

**Qseven® Rev. 2.0 module supports Intel® 4th Generation Atom™ Processor, LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, -40°C~85°C and RoHS**

# **iQ7-BT**

## **Quick Installation Guide**

**Version 1.0**

Mar 05, 2015.

### **Package List**

iQ7-BT package includes the following items:

- 1 x iQ7-BT single board computer
- 1 x Heatsink
- 1 x QIG (Quick Installation Guide)
- 1 x Utility CD



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## Specifications

- CPU:
  - Intel® Atom™ E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W)
  - Intel® Atom™ E3827 on-board SoC (1.75GHz, dual-core, 1MB cache, TDP=8W)
  - Intel® Atom™ E3826 on-board SoC (1.46GHz, dual-core, 1MB cache, TDP=7W)
  - Intel® Atom™ E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W)
  - Intel® Atom™ E3815 on-board SoC (1.46GHz, single-core, 512KB cache, TDP=5W)
  - Intel® Celeron® J1900 on-board SoC (2GHz, quad-core, 2MB cache, TDP=10W)
  - Intel® Celeron® N2930 on-board SoC (1.83GHz, quad-core, 2MB cache, TDP=7.5W)
  - Intel® Celeron® N2807 on-board SoC (1.58GHz, dual-core, 2MB cache, TDP=4.3W)
- BIOS: UEFI BIOS
- Memory :
  - 2GB soldered down 1066/1333 MHz DDR3L memory (up to 4GB)
- Graphics Engine:
  - Intel® HD Graphics Gen 7 Engines with 4 execution units, supports DX11.1, OpenGL 4.2 and OpenCL1.2
- Display Output:
  - 1 x LVDS: 18/24-bit dual-channel LVDS by CH7511B DP to LVDS converter (up to 1920x1200@60Hz)
  - 1 x DDI
- Ethernet: Intel® I210 GbE Ethernet
- Embedded Controller: ITE IT8528E/FX
- Storage:
  - 2 x SATA 3Gb/s signal to baseboard
  - Optional soldered down 4GB SSD (SATA port 2)

- I/O Interface:
  - 6 x USB 2.0 signal to base board
  - 1 x USB 3.0 signal to base board
- Audio: High definition audio interface to baseboard
- SMBus: Yes, to baseboard
- I2C: Yes, to baseboard
- LPC: Yes, to baseboard
- SDIO: 8 Bit SDIO 2.0 x1, to baseboard
- SPI: Yes, to baseboard
- Serial Port:
  - 1 serial ports to baseboard (from EC )
- Expansion: 3 x PCIe x1 signal to baseboard
- Watchdog Timer:
  - Software programmable supports 1~255 sec. system reset (from EC)
- Power Consumption:
  - 3.3V@0.13A,5V@0.13A,12V@1.35A,5VSB@0.12A (Intel® Atom™ E3845 CPU, 2GB on board)
- Operating Temperature:
  - 40°C ~ 85°C
- Operation Humidity: 5% ~ 95%, non-condensing
- Dimensions: 70mm x 70 mm (mini size)
- Weight(GW/ NW): 300g / 150g

## Ordering Information

- **iQ7-BT-E38451W2-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ quad-core processor E3845 (10W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, -40°C~85°C and RoHS
- **iQ7-BT-E38251W2-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ dual-core processor E3825 (6W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, -40°C~85°C and RoHS
- **iQ7-BT-E38451-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ quad-core processor E3845 (10W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, and RoHS
- **iQ7-BT-E38251-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ dual-core processor E3825 (6W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, and RoHS
- **iQ7-BT-E38xx1W2-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ processor E3827 (10W) / E3826 (7W) / E3815 (5W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, -40°C~85°C and RoHS (by request MOQ: 100pcs/lot)
- **iQ7-BT-E38xx1-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ processor E3827 (10W) / E3826 (7W) / E3815 (5W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, and RoHS (by request MOQ: 100pcs/lot)

- **iQ7-BT-J19001/N28071/N29301-R10:**  
Qseven® Rev. 2.0 module supports Intel® Atom™ processor J1900(10W) / N2807(4.5W) / N2930(7.5W), LVDS, DDI, GbE, SATA 3Gb/s, USB 3.0, SDIO, Audio, and RoHS (by request MOQ: 100pcs/lot)
- **iQ7-DB-MATX-R10:**  
Base Board for Qseven® Rev. 2.0 module

## Connector

<b>J_GF1 : iQ7 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	GND
3	TRD1N3	4	TRD1N2
5	TRD1P3	6	TRD1P2
7	L1_100-	8	L1_1000-
9	TRD1N1	10	TRD1N0
11	TRD1P1	12	TRD1P0
13	N/A	14	L1_LINK_ACT-
15	N/A	16	PM_SLP_S4#
17	PCIE_WAKE#	18	PM_SLP_S3#
19	PM_SUS_STAT#	20	PANSWIN#
21	SLEEP#	22	LID#
23	GND	24	GND
25	GND	26	PWGIN
27	BATLOW#	28	PM_SYSRST_R#
29	SATA_TXP0	30	SATA_TXP1
31	SATA_TXN0	32	SATA_TXN1
33	SATALED#	34	GND

<b>J_GF1 : iQ7 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
35	SATA_RXP0	36	SATA_RXP1
37	SATA_RXN0	38	SATA_RXN1
39	GND	40	GND
41	BIOS_DISO#	42	SDIO_CLK
43	SDIO_CD_N	44	N/A
45	SDIO_CMD	46	N/A
47	SDIO_PWR_N	48	SDIO_D1
49	SDIO_D0	50	SDIO_D3
51	SDIO_D2	52	N/A
53	N/A	54	N/A
55	N/A	56	AT_ATX#DET
57	GND	58	GND
59	HDA_SYNC	60	SMB_CLK
61	HDA_RST#	62	SMB_DATA
63	HDA_BCLK	64	SMBALERT#
65	HDA_SDI	66	EC_CLK
67	HDA_SDO	68	EC_DATA
69	N/A	70	TP
71	N/A	72	EC_WDTRST#
73	GND	74	GND
75	USB3_TXD_N	76	USB3RXD_N
77	USB3_TXD_P	78	USB3RXD_P
79	GL852_OC2#	80	GL852_OC3#
81	USB3-_GL850	82	USB2-_GL850
83	USB3+_GL850	84	USB2+_GL850
85	GL852_OC1#	86	USB_OC#_0_1_R
87	USB1-_GL850	88	USB_PN2-
89	USB1+_GL850	90	USB_PP2+

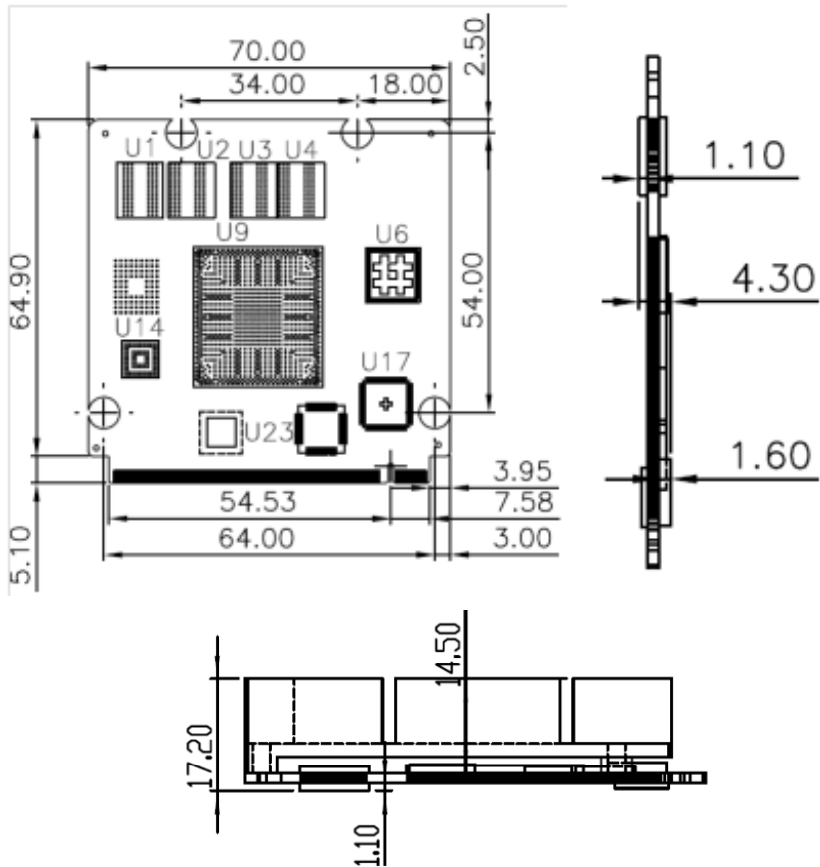
<b>J_GF1 : iQ7 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
91	N/A	92	N/A
93	USB_PN1-	94	USB_PN0-
95	USB_PP1+	96	USB_PP0+
97	GND	98	GND
99	LVDS_A0+	100	LVDS_B0+
101	LVDS_A0-	102	LVDS_B0-
103	LVDS_A1+	104	LVDS_B1+
105	LVDS_A1-	106	LVDS_B1-
107	LVDS_A2+	108	LVDS_B2+
109	LVDS_A2-	110	LVDS_B2-
111	LVDS_PPEN	112	LVDS_BLEN
113	LVDS_A3+	114	LVDS_B3+
115	LVDS_A3-	116	LVDS_B3-
117	GND	118	GND
119	LVDS_A_CLK+	120	LVDS_B_CLK+
121	LVDS_A_CLK-	122	LVDS_B_CLK-
123	LVDS_BLT_CTRL	124	N/A
125	N/A	126	N/A
127	N/A	128	N/A
129	N/A	130	N/A
131	TMDS_TXP3	132	EC_DCD
133	TMDS_TXN3	134	EC_DSR
135	GND	136	GND
137	TMDS_TXP1	138	DDI1_AUXP_R
139	TMDS_TXN1	140	DDI1_AUXN_R
141	GND	142	GND
143	TMDS_TXP0	144	EC_RI
145	TMDS_TXN0	146	EC_DTR

<b>J_GF1 : iQ7 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
147	GND	148	GND
149	TMDS_TXP2	150	DDI1_CTRLDATA
151	TMDS_TXN2	152	DDI1_CTRLCLK
153	DDI1_HPD	154	LVDS_DC
155	CLK_PCIE0_P	156	PCIE_WAKE#
157	CLK_PCIE0_N	158	BUF_PLT_RST#
159	GND	160	GND
161	N/A	162	N/A
163	N/A	164	N/A
165	GND	166	GND
167	PCIE_TXP2	168	PCIE_RXP2
169	PCIE_TXN2	170	PCIE_RXN2
171	SOC_TX	172	SOC_RTS
173	PCIE_TXP1	174	PCIE_RXP1
175	PCIE_TXN1	176	PCIE_RXN1
177	SOC_RX	178	SOC_CTS
179	PCIE_TXP0	180	PCIE_RXP0
181	PCIE_TXN0	182	PCIE_RXN0
183	GND	184	GND
185	LPC_AD0	186	LPC_AD1
187	LPC_AD2	188	LPC_AD2
189	LPC_CLK33M	190	LPC_FRAME#
191	INT_SERIRQ	192	TP
193	+VBAT	194	SOC_SPKR
195	FANIO1_EC	196	FANOUT1_EC
197	GND	198	GND
199	SPI_SI_R	200	SPI_CS#_R
201	SPI_SO_R	202	N/A



<b>J_GF1 : iQ7 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
203	SPI_CLK_R	204	N/A
205	+5V_SBY	206	+V5_SBY
207	N/A	208	N/A
209	N/A	210	N/A
211	+V5S	212	+V5S
213	+V5S	214	+V5S
215	+V5S	216	+V5S
217	+V5S	218	+V5S
219	+V5S	220	+V5S
221	+V5S	222	+V5S
223	+V5S	224	+V5S
225	+V5S	226	+V5S
227	+V5S	228	+V5S
229	+V5S	230	+V5S

## Board Layout: Jumper and Connector Locations



(Unit: mm)