HYPER-BW

Pico-ITX SBC with on-board SoC

Quick Installation Guide/快速安裝指南

Version 1.03 December 15, 2017

Packing List / **內容清單**

1 x HYPER-BW single board computer with heatsink / HYPER-BW 單板電腦附散熱器

1 x RS-232 cable / RS-232 傳輸線

1 x SATA with power cable kit / SATA 信號與電源線

1 x QIG (Quick Installation Guide) / 快速安裝指南

1 x One Key Recovery CD / 一鍵還原光碟

1 x Utility CD / 公用程式光碟

Specifications / 規格

Specification	HYPER-BW
SoC	Intel® Pentium® N3710 on-board SoC (up to 2.56GHz, quad-core, 2MB cache, TDP=6W) Intel® Celeron® N3160 on-board SoC (up to 2.24GHz, quad-core, 2MB cache, TDP=6W) Intel® Celeron® N3060 on-board SoC (up to 2.48GHz, dual-core, 2MB cache, TDP=6W) Intel® Celeron® N3010 on-board SoC (up to 2.24GHz, dual-core, 2MB cache, TDP=4W) Intel® Celeron® x5-E8000 on-board SoC (up to 2.00GHz, quad-core, 2MB cache, TDP=5W)
BIOS	AMI UEFI BIOS
Memory	One 204-pin 1333/1600 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot supports up to 8 GB
Graphics	Intel® HD Graphics Gen 8 Engine with 16 low-power execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2
Display Output	Dual independent display 2 x Mini HDMI (up to 3840x2160@30Hz)
Ethernet	LAN1: Realtek RTL8111 controller
EC	IT8587
Watchdog Timer	Software programmable support 1~255 sec. system reset
I/O Interface	
Audio Connector	1 x HD Audio by 10-pin (2x5) header
Ethernet	One RJ-45 port
Serial Ports	1 x RS-232 (by pin header)
USB Ports	1 x USB 3.0 (on rear I/O) 3 x USB 2.0 (1 on rear I/O, 2 by pin header)
Front Panel	1 x Front panel by 10-pin (1x10) header (power LED, HDD LED, power button, reset button)
LAN LED	1 x 2-pin (1x2) header
Fan	1 x Smart fan connector by 4-pin (1x4) wafer
Expansion	1 x M.2 2242 (B-Key)
Serial ATA	1 x SATA 6G/s with 5V SATA power connector (No RAID) (SATA port0)
Environmental and Power Specifications	
Power Supply	12V DC input only, support AT/ATX mode 1 x Power terminal block (1x2 pin)
Power Consumption	12V@1.52A (Intel® Pentium® processor N3710 with 8 GB 1600 MHz DDR3L memory)

Operating Temperature	-20°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Humidity	5% ~ 95%, non-condensing
Vibration	3G
Physical Specifications	
Dimensions	100 mm x 72 mm
Weight GW/NW	600 g / 250 g

Ordering Information / **訂購資料**

- HYPER-BW-N4-R10:
  Pico-ITX SBC with Intel® Pentium® 14nm quad-core N3710 up to 2.56GHz (6W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio and RoHS
- HYPER-BW-N3-R10:
  Pico-ITX SBC with Intel® Celeron® 14nm quad-core N3160 up to 2.24GHz (6W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio and RoHS
- HYPER-BW-N2-R10:
  Pico-ITX SBC with Intel® Celeron® 14nm dual-core N3060 up to 2.48GHz (6W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio and RoHS
- HYPER-BW-N1-R10:
  Pico-ITX SBC with Intel® Celeron® 14nm dual-core N3010 up to 2.24GHz (4W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio and RoHS
- HYPER-BW-E8-ECO-R10:
  Pico-ITX SBC with Intel® Atom® 14nm quad-core x5-E8000 up to 2.00GHz (5W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio, ECO packing and RoHS
- HYPER-BW-E8-R10:
  Pico-ITX SBC with Intel® Atom® 14nm quad-core x5-E8000 up to 2.00GHz (5W) on-board SoC with dual Mini HDMI, PCIe GbE, M.2, USB 3.0, SATA 6Gb/s, COM, Audio and RoHS
- 32000-070301-RS: Dual-port USB cable
- AC-KIT-892HD-R10: Realtek ALC892 7.1 channel HD Audio board, RoHS

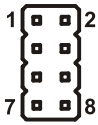
Connector Pinouts / **連接器腳位定義**

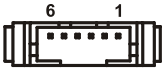
USB_CON1: External USB 2.0 and USB 3.0 connector				
Pin	Description	Pin	Description	
1	+5V	2	USB2P0_DM0_L	
3	USB2P0_DP0_L	4	GND	
5	USB3P0_RXDN0_C	6	USB3P0_RXDP0_C	
7	GND	8	USB3P0_TXDN0_C	
9	USB3P0_TXDP0_C	10	+5V	
11	USB2P0_DM1_L	12	USB2P0_DP1_L	
13	GND			

COM1: RS-232 serial port connector				
Pin	Description	Pin	Description	
1	NDCD1	6	NDSR1	
2	NRXD1	7	NRTS1	
3	NTXD1	8	NCTS1	
4	NDTR1	9	NRI1	
5	GND	10	GND	

F_PANEL1: Front panel connector				
Pin	Description	Pin	Description	
1	NC	2	PWRBTN_SW	
3	GND	4	HDDLED+	
5	HDDLED-	6	PWRLED+	
7	HDDLED+	8	GND	
9	EXTRST-	10	GND	

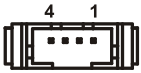
J_AUDIO1: HDA audio connector				
Pin	Description	Pin	Description	
1	HDA_SYNC	2	HDA_BCLK	
3	HDA_SDO	4	HDA_SPKR	
5	HDA_SDI	6	HDA_RST#	
7	+5V	8	AGND	
9	+12V	10	AGND	

USB2: USB 2.0 connector				
Pin	Description	Pin	Description	
1	+5V	2	GND	
3	USB20_C_N2	4	USB20_C_P3	
5	USB20_C_P2	6	USB20_C_N3	
7	GND	8	+5V	

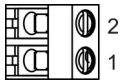
SPI1: BIOS FW connector				
Pin	Description	Pin	Description	
1	+SPI_VCC	2	SPI_CS0#_CN	
3	SPI_SO0_CN	4	SPI_CLK0_CN	
5	SPI_SI0_CN	6	GND	

EC_JP1: EC FW connector				
Pin	Description	Pin	Description	
1	SMB_CLK_FW	2	SMB_DATA_FW	

CPU_FAN1: CPU fan connector				
Pin	Description	Pin	Description	
1	GND	2	+12V	
3	FANIO1	4	FANOUT1	

SMBUS1: SMBus connector				
Pin	Description	Pin	Description	
1	GND	2	SMB_DATA	
3	SMB_CLK	4	+V5S	

LED_LAN1: LAN1 link LED connector				
Pin	Description	Pin	Description	
1	+3.3VLAN	2	LAN1_LED_LINK#	

PWR1: +12V DC power input connector				
Pin	Description	Pin	Description	
1	GND	2	12V	

SATA1: SATA connector				
Pin	Description	Pin	Description	
1	GND	2	SATA_TX0+	
3	SATA_TX0-	4	GND	
5	SATA_RX0+	6	SATA_RX0-	
7	GND			

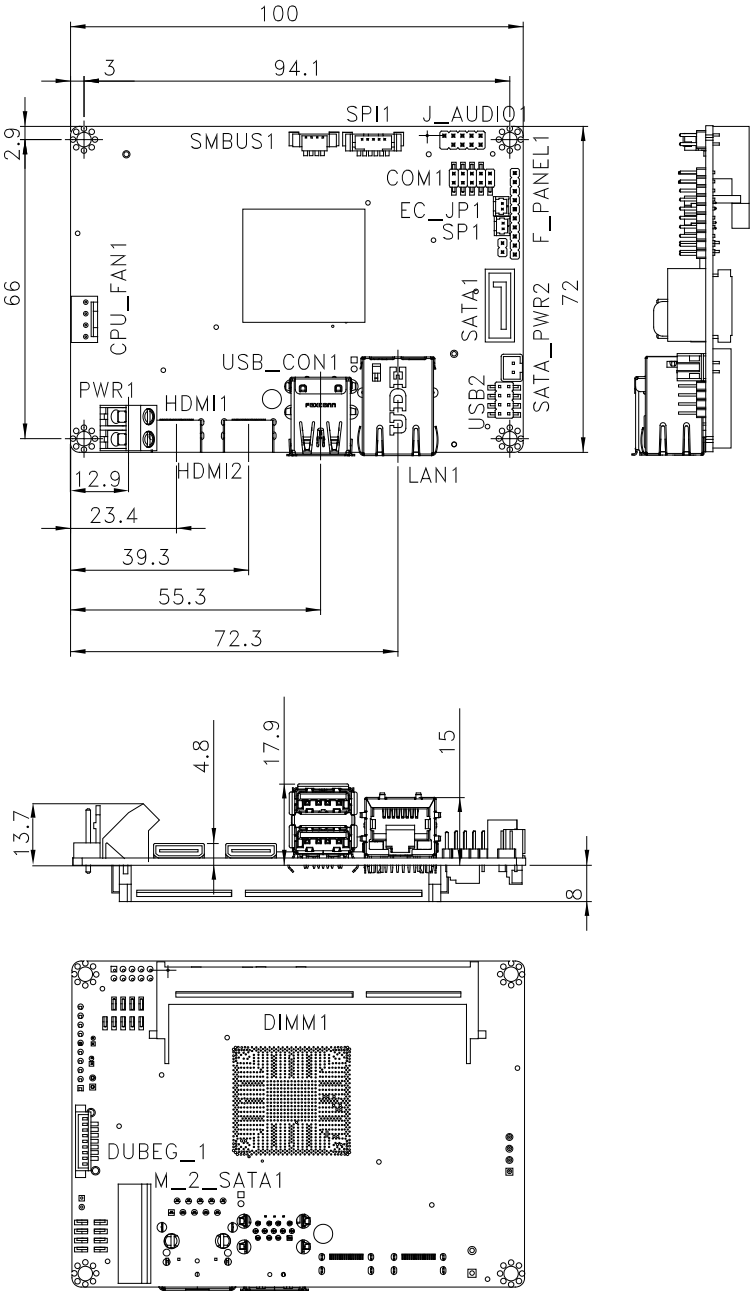
SATA_PWR2: SATA power connector				
Pin	Description	Pin	Description	
1	+5V	2	GND	

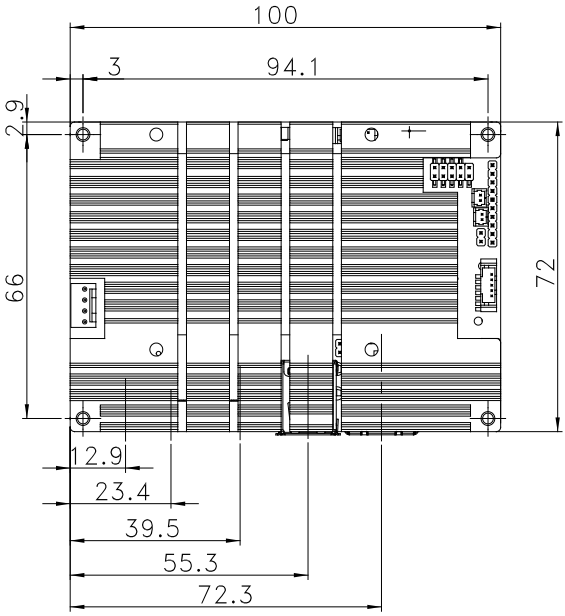
SP1: Buzzer connector				
Pin	Description	Pin	Description	
1	5V	2	GND	

J_ATX_AT1: AT/ATX power mode selection		
Pin	Description	
Short 1-2	ATX power mode (default)	
Short 2-3	AT power mode	

J_CMOS1: Clear CMOS button		
Pin	Description	
Open	Normal operation	
Push	Clear CMOS	

Dimensions / **尺吋** (Unit: mm)

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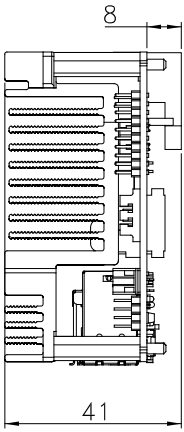
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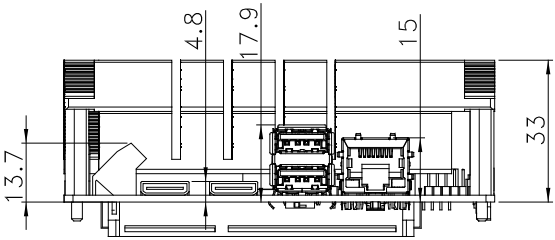
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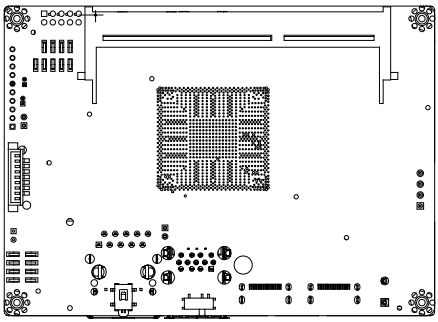

Safety Instructions / 安全守則

⚠ Warning! To prevent the system from overheating, do not operate it in an area that exceeds the maximum operating temperature described in the user manual. Ultimate disposal of this product should be handled according to all national laws and regulations.

⚠ 警告！為防止系統過熱，不要在使用手冊上記載的產品工作溫度範圍之外操作此系統。本產品的廢棄處理應根據該國家的法律和規章進行。

IEI Support URL / IEI 線上諮詢

https://www.ieiworld.com/en/online_support_form/index.php

Compliance / 安規

CE

This equipment has been tested and found to comply with specifications for CE marking. If the user modifies and/or installs other devices in the equipment, the CE conformity declaration may no longer apply.

FC

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

According to the requirement of the WEEE legislation the following user information is provided to customers for all branded IEI Electronics products subject to the WEEE directive.

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop o- your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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