

PicoCore™ RT1

Computer On Module with NXP i.MX RT1050

Characteristics

- NXP i.MX RT1050
- ARM® Cortex®-M7 @ 600MHz
- SDRAM, SPI NOR/NAND Flash
- LCD interface for TFT up to WXGA 16Bit RGB
- Touch (4-wire PCAP via I²C)
- Audio Line IN/ OUT/ MIC/ HP
- 1x Ethernet, USB 2.0 OTG, USB Host
- 3x UART, 4x I²C, 2x CAN, 2x SPI
- 1x SDIO (external), PWM, ADC, 1x RTC
- 3.8V to 5.5V
- FreeRTOS
- 2x 80 pin connector, 1.5 to 4mm stacking height
- 35 x 40mm
- 0°C - +70°C, -40°C - +85°C
- available up to 2030

Description

The PicoCore™ COM product family has a new member based on the NXP i.MX RT1050 ARM® Cortex®-M7 SoC.

The i.MX RT1050 is the industry's first crossover processor and combines the high-performance and high level of integration on an applications processor with the ease of use and real-time functionality of a microcontroller.

The PicoCore™ standard uses two 80 pin plug connector. This results in compact size and close board-to-board distance.

SPI NOR/NAND Flash (high reliability) is offered for program memory. An external SD-Card slot is also possible.

Audio Codec on board enables analog and also digital audio signals.

Ethernet is available for fast networking.

PicoCoreRT1 is pin compatible to PicoCoreMX6UL and PicoCoreMX6SX. RT1 shares the same FreeRTOS BSP as used with MX6SX.

PicoCore™RT1 will be available until minimum 2030.

On-Board Operating System

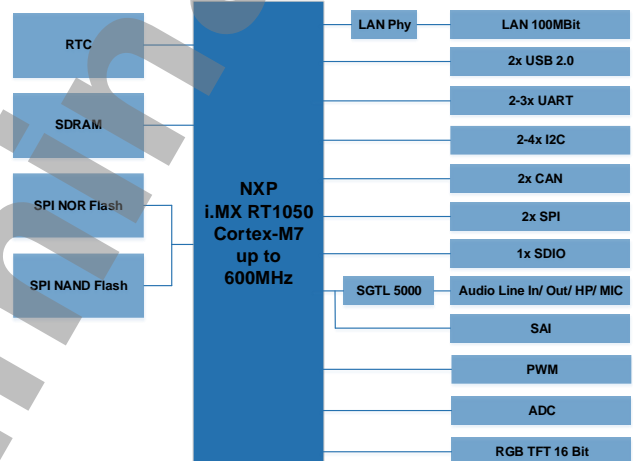


FreeRTOS real time operating system

Original Size



Block Diagram



Starterkit

The PicoCore™RT1 starterkit is available with FreeRTOS.

The starterkit consists of a base board with plugged on PicoCore™RT1, a cable kit and the access data to the F&S download area.

Our support forum with more than 3000 registered customers is always online for help.

Start your development fast and easy by attending one of our workshops.

Workshops/ Accessories

Technical Data

Power Supply:	3.3V or 3.8V to 5.5V
Power Consumption:	1W typ.
Interfaces:	3x Serial 1x Ethernet, 1x USB2.0 OTG 1x USB Host 2x CAN, 4x I ² C, Audio Line In/ Out/ Mic/ HP/I2S 4x I ² C 2x CAN, 2x SPI 1x SDIO PWM, ADC, GPIO 1x RTC
Display:	RGB TFT 16Bit
RAM:	SDRAM
Program Memory:	SPI NOR/ NAND Flash
Processor:	ARM Cortex®-M7 600MHz
Temperature Range:	0°C - +70°C (-40°C - +85°C)
Size:	35mm x 40mm x 8mm (LxBxT)
Plug Connector:	2x 80pol Hirose DF40C
Weight:	~10g

Standard Versions/ Order Notations

PicoCoreRT1-V1

RT1050, 256MB QSPI NAND Flash, 16kB EEPROM, 32MB SDRAM, Audio, Ethernet, RTC, RGB, 0°C +70°C, FreeRTOS

Standard Versions/ Order Notations

PicoCore™ RT1-SKIT

Starterkit with PicoCoreRT1, base board, cable kit, TFT display, access data to FreeRTOS BSP and documentation

The information in this document is subject to change without notice.
Windows Embedded CE is a registered trademark of Microsoft Corp.
i.MX 6 is a trademark of NXP Semiconductors Netherlands B.V.
Cortex is a registered trademark of ARM.
State: July 2020

