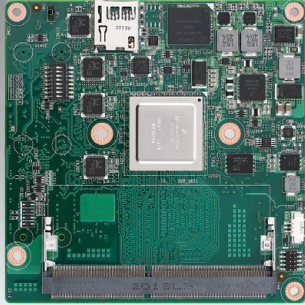


ROM-8720

NXP Arm® Cortex®-A72 LS1046A COM Express Type 7 Compact

Preliminary



Features

- NXP LS1046A, 4 x Cortex A72 1.6GHz
- Onboard Micro SD slot and eMMC 16GB
- 1 SO-DIMM supports ECC and Non-ECC DDR4
- 10GBase-KR x2, GbE up to 4, PCIe 1x x3, USB 3.2 Gen1 x3, USB 2.0.x3, SATA V3.0 x1
- 4 wires UART x2, SPI x1, GPIO x8, I2C
- DPAA (Data Path Architecture Accelerations) SDK
- Low power consumption design
- Supports Linux BSP



Introduction

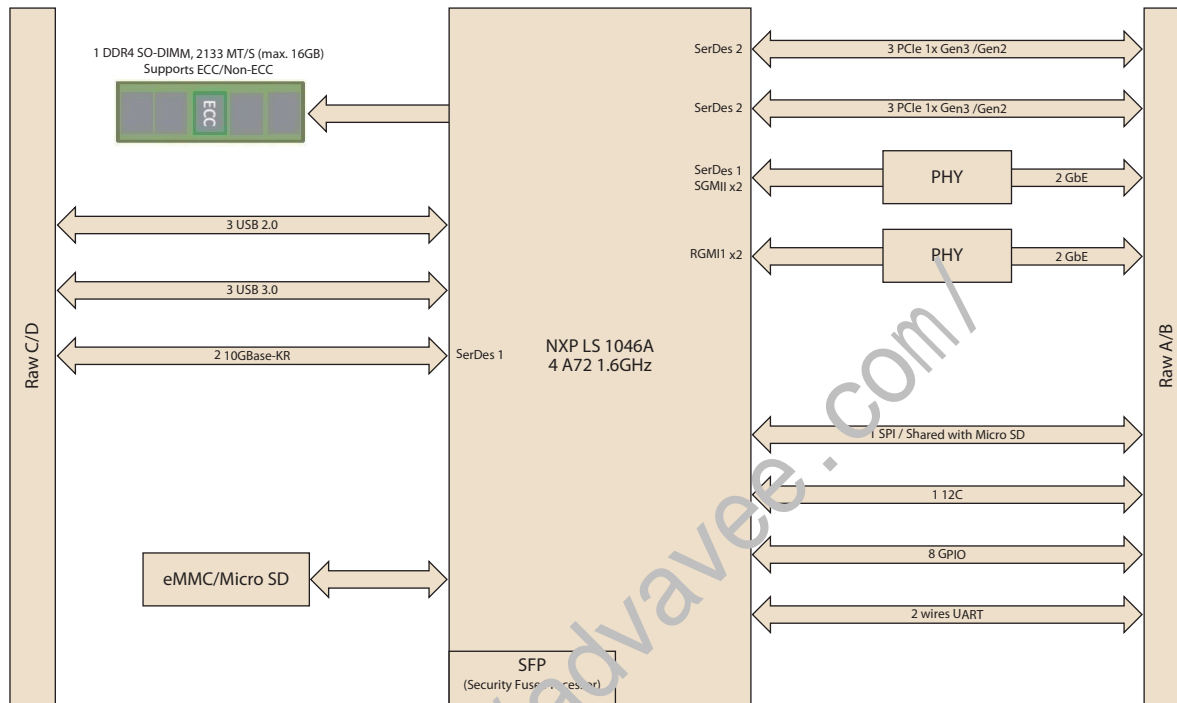
Advantech ROM-8720 COM Express Type 7 Compact Computer-on-Module is powered by NXP LS1046A SoC which includes four Arm Cortex-A72 cores for Edge networking and Edge firewall, two 10Gbps-KR and up to four Gbps for the networking communications. Three PCIe, three USB 3.2 Gen1 and three USB2.0 for the embedded interface expansions, two UART, one SPI and 8 GPIO for embedded device controls.

ROM-8720 is paired with Advantech SOM-DB5920 Evaluation 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 Linux BSP with DPAA (Data Path Architecture Acceleration) SDK for Queue / Buffer / Frame Manager and SEC encryption, test utilities, hardware design utilities and reference drivers.

Specifications

Form Factor		COM Express Type 7 Compact
Processor System	CPU	NXP Arm® Cortex®-v8 A72 LS1046A quad 1.6GHz
	Technology	LPDDR4 2133 MT/s
Memory	Capacity	1 SO-DIMM supports ECC and Non-ECC, up to 16GB
	Flash	16 GB eMMC/Micro SD socket for O.S. and 32 MB QSPI NOR Flash for board information
Graphics	LVDS/MIPI DSI	-
	HDMI	-
	Parallel RGB	-
	VGA	-
	Graphics Engine	-
	H/W Video Codec	-
Ethernet	Chipset	NXP LS1046A integrated XFI, RGMII, SGMII
	Speed	Up to 10Gbps
RTC	RTC	Yes
WatchDog Timer		256 Level timer interval, from 0.5-128 secs
Security		SFP (Security Fuse Processor)
I/O	PCIe	1x Gen3.0 x3 / 1x Gen 2.0 x3
	SATA	SATA V3.0 x1 (only ROM-8720WQ-RA1E supports)
	USB	USB 3.2 Gen1 x3, USB 2.0 x3
	Audio	-
	SPDIF	-
	SDIO	-
	Serial Port	2-wire UART x2
	SPI	1 (shared w/ Micro SD)
	CAN	-
	GPIO	8
	I2C	1
	Camera Input	-
	System Bus	-
	Touch	-
	Keypad	-
Power	Power Supply Voltage	12V
	Power Consumption	12.71 Watt
Environment	Operating Temperature	-40 ~ 70 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	95 x 95 mm
Operation System		Ubuntu
Certifications		CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB 3.0	USB 2.0	SO-DIMM	PCIe	SD	SATA	I ² C	SPI	Size	Power input	Operating Temperature
ROM-8720WQ-R0A1E	LS1046A	SO-DIMM	16 GB	2	10 Gbps-KR x2 & up to GbE x4	3	3	4GB	3 Gen3.0	1	-	1	1	95 x 95 mm	12V	-40 ~ 70 °C
ROM-8720WQ-R1A1E	LS1046A	SO-DIMM	16 GB	2	10Gbps-KR x2 & up to GbE x4	3	3	4GB	3 Gen2.0	1	1	1	1	95 x 95 mm	12V	-40 ~ 70 °C

Development Board

Part No.	Description
SOM-DB5920-00A1	Development board for COM Express Type7 Module series

Optional Accessories

Part No.	Description
EWM-W168H01E	RTL8822BE-CG 802.11 a/b/g/n/ac WIFI & Bluetooth 4.2 mini-PCIe
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
1750008800-01	Cable Ant.SMA/F-R-BH MFH4/113 BLK L100
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCI-L280H
1750007990-01	Antenna 4G/LTE full band L=11 cm 50 Ohm
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm
SQR-SD4M4G2K6SNEFB	260pin SODIMM DDR4 2666 4GB 1.2v 512x8 (-20-85 °C)
SQR-SD4M8G2K6SNBCB	260pin SODIMM DDR4 2666 8GB 1.2v 1Gx8 (-20-85 °C)
SQR-SD4I4G2K6SEEFB	260pin SODIMM ECC DDR4 2666 4GB 1.2v 512x8 (-40-85 °C)
SQR-SD4I8G2K6SEBCB	260pin SODIMM ECC DDR4 2666 8GB 1.2v 1Gx8 (-40-85 °C)
1970005494T001	HD R2 NXP.-LS1046A 24W 95x95x11mm SC Mobile
1970004870T011	CL R3 NXP.-LS1046A 24W 95x95x33.2mm SC Mobile

*Please contact us for suggesting suitable cellular module for your region.