



2023 – 2024 Edition

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# RISC-Based Embedded Solutions

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**iBASE**  
[www.ibase.com.tw](http://www.ibase.com.tw)



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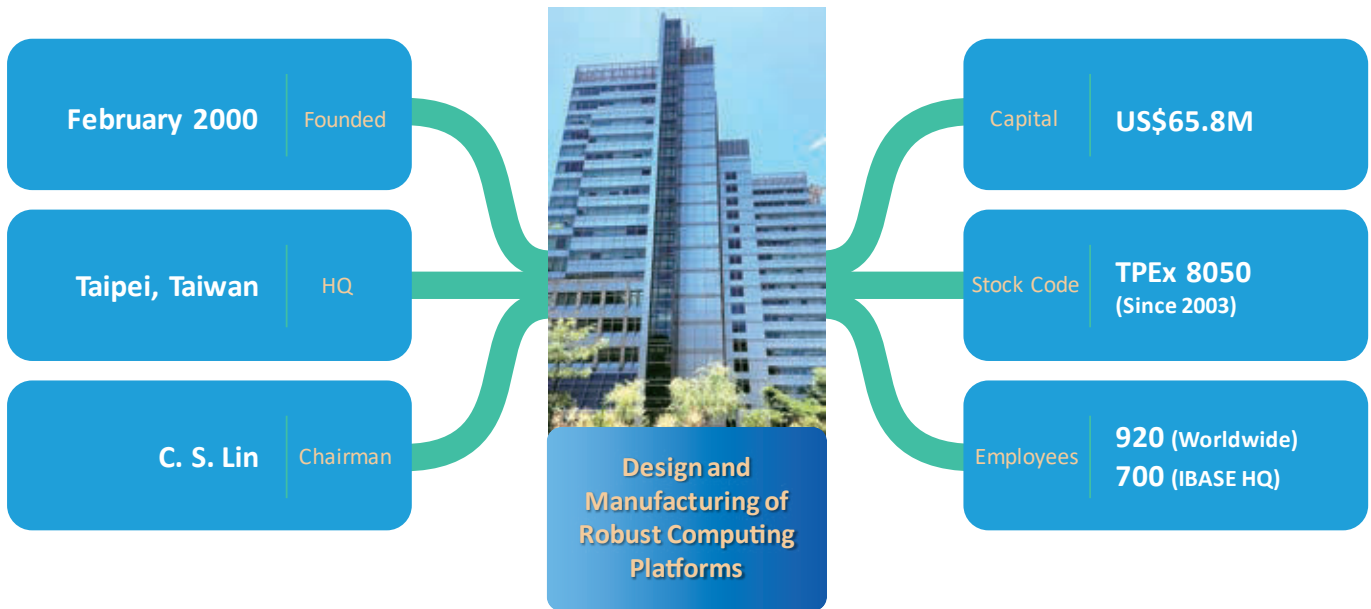
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# About IBASE



## Company Profile

IBASE Technology specializes in the design and manufacture of robust industrial PC, products since its establishment in 2000. IBASE carries out manufacturing and quality control at its own facilities in Taiwan that are certified with ISO 9001, ISO 13485, ISO 14001 and ISO 27001 standards. Current offerings comprise x86 and RISC-based industrial motherboards, embedded systems, panel PCs, network appliances and digital signage players. The company is publicly listed in the Taipei Exchange (TPEX: 8050) and is now a leading global provider of innovative industrial and embedded computing solutions.



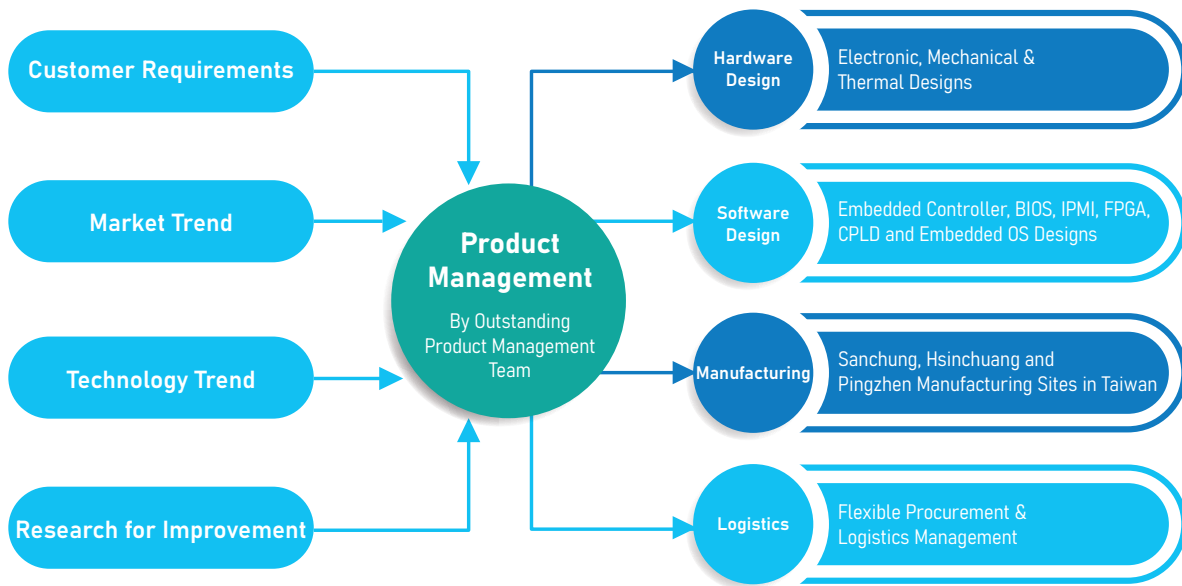
## Core Competence

IBASE has three manufacturing sites in Taiwan, with two in New Taipei City and another one in Taoyuan City. We manufacture and implement strict quality control to supply excellent industrial computer products that are 100% made in Taiwan. In addition to off-the-shelf products, IBASE also specializes in OEM/ODM/JDM services, tailoring products to fully meet customers' expectations and the needs of various applications. With manufacturing and quality control capabilities recognized by major international companies, IBASE boasts of strong innovative R&D teams and flexible and timely products delivery.



# Design & Manufacturing Services

Set up to become a global leading provider of embedded board and system solutions, IBASE manufacturers and supplies cutting-edge products based on the latest technologies to match market demands. Our R&D and product management teams have the expertise to design and develop innovative products that meet customers' requirements and design specifications. We attach great importance to research and development, investing heavily in manpower and resources to continuously provide high-quality innovative products. IBASE is also committed to compliance with environmental policies by working to prevent pollution with non-use of banned or restricted substances in our production process and products, helping our customers respond to their environmental challenges.



## IBASE Manufacturing Sites

Design & Manufacturing in Taiwan

**SANCHUNG**

- Board Production
- Validation

3,124 m<sup>2</sup> / 945 Ping

**HSINCHUANG**

- System Assembly
- Validation

6,070 m<sup>2</sup> / 1,840 Ping

**New**

**PINGZHEN**

- Board Production
- System Assembly
- Validation

18,481 m<sup>2</sup> / 5,501 Ping

**Total Size**  
297,891 Square-feet  
(27,675 m<sup>2</sup> / 8,376 Ping)

**Capacity**

- SMT Line x 5
- DIP Assembly Line x 4
- System Assembly Line x 10
- Cleanroom x 2
- Burn-in Room x 13

**PCBA**  
80K/month (In-house Production) + Outsourcing

**System Assembly**  
50K/month (In-house Production) + Outsourcing

**Certifications**

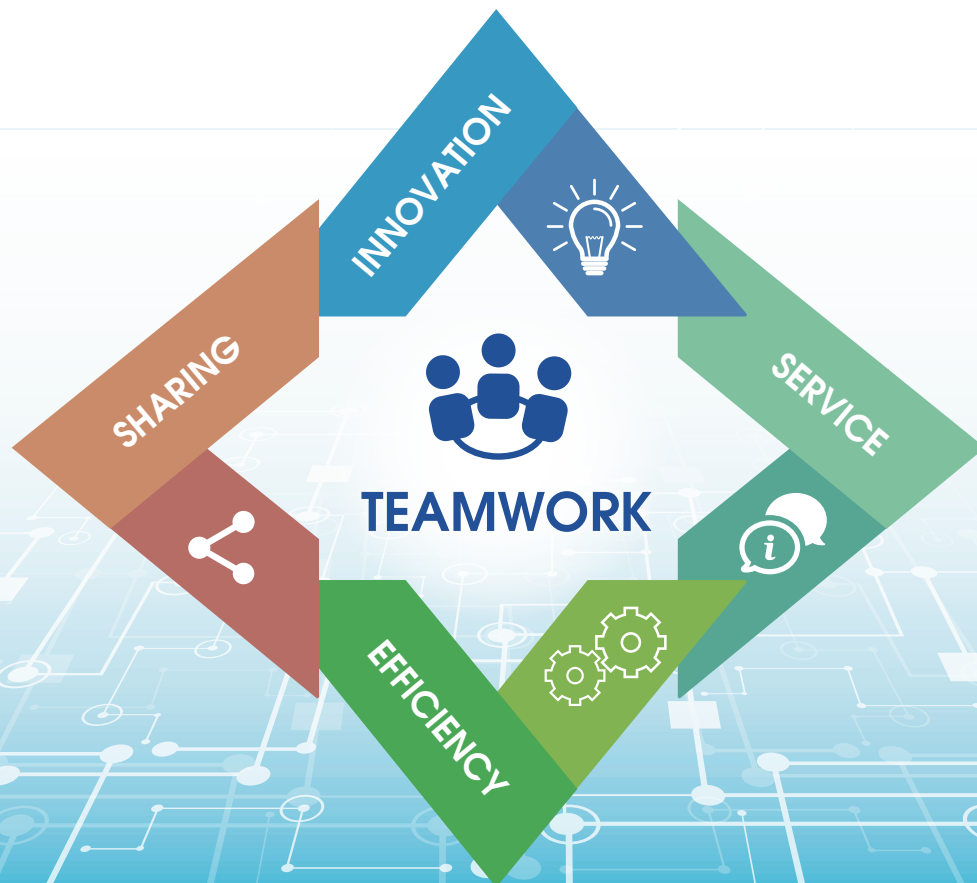
# Your Best Partner

IBASE, a renowned manufacturer in the industry, offers a diverse range of Systems-On-Chip (SoC) products that leverage ARM technology. Our comprehensive ARM-based product lineup includes SMARC modules, carrier boards, single board computers, edge computing systems, and digital signage players. These platforms are optimized for both power efficiency and performance, making them ideal for a wide range of applications, including AIoT, smart city, industrial automation, smart retail, healthcare, and smart mobility.

In addition to our hardware solutions, IBASE provides professional design-in services to accelerate your product innovation process and implementation with minimal resources, ensuring a fast time to market. Apart from standard products, we also offer ODM (Original Design Manufacturer) and JDM (Joint Design Manufacturer) services, as well as customized products for unique designs and solutions. With our highly-qualified expert engineers, IBASE can tailor board-level and system designs to meet our customers' specific application requirements, ensuring high quality, reliability, and longevity.

IBASE has established partnerships with leading ARM-based processor vendors such as NXP, Qualcomm, NVIDIA, and MediaTek in product development, enabling us to create cutting-edge edge computing and IoT solutions with unparalleled performance. Our reputation is built on our dedication to serving clients with well-designed products and solutions, and we continue to foster strong relationships with our customers and technology vendors, working collaboratively to form lasting win-win partnerships.

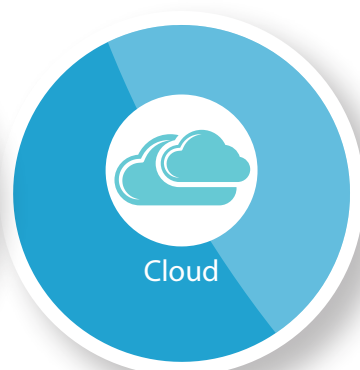
As your ideal choice and partner for ARM-based embedded solutions, IBASE offers comprehensive hardware and software solutions to complete your ARM-based products successfully.



# Powering IoT with RISC-Based Computing Platforms



Global vertical industries are embracing the potential of Industry 4.0 technologies to drive Internet of Things (IoT) networks, leveraging intelligent embedded computing systems designed with reliability and efficiency in mind. This presents a significant opportunity for solution providers to offer compact and power-efficient intelligent computing platforms based on ARM technology, which is renowned for its energy-efficient devices and intelligent computing solutions. You may already be using a RISC or an ARM-based device right now, as these designs are known for their power efficiency and reduced costs, heat, and power consumption. Join the vibrant ARM community now!



# SMARC/SOM Module & 2.5"/3.5" SBC

## SMARC/SOM Module

IBASE provides a wide range of SMARC/SOM solutions that support the Qualcomm IoT Chipset series and NXP i.MX series, offering powerful multimedia capabilities and versatile features. The SOM module is composed of a small processor module with CPU bus accessibility and standard I/O functionality, making it easy to customize for specific engineering needs. The SOM and SMARC modules are designed specifically for developing extremely compact, low-power, richly featured, and high-performance platforms, as well as scalable and future-proof solutions for long-term availability that are highly configurable and help customers reduce time-to-market. The SMARC module PCBs feature 314 edge fingers that mate with a low profile 314 pin 0.5mm pitch right angle connector. Designed to be used as building blocks for portable and standalone edge computers, these modules incorporate circuits for DRAM, boot flash, power sequencing, USB 2.0/3.0/OTG interface, Ethernet, LVDS, HDMI, and TTL display.

In addition to SMARC/SOM modules, IBASE also offers evaluation kits that include carrier boards such as RP-1xx Series, as well as other hardware components such as panels, MIPI-CSI camera, wireless, GPS, and 5G/4G/LTE modules, to accelerate the development of ARM-based solutions. This modular approach enables scalability, fast time to market, low power consumption, and a small form factor, while also allowing for the implementation of additional features such as audio codecs, touch controllers, and wireless devices using carrier boards.

## 2.5"/3.5" SBC

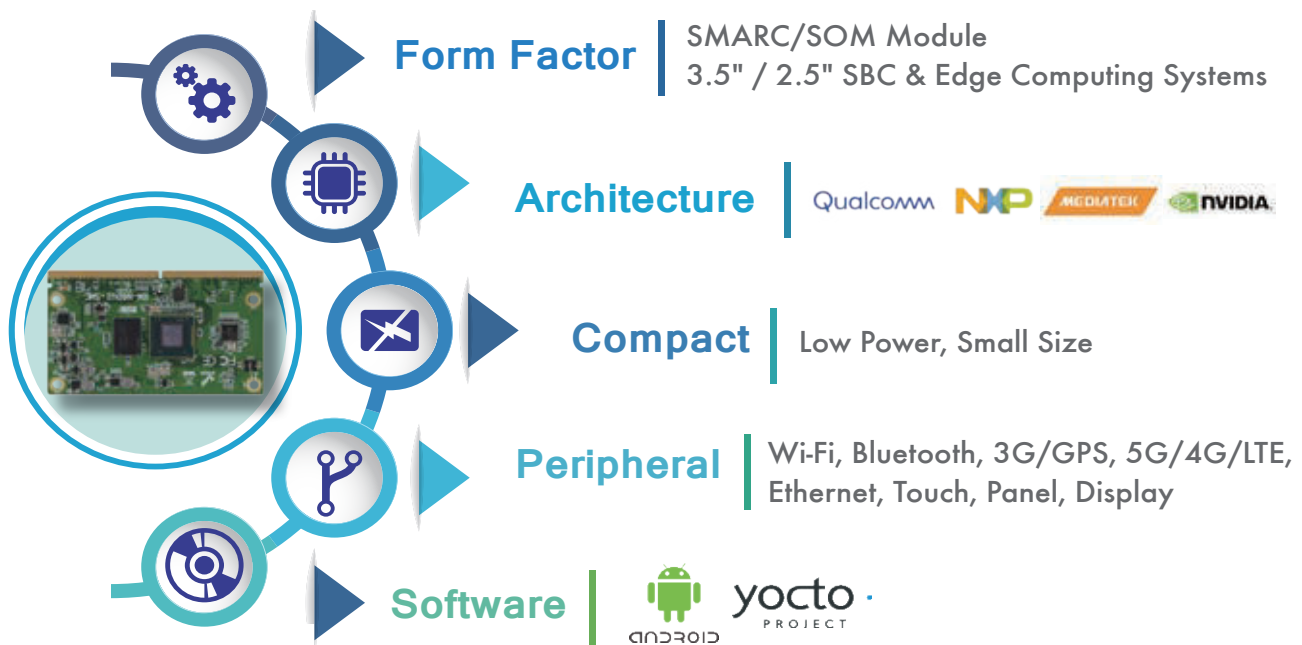
IBASE offers ARM-based SBCs that support the NXP and NVIDIA/MTK GPU series with a variety of display and I/O interfaces,

including LVDS/HDMI, RS-232/422/485, and USB ports, as well as Mini PCI-E and M.2 for expansion connectivity. These SBC solutions are designed for rugged applications and feature low-power consumption and a wide operating temperature range of -40°C to 85°C. For software development, IBASE provides GUI images for popular operating systems such as Ubuntu, Yocto-Linux, and Android, allowing for performance testing and ensuring that applications meet functional requirements. Additionally, a standard Board Support Package (BSP) is available to assist software developers in creating, evaluating, and testing their applications before release, enabling fast and optimized application development.

## Edge Computing Systems/Digital Signage Players

In addition to our board-level products, IBASE also offers a wide range of system-level ARM-based edge computing and digital signage player products. Our system-level products are designed to deliver exceptional performance while minimizing power consumption, making them ideal for demanding applications in edge computing and digital signage. Leveraging the latest technologies from NXP and NVIDIA, our solutions provide advanced capabilities for AI inference, machine learning, computer vision, and other data-intensive tasks.

IBASE is committed to providing innovative and reliable solutions for our customers' ARM-based needs. With our extensive product development experience and partnerships with leading technology vendors, we are able to provide cutting-edge solutions that enable our customers to stay ahead in today's rapidly evolving technology landscape.



# Comparison Table

SMARC Module				
Model	RM-QCS610	RM-N8MP	RM-N8M	RM-N8MMI
Form Factor	SMARC™ 2.1	SMARC™ 2.1	SMARC™ 2.0	SMARC™ 2.0
Processor	Qualcomm® QCS610 SoC with Qualcomm® Kryo™ 460 Octa-core (x2 gold 2.2GHz and x6 silver) processor	NXP Cortex-A53 i.MX 8M Plus processor	NXP Cortex-A53 and Cortex-M4 i.MX 8M Quad processor	NXP Cortex-A53 and Cortex-M4 i.MX 8M Mini Quad processor
System Memory	2GB DDR on board (option: 4GB)	3GB DDR on board (option: 3GB or 4GB)	3GB LPDDR4 on board	2GB LPDDR4 on board
Flash Memory	16GB eMMC on board (up to 32GB)	16GB eMMC (up to 64GB)	16GB eMMC on board	8GB eMMC on board
Video Codec	4K30 8-bit H.264/HEVC/VP8/VP9	1080p/60fps video decode, AVC/H.264, HEVC/H.265, VP8, VP9 1080p/60fps video encode, AVC/H.264, HEVC/H.265	4Kp60 HEVC/H.265 4Kp60 VP9 decoder 4Kp30 AVC/H.264 decoder 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder TrustZone support	1080p60 VP9 1080p60 HEVC/H.265 Decoder 1080p60 AVC/H.264 Baseline, Main, High decoder 1080p60 VP8 1080p60 AVC/H.264 Encoder 1080p60 VP8 TrustZone support
Graphics	Adreno 612; 845 MHz, 3D graphics accelerator with 64-bit addressing	GC7000UL OpenGL ES 1.1, 2.0, 3.0, OpenCL 1.2 and Vulkan	GC7000Lite OpenGL ES 1.1, 2.0, 3.0, 3.1 Open CL 1.2 Vulkan	GCNanoUltra Vivante GC320
LAN	1x RJ45 GbE	2x RJ45 GbE	1x RJ45 GbE	1x RJ45 GbE
Audio	1x I2S	2x I2S	2x I2S, 1x SPDIF	2x I2S, 1x SPDIF
SATA	N/A	N/A	N/A	N/A
I <sup>2</sup> C	4x I <sup>2</sup> C	4x I <sup>2</sup> C	4x I <sup>2</sup> C	4x I <sup>2</sup> C
I/O	1x MIPI CSI 2 lane 1x MIPI CSI 2 or 4 lane 1x UART 2x SPI 12x GPIO 3x USB 2.0 (Type-A) 1x USB 3.0 (gen-1 with OTG support)	2x MIPI CSI 4 lane+2 lane 1x MIPI-DSI 4-lane 2x USB 3.0 2x SPI 4x UART 2x CAN bus 12x GPIO 1x PCI-E	1x MIPI-DSI 4-lane 1x HDMI2.0a 2x MIPI-CSI2 4-lane 2x SPI/eSPI 4x UART 2x USB 3.0 2x PCI-E (x1) Gen1 1x GbE 12x GPIO	1x MIPI-DSI 4-lane 1x MIPI-CSI2 4-lane 2x SPI/eSPI 4x UART 2x USB2.0 2x PCI-E (x1) Gen1 12x GPIO
SDIO	N/A	1x High-speed SDIO	2x MMC/ SDIO interface	2x MMC/ SDIO interface
Watchdog Timer	256 levels	256 levels	256 levels	256 levels
Dimensions	82mm x 50mm (3.2" x 2")	82mm x 50mm (3.2" x 2")	82mm x 50mm (3.2" x 2")	82mm x 50mm (3.2" x 2")
Power Connector	N/A	N/A	N/A	N/A
Operating Temperature	-30°C ~ +80°C	-40°C ~ +85°C	-25°C ~ 85°C (-13°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Supported OS	Linux open embedded Other OS (by request)	Yocto 2.5 Android 11 Other OS(by request)	Yocto 2.5 Android 9 Other OS (by request)	Yocto 2.5 Android 9 Other OS (by request)
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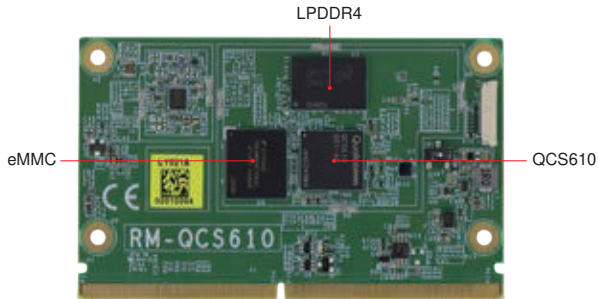
# Comparison Table

SMARC Module		SMARC 2.1/2.0/1.0 Carrier Board		
Model	RM-F6 series	RP-105	RP-103-SMC	RP-102-SMC
Form Factor	SMARC™ 1.0	SMARC™ 2.1 Mini ITX	SMARC™ 2.1 Mini ITX	SMARC™ 1.0 Mini ITX
Processor	NXP Cortex-A9 i.MX 6 Solo/Dual processor	N/A	N/A	N/A
System Memory	512KB/1GB DDR3 on board	N/A	N/A	N/A
Flash Memory	4GB eMMC on board	N/A	N/A	N/A
Video Codec	i.MX53 + VP6 / WebM VP8, H.264 MVC 1080p30 + D1 (Solo) 1080p60or30 + D1 Dual 1080p decode (Dual) 1080p30 H.264BP Dual 720p encode	N/A	N/A	N/A
Graphics	Vivante GC880, OpenGL ES 2.0 (Solo) Vivante GC320 (Solo) Vivante GC2000, OpenGL, GL ES 2.0 & Haffi, CL EP (Dual) Vivante GC355, OpenVG 1.1 (Dual)	N/A	N/A	N/A
LAN	1x RJ45 GbE	1x RJ45 GbE	2x RJ45 GbE	1x RJ45 GbE
Audio	1x I <sup>2</sup> S, 1x SPDIF	1x I <sup>2</sup> S	Built-in audio	Built-in audio
SATA	1x SATA2.0 (Dual)	N/A	2x SATA3	1x SATA2
I <sup>2</sup> C	4x I <sup>2</sup> C (Solo) 3x I <sup>2</sup> C (Dual)	1x I <sup>2</sup> C	1x I <sup>2</sup> C	2x I <sup>2</sup> C
I/O	2x USB 1x USB OTG 4x UART 1x HDMI 1x 18/24bit LVDS/TTL 2x CAN 2x SPI 1x MIPI-CSI 12x GPIO 1x PCI-E (x1)	3x USB 2.0 host 1x USB 3.0 host (with USB 2.0/3.0 OTG support) 1x HDMI 1x COM (RS232/422/485) 1x SD slot 1x MIPI display power (3.3V) 1x MIPI-DSI 2x MIPI-CSI2 6x GPIOs (3.3 V) 2x RS232 (RX/TX / pin eader) 1x M.2 E-Key (2230) (USB 2.0 interface only) 1x Speaker R and L 1x RTC battery 1x TTL (3.3V reserved for debug)	4x USB 3.0 1x OTG Micro USB 2.0 2x HDMI Tx 1x HDMI Rx 1x COM (RS232/422/485 by switch) 1x 12V fan header 4x CAN bus 2.0b 3x 18/24-bit dual channel LVDS 2x MIPI-CSI2 2x MIPI-DSI 1x 12 GPIOs 2x RS232 (RX/TX only) 1x I <sup>2</sup> S 2x SPI 1x QSPI 1x Full-size Mini PCI-E 1x SIM socket 1x M.2 E-Key (2230) 2x UART 1x 4-Wire UART	4x USB2 1x OTG USB 1x COM (RS232/422/485 by switch) 2x RS232 1x HDMI 1x 8/24bit LVDS/TTL 2x CAN 1x SPI 1x MIPI-CSI 8x GPIO
SDIO	3x MMC/ SDIO interface	N/A	1x SD slot	1x Micro SD slot
Watchdog Timer	256 levels	N/A	N/A	N/A
Dimensions	82mm x 50mm (3.2" x 2")	170mm x 170mm (6.7" x 6.7")	170mm x 170mm (6.7" x 6.7")	170mm x 170mm (6.7" x 6.7")
Power Connector	N/A	N/A	19V~24V DC-in jack and internal header	19V DC-in jack
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)	-30°C ~ +85°C	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Supported OS	Ubuntu Android 4.3	N/A	N/A	N/A
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# RM-QCS610

## SMARC 2.1 CPU Module

Wide-Temperature SMARC™ 2.1 Module  
with Qualcomm QCS610 Processor



### Features

- Qualcomm QCS610 SoC
- Up to 2GB LPDDR4, 16GB eMMC
- Qualcomm Adreno 612 GPU 3D graphics accelerator with 64-bit addressing 845 MHz
- 4K video capture and playback at 30fps
- 3.15 TOPS @Caffe
- Validated with Linux open Embedded
- Long life time supply with Qualcomm solution
- Compliant with SMARC™ 2.1
- Carrier board for RM-QCS610 SMARC™ 2.1 CPU module
- Supports 12V~24V DC-in jack, reset, power, LID button, RTC battery
- Supports Gigabit LAN, audio, USB OTG, HDMI, COM (RS232/422/485)
- With Micro SD socket, mPCIe with USB on board
- Supports TTL, HDMI, MIPI-DSI Display, MIPI-CSI camera

### Specifications

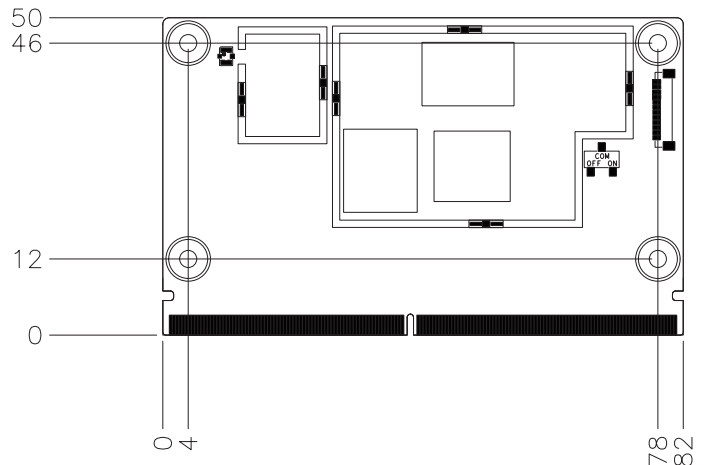
Form Factor	SMARC™ 2.1
Processor	QCS610 Kryo Gold: Dual high-performance cores 2.2 GHz Kryo Silver: Hexa low-power cores 1.8 GHz
System Memory	On board - 2GB LPDDR4/ 16GB eMMC
Flash Memory	16GB eMMC
Display	1x HDMI TX (Up to 1920 x 1080 at 60 Hz) 1x MIPI DSI TX (Up to 1920 x 1200 at 60 Hz) Controlled by SW1 switch
Video Codec	4K30 8-bit H.264/HEVC/VP8/VP9 Multi-format codec up to 4K30 video encode Multi-stream codec (4K30) (HEVC) + 720p30 (YUV) + 480p30 (VA-YUV) Dual 14-bit image signal processing (ISP) + Lite ISP: 24 MP (2x IFE + 1x IFE Lite, 16 + 16 + 2 MP), 4K30, MCTF, SHDR, C-PHY, DPHY 4K30 8-bit H.264/HEVC/VP8
Graphics	Adreno 612; 845 MHz, 3D graphics accelerator with 64-bit addressing
Audio Interface	1x I²S
LAN	1x GbE Lan
USB	3x USB 2.0 (Type-A) 1x USB3.0 (Micro-B, With OTG Support)
Image Capture Interface	1x MIPI CSI 2Lane (Up to 1920 x 1080 at 30 FPS) 1x MIPI CSI 4Lane (Up to 4208 x 3120 at 30 FPS)
Serial Interface	1x UART, 2x SPI
Media Interface	N/A
PCI-E	N/A
SATA	N/A
GPIO	12x GPIO
I²C	4x I²C
Others	RTC
CAN Bus	N/A
Dimensions	82mm x 50mm (3.2" x 2")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-Operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins

Operating Temperature	-30°C ~ +80°C
OS Support	Linux open embedded / Other OS (by request)
Certification	CE/ FCC Class-A

### Ordering Information

RM-QCS610	Industrial grade SMARC™ 2.1 CPU module, Qualcomm QCS610 SoC, 2GB LPDDR4/ 16GB eMMC
RM-HSK-Q	Heat sink for IBASE RM-QCS610 series module

### Dimensions





## Features

- NXP i.MX8M Plus Quad Cortex-A53 processor
- 3GB LPDDR4, 16GB eMMC on board
- Rich peripheral I/O support
- Validated with Yocto 2.5 (sumo, kernel 5.4.70) / Android 11
- Long life time supply with NXP solution
- Compliant with SMARC™ 2.1 specification

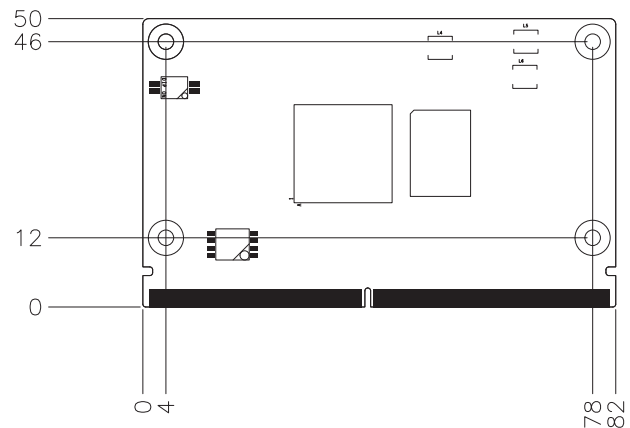
## Specifications

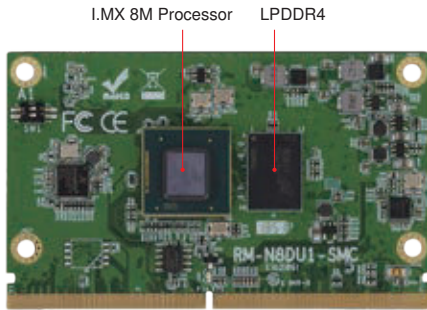
Form Factor	SMARC™ 2.1
Processor	NXP i.MX8M Plus Quad Cortex-A53 processor
System Memory	3GB LPDDR4 on board
Flash Memory	16GB eMMC on board (up to 64GB)
Display	HDMI, LVDS and MIPI-DSI 4-lane up to 1920 x 1080 at 60 Hz
Video Codec	up to 1080p/60fps video decode, AVC/H.264, HEVC/H.265, VP8, VP9 up to 1080p/60fps video encode, AVC/H.264, HEVC/H.265
Graphics	GC7000UL with OpenGL ES 1.1, 2.0, 3.0, OpenCL 1.2 and Vulkan
Audio Interface	2x I <sup>2</sup> S
LAN	2x GbE LAN
USB	2x USB 3.0 with OTG interface
Image Capture Interface	2x MIPI-CSI2 4-lane + 2-lane
Serial Interface	4x UART, 2x SPI
Media Interface	3x High-speed SDIO
PCI-E	1x PCI-E interface
SATA	N/A
GPIO	12x GPIO
I <sup>2</sup> C	4x I <sup>2</sup> C
Others	N/A
CAN Bus	2x CAN FD
Dimensions	82mm x 50mm (3.2" x 2")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-Operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins
Operating Temperature	-40°C~+85°C
OS Support	Yocto 2.5 (sumo, kernel 5.4.70) / Android 11 Other OS (by request)
Certification	CE/ FCC Class A

## Ordering Information

RM-N8MP-Q316I	NXP i.MX8M Plus Quad Cortex-A53 1.8GHz processor, 3GB LPDDR4, 16GB eMMC
F8Sxx-HSK	Heat sink

## Dimensions





## Specifications

Form Factor	SMARC™ 2.0
Processor	NXP i.MX 8M Quad Cortex™-A53/ Cortex™-M4 processor
System Memory	3GB LPDDR4 on board
Flash Memory	16GB eMMC on board
Display	1x MIPI-DSI 4-lane up to 1920 x 1080 at 60Hz 1x HDMI 2.0a, up to 4K
Video Codec	<ul style="list-style-type: none"> <li>4Kp60 HEVC/H.265 main, and main 10 decoder</li> <li>4Kp60 VP9 decoder</li> <li>4Kp30 AVC/H.264 decoder</li> <li>1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>GC7000Lite</li> <li>OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan</li> </ul>
Audio Interface	2x I²S, 1x SPDIF
LAN	1x GbE LAN
USB	2x USB 3.0/USB 2.0 with OTG interface
Image Capture Interface	2x MIPI-CSI2 4-lane each
Serial Interface	4x UART, 2x SPI
Media Interface	2x High-speed MMC/SDIO (MMC 8-bit, SDIO 4-bit)
PCI-E	2x PCI-E (x1) Gen2
SATA	N/A
GPIO	12x GPIO
I²C	4x I²C
Others	Wireless WCN3980 (optional)
CAN Bus	N/A
Dimensions	82mm x 50mm (3.2" x 2")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins
Operating Temperature	-25°C ~ 80°C (-13°F ~ 176°F)
OS Support	Yocto 2.5 Android 9 Other OS (by request)
Certification	CE/ FCC Class-B

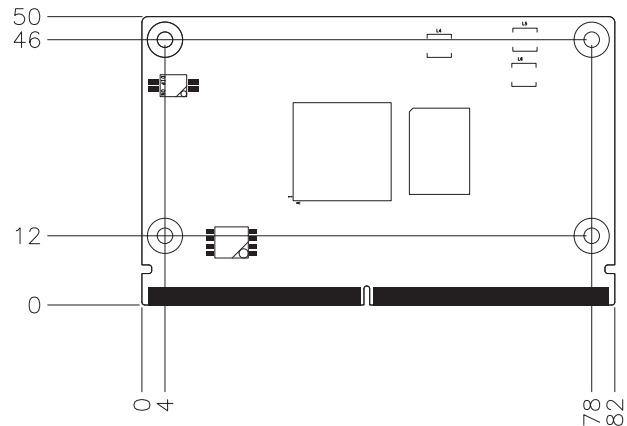
## Features

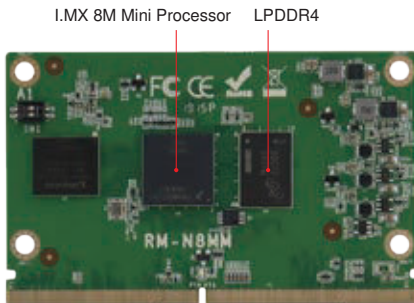
- NXP Cortex™-A53/Cortex™-M4, i.MX 8M Quad processor
- 3GB LPDDR4, 16GB eMMC on board
- Rich peripheral I/O support
- Validated with Yocto v2.5 and Android 9
- Long life time supply with NXP solution
- Compliant with SMARC™ 2.0

## Ordering Information

RM-N8M-Q3161	NXP Cortex™-A53/Cortex™-M4, i.MX 8M Quad 1.3GHz processor , 3GB LPDDR4, 16GB TLC eMMC
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## Dimensions





## Specifications

Form Factor	SMARC™ 2.0
Processor	NXP i.MX 8M Mini Quad Cortex™ -A53 and Cortex™ -M4 processor
System Memory	2GB LPDDR4 on board
Flash Memory	8GB eMMC on board
Display	1x MIPI-DSI 4-lane up to 1920 x 1080 at 60Hz
Video Codec	<ul style="list-style-type: none"> <li>• 1080p60 VP9</li> <li>• 1080p60 HEVC/H.265 decoder</li> <li>• 1080p60 AVC/H.264 Baseline, Main, High decoder</li> <li>• 1080p60 VP8</li> <li>• 1080p60 AVC/H.264 encoder</li> <li>• 1080p60 VP8</li> <li>• TrustZone support</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>• GCNanoUltra</li> <li>• Vivante GC320</li> </ul>
Audio Interface	2x I²S, 1x SPDIF
LAN	1x GbE LAN
USB	2x USB 2.0 with OTG interface
Image Capture Interface	1x MIPI-CSI2 4-lane
Serial Interface	4x UART, 2x SPI Interface
Media Interface	2x High-speed MMC/SDIO (MMC 8-bit, SDIO 4-bit)
PCI-E	1x PCI-E (x1) Gen2
SATA	N/A
GPIO	12x GPIO
I²C	4x I²C
Others	Wireless WCN3980 (optional)
CAN Bus	N/A
Dimensions	82mm x 50mm (3.2" x 2")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
OS Support	Yocto 2.5 Android 9 Other OS (by request)
Certification	CE/ FCC Class-B

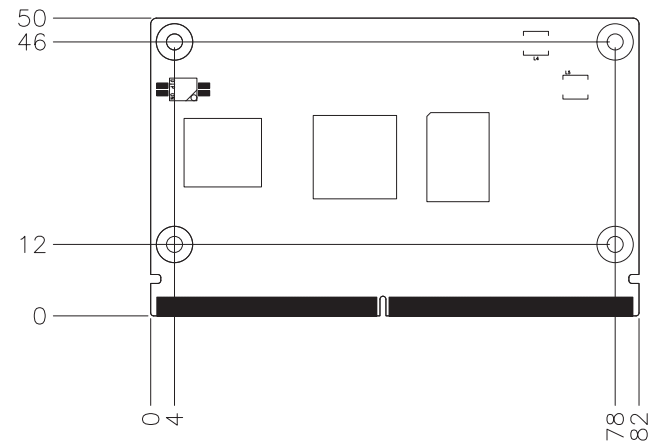
## Features

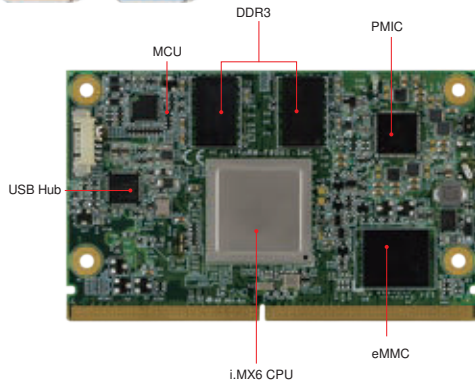
- NXP Cortex™-A53/ Cortex™-M4, i.MX 8M Mini Quad processor
- 2GB LPDDR4, 8GB eMMC on board
- Wide-range operating temperature (-40°C to 85°C)
- Rich peripheral I/O support
- Validated with Yocto v2.5 and Android 9.0
- Long life time supply with NXP solution
- Compliant with SMARC™ 2.0

## Ordering Information

RM-N8MMI-Q2081	Industrial Grade SMARC™ 2.0, Cortex™ -A53 i.MX 8M Mini Quad 1.6GHz processor, 2GB LPDDR4, 8GB eMMC
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## Dimensions





## Features

- i.MX automotive-grade 6Dual/6Solo core processor
- 1080p hardware encode/decode
- OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- 1GB DDR3, 4GB eMMC on board
- Supports 10/100/1000 Mbit Ethernet
- Supports 24-bit parallel LCD, LVDS & HDMI
- Supports Linux 3.0, Android 4.3
- Wide-range operating temperature (-40°C~85°C)

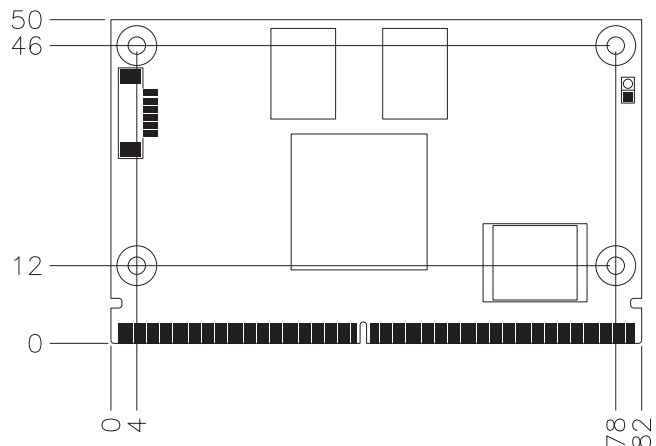
## Specifications

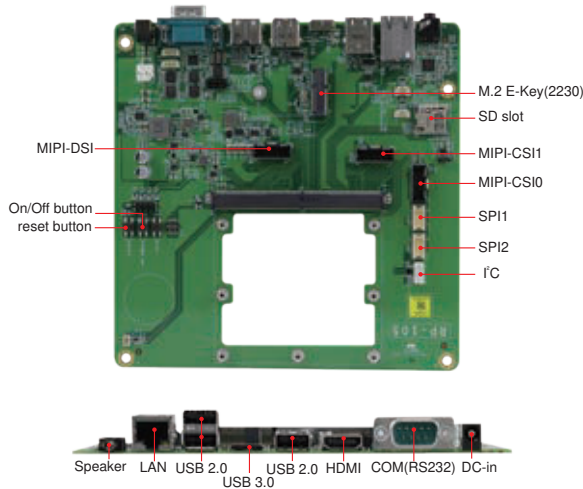
Form Factor	SMARC™ 1.0
CPU	NXP i.MX 6Dual/6Solo Cortex™-A9 processor with 512KB L2 cache
System Memory	I-grade 1GB DDR3 on board
Display	Supports 18/24-bit parallel LCD & LVDS Interface (up to 1366 x 768) Supports HDMI interface (1920 x 1080)
Video Codec	Multi-format HD1080 video Decode and Encode
Audio Interface	I²S, SPDIF
LAN	1x GbE LAN
USB	2x USB 2.0 port & 1x USB OTG Interface
Image Capture Interface	CSI Interface for MIPI camera
Serial Interface	4x UART, 1x SPI Interface
Media Interface	2x High-speed MMC/SDIO (MMC 8-bit, SDIO 4-bit)
PCI-E	1x PCI-E interface
SATA	1x SATA 2.0 (Dual only)
GPIO	12x GPIO
I²C	3x I²C *(4x I²C in F6SO1)
Others	Wireless WCN3980 (optional)
CAN Bus	2x CAN 2.0B
Dimensions	82mm x 50mm (3.2" x 2")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-Operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3Hz to 500Hz, 15 mins
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
OS Support	Ubuntu Linux 11.10 Android 4.3
Certification	CE/ FCC Class A

## Ordering Information

RM-F6DU1-SMC	SMARC™ 1.0 Module with NXP i.MX 6Dual 800MHz processor, 1GB DDR3, 4GB eMMC, -40°C~85°C operating temperature
RM-F6SO1-SMC	SMARC™ 1.0 Module with NXP i.MX6 Solo 800MHz processor, 1GB DDR3, 4GB eMMC, -40°C~85°C operating temperature
F6DU1-HSD	Heat spreader for F6DU1
F6SO1-HSD	Heat spreader for F6SO1

## Dimensions





### Features

- Carrier Board for RM-QCS610 SMARC™ 2.1 CPU Module
- Supports 12V~24V DC-in jack, reset, power, LID button, RTC battery
- Supports Gigabit LAN, audio, USB OTG, HDMI, COM (RS232/422/485)
- With Micro SD socket, Mini PCI-E with USB on board
- Supports TTL, HDMI, MIPI-DSI, MIPI-CSI camera

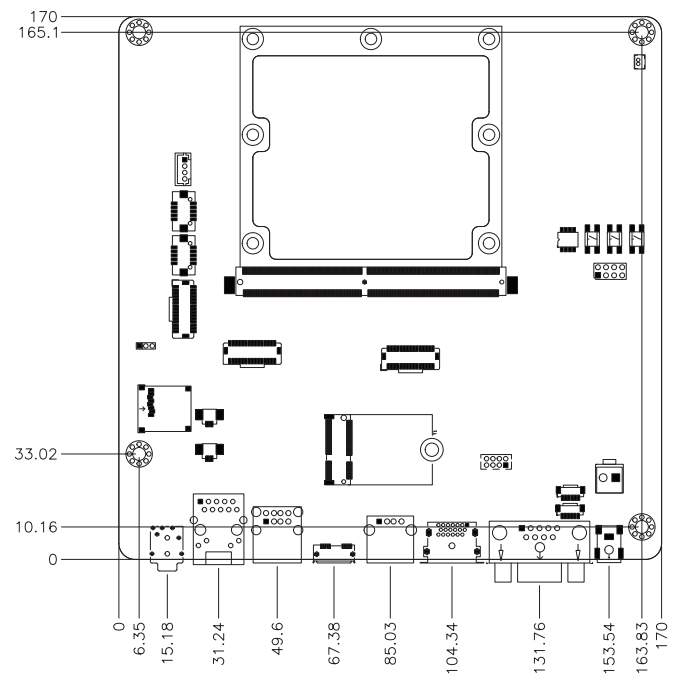
### Specifications

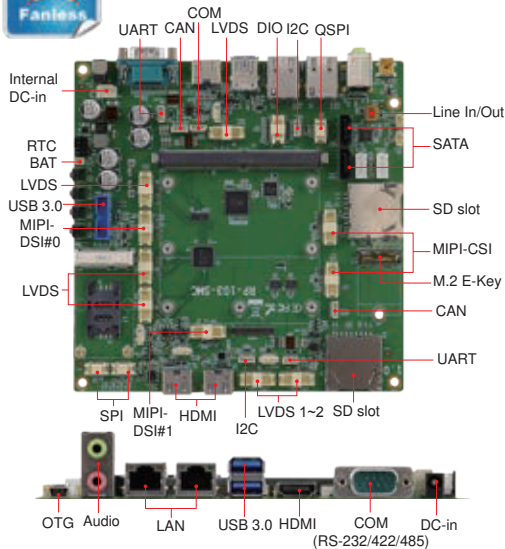
Form Factor	Carrier Board Compliant with SMARC™ 2.1
Edge I/O	1x DC-in jack (12V~24V) 1x RJ45 GbE LAN 1x Headphone & Mic 3x USB 2.0 host 1x USB 3.0 host (with USB 2.0/3.0 OTG support) 1x HDMI 1x COM (RS232/422/485) 1x SD slot
Internal I/O	2x CAN bus 2.0B 1x MIPI display power (3.3V) 1x MIPI-DSI 2x MIPI-CS12 6x GPIOs (3.3 V) 2x RS232 (RX/TX / pin header) 1x I <sup>2</sup> C 1x I <sup>2</sup> S 1x M.2 E-Key (2230) (USB 2.0 interface only) 1x Speaker R and L 1x RTC battery 1x TTL (3.3V reserved for debug)
Jumpers, Switch & Buttons	1x Boot select switch (Refer to Qualcomm CRB) 1x Power button 1x Reset button 1x LID button
Power Input	12V~24V DC-in
Dimensions	170mm x 170mm (6.7" x 6.7")
Environment	Humidity: 0% to 90% RH at 60° C (non-condensing)
Operating Temperature	-30°C ~ 85°C (-40°F ~ 185°F)
OS Support	Based on the CPU module
Certification	CE/FCC Class A

### Ordering Information

RP-105	Carrier Board for SMARC™ 2.1 modules, 12V~24V DC-in, Mini-ITX, Mini PCI-E with USB, Gigabit LAN, USB OTG, HDMI, CSI MIPI bus, 6x GPIO, 2x RS232, 1x RS232/422/485, VDDIO=3.3V
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### Dimensions





### Features

- Carrier Board for RM-N8M and RM-N8MMI series SMARC™ 2.0 CPU Module
- Rich peripheral I/O support
- Complete system available for evaluation

### Specifications

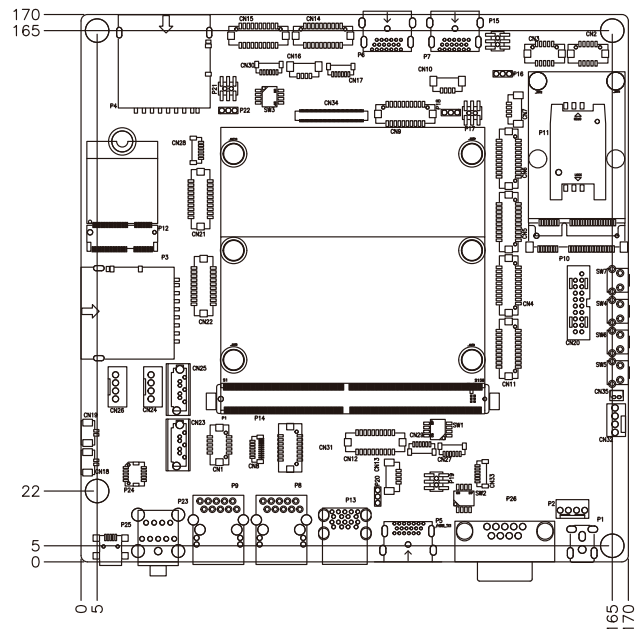
Form Factor	Carrier Board Compliant with SMARC™ 2.1
Edge I/O	1x 19V~24V DC-in jack 2x RJ45 Gigabit LAN (one for RM-N8 only) 2x USB 3.0 1x OTG Micro USB 2.0 2x HDMI TX (one for RM-N8 only) 1x HDMI RX (for RM-N8 only) 1x Headphone & Mic 1x COM (RS232/422/485 by switch) 2x SD slot (one for RM-N8 only)
Internal I/O	1x 19V~24V DC-in header 1x 12V Fan header 4x CAN bus 2.0b (three for RM-N8 only) 3x 18/24-bit dual channel LVDS (two for RM-N8 only) 4x LCD backlight 2x MIPI-CSI2 (one for RM-N8/RM-N8M only) 2x MIPI-DSI (one for RM-N8 only) 2x USB 3.0 12x GPIOs 2x RS232 (RX/TX only) 2x I2C 2x SATA III and power (one for RM-N8 only) 1x I <sup>2</sup> S 1x QSPI 1x Full-size Mini PCI-E 1x SIM socket 1x M.2 E-Key (2230) 1x Speaker out (R/L) 1x RTC battery 1x 4-Wire UART
Jumpers, Switches & Buttons	1x Boot select switch 1x I/O and display select switch 1x Power button 1x Reset button 1x LID button 1x Sleep button 4x Backlight power (3V3/5V/12V) jumper 3x LCD power 3V3/5V jumper
Dimensions	170mm x 170mm (6.7" x 6.7")
Environment	Humidity: 0 % to 90 % RH at 60° C (non-condensing) Shock: Non-Operating: 1G, 15 mins (x-, y-, z-axis) Vibration: Non-operating: 3 Hz to 500 Hz, 15 mins
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)

OS Support	Depends on CPU Module
Certification	CE/FCC Class-B

### Ordering Information

RP-103-SMC	Carrier Board for SMARC™ 2.0 Modules, 19V~24V DC-in jack, 1x RJ45 LAN, 1x OTG Micro USB2.0, 1x Headphone & Mic, 1x 12V Fan header, 1x CAN bus 2.0b, 1x Full-size mini PCI-E, 1x LCD backlight, 4x USB 3.0, 12x GPIOs, 2x RS232 (RX/TX only), 1x I <sup>2</sup> C, 1x I <sup>2</sup> S(Audio), 1x SIM socket, 1x M.2 E-Key (2230), 1x Speaker out (R/L), 1x RTC battery, 18/24-bit Dual Channel LVDS, 1x HDMI 2.0 1x COM (RS232/422/485) or 4-Wire UART, 1x QSPI, 1x MIPI-CSI, 1x MIPI-DSI, 1x SATA III and power
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### Dimensions







### Features

- For SMARC™ 1.0 CPU Modules
- Supports 19V DC-in, reset, power, RTC function
- Supports Gigabit LAN, audio, USB OTG, HDMI, COM (RS232/422/485)
- With Micro SD socket, Mini PCI-E with USB, SIM socket on board
- Supports 2x isolated CAN transceiver, TTL, LVDS, HDMI, MIPI-CSI camera

### Specifications

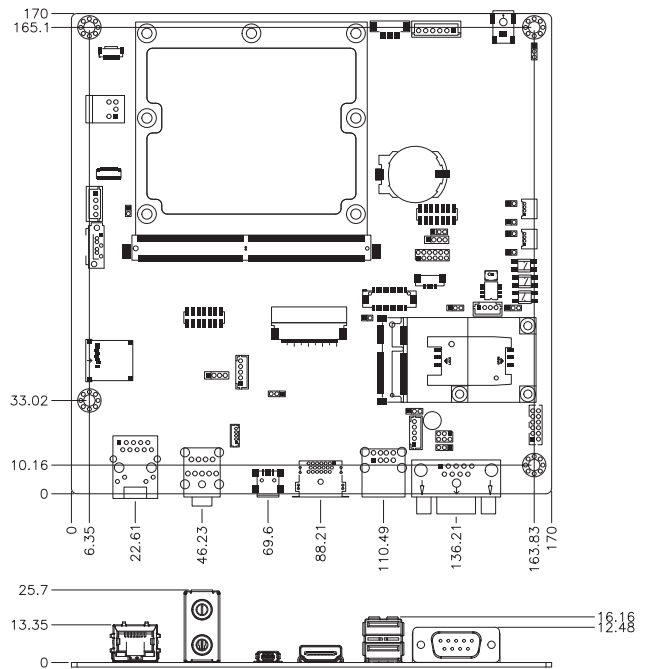
Form Factor	SMARC™ 1.0 Carrier Board
Edge I/O	1x DC-in jack (12V) 1x RJ45 GbE LAN 1x Microphone + Headphone 2x USB 2.0 host 1x USB OTG 1x HDMI 1x COM (RS232/422/485)
Internal I/O	2x CAN bus 2.0B 1x 18/24-bit single CH LVDS 1x 18/24-bit TTL box header 1x LCD DDC (I <sup>2</sup> C) 1x LCD backlight connector 1x CSI-MIPI 2x USB 2.0 host 8x GPIO pin header 2x RS232 box header 1x SIM socket 1x SPDIF 1x Speaker box header 1x Micro-SD socket 2x I <sup>2</sup> C 1x SATA II 1x Full-size Mini PCI-E with USB interface
Jumpers, Switch & Buttons	1x Boot media select switch (SD/eMMC) 1x Reset button 1x Power button 1x GPI button 1x RS232/422/485 (by jumper selection) 1x Backlight power jumper
Power Input	19V DC-in
Dimensions	170mm x 170mm (6.7" x 6.7")
Environment	Humidity: 0% to 90% RH at 60° C (non-condensing) Vibration: Non-operating, 3Hz to 500Hz, 15mins
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
OS Support	Based on the CPU module
Certification	CE/FCC Class A

### Ordering Information

RP-102-SMC

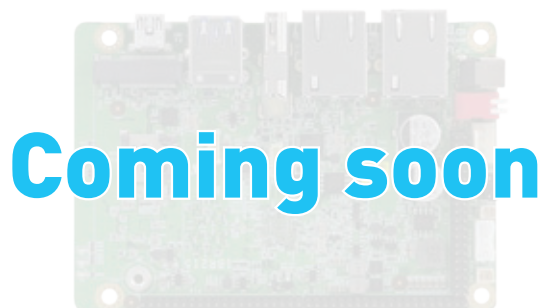
Carrier Board for SMARC™ 1.0 Modules, 19V DC-in, Mini-ITX, 2x CAN, Mini PCI-E with USB, Resistive touch header (4-wire), 2x USB header, 1x I<sup>2</sup>C header, 18/24-bit LVDS, TTL connector, Line in/ Line out, EEROM, CSI MIPI bus, 8x GPIO, 2x RS232, 1x RS232/422/485, VDDIO=3.3V

### Dimensions



# Comparison Table

Single Board Computer					
Model	IBR700	IBR215	IBR210	IBR117	IBR115
Form Factor	2.5-inch SBC	2.5-inch SBC	3.5-inch SBC	3.5-inch SBC	2.5-inch SBC
Processor	2x A78 2.2GHz L2 256KB, 6x A55 2.0GHz L2 128KB	NXP Cortex®-A53, i.MX 8M Plus Quad processor	NXP Cortex®-A53 and Cortex-M4 i.MX 8M Quad processor	NXP Cortex-A9 i.MX 6Dual processor	NXP Cortex-A9 i.MX 6Dual-Lite processor
System Memory	LPDDR4 8GB, 3733MT/s memory	3GB LPDDR4 on board	3GB LPDDR4 on board	1GB DDR3 on board	1GB DDR3 on board
Flash Memory	64GB eMMC 5.1 Flash & SD socket for expansion	16GB eMMC on board	16GB eMMC on board	4GB eMMC on board	4GB eMMC on board
Video Codec	Decode: 4K75fps, AV1, VP9, H.265, H.264 Encode: 4K30fps, H.265, H.264	1080p60, H.265, H.264, VP9, VP8 decoder 1080p60, H.265, H.264 encode	4Kp60 HEVC/H.265 4Kp60 VP9 decoder 4Kp30 AVC/H.264 decoder 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder TrustZone support	1080p60or30 + D1 Dual 1080p decode 1080p30 H.264BP Dual 720p encode	i.MX53 + VP6 / WebM VP8, H.264 MVC 1080p30 + D1 1080p30 H.264BP Dual 720p encode
Graphics	ARM Mali-G57 MC3, OpenGL ES 1.1/2.0/3.2, Vulkan 1.0/1.1	OpenGL 3.1, OpenCL 1.2, Vulkan	GC7000Lite OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan	Vivante GC2000, OpenGL, GL ES 2.0 & Haili, CL EP Vivante GC355, OpenVG 1.1	Vivante GC880, OpenGL ES 2.0 Vivante GC320
LAN	1x RJ45 GbE LAN	2x RJ45 GbE	1x RJ45 GbE	1x RJ45 GbE	1x RJ45 GbE
Audio	Internal header (1x line-in, 1x line-out)	Internal header (1x line-in, 1x line-out)	Internal header (1x line-in, 1x line-out)	Internal header (1x line-in, 1x line-out)	Internal header (1x line-in, 1x line-out)
SATA	N/A	N/A	N/A	1x SATA2.0	N/A
I <sup>2</sup> C	1x I <sup>2</sup> C for 256bytes I2C	2x I <sup>2</sup> C, 1x I <sup>2</sup> C (expansion pitch 2x20 headers)	1x I <sup>2</sup> C	1x I <sup>2</sup> C	1x I <sup>2</sup> C
I/O	1x USB2.0 Host 1x USB3.1 Hub(Type C) 1x HDMI 2.0a 1x Dual channel LVDS 1x RS232/422/485 1x 40 pin Header : 1x 4 wires UART 1x SPI GPIOs PCM PWM	2x USB 3.0 Type-A 1x Mini-USB OTG 3x IO expansion 2mm pitch 2x20 headers : 1x USB 2.0 1x PCM 2x 2-wire UART 1x 4-wire UART 1x UART (Tx Rx CTS RTS) 2x USB 3.0 2x PWM 3x GPIO 2x MIPI-CSI 2x CAN-FD	2x USB 3.0 (Type-A) 1x USB OTG (mini-USB Type-B) 1x HDMI 2.0a 1x RS232/422/485 1x On/Off button 2x 2-wire UART 2x USB 3.0 Internal header 3x green LEDs (for Power On/Off wireless status and programmable) 8x GPIO 2x MIPI-CSI 1x MIPI-DSI	2x USB 2.0 (Type-A) 1x USB OTG (mini-USB Type-B) 1x HDMI 1x RS232/422/485 1x Reset button 1x Dual channel LVDS (FHD) 2x 2-wire UART 2x USB 2.0 Internal header 3x green LEDs (for Power On/Off wireless status and Programmable) 2x CAN Bus2.0B (w/ isolation) pin headers 8x GPIO	1x USB 2.0 (Type-A) 1x USB OTG (mini-USB Type-B) 1x HDMI 1x RS232/422/485 1x Reset button 1x single channel LVDS (1377x768) 2x 2-wire UART 2x USB 2.0 Internal header 8x GPIO 2x green LEDs (for Power On/Off and wireless status)
SDIO	1x M.2 2230 Key E Slot 1x M.2 3052 Key B Slot 1x Nano SIM Slot 1x Micro SD Socket	1x SDIO(expansion 2mm pitch 2x20 headers)	1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E w/ SIM socket 1x SD socket	1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (USB only) w/ SIM socket 1x SD socket	1x M.2 E-Key (2230) w/ PCI-E, USB, SDIO, UART 1x Micro SD socket
Watchdog Timer	Yes	256 levels	256 levels	256 levels	256 levels
Dimensions	100 mm x 72 mm (3.93 x 2.83")	105mm x 72mm (4.13 x 2.83")	147mm x 102mm (5.8" x 4")	147mm x 102mm (5.8" x 4")	100mm x 72mm (3.94" x 2.83")
Power Connector	12V DC-in jack	N/A	12~24V DC-in jack	12V DC-in jack	12V DC-in jack
Operating Temperature	12V DC-in jack	-40°C ~ 85°C	-20°C ~ 85°C (-4°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Supported OS	Yocto Android 13	Yocto v3.0 Android 11 Other OS (by request)	Yocto v2.5 Android 9 Other OS (by request)	Yocto v2.1 Android 6.0.1	Yocto v2.1 Yocto v2.5 Android 6.0.1
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# Coming soon

## Features

- 2x A78 2.2GHz L2 256KB, 6x A55 2.0GHz L2 128KB
- Onboard LPDDR4 8GB, 4000MT/s memory
- 32GB eMMC 5.1 Flash & SD socket for expansion
- HDMI 4k30fps, 1x Dual Channel 24-bit LVDS
- Supports M.2 B-Key (3052) for 5G module and M.2 E-Key(2230) for Wifi/BT
- 4x UART, 1x USB3.2, 2x USB2.0, 1x Mic. in / Line out
- Ruggedized and fanless design

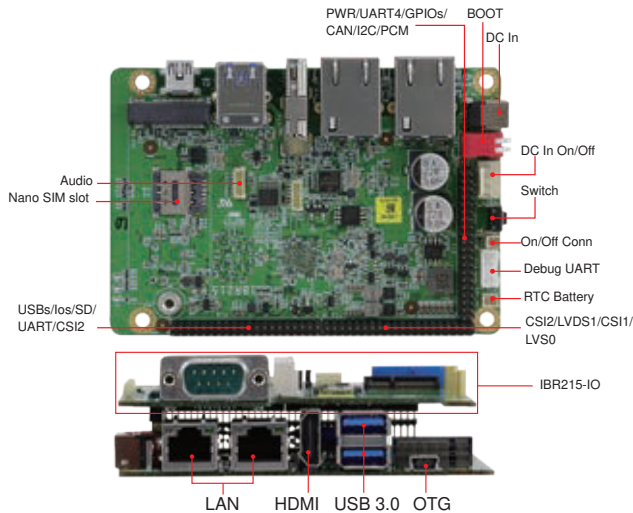
## Specifications

Form Factor	2.5-inch Disk-Size SBC
Processor	MediaTek Genio 700 2x A78 2.2GHz L2 256KB, 6x A55 2.0GHz L2 128KB, shared 2MB L3 cache
System Memory	LPDDR4 4000MT/s on-board 8GB 4ch 16-bits LPDDR4X@3733MHz, up to 8GB, 29.8GB/s DRAM BW
Flash Memory	32GB eMMC 5.1 Flash for O.S. and 8 MB SPI NOR Flash for board information
Display	1x HDMI 2.0, 4K30 1x Dual channel LVDS
Video Codec	Decode: 4K75fps, AV1, VP9, H.265, H.264 Encode: 4K30fps, H.265, H.264
Graphics	ARM Mali-G57 MC3, OpenGL ES 1.1/2.0/3.2, Vulkan 1.0/1.1
Edge I/O	1x On/Off button 1x 12V~24V DC-in Jack 1x RJ45 GbE LAN 1x HDMI 2.0a 1x Boot select switches (boot from eMMC or SD)
Internal I/O	1x USB 3.0 Type-A 2x 4-Lane MIPI-CSI2 5x I2C / 8x SPI 1x Audio Line-in and Line-out 6-pin header 1x DC power in 4-pin header
Expansion IO	Expansion IO Board for IBR700 1x M.2 E-Key (SDIO, UART) for WIFI/BT module 1x M.2 3052 B-Key with SIM socket (for 5G module) 1x Micro SD socket 1x SIM SD socket 10x GPIO 2x UART 1x I2C
Watchdog	256 Levels, 0~128 Secs
Dimensions	105mm x 70mm x 20 mm
Power Input	12V DC-in by DC-Jack
Operating Temperature	-40°C~85°C with heat sink or through housing design -40°C~65°C without heatsink
Relative Humidity	10%~90% (non-condensing)

OS Support	Yocto v3.0 Android 1 Other OS (by request)
Certification	CE/ FCC Class-B

## Ordering Information

IBR700	MediaTek Genio 700 Cortex A78 & A55, 8GB LPDDR4, 32GB eMMC 5.1
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## Features

- NXP i.MX 8M Plus - ARM Cortex-A53 Quad Processor
- 3GB LPDDR4, 16GB eMMC & SD socket
- External connectivity for USB, HDMI & Ethernet
- Supports M.2 B-Key (3052) for 5G module, camera, NFC & QR-code functions
- IBR215-IO: Expansion board for wireless, 4G/LTE, LCD, camera, NFC & QR-code functions
- Ruggedized and fanless design

## Specifications

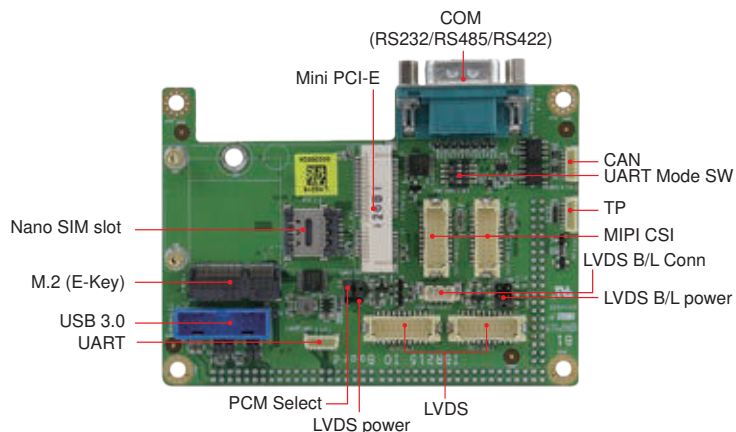
Form Factor	2.5-inch SBC
Processor	NXP Cortex®-A53 i.MX8M Plus processor
System Memory	3GB DDR4 on board (option: 1/2/4GB)
Flash Memory	16GB eMMC on board (up to 128GB)
Display	1x HDMI 1.4a 1x LVDS 2ch through IO
Video Codec	Decode: 1080p60, H.265, H.264, VP9, VP8 Encode: 1080p60, H.265, H.264
Graphics	OpenGL 3.1, OpenCL 1.2, Vulkan
Edge I/O	1x On/Off button 1x 12V~24V DC-in jack 1x SD socket (UHS-I SDR-104, 104MB/s max.) 1x Boot select switch (boot from eMMC or SD) 1x HDMI 1.4a 2x USB 3.0 Type-A 2x RJ45 GbE LAN 1x Mini-USB OTG
Internal I/O	1x M.2 B-Key(3052) with SIM socket (for 5G module) 2x I2C / 4x GPIO 1x Audio Line-in and Line-out 1x DC power (4-pin header) 3x IO expansion 2mm pitch 2x20 headers with following features (Contact us for design reference): <ul style="list-style-type: none"> <li>• 1x USB 2.0</li> <li>• 1x PCM</li> <li>• 2x UART(Rx, Tx)</li> <li>• 1x SDIO</li> <li>• 1x UART (Tx, Rx, CTS, RTS)</li> <li>• 2x USB 3.0</li> <li>• 1x 2ch LVDS with backlight control</li> <li>• 1x I2C</li> <li>• 2x PWM</li> <li>• 3x GPIO</li> <li>• 1x Cap touch IF</li> <li>• 2x MIPI-CSI for cameras</li> <li>• 2x CAN-FD</li> <li>• 1x 12V~24V DC-in jack</li> </ul>

Expansion IO	1x M.2 E-Key(2230)w/ SDIO, UART for wireless 1x Mini PCI-E w/ USB 2.0, SIM, PCM for 4G/LTE 1x DB-9 RS232/422/485 port 2x USB 3.0 in 1x19 pin headers 1x 2ch LVDS with backlight control 1x Cap touch IF 2x MIPI-CSI 2x CAN-FD
Watchdog	256 levels, 0~128 seconds
Dimensions	IBR215: 105mm(W) x 72mm(D) 4.13"(W) x 2.83"(D) IBR215-IO: 100mm(W) x 72mm 3.94"(W) x 2.83"(D) IBR215+IBR215-IO: 105mm(W) x 72mm(D) x 35mm(H) 4.13"(W) x 2.83"(D) x 1.37"(H)
Power Input	12V~24V DC-in jack
Operating Temperature	-40°C~ 85°C (with heat sink or through housing design) -40°C~ 65°C (without heatsink)
Relative Humidity	10%~90% (non-condensing)
OS Support	Yocto v3.0 Android 11 Other OS (by request)
Certification	CE/ FCC Class-B

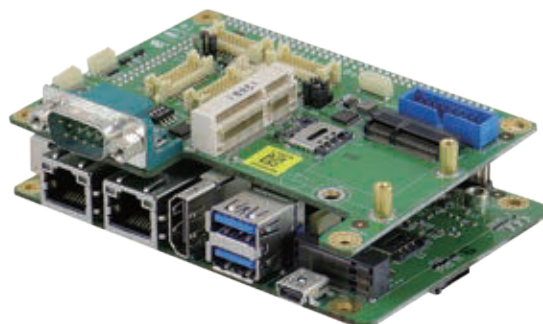
## Ordering Information

IBR215-Q316I	ARM-based IoT Gateway, NXP Cortex®-A53, i.MX 8M Plus Quad 1.6GHz processor, 3GB LPDDR4, 16GB eMMC
IBR215-IO	Expansion Board for IBR215

## Compatible I/O Expansion Board



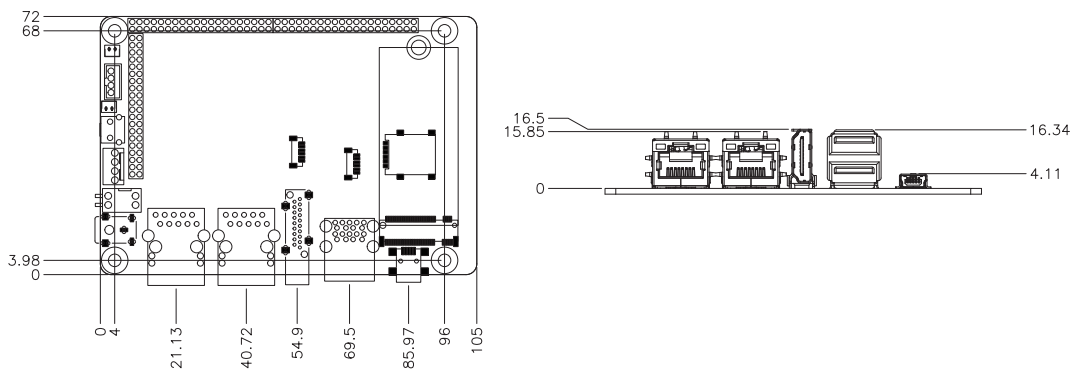
IBR215-I/O



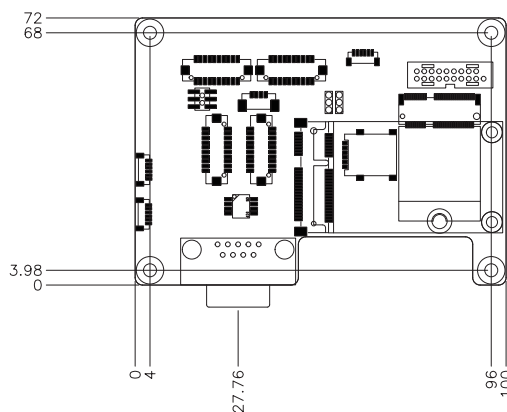
IBR215 with IBR215-I/O module

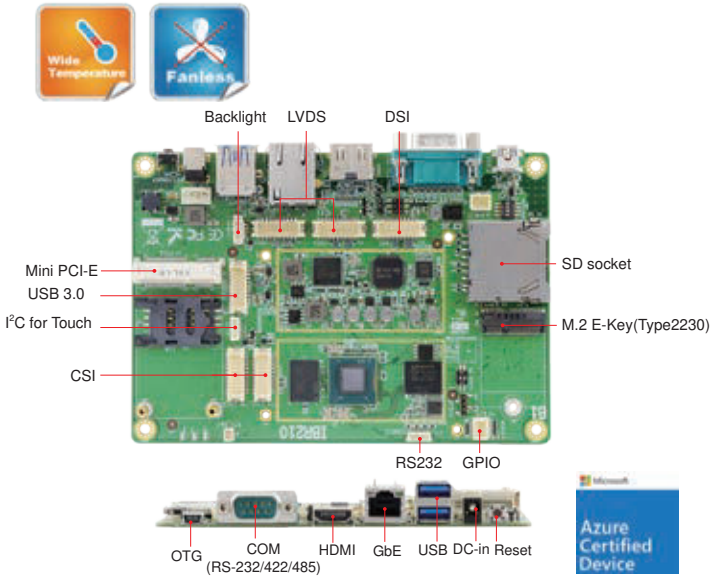
## Dimensions and Drawing

IBR215



IBR215-I/O





## Specifications

Form Factor	3.5-inch SBC
Processor	NXP i.MX 8M Quad Cortex™-A53 and Cortex™-M4 processor
System Memory	3GB LPDDR4 on board
Flash Memory	16GB eMMC on board
Display	1x Dual Channel LVDS (FHD) 1x HDMI 2.0a
Video Codec	<ul style="list-style-type: none"> <li>4Kp60 HEVC/H.265 main, and main 10 decoder</li> <li>4Kp60 VP9 decoder</li> <li>4Kp30 AVC/H.264 decoder</li> <li>1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>GC7000Lite</li> <li>OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan</li> </ul>
Edge I/O	<ul style="list-style-type: none"> <li>1x RJ45 GbE LAN</li> <li>2x USB 3.0 Type-A</li> <li>1x USB OTG (mini-USB Type-B)</li> <li>1x HDMI 2.0a</li> <li>1x RS232/422/485 (D-SUB 9 male connector)</li> <li>1x SD socket (UHS-I SDR-104, 104MB/s max.)</li> <li>1x On/Off button</li> </ul>
Internal I/O	<ul style="list-style-type: none"> <li>1x Dual channel LVDS</li> <li>1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection)</li> <li>1x MIPI-DSI (2*10 pin header)</li> <li>2x MIPI-CSI (2*10 pin header)</li> <li>2x USB 3.0 header</li> <li>1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E</li> <li>1x Mini PCI-E w/ SIM socket</li> <li>1x I²C header</li> <li>1x 2-wire RS232 header (for Debug Console Port)</li> <li>2x 2-wire RS232 header</li> <li>1x Audio header (Line-in and Line-out)</li> <li>8x GPIO (2*5 pin header 1.0mm)</li> <li>3x Green LEDs (for power On/Off, wireless status, and programmable)</li> </ul>
Expansion IO	N/A
Watchdog	256 Levels, 0~128 secs
Dimensions	147mm x 102mm (5.8" x 4")
Power Input	12V~24V DC-in jack and Internal Header
Operating Temperature	-20°C ~ 80°C (-4°F ~ 176°F)

## Features

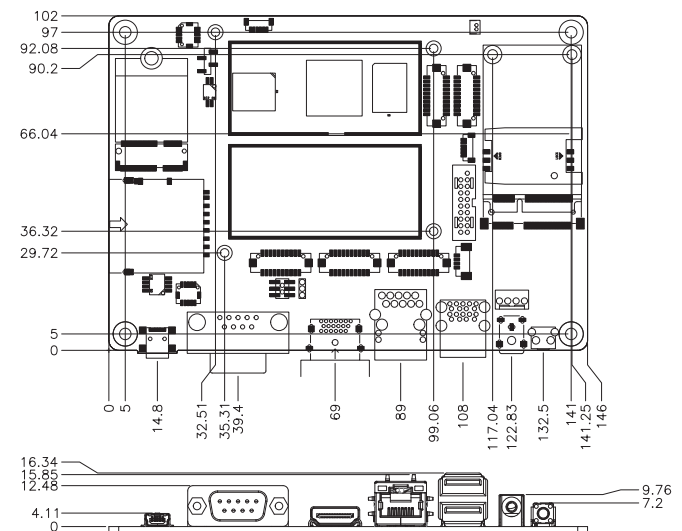
- NXP Cortex™-A53/-M4, i.MX 8M Quad processor
- 4K HDMI, dual channel FHD LVDS
- 3GB LPDDR4, 16GB eMMC and SD socket
- Embedded I/O for COM, GPIO, USB 3.0, USB-OTG, Audio and Ethernet
- M.2 E-Key (2230) and mini-PCI-E with SIM socket for wireless/4G/LTE connectivity

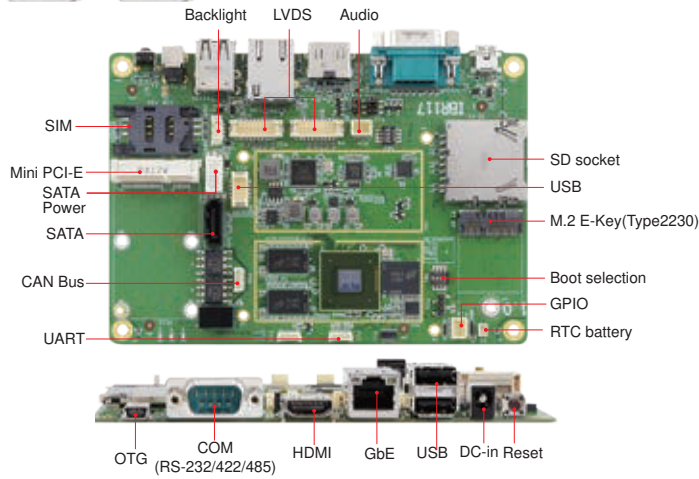
Relative Humidity	10%~90% (non-condensing)
OS Support	<ul style="list-style-type: none"> <li>Yocto 2.5</li> <li>Android 9</li> <li>UBUNTU 18.04 evaluation</li> <li>Other OS (by request)</li> </ul>
Certification	CE/FCC Class-B

## Ordering Information

IBR210-Q316I	Industrial Grade 3.5" SBC, i.MX 8M Quad 1.3GHz processor, 3GB LPDDR4, 16GB eMMC
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## Dimensions





### Specifications

Form Factor	3.5-inch SBC
Processor	NXP Cortex™ -A9 i.MX 6Dual processor
System Memory	1GB DDR3 on board
Flash Memory	4GB eMMC on board (optional 8/16/32/64 GB)
Display	2x 18/24-bits single LVDS /1x Dual LVDS, up to 1366 x 768 for 2ch, 1920 x 1080 for 1ch 1x HDMI V1.4, up to 1080P at 60Hz
Video Codec	<ul style="list-style-type: none"> <li>1080p60or30 + D1 Dual 1080p decode</li> <li>1080p30 H.264BP</li> <li>Dual 720p encode</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>Vivante GC2000, OpenGL, GL ES 2.0 &amp; Haili, CL EP</li> <li>Vivante GC355, OpenVG 1.1</li> </ul>
Edge I/O	1x RJ45 GbE LAN 2x USB Type-A 1x USB OTG (mini-USB Type-B) 1x HDMI 1x RS232/422/485 (D-SUB 9 male connector) 1x SD socket (UHS-I SDR-104, max.104MB/s) 1x Reset button
Internal I/O	1x Dual channel LVDS (FHD) 1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection) 2x USB 2.0 header 1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (USB only) w/ SIM socket 1x SATA & 4-pin header for the power, 5V/12V 2x CAN Bus 2.0B (2*3 pin header) 1x I <sup>2</sup> C header 1x 2-wire UART header (for Debug Console Port) 2x 2-wire UART (6-Pin header, 1.0mm) 1x Audio header (Line-in and Line-out) 8x GPIO (2*5 pin header 1.0mm) 3x Green LEDs (for Power On/Off, wireless status, and Programmable)
Expansion IO	N/A
Watchdog	256 Levels, 0~128 secs
Dimensions	147mm x 102mm (5.8" x 4")
Power Input	12V DC-in jack
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)

### Features

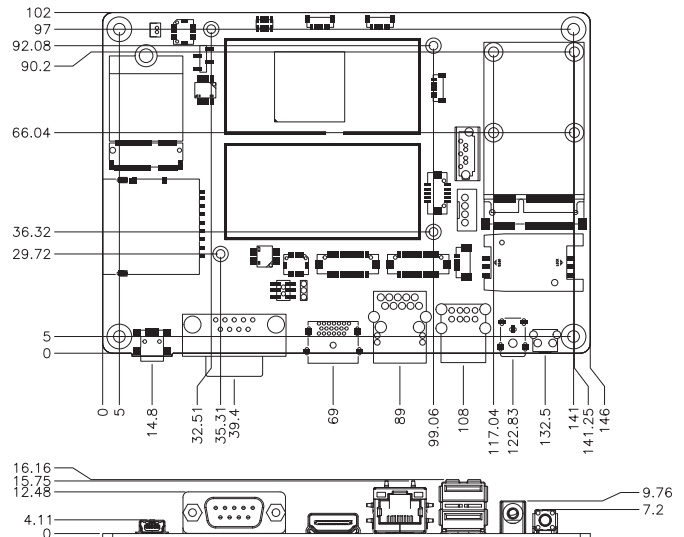
- NXP Cortex™-A9, i.MX 6Dual processor
- Supports HDMI and dual LVDS
- 1GB DDR3, 4GB eMMC and SD socket for expansion
- Embedded I/O, COM, GPIO, USB, USB-OTG, audio and Ethernet
- M.2 E-Key (2230) and Mini PCI-E with SIM socket for wireless/4G/LTE connectivity

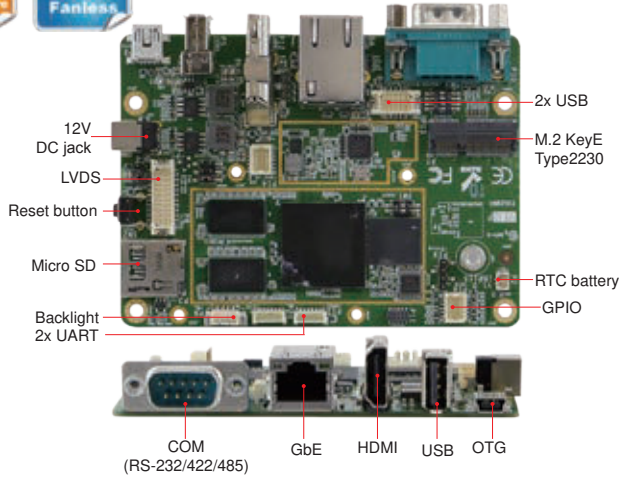
Relative Humidity	10%~90% (non-condensing)
OS Support	Yocto v2.1 Android 6.0.1
Certification	CE/ FCC Class-B

### Ordering Information

IBR117	3.5" ARM-based SBC, NXP Cortex™ -A9, i.MX 6Dual 1GHz processor, 1GB DDR, 4GB eMMC, Dual LVDS, HDMI, RS-232/422/485, USB, M.2 E-Key (2230) and Mini PCI-E w/ SIM socket
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### Dimensions





## Features

- NXP Cortex™-A9, i.MX 6Dual-Lite processor
- Supports HDMI and Single LVDS (1366x768)
- Supports 1GB DDR3, 4GB eMMC and Micro SD socket
- Embedded I/O as COM, GPIO, USB, USB-OTG, Audio and Ethernet
- M.2 E-Key (2230) for wireless connectivity

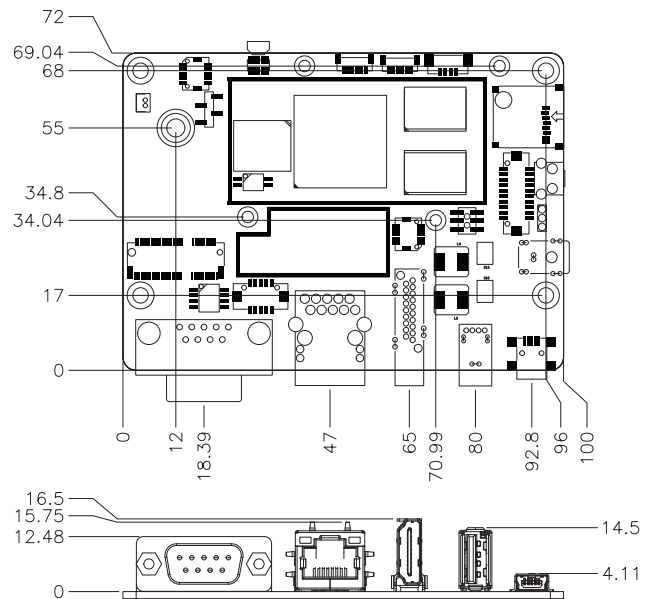
## Specifications

Form Factor	2.5-inch SBC
Processor	NXP Cortex™-A9 i.MX 6Dual-Lite processor
System Memory	1GB DDR3 on board
Flash Memory	4GB eMMC on board (optional 8/16/32/64 GB)
Display	1x 18/24-bit single LVDS, up to 1366 x 768 1x HDMI V1.4, up to 1080P at 60Hz
Video Codec	<ul style="list-style-type: none"> <li>• i.MX53 + VP6 / WebM VP8, H.264 MVC</li> <li>• 1080p30 + D1</li> <li>• 1080p30 H.264BP</li> <li>• Dual 720p encode</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>• Vivante GC880, OpenGL ES 2.0</li> <li>• Vivante GC320</li> </ul>
Edge I/O	1x RJ45 GbE LAN 1x USB (Type-A) 1x USB OTG (mini-USB Type-B) 1x HDMI 1x RS232/422/485 (D-sub 9 male connector) 1x Micro SD socket (UHS-I SDR-104, max.104MB/s) 1x Reset button
Internal I/O	1x single channel LVDS (1366x768) 1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection) 2x USB 2.0 header 1x M.2 E-Key (2230) w/ PCI-E, USB, SDIO, UART 1x I <sup>2</sup> C header 1x 2-wire UART header (for debug console port) 2x 2-wire UART (1x6 pin header, 1.0mm) 1x Audio pin header (Line-in and Line-out) 8x GPIO (2*5 pin header 1.0mm) 2x Green LEDs (for power On/Off, and wireless status)
Expansion IO	N/A
Watchdog	256 levels, 0~128 secs
Dimensions	100mm x 72mm (3.94" x 2.83")
Power Input	12V DC-in jack
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Relative Humidity	10%~90% (non-condensing)
OS Support	Yocto v2.1 Yocto v2.5 Android 6.0.1
Certification	CE/ FCC Class-B

## Ordering Information

IBR115	2.5" ARM-based SBC, NXP Cortex™-A9, i.MX 6Dual-Lite 1GHz processor, 1GB DDR, 4GB eMMC, Single LVDS, HDMI, RS-234/422/485, USB, M.2 E-Key (2230)
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## Dimensions





# IoT Gateway

IBASE IoT energy-saving gateway solutions fully support ARM NXP I.MX, serving as a platform to collect and communicate field data to remote cloud devices. Designed as compact IoT gateways for different environments to fit into constrained-spaces, they also have VESA/DIN rail mounting kit options.

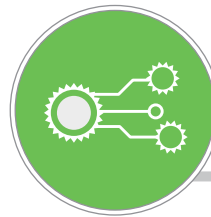
IBASE rugged IoT gateways perform reliably even in harsh conditions, supporting a wide-range operating temperature, anti-vibration, M.2 / PCI-E expansion modules and a rich set of versatile I/O interface

IBASE IoT gateways enable users to seamless interconnect devices and secure the flow of data for various applications. They come with a starter kit (BSP) required for industrial applications to simplify integration, accelerate time-to-market and minimize development cost.



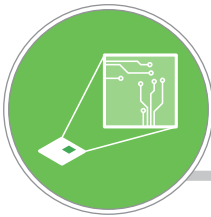
## Rugged

Wide Temperature  
Anti-Vibration, Fanless



## Expandable

M.2 & Mini-PCIE For Wireless Connectivity  
SD Socket For Storage



## Compact

Slim Size , Ultra Low Power  
Rich I/O, Versatile Mounting



## Efficient

Customized BSP Package , Modularized SW  
Complete Programming Guide



# Comparison Table

IoT Gateway				
Model	EC3500	ISR215	ISR215F	ISR301
Processor	NVIDIA® Jetson AGX ORIN 32GB/64GB SOM + Carrier Board	NXP i.MX 8M Plus - ARM Cortex-A53 Quad processor	NXP i.MX 8M Plus - ARM Cortex-A53 Quad processor	NXP i.MX 8M - ARM Cortex-A53 Quad processor
Graphics	1792-core NVIDIA Ampere GPU with 56 Tensor Cores / 2048-core NVIDIA Ampere GPU with 64 Tensor Cores	OpenGL 3.1, OpenCL 1.2, Vulkan	OpenGL 3.1, OpenCL 1.2, Vulkan	GC7000Lite OpenGL ES 1.1, 2.0, 3.0, 3.1 Open CL 1.2, and Vulkan
System Memory	32/64 GB 256-bit LPDDR5 204.8 GB/s	3GB LPDDR4,	3GB LPDDR4	3GB LPDDR4 on board
Storage	64GB eMMC 5.1	16GB eMMC	16GB eMMC	16G eMMC on board
Construction	SGCC	SGCC	SGCC	SGCC
Display	1x HDMI 2.1 connector	1x HDMI	1x HDMI 1x LVDS 1x MIPI-DSI	1x HDMI
Network	1x RJ-45 GbE port 1x RJ-45 10GbE port	2x RJ45 GbE LAN	2x RJ45 GbE LAN	1x RJ45 GbE LAN
Standard I/O	1x HDMI 2.1 connector 1x RJ-45 GbE port 1x RJ-45 10GbE port 2x USB 3.2 Gen1 Type-A 1x USB 2.0 Type-C (OTG only) 1x USB 3.2 Type-C Gen 2 1x DC-in 9V~36V DC / 4-pin DC Jack Power Connector 1x Power button 1x MicroSD slot 1x Micro Sim holder 1x Recovery button 1x Reset button 2x Antenna holes	2x USB 3.0 Type-A 2x RJ45 GbE LAN 1x Mini-USB OTG 1x On/Off button 1x 12V~24V DC-in jack 1x SD socket (UHS-I SDR-104, 104MB/s max.) 1x Boot select switches 4x Antenna holes (reserved)	2x USB 3.0 Type-A 2x RJ45 GbE LAN 1x Mini-USB OTG 1x on/off button 1x 12V~24V DC-in jack 1x SD socket (UHS-I SDR-104, 104MB/s max.) 1x Boot select switches 1x UART(RS432/422/485) 4x Antenna holes (reserved)	2x USB 3.0 Type-A 1x RJ45 GbE LAN 1x RS232 /422/485 (DB9) 1x Mini-USB OTG 1x 12~24V DC-in jack 1x On/Off button 2x RS232 (DB9) 8x GPIO (DB9) 2x Antenna hole (reserved) 3x LED indicators 1x SD socket (UHS-I SDR-104, 104MB/s max.)
Watchdog	256 levels, 0~128 seconds	256 levels, 0~128 seconds	256 levels, 0~128 seconds	256 levels, 0~128 seconds
Expansion slots	1x M.2 B-Key (3042/3052) for LTE/5G - USB3) w/ micro Sim Holder: cellular function 1x M.2 E-Key (2230) for WIFI/BT/GPS function W/ PCI-E/USB2 1x M.2 M-Key (NVMe 2280) 1x MicroSD Slot	1x M.2 B-Key (3052) for 5G (Internal) 1x SD card slot	1x M.2 B-Key (3052) for 5G (Internal) 1x M.2 E-Key (2230) for 4G (Internal) w/ USB, SDIO, UART, PCI-E 1x SD card slot	1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (PCI-E and USB) w/ SIM socket 1x SD card slot
Fanless	Yes	Yes	Yes	Yes
Certification	CE, FCC & LVD	CE/FCC Class-B	CE/FCC Class-B	CE/FCC Class-B
Dimensions	150mm (W) x 125mm (D) x 70mm (H)	108mm x 82mm x 46 mm	108mm x 82mm x 46 mm	172mm x 162mm x 36 mm (6.78" x 6.38" x 1.42")
Weight	1.5 KG	0.5KG	0.7KG	0.8KG
Operating Temperature	-0 ~ 50 °C (32°F ~ 122°F)	-10°C ~ 60°C (14°F ~ 140°F)	-10°C ~ 60°C (14°F ~ 140°F)	-10°C ~ 60°C (14°F ~ 140°F)
OS Support	Ubuntu 20.04, Other OS (by request)	Yocto v3.0, Android 11, Other OS (by request)	Yocto v3.0, Android 11, Other OS (by request)	Yocto v2.5, Android 9 Other OS (by request)
Power Input	9V~36V DC-in jack	12V~24V DC-in jack	12V~24V DC-in jack	12V-24V DC-in jack
Page No.	P. 27	P. 28	P. 29	P. 30



## Features

- 8-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 / 12-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
- 1792-core NVIDIA Ampere GPU with 56 Tensor Cores / 2048-core NVIDIA Ampere GPU with 64 Tensor Cores
- 1x M.2 B-Key 3042/3052 (LTE/5G - USB3) w/ micro SIM holder: cellular function
- 1x M.2 E-Key 2230 (PCI-E/USB2): WIFI/BT/GPS function
- 1x M.2 M-Key (NVMe) 2280: storage
- 1x 16-Lane MIPI Expansion Connector
- Wide Power Input Range 9V~36V DC
- Supports Ubuntu 20.04 OS

## Specifications

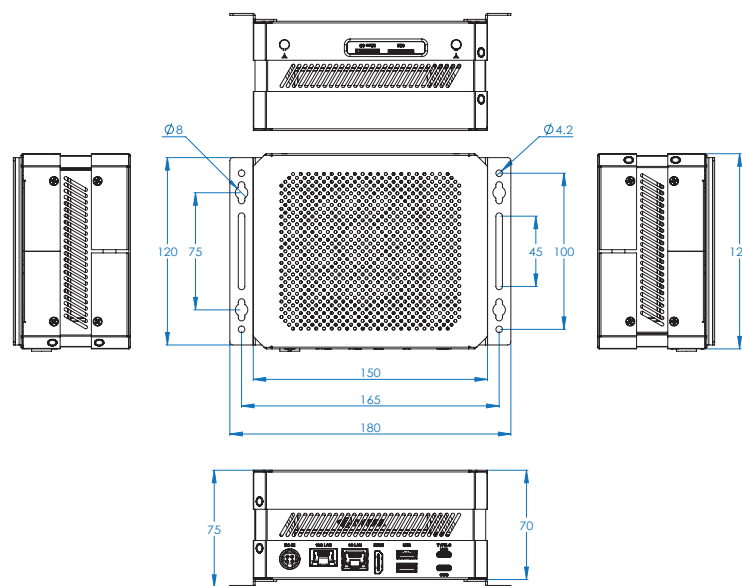
System Board	NVIDIA® Jetson AGX ORIN 32GB/64GB SOM + Carrier Board
Processor	8-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 / 12-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
System Memory	32/64 GB 256-bit LPDDR5 204.8 GB/s
Storage	64GB eMMC 5.1
Construction	SGCC
Color	Black
Display	HDMI 2.1 Type A
Network	1x RJ-45 GbE port 1x RJ-45 10GbE port
Watchdog	256 levels, 0~128 seconds
Front I/O	1x HDMI 2.1 connector 2x USB 3.2 Gen1 Type-A 1x USB 2.0 Type-C (OTG only) 1x USB 3.2 Type-C Gen 2 1x DC-in 9V~36V DC / 4-pin DC Jack Power Connector 1x RJ45 GbE for 1G 1x RJ45 GbE for 10G
Rear I/O	1x Power button 1x microSD slot 1x micro SIM holder 1x Recovery button 1x Reset button 2x Antenna holes
Side I/O	N/A
Expansion slots	1x M.2 B-Key 3042/3052 (LTE/5G - USB3) w/ micro sim holder: cellular function 1x M.2 E-Key 2230 (PCI-E/USB2): WIFI/BT/GPS function 1x M.2 M-Key (NVMe) 2280: 1x microSD slot
Fanless	Yes
Dimensions (WxDxH)	150mm (W) x 125mm (D) x 70mm (H)
Mounting	DIN rail, wall mount

Operating Temperature	-0 ~ 50 °C (32°F ~ 122°F)
Relative Humidity	0%~ 90% (non-condensing)
OS Support	Ubuntu 20.04
Certification	CE, FCC & LVD

## Ordering Information

EC3500	NVIDIA Jetson AGX ORIN series ,32 GB 256-bit LPDDR5 204.8 GB/s, 64GB eMMC 5.1
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## Dimensions





## Features

- NXP i.MX 8M Plus - ARM Cortex-A53 Quad processor
- 3GB LPDDR4, 16GB eMMC & SD socket for expansion
- Embedded I/O, USB, HDMI, Ethernet
- Supports M.2 B-Key(3052) for 5G connectivity
- Ruggedized and fanless design

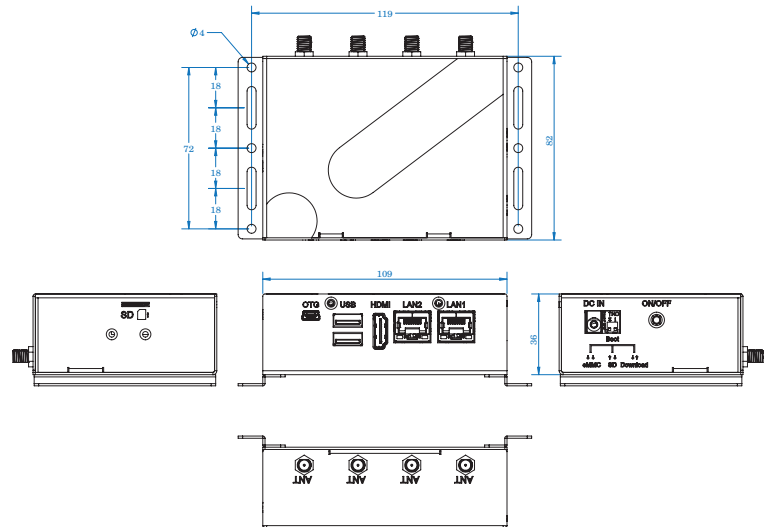
## Specifications

System Board	IBR215-Q316I SBC
Processor	NXP i.MX 8M Plus - ARM Cortex-A53 Quad processor
System Memory	3GB LPDDR4 on board (optional 1/2/4GB)
Storage	16GB eMMC on board (up to 128GB)
Construction	SGCC
Color	Black
Display	HDMI 2.0a Edge connector
Network	2x RJ45 GbE LAN
Watchdog	256 levels, 0~128 seconds
Front I/O	1x HDMI 2.0a 2x USB 3.0 (Type-A) 2x RJ45 GbE 1x Mini-USB OTG
Rear I/O	4x Antenna hole (reserved)
Side I/O	1x On/Off button 1x 12V~24V DC-in jack 1x SD socket (UHS-I SDR-104, 104MB/s max) 1x Boot select switches (boot from eMMC or SD)
Expansion slots	1x M.2 B-Key(3052) with SIM socket (for 5G module) 1x 12~24V DC IN Jack
Fanless	Yes
Dimensions (WxDxH)	119mm x 82mm x 36mm
Mounting	DIN rail, wall mount
Operating Temperature	-40°C~ 70°C (-40°F ~ 158°F)
Relative Humidity	0%~ 90% (non-condensing)
OS Support	Yocto v3.0 Android 11 Other OS (by request)
Certification	CE/ FCC Class-B

## Ordering Information

ISR215-Q316I	ARM-based IOT Gateway, NXP i.MX 8M Plus - ARM Cortex-A53 Quad 1.6GHz processor, 3GB LPDDR4, 16GB eMMC
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## Dimensions





## Features

- NXP Cortex™-A53, i.MX 8M Plus Quad 1.6GHz processor
- 3GB LPDDR4, 16GB eMMC & SD socket for expansion
- Embedded I/O for COM, USB, HDMI, Ethernet
- Supports M.2 Key-B (3052), M.2 E-key and mPCIe for WiFi/BT, 4G/LTE or 5G add-on module
- Ruggedized and Fanless Design

## Specifications

System Board	IBR215-Q316I SBC
Processor	NXP Cortex™-A53, i.MX 8M Plus Quad 1.6GHz, NPU up to 2.3 TOPS
System Memory	3GB LPDDR4 on board (optional 1/2/4GB)
Storage	16GB eMMC on board (optional up to 128GB)
Construction	SGCC
Color	Black
Display	HDMI 2.0a Edge connector LVDS 2ch heater expansion (IO board)
Network	2x RJ45 GbE LAN
Watchdog	256 levels, 0~128 seconds
Front I/O	1x HDMI 2.0a 2x USB 3.0 Type-A 2x RJ45 GbE LAN 1x Mini-USB OTG 1x RS232/422/485 (IO board)
Rear I/O	4x Antenna hole (reserved)
Side I/O	1x On/Off button 1x 12V~24V DC-in Jack 1x SD socket (UHS-I SDR-104, 104MB/s max) 1x Boot select switches (boot from eMMC or SD)
Expansion slots	1x M.2 3052 Key-B with SIM socket (for 5G module) 2x I2C / 4x GPIO 6-pin header 1x Audio Line-in and Line-out 6-pin header 1x DC power in 4-pin header 1x mPCIe (IO board, for 4G/LTE USB interface module) 1x M.2 E-key (IO board, UART and SDIO for WiFi/BT modules) The following features are also available on IO board but not outside box. 2x USB 3.0 in 2x 10-pin header 1x LVDS 2ch with Back light control 1x Cap touch IF 2x MIPI-CSI for cameras 2x CAN-FD 1x 5V DC
Fanless	Yes

Dimensions (WxDxH )	TBD
Mounting	DIN rail, wall mount
Operating Temperature	-40°C~ 85°C (-40°F ~ 185°F)
Relative Humidity	0%~ 90% (non-condensing)
OS Support	Yocto v3.0 Android 11 Other OS (by request)
Certification	CE/ FCC Class-B

## Ordering Information

ISR215-Q316I	ARM-based IOT Gateway, NXP i.MX 8M Plus - ARM Cortex-A53 Quad 1.6GHz processor, 3GB LPDDR4, 16GB eMMC
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## Features

- NXP i.MX 8M - ARM Cortex-A53 Quad processor
- 3GB LPDDR4, 16GB eMMC & SD socket for expansion
- Embedded I/O for COM, GPIO, USB, HDMI, Ethernet
- Supports M.2 E-Key (2230) and Mini PCI-E with SIM socket for wireless/4G/LTE connectivity
- Ruggedized and fanless design

## Specifications

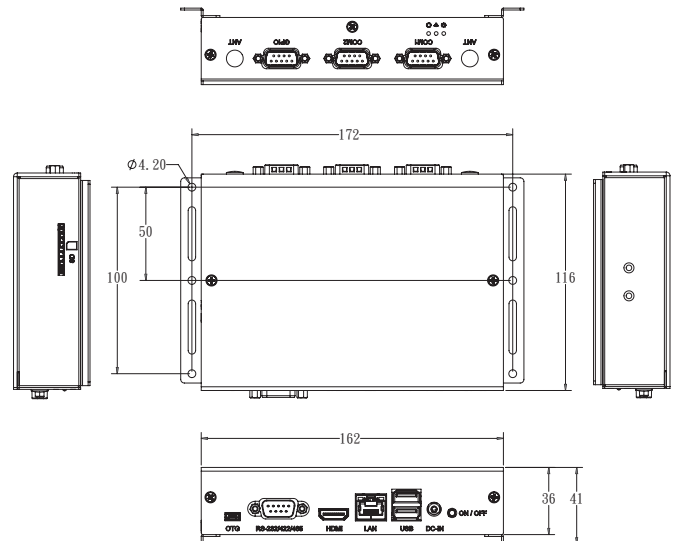
System Board	IBR210-Q316I 3.5-inch SBC
Processor	NXP i.MX 8M - ARM Cortex-A53 Quad processor
System Memory	3GB LPDDR4 on board
Storage	16GB eMMC on board (default)
Construction	SGCC
Color	Black
Display	1x HDMI 2.0a, supports up to 4K resolution
Network	1x RJ45 GbE LAN
Watchdog	256 levels, 0~128 seconds
Front I/O	1x HDMI Type-A, up to 4K 2x USB 3.0 Type-A 1x RJ45 GbE LAN 1x RS232 /422/485 (DB9) 1x Mini-USB OTG 1x 12V~24V DC-in jack 1x On/Off button
Rear I/O	2x RS232 (DB9) 8x GPIO 2x Antenna hole (reserved) 3x LED indicators
Side I/O	1x SD socket (UHS-I SDR-104, 104MB/s max.)
Expansion slots	1x M.2 E-Key (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (PCI-E and USB) w/ SIM socket
Fanless	Yes
Dimensions (WxDxH)	172mm x 162mm x 36 mm ( 6.78" x 6.38" x 1.42")
Mounting	VESA 75 / 100, DIN rail, wall mount
Operating Temperature	-10°C~ 60°C (14°F ~ 140°F)
Relative Humidity	10%~90% (non-condensing)
OS Support	Yocto v2.5 Android 9 UBUNTU 18.04 evaluation Other OS (by request)
Certification	CE/ FCC Class-B

## Ordering Information

ISR301-Q316I

ARM-based IOT Gateway, NXP i.MX 8M - ARM Cortex-A53 Quad 1.3GHz processor, 3GB LPDDR4, 16GB eMMC, HDMI, RS-234/422/285, USB 3.0, M.2 E-Key(2230) & Mini PCI-E w/ SIM socket

## Dimensions



# Digital Signage Player

## High Quality Signage Players that Cater to Your Needs

IBASE's Signature Book™ digital signage players have created unique and successful experiences for our users across different industries. Our Digital Signage players have been widely adopted in various applications, covering major cities around the world. So contact us now and explore new opportunities!



# Comparison Table

Digital Signage Players		
Model	SA-112-N	SA-101-N
Processor	NXP Cortex-A9 i.MX 6Dual Lite/ IMX 6Quad	NXP Cortex-A9 i.MX 6Quad
Chipset	Integrated	Integrated
OS Support	Android 4.4.2 Other OS (by request)	Android 4.4.2 Other OS (by request)
System Memory	Onboard 1GB DDR3L, 533MHz (1066MT/s)	Onboard DDR3L 2 GB 533MHz, (1066MT/s)
Graphics	2D+3D (2 /3 GPUs) (35Mtri/s / 200Mtri/s)	2D+3D (2 /3 GPUs) (35Mtri/s / 200Mtri/s)
Display	1x HDMI + 1x VGA	1x Mini-HDMI (Type-C)
Ethernet	1x RJ45 (1000M)/AR8031-AL1B	None
Expansion slots	1x Mini PCI-E (Full-size) 1x SD/SDHC card slot (up to 32GB)	1x MicroSD card slot (up to 32GB)
Video Capability	1x FHD	1x FHD
Fanless	Yes	Yes
Certification	CE, FCC Class-B, cULus & CCC	CE, FCC class A , VCCI class A, TELEC
Storage	1x eMMC (default 8GB)	1x eMMC (default 8GB)
USB	2x USB 2.0 1x Mini USB (OTG)	1x USB 2.0 (Type-A)
Dimensions	117mm x 104.5mm x 35.1mm (4.61" x 4.11" x 1.38")	85mm x 45mm x 15mm (3.35" x 1.77" x 0.59")
Weight	0.5 kgs (1.1lbs)	0.1 kgs (0.22lbs)
Operating Temperature	-40°C ~ 75°C (-40°F ~ 167°F)	0°C ~ 50°C (32°F ~ 122°F)
Power Supply	Optional 25W power adaptor	10W power adaptor
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# SA-101-N

## Digital Signage Player

Fanless Signage Player  
with NXP ARM® Cortex-A9 i.MX 6Quad Processor



### Features

- NXP Cortex™-A9 i.MX 6Quad processor
- 1x eMMC NAND flash 8GB on board
- 2GB DDR3L on board, 533MHz, (1066MT/s)
- 1x Mini-HDMI (Type-C)
- 1x USB, 1x microSD card slot (up to 32GB)
- Supports 802.11 a/b/g/n
- 5V DC-in power input
- Ruggedized, fanless and compact design

### Specifications

System Mainboard	MBD101
Processor	NXP Cortex™ -A9 i.MX 6Quad processor
Chipset	Integrated
System Memory	DDR3L 2GB on board
Graphics	2D+3D (2 /3 GPUs) (35Mtri/s / 200Mtri/s)
I/O	1x USB host USB 2.0 (Type-A) 1x Mini-HDMI (Type-C) connector 1x MicroSD card 1x Power jack
Power Requirement	+5V DC-in
Construction	Aluminum
Weight	0.085 kgs (0.19lbs)
Chassis Color	Silver
Storage	1x eMMC (8GB) 1x MicroSD card slot (up to 32GB)
Power Supply	10W power adaptor
Mounting	Standard system bracket
Dimensions	85mm x 45mm x 15mm (3.35" x 1.77" x 0.59")
Operating Temperature	0°C ~ 50°C (40°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Relative Humidity	10~90% @ 45 °C, (non-condensing)
OS Support	Android 4.4.2 Other OS (by request)
Vibration	eMMC: 5 grms/ 5~500Hz/ random operation
Certification	CE, FCC class A , VCCI class A, TELEC

### Ordering Information

SA-101-NQC	ARM-based signage player with IMX6QC 1GHz processor, eMMC NAND flash 8GB & DDR3L 2GB on board, 10W power adaptor
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### Dimensions

