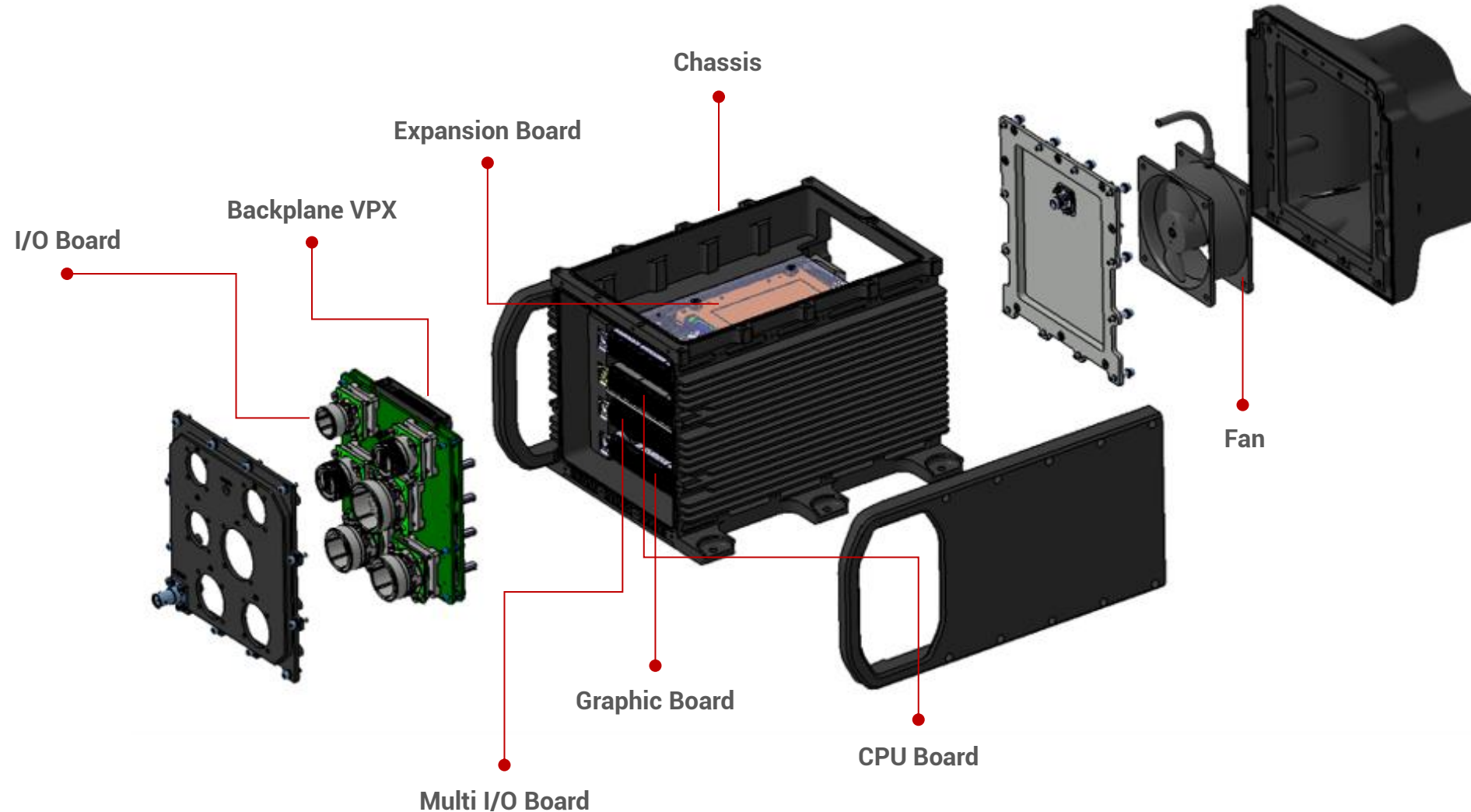
RTCA/DO-160G  
qualified

# MAG4C PRO

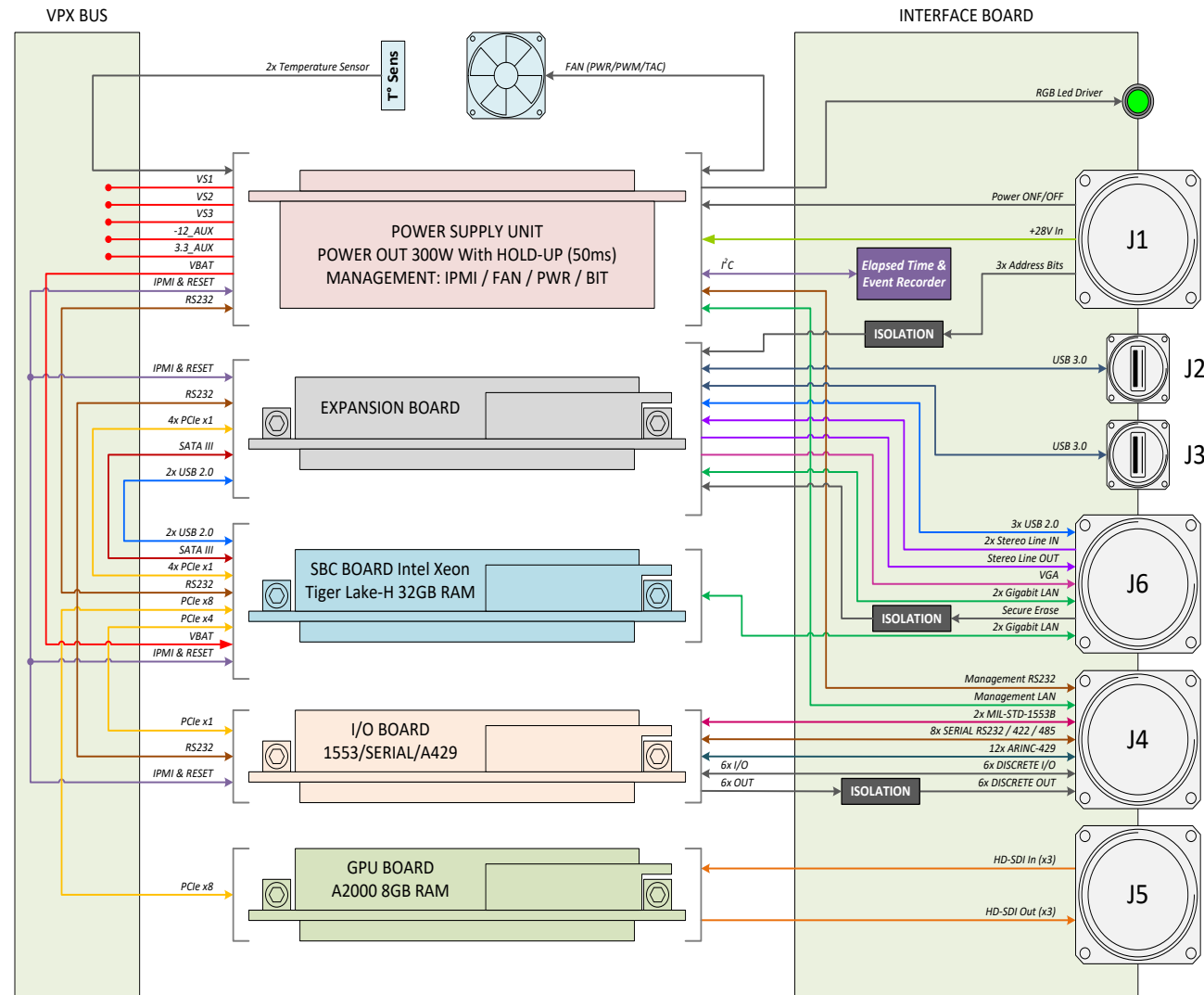
## Dimensions



# MAG4C PRO Design Teardown



# MAG4C PRO Block Diagram





# MAG4C PRO COTS Modules



IC-INT-VPX3k-010  
Single Board  
Computer



GR4-A2000  
GPGPU Board

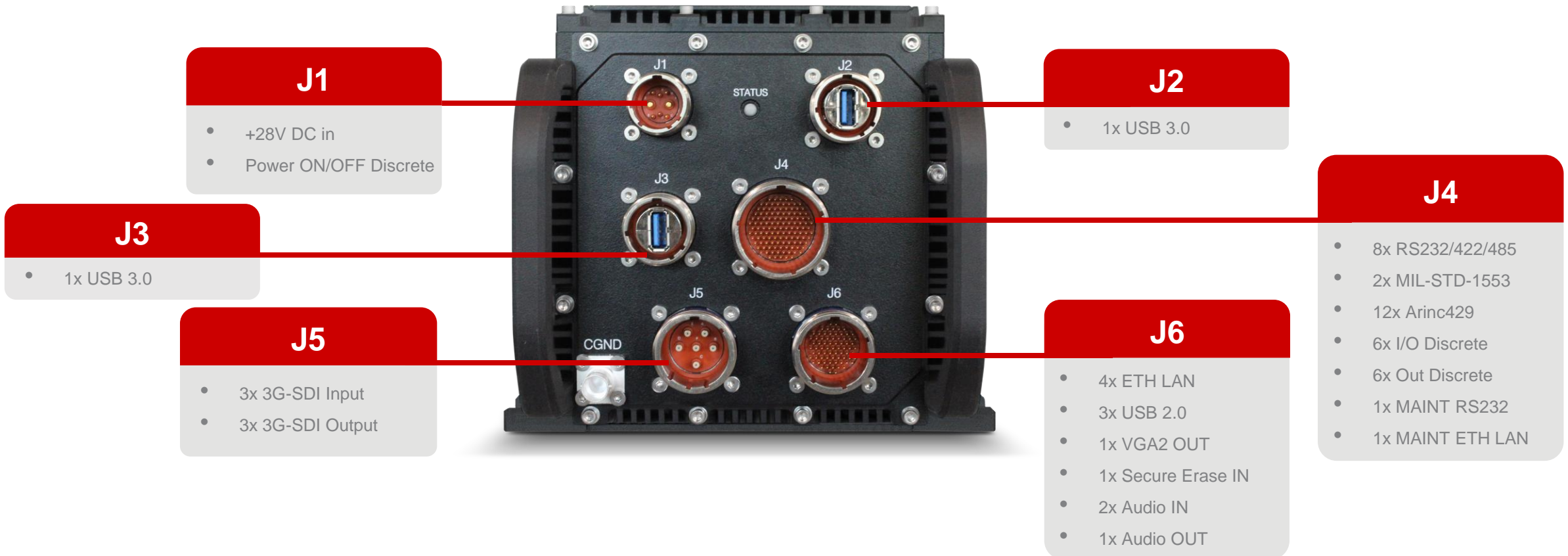


Multifunction I/O  
Board



# MAG4C PRO

## I/O & Interfaces



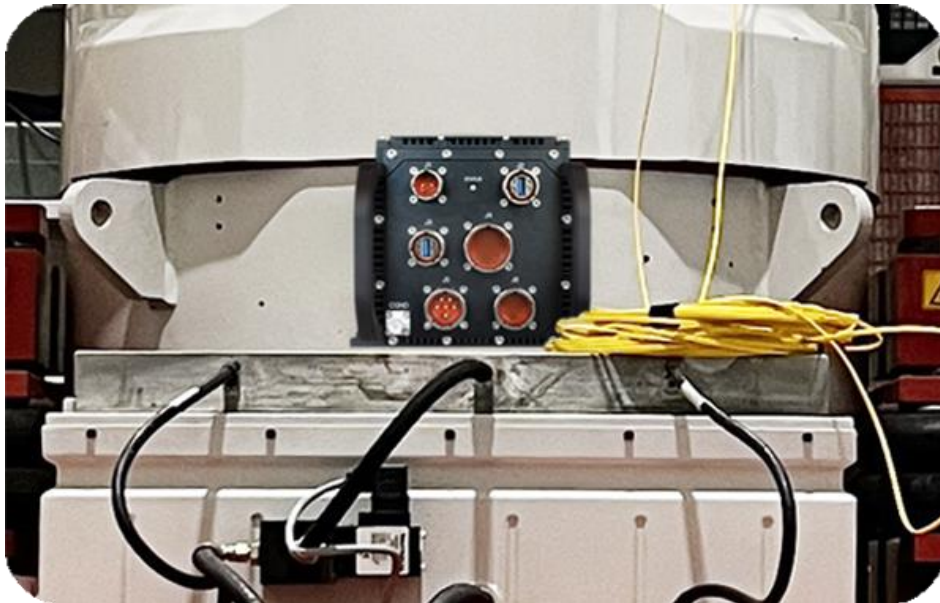
# MAG4C PRO

## Technical Specifications



<b>Processor Node</b>	8-Core Intel Xeon W-11865MRE Tiger Lake-H @ 2.6 GHz
<b>Memory</b>	32GB DDR4 ECC SDRAM
<b>Video Processing</b>	NVIDIA Ampere RTX A2000 GPU with 2560 CUDA cores and 8GB of GDDR6 graphics memory
<b>Video Ports</b>	3x 3G-SDI inputs & 3x 3G-SDI outputs 1x VGA output
<b>I/O Ports</b>	4x Gigabit LAN (copper) 12x ARINC429 configurable TX/RX 2x MIL-STD-1553 channels (Dual Redundant) 3x USB 2.0 ports 2x USB 3.0 ports 8x serial ports (RS232/RS422/RS485) 2x Audio stereo Input and 1x Audio stereo output 6x I/O isolated discretes 6x OUT isolated discretes 1x Maintenance RS232 1x Maintenance LAN (copper)
<b>Internal Storage Devices</b>	64GB SATA III On-Board SSD Chip Internal 2.5" SATA SSD w/ Secure ERASE option (hardware trigger)
<b>Management Features</b>	Power BIT, continuous BIT Internal temperature monitoring Internal voltage monitoring Fan monitoring and control
<b>Software</b>	Windows 11, Windows 10, Linux
<b>Power Input</b>	+28Vdc standard (+20V to +36V) Extreme operating range: +16V to +50V Compliant to MIL-STD-704F with 50 msec power hold-up
<b>Power Consumption</b>	Estimated Maximum Power consumption < 300W
<b>Voltage Spike</b>	600V (RTCA/DO-160G S17 CAT. A)
<b>Dimensions (W x D x H)</b>	184 mm x 354 mm x 159 mm
<b>Weight</b>	< 8.5 Kg
<b>Cooling</b>	Forced air cooling via removable fan module
<b>Interfaces</b>	4x MIL-DTL-38999 military circular connectors 2x USB 3.0 type A circular connector

# Environmental Qualifications



<b>Operating Temperature</b>	-40°C to +70°C (RTCA/DO-160G S4 CAT. B2)
<b>Storage Temperature</b>	-45°C to +85°C (RTCA/DO-160G S4 CAT. B2)
<b>Altitude</b>	Operative: Max 35.000 feet (RTCA/DO-160G S4 CAT. C2)
<b>Rapid Decompression</b>	Operative: 35.000 – 8000 feet (RTCA/DO-160G S4 CAT. C2)
<b>Humidity</b>	Up to 95% (RTCA/DO-160G S6 CAT. B)
<b>Shock</b>	6g shock, 11ms (RTCA/DO-160G S7 CAT. B)
<b>Crash Safety</b>	20g shock, 11ms and 20g sustained acceleration (RTCA/DO-160G S7 CAT. B)
<b>Vibrations</b>	According to RTCA/DO-160G S8 CAT. U Curve G (Rotary Wings) According to RTCA/DO-160G S8 CAT. R Curve Y (Fixed Wings)
<b>Explosive Atmosphere</b>	According to RTCA/DO-160G S9 CAT. E
<b>Environmental Protection</b>	IP65 rated according to EN 60529
<b>Fungus Protection</b>	According to RTCA/DO-160G S13 CAT. F
<b>Salt Spray</b>	According to RTCA/DO-160G S14 CAT. S
<b>Magnetic Effect</b>	According to RTCA/DO-160G S15 CAT. Z
<b>EMC</b>	Audio frequency conducted susceptibility: RTCA/DO-160G S18 CAT. Z Induced signal susceptibility: RTCA/DO-160G S19 CAT. ZC Radio frequency susceptibility: RTCA/DO-160G S20 CAT. T Emission of radio frequency energy: RTCA/DO-160G S21 CAT. M Electrostatic discharge: RTCA/DO-160G S25 CAT. A

# MAG4C PRO

## Deliverables



### Standard - Free of Charge

- User and Maintenance Manual
- Test Report with Inventory list
- Certification of Conformity



### On request - Free of Charge

- Reach Compliance Declaration
- Rohs Compliance Declaration
  - Trade Compliance Data
  - Declaration of Origin
- CE Compliance Declaration



### Upon order - Charges apply

- Green Passport
- MTBF report
- Technical Data Package (mechanical drawings and electrical circuit drawing)
- Shock & Vibration Testing and Reports
- Temperature Testing and Reports
- Full CE Testing and Reports



Find out more



[www.gomarugged.com](http://www.gomarugged.com)

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The image shows a business card for Techway. The top left features the company logo 'TECHWAY' in a stylized font with green and grey colors, and 'SIGNAL VISION SYSTEM' below it. The top right contains the address: '19 Avenue de Norvège', '91140 Villebon sur Yvette', and 'FRANCE'. The bottom left lists contact information: an email icon followed by 'info@techway.com' and a phone icon followed by '+33 (0)1 64 53 37 90'. The bottom right has a dark grey background with the website 'www.techway.com' in white text.