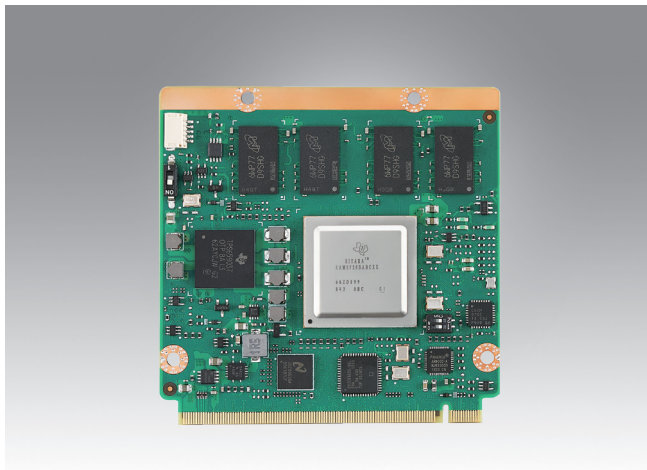


# ROM-7510

## TI Sitara™ AM5728 Cortex -A15 1.5GHz Qseven Module



## Introduction

ROM-7510 Qseven Module integrates ARM Cortex-A15 TI AM5728 high performance SoC and I/O solution chips to be Linux support ready. TI AM5728 is provided by dual-core ARM Cortex-A15 RISC CPUs with Neon™ extension, and two TI C66x VLIW floating-point DSP cores. The ARM allows developers to keep control functions separate from other algorithms programmed on the DSPs and coprocessors, thus reducing the complexity of the system software.

ROM-7510 has Advantech ROM-DB7502 Evaluation Carrier Board for easy integration and design reference; we also offer referenced schematics and layout checklists for carrier board development. Additionally, Linux BSP, test utilities, HW design utilities and reference codes are ready for application development and device integration.

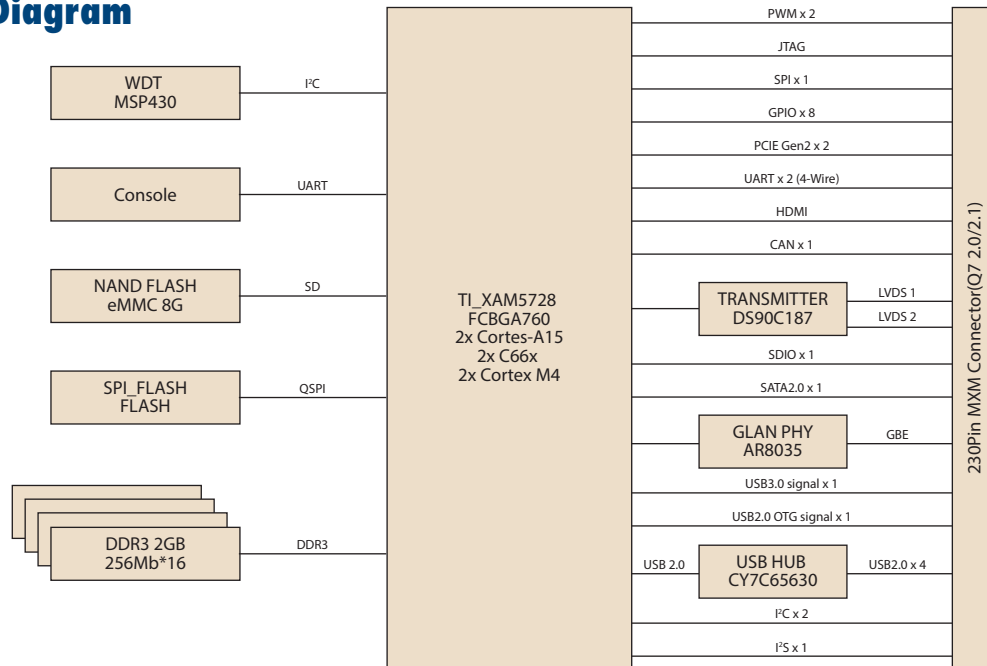
## Specifications

Form Factor		Qsevb2.0(default)/2.1(option)
Processor System	CPU	TI ARM Cortex-A15 Sitara AM5728 1.5GHz
Memory	Technology	On board DDR3-1066MHz
	Capacity	2GB
	Flash	8GB eMMC NAND Flash for O.S & 4MB SPI NOR Flash for ADV loader
Graphics	LVDS	1 x Dual channel 24-bit LVDS, 1920 x 1200
	HDMI	1
	Parallel RGB	-
	Graphics Engine	2 IPUs, Vivante™ GC320 for 2D, PowerVR® SGX544 for 3D
Ethernet	Chipset	TI AM5728 Integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		MSP430 (time out : 0.1~6553.5s, power on/off 4s)
I/O	USB	1 x USB3.0, 1 x USB 2.0 OTG, 4 x USB2.0 Host
	I <sup>2</sup> S	1
	SDIO	1
	UART	2 x UART w/ 4wires
	SPI	1
	CAN	1
	GPIO	8
	I <sup>2</sup> C	2
	SATA	1
	PCIE	2, 1-lane
Power	Power Supply Voltage	5V DC, AT/ATX
	Power Consumption	10W @BurnIn
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	70 x 70 mm
Operating System	Linux	Kernel 4.4.19
Certifications		CE/FCC Class B

## Features

- TI Sitara AM5728 Processor that integrated Dual ARM Cortex-A15 up to 1.5GHz and Dual TI C66x VLIW floating-point DSP cores and Dual ARM Cortex-M4 Programmable Real-Time Unit
- Onboard DDR3-1066 memory 2 GB and eMMC Flash 8 GB
- Support 1 x LVDS, 1 x HDMI, 1 x USB2.0 OTG, 4 x USB2.0 HOST, 1 x USB3.0, 2 x UART, 1 x CAN, 1 x SATA, 2 x I2C, 1 x I2S, 2 x PCIE 1 lane
- Operating temperature 0 ~ 60 °C / -40 ~ 85 °C
- Supports Linux Yocto

## Block Diagram



## Ordering Information

Part Number	CPU	Memory	Flash	Parallel RGB	LAN	GPIO	USB 3.0	USB 2.0	I²C	I²S	SDIO	SPI	UART	CAN	Operating Temperature
ROM-7510CD-PEA1E	TI Sitara AM5728	2GB	8GB	-	1	8	1	5	2	1	1	1	2	1	0 ~ 60 °C
ROM-7510WD-PEA1E	TI Sitara AM5728	2GB	8GB	-	1	8	1	5	2	1	1	1	2	1	-40 ~ 85 °C

## Development Board

Part No.	Description
ROM-DB7502-SCA1E	Development Board for Qseven 2.0 Module

## Optional Accessories

Part Number	Description
9696ED2000E	Debug adapter board
1700022373-01	Debug port cable for ROM-3420/5420/3310
96PSA-A36W12R1	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700019146	Power Cord CCC 3P 10A 250V 183cm
SQF-ISDS1-4G-82C SQF	SDHC C10 SLC 4G, 1CH (0~70°C)
SQF-ISDS1-8G-82C SQF	SDHC C10 SLC 8G, 1CH (0~70°C)
SQF-ISDS1-8G-82E SQF	SDHC C10 SLC 8G, 1CH (-40~85°C)
968AD00018	Wifi BT module AW-NB136NF
1750002842	Wireless Antenna R-AN2450-5701RS R/P SM
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
968AD00081*	Quectel EC20CEFA Mini-PCle 4G module for China
1750006264	Antenna cable SMA(F)/MHF 15cm
1750007990-01	Antenna 4G/LTE full band L=11 cm 50 Ohm
1960081645T001	Heat spreader ROM-7510
1930006016-02	Screw M2.5x11L F/S D=5 H=0.8 (1+) ST/H Ni
1960061089N001	heatsink 70x63x34-SC 85C
193B021490	Screw M2.5x14L F/S D=4.5 H=1 (1+) ST BZn NK
1960087497N001	heatsink with fan 70x65x47

\* Please contact us to get suitable cellular module for your region.

## Dimensions

Unit: mm

