

AFE-E620

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



Features

- Allwinner T536 ARM Quad-core Cortex-A55, up to 1.6 GHz
- Intergrated single-core E907 RISC-V processor, up to 600MHz
- Intergrated neural processing unit (NPU) up to 2 Tops
- 1GB DDR3L memory onboard (dual-channel)
- 16GB and 64GB eMMC optional
- All I/O with isolation protection: RS-485, CAN, DI, RO
- Extension I/O board AFE-EM01 available
- Intergrated 6x relay output
- Support 4G/Wi-Fi6/BT/NVME SSD
- Support LVDS video output
- Support Linux and AIM-Linux



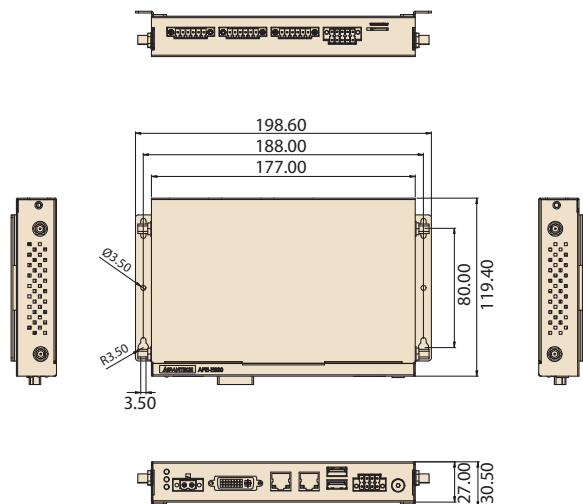
Specifications

Model		AFE-E620-U0A1	AFE-E620-U0B1
Processor	CPU	Allwinner T536LX-CXX ARM 4x Cortex-A55@1.4 GHz	Allwinner T536MX-CEN2 ARM 4x Cortex-A55@1.6 GHz
	NPU	-	2Tops
Memory	Technology	DDR3L	
	Capacity	1GB DDR3L onboard	
	Flash	16GB	64GB
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 YT8531SH-CA	
	Speed	2x 10/100/1000 Mbps	
WatchDog Timer	WDT	1~65536s, default 60s, power on/off 1s by MCU	
TPM	TPM2.0	TPM2.0 optional	
Front I/O	Power	2pin terminal block	
	LED	1x Power on/off 1x 4G status 1x User Defined	
	LVDS	Single channel LVDS, DVI interface, Intergrated USB 2.0 signal for HMI touch	
	Ethernet	2x LAN port 10/100/1000 Mbps	
	USB	2x USB2.0, USB0 support USB OTG	
	Relay Output	3 x Relay Output w/ 5A250V _{AC} 5A30V _{DC}	6 x Relay Output w/ 5A250V _{AC} 5A30V _{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/ 2KVdc 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/ 2KVdc 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}
	CAN	2x CAN FD w/ 2KVdc isolation protection	4x CAN FD w/ 2KVdc isolation protection
	RS-485	4x RS-485 w/ 2KVdc isolation protection	8x RS-485 w/ 2KVdc 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 Management	AT mode	
Environment	Operating Temperature	-20 ~ 70°C	
	Operating Humidity	40°C, 95% relative humidity, non-condensing	
Mechanical	Dimensions (W x D)	177 x 119.4 x 30.5 mm	177 x 119.4 x 39.5 mm
Operating System		Linux Buildroot (kernel 5.15)	
Certifications		(Coming soon) CCC/CE/FCC	

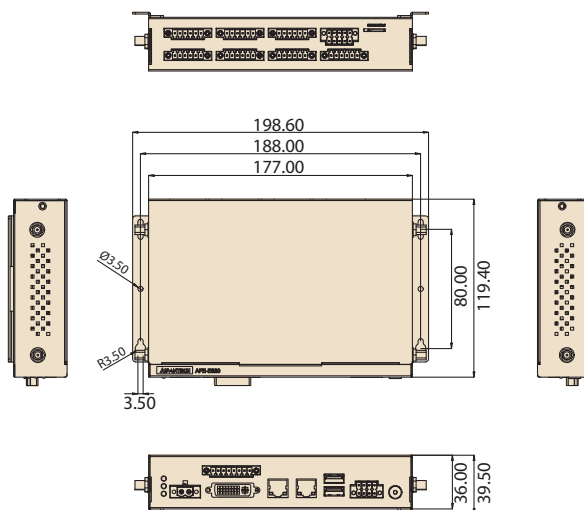
Dimensions

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	Temperature
AFE-E620-U0A1	4x Cortex A55 @1.4GHz	-	1GB	16GB	1	2	2	2	4	6	3	-20~70 °C
AFE-E620-U0B1	4x Cortex A55 @1.6GHz	2Tops	1GB	64GB	1	2	2	4	8	10	6	-20~70 °C

Packing List

Part Number	Description
1960121287N000	4G-2 BKT for AFE-E620 (Qty *1)
1960121288N000	WIFI-2 BKT for AFE-E620 (Qty *1)
1960099634N003	Mount Bracket for EPC-R3720 Powder 432C (Qty *1)
1652008980-01 [Ⓞ]	TEP 1X6P/3.5/PA66/VA(F)/Sn/Assembly/W SC
1652008979-01 [Ⓞ]	TEP 2X5P/3.5/PA66/VA(F)/Sn/Assembly/W SC
1652008978-01 [Ⓞ]	TEP 2X4P/3.5/PA66/VA(F)/Sn/Assembly/W SC
1652008981-01 [Ⓞ]	TEP 1X8P/3.5/PA66/VA(F)/Sn/Assembly/W SC

Notes* [Ⓞ][Ⓛ][Ⓜ][Ⓝ][Ⓞ] Are terminal plugs, the quantit varies per SKU.

Optional Accessories

Part Number	Description/Manufacturer Part Number
96PSA-A60W12P2-3	ADP A/D 100-240V 60W 12V C14 TERMINAL BLOCK 2PIN
96PSA-A60W24T2-3	ADP A/D 100-240V 60W 24V C14 CORD END 2PIN 62368
AIW-167BN-GI1	NXP IW611 M.2 2230 (SDIO&UART)
1751000620-01	RF Cable SMA/F-R MHF4L/113 BLK L300mm
1751000651-01	Dipole Ant. WiFi 6E SMA/M-R BLK L111.7mm IP54
TBD	EC20CEFRG-MINIPCIE , LTE Cat 4, for China
TBD	EG25GLGD-MINIPCIE, for Global
TBD	EC25EUXGR-MINIPCIE, for EU
1751000590-01	AIW 531-I Dipole Ant. LTE 2.23/3.96dBi SMA/M BLK L163.1mm
1751000632-01	RF Cable SMA/F MHF1/113 BLK L300mm
1751000631-01	RF Cable SMA/F MHF1/113 BLK L200mm
SQF-C3AV1-128GDEDE	SQF M.2 2230 720-D 128G 3D TLC BICS5 (-40~85°C)
SQF-C3AZ1-32GDEDE	SQF M.2 2230 720-D 32G 3D sTLC BICS5 (-40~85°C)
9696EG67000	M.2 E-KEY
LMT070ENMFWA-AGK-3	LVDS 7" Panel 1024x600
LMT101DNLFWD-FKD	LVDS 10.1" Panel 1280x800
C250057C	LVDS Cable