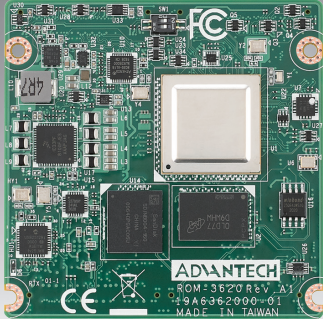


ROM-3620

NXP i.MX 8X Cortex®-A35 RTX v2.1 module



Features

- NXP i.MX 8X processor with 2-4 x Arm Cortex-A35 cores
- Onboard LPDDR4 memory and eMMC 16GB
- Supports wide range power input 5V-24V
- Supports Vivante GC7000 Lite hardware accelerators
- Supports Ultra HD 4K/ full HD 1080p video decode and HD 1080p video encode hardware engine
- Supports 1 PCIe, 1 USB 3.0, 1 USB 2.0, 1 USB OTG2.0, 5 I2C, 1 I2S, 1 Camera in, 2 CANbus, 10 GPIO
- Low power consumption, fanless design
- Supports Linux and Android BSP



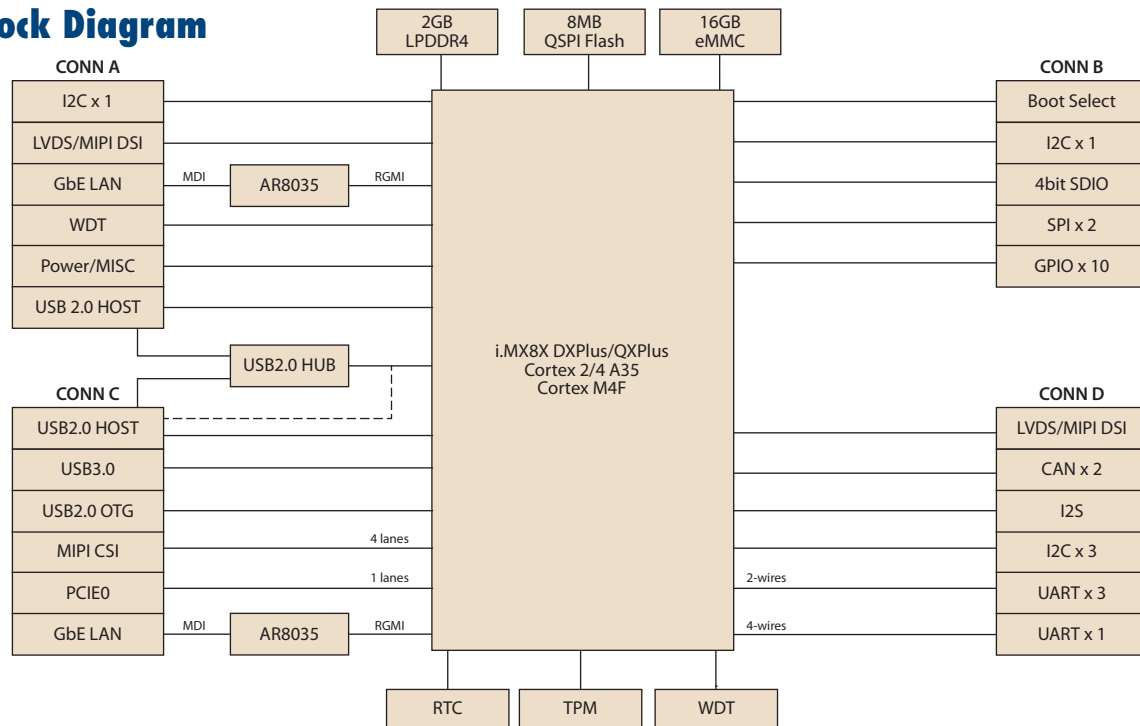
Advantech ROM-3620 RTX2.1 Computer-on-Module is powered by NXP i.MX 8X SoC which includes two to four Arm Cortex-A35 cores for mid-range automotive and industrial market segments, one Cortex-M4F core for real-time processing, and one Tensilica Hi-Fi 4 DSP for efficient audio and voice codec execution. It also escalates its graphic performance by Vivante GC7000 Lite, 4K H.265 capable decoder, and dual 1080P60 display controller.

ROM-3620 RTX2.1 module offers an Advantech ROM-DB3900 evaluation carrier board for easy integration and hardware design reference, and also provides a Linux BSP utility and reference codes for application development and device integration.

Specifications

Form Factor		RTX v2.1
Processor System	CPU	NXP i.MX 8X DualXPlus/QuadXPlus; 2/4 x Arm Cortex-A35 1.2GHz; Cortex M4F
	Technology	LPDDR4
Memory	Capacity	On-board 2GB/4GB
	Flash	16 GB eMMC NAND Flash and 8MB QSPI NOR FLASH
Graphics	LVDS/MIPI DSI	2 x 24-bit single channel LVDS 1080p or 2 x 4-LANE MIPI DSI
	Graphics Engine	Vivante GC7000 Lite
	H/W Video Codec	Decoder: H.265 / H.264 Encoder: H.264
Ethernet	Chipset	2 x NXP i.MX8X integrated RGMII (with AR8035)
	Speed	2 x 10/100/1000 Mbps
PMIC	PMIC	NXP PF8100
RTC	RTC	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 x PCIe 3.0
	USB	1 USB 3.0, 1 USB 2.0 1 USB 2.0 OTG
	Audio	I ² S
	SPDIF	-
	SDIO	1
	Serial Port	3 UART (1 x 4 wire/ 2 x 2 wire)
	SPI	2
	CAN	2 CAN/ CAN-FD
	GPIO	10
	I ² C	5
	Camera Input	1 x 4-lane MIPI CSI
	System Bus	-
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5 ~ 24 V
	Power Consumption	-
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	5% ~ 95% relative humidity
Mechanical	Dimensions (W x D)	68 x 68 mm
Operation system		Linux & Android
Certifications		CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	PCIe	SD	CANbus	IC	SPI	Size	Power input	Operating Temperature
ROM-3620CE-OEA1E	i.MX8X DualXPlus 1.2GHz	2GB	16GB	4	1	2	1	2 x single channel LVDS or 2 x 4-lane MIPI DSI	1	1	2	5	2	68 x 68 x 7 mm	5V-24V	0 ~ 60 °C
ROM-3620WE-OEA1E	i.MX8X DualXPlus 1.2GH	2GB	16GB	4	1	2	1	2 x single channel LVDS or 2 x 4-lane MIPI DSI	1	1	2	5	2	68 x 68 x 7 mm	5V-24V	-40 ~ 85 °C
ROM-3620CU-OEA1E	i.MX8X QuadXPlus 1.2GHz	2GB	16 GB	4	1	2	1	2 x single channel LVDS or 2 x 4-lane MIPI DSI	1	1	2	5	2	68 x 68 x 7 mm	5 V ~ 24 V	0 ~ 60 °C
ROM-3620WU-OEA1E	i.MX8X QuadXPlus 1.2GHz	2GB	16 GB	4	1	2	1	2 x single channel LVDS or 2 x 4-lane MIPI DSI	1	1	2	5	2	68 x 68 x 7 mm	5 V ~ 24 V	-40 ~ 85 °C

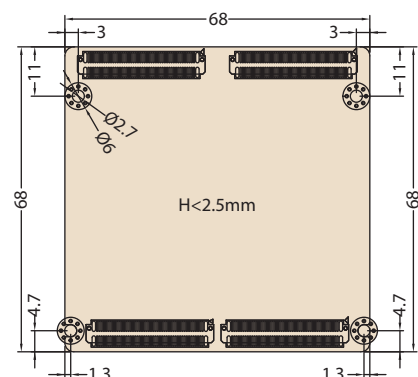
Development Board

Part No.	Description
ROM-DB3900-SWA2E	Development board for RTX2.1 module
ROM-DK3620-FOA1E	ROM-3620 EVK Kit (RTX v2.1)

Optional Accessories

Part No.	Description
96PSA-A36W12R1-3	ADAPTER 100-240V 36W 12V 3A
1700001524	Power cord 3P UL 10A 125V 180cm
170203183C	Power cord 3P Europe (WS-010+WS-083)183cm
1700008921	Power cord 3P PSE 183cm
170203180A	Power cord 3P UK 2.5A/3A 250V 1.83M
1700019146	Power Cord CCC 3P 10A 250V 183cm
SQF-ISDM1-16G-21C	SQ Flash SD card UHS-I MLC 16GB (0 ~ 70 °C)
SQF-ISDM1-16G-21E	SQ Flash SD card UHS-I MLC 16GB (-40 ~ 85 °C)
EWM-W188M201E	WiFi 802.11ac/abgn 2T2R and BT4.2
1750008671-01	Dipole Ant.SMA/M-R 2.4/5G 2.5/4dBi BLK 109mm
1750007965-01	Antenna cable, SMA (M) to MHF4, 300mm
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCII-L280H
1750008303-01	Antenna AN0727-64SP6BSM
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

Dimensions



Unit: mm