

Full-size PICMG 1.3 CPU Card supports LGA1151 Intel® Core™
i7/i5/i3/ Pentium®/Celeron® CPU per Intel® Q370, DDR4, VGA,
DP, Dual Intel® PCIe GbE, SATA 6Gb/s, USB 3.1 Gen 1 (5Gb/s), M.2,
HD Audio, Intel® AMT and RoHS

PCIE-Q370

Quick Installation Guide

Version 1.1

June 10, 2019.

Package List

PCIE-Q370 package includes the following items:

- 1 x PCIE-Q370 single board computer
- 1 x SATA cable
- 1 x Mini jumper pack
- 1 x QIG (Quick Installation Guide)



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Specifications

- CPU:
LGA1151 socket supports 8th generation Intel® Core® i7/i5/i3, Pentium® or Celeron® processor
- Chipset: Intel® Q370
- Memory:
Four 288-pin 2666MHz dual-channel DDR4 SDRAM unbuffered DIMMs support up to 64GB
- BIOS: AMI UEFI BIOS
- Graphic Engine:
Intel® HD Graphics Gen 9 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
- Display Output:
Dual display supported
1 x VGA (up to 1920x1200@60 Hz)
1 x Internal DisplayPort (up to 4096 x 2304@60Hz)
- Ethernet:
LAN1: Intel® I219LM PHY
LAN2: Intel® I211-AT PCIe controller (Co-layer I210-AT)
- External I/O Interface:
2 x USB 3.1 Gen 1 (5Gb/s) (Rear IO type A)
1 x USB 2.0 (Type A 180°)
- Internal I/O Interface:
1 x KB/MS (1x6 pin)
1 x RS-422/485 (1x4 pin, P=2.0)
2 x USB 3.1 Gen 1 (5Gb/s) (2x10 pin)
3 x RS-232 (2x5 pin, P=2.54)
6 x SATA 6Gb/s (RAID 0/1/5/10 supported)
6 x USB 2.0 (2x4 pin, P=2.54)
- Audio:
Support 7.1 channel HD audio by IEI AC-KIT-892HD kit

- Front Panel: 1 x Front Panel (Power LED, HDD LED, Speaker, Power Button, Reset Button)
- LAN LED: 2 x LAN LED (1x2 pin)
- TPM: 1 x TPM (2x10 pin)
- SMBus: 1 x SMBus (1x4 pin)
- I²C: 1 x I²C (1x4 pin)
- Expansion:
 - 1 x M.2 M key
 - 1 x PCIe x16 & 4 x PCIe x1 signal via golden finger
 - 4 x PCI signal via golden finger
- Watchdog Timer:
 - Software programmable support 1~255 sec. system reset
- Digital I/O: 8-bit digital I/O (2x5 pin)
- FAN Connector:
 - 1 x CPU smart fan (1x4 pin)
 - 1 x System smart fan (1x3 pin)
- Power supply:
 - AT/ATX power supply
 - Support AT/ATX mode
 - ErP/EuP Compliant
- Power Consumption:
 - 5V@3.12A, 12V@6.85A, 3.3V@1.13A, 5VSB@0.15A
 - (4.0 GHz Intel® Core™ i7-8700K CPU with four 16 GB 2666 MHz DDR4 memory)
- Operation Temperature: -20°C ~ 60°C
- Operation Humidity: 5% ~ 95%, non-condensing
- Dimensions: 338 mm x 126 mm
- Weight GW/NW: 1000g / 500g
- CE/FCC compliant

All the drivers and One Key Recovery utility for the PCIE-Q370 are available on IEI Resource Download Center. Type PCIE-Q370 and press Enter to find all the relevant software, utilities, and documentation. To install software from the downloaded ISO file, mount the file as a virtual drive to view its content.

IEI Resource Download Center
<https://download.ieiworld.com>



Ordering Information

- **PCIE-Q370-R11:**

Full-size PICMG 1.3 CPU Card supports LGA1151 Intel® Core™ i7/i5/i3/Pentium®/Celeron® CPU per Intel® Q370, DDR4, Dual Intel® PCIe GbE, USB 3.1 Gen 1 (5Gb/s), SATA 6Gb/s, VGA, DP, M.2, HD Audio, iAMT and RoHS

- **PCIE-Q370-HDMI-R11**:**

Full-size PICMG 1.3 CPU Card supports LGA1151 Intel® Core™ i7/i5/i3/Pentium®/Celeron® CPU per Intel® Q370, DDR4, HDMI, DP, Dual Intel® PCIe GbE, USB 3.1, SATA 6Gb/s, M.2, HD Audio, iAMT and RoHS

***By order production, MOQ: 100*

- **19800-000075-RS:** PS/2 KB/MS cable with bracket, 220mm, P=2.0

- **32102-000100-200-RS:** SATA power cable, MOLEX 5264-4P to SATA15P

- **AC-KIT-892HD-R10:**

7.1 channel HD Audio kit with Realtek ALC892 support dual audio streams

- **CF-1150SA-R10:** Special cooler kit for LGA1150, High-performance compatible, 95W

- **CF-1150SB-R11:** Special cooler kit for LGA1150, High-performance

compatible, 65W

- **CF-1150SC-R20:**
Special cooler kit for LGA1150, 1U chassis compatible, 65W
- **CF-1150SE-R11:**
Special cooler kit for LGA1150, 1U chassis compatible, 95W
- **CF-1150SF-R10:**
Special cooler kit for LGA1150, 1U chassis compatible, 54W
- **SAIDE-KIT01-R10:**
SATA to IDE/CF Converter board

Jumpers setting and connectors

LABEL	FUNCTION
J_ATX_AT1	AT/ATX Power Mode Setting
J_CMOS2	Clear CMOS Button
PCIEX16 Power	PCIEX16 Channel Mode Setting
USB SW1 Power USB SW2 Power	USB Power Setting
J_FLASH1	Flash Descriptor Security Override
F_PANEL1	Front Panel Connector
KB_MS1	6-pin header Keyboard/Mouse Connector
DIO1	Digital Input / Output Connector
CPU12V1	+12V power connector
CPU_FAN1	CPU Fan Connector
SYS_FAN1	System Fan Connector
J_AUDIO1	Audio Source Connector
VGA1	VGA Connector
HDMI1	HDMI Connector
DP1	Internal DisplayPort Connector
TPM1	TPM Connector
I2C1	I2C Connector
SMB1	SMBUS Connector
CN1	EC Debug Connector
MPCIE1	M-SATA Card Connector
USB3_1, USB3_2	External USB 3.0 Connectors
USB3_34	Internal USB 3.0 Connector
SATA1, SATA2, SATA3 SATA4, SATA5, SATA6	SATA 6Gb/s Drive Connectors
COM1, COM2, COM3	Internal RS-232 Serial Port Connectors
COM4	Internal RS-422/485 Serial Port Connectors
USB1, USB2, USB4	Internal USB 2.0 Connectors
USB3	External USB 2.0 Connector
LAN1, LAN2	RJ45 LAN Connectors
JSPI1	Flash SPI ROM Connector
JSPI2	Flash EC ROM Connector

LED_LAN1	LAN1 link LED Connector
LED_LAN2	LAN2 link LED Connector
CHASSIS1	Chassis Status Connector

J_ATX_AT1: AT/ATX Power Mode Setting	
PIN NO.	DESCRIPTION
Short 1 - 2	ATX Mode (default)
Short 2 - 3	AT Mode

J_CMOS2: Clear CMOS Button	
PIN NO.	DESCRIPTION
NC (default)	Keep CMOS Setup (Normal Operation)
Press button	Clear CMOS Setup

PCIEX16 Power: PCIEX16 Channel Mode Setting	
PCIEX16	DESCRIPTION
1 x16 PCIE	1 x16 PCIE (default)
2 x8 PCIE	2 x8 PCIE
1 x8 , 2x4 PCIE	1 x8 , 2x4 PCIE

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Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
  Chipset
-----
Auto Power Button Status          [Disabled(ATX)]
Restore AC Power Loss              [Last State]
> PCI Express Configuration
> PCI Azalia Configuration

Power Saving Function(ERP)        [Disabled]

PCIEX16 Power                      [1 x16 PCIE]
USB SW1                            [+5V DUAL]
USB SW2                            [+5V DUAL]
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USB SW1, USB SW2: USB Power Setting	
PCIE x16	DESCRIPTION
+5V DUAL	5V DUAL (default)
+5V	+5V

Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.

Chipset

Auto Power Button Status	[Disabled(ATX)]	
Restore AC Power Loss	[Last State]	-----
> PCI Express Configuration		
> PCI Azalia Configuration		
Power Saving Function(ERP)	[Disabled]	
PCIEX16 Power	[1 x16 PCIE]	
USB SW1	[+5V DUAL]	
USB SW2	[+5V DUAL]	

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J_FLASH1: Flash Descriptor Security Override	
PIN NO.	DESCRIPTION
Short 1 - 2	Disabled (default)
Short 2 - 3	Enabled

F_PANEL1: Front Panel Connector					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
PWR LED	1	+5V	2	BEEP_PWR	SPKR
	3	NC	4	IPMI ID_LED+	IPMI LED
	5	GND	6	IPMI ID_LED-	
PWR BTN	7	PWRBTN_SW#	8	PC_BEEP	SPKR
	9	GND	10	NC	RESET
HDD LED	11	+5V	12	EXTRST-	
	13	SATA_LED#	14	GND	

KB_MS1: 6-pin header Keyboard/Mouse Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	2	Mouse Data
3	Mouse Clock	4	Keyboard Data
5	Keyboard Clock	6	GND

DIO1: Digital Input / Output Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	VCC
3	Output 3	4	Output 2
5	Output 1	6	Output 0
7	Input 3	8	Input 2
9	Input 1	10	Input 0

CPU12V1: +12V Power Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	+12V	4	+12V

CPU_FAN1: CPU Fan Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+12V
3	FANIO	4	PWM

SYS_FAN1: System Fan Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	FANIO	2	+12V (PWM)
3	GND		

J_AUDIO1: Audio Source Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	HDA_SYNC	2	HDA_BIT_CLK
3	HDA_SDOUT	4	HDA_SPKR
5	HDA_SDIN	6	HDA_RST#
7	HDA_VCC	8	HDA_GND
9	HDA_+12V	10	HDA_GND

VGA1: VGA Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	GND
7	GND	8	GND
9	VCC	10	GND
11	NC	12	DCCDA
13	HSYNC	14	VSYNC
15	DDCCLK		

HDMI1: HDMI Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	HDMI_DATA2-1	2	GND
3	HDMI_DATA2#-1	4	HDMI_DATA1-1
5	GND	6	HDMI_DATA1#-1
7	HDMI_DATA0-1	8	GND
9	HDMI_DATA0#-1	10	HDMI_CLK-1
11	GND	12	HDMI_CLK#-1
13	NA	14	NA
15	HDMI_SCL-DVI	16	HDMI_SDA-DVI
17	GND	18	+5V
19	HDMI_HPD-DVI		

DP1: Internal DisplayPort Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DPD_OB_LANE0_P_C	11	GND
2	GND	12	DPD_OB_LANE3_N_C
3	DPD_OB_LANE0_N_C	13	AUX_CTRL_DET_D
4	DPD_OB_LANE1_P_C	14	CONFIG2
5	GND	15	DPD_AUX_CTRL_P2
6	DPD_OB_LANE1_N_C	16	GND
7	DPD_OB_LANE2_P_C	17	DPD_AUX_CTRL_N2
8	GND	18	DDI2_HPD#
9	DPD_OB_LANE2_N_C	19	GND
10	DPD_OB_LANE3_P_C	20	DP PWR

TPM1: TPM Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LCLK	2	GND
3	LFRAME#	4	KEY
5	LRERST#	6	+5V
7	LAD3	8	LAD2
9	+3.3V	10	LAD1
11	LAD0	12	GND
13	SCL	14	SDA
15	SB3V	16	SERIRQ
17	GND	18	GLKRUN#
19	LPCPD#	20	LDRQ#

I2C1: I2C Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	PCH_GP38 (I2C_DAT)
3	PCH_GP39 (I2C_CLK)	4	+5V

SMB1: SMBUS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	SMB_DATA
3	SMB_CLK	4	+5V

CN1: EC Debug Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	EC_EPP_STB#	2	EC_EPP_AFD#
3	EC_EPP_PD0	4	NC
5	EC_EPP_PD1	6	EC_EPP_INIT#
7	EC_EPP_PD2	8	EC_EPP_SLIN#
9	EC_EPP_PD3	10	GND
11	EC_EPP_PD4	12	NC
13	EC_EPP_PD5	14	EC_EPP_BUSY
15	EC_EPP_PD6	16	EC_EPP_KSI5
17	EC_EPP_PD7	18	EC_EPP_KSI4

USB3_34: Internal USB 3.0 Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	11	USB_DATA+
2	USB3_RX-	12	USB_DATA-
3	USB3_RX+	13	GND
4	GND	14	USB3_TX+
5	USB3_TX-	15	USB3_TX-
6	USB3_TX+	16	GND
7	GND	17	USB3_RX+
8	USB_DATA-	18	USB3_RX-
9	USB_DATA+	19	VCC
10	NC		

MPCIE1: M-SATA Card Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+3.3V
3	GND	4	+3.3V
5	PCIE_RXN3	6	N/C
7	PCIE_RXP3	8	N/C
9	GND	10	DAS/DSS#
11	PCIE_TXN3	12	+3.3V
13	PCIE_TXP3	14	+3.3V
15	GND	16	+3.3V
17	PCIE_RXN2	18	+3.3V
19	PCIE_RXP2	20	N/C
21	GND	22	N/C
23	PCIE_TXN2	24	N/C
25	PCIE_TXP2	26	N/C
27	GND	28	N/C
29	PCIE_RXN1	30	N/C
31	PCIE_RXP1	32	N/C
33	GND	34	N/C
35	PCIE_TXN1	36	N/C
37	PCIE_TXP1	38	DEVSLP
39	GND	40	N/C
41	PCIE_RXN0	42	N/C
43	PCIE_RXP0	44	N/C
45	GND	46	N/C
47	PCIE_TXN0	48	N/C
49	PCIE_TXP0	50	PERST#
51	GND	52	CLKREQ#
53	REFCLKN	54	PEWAKE
55	REFCLKP	56	N/C
57	GND	58	N/C
59	Notch	60	Notch
61	Notch	62	Notch

63	Notch	64	Notch
65	Notch	66	Notch
67	N/C	68	SUSCLK
69	PEDET	70	+3.3V
71	GND	72	+3.3V
73	GND	74	+3.3V
75	GND		

USB3_1, USB3_2: External USB 3.0 Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VBUS	2	D-
3	D+	4	GND
5	STDA_SSRX_N	6	STDA_SSRX_P
7	GND_DRAIN	8	STDA_SSTX_N
9	STDA_SSTX_P		

SATA1, SATA2, SATA3, SATA4, SATA5, SATA6: SATA 6Gb/s Drive Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	SATA_RX-
2	SATA_TX+	6	SATA_RX+
3	SATA_TX-	7	GND
4	GND	8	N/C

COM1, COM2, COM3: Internal RS-232 Serial Port Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD	2	DSR
3	RXD	4	RST
5	TXD	6	CTS
7	DTR	8	RI
9	GND	10	GND

COM4: Internal RS-422/485 Serial Port Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RXD485#	2	RXD485+
3	TXD485+	4	TXD485#

USB1, USB2, USB4: Internal USB 2.0 Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	2	GND
3	USB_DATA-	4	USB_DATA+
5	USB_DATA+	6	USB_DATA-
7	GND	8	VCC

USB3: External USB 2.0 Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	2	DATA-
3	DATA+	4	GND

LAN1, LAN2: RJ45 LAN Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+-
3.	MDIA2-	7	MDIA0-
4.	MDIA1-	8	MDIA0+

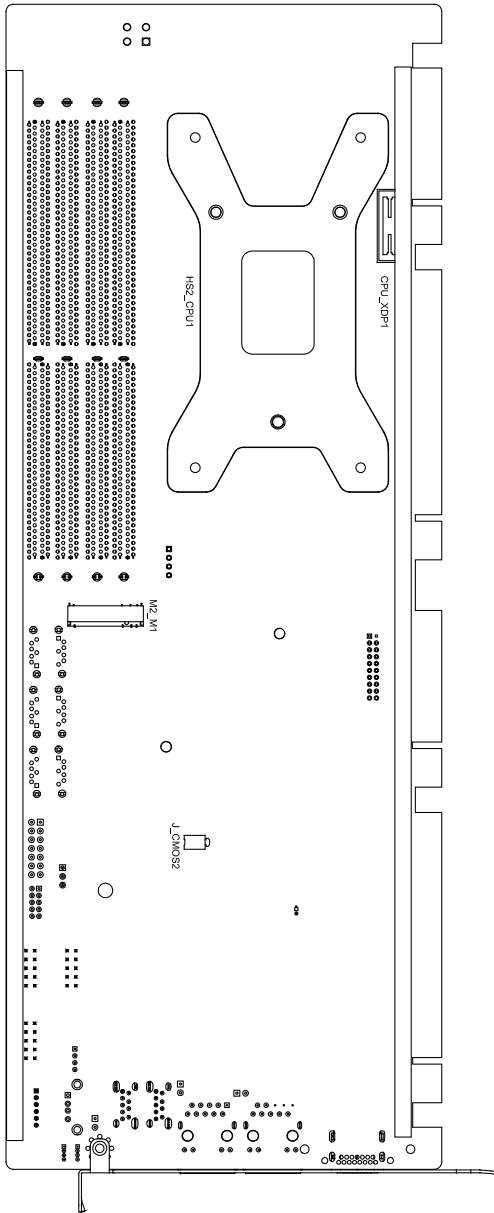
JSPI1: Flash SPI ROM Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	2	SPI_CS#
3	SPI_SO	4	NC
5	GND	6	SPI_CLK
7	SPI_SI	8	NC

JSPI2: Flash EC ROM Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	2	SPI_CS#
3	SPI_SO	4	NC
5	GND	6	SPI_CLK
7	SPI_SI	8	NC

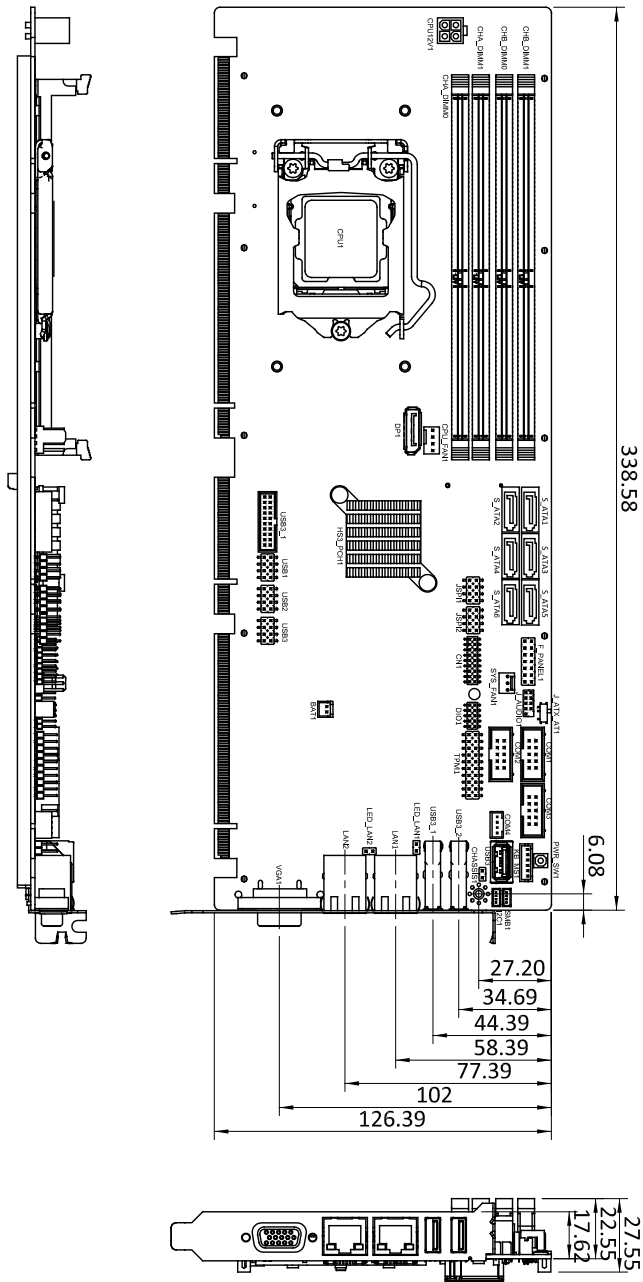
LED_LAN1: LAN1 link LED Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	2	LAN1_LED_LNK#_ACT

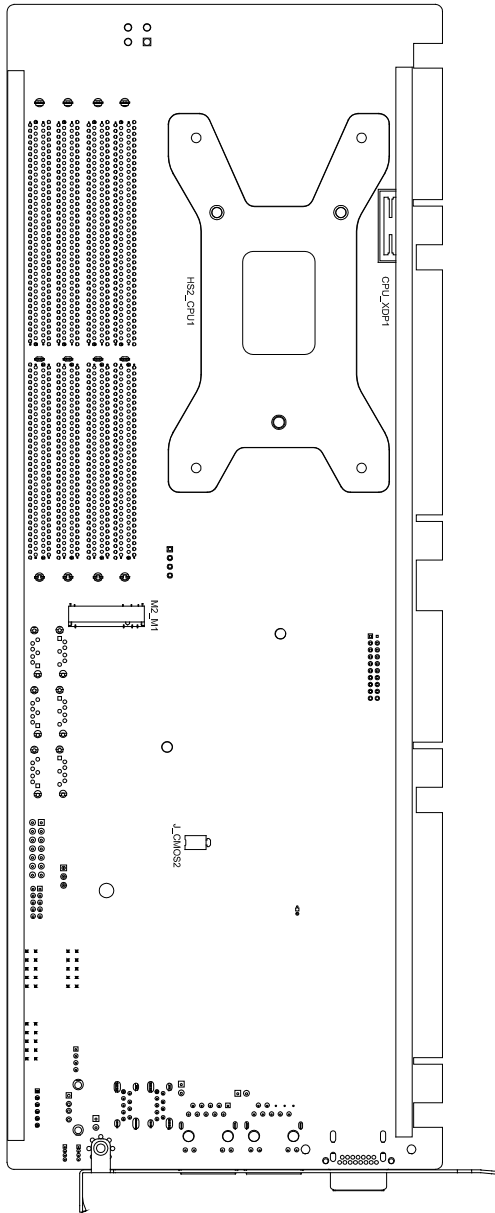
LED_LAN2: LAN2 link LED Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	2	LAN2_LED_LNK#_ACT

CHASSIS1: Chassis Status Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3VSB	2	CHASSIS OPEN



PCIE-Q370-R11 SKU





(Unit: mm)