

AFE-E620

Allwinner T536 Quad-core Cortex® - A55 Arm edge system



Features

- Allwinner T536 Arm Quad-core Cortex-A55, up to 1.6 GHz
- Integrated single-core E907 RISC-V processor, up to 600MHz
- Integrated neural processing unit (NPU) up to 2 Tops
- Default 1GB DDR3L onboard
- Optional 32GB/64GB storage
- All RS-485, CAN, and DI interfaces w/ isolation protection
- Support maximum 6 Relay output
- Provide M.2 E-key and Mini-PCle expansion slots
- Support LVDS video output
- Support Linux and AIM-Linux



ENERGY



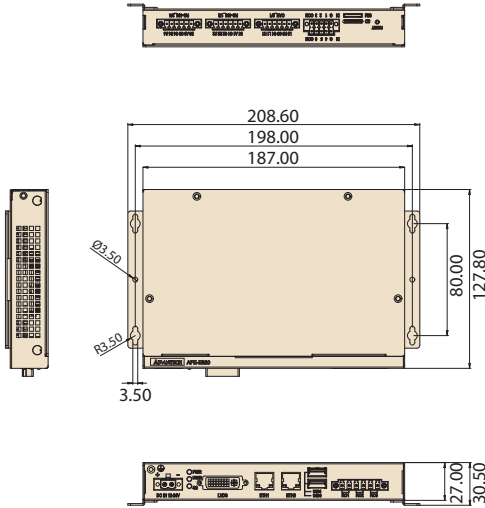
Specifications

Model	AFE-E620-U0A1		AFE-E620-U0B1
Processor	CPU	Allwinner T536MX-CXX Arm Quad Cortex-A55@1.6 GHz	
	NPU	-	
Memory	Capacity	1GB DDR3L	
	Flash	32/64 GB optional	
Graphics	LVDS	1x LVDS (Single channel w/ DVI interface), support 1280x800, 1024x600	
	Graphics Engine	G2D hardware accelerator	
	H/W Video Codec	Video decoder: 4K@15fps MJPEG, 1080P@60fps JPEG Video encoder: 4K@25fps H.264	
Ethernet	Chipset	2x RTL8211FSI-VS-CG	
	Speed	2x 10/100/1000 Mbps	
WatchDog Timer	WDT	1~65536s, default 60s	
TPM	TPM2.0	TPM2.0 optional	
Front I/O	Power	2pin terminal block 1x Power on/off	
	LED	1x 4G status 1x User Defined	
	LVDS	Single channel LVDS, DVI interface, Integrated USB 2.0 signal for touch panel	
	Ethernet	2x LAN port 10/100/1000 Mbps	
	USB	2x USB2.0, USB0 support USB OTG	
	Relay Output	3 x Relay Output w/ 2A250V _{AC} 3A30V _{DC}	6 x Relay Output w/ 2A250V _{AC} 3A30V _{DC}
Side I/O	Antenna	Per 2x Antenna holes on both side	
Rear I/O	SD card slot	1x SD card slot	
	SIM card tray	1x SIM card tray	
	DI	6x DI, w/ 2.5KVdc isolation protection Dry/Wet contact options - Dry contact: Logic 0: Close to ground Logic 1: Open(Default) - Wet contact: Logic 0: 10 ~ 30 V _{DC} Logic 1: 0 ~ 3 V _{DC}	10x DI, w/ 2.5KVdc isolation protection Dry/Wet contact options - Dry contact: Logic 0: Close to ground Logic 1: Open(Default) - Wet contact: Logic 0: 10 ~ 30 V _{DC} Logic 1: 0 ~ 3 V _{DC}
		2x CAN FD w/ 2.5KVdc isolation protection	4x CAN FD w/ 2.5KVdc isolation protection
		4x RS-485 w/ 2.5KVdc isolation protection	8x RS-485 w/ 2.5KVdc isolation protection
	Expansion	M.2 1 x M.2 E-Key for WiFi/BT, w/ UART & SDIO & PCIe2.1 Mini PCIE 1x Mini PCIE socket, w/ PCIe2.1	
Power	Power Supply	12-24V DC-IN ±10%	
	Power Management	AT mode	
Environment	Operating Temperature	-20 ~ 70°C	
	Operating Humidity	40°C, 95% relative humidity, non-condensing	
Mechanical	Dimensions (W x D)	208.6 x 127.8 x 30.5 mm	208.6 x 127.8 x 39.5 mm
Operating System		Linux Buildroot (kernel 5.15)	
Certifications		(Coming soon) CCC/CE/FCC	

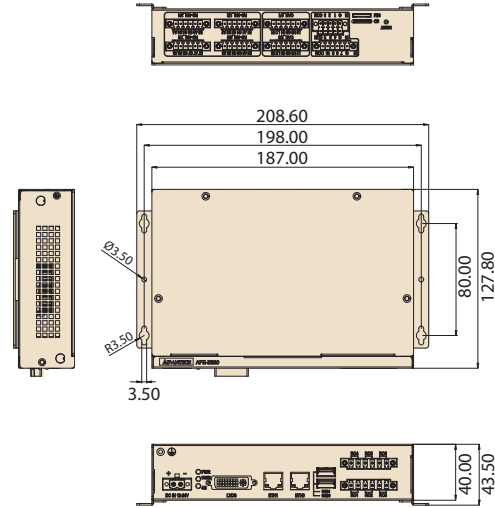
Dimensions

Unit: mm [inch]

AFE-E620-U0A1



AFE-E620-U0B1



Ordering Information

Part Number	CPU Arm	NPU	Memory	EMMC	LVDS	USB 2.0	LAN	Isolated CAN FD	Isolated RS-485	Isolated DI	Relay Output	Operating Temperature
AFE-E620-U0A1	Allwinner T536MX-CXX	-	1GB	32GB	1	2	2	2	4	6	3	-20~70 °C
AFE-E620-U0B1	Allwinner T536MX-CXX	-	1GB	32GB	1	2	2	4	8	10	6	-20~70 °C

Optional Accessories

Part Number	Description / Manufacture Part Number
96PSA-A60W12P2-3	Power Adapter / A/D 100-240V 60W 12V C14 TERMINAL BLOCK 2PIN
96PSA-A60W24T2-3	Power Adapter / 100-240V 60W 24V C14 CORD END 2PIN 62368
AIW-167BN-GI1	WLAN module_1 / NXP IW611 M.2 2230, Qty*1
1751000621-01	WLAN module_1 RF Cable / SMA/F-R MHF4L/113 BLK L300mm Qty*1
1751000651-01	WLAN module_1 Dipole Ant / WiFi 6E SMA/M-R BLK L111.7mm IP54, Qty *1
TBD	WLAN module_2 / Quectel FM163R RTL8852BE-VI-CG Qty*1
1751000651-01	WLAN module_2 Dipole Ant / WiFi 6E SMA/M-R BLK L111.7mm IP54, Qty *1
1751000621-01	WLAN module_2 RF Cable / SMA/F-R MHF4L/113 BLK L250mm, Qty *1
1751000622-01	WLAN module_2 RF Cable / SMA/F-R MHF4L/113 BLK L150mm, Qty *1
1751000622-01	WLAN module_2 RF Cable / SMA/F-R MHF4L/113 BLK L150mm, Qty *1
TBD	WWAN module for Chian / Quectel EC20CEFRG-MINIPICIE, Qty *1
TBD	WWAN module for Global / Quectel EG25GLGD-MINIPICIE, Qty *1
TBD	WWAN module for Europe / Quectel EC25EUXGR-MINIPICIE, Qty *1
1751000652-01	WWAN module Ant. / AIW 531-I LTE SMA/M RG178 BLK L163.1mm, Qty*2
1751000650-01	WWAN module RF Cable / SMA/F MHF1/113 BLK L100mm, Qty *1
1751000628-01	WWAN module RF Cable / SMA/F MHF1/113 BLK L250mm, Qty *1
SQF-C3AV1-128GDEDE	Storage / SQF M.2 2230 720-D 128G 3D TLC BiCS5 (-40~85°C), Qty *1
SQF-C3AZ1-32GDEDE	Storage / SQF M.2 2230 720-D 32G 3D sTLC BiCS5 (-40~85°C), Qty *1
LMT101DNLFW-FKD20	Panel / LVDS 10.1" Panel 1280x800, Qty *1
C250057C	Cable / LVDS Cable, Qty *1
1700028481-01	Debug cable / A Cable D-SUB 9P(M)/1x4P-1.25 7cm

Packing List

Part Number	Description
1990042851N000	Thermal Pad 35x30x2 for WWAN module (Qty *1)
1990027162N010	Thermal Pad 19.5X19.5X1.5 for WLAN module (Qty *1)
1960099634N003	Mount Bracket (Qty *2)

Part Number	Description
1652008980-01 ^①	TEP 1X6P/3.5/PA66/VA(F)/Sn/Assembly/W SC
1652008979-01 ^②	TEP 2X5P/3.5/PA66/VA(F)/Sn/Assembly/W SC
1652009041-01 ^③	TEP 1X6P/5.08/VA(F)/Sn/Assembly/Black/L3.4/W SC

Notes* ①②③ Are terminal plugs, the quantity varies per SKU.