ADLINK
LEADING EDGE COMPUTING

Scalable T2G Onboard Gateway

AVA-1000

Datasheet

Features

- EN 50155: 2021 Certified
- Supports both Arm-based and x86-based architectures with NXP i.MX8M Plus Quad Cortex-A53 or Intel Atom® 7th Gen (Amston Lake)
- Supports 3x 1GbE M12 LAN, 1x USB 3.0, 1x HDMI 2.0
- Supports multiple connectivity of 5G, WiFi 6 and GNSS
- Wide range 24-110VDC power input with ignition
- Fanless extended temperature OT4, ST1



Ordering Information

AVA-1000/iMX8MP/8G/64G, CC	Fan-less T2G gateway with NXP Quad core i.MX8M-PLUS NPU, 8 GB LPDDR4 , 64 GB eMMC, supporting 3x X-coded M12 GbE ports, DI/DO, RS-232, GNSS, 1x 5G Slot, 1x Wifi M.2 slot, 1x M.2 NVME storage slot
AVA-1000/x7433RE/8G/64G, CC	Fan-less T2G gateway Intel ASL x7433RE, 8GB LPDDR5, 64GB eMMC, supporting 3x X-coded M12 GbE ports, DI/DO, RS-232, GNSS, 2x 5G slots, 1x Wifi M.2 slot, 1x M.2 NVME storage slot

Optional Accessories

AVA-1000 AC-DC power supply	24VDC 100W AC-DC power adapter with A-coded connector
AVA-1000 A-code power connector	1x M12 A-coded connector
AVA-1000 cable kit	1x M12 A-coded power cord, 3x M12 X-coded Ethernet cables

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Specifications

Model	AVA-1000/x7433RE/8G/64G,CC	AVA-1000/iMX8MP/8G/64G,CC
System		
SMARC Processor	Intel Atom® x7433RE Quad-Core 1.5 GHz, 9W TDP	NXP i.MX8M Plus with Quad core ARM Cortex-A53
Memory	LPDDR5 8GByte soldered by default; 16GB upon request	LPDDR4L -4266 8GB soldered by default; 16GB upon request
eMMC	64GB by default, up to 256GB (MOQ required)	64GB by default, up to 256GB (MOQ required)
BIOS	AMI® Aptio V	-
Ethernet	3x 1GbE via M12 X-coded	3x 1GbE via M12 X-coded
DI/DO	4 DI/4 DO in 1x 2x6 terminal block	4 DI/4 DO in 1x 2x6 terminal block
COM	RS-232/422/485 in 1x 2x6 terminal block RS-485	RS-232/422/485 in 1x 2x6 terminal block RS-485
Display	1x HDMI 1.4 1920 x 1080 @ 60Hz	1x HDMI 1.4 1920 x 1080 @ 60Hz
USB 3.0	1x USB 3.1 Gen1 5G Type A	1x USB 3.1 Gen1 5G Type A
Reserved IO	I^2C, CAN reserved upon request	I^2C, CAN reserved upon request
ARM Maintainance	-	Micro SD/UART to Micro USB console port Console/Micro-B/Dip switch Covered with lid for security purpose
Storage		
Storage	64GB eMMC	64GB eMMC
	-	1x Micro SD slot for NXP image loading
	1 M.2-2242 M Key with PCIe Gen3 PCIE/NVME only	1 M.2-2242 M Key with PCIe Gen3 PCIE/NVME only
Connectivity		
Connectivity	2x M.2-3042/4052 B Key (USB 3.0+USB 2.0) for 5G/LTE	1x M.2-3042/4052 B Key (USB 3.0+USB 2.0) for 5G/LTE (CN1)
	1x M.2-2230 E Key (PCIe Gen3/ USB 2) for WiFi and BT	1x M.2-2230 E Key (PCIe Gen2/ USB 2) for WiFi and BT or 1x M.2-2230 Ekey (PCIEx Gen 2) for WiFi
GNSS	GNSS receiver supporting GPS , Galileo, GLONASS, BeiDou (NEO-M9N-00B)	GNSS receiver supporting GPS , Galileo, GLONASS, BeiDou (NEO-M9N-00B)
QMA	6x antenna QMA cut-out for LTE	4x antenna QMA cut-out for LTE
	4x antenna QMA cur-out for Wifi	4x antenna QMA cur-out for Wifi
	1x antenna QMA cur-out for GNSS	1x antenna QMA cur-out for GNSS
SIM	4x Nano Sim Card on RF board 2 Sim per one 5G modem	4x Nano Sim Card on RF board 2 Sim per one 5G modem
Miscellaneous		
Indicator LEDs	1x Power/Reset LED (Green) 1x Watchdog LED (Yellow) 3x Ethernet Link LEDs (Green) 12x User define LEDs (Green)	1x Power/Reset LED (Green) 1x Watchdog LED (Yellow) 3x Ethernet Link LEDs (Green) 12x User define LEDs (Green)
Reset Button	1x Reset button	1x Reset button
TPM	TPM 2.0	TPM 2.0
Power input	M12 A-coded support 24V to 110V DC nominal (EN50155), 10ms hold-up time (acc. EN50155, class S2, C1) Ignition support	M12 A-coded support 24V to 110V DC nominal (EN50155), 10ms hold-up time (acc. EN50155, class S2, C1) Ignition support
Power Consumption	34.8W by 24VDC input (full loading)	30.48W by 24VDC input (full loading)

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Specifications

Model	AVA-1000/x7433RE/8G/64G,CC	AVA-1000/iMX8MP/8G/64G,CC
Mechanical		
Material	Aluminium heatsink	Aluminium heatsink
Cooling	Passive cooling Fan-less design Suggested air flow 0.6m/s	Passive cooling Fan-less design Suggested air flow 0.6m/s
Grounding screw	Stainless steel M6 20mm stud	Stainless steel M6 20mm stud
Mounting	Wall mount	Wall mount
Ingress Protection	EN60529 IP40	EN60529 IP40
Dimensions	L: 220mm; W:130mm; H: 72.3mm	L: 220mm; W:130mm; H: 72.3mm
Net Weight	2.025 kg with 2x modem, 1x Wifi, 1x NVME modules	2.025 kg with 1x modem, 1x Wifi, 1x NVME modules
MTBF		
MTBF	220,051 hrs. by Telcordia Issue 4, GB, GC	250,350 hrs. by Telcordia Issue 4, GB, GC
PCB Coating	The conformal coating on AVA-1000 boards is applied by default. Coating on add-on cards is available upon request	The conformal coating on AVA-1000 boards is applied by default. Coating on add-on cards is available upon request
CMOS Battery	MuRata CR2032X Battery by default	MuRata CR2032X Battery by default
Software		
BIOS	AMI® Aptio V UEFI BIOS	-
Operating System	Ubuntu Linux 22.04	Yacto Linux
Watchdog	1~255 sec. system reset	1~255 sec. system reset
Environment		
Operating Temperature	Depending on SMARC module selection -40 °C to +70 °C, +85°C for 10 min (-40 °F to 158 °F , 185 °F for 10 min) acc. EN50155, class OT4, ST1	Depending on SMARC module selection -40 °C to +70 °C, +85°C for 10 min (-40 °F to 158 °F , 185 °F for 10 min) acc. EN50155, class OT4, ST1
Storage temperature	-40°C to +85°C	-40°C to +85°C
Humidity	+25°C to +55 °C, 95 % (acc. EN50155)	+25°C to +55 °C, 95 % (acc. EN50155)
EMC		
EMC	EN 50155:2021 Clause 13.4.9 EN 50121-3-2 ETSI EN 301 489-1 V2.2.3 (2019-11), Class A ETSI EN 301 489-19 V2.2.1 (2022-09)	EN 50155:2021 Clause 13.4.9 EN 50121-3-2 ETSI EN 301 489-1 V2.2.3 (2019-11), Class A ETSI EN 301 489-19 V2.2.1 (2022-09)
Safety		
Rolling stock	BS EN50155:2021	BS EN50155:2021
Fire Protection	EN45545-2:2013+A1:2015 (HL 1-3) EL9 for PCB (R24 / R25) Exclude add on modules	EN45545-2:2013+A1:2015 (HL 1-3) EL9 for PCB (R24 / R25) Exclude add on modules

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