

# Huameishi Technology

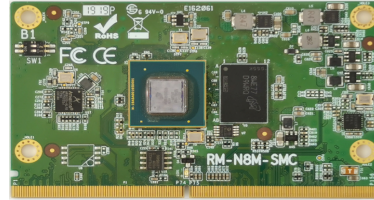
RM-N8M Computer On Module  
NXP ARM® Cortex-A53/Cortex-M4 i.MX 8M Quad 1.3GHz Processor

## RM-N8M Series SMARC 2.0 CPU Module

Wide-Temperature SMARC 2.0 Module with NXP ARM® Cortex-A53/Cortex-M4 i.MX 8M Dual/Quad 1.5GHz Processor

### Features

- With NXP Cortex™-A53/Cortex™-M4, i.MX 8M Dual/Quad 1.5GHz processor
- Up to 3GB LPDDR4, up to 32GB eMMC
- Rich peripheral I/O support
- Validated w/ Yocto v2.5 and Android 9
- Long life time supply with NxP solution
- Compliant w/ SGeT Standard SMARC™ V2.0



### Specifications

|                         |                                                                                                                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form Factor             | SMARC™ V2.0                                                                                                                                                                                |
| Processor               | NXP i.MX 8M Dual/Quad Cortex™-A53 and Cortex™-M4, 1.5GHz                                                                                                                                   |
| System Memory           | 3GB LPDDR4 on board                                                                                                                                                                        |
| Flash Memory            | 8GB eMMC on board (optional up to 64GB)                                                                                                                                                    |
| Display                 | 1 x MIPI-DSI 4-lane up to 1920 x 1080 at 60 Hz<br>1x HDMI V2.0a up to 4K, support HDCP2.2 and HDCP1.4                                                                                      |
| Video Codec             | • 1080p60 VP9<br>• 4Kp60 HEVC/H.265 main, and main 10 decoder<br>• 4Kp60 VP9 decoder<br>• 4Kp30 AVC/H.264 decoder<br>• 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder |
| Graphic                 | • GC7000Lite<br>• OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan                                                                                                                    |
| Audio Interface         | 2x I²S, 1x SPDIF(Multi pin with others)                                                                                                                                                    |
| LAN                     | 1x GbE LAN                                                                                                                                                                                 |
| USB                     | 2x USB3.0/USB2.0 with OTG interface                                                                                                                                                        |
| Image Capture Interface | 2x MIPI-CSI2 4-lane each                                                                                                                                                                   |
| Serial                  | 4x UART, 2x SPI Interface                                                                                                                                                                  |
| Media Interface         | 1x High-speed MMC/SDIO                                                                                                                                                                     |
| PCI-E                   | 2x PCIe(x1) Gen2                                                                                                                                                                           |
| SATA                    | N/A                                                                                                                                                                                        |
| GPIO                    | 12x GPIO                                                                                                                                                                                   |
| I²C                     | 4x I²C                                                                                                                                                                                     |
| CAN Bus                 | N/A                                                                                                                                                                                        |
| Dimensions              | 82mm x 50mm                                                                                                                                                                                |
| Environment             | Humidity: 0 % to 90 % RH at 60° C (non-condensing)<br>Shock: Non-Operating: 1G, 15 mins (x-, y-, z-axis)<br>Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins                              |
| Operating Temperature   | Consumer Grade: 0°C ~ 70°C (heat sink required)<br>Industrial Grade : -40°C ~ 85°C (heat sink required)                                                                                    |
| Software Support        | Yocto 2.5 (Kernel 4.14.62)<br>Android 9 (Kernel 4.14.62)                                                                                                                                   |
| Certification           | CE/ FCC Class B                                                                                                                                                                            |

### Ordering Information

|                                             |                                                                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RM-N8M-D308                                 | SMARC 2.0 CPU module, Cortex™-A53 i.MX 8M Dual 1.5GHz, 3GB LPDDR4, 8GB MLC eMMC                                                                                                         |
| RM-N8M-D308I                                | Industrial Grade<br>SMARC 2.0 CPU module, Cortex™-A53 i.MX 8M Dual 1.3GHz, 3GB LPDDR4, 8GB MLC eMMC                                                                                     |
| RM-N8M-Q316                                 | SMARC 2.0 CPU module, Cortex™-A53 i.MX 8M Dual 1.5GHz, 3GB LPDDR4, 16GB MLC eMMC                                                                                                        |
| RM-N8M-Q316I                                | Industrial Grade<br>SMARC 2.0 CPU module, Cortex™-A53 i.MX 8M Dual 1.3GHz, 3GB LPDDR4, 16GB MLC eMMC                                                                                    |
| HX100 SMC Carrier Board<br>(For evaluation) | SMARC 2.0 carrier board, Dual LVDS, HDMI, 2x CSI, DSI,<br>RS-234/422/285, USB3.0, M.2 Key-E(2230), Mini PCI-E w/ SIM socket,<br>USB OTG, Audio/Speaker out/HP&MIC, MicroSD and 12~24VDC |