威強電工業電腦 Integration Corp.

iSMC-ASL

SMARC 2.1 Computer-on-Module

Quick Installation Guide

Version 1.00 June, 2025

Features

- Support Intel® X7433RE and N-series N97 SoC Processor
- Support dual 2.5GbE signals through Intel® I226V
- On-board 8 GB dual channel LPDDR5 memory (system max. 16 GB)
- Triple display: DP 1.4, HDMI 1.4 and LVDS
- Four PCIe x1, one SATA 6Gb/s, two USB 3.2 Gen2 (10Gb/s), and six USB 2.0 signals
- Support UART, GPIO, I²C and CAN Bus
- Optional on-board eMMC as storage (up to 256 GB)

Packing List

- 1 x iSMC-ASL Computer-on-Module
- 1 x QIG

Jumpers & Connectors

J_ATX_AT1: AT/ATX power mode switch	
Status	Description
Short A – B	ATX power mode (default)
Short B – C	AT power mode

CN1: Clear CMOS jumper	
Status	Description
Open	Keep CMOS setup (normal operation)
Short	Clear CMOS setup

SMARC module connector (primary side)					
Pin	Description	Pin	Description	Pin	Description
1	SMB_ALERT#	54	ESPI_CS0# / SPI1_CS0# / QSPI_CS0#	107	DP1_AUX_SEL
2	GND	55	ESPI_CS1# / SPI1_CS1# / QSPI_CS1#	108	GPIO0 / CAM0_PWR#
3	CSI1_CK+	56	ESPI_CK / SPI1_CK / QSPI_CK	109	GPIO1 / CAM1_PWR#
4	CSI1_CK-	57	ESPI_IQ_1 / SPI1_DIN / QSPI_IQ_1	110	GPIO2 / CAM0_RST#
5	GBE1_SDP	58	ESPI_IQ_0 / SPI1_DO / QSPI_IQ_0	111	GPIO3 / CAM1_RST#
6	GBE0_SDP	59	GND	112	GPIO4 / HDA_RST#
7	CSI1_RX0+	60	USB0+	113	GPIO5 / PWM_OUT
8	CSI1_RX0-	61	USB0-	114	GPIO6 / TACHIN
9	GND	62	USB0_EN_OC#	115	GPIO7
10	CSI1_RX1+	63	USB0_VBUS_DET	116	GPIO8
11	CSI1_RX1-	64	USB0_OTG_ID	117	GPIO9
12	GND	65	USB1+	118	GPIO10
13	CSI1_RX2+	66	USB1-	119	GPIO11
14	CSI1_RX2-	67	USB1_EN_OC#	120	GND
15	GND	68	GND	121	I2C_PM_CK
16	CSI1_RX3+	69	USB2+	122	I2C_PM_DAT
17	CSI1_RX3-	70	USB2-	123	BOOT_SEL0#
18	GND	71	USB2_EN_OC#	124	BOOT_SEL1#
19	GBE0_MDI3-	72	RSVD	125	BOOT_SEL2#
20	GBE0_MDI3+	73	RSVD	126	RESET_OUT#
21	GBE0_LINK100#	74	USB3_EN_OC#	127	RESET_IN#
22	GBE0_LINK1000#	75	PCIE_A_RST#	128	POWER_BTN#

23	GBE0_MDI2-	76	USB4_EN_OC#	129	SER0_TX
24	GBE0_MDI2+	77	PCIE_B_CKREQ#	130	SER0_RX
25	GBE0_LINK_ACT#	78	PCIE_A_CKREQ#	131	SER0_RTS#
26	GBE0_MDI1-	79	GND	132	SER0_CTS#
27	GBE0_MD11+	80	PCIE_C_REFCK+	133	GND
28	GBE0_CTREF	81	PCIE_C_REFCK-	134	SER1_TX
29	GBE0_MD10-	82	GND	135	SER1_RX
30	GBE0_MD10+	83	PCIE_A_REFCK+	136	SER2_TX
31	SPI0_CS1#	84	PCIE_A_REFCK-	137	SER2_RX
32	GND	85	GND	138	SER2_RTS#
33	SDIO_WP	86	PCIE_A_RX+	139	SER2_CTS#
34	SDIO_CMD	87	PCIE_A_RX-	140	SER3_TX
35	SDIO_CD#	88	GND	141	SER3_RX
36	SDIO_CK	89	PCIE_A_RST#	142	GND
37	SDIO_PWR_EN	90	PCIE_A_TX-	143	CAN0_TX
38	GND	91	GND	144	CAN0_RX
39	SDIO_D0	92	HDMI_D2+ / DP1_LANE0+	145	CAN1_TX
40	SDIO_D1	93	HDMI_D2- / DP1_LANE0-	146	CAN1_RX
41	SDIO_D2	94	GND	147	VDD_IN
42	SDIO_D3	95	HDMI_D1+ / DP1_LANE1+	148	VDD_IN
43	SPI0_CS0#	96	HDMI_D1- / DP1_LANE1-	149	VDD_IN
44	SPI0_CK	97	GND	150	VDD_IN
45	SPI0_DIN	98	HDMI_D0+ / DP1_LANE2+	151	VDD_IN
46	SPI0_DO	99	HDMI_D0- / DP1_LANE2-	152	VDD_IN
47	GND	100	GND	153	VDD_IN
48	SATA_TX+	101	HDMI_CK+ / DP1_LANE3+	154	VDD_IN
49	SATA_TX-	102	HDMI_CK- / DP1_LANE3-	155	VDD_IN
50	GND	103	GND	156	VDD_IN
51	SATA_RX+	104	HDMI_HPD / DP1_HPD		
52	SATA_RX-	105	HDMI_CTRL_CK / DP1_AUX+		
53	GND	106	HDMI_CTRL_DAT / DP1_AUX-		

SMARC module connector (secondary side)					
1	CSI1_TX+ / I2C_CAM1_CK	54	SATA_ACT#	107	LCD1_BKLT_EN
2	CSI1_TX- / I2C_CAM1_DAT	55	USB5_EN_OC#	108	LVDS1_CK+ / eDP1_AUX+ / DSI1_CLK+
3	GND	56	ESPI_IO_2 / QSPI_IO_2	109	LVDS1_CK- / eDP1_AUX- / DSI1_CLK-
4	RSVD	57	ESPI_IO_3 / QSPI_IO_3	110	GND
5	CSI0_TX+ / I2C_CAM0_CK	58	ESPI_RESET#	111	LVDS1_0+ / eDP1_TX0+ / DSI1_D0+
6	CAM_MCK	59	USB5+	112	LVDS1_0- / eDP1_TX0- / DSI1_D0-
7	CSI0_TX- / I2C_CAM0_DAT	60	USB5-	113	eDP1_HPD / DSI1_TE
8	CSI0_CK+	61	GND	114	LVDS1_1+ / eDP1_TX1+ / DSI1_D1+
9	CSI0_CK-	62	USB3_SSTX+	115	LVDS1_1- / eDP1_TX1- / DSI1_D1-
10	GND	63	USB3_SSTX-	116	LCD1_VDD_EN
11	CSI0_RX0+	64	GND	117	LVDS1_2+ / eDP1_TX2+ / DSI1_D2+
12	CSI0_RX0-	65	USB3_SSRX+	118	LVDS1_2- / eDP1_TX2- / DSI1_D2-
13	GND	66	USB3_SSRX-	119	GND
14	CSI0_RX1+	67	GND	120	LVDS1_3+ / eDP1_TX3+ / DSI1_D3+
15	CSI0_RX1-	68	USB3+	121	LVDS1_3- / eDP1_TX3- / DSI1_D3-
16	GND	69	USB3-	122	LCD1_BKLT_PWM
17	GBE1_MDI0+	70	GND	123	GPIO13
18	GBE1_MDI0-	71	USB2_SSTX+	124	GND
19	GBE1_LINK100#	72	USB2_SSTX-	125	LVDS0_0+ / eDP0_TX0+ / DSI0_D0+
20	GBE1_MDI1+	73	GND	126	LVDS0_0- / eDP0_TX0- / DSI0_D0-
21	GBE1_MDI1-	74	USB2_SSRX+	127	LCD0_BKLT_EN
22	GBE1_LINK1000#	75	USB2_SSRX-	128	LVDS0_1+ / eDP0_TX1+ / DSI0_D1+
23	GBE1_MDI2+	76	PCIE_B_RST#	129	LVDS0_1- / eDP0_TX1- / DSI0_D1-
24	GBE1_MDI2-	77	PCIE_C_RST#	130	GND

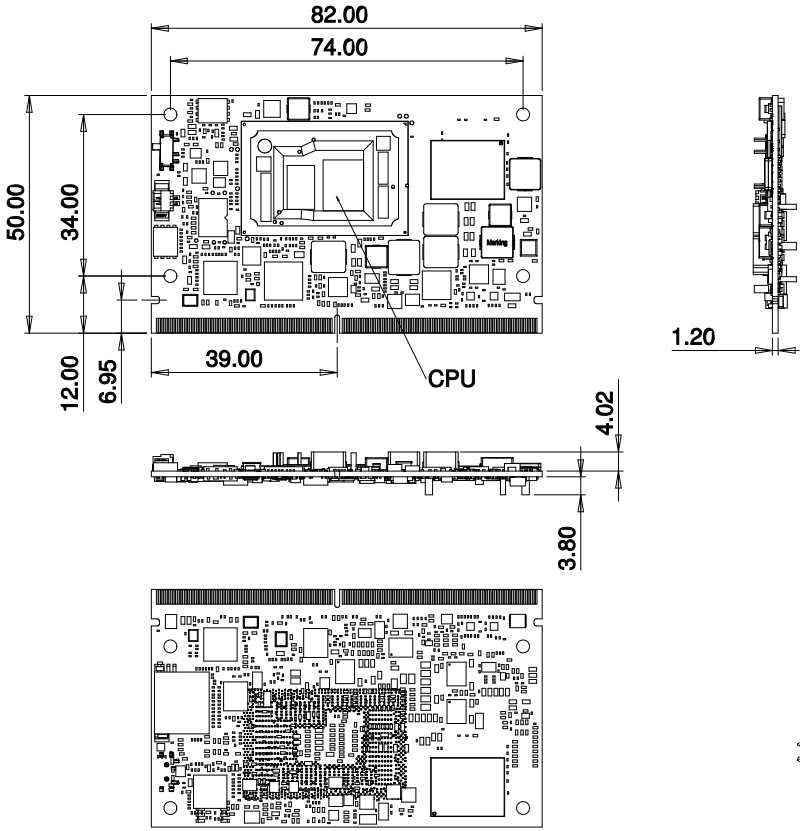
25	GND	78	PCIE_C_RX+ / SERDES_1_RX+	131	LVDS0_2+ / eDP0_TX2+ / DSI0_D2+
26	GBE1_MDI3+	79	PCIE_C_RX- / SERDES_1_RX-	132	LVDS0_2- / eDP0_TX2- / DSI0_D2-
27	GBE1_MDI3-	80	GND	133	LCD0_VDD_EN
28	GBE1_CTREF	81	PCIE_C_TX+ / SERDES_1_TX+	134	LVDS0_CK+ / eDP0_AUX+ / DSI0_CLK+
29	PCIE_D_TX+ / SERDES_0_TX+	82	PCIE_C_TX- / SERDES_1_TX-	135	LVDS0_CK- / eDP0_AUX- / DSI0_CLK-
30	PCIE_D_TX- / SERDES_0_TX-	83	GND	136	GND
31	GBE1_LINK_ACT#	84	PCIE_B_REFCK+	137	LVDS0_3+ / eDP0_TX3+ / DSI0_D3+
32	PCIE_D_RX+ / SERDES_0_RX+	85	PCIE_B_REFCK-	138	LVDS0_3- / eDP0_TX3- / DSI0_D3-
33	PCIE_D_RX- / SERDES_0_RX-	86	GND	139	I2C_LCD_CK
34	GND	87	PCIE_B_RX+	140	I2C_LCD_DAT
35	USB4+	88	PCIE_B_RX-	141	LCD0_BKLT_PWM
36	USB4-	89	GND	142	GPIO12
37	USB3_VBUS_DET	90	PCIE_B_TX+	143	GND
38	AUDIO_MCK	91	PCIE_B_TX-	144	eDP0_HPD / DSI0_TE
39	I2S0_LRCK	92	GND	145	WDT_TIME_OUT#
40	I2S0_SDOUT	93	DP0_LANE0+	146	PCIE_WAKE#
41	I2S0_SDIN	94	DP0_LANE0-	147	VDD_RTC
42	I2S0_CK	95	DP0_AUX_SEL	148	LID#
43	ESPI_ALERT0#	96	DP0_LANE1+	149	SLEEP#
44	ESPI_ALERT1#	97	DP0_LANE1-	150	VIN_PWR_BAD#
45	MDIO_CLK	98	DP0_HPD	151	CHARGING#
46	MDIO_DAT	99	DP0_LANE2+	152	CHARGER_PRSNT#
47	GND	100	DP0_LANE2-	153	CARRIER_STBY#
48	I2C_GP_CK	101	GND	154	CARRIER_PWR_ON
49	I2C_GP_DAT	102	DP0_LANE3+	155	FORCE_RECOV#
50	HDA_SYNC / I2S2_LRCK	103	DP0_LANE3-	156	BATLOW#
51	HDA_SDO / I2S2_SDOUT	104	USB3_OTG_ID	157	TEST#
52	HDA_SDI / I2S2_SDIN	105	DP0_AUX+	158	GND
53	HDA_CK / I2S2_CK	106	DP0_AUX-		

Get more information:

iSMC-ASL

IEI Resource Download Center

Dimensions (Unit: mm)



Safety Instructions

Warning! Read the QIG before connecting the system to the power source.

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.

Warning! Ultimate disposal of this product should be handled according to all national laws and regulations.

Support

IEI Support URL

http://new.ieiworld.com/tw/online_support_form

Compliance

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.

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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