

**SMARC® Module with Intel Atom® x7000E Series Processors,
Intel® Processor N Series, and Intel® Core™ i3 N-series Processors**

PSMC-M21

- Power-efficient Intel Atom® x7000E series and Intel® Processor N series, and performance and value balanced Intel® Core™ i3 N-series processors
- Onboard LPDDR5 SDRAM up to 16GB
- Support 24-bit LVDS, HDMI/DP output
- Four PCI Express Gen 3 lanes, two USB 3.2, six USB 2.0, SATA 3.2
- Options for eMMC 5.1 storage



Specifications

CPU

Intel Atom® x7425E, 4x cores, 1.5GHz, 12W TDP
Intel Atom® x7213E, 2x cores, 1.7GHz, 10W TDP
Intel Atom® x7211E, 2x cores, 1.0GHz, 6W TDP (default SKU)
Intel® Processor N50, 2x cores, 1.0GHz, 6W TDP
Intel® Processor N97, 4x cores, 2.0GHz, 12W TDP
Intel® Processor N200, 4x cores/4x threads, 1.0GHz, 6W TDP
Intel® Core™ i3-N305, 8x cores/8x threads, 1.8 GHz, 9W TDP (fixed 9W)

Cache

6MB L2; 6MB Intel Smart Cache (Core i3 N-series & Processor N series)

Memory

Onboard 4G/8G/16G LPDDR5 with 4800 MT/s
Single channel, 32bit x2
In-Band ECC (Intel Atom SKUs)

Storage

Onboard eMMC 5.1 flash up to 256GB

DisplayPort Interface

LVDS

24-bit dual-channel LVDS up to 1920x1200 @ 60Hz;

DisplayPort | HDMI

DisplayPort 1.4 up to 8K (7680x4320) @ 30Hz / 4K (4096x2160) @ 60Hz;
or HDMI 2.0b up to 4K (4096x2160) @ 60Hz

Ethernet

Up to 2x Intel® I226-IT

Audio

Intel® High Definition Audio integrated in SoC
1x I²S

I/O Interfaces

PCIe

1x PCIe Gen3 x4 (option with SATA)
3x PCIe Gen3 x1

USB

2x USB 3.2, 6x USB 2.0

SATA

1x SATA 3.2

Other I/O Interfaces

2x CAN (option), 2x I²C, 1x PWM, 1x SMBus, 12x GPIO, 2x UART, 1x WDT,
2x FAN Control (option with GPIO)

Video

GPU Feature Support

Intel® UHD Graphics driven by Intel X^e architecture
OpenGL 4.6 / OpenCL 3.0 | HW accelerated video
decoding HEVC/H.264/MPEG2/VP9/VC-1/WMV9/MJPEG |
Encoding HEVC/H.264/VP9/MJPEG HDCP 1.4/2.2 for 4K
premium content protection

Embedded BIOS

AMI UEFI with Fast Boot support | Display Auto Detection |
Flash Update | Password Lock | OEM Logo for startup screen

Mechanical and Environmental

Form Factor

SMARC® 2.1

Dimension

SMARC module, 82 mm x 50 mm

Operating Temperature

0°C to +70°C, w/ 0.5m/s airflow

Humidity

0-95% RH operating, non-condensing

Power

Standard Input

5V DC ±5%

Power Management

ACPI 5.0 compliant | Fully Integrated Voltage Regulator (FIVR)

Power Consumption

6W~12W (CPU)

Operation System

Microsoft® Windows 10 IoT Enterprise LTSC 2021 (64-bit),
Linux by project request: Yocto LTS kernel 2022

Block Diagram

