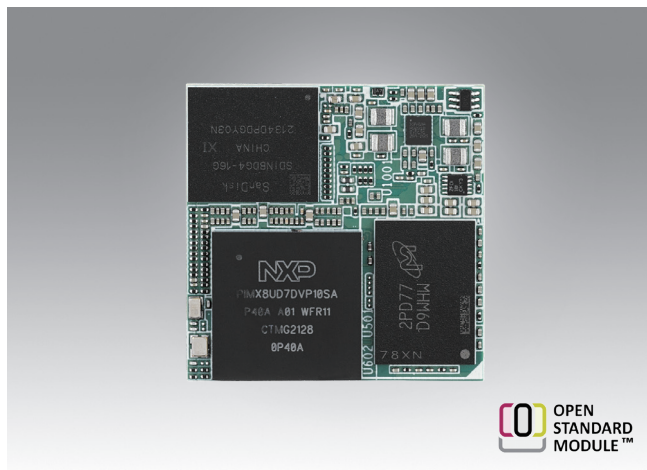


ROM-2620

NXP i.MX 8ULP Cortex®-A35 OSM 1.1 Computer-on-Module



Introduction

Advantech ROM-2620 OSM 1.1 Computer-on-Module is powered by NXP i.MX 8ULP SoC which includes up to 2 Arm Cortex-A35 cores in combination with one Cortex-M33 real time processor and Vivante GC7000 nanoULTRA/GC328 graphics engine. It provides USB2.0, Fast Ethernet, MIPI-CSI, I2C, SPI, GPIO, PWM and MIPI DSI display for embedded applications.

ROM-2620 is paired with Advantech OSM carrier board for faster end product peripheral integration and time-to-market. The reference schematics and layout checklists documentations for carrier board development will be provided along with the open-sourced Linux BSP, Azure Sphere OS, test utilities, hardware design utilities and reference drivers.

Specifications

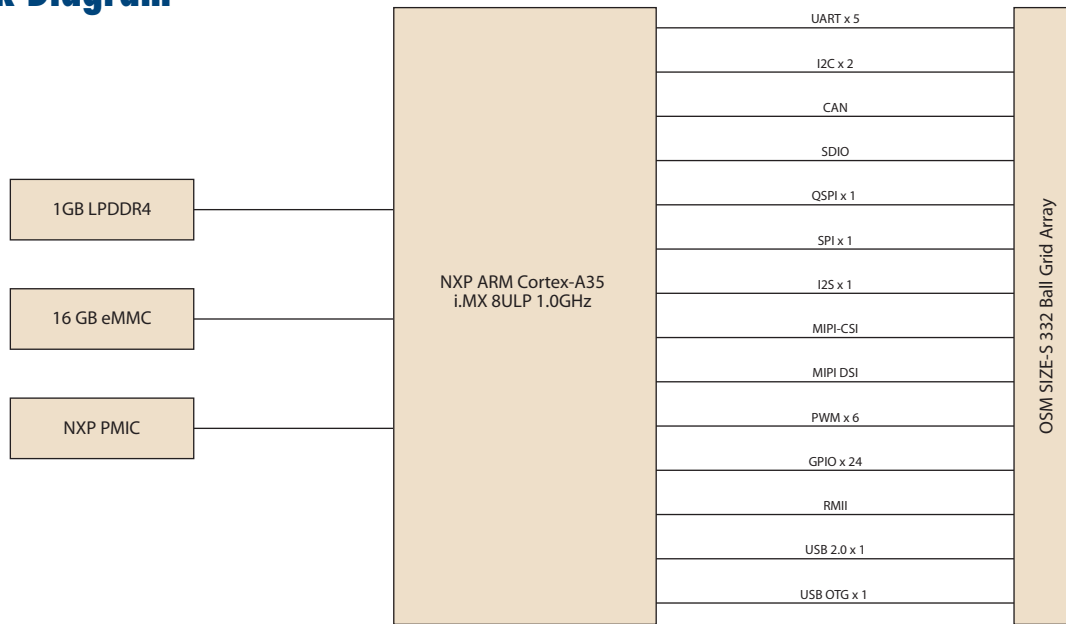
Form Factor		OSM 1.1
Processor System	CPU	NXP i.MX 8ULP Cortex-A35 Dual core (up to 1.0GHz)
	MCU	1 x Arm Cortex-M33 core
Memory	Technology	LPDDR4 2000MT/s
	Capacity	On-board 1GB
	Flash	16 GB eMMC NAND Flash for O.S.
Graphics	LVDS/MIPI DSI	1 x 4 lane MIPI-DSI
	HDMI	-
	Parallel RGB	-
	VGA	-
	Graphics Engine	GC7000 nanoULTRA/GC328 with 2D/3D Graphic Acceleration supporting 1G Pixel/s, OpenVG 1.1, Open GL ES3.1, Vulkan, and Open CL 1.2 FP.
Ethernet	Chipset	1 x NXP i.MX 8ULP integrated RMII
	Speed	1 x 10/100 Mbps
RTC	RTC	i.MX 8ULP internal RTC
Security		NXP i.MX 8ULP integrated Trust Zone
I/O	PCIe	-
	SATA	-
	USB	1 USB 2.0 1 USB 2.0 OTG by serial download mode
	Audio	1 x I ² S
	SPDIF	-
	SDIO	1
	Serial Port	2 x 4-wire UART, 2 x 2-wire UART (1 share with debug port) and 1 console
	SPI	1
	CAN	1
	GPIO	24
	QSPI	1
	I ² C	2
	Camera Input	1 x 2-lane MIPI CSI
	PWM	6
	Touch	-
	Keypad	-
Power	Power Supply Voltage	5V
	Power Consumption	1.62W
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	30 x 30 mm
Operation System		Yocto Linux
Certifications		CE/FCC Class B

Features

- NXP Arm® Cortex®-A35 i.MX 8ULP Dual up to 1.0 GHz
- 1 x Arm Cortex-M33 core
- Onboard LPDDR4 1GB, 2000MT/s memory
- 1 x 4 lane MIPI-DSI
- 1 x USB2.0, 1 x USB 2.0 OTG, 5 x UART, 2 x I2C, 24 x GPIO, 6 x PWM, 1 x CAN
- Ultra small size form factor - OSM
- Support Yocto Linux



Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB 2.0	Display	SD	I2S	I2C	SPI	Size	Power input	Operating Temperature
ROM-2620WD-MDA1E	i.MX 8ULP	1GB	16GB	5	1	2	1 x MIPI DSI	1	1	2	1	30 x 30 mm	5V	-40 ~ 85 °C
ROM-2620CD-MDA1E	i.MX 8ULP	1GB	16GB	5	1	2	1 x MIPI DSI	1	1	2	1	30 x 30 mm	5V	0 ~ 60 °C

Development Board

Part No.	Description
ROM-DK2620-F1A1E	ROM-2620 evaluation kit

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable
1700023619-01	D-SUB 9P(F)/D-SUB 9P(F) RS232/RS485 100c
96PSA-A36W12W7-5	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Cord 3P Europe (WS-010+WS-083) 183cm
1700019146	Power Cord CCC 3P 10A 250V 183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700008921	Power Cord 3P PSE 183cm
SQF-ISDM1-16G-21C	SQF SD Card I-SD UHS-I MLC 16G (0~70°C)
SQF-ISDM1-16G-21E	SQF I-SD UHS-I MLC 16G (-40~85°C)

Dimensions

Unit: mm

