



RISC-Based Embedded Solutions

2020 Edition

iBASE
www.ibase.com.tw

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About IBASE



Core Activities

Design and Manufacture
of Robust Industrial
Computing Platforms



HEADQUARTERS
Taipei, Taiwan



FOUNDED
February 2000



CHAIRMAN
C. S. Lin



CAPITAL
US\$58.1M



EMPLOYEE
700
(Worldwide)



Stock Quote
TPEX 8050
(Since 2003)

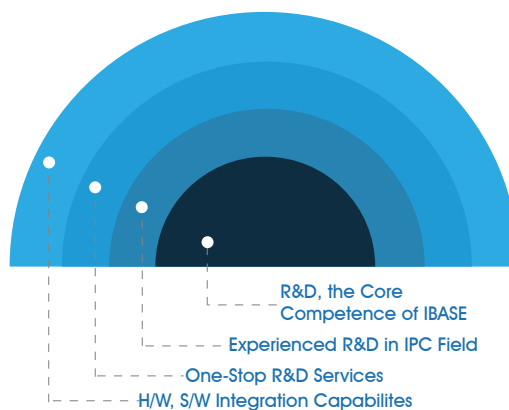
Company Profile

IBASE Technology specializes in the design and manufacture of robust industrial PC products, delivering high quality products and excellent service 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 and ISO 14001 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.



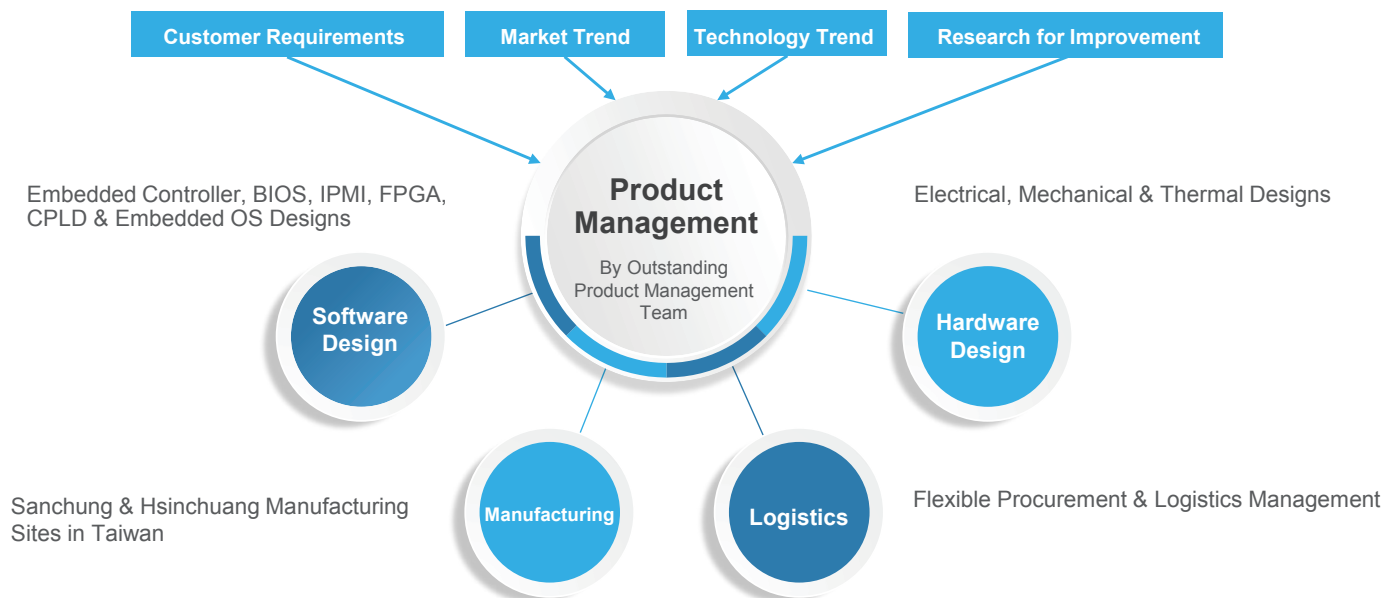
R&D Capabilities

IBASE's R&D team boasts of talented electronics, layout, system, mechanical hardware, BIOS, firmware as well as software engineers. Half of the team members are seasoned with more than 20 years of experience in their respective fields, while the rest of the engineers carry more than five years of experience. Because of their accumulated expertise, the R&D team is able to design and create new products for the demanding and dynamic market.



Design⁺, Manufacture⁺, Service⁺

Set up to become a global leading provider of embedded board and system solutions, IBASE manufactures 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 products that are innovative and meet customers' requirements and design specifications. We attach great importance to research and development, investing heavily in manpower and resources to remain competitive by staying ahead in the technology curve. 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

Hsinchuang New Taipei City

- Board Production
- System Assembly
- Validation



Sanchung New Taipei City

- System Assembly
- Validation



100%
Made in Taiwan



Certifications



ISO 9001



ISO 14001



ISO 13485



ISO/TS 16949



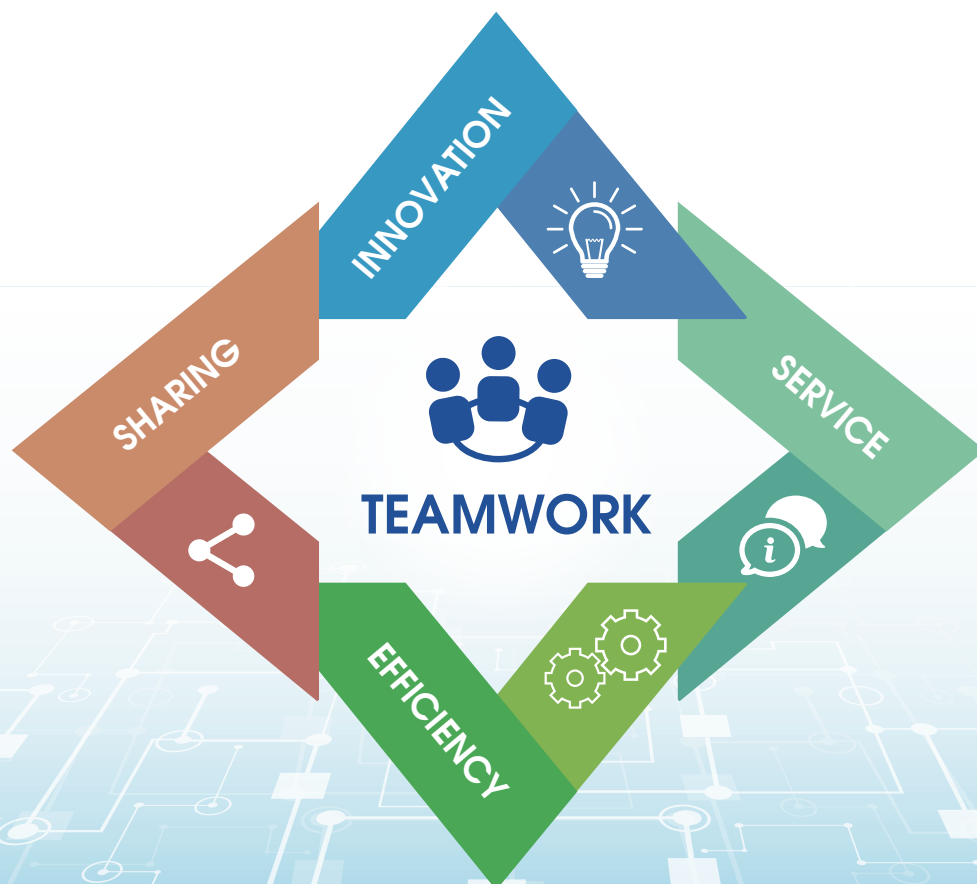
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Supplier
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ID: 0000062772



Your Best Partner

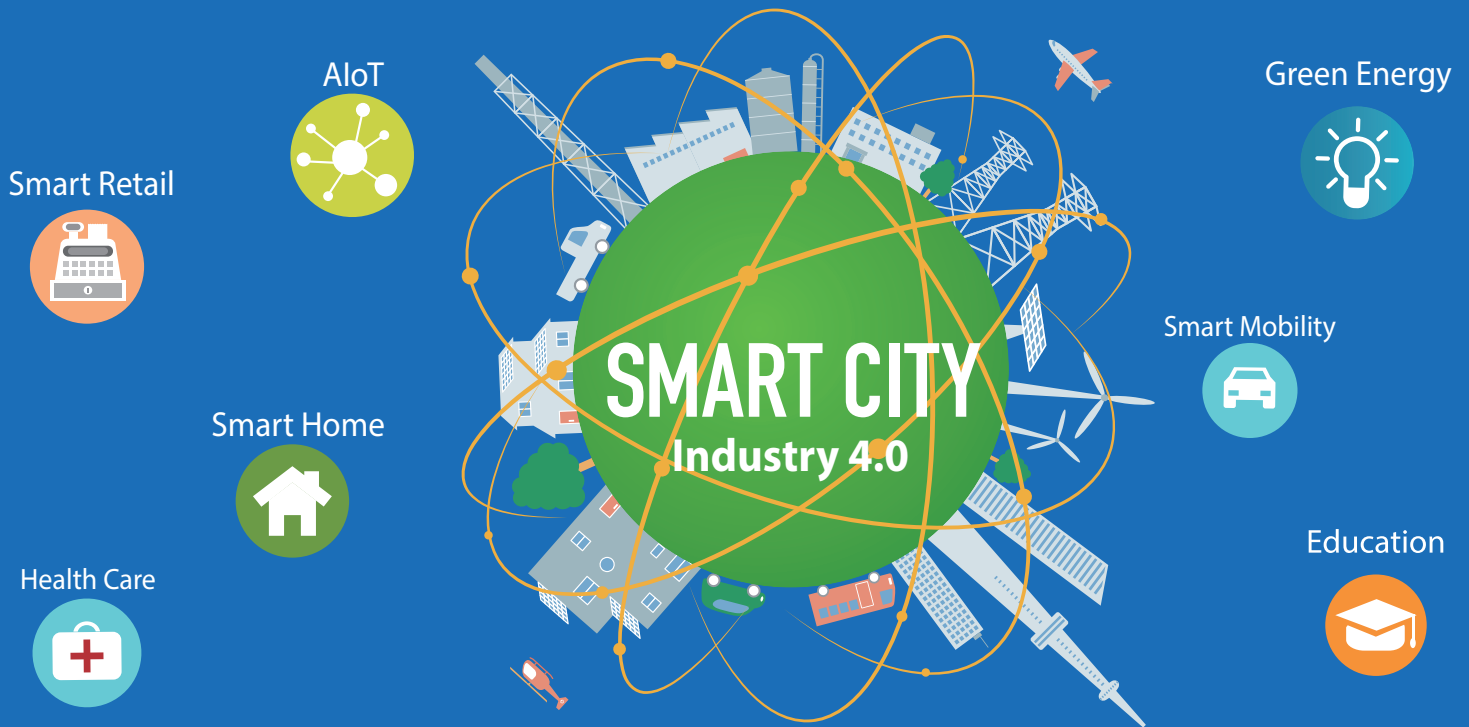
Aside from developing standard products, IBASE offers ODM (Original Design Manufacturer) and JDM (Joint Design Manufacturer) services and customized products for unique designs and solutions. With our highly-qualified expert engineers, IBASE can tailor its board-level and system designs for customers' application-specific needs, ensuring high quality, reliability and longevity.

IBASE has partnered with mainstream processor vendors such as Intel, AMD and NXP in product development to create edge computing and AIoT solutions with unprecedented levels of performance. IBASE has built its reputation through dedication to serving clients with well-designed products and solutions. To this day, IBASE continue to foster an unbreakable relationship with both its customers and technology vendors, working hand-in-hand to form a lasting win-win partnership.



RISC for IoT

In the coming world of Smart City and Industry 4.0 that is driven by Internet of Things (IoT), a network connected by embedded technologies, intelligent computing will be anywhere and everywhere. There will be a huge opportunity for solutions providers to supply compact and power-efficient intelligent computing platforms based on ARM technology. ARM is the leading technology in energy-efficient devices and intelligent computing solutions.



In fact, a RISC- or an ARM-based device maybe just in front of or beside you right now. It's a design that is power efficient and requires processors with fewer transistors, reducing costs, heat and power use. Join the ARM community now!

One of the products that has implemented the ARM technology is Systems-On-Chip (SoC), which IBASE supports in its ARM-based systems product lineup comprising various Smart Mobility ARChitecture (SMARC), single board computers and custom solutions. IBASE manufactures ARM-based platforms that are both power-optimized and performance-optimized, suitable in a variety of Internet of Things (IoT) and future applications. Aside from various hardware solutions, IBASE also provides professional documentation and design-in service to speed up your product innovation process and implementation with minimum resource and fast time to market.



SMARC Module & 3.5"/2.5" SBC

SMARC Module

For different application requirements, IBASE provides versatile ARM-based SBC (Single Board Computer) solutions using standardized and compact platforms such as SMARC module, 2.5" (Pico-iTX) and 3.5" (disk-size) boards to speed up your product solution development. SMARC (Smart Mobility ARChitecture) is a versatile small form factor computer module definition targeting applications that require low power, rich features, and high performance. The modules typically use ARM SoCs similar to those used in many embedded systems found in automation control, multimedia, and transportation control applications.

Two module sizes have been defined: 82mm x 50mm and 82mm x 80mm. The module PCBs have 314 edge fingers that mate with a low profile 314 pin 0.5mm pitch right angle connector.

The modules are used as building blocks for portable and standalone embedded systems. Circuits in the module include those of DRAM, boot flash, power sequencing, USB2.0/3.0/OTG interface, Ethernet, LVDS, HDMI and TTL display. The modules are used with carrier boards for versatile applications that implement other features such as audio codecs, touch controllers and wireless devices. The modular approach affords scalability and fast time to market while still maintaining low power consumption and a small form factor.

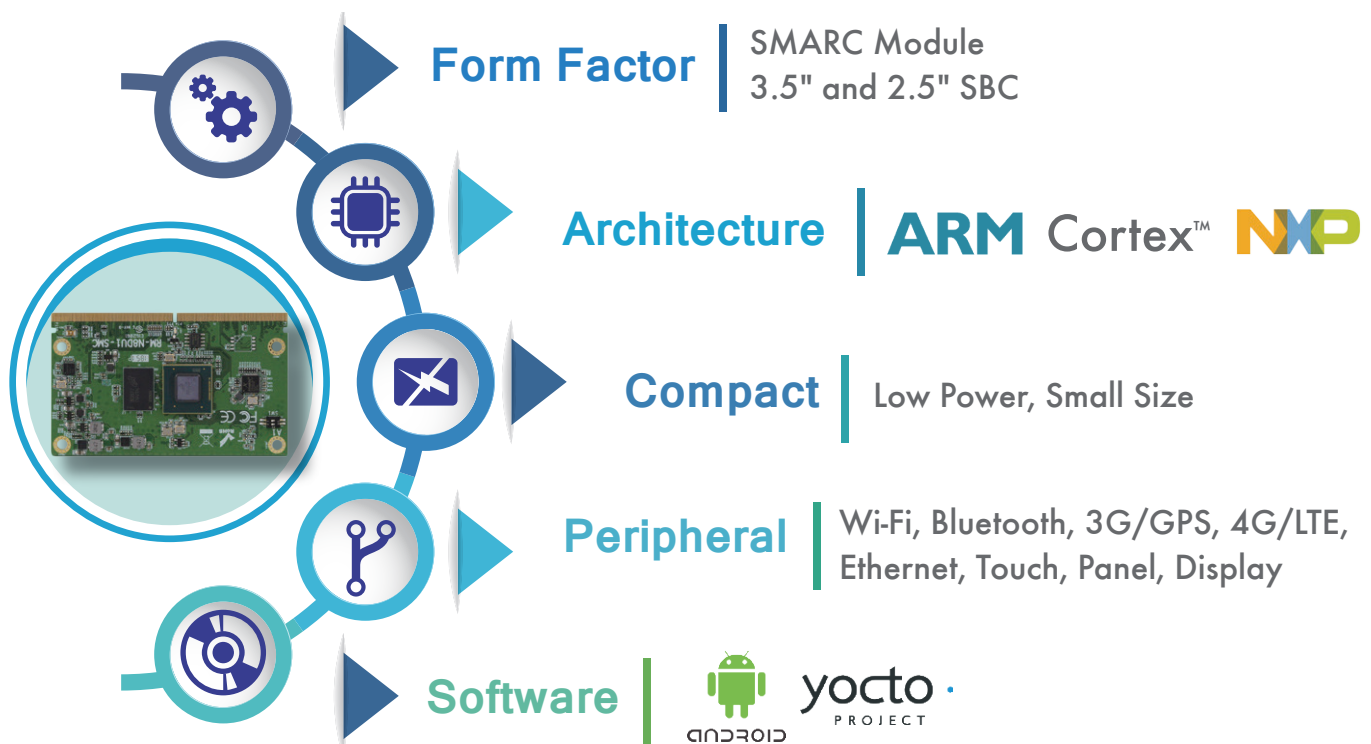
IBASE provides SMARC products and solutions supporting the NXP i.MX6 and i.MX8 series with powerful multimedia and versatile features. Besides SMARC modules, IBASE also offers a SMARC evaluation kit that comes with carrier boards such as RP-1xx-SMC and other hardware including panels, MIPI-CSI camera, wireless and 4G/TLE modules to speed up your ARM-based solutions development.

3.5"/2.5" SBC

IBASE's ARM-based SBCs support various display and I/O interface including LVDS/HDMI, RS-232/422/485 and USB ports, as well as Mini PCI-E and M.2 for expansion connectivity. Aside from versatile I/O features, IBASE's SBC solutions supports low-power consumption and a wide-range operating temperature of -40°C ~85°C for rugged applications.

For the software part, we provide the GUI images for Ubuntu, Yocto-Linux and Android to help in your performance testing and ensure your app meets its functional requirements. For a fast and optimized application development, we provide a standard BSP (board support package) to help software developers create, evaluate and test their applications before release.

With the aforementioned hardware and software solutions of ARM-based SBCs, IBASE is your best choice and partner to complete your ARM-based products.



Comparison Table

SMARC

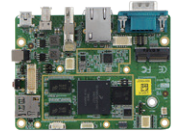
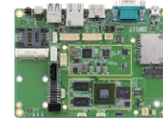
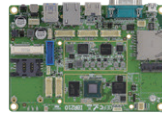


Model	RM-N8	RM-N8M	RM-N8MMI	RM-F6 series
Form Factor	SMARC™ V2.0	SMARC™ V2.0	SMARC™ V2.0	SMARC™ V1.0
Processor	NXP Cortex-A72, Cortex-A53 and Cortex-M4F i.MX 8QuadMax, 1.6GHz	NXP Cortex-A53 and Cortex-M4 i.MX 8M Quad, 1.3GHz	NXP Cortex-A53 and Cortex-M4 i.MX 8M Mini Quad, 1.6GHz	NXP Cortex-A9 i.MX 6 Solo/Dual, 800MHz
System Memory	6GB LPDDR4 on board	3GB LPDDR4 on board	2GB LPDDR4 on board	512KB/1GB DDR3 on board
Flash Memory	8GB eMMC on board	16GB eMMC on board	8GB eMMC on board	4GB eMMC on board
Video Codec	• H.265 decode (4Kp60) • H.264 decode (4Kp30) • WMV9/VC-1 imple decode • MPEG 1 and 2 decode • AVS decode • MPEG4.2 ASP, H.263, Sorenson Spark decode • Divx 3.11 including GMC decode • ON2/Google VP6/VP8 decode • RealVideo 8/9/10 decode • JPEG and MJPEG decode • H.264 encode (1080p30)	• 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	• i.MX53 + VP6 / WebM VP8, H.264 MVC • 1080p30 + D1 (Solo) • 1080p60or30 + D1 Dual 1080p decode (Dual) • 1080p30 H.264BP • Dual 720p encode
Graphics	• 2x GC7000XSVX GPUs • OpenGL 3.0, 2.1 • OpenGL ES 3.2, 3.1 (with AEP), 3.0, 2.0, and 1.1 • OpenCL 1.2 Full Profile and 1.1 • OpenVG 1.1 • Vulkan	• GC7000Lite • OpenGL ES 1.1, 2.0, 3.0, 3.1 • Open CL 1.2 • Vulkan	• GCNanoUltra • Vivante GC320	• Vivante GC880, OpenGL ES 2.0 (Solo) • Vivante GC320 (Solo) • Vivante GC2000, OpenGL, GL ES 2.0 & Haili, CL EP (Dual) • Vivante GC355, OpenVG 1.1 (Dual)
LAN	2x GbE LAN	1x GbE LAN	1x GbE LAN	1x GbE LAN
Audio	2x I²S, 1x SPDIF	2x I²S, 1x SPDIF	2x I²S, 1x SPDIF	1x I²S, 1x SPDIF
SATA	1x SATA 3.0	N/A	N/A	1x SATA2.0 (Dual)
I²C	4x I²C	4x I²C	4x I²C	4x I²C (Solo) 3x I²C (Dual)
I/O	1x USB3.0, 1x USB2.0, 8x UART, 12x GPIO, 2x MIPI-CSI2 4-lane, 2x MIPI-DSI 4-lane, 2x HDMI-TX, 1x HDMI-RX, 2x LVDS-TX, 2x CAN, 3x SPI/eSPI, 1x QSPI, 2x PCI-E	1x MIPI-DSI 4-lane, 1x HDMI2.0a, 2x MIPI-CSI2 4-lane, 2x SPI/eSPI, 4x UART, 2x USB3.0, 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, 2x PCI-E (x1) Gen1, 1x GbE, 12x GPIO	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)
SDIO	2x MMC/ SDIO interface	2x MMC/ SDIO interface	2x MMC/ SDIO interface	3x MMC/ SDIO interface
Watchdog Timer	256 level	256 level	256 level	256 level
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	-25°C ~ 85°C (-13°F ~ 185°F)	-25°C ~ 85°C (-13°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
Supported OS	Android 9	Yocto 2.5 Android 9	Yocto 2.5 Android 9	Ubuntu Android 4.3
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Comparison Table

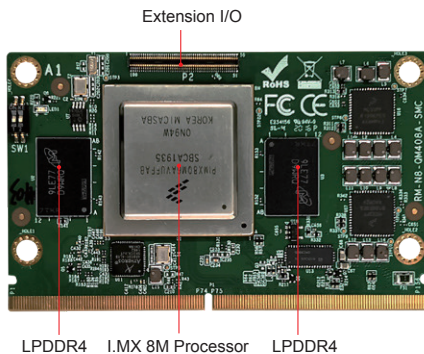
SMARC 2.0 Carrier Board

SBC



RP-103-SMC	RP-102-SMC	IBR210	IBR117	IBR115
Carrier Board Compliant with SMARC™ V2.0	Carrier Board Compliant with SMARC™ V1.0	3.5-inch Disk-Size SBC	3.5-inch Disk-Size SBC	2.5-inch Disk-Size SBC
N/A	N/A	NXP Cortex-A53 and Cortex-M4 i.MX 8M Quad, 1.3GHz	NXP Cortex-A9 i.MX 6Dual, 1GHz	NXP Cortex-A9 i.MX 6Dual-Lite, 1GHz
N/A	N/A	3GB LPDDR4 on board	1GB DDR3 on board	1GB DDR3 on board
N/A	N/A	16GB eMMC on board	4GB eMMC on board	4GB eMMC on board
N/A	N/A	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
N/A	N/A	- 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
2x RJ45 GbE LAN	1x RJ45 GbE LAN	1x RJ45 GbE LAN	1x RJ45 GbE LAN	1x RJ45 GbE LAN
Built-in audio	Built-in 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)
2x SATA3	1x SATA2	N/A	1x SATA2.0	N/A
1x I²C	2x I²C	1x I²C	1x I²C	1x I²C
4x USB3.0, 1x OTG Micro USB2.0, 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), 2x SATA III, 1x I2S, 2x SPI, 1x QSPI, 1x Full size Mini PCI-E, 1x SIM socket, 1x M.2 Key-E (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	2x USB3.0 (Type-A), 1x USB OTG (mini-USB Type-B), 1x HDMI V2.0a, 1x RS232/422/485, 1x On/Off button, 2x 2-wire UART, 2x USB3.0 internal header, 3x Green LEDs (for Power On/Off, wireless status, and programmable), 8x GPIO, 2x MIPI-CSI, 1x MIPI-DSI	2x USB2.0 (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)
2x Micro SD	1x Micro SD	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E w/ SIM socket 1x SD socket	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (USB only) w/ SIM socket 1x SD socket	1x M.2 Key-E (2230) w/ PCI-E, USB, SDIO, UART 1x Micro SD socket
N/A	N/A	256 level	256 level	256 level
170mm x 170mm (6.7" x 6.7")	170mm x 170mm (6.7" x 6.7")	147mm x 102mm (5.8" x 4")	147mm x 102mm (5.8" x 4")	100mm x 72mm (3.94" x 2.83")
19V~24V DC-in jack and internal header	19V DC-in jack	12~24V DC-in jack and internal header	12V DC-in jack	12V DC-in jack
-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-20°C ~ 85°C (-4°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)	-40°C ~ 85°C (-40°F ~ 185°F)
N/A	N/A	Yocto v2.5 Android 9	Yocto v2.1 Android 6.0.1	Yocto v2.1 Yocto v2.5 Android 6.0.1
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Remarks: 1. Specifications are subject to change without prior notice. 2. ODM/OEM is available. 3. For user's manual & datasheet download, visit www.ibase.com.tw.



LPDDR4 I.MX 8M Processor LPDDR4



Specifications

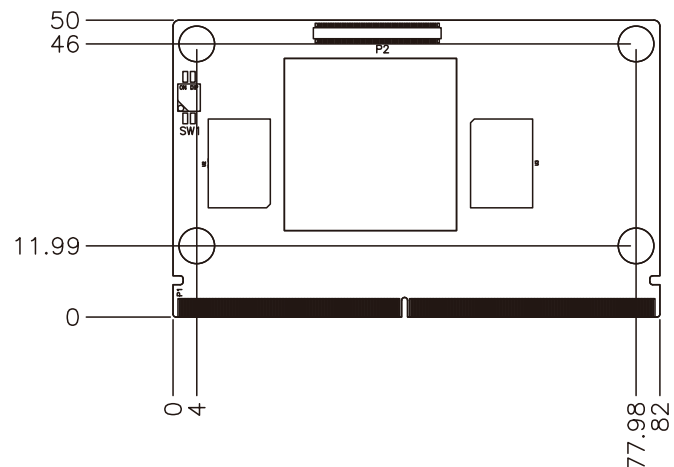
Form Factor	SMARC™ V2.0
Processor	NXP i.MX 8QuadMax Cortex™-A72 Cortex™-A53 and Cortex™-M4F, 1.6GHz
System Memory	6GB LPDDR4 on board
Flash Memory	16GB eMMC on board
Display	2x MIPI-DSI 4-lane 2x HDMI-TX 1x HDMI-RX
Video Codec	H.265/H.264/WMV9/VC-1/MPEG 1,2/AVS/MPEG4.2 ASP/H.263/Sorenson Spark/Divx 3.11 including GMC decode/ON2/Google VP6/VP8/RealVideo 8,9,10/ JPEG/MJPEG
Graphics	• 2x GC7000SVX GPUs • OpenGL 3.0, 2.1 • OpenGL ES 3.2, 3.1 (with AEP), 3.0, 2.0, and 1.1 • OpenCL 1.2 Full Profile and 1.1 • OpenVG 1.1 • Vulkan
Audio Interface	2x I²S, 1x SPDIF (Multi pin with others)
LAN	2x GbE LAN
USB	1x USB3.0/2.0, 1x USB2.0
Image Capture Interface	1x HDMI-RX 2x MIPI-CSI2 4-lane
Serial Interface	8x UART, 2x SPI Interface
Media Interface	2x High-speed MMC/SDIO (MMC 8-bit, SDIO 4-bit)
PCI-E	1x PCI-E(x2) 3.0 1x PCI-E(x1) 3.0
SATA	1x SATA3.0
GPIO	12x GPIO
I²C	4x I²C
CAN Bus	2x CAN
Dimensions	82mm x 50mm (3.2" x 2")

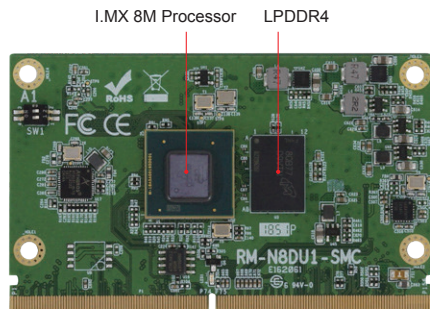
Features

- With NXP Cortex™-A72/Cortex™-A53/Cortex™-M4F, i.MX 8QuadMax 1.6GHz processor
- 6GB LPDDR4
- Rich peripheral I/O support
- Validated with Android 9
- Long life time supply with NXP solution
- Compliant with SGeT Standard SMARC™ V2.0

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 ~ 85°C (-13°F ~ 185°F)
OS Support	Android 9
Certification	CE/ FCC Class B

Dimensions





Specifications

Form Factor	SMARC™ V2.0
Processor	NXP i.MX 8M Quad Cortex™-A53 /Cortex™-M4, 1.3GHz
System Memory	3GB LPDDR4 on board
Flash Memory	16GB eMMC on board
Display	1x MIPI-DSI 4-lane up to 1920 x 1080 at 60Hz1x HDMI V2.0a, up to 4K
Video Codec	4Kp60 HEVC/H.265 main, and main 10 decoder 4Kp60 VP9 decoder 4Kp30 AVC/H.264 decoder 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder
Graphics	- GC7000Lite - OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan
Audio Interface	2x I²S, 1x SPDIF
LAN	1x GbE LAN
USB	2x USB3.0/USB2.0 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
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 ~ 85°C (-13°F ~ 185°F)
OS Support	Yocto 2.5 Android 9
Certification	CE/ FCC Class B

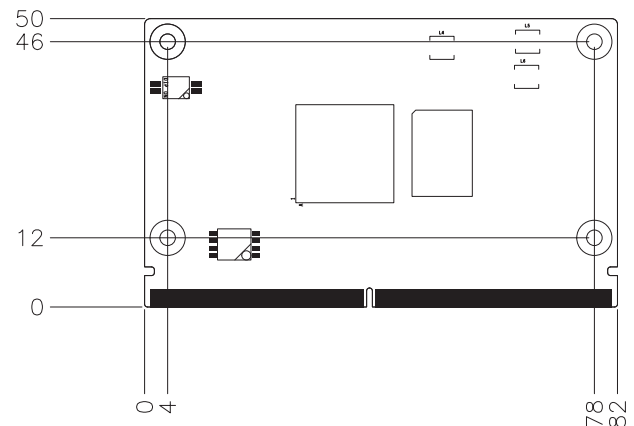
Features

- With NXP Cortex™-A53/Cortex™-M4, i.MX 8M Quad 1.3GHz processor
- 3GB LPDDR4, 16GB eMMC
- Rich peripheral I/O support
- Validated with Yocto v2.5 and Android 9
- Long life time supply with Nxp solution
- Compliant with SGeT standard SMARC™ V2.0

Ordering Information

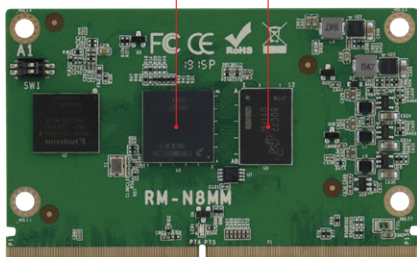
RM-N8M-Q316I	Industrial grade SMARC™ 2.0 CPU module, Cortex™-A53 i.MX 8M Quad 1.3GHz, 3GB LPDDR4, 16GB TLC eMMC
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Dimensions





i.MX 8M Mini Processor LPDDR4



Specifications

Form Factor	SMARC™ V2.0
Processor	NXP i.MX 8M Mini Quad Cortex™-A53 and Cortex™-M4, 1.6GHz
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	• 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	• GCNanoUltra • Vivante GC320
Audio Interface	2x I²S, 1x SPDIF
LAN	1x GbE LAN
USB	2x USB2.0 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
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
Certification	CE/ FCC Class B

Features

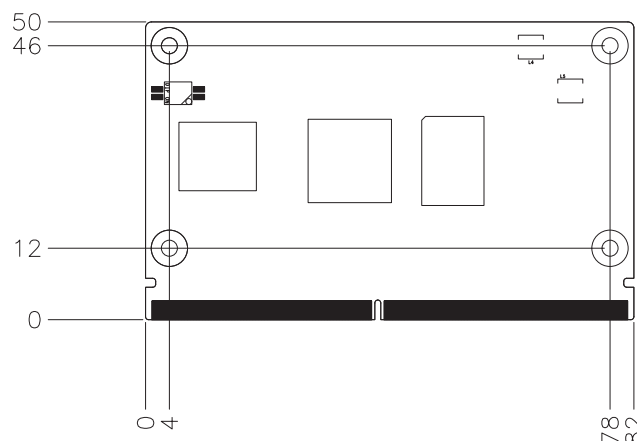
- With NXP Cortex™-A53 i.MX 8M Mini Quad 1.6GHz industrial-grade processors
- 2GB LPDDR4, 8GB eMMC on board
- Wide operating temperature from -40°C to 85°C
- Rich peripheral I/O support
- Validated with Yocto v2.5 and Android 9.0
- Long life time supply with NXP solution
- Compliant with SGeT standard SMARC™ V2.0

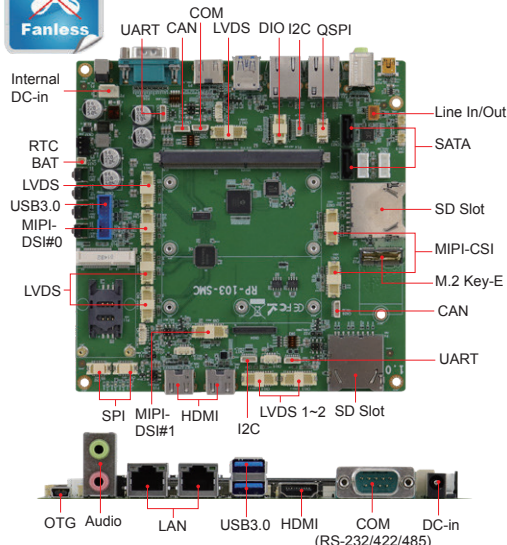
Ordering Information

RM-N8MMI-Q2081

Industrial Grade SMARC™ 2.0 CPU module, Cortex™-A53 i.MX 8M Mini Quad 1.6GHz, 2GB LPDDR4, 8GB eMMC

Dimensions





Features

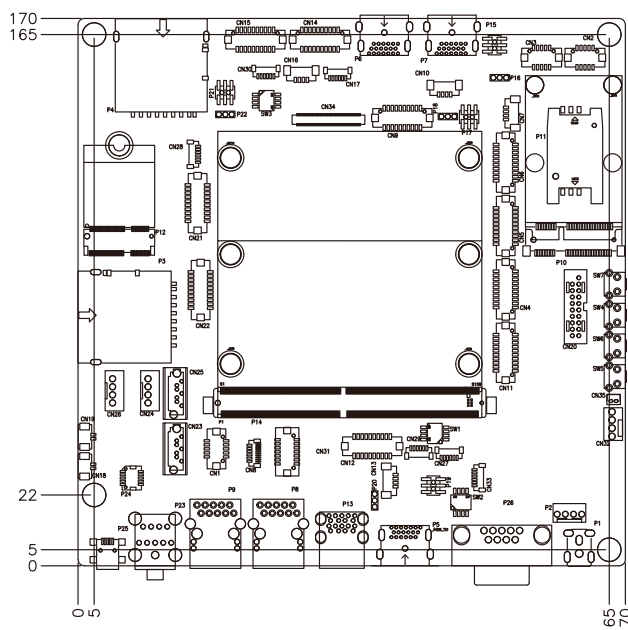
- Carrier Board for RM-N8, RM-N8M and RM-N8MMI series SMARC™ 2.0 CPU Module
- Rich peripheral I/O support
- Complete system available for evaluation

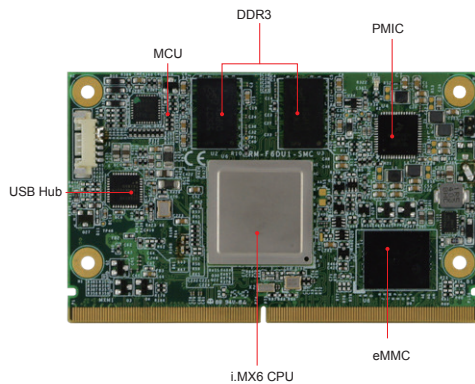
Specifications

Form Factor	Carrier Board Compliant with SMARC™ V2.0
Edge I/O	1x 19V~24V DC-in Jack 2x RJ45 Gigabit LAN (one for RM-N8 only) 2x USB3.0 1x OTG Micro USB2.0 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 USB3.0 12x GPIOs 2x RS232 (RX/TX only) 2x I2C 2x SATA III and power (one for RM-N8 only) 1x I2S 2x SPI (for RM-N8 only) 1x QSPI 1x Full size Mini PCI-E 1x SIM socket 1x M.2 Key-E (2230) 1x Speaker out (R/L) 1x RTC battery 2x UART (for RM-N8 only) 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

Dimensions





Specifications

Form Factor	SMARC™ V1.0
CPU	NXP i.MX 6Dual/6Solo Cortex™-A9 processor Up to 800MHz 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)
CAN Bus	2x CAN2.0B
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

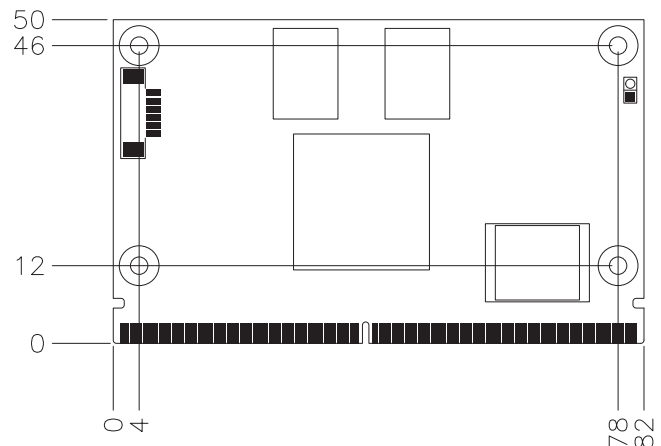
Features

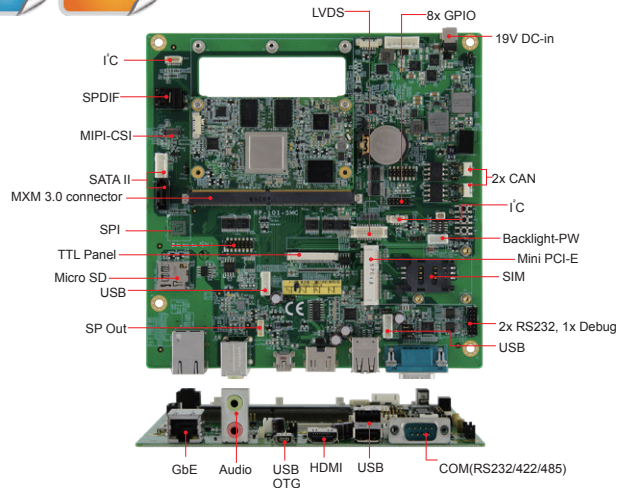
- SMARC™ Small Form Factor (82mm x 50mm) SoM
- i.MX automotive-grade 6Dual/6Solo core 800MHz CPU
- 1080p hardware encode/decode
- OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- 1GB DDR3, 4GB eMMC on board
- Supports 10/100/1000 Mbit Ethernet
- Supports 24-bit parallel LCD, LVDS & HDMI
- Supports Linux 3.0, Android 4.3
- Wide-range operating temperature (-40°C~85°C)

Ordering Information

RM-F6DU1-SMC	RISC System on Module, 82mm x 50mm, SMARC™ small form factor with onboard NXP i.MX 6Dual 800MHz CPU, 1GB DDR3, 4GB eMMC, -40°C~85°C operating temperature
RM-F6SO1-SMC	RISC System on Module, 82mm x 50mm, SMARC™ small form factor with onboard NXP i.MX6 Solo 800MHz CPU, 1GB DDR3, 4GB eMMC, -40°C~85°C operating temperature
F6DU1-HSD	Heat spreader for F6DU1
F6SO1-HSD	Heat spreader for F6SO1

Dimensions





Features

- For SMARC™ V1.0 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

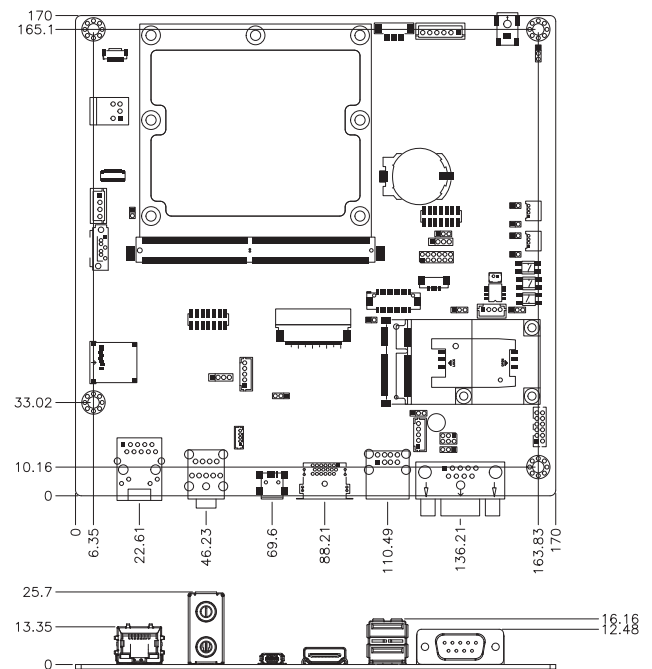
Specifications

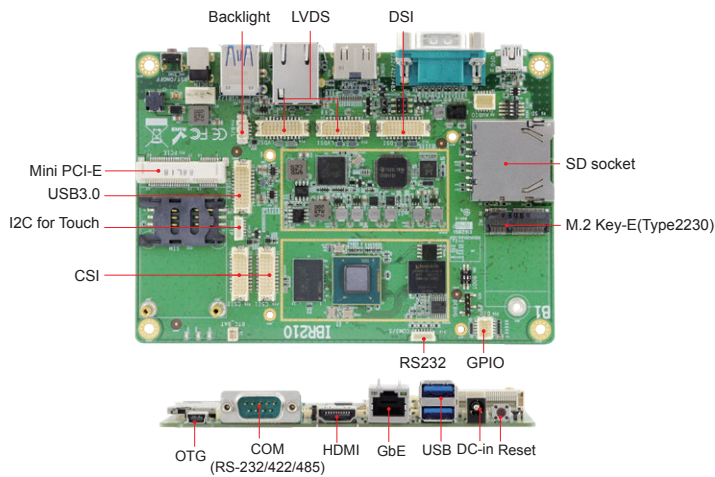
Form Factor	Carrier Board Compliant with SMARC™ V1.0
Edge I/O	1x DC-in Jack (12V) 1x RJ45 GbE LAN 1x Mic+Headphone 2x USB 2.0 host 1x USB OTG 1x HDMI 1x COM (RS232/422/485)
Internal I/O	2x CAN bus 2.0B 1x 18/24-bit single CH LVDS 1x 18/24-bit TTL box header 1x LCD DDC (I²C) 1x LCD backlight connector 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 I²C 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	Depending on the CPU module
Certification	CE/FCC Class A

Ordering Information

RP-102-SMC	RISC Carrier Board for SMARC™ V1.0 modules, 12V DC-in, Mini-ITX 170mmx170mm, 2x CAN, Mini PCI-E with USB, Resistive touch header (4-wire), 2x USB header, 1x I²C 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
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Dimensions





Specifications

Form Factor	3.5-inch Disk-Size SBC
Processor	NXP i.MX 8M Quad Cortex™-A53 and Cortex™-M4, 1.3GHz
System Memory	3GB LPDDR4 on board
Flash Memory	16GB eMMC on board
Display	1x Dual Channel LVDS (FHD) 1x HDMI V2.0a
Video Codec	4Kp60 HEVC/H.265 main, and main 10 decoder 4Kp60 VP9 decoder 4Kp30 AVC/H.264 decoder 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder
Graphics	- GC7000Lite - OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan
Edge I/O	1x RJ45 GbE LAN 2x USB 3.0 Type-A 1x USB OTG (mini-USB Type-B) 1x HDMI V2.0a 1x RS232/422/485 (D-SUB 9 male connector) 1x SD socket (UHS-I SDR-104, 104MB/s max.) 1x On/Off button
Header, Expansion & LEDs	1x Dual channel LVDS 1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection) 1x MIPI-DSI (2*10 pin header) 2x MIPI-CSI (2*10 pin header) 2x USB3.0 header 1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E w/ SIM socket 1x I2C header 1x 2-wire RS232 header (for Debug Console Port) 2x 2-wire RS232 header 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)
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 ~ 85°C (-4°F ~ 185°F)
OS Support	Yocto 2.5 Android 9

Features

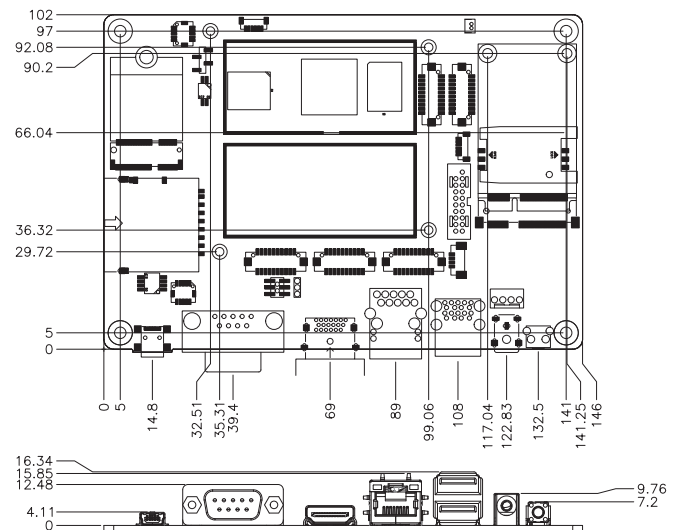
- With NXP Cortex™-A53/Cortex™-M4, i.MX 8M Quad 1.3GHz Processor
- Supports 4K HDMI, dual channel FHD LVDS
- Supports 3GB LPDDR4, 16GB eMMC and SD socket
- Supports embedded I/O for COM, GPIO, USB3.0, USB-OTG, Audio and Ethernet
- Supports M.2 Key-E (2230) and mini-PCI-E with SIM socket for wireless/4G/LTE connectivity

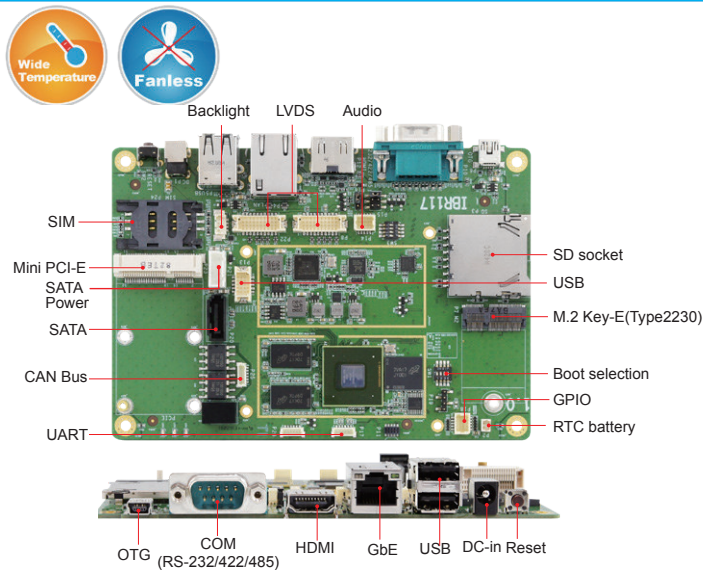
Relative Humidity	10%~90% (non-condensing)
Certification	CE/FCC Class B

Ordering Information

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





Specifications

Form Factor	3.5-inch Disk-Size SBC
Processor	NXP Cortex™-A9 i.MX 6Dual, 1GHz
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	1080p60or30 + D1 Dual 1080p decode 1080p30 H.264BP - Dual 720p encode
Graphics	- Vivante GC2000, OpenGL, GL ES 2.0 & Halti, CL EP - Vivante GC355, OpenVG 1.1
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
Header, Expansion & LEDs	1x Dual channel LVDS (FHD) 1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection) 2x USB 2.0 header 1x M.2 Key-E (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 I²C 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)
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)
OS Support	Yocto v2.1 Android 6.0.1
Relative Humidity	10%~90% (non-condensing)
Certification	CE/ FCC Class B

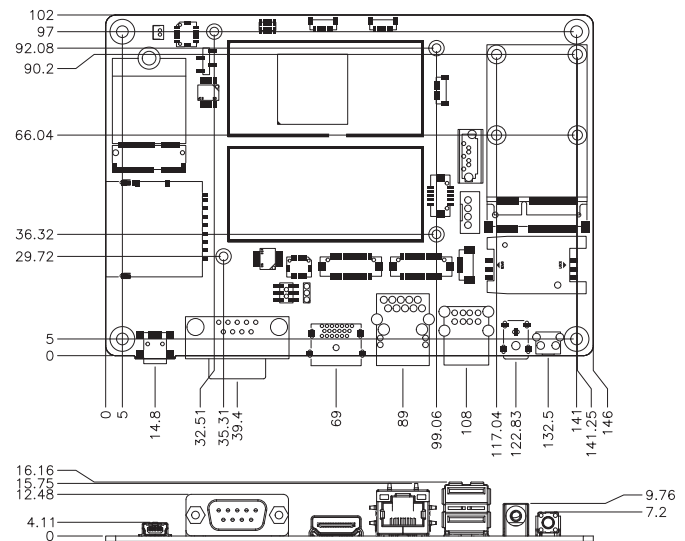
Features

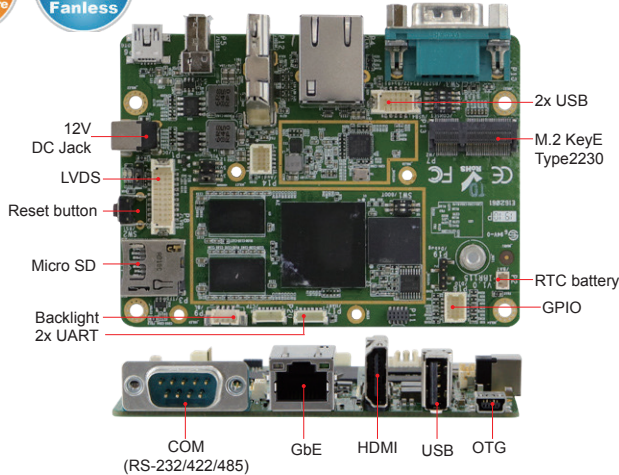
- With NXP Cortex™-A9, i.MX 6Dual 1GHz Processor
- Supports HDMI and dual LVDS
- 1GB DDR3, 4GB eMMC and SD socket for expansion
- Supports embedded I/O, COM, GPIO, USB, USB-OTG, audio and Ethernet
- Supports M.2 Key-E (2230) and Mini PCI-E with SIM socket for eireless/4G/LTE connectivity

Ordering Information

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





Features

- NXP Cortex™-A9, i.MX 6Dual-Lite, 1GHz 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 Key-E (2230) for 4G/LTE connectivity

Specifications

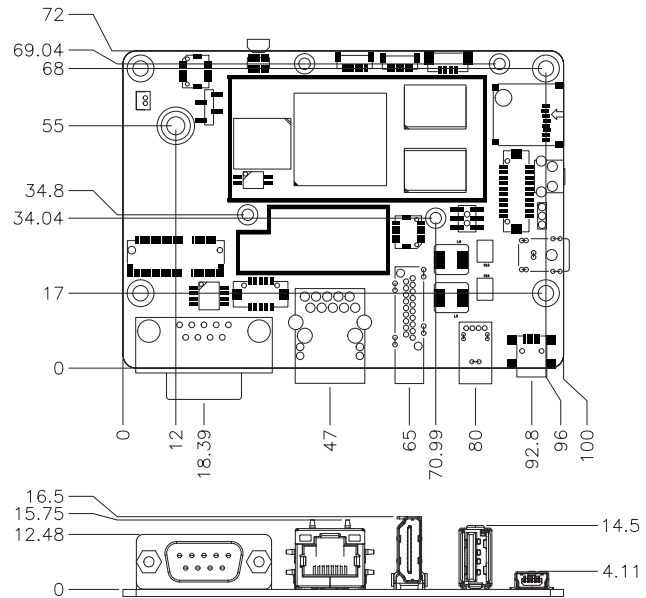
Form Factor	2.5-inch Disk-Size SBC
Processor	NXP Cortex™-A9 i.MX 6Dual-Lite, 1GHz
System Memory	1GB DDR3 on board
Flash Memory	4GB eMMC on board (optional 8/16/32/64 GB)
Display	1x 18/24-bit single LVDS, up to 1366 x 768 1x HDMI V1.4, up to 1080P at 60Hz
Video Codec	• i.MX53 + VP6 / WebM VP8, H.264 MVC • 1080p30 + D1 • 1080p30 H.264BP • Dual 720p encode
Graphics	• Vivante GC880, OpenGL ES 2.0 • Vivante GC320
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 Micro SD socket (UHS-I SDR-104, max. 104MB/s) 1x Reset button
Header, Expansion & LEDs	1x Single channel LVDS (1366x768) 1x Backlight, 3.3V/1A, 5V/1A, 12V/1A (jumper selection) 2x USB 2.0 header 1x M.2 Key-E (2230) w/ PCI-E, USB, SDIO, UART 1x I²C 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)
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)
OS Support	Yocto v2.1 Yocto v2.5 Android 6.0.1
Relative Humidity	10%~90% (non-condensing)
Certification	CE/ FCC Class B

Ordering Information

IBR115

2.5" ARM-based SBC, NXP Cortex™-A9, i.MX 6Dual-Lite 1GHz, 1GB DDR, 4GB eMMC, Single LVDS, HDMI, RS-232/422/485, USB, M.2 Key-E (2230)

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 a remote cloud device. Designed as compact IoT gateways suitable for different for a variety of environments, they come with VESA/DIN rail mounting kit options and can fit into constrained-spaces.

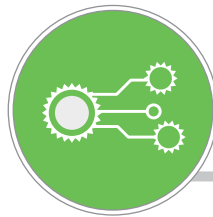
IBASE rugged IoT gateways perform reliably even in harsh conditions, supporting wide-range operating temperature and anti-vibration features. They support with M.2 / PCI-E expansion modules and a rich set of versatile I/O functions

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



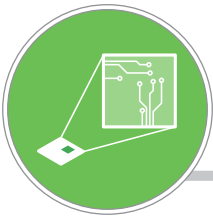
Rugged

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	ISR301	ISR201	ISR101
Processor	NXP Cortex-A53,i.MX 8M Quad, 1.3GHz	NXP Cortex-A9, i.MX 6Dual, 1GHz	NXP Cortex-A9, i.MX 6Dual-lite, 1GHz
Graphics	• 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 GC320	• Vivante GC880, OpenGL ES 2.0 • Vivante GC320
System Memory	3GB LPDDR4 on board	1GB DDR3 on board	1GB DDR3 on board
Storage	16G eMMC on board	4GB eMMC on board	4GB eMMC on board
Construction	SGCC	SGCC	SGCC
Display	1x HDMI	1x HDMI	1x HDMI
Network	1x RJ45 GbE LAN	1x RJ45 GbE LAN	1x RJ45 GbE LAN
Standard I/O	1x HDMI Type-A, up to 4K 2x USB 3.0 Type-A 1x RJ45 GbE LAN 1x RS232 /422/485 (DB9 connector) 1x Mini-USB OTG 1x 12~24V DC-in Jack 1x On/Off button 2x RS232 (DB9 connector) 8x GPIO (DB9 connector) 2x Antenna hole (Reserved) 3x LED indicators 1x SD socket (UHS-I SDR-104, 104MB/s max.)	1x Mini-USB OTG 1x RS232 /422/485 2x USB 2.0 Type-A 1x Reset button 2x RS232 (DB9 connector) 8x GPIO (DB9 connector) 2x Antenna hole (Reserved) 3x LED indicators	1x RS232 /422/485 1x Mini-USB OTG 2x USB 2.0 Type-A 8x GPIO (DB9 connector) 1x Reset button 1x Antenna hole (Reserved)
Watchdog	256 Levels, 0~128 Secs	256 level	256 level
Expansion Slots	1x M.2 Key-E (2230) w/ USB, SDIO,UART, PCI-E 1x Mini PCI-E (PCI-E and USB) w/ SIM socket 1x SD card slot	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (USB only) w/ SIM socket 1x SD card slot	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Micro SD slot
Fanless	Yes	Yes	Yes
Certification	CE/FCC class B	CE/FCC class B	CE/FCC class B
Dimensions	172mm x 162mm x 36 mm (6.78" x 6.38" x 1.42")	172mm x 162mm x 36 mm (6.78" x 6.38" x 1.42")	122mm x 102mm x 36 mm (4.81" x 4.02" x 1.42")
Weight	0.8KG	0.6KG	0.5KG
Operating Temperature	-10°C~ 60°C (14°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)	0°C ~ 60°C (32°F ~ 140°F)
Operating System	Yocto v2.5 Android 9	Yocto v2.1 Android 6.0.1	Yocto v2.1 Yocto v2.5 Android 6.0.1
Power Input	12V-24V DC-in jack	12V DC-in jack	12V DC-in jack
Page No.	P. 21	P. 22	P. 23



Features

- NXP Cortex™-A53, i.MX 8M Quad 1.3GHz Industrial Grade
- 3GB LPDDR4, 16GB eMMC & SD socket for expansion
- Embedded I/O for COM, GPIO, USB, HDMI, Ethernet
- Supports M.2 Key-E (2230) and Mini PCI-E with SIM socket for Wireless/4G/LTE connectivity
- Ruggedized and Fanless Design

Specifications

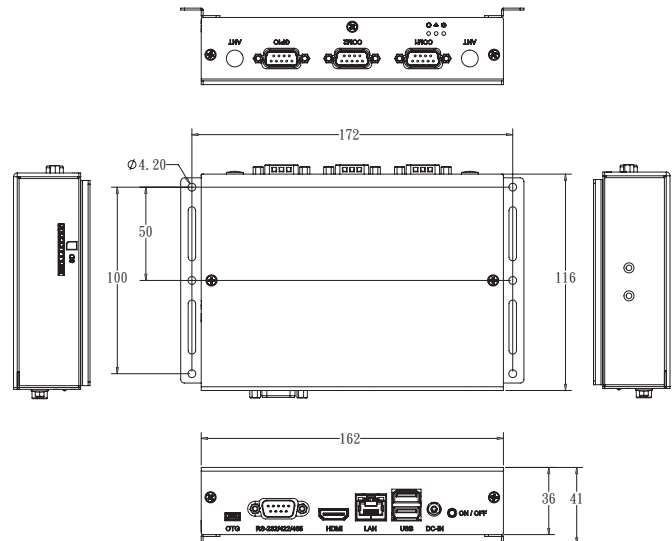
System Board	IBR210-Q316I 3.5-inch SBC
Processor	NXP Cortex™-A53 i.MX 8M Quad, 1.3GHz
System Memory	3GB LPDDR4 on board
Storage	16GB eMMC on board (Default)
Construction	SGCC
Color	Black
Display	1x HDMI 2.0a, supports up to 4K resolution
Network	1x RJ45 GbE LAN
Watchdog	256 Levels, 0~128 Secs
Front I/O	1x HDMI Type-A, up to 4K 2x USB 3.0 Type-A 1x RJ45 GbE LAN 1x RS232 /422/485 (DB9 connector) 1x Mini-USB OTG 1x 12~24V DC-in Jack 1x On/Off button
Rear I/O	2x RS232 (DB9 connector) 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 Key-E (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)
Certification	CE/ FCC Class B
Operating System	Yocto v2.5 Android 9

Ordering Information

ISR301-Q316I

ARM-based IOT Gateway, NXP Cortex™-A53, i.MX 8M Quad 1.3GHz, 3GB LPDDR4, 16GB eMMC, HDMI, RS-234/422/285, USB3.0, M.2 Key-E(2230) & Mini PCI-E w/ SIM socket

Dimensions





Features

- NXP Cortex™-A9, i.MX 6Dual 1GHz Processor
- 1GB DDR3, 4GB eMMC & SD socket for expansion
- Embedded I/O for COM, GPIO, USB, USB-OTG, Ethernet
- Supports M.2 Key-E (2230) and Mini PCI-E with SIM socket for Wireless/4G/LTE connectivity
- Ruggedized and fanless design

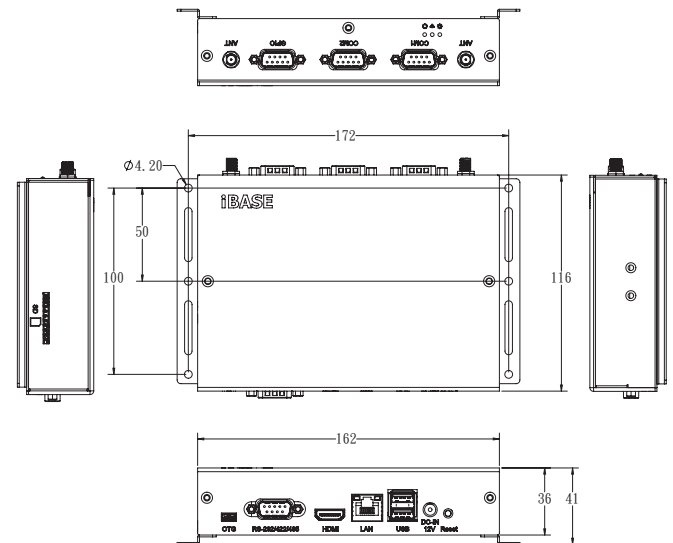
Specifications

System Board	IBR117 3.5-inch SBC
Processor	NXP Cortex™-A9 i.MX 6Dual, 1GHz
System Memory	1GB DDR3 on board
Storage	4GB eMMC on board (optional 8/16/32/64 GB)
Construction	SGCC
Color	Black
Display	1x HDMI 1.4 (FHD)
Network	1x RJ45 GbE LAN
Watchdog	256 Levels, 0~128 Secs
Front I/O	1x HDMI Type-A, up to FHD 2x USB 2.0 Type-A 1x RJ45 GbE LAN 1x RS232 /422/485 (DB9 coconnector) 1x Mini-USB OTG 1x 12V DC-in Jack 1x Reset button
Rear I/O	2x RS232 (DB9 connector) 8x GPIO 2x Antenna hole (RP SMA Jack) 3x LED indicators
Side I/O	1x SD socket (UHS-I SDR-104, 104MB/s max.)
Expansion Slots	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E 1x Mini PCI-E (USB only) 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	0°C ~ 60°C (32°F ~ 140°F)
Relative Humidity	10%~90% (non-condensing)
Certification	CE/ FCC Class B
Operating System	Yocto v2.1 Android 6.0.1

Ordering Information

ISR201	ARM-based IOT Gateway, NXP Cortex™-A9, i.MX 6Dual 1GHz, 1GB DDR3, 4GB eMMC, HDMI, RS-234/422/285, USB2.0, M.2 Key-E(2230) & Mini PCI-E w/ SIM socket
--------	--

Dimensions





Features

- NXP Cortex™-A9, i.MX 6Dual-Lite 1GHz Processor
- 1GB DDR3, 4GB eMMC, Micro SD socket for expansion
- Embedded I/O for COM, GPIO, USB, USB-OTG, Ethernet
- M.2 Key-E (2230) for 4G/LTE connectivity
- Ruggedized and fanless design

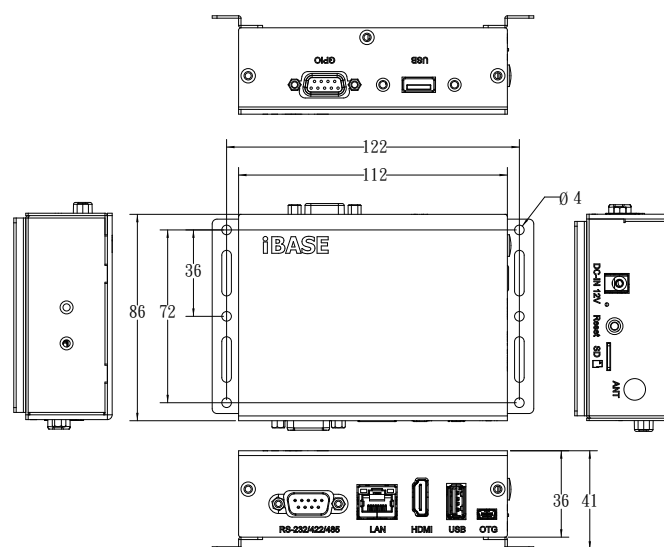
Specifications

System Board	IBR115 2.5-inch SBC
Processor	NXP Cortex™ -A9 i.MX 6Dual-Lite, 1GHz
System Memory	1GB DDR3 on board
Storage	4GB eMMC on board (optional 8/16/32/64 GB)
Construction	SGCC
Color	Black
Display	1x HDMI 1.4 (FHD)
Network	1x RJ45 GbE LAN
Watchdog	256 Levels, 0~128 secs
Front I/O	1x HDMI Type-A, up to FHD 1x USB 2.0 Type-A 1x RJ45 GbE LAN 1x RS232/422/485 (DB9 connector) 1x Mini-USB OTG
Rear I/O	1x USB 2.0 Type-A 8x GPIO
Side I/O	1x Reset button 1x 12V DC-in Jack 1x Micro SD socket (UHS-I SDR-104, 104MB/s max.) 1x Antenna hole (RP SMA Jack)
Expansion Slots	1x M.2 Key-E (2230) w/ USB, SDIO, UART, PCI-E
Fanless	Yes
Dimensions (WxDxH)	122mm x 102mm x 36 mm (4.81" x 4.02" x 1.42")
Mounting	VESA 75 / DIN rail / wall mount
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Relative Humidity	10%~90% (non-condensing)
Certification	CE/ FCC Class B
Operating System	Yocto v2.1 Android 6.0.1

Ordering Information

ISR101	ARM-based IOT Gateway, NXP Cortex™ -A9, i.MX 6Dual-Lite 1GHz, 1GB DDR3, 4GB eMMC, HDMI, RS-232/422/485, USB2.0, M.2 Key-E (2230)
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Dimensions



Digital Signage Player

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



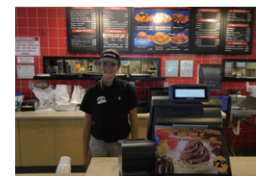
Public Venues

- Airport Flight Schedule
- Building Directory
- Event & Tradeshow
- Safety Alert Sign



Advertisement

- Virtual Dressing Room
- Multimedia Ads
- Instant Content Updates



Retail Environment

- Food Menu Display
- Video Playback Content
- POS Register & Kiosk

Comparison Table

Digital Signage Players



Model	SA-112-N	SA-101-N
Processor	NXP Cortex-A9 i.MX 6Dual Lite Commercial 1GHz / IMX 6Quad Automotive 1GHz	NXP Cortex-A9 i.MX 6Quad 1GHz
Chipset	Integrated	Integrated
Operating System	Android 4.4.2	Android 4.4.2
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 (C-TYPE)
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 Host USB 2.0 A-TYPE
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)	0.1kgs (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
Page No.	P. 26	P. 27



Features

- Supports NXP i.MX 6Dual/6Quad 1GHz processor
- With eMMC NAND Flash 8GB on board
- Onboard DDR3L, 1GB 533MHz, (1066MT/s)
- 1x VGA + 1x HDMI (w/o HDCP)
- 1x GbE RJ45 LAN, 1x COM (RS-232), 1x Mini-USB (OTG), 2x USB, 1x SD card slot
- Supports Wi-Fi 802.11 b/g/n
- 1x SIM card slot and 1x Mini PCI-E slot for 4G function (optional)
- Supports 5V DC-in power input and wide-range operating temperature from -40°C to 75°C
- Ruggedized, fanless and compact design

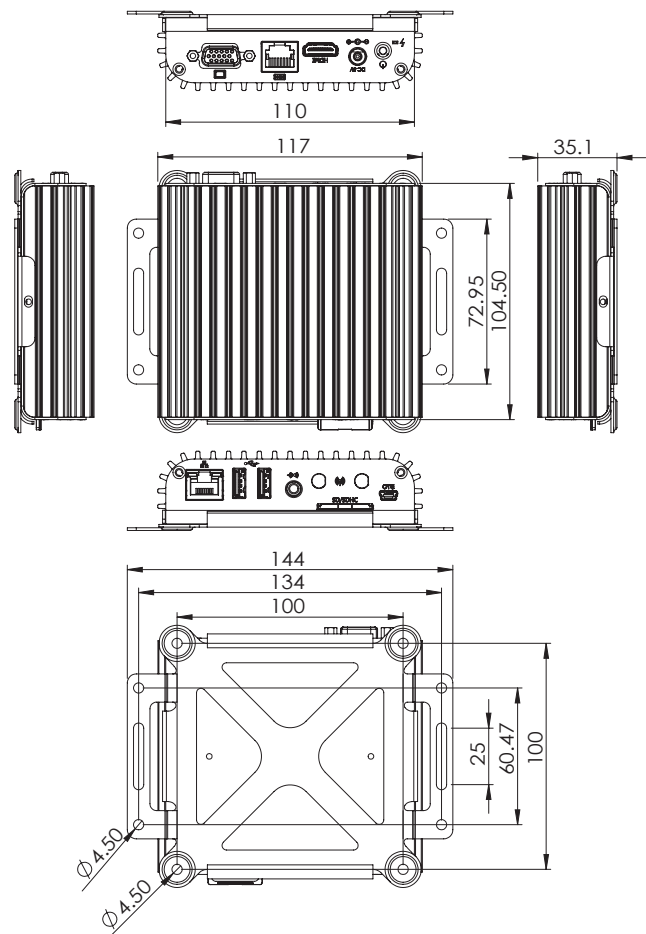
Specifications

System Mainboard	MBD112
Processor	NXP IMX6Q Automotive 1GHz / IMX6DL Commercial 1GHz
Chipset	Integrated
System Memory	Onboard DDR3L, 1GB 533MHz, (1066MT/s)
Graphics	i.MX53 + VP6 / WebM VP8, H.264 MVC
LAN	1x RJ45 (1000M)/AR8031-AL1B
Expansion Slots	1x Mini PCI-E (full-size) for Wi-Fi, Bluetooth, 4G, or TV tuner options
I/O	1x HDMI 1x VGA 2x USB 2.0 1x Mini USB(OTG) (USB device; supports host) 1x Power On/Off button 1x COM RS-232 1x 3.5mm Jack for Line out 1x RJ45 LAN 1x DC power jack
Auto Control and Monitoring	Watchdog Timer:256 segments,0, 1, 2...255(sec/min)
Power Requirement	+5V DC-in
Construction	Aluminum + SGCC
Weight	0.5kgs (1.1lbs)
Chassis Color	Black & white
Storage	1x eMMC (Default 8GB) 1x SD/SDHC card slot (up to 32GB)
Power Supply	Optional 25W power adaptor
Mounting	Standard system bracket
Dimensions	117mm x 104.5mm x 35.1mm (4.61" x 4.11" x 1.38")
Operating Temperature	-40°C ~ 75°C (-40°F ~ 167°F) (w/o adaptor)
Storage Temperature	-50°C ~ 85°C (-58°F ~ 185°F)
Relative Humidity	5~90% @ 45°C, (non-condensing)
Vibration	eMMC: 5 grms / 5~500Hz / random operation
Certification	CE, FCC class B, cULus & CCC
Operating System	SA-112-NDL- Android 4.4.2: HDMI output SA-112-NQC- Android 4.4.2: VGA+HDMI

Ordering Information

SA-112-NQC	ARM-based signage player with CPU IMX6QC MCIMX6Q6AVT10AD Automotive 1GHz, eMMC NAND Flash 8GB & DDR3L 1GB on board, 25W power adaptor, (RoHS).
SA-112-NDL	ARM-based signage player with CPU IMX6DL MCIMX6U5DVM10AB Commercial 1GHz, eMMC NAND Flash 8GB & DDR3L 1GB on board, 25W power adaptor, (RoHS), (operating temperature 0°C ~ 50°C)

Dimensions





Features

- Supports NXP Cortex™-A9 i.MX 6Quad 1GHz processor
- 1x eMMC NAND flash 8GB on board
- Onboard DDR3L, 2GB, 533MHz, (1066MT/s)
- 1x Mini-HDMI(C-Type)
- 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

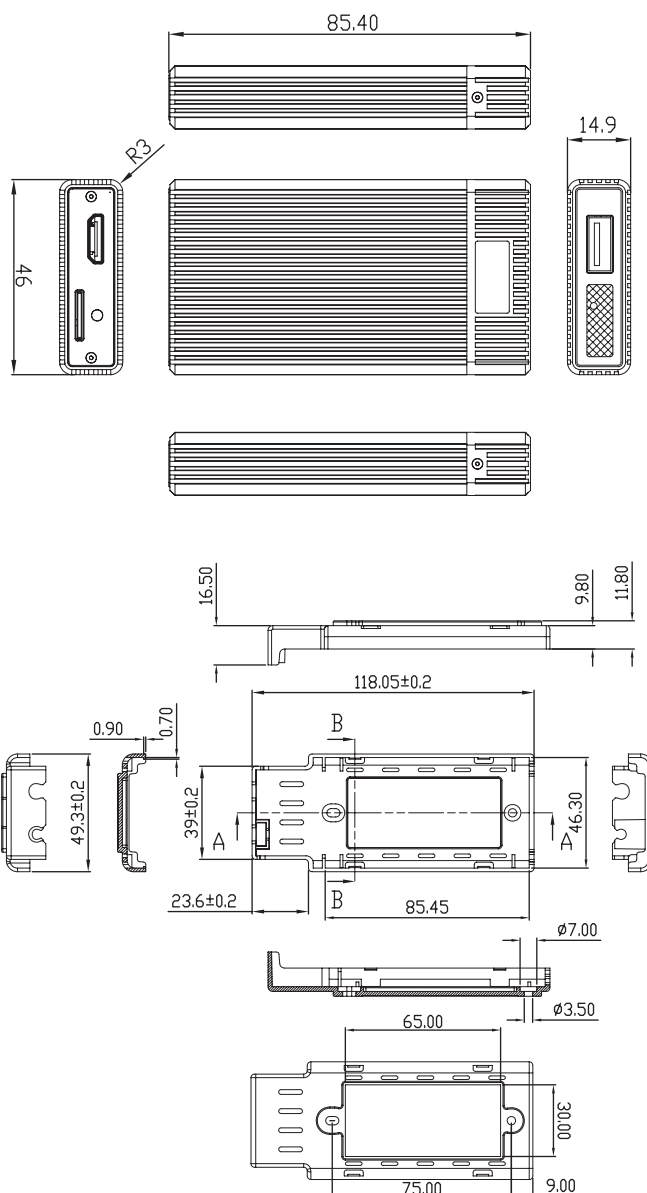
Specifications

System Mainboard	MBD101
Processor	NXP Cortex™ -A9 i.MX 6Quad 1GHz 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 A-Type 1x Mini-HDMI (C-Type) connector 1x MicroSD card 1x Power jack
Power Requirement	+5V DC-in
Construction	Aluminum
Weight	0.085kgs (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)
Vibration	eMMC: 5 grms/ 5~500Hz/ random operation
Certification	CE, FCC class A , VCCI class A, TELEC
Operating System	Android 4.4.2

Ordering Information

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





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