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# AV600-TH-A20H

## Military IP66 Mission GPU Computer



MIL-STD 461/1275     MIL-STD 810

- **MIL-STD 810 Thermal, shock, vibration, Humidity / EMI / EMC conditions**
- **IP66 Chassis with D38999 connectors**
- **Intel® W-11865MRE, up to 8 cores**
- **64GB DDR4 SO-DIMM ECC or non ECC support**
- **NVIDIA RTX™ A2000 MXM 8GB GDDR6 2560 CUDA cores**
- **2.5" SATA SSD**
- **1x 3G-SDI Capture Card (Options)**
- **MIL-STD-461 18V~36V DC-Input**
- **Extreme Temperature: -20°C to +60°C degree**

# Specifications

## System

| | |
|---|---|
| CPU | Intel® 11th gen. Tiger Lake W-11865MRE Processors, 2.60GHz Max 4.70GHzup to 8 cores, integrated Intel® UHD Graphics |
| Memory type | 64GB DDR4 SO-DIMM ECC or non ECC support |
| CHIPSET | Intel® RM590E (support ECC, with Xeon CPU) /QM580E |
| GPGPU | NVIDIA RTX™ A2000 GA104-955 GPU<br>8GB GDDR6 memory, 2560 CUDA cores |

## Video Capture

| | |
|---|---|
| SDI | 1x 3G-SDI Capture Card |

## UART

| | |
|---|---|
| COM | 1x RS232, 3x RS422/485 |

## Storage

| | |
|---|---|
| SATA | 2.5" SSD |

## Ethernet

| | |
|---|---|
| Ethernet | 2x 10/100/1000 Ethernet Ports |

## Display

| | |
|---|---|
| DVI | 1x support NTSC/PAL |

## Front I/O

| | |
|---|---|
| X1 | 2x GbE LAN + 2x USB2.0 + 1x COM(RS232) with D38999 Nickel plating connector |
| X2 | 1x VGA + 4x DI / 4x DO + 3x RS422 with D38999 Nickel plating connector |
| X3 | 1x USB3.0 , with D38999 Nickel plating connector |
| X4 | 1x USB3.0 , with D38999 Nickel plating connector |
| X5 | 1x DC-in , with D38999 Nickel plating connector |
| LED | 1x SSD/HDD LED indicator |
| switch | 1x IP66 power button , with LED indicator |

## Power

| | |
|---|---|
| Power input | MIL-STD-461 18V~36V DC-Input |

## Operating System

| OS | Windows® 10 or **11(TPM 2.0 By Request)** 64-bit<br>Linux (support by request) |
|---|---|

## Physical

| Dimension | 250(W) x 325 (L) x 100 (H)mm |
|---|---|
| Weight | 10Kg (22 lbs.) |
| Chassis | SECC |
| Heatsink | Heatsink Aluminum Alloy, Corrosion Resistant |

## Environmental

| Green Product | RoHS, WEEE compliance |
|---|---|
| Operating Temp. | -20°C to +60°C |
| Storage Temp. | -40°C to +85°C |
| Relative Humidity | 5% to 95%, non-condensing |

## MIL-STD-810 Specifications (Operating) Design to meet

| Method 502.6<br>Procedure 2 | Low Temperature | -35°C, 4 hours, ±3°C |
|---|---|---|
| Method 501.6<br>Procedure 2 | High Temperature | +63°C, 4 hours, ±3°C |
| IEC 60529 | Immersion | class IP66 |
| Method 510.7 | Sand Dust | Particle density: 10 +/- 7 g/m^3<br>Air velocity: 8.9m/s Dust particle size of maximum 149μm<br>Temperature: 60°C |
| Method 509.6 | Salt Fog | Salt type: 5% - NaCl |
| Method 514.6 | Vibration | 5-500Hz, Vertical 2.20Grms, 40mins x 3axis. |
| Method 516.6 | Shock | 20 Grms, 11ms, 3 axes. |
| Method 506.6 | Rain | Rate: 100 mm/hr.<br>Wind velocity: 25km/hr.<br>Duration: 40min |
| Method 513.8 | Acceleration | 3 g's, 6 directions, 1 minute |

## MIL-STD-810 Specifications (None-Operating) Design to meet

| Method 502.6 | Low Temperature Storage | -40°C, 4 hours, change rate:≦20°C/ Hour |
|---|---|---|

| | | |
|---|---|---|
| Procedure 1 | | -15°C, 72hours (By request) |
| Method 501.6 | High Temperature Storage | +71°C, 4 hours, change rate:≦20°C/ Hour |
| Procedure 1 | | +63°C, 240 hours (By request) |
| Method 507.6 | Humidity | 10 diurnal cycles at 30÷60°C@95% RH acc. |
| Method 510.7 | Sand Dust | Particle density: 1.1g/m^3<br>Air velocity: 18-29 m/s<br>Temperature: 60°C |
| Method 504.1 | Contamination By Fluids | Diesel oil, Motor Oil-15w40/WSS-M2C171-E, Hydraulic OIL – ISO-VG15 |
| Method 514.8 | Vibration | 5-500Hz, Vertical 2.20Grms, 40mins x 3axis. |
| Method 516.6 | Shock | 20 Grms, 11ms, 3 axes. |

## MIL-STD-461 Design to meet

| | | |
|---|---|---|
| Conducted Emissions Power Leads | CE101 | 30Hz – 10kHz |
| Conducted Emissions Power Leads | CE102 | 10kHz – 10MHz |
| Conducted Susceptibility Power Leads | CS101 | 30Hz – 150kHz |
| Conducted Susceptibility Transients, Power Leads | CS106 | |
| Conducted Susceptibility Bulk Cable Injection | CS114 | 10kHz – 200MHz |
| Conducted Susceptibility Damped Sinusoidal Transient, Cables & Power Leads | CS116 | 10kHz – 100MHz |
| Radiated Emissions Magnetic Field | RE101 | 40Hz – 100kHz |
| Radiated Emissions, Electric Filed | RE102 | 10kHz – 18GHz |
| Radiated Susceptibility Magnetic Field | RS101 | 30Hz – 100kHz |

| Radiated Susceptibility Electric Field | RS103 | 2MHz – 18GHz, 50 V/m |
|---|---|---|

## MIL-STD-704 (By Request)

| LDC101 | Load Measurements |
|---|---|
| LDC102 | Steady State Limits for Voltage |
| LDC103 | Voltage Distortion Spectrum |
| LDC104 | Total Ripple |
| LDC105 | Normal Voltage Transients |
| LDC201 | Power Interrupt |
| LDC301 | Steady State Limits for Voltage |
| LDC401 | Steady State Limits for Voltage |
| LDC501 | Starting Voltage Transients |
| LDC601 | Power Failure |
| LDC602 | Phase Reversal |

## MIL-STD-1275 (By Request)

| Steady State | 20V-33V |
|---|---|
| Surge Low | 18V/500ms |
| Surge High | 100V/500ms |

## Order information

| Model | AV600-TH-A20H | AV600-TH-A45 |
|---|---|---|
| CPU | W-11865MRE | |
| GPU | MXM A2000 | MXM A4500 |
| Memory | DDR4 up to 64GB | |
| Storage | 2x 2.5" SATA  III SSD | |
| I/O | | |
| USB | 2x USB3.0 + 2 x USB2.0 | |
| LAN | 2x | |
| COM | 1x RS232 + 3x RS4322 | |
| Display | 1x VGA | |
| Power | 9V~36V DC-IN | |