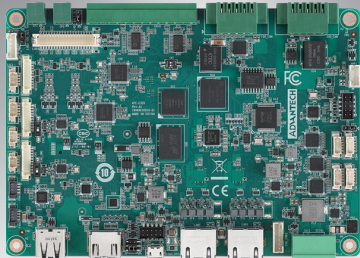


AFE-E420

NXP® i.MX93 4" SBC

Preliminary



Features

- NXP® i.MX93 with Single/Dual Arm® Cortex-A55
- Onboard LPDDR4x-3733 up to 2GB, eMMC
- Dual independent display: LVDS + HDMI
- Dual GbE, 3 USB, 6 COM, 4 CANBus, 2 PLC, RTD 6-CH
- Expansion: M.2 E-Key, M.2 B-Key
- Supports Yocto BSP

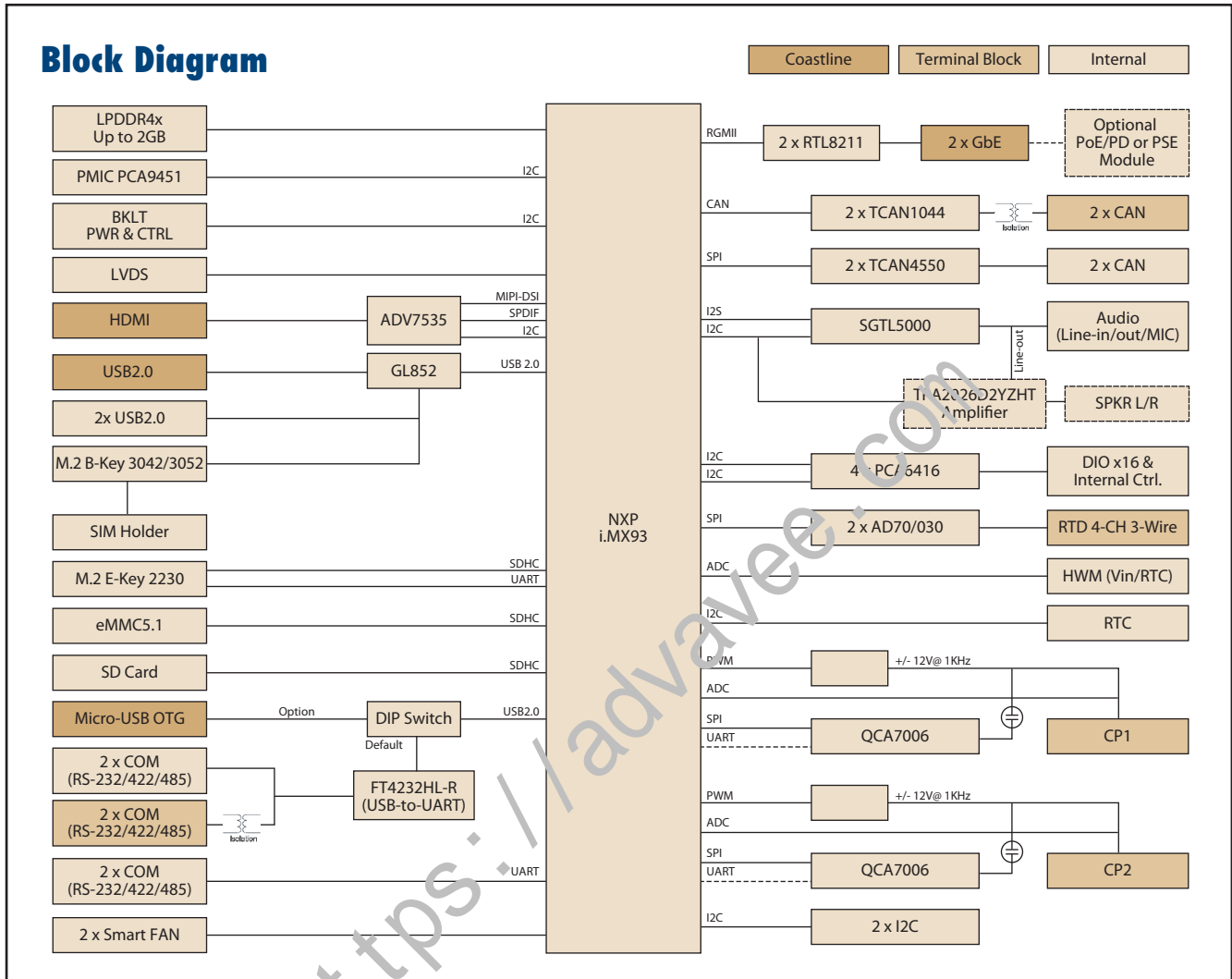
yocto PROJECT CE FC

Specifications

Platform	Processor	NXP® i.MX 93 with Single/Dual Arm® Cortex-A55
	Max. Frequency	1.70 GHz
	Core	Single or Dual
Memory	Technology	LPDDR4x-3733MT/s
	Max. Capacity	Up to 2GB
	Channel/Socket	Single Channel/ Onboard LPDDR4x
	ECC Support	Inline ECC
Display I/F	LCD	1 x LVDS, Single Channel 18, 24-bit, up to 1366 x 768 or 1280 x 800
	HDMI/DP	1 x HDMI 1.3, up to 1920 x 1080
	Multiple Display	Dual simultaneous displays by LVDS + HDMI
Ethernet	Controller	LAN: Realtek 8211 (FHY)
	Speed	2 x GbE
External I/O	Ethernet	2 x RJ-45
	VGA/HDMI/DP	1/-
	USB2.0	1
	Micro-USB	(for debug only)
Internal I/O	USB2.0	2
	Serial Bus	2 x I2C
	COM Port	6x RS-232/422/485 (COM5 & COM6 with isolation)
	GPIO	16-bit general purpose input output I/O
	CANBus	4x CAN2.0 (CAN1 & CAN2 with isolation)
	Audio	NXP SGT15000, Line-in/Line-out/MIC
	Amplifier	YES (Stereo, 2.5W)
	RTD	4-CH (3-wire), PT1000/PT100 compatible Sampling Rate 100Hz
	Smart Fan	2 x Smart Fan, 12V, 0.3A (4-wire)
	Front Panel Control	Power Button, Reset Button, 5V/3.3V Power Indicator
Power Line Communication	HLC Controller	2 x QCA7006
	Control Pilot	Dual ports with PWM & ADC
Storage	eMMC	16GB
Expansion	M.2 E-Key	1 x E-Key 2230 (SDHC x1, UART x1)
	M.2 B-Key	1 x B-Key 3042 (USB2.0 x1) w/ Nano-SIM
	SD Card	1 x SD slot
Power	Supply Voltage	Vin: DC 12-24V ± 10%; RTC Battery: Lithium 3V/210mAH
	Connector	2-pin phoenix connector, optional ATX 2pin 180D
	Power Management	AT, ATX
	Max. Consumption	TBU
	Idle Consumption	TBU
Environment	Temperature	Operating Extend: -40 ~ 85 °C (-40 ~ 185 °F) Storage: -40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
	Vibration Resistance	3.5 Grms
Certification	EMC	CE, FCC Class B
Mechanical	Dimensions	165 x 115 mm (6.5" x 4.5")
	Net Weight	TBU

*Note: Support by request

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash	HDMI	LVDS	LAN	COM Port	CANBus	Power Line Communication (PLC)	Operating Temperature
TBD	i.MX 93 Dual Core	2GB	16GB	1	1	2	6	4	2	-40 ~ 85 °C

Packing List

Part No.	Description	Quantity
TBD	AFE-E420 SBC	1
TBD	Startup Manual	

Optional Accessories

Part No.	Description
1700032181-01	M Cable 2x10P-2.0/USB-A 9P(F)x2 35CM
1700030404-01	F Cable D-SUB 9P(M)/1*10P-1.25 20cm
1700021705-01	A Cable D-SUB 9P(M)/1x3P-1.25+G-TEM 30cm
1700019584-01	A Cable 2*5P-2.0/Audio JACK*3 20cm
TBD	LTE Module
TBD	WiFi Module

Rear IO View