

# **HAGIWARA Solutions**

## **Gateway & Board Catalog**

**Vol.1**



# HAGIWARA Solutions

Our business purpose is to support social infrastructures.  
We quest for stable and long term system operations with  
our reliable storages & industrial computers.

Company Profile

Group Company

Gateway

3.5" Single board  
computer

Mini-ITX  
Mother board

A pioneer manufacturer of flash storage devices for industrial equipment with over 20 years of experience. After the acquisition of business from Japan Data System, from 2018 we provide a lineup of embedded computers, motherboards and IoT gateways for industrial equipment.

Strong security feeling created by combination with our flash storage products for industrial equipment and highly appreciated by our customers allowed Hagiwara Solution to greatly expand the range of proposed industrial solutions.

## Company Profile

Company Name	HAGIWARA Solutions Co., Ltd.
Head Office	Pacific Square 8F, 2-5-12 Nisiki, Nakaku, Nagoya City, AICHI, 460-0003 JAPAN
Foundation	July 4th, 2011
Capital	50 million yen
CEO	Junji Hada
Number of Employees	98 (including contract and part-time employees) As of February 2019
Closing Month	March



# Features

Our industrial grade controllers & Gate Way computers are from Japan.  
 Our memories & storages support stable and long term system operations for your IoT and M2M solutions.

## 1 Offering products complete with storage memory

We offer products with our storage memory. This not only reduces the costs of evaluation of memory and storage products by customer, but also helps to reduce time required isolate the cause of failure.



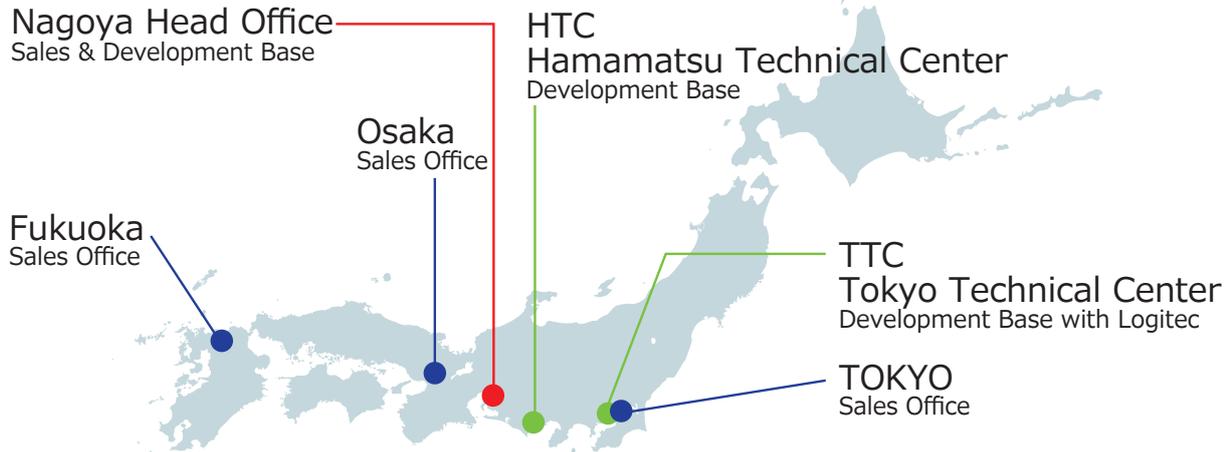
## 2 Industrial grade

We provide long-term supply of environmental-resistant models that operate even in harsh environments, perform shipping tests and issue comprehensive PCN / EOL notifications.



## 3 Reliable technical support system

FAE (sales technology) are located in Tokyo, Nagoya and Osaka. Sale offices and dealers provide detailed and prompt support in collaboration with development centers.



### Memory products

Reliable memories & storages support stable industrial equipment operations.

#### SSD

SATA 6.0Gbps  
2.5inch



CFast



M.2



mSATA



HalfSlim



PATA  
2.5inch



CompactFlash



#### SD Card

SD Card



microSD Card



eSD



#### DIMM



#### USB



#### Security



# Using group synergy to expand Elecom Group solutions ever further

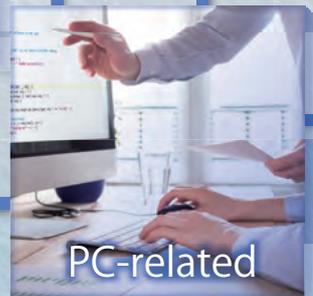
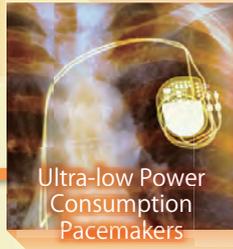
Company Profile

Group Company

Gateway

3.5" Single board computer

Mini-ITX Mother board





Computers



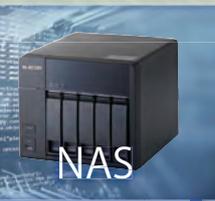
Digital Signage

Logitec



Security Memory

AGIWARA Solutions



NAS



Network Equipment



# DX ANTENNA



LoRa Sigfox



V-low Multicast



Networks Cameras



Media Gateways



Wi-Fi



EOC Coaxial Modems



Telecommunications Business



Wi-Fi Equipment

ELECOM LIFESTYLE m INNOVATION

ELECOM LIFESTYLE m INNOVATION

## Elecom Co., Ltd.

Elecom is known as a major computer supplier, branching out in recent years to supply products for tablets and smartphones, digital home field with enhanced development of network products, applications, cloud services, and provision of installation services for wireless LAN access points. The Elecom Group's mission is to serve as a bridge connecting innovations to lifestyles, pursuing user happiness and comfort while constantly seeking to create new markets.

## Logitec

### Logitec INA Solutions Co., Ltd.

With the aim of building direct and lasting relationships with our end-user customers, we began trading in 2011 after splitting off from Logitec. Our policy is to be able to provide what you need whenever you need it. Our aim is to be a company that can find the solutions for all our customers' problems. We will provide products and services that will impress, building on the technological capabilities, specializations, and impetus built up by Logitec over the years.

## DX ANTENNA

### DX Antenna Co., Ltd.

Advanced transmission technology built up over more than sixty years. We developing new services combining broadcasting and communications as the core of next-generation transmission systems, and exploring new fields for the future, such as disaster preparedness, social welfare, security, and wireless communications.

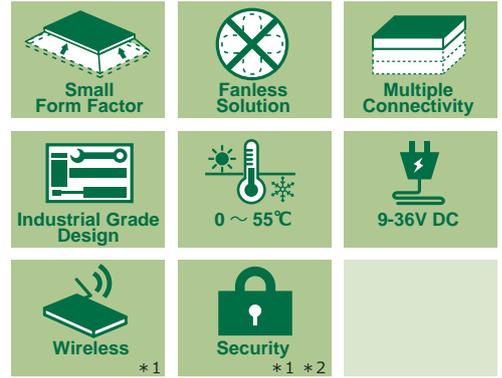


### D-Clue Technologies Co., Ltd.

We became a group company at the end of June 2017. We have superlative engineers in analog, digital, and firmware technology, with the ability to create from scratch entirely new innovations, to provide solutions with greater added value.

## TC335XXF Series (Tiny Gateway)

**NEW Product**



**Apollo Lake**

**Supply term: Until 2023**

\*As of February, 2019

\*Unexpected matters may change the supply term.  
\*1: Depends on models. \*2: Secure boot function.

Specifications		TC335XXFXHUEJM1 (Wireless LAN & Bluetooth support model)	TC335XXFRHUEJM1 (Mini-PCIe extension slot installed model)
System	Main Processor	Intel® Celeron® N3350(1.1GHz)	
	Chipset	Integrated with CPU	
	System Memory	1x 4GB LPDDR3 1866MHz	
	Storage	Onboard 32GB eMMC	
	IO Chip	-	
	BIOS	Insyde UEFI	
	Watchdog Timer	Programmable 256 levels, timer interval 1 to 255 sec.	
Expansion	H/W Monitor	CPU Temperature monitoring, Voltages monitoring	
	Mini PCIe slot	1×Full-size Mini-PCIe (Used)	1×Full-size Mini-PCIe
I/O	SD/SDHC	-	
	SATA	-	
	USB(Rear)	-	
	USB(Front)	2x USB 3.0, 4x USB 2.0 (Option)	
	COM	(Option)	
	LPT	-	
	LAN port	2x RJ-45	
	Display	1 x HDMI	
	GPIO	(Option)	
	PS/2	-	
	Audio In/Output	-	
	Switch·LED	LED: 1x Power, Power button, Reset button	
	Others	-	
	Codec	-	
	Amplifier	-	
Display	LAN Controller	Intel i210 x 2	
	Resolution	HDMI : Max Resolution 1920×1080 @60Hz	
OS	LVDS	-	
	OS Support	Windows 10 IoT Enterprise 2016 LTSB 64bit, Ubuntu 16.04 32bit	
Other	Power Requirement	+9V~+36V DC	
	Power Type	2-Pin Terminal Block	
	Operate temp(*1)	0~55°C	
	Storage temp	-10~65°C	
	Operate humidity	30~90% (W/O Condensation)	
Accessories	EMC & Safety	CE, FCC	
	-	Power supply terminal block / harness	
Size/weight	-	100 (W) x 70 (H) x 31(D) mm, 0.6kg	

\*1 With Air flow

**Operating System**

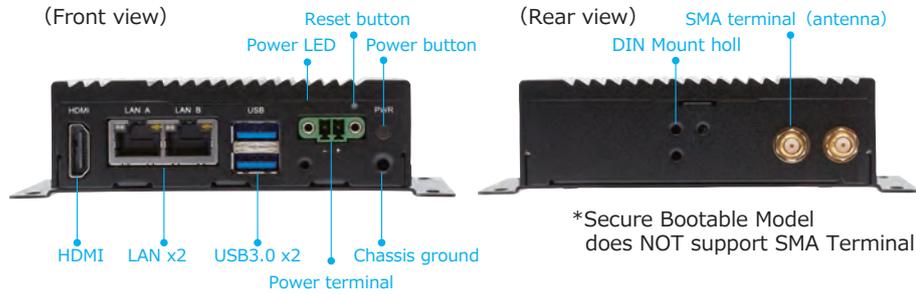
Windows 10 IoT 64bit

Ubuntu 16.04 32bit

**Interface**

(Front view)

(Rear view)



\*Secure Bootable Model does NOT support SMA Terminal.

**Option**

- \*AC power adpoter with cord
- \*DIN Mounting Stay
- \*As of February, 2019

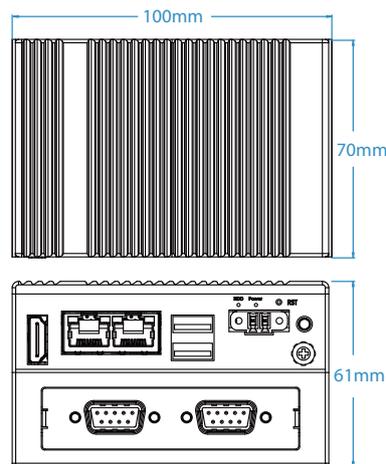
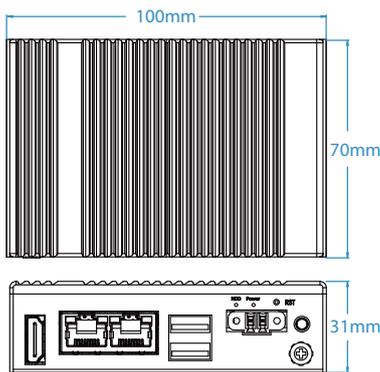


**Multi-connectivity Design**

Stackable housing supports additional Interfaces.  
Your gateway must be proper for your own application.



Double Layer



What can you choose?

\*Must order before shipping.

Extension options	Remarks
LTE	T.B.D
USB2.0	4-ports
COM	RS233/422/485×3-ports
Digital I/O	16 channels

\*As of February, 2019

## BXPC-CARA-MX6DL



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	-40 ~ 70°C	12-26V DC
Wireless	Security	

**ARM** Supply term: Until 2022  
\*As of February, 2019

\*Unexpected matters may change the supply term.

Specifications		BXPC-CARA-MX6DL
System	Main Processor	NXP i.MX6 Multimedia Processor (2Core 800MHz)
	Chipset	i.MX6
	System Memory	1x Onboard DDR3 1GB
	Storage	Onboard eMMC 4GB
	IO Chip	-
	BIOS	-
	Watchdog Timer	Yes
Expansion	H/W Monitor	CPU Temperature monitoring
	Mini PCIe slot	1x Half-size Mini PCIe
	PCI / PCIe slot	-
	M.2 slot	-
	SD/SDHC	1x micro SD/micro SDHC/micro SDXC
	CF/CFast	-
	Others	-
I/O	SATA	-
	USB(Rear)	-
	USB(Front)	2x USB 2.0
	COM	1x Debug Port (3 Pin UART)
	LPT	-
	LAN port	1x RJ-45
	Display	1x HDMI
	GPIO	-
	PS/2	-
	Audio In/Output	1x Line-out
	Switch-LED	-
	Others	1x USBOTG
	Display	Resolution
LVDS		-
OS Support		Ubuntu14.04 32bit
Audio	Codec	WM8962
	Amplifier	-
Ethernet	LAN Controller	-
Power Supply	Power Requirement	+12V~+26V
	Power Type	AT
Environment	Operate temp(*1)	-40~70°C
	Storage temp	-40~70°C
	Operate humidity	30%~90% (W/O Condensation)
Accessory	-	1x AC Adapter(*2), 1x AC Code, 1x Wall mount Kit, 1 x Screw Set
	Size/Weight	153mm x 107.8mm x 30mm, 1.5kg

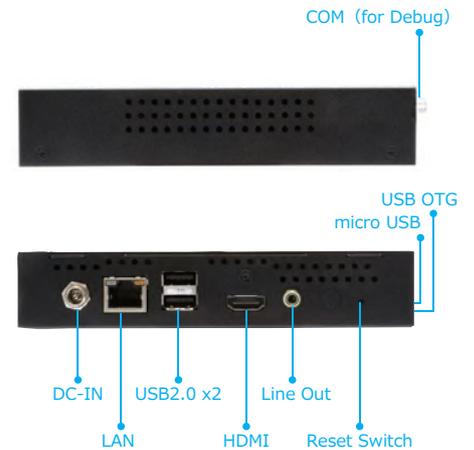
\*1 With Air flow

\*2 AC Adapter operate temperature is 0~40°C

### Operating System

Ubuntu  
14.04  
32bit

### Interface



## BXPC-RBYTM-N2807



**Development**



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	-20 ~ 70°C	12-24V DC
Wireless	Security	
<b>Bay Trail</b>	<u>Supply term:T.B.D.</u>	

Specifications		BXPC-RBYTM-N2807	
System	Main Processor	Intel® Celeron™ N2807, 1.58 GHz   Intel® Celeron™ J1900, 2.0 GHz	
	Chipset	Integrated with CPU	
	System Memory	1x DDR3L 1333 SODIMM slot, up to 8GB (J1900) or 4GB (N2807)	
	IO Chip	-	
	BIOS	AMI UEFI	
	Watchdog Timer	H/W Reset, 1sec. - 65535sec./min.1sec. or 1min. Step	
Expansion	H/W Monitor	CPU temperature monitoring, Voltages monitoring, CPU fan speed control	
	Mini PCIe slot	-	
	PCI / PCIe slot	-	
	M.2 slot	-	
	SD/SDHC	-	
	CF/CFast	1x CFast	
I/O	Others	-	
	SATA	-	
	USB(Rear)	-	
	USB(Front)	1x USB 3.0, 2x USB 2.0	
	COM	1x RS232	
	LPT	-	
	LAN port	2x LAN	4x LAN *Option
	Display	1x HDMI	2x HDMI *Option
	GPIO	-	
	PS/2	-	
	Audio In/Output	-	
	Switch·LED	Power Switch	
	Others	-	
Display	Resolution	HDMI : Max. resolution 1920×1080 @60Hz	
		-	
		- 2simultaneous display on scree	
OS	OS Support	Windows 10 IoT Enterprise 64bit	
Audio	Codec	-	
	Amplifier	-	
Ethernet	LAN Controller	2x Intel® I211AT Gigabit Ethernet	
Power Supply	Power Requirement	+12V	
	Power Type	AT/ATX (ATX is default)	
Environment	Operate temp(*1)	-20~70°C	
	Storage temp	-30~80°C	
	Operate humidity	30%~90% (W/O Condensation)	
Accessory	-	1x AC Adapter(*2), 1x AC Code	
Dimension	Weight	166 mm x 106.6 mm x 40.5 mm, 1.6kg	

\*1 With Air flow

\*2 AC Adapter operate temperature is 0~40°C

### Operating System

Windows 10 IoT 64bit

### Memory & Storage

#### DIMM



4/8GB

#### Storage



CFast

MLC 30/60/120GB  
Q-MLC 30/60/120GB

## BXPC-RSKLM Series



**Skylake** Supply term: Until 2022  
\*As of February, 2019

\*Unexpected matters may change the supply term.

Specifications		BXPC-RSKLM-6600U	BXPC-RSKLM-6300U	BXPC-RSKLM-6100U	BXPC-RSKLM-3955U
System	Main Processor	Intel® Core™ i7-6600U Processor (2Core 2.6GHz)	Intel® Core™ i5-6300U Processor (2Core 2.4GHz)	Intel® Core™ i3-6100U Processor (2Core 2.3GHz)	Intel® Celeron® Processor 3955U (2Core 2.0GHz)
	Chipset	Integrated with CPU			
	System Memory	1x 260-Pin DDR4 2133MHz SO-DIMM supports up to 16 GB			
	IO Chip	-			
	BIOS	AMI UEFI			
Expansion	Watchdog Timer	H/W Reset, 1sec. - 65535sec./min.1sec. or 1min. Step			
	H/W Monitor	CPU Temperature Monitoring, Voltages Monitoring, CPU Fan Speed Control			
	Mini PCIe slot	-			
	PCI / PCIe slot	-			
	M.2 slot	1x M.2 (B-Key, 2242, 3042)			
	SD/SDHC	-			
	CF/CFast	-			
I/O	Others	-			
	SATA	1x 2.5" Drive Bay			
	USB(Rear)	2x USB 3.0			
	USB(Front)	2x USB 3.0			
	COM	2x RS232/422/485 (Multifunction Cable is required)			
	LPT	-			
	LAN port	2x RJ-45			
	Display	1x DP			
	GPIO	12bit (Multifunction Cable is required)			
	PS/2	1x Keyboard & Mouse (Multifunction Cable is required)			
	Audio In/Output	1x Mic-in, 1x Line-out, 1x Line-in (Multifunction Cable is required)			
Display	Switch-LED	Power, Power button, Reset button, Power LED, HDD LED			
	Others	-			
	Resolution	DP: Max. resolution 4096 x 2304 @60Hz			
OS	OS Support	Windows 7 32bit/64bit, Windows 10 IoT Enterprise 64bit			
	Codec	Realtek ALC892 HD Audio Codec			
Audio	Amplifier	-			
	LAN Controller	1x Intel® I219LM Gigabit Ethernet PHY, 1x Intel® I211AT PCI-e Gigabit Ethernet			
Power Supply	Power Requirement	+9V~+32V			
	Power Type	AT/ATX (ATX is default)			
Environment	Operate temp(*1)	-20~60°C(SSD), +5~40°C(HDD)			
	Storage temp	-40~75°C			
	Operate humidity	30%~90% (W/O Condensation)			
Accessory	-	1x Screw Set, 1x Wall Mout Kit, 1x Multi Function Cable, 1x DP to VGA Cable			
Size/Weight	-	240mm x 151mm x 45mm, 2kg *with optional I/O ports 240mm x 151mm x 75mm, 4kg			

\*1 With Air flow

### Operating System

Windows 7  
32bit/64bit

Windows 10 IoT  
64bit

### Memory & Storage

#### DIMM



#### Storage



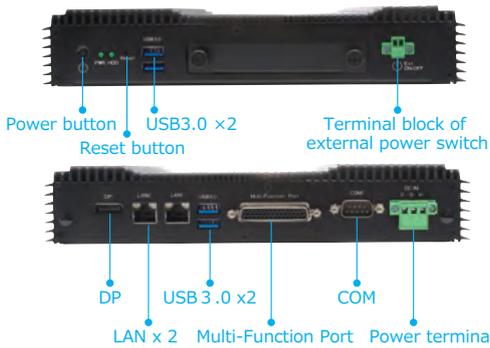
2.5inch MLC 30/60/120GB  
MLC 60/120GB (KFD)  
Q-MLC 30/60/120GB



M.2 2242 MLC 30/60/120GB (KFD)

\*Can choose 500GB HDD.

### Interface



### Multi-connectivity Design

Stackable housing supports additional Interfaces.



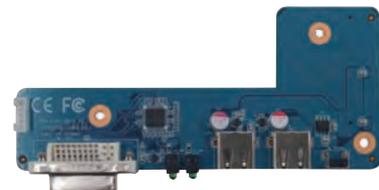
#### Option Parts 1

1x HDMI  
2x USB 2.0



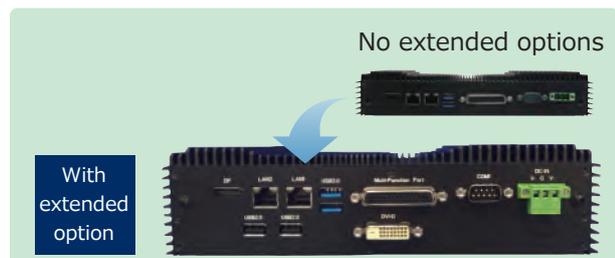
#### Option Parts 2

DVI-D  
2x USB 2.0



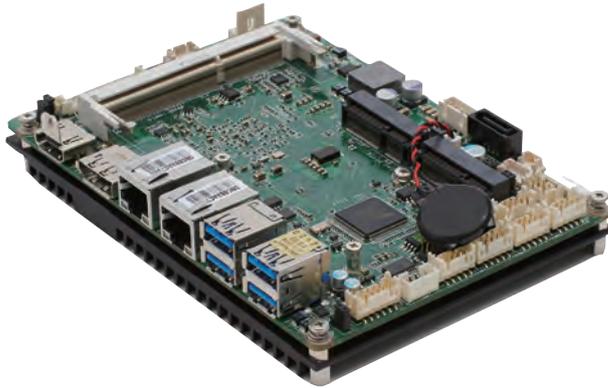
#### Option Parts 3

4x RJ-45 (PoE)  
2x USB 2.0



# 3.5inch SBC (3.5" Single board computer)

## MBC-BSWM-N3010



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	-10 ~ 60°C	9-36V DC
Wireless	Security	

**Braswell** Supply term: Until 2022  
\*As of February, 2019

\*Unexpected matters may change the supply term.

Specifications	MBC-BSWM-N3010	
System	Main Processor: Intel® Celeron® Processor N3010 (2Core 1.04GHz)	
	Chipset: Integrated with CPU	
	System Memory: 1x 204-pin DDR3L 1600 & 1333 MHz SO-DIMM supports up to 8 GB	
	IO Chip: Fintek F81866AD-I	
	BIOS: AMI UEFI	
H/W Monitor	Watchdog Timer: H/W Reset, 1sec. - 65535sec./min. 1sec. or 1min. Step	
	H/W Monitor: CPU Temperature Monitoring, Voltages Monitoring, CPU Fan Speed Control	
	Mini PCIe slot: 1x Full size Mini PCIe with mSATA supported, 1x Full size Mini PCIe	
	PCIe slot: -	
Expansion	M.2 slot: -	
	PCI slot: -	
	SD/SDHC: -	
	CF/CFast: -	
	Others: -	
	SATA: 1x SATA6Gbps	
	USB(Rear): 4x USB 3.0	
I/O	USB(Internal): 2x USB 2.0	
	COM: 3x RS232, 1x RS232/422/485	
	LPT: -	
	LAN port: 2x RJ-45	
	Display: 1x DP, 1x HDMI	
	GPIO(Internal): 8bit	
	PS/2: 1x Keyboard/Mouse (Internal)	
	Audio In/Output: 1x Mic-in, 1x Line-out	
	Front Panel I/F: Power button, Reset button, Power LED, HDD LED	
	Display	Resolution: HDMI: Max. resolution 2560 x 1600 @60 Hz DP: Max. resolution 2560 x 1600 @60 Hz LVDS: Max. resolution 1920 x 1080 @60 Hz
		2 simultaneous display on screen
Dual Channel 18/24-bits LVDS		
OS Support: Windows 7 32bit/64bit, Windows 10 IoT Enterprise 64bit		
Audio	Codec: Realtek ALC892 HD Audio Codec	
	Amplifier: 2x 3W Amplifier	
Ethernet	LAN Controller: 2x Realtek RTL8111G GbE LAN	
Power Supply	Power Requirement: DC+9V~DC+36V	
	Power Type: AT/ATX	
Environment	Operate temp: -10~60°C, 5~40°C(HDD)	
	Storage temp: -20~80°C	
	Operate humidity: 30%~90% (W/O Condensation)	
Accessory	- 1x SATA + SATA Signal Cable, 1x Power Supply Cable, 1x USB Cable, 1x COM Cable	
Size/Weight	- 146mm x 101mm	

### Operating System

Windows 7 32bit/64bit	Windows 10 IoT 64bit
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### Memory & Storage

**DIMM**

4/8GB

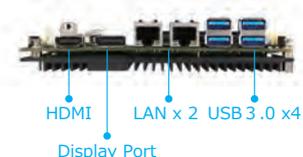
**Storage**

2.5inch **MLC** 30/60/120GB  
**MLC** 60/120GB (KFD)  
**Q-MLC** 30/60/120GB

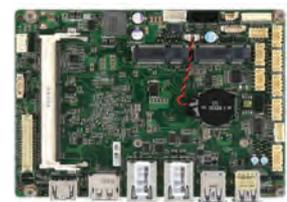
mSATA **MLC** 30/60/120GB  
**MLC** 30/60/120GB (KFD)

\*Can choose 500GB HDD.

### Interface

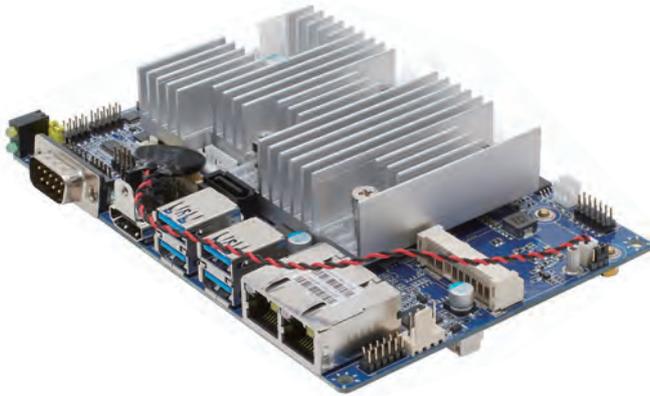


### Top view



# 3.5inch SBC (3.5" single board computer)

## MBC-BSWM-N3160



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	12-26V DC	
Wireless	Security	
<b>Braswell</b>		Supply term: Until 2022 *As of February, 2019

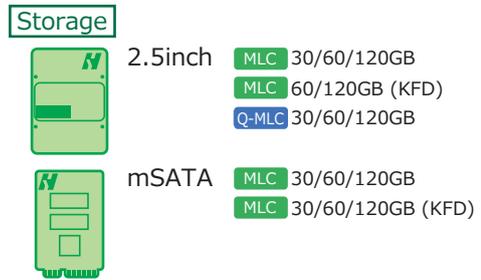
\*Unexpected matters may change the supply term.

Specifications		MBC-BSWM-N3160
System	Main Processor	Intel® Celeron® Processor N3160 (4Core 2.24GHz)
	Chipset	Integrated with CPU
	System Memory	1x 204-pin DDR3L 1600 & 1333 MHz SO-DIMM supports up to 8GB
	IO Chip	ITE IT8528VG/FX
	BIOS	AMI UEFI
Expansion	Watchdog Timer	H/W Reset, 1sec. - 65535sec./min. 1sec. or 1min. Step
	H/W Monitor	CPU Temperature Monitoring, Voltages Monitoring
	Mini PCIe slot	1x Full-size Mini PCIe with mSATA Supported, 1x Half-size Mini PCIe
	PCIe slot	-
	M.2 slot	-
	PCI slot	-
	SD/SDHC	-
	CF/CFast	-
I/O	Others	-
	SATA	1x SATA6Gbps
	USB(Rear)	4x USB 3.0
	USB(Internal)	2x USB 2.0
	COM	4x RS232, 1x RS232/422/485 (Internal) / 1x RS232 (Rear)
	LPT	-
	LAN port	2x RJ-45
	Display	1x HDMI, 1x VGA
	GPIO(Internal)	8bit
	PS/2	-
	Audio In/Output	1x Mic-In, 1x Line-out
	Front Panel I/F	Power button, Reset button, Power LED, HDD LED
	Display	Resolution
LVDS		Dual channel 18/24-bits LVDS
OS Support		Windows 7 64bit, Windows 10 IoT Enterprise 64bit
Audio	Codec	Realtek ALC892 HD Audio Codec
Ethernet	LAN Controller	2x Intel I211AT
Power Supply	Power Requirement	DC+12V~DC+26V
	Power Type	AT/ATX
Environment	Operate temp	0~60°C, 5~40°C(HDD)
	Storage temp	-40~75°C
	Operate humidity	30%~90% (W/O Condensation)
Accessory	-	1x SATA + SATA Signal Cable, 1x USB Cable, 1x COM Cable
Size/Weight	-	146mm x 101mm

### Operating System



### Memory & Storage



\*Can choose 500GB HDD.

### Interface



### Top view



# Mini-ITX Mother board

## MBM-APLM-N4200

JDS



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	Temperature Control	12-24V DC
Wireless	Security	

**Apollo Lake**

Supply term: Until 2022  
\*As of February, 2019

\*Unexpected matters may change the supply term.

Specifications		MBM-APLM-N4200	
System	Main Processor	Intel® Prntium® N4200 Processor (4Core 1.1GHz)	
	Chipset	Integrated with CPU	
	System Memory	2x 204-pin DDR3L 1600 & 1333 MHz SO-DIMM supports up to 16GB	
	IO Chip	ITE IT8528	
	BIOS	AMI UEFI	
	Watchdog Timer	H/W Reset: 1sec.~65535sec./min. and 1sec. or 1min./step	
Expansion	H/W Monitor	CPU Temperature Monitoring, Voltages Monitoring, CPU Fan Speed Control	
	Mini PCIe slot	1x Full size Mini PCIe support mSATA (SATA III and mSATA By auto switch IC)	
	PCIe slot	1x PCIe[x1] slot	
	M.2 slot	1x M.2 (Type A 2230 WiFi module)	
	PCI slot	-	
	SD/SDHC	-	
	CF/CFast	-	
	Others	1x SIM card slot	
	SATA	2x SATA6Gbps, 1x Full size Mini PCIe support mSATA	
	USB(Rear)	4x USB 3.0	
I/O	USB(Internal)	5x USB 2.0	
	COM	5x RS232C, 1x RS232/422/485	
	LPT	-	
	LAN port	2x RJ-45	
	Display	1x DP, 1x HDMI 1.4, 1x LVDS	
	GPIO(Internal)	16bit	
	PS/2	-	
	Audio In/Output	1x Mic-In, 1x Line-out, 1x Line-In, 1x S/PDIF	
	Front Panel I/F	Power button, Reset button, Power LED, HDD LED	
	Display	Resolution	DP++: Max. resolution 4096 x 2160 @60Hz (1 x HDMI/DP, 1 x DP++)
			HDMI: Max. resolution 3840 x 2160 @30Hz, 2560 x 1600 @30Hz
DP: Max. resolution 3840 x 2160 @30Hz, 2560 x 1600 @30Hz			
OS	OS Support	Windows 10 IoT Enterprise 64bit	
Audio	Codec	Realtek ALC662 HD Audio Codec	
	Amplifier	2x 3W Amplifier	
Ethernet	LAN Controller	2x Intel® I211AT Gigabit Ethernet	
Power Supply	Power Requirement	DC+12V~DC+24V	
	Power Type	AT/ATX	
Environment	Operate temp	0~60°C, 5~40°C(HDD)	
	Storage temp	-40~75°C	
	Operate humidity	30%~90% (W/O Condensation)	
Accessory	-	1x SATA Cable, 1x I/O Shield Pannel	
Size/Weight	-	170mm x 170mm	

### Operating System

Windows 10 IoT 64bit

### Memory & Storage

#### DIMM



4/8GB

#### Storage



2.5inch

MLC 30/60/120GB  
MLC 60/120GB (KFD)  
Q-MLC 30/60/120GB



mSATA

MLC 30/60/120GB  
MLC 30/60/120GB (KFD)

\*Can choose 500GB HDD.

### Interface



DC-IN, Display Poart x2, LAN x 2, Mic-in, HDMI, USB3.0 x4, Line-out

### Top view



# Mini-ITX Mother board

## MBM-SKLM Series

JDS



Small Form Factor	Fanless Solution	Multiple Connectivity
Industrial Grade Design	12-24V DC	
Wireless	Security	

**Skylake** Supply term: Until 2022  
\*As of February, 2019

\*Unexpected matters may change the supply term.

Specifications		MBM-SKLM-6600U	MBM-SKLM-6300U	MBM-SKLM-6100U	MBM-SKLM-3955U
System	Main Processor	Intel® Core™ i7-6600U Processor (2Core 2.6GHz)	Intel® Core™ i5-6300U Processor (2Core 2.4GHz)	Intel® Core™ i3-6100U Processor (2Core 2.3GHz)	Intel® Celeron® Processor 3955U (2Core 2.0GHz)
	Chipset	Integrated with CPU			
	System Memory	2x 260-pin DDR4 2133 MHz SO-DIMM supports up to 32GB			
	IO Chip	ITE IT8528E			
	BIOS	AMI UEFI			
	Watchdog Timer	H/W Reset, 1sec. - 65535sec./min. 1sec. or 1min. Step			
	H/W Monitor	CPU Temperature Monitoring, Voltages Monitoring, CPU Fan Speed Control			
Expansion	Mini PCIe slot	-			
	PCIe slot	1x PCIe[x1]			
	M.2 slot	1x M.2 (Type B 3042/2242/2260/2280) , 1x M.2 (Type A)			
	PCI slot	-			
	SD/SDHC	1x SD/SDHC			
	CF/CFast	-			
	Others	1x SIM card slot			
I/O	SATA	2x SATA 6Gbps			
	USB(Rear)	4x USB 3.0			
	USB(Internal)	2x USB 2.0			
	COM	4x RS232C, 2x RS232/422/485			
	LPT	-			
	LAN port	2x RJ-45			
	Display	2x DP, 1x HDMI 1.4, 1x LVDS			
	GPIO(Internal)	16bit			
	PS/2	-			
	Audio In/Output	1x Mic-in, 1x Line-out, 1x S/PDIF			
	Front Panel I/F	Power button, Reset button, Power LED, HDD LED			
	Display	Resolution	DP: Max. resolution 4096 x 2160 @60Hz (1x HDMI/DP, 1x DP++) HDMI: Max. resolution 3840 x 2160 @30Hz		
LVDS		3 simultaneous display on screen Dual channel 18/24-bits LVDS			
OS Support		Windows 7 32bit/64bit, Windows 10 IoT Enterprise 64bit			
Audio	Codec	Realtek ALC892 HD Audio Codec			
	Amplifier	2x 6W Amplifier			
Ethernet	LAN Controller	1x Intel® I219LM Gigabit Ethernet PHY, 1x Intel® I211AT PCI-e Gigabit Ethernet			
	Power Requirement	DC+12V~DC+24V			
Environment	Power Type	AT/ATX			
	Operate temp	0~60°C, 5~40°C(HDD)			
	Storage temp	-40~75°C			
Accessory	Operate humidity	30%~90% (W/O Condensation)			
		1x SATA Cable, 1x SATA Power Supply Cable, 1x I/O Shield Panel			
Size/Weight		170mm x 170mm			

### Operating System

Windows 7 32bit/64bit

Windows 10 IoT 64bit

### Memory & Storage

#### DIMM

4/8GB

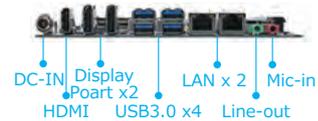
#### Storage

2.5inch MLC 30/60/120GB  
MLC 60/120GB (KFD)  
Q-MLC 30/60/120GB

M.2 2242 MLC 30/60/120GB (KFD)

\*Can choose 500GB HDD.

### Interface



### Top view



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