# EmQ-i2205

## Qseven® R2.0 CPU Module

**Quick Installation Guide**

Version 1.0

| Form Factor | CPU | Video |
|---|---|---|
| Qseven® CPU Module | Intel® Celeron™ Processor N3060/N3160 | DisplayPort/ eDP port |

| LAN | Audio | I/O |
|---|---|---|
| Intel® i210AT PCIe GbE controller | HD Link | USB2.0/ USB SuperSpeed/ SATA/ PCIex1/ UART |

## ♦ Technical Support

If you have any technical difficulties, please consult the user's manual first at:

http://www.arbor-technology.com

Please do not hesitate to e-mail to our customer service when you still can not find out the answer.

E-mail: info@arbor.com.tw

Declaration of Conformity
FCC Class A
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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## Packing List

Before starting with the installation, make sure the following items are shipped:

1 x EmQ-i2205 Qseven® CPU Module

1 x Driver CD

1 x Quick Installation Guide

## Ordering Information

| | |
|---|---|
| EmQ-i2205-N3060-2G | Intel® Celeron N3060 Qseven® R2.0 CPU Module w/2GB memory soldered on module |
| EmQ-i2205-N3160-4G | Intel® Celeron N3160 Qseven® R2.0 CPU Module w/4GB memory soldered on module |

## Optional Accessories

| | |
|---|---|
| HS-2200-F1 | Heat spreader,70x65x8mm |
| PBQ-3001 | Qseven R2.0 w/ EPIC form factor Carrier Board |
| CBK-04-3001-00 | Cable kit<br>2 x COM Cables<br>1 x SATA Cable<br>1 x SATA Power Cable |

## Specifications

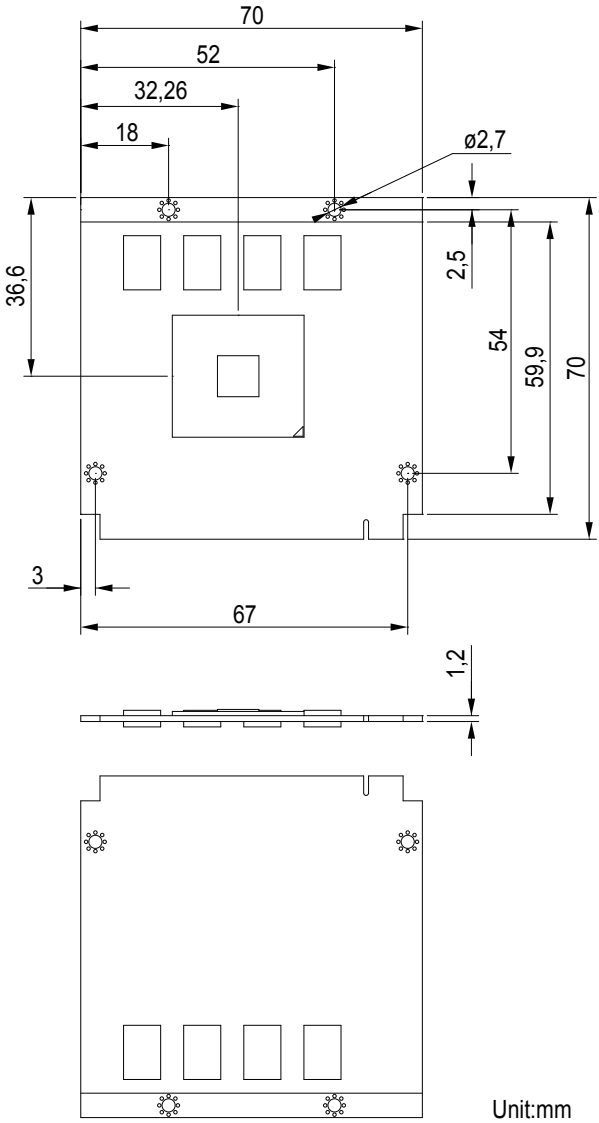
| | |
|---|---|
| Form Factor | Qseven® CPU Module |
| Processor | Soldered onboard Intel® Celeron N3060 2.48GHz processor/N3160 2.24GHz processor |
| Memory | Soldered onboard 2GB DDR3L SDRAM, upgradable to 4GB |
| BIOS | AMI BIOS |
| Serial Port | 1 x UART port(TX/RX only) |
| USB 2.0 | 4 x USB 2.0 ports<br>2 x USB3.0 SuperSpeed ports |
| Serial ATA | 2 x Serial ATA ports with 600MB/s HDD transfer rate |
| Expansion | 3 x PCIex1, I2C, SDIO |
| Ethernet Chipset | 1 x Intel® i210AT PCIe GbE controller |
| Audio | HD Link |
| Graphics Chipset | Integrated Intel® HD Graphic 400 |
| Graphics Interface | 2 x DisplayPorts / 1 x eDP port |
| OS Support | Windows 8.1 64-bit<br>Linux: Ubuntu |
| Power Requirement | DC 5V |
| Power Consumption | 2.0A@5V with N3060 |
| Operating Temp. | -20 ~ 70°C (-4 ~ 158°F) |
| Operating Humidity | 10 ~ 95% @ 70°C (non-condensing) |
| Dimension (L x W) | 70 x 70 mm (2.76” x 2.76”) |

# Paths to the Drivers on CD

## Windows 8.1 (64-bit)

| Driver | Path |
|---|---|
| Audio | \i220x\Audio |
| Chipset | \i220x\Chipset\Chipset_10.1.1.11_Public |
| Ethernet | \i220x\Ethernet |
| Graphics | \i220x\Graphic\IntelR Graphics Driver Production Version 15.40.14.64.4352 |
| USB3.0 | \i220x\USB3.0\win8.1\Intel(R) USB 3.0 eXtensible PV 1.0.0.42 |
| Serial IO | \i220x\Serial IO\win8.1 64bit\SerialIO_BSW_x64 |
| TXE | \i220X\TXE\win8.1\Installers |

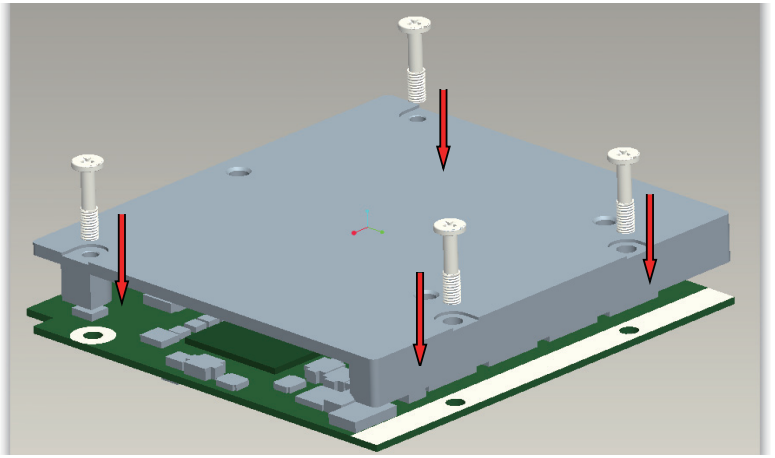
## Board Dimensions



## Heat Spreader Installation

To install the heat spreader:

See the illustration below. Mount the heat spreader to the board. Fix the heat spreader in place with fours screws.



# Connector Pin Assignment

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | GND | 2 | GND |
| 3 | GBE_MDI3- | 4 | GBE_MDI2- |
| 5 | GBE_MDI3+ | 6 | GBE_MDI2+ |
| 7 | GBE_LINK100# | 8 | GBE_LINK1000# |
| 9 | GBE_MDI1- | 10 | GBE_MDI0- |
| 11 | GBE_MDI1+ | 12 | GBE_MDI0+ |
| 13 | LED_LINK# | 14 | GBE_ACT# |
| 15 | (N/C) | 16 | SLP_S4# |
| 17 | WAKE# | 18 | SLP_S3# |
| 19 | SUS_STAT# | 20 | PWR_BTN# |
| 21 | SLEEP# | 22 | LID# |
| 23 | GND | 24 | GND |
|  | KEY |  | KEY |
| 25 | GND | 26 | PWRGD |
| 27 | BATLOW# | 28 | RSTBTN# |
| 29 | SATA0_TX+ | 30 | SATA1_TX+ |
| 31 | SATA0_TX- | 32 | SATA1_TX- |
| 33 | HDD_ACT# | 34 | GND |
| 35 | SATA0_RX+ | 36 | SATA1_RX+ |
| 37 | SATA0_RX- | 38 | SATA1_RX- |
| 39 | GND | 40 | GND |
| 41 | BIOS_DISABLE# | 42 | SD_CLK# |
| 43 | SD_CD# | 44 | SD_LED (N/C) |
| 45 | SD_CMD | 46 | SD_WP |
| 47 | SD_PWR# | 48 | SD_DAT1 |
| 49 | SD_DAT0 | 50 | SD_DAT3 |
| 51 | SD_DAT2 | 52 | SD_DAT5 (N/C) |
| 53 | SD_DAT4 (N/C) | 54 | SD_DAT7 (N/C) |
| 55 | SD_DAT6 (N/C) | 56 | RSVD (N/C) |
| 57 | GND | 58 | GND |
| 59 | AZ_SYNC | 60 | SMB_CLK |
| 61 | AZ_RST# | 62 | SMB_DAT |
| 63 | AZ_BIT_CLK | 64 | SMB_ALERT# |

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 65 | AZ_SDATA_IN0 | 66 | SMB_CLK |
| 67 | AZ_SDATA_OUT | 68 | SMB_DAT |
| 69 | THRM# | 70 | WDTRIG# |
| 71 | THRMTRIP# | 72 | WDOUT |
| 73 | GND | 74 | GND |
| 75 | USB_SSTX0- | 76 | USB_SSRX0- |
| 77 | USB_SSTX0+ | 78 | USB_SSRX0- |
| 79 | USB_6_7_OC# (N/C) | 80 | USB_4_5_ OC#(N/C) |
| 81 | USB_SSTX1- | 82 | USB_SSRX1- |
| 83 | USB_SSTX1+ | 84 | USB_SSRX1+ |
| 85 | USB_-OC2/3 | 86 | USB_-OC0/1 |
| 87 | USB_P3- | 88 | USB_P2- |
| 89 | USB_P3+ | 90 | USB_P2+ |
| 91 | USB_CC (N/C) | 92 | USB_ID |
| 93 | USB_P1- | 94 | USB_P0- |
| 95 | USB_P1+ | 96 | USB_P0+ |
| 97 | GND | 98 | GND |
| 99 | eDP_DDI0_TX0+ | 100 | eDP_DDI1_TX0+ |
| 101 | eDP_DDI0_TX0- | 102 | eDP_DDI1_TX0- |
| 103 | eDP_DDI0_TX1+ | 104 | eDP_DDI1_TX1+ |
| 105 | eDP_DDI0_TX1- | 106 | eDP_DDI1_TX1- |
| 107 | eDP_DDI0_TX2+ | 108 | eDP_DDI1_TX2+ |
| 109 | eDP_DDI0_TX2- | 110 | eDP_DDI1_TX2- |
| 111 | LVDS_VDDEN | 112 | BLKTEN |
| 113 | eDP_DDI0_TX3+ | 114 | eDP_DDI1_TX3+ |
| 115 | eDP_DDI0_TX3- | 116 | eDP_DDI1_TX3- |
| 117 | GND | 118 | GND |
| 119 | eDP_DDI0_AUX+ | 120 | eDP_DDI1_AUX+ |
| 121 | eDP_DDI0_AUX- | 122 | eDP_DDI1_AUX- |
| 123 | LCD_BKLT_CTRL | 124 | GP_1-Wire_Bus (N/C) |
| 125 | eDP_DDI0_DDCDATA | 126 | eDP0_HPDET# |
| 127 | eDP_DDI0_DDCCLK | 128 | eDP1_HPDET# |
| 129 | CAN0_TX (N/C) | 130 | CAN0_RX (N/C) |

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 131 | DP_DDI2_TX3+ | 132 | STP23 |
| 133 | DP_DDI2_TX3- | 134 | STP24 |
| 135 | GND | 136 | GND |
| 137 | DP_DDI2_TX1+ | 138 | DP_DDI2_AUX+ |
| 139 | DP_DDI2_TX1- | 140 | DP_DDI2_AUX- |
| 141 | GND | 142 | GND |
| 143 | DP_DDI2_TX2+ | 144 | STP25 |
| 145 | DP_DDI2_TX2- | 146 | STP26 |
| 147 | GND | 148 | GND |
| 149 | DP_DDI2_TX0+ | 150 | DP_DDI2_DDC-DATA |
| 151 | DP_DDI2_TX0- | 152 | DP_DDI2_DDC-CLK |
| 153 | DDI2_HPDET# | 154 | DDI2_HPDET# |
| 155 | PCIE_CLKP0 | 156 | PCIE_WAKE# |
| 157 | PCIE_CLKN0 | 158 | PCIE_RST# |
| 159 | GND | 160 | GND |
| 161 | PCIE3_TX+ | 162 | PCIE3_RX+ |
| 163 | PCIE3_TX- | 164 | PCIE3_RX- |
| 165 | GND | 166 | GND |
| 167 | PCIE2_TX+ | 168 | PCIE2_RX+ |
| 169 | PCIE2_TX- | 170 | PCIE2_RX- |
| 171 | UART1_TXD | 172 | UART1_RTS |
| 173 | PCIE1_TX+ | 174 | PCIE1_RX+ |
| 175 | PCIE1_TX- | 176 | PCIE1_RX- |
| 177 | UART1_RXD | 178 | UART1_CTS# |
| 179 | PCIE0_TX+ | 180 | PCIE0_RX+ |
| 181 | PCIE0_TX- | 182 | PCIE0_RX- |
| 183 | GND | 184 | GND |
| 185 | LPC_LAD0 | 186 | LPC_LAD1 |
| 187 | LPC_LAD2 | 188 | LPC_LAD3 |
| 189 | LPC_CLK1 | 190 | LPC_FRAME# |
| 191 | SERIRQ | 192 | LPC_LDRQ# |
| 193 | VCC_RTC | 194 | SPKR |
| 195 | FAN_TACHOIN (N/C) | 196 | FAN_PWMOUT |

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 197 | GND | 198 | GND |
| 199 | SPI_MOSI | 200 | SPI_CS0# |
| 201 | SPI_MISO | 202 | SPI_CS1# |
| 203 | SPI_SCK | 204 | MFG_NC4 (N/C) |
| 205 | VCC_5V_SB | 206 | VCC_5V_SB |
| 207 | MFG_NC0 (N/C) | 208 | MFG_NC2 (N/C) |
| 209 | MFG_NC1 (N/C) | 210 | MFG_NC3 (N/C) |
| 211 | VCC | 212 | VCC |
| 213 | VCC | 214 | VCC |
| 215 | VCC | 216 | VCC |
| 217 | VCC | 218 | VCC |
| 219 | VCC | 220 | VCC |
| 221 | VCC | 222 | VCC |
| 223 | VCC | 224 | VCC |
| 225 | VCC | 226 | VCC |
| 227 | VCC | 228 | VCC |
| 229 | VCC | 230 | VCC |

Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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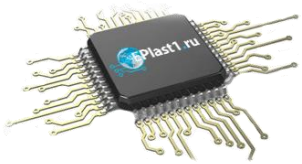
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

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