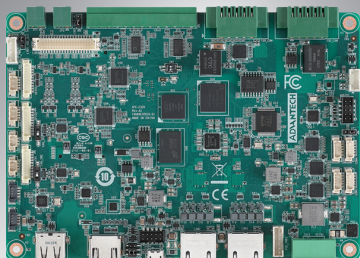


AFE-E420

NXP® i.MX93 4" SBC

Preliminary



yocto
PROJECT



Features

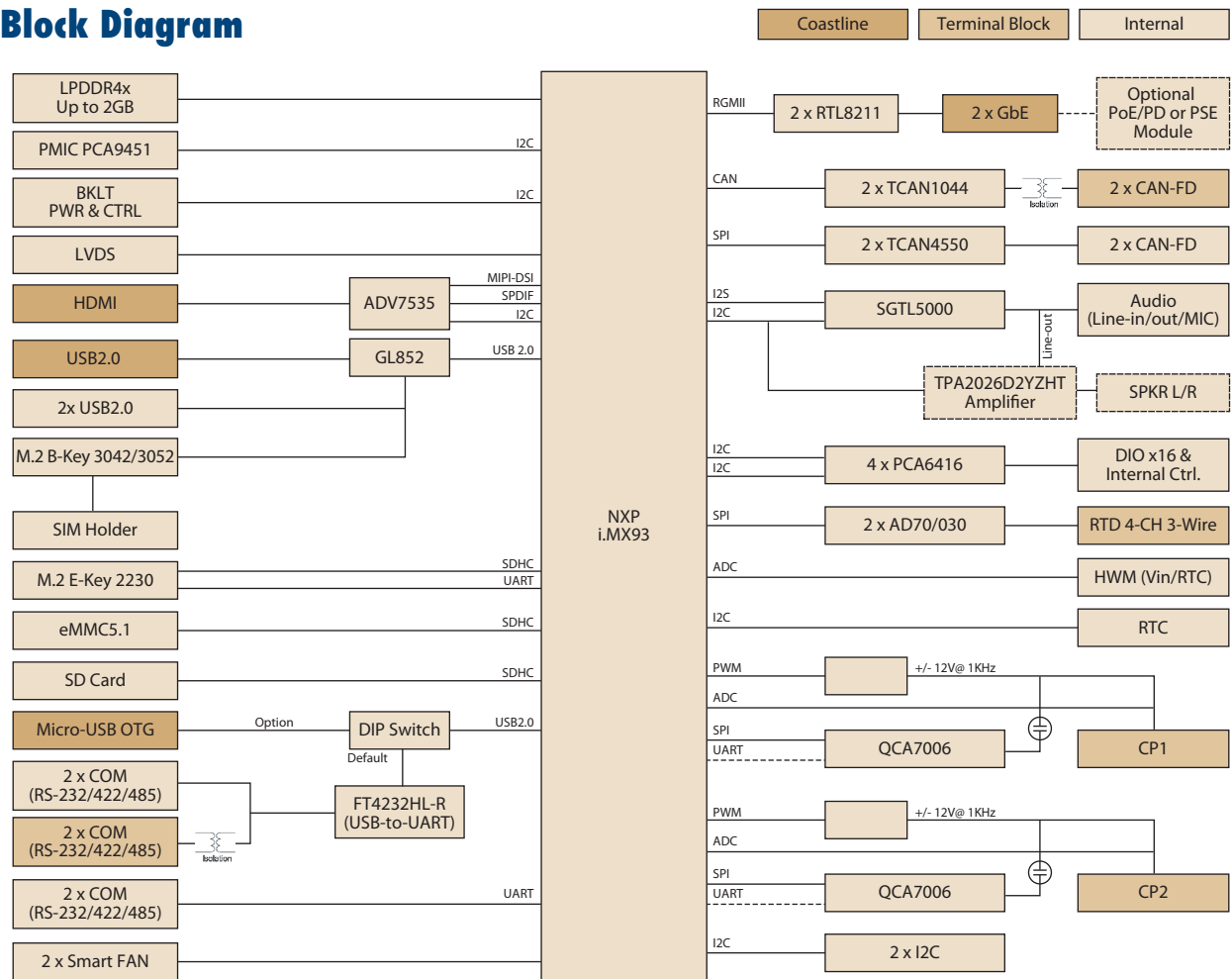
- NXP® i.MX93 with Single/Dual Arm® Cortex-A55
- Onboard LPDDR4x-3733 up to 2GB, eMMC
- Display: LVDS or HDMI
- Dual GbE, 3 USB, 6 COM, 4 CANBus, 2 PLC, RTD 4-CH
- Expansion: M.2 E-Key, M.2 B-Key
- Supports Yocto BSP

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
	Single Display	Any of two displays: LVDS or HDMI
Ethernet	Controller	LAN: Realtek 8211 (PHY)
	Speed	2 x GbE
External I/O	Ethernet	2 x RJ-45
	VGA/HDMI/DP	-/1/-
	USB2.0	1
	Micro-USB	1 (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	4xCAN-FD (CAN1 & CAN2 with isolation)
	Audio	NXP SGT5000, 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	Display	LAN	COM Port	CANBus	Power Line Communication (PLC)	Operating Temperature
TBD	i.MX 93 Dual Core	2GB	16GB	LVDS only	2	6	4	2	-40 ~ 85 °C
TBD	i.MX 93 Dual Core	2GB	16GB	HDMI only	2	6	4	2	0 ~ 85 °C

Packing List

Part No.	Description	Quantity
TBD	AFE-E420 SBC	1

Rear IO View

Optional Accessories

Part No.	Description
1700031582-01	RS-232 only Cable D-SUB 9P(M)/1*5P-1.25 20cm
1700035016-01	RS-422/485 Cable D-SUB 9P(M)/1x5P-1.25 20cm
1700019584-01	Audio Cable 2*5P-2.0/Audio JACK*3 20cm
1700030406-01	USB Cable 2*5P-2.0/USB-A 4P(F)*2 20cm
1700030405-01	GPIO Cable D-SUB 9P(F)/1*10P-1.25 20cm
1700030518-01	CANBus Cable D-SUB 9P(M)/1x5P-1.25 20cm
EWM-C401CQE01	Cellular 4G M.2 3042 Key B, no simslot, no GNSS
TBD	WiFi Module