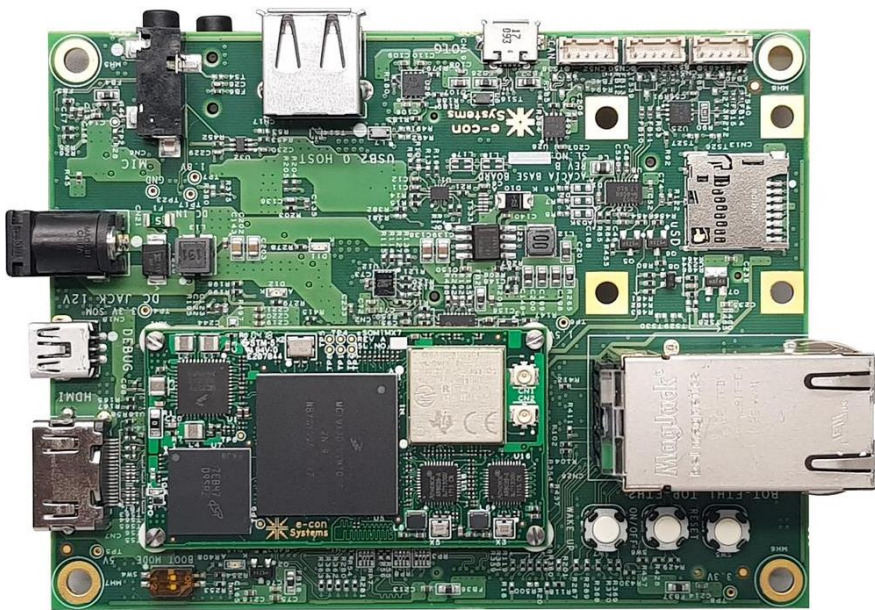


eSOMiMX7

Hardware User Manual



Version 1.0

e-con Systems

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e-con Systems

Your Product Development Partner

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Introduction to Acacia

e-con Systems has designed and developed NXP iMX7 based low power cost effective SOM Computer-on-Module (System-on-Module), known as eSOMiMX7. Acacia is an eSOMiMX7 based reference platform designed and developed by e-con Systems.

This reference platform is targeted for various industrial applications such as internet of thing (IOT) applications and so on.

This hardware user manual explains about the hardware features of the Acacia reference platform. This document provides detailed information about all the peripherals and their interfacing scheme with the eSOMiMX7. This document also details about any optional modules, supplied by e-con Systems that can be interfaced with this reference platform.

A separate set of software user Manual is provided along with the package to help you to do software development involving OS development and application development on top of the Acacia baseboard.

The following is the list of software user manuals:

- e-con_Acacia_Linux_Getting_Started_Manual_v1.0.pdf
- e-con_Acacia_Linux_User_Manual_v1.0.pdf

Block Diagram

Acacia reference platform is designed based on eSOMiMX7 with range of I/O and expansion slots including Audio codec, HDMI, MIPI CSI, PCIe, SD or MMC slot, USB host and OTG and UARTs. Acacia being modular in design and tested completely, leads to reduction of the time-to-market for any of the new product idea, tailored around this reference platform and can be used for any of the applications which requires intensive computation.

The following figure shows the block diagram of the Acacia baseboard.

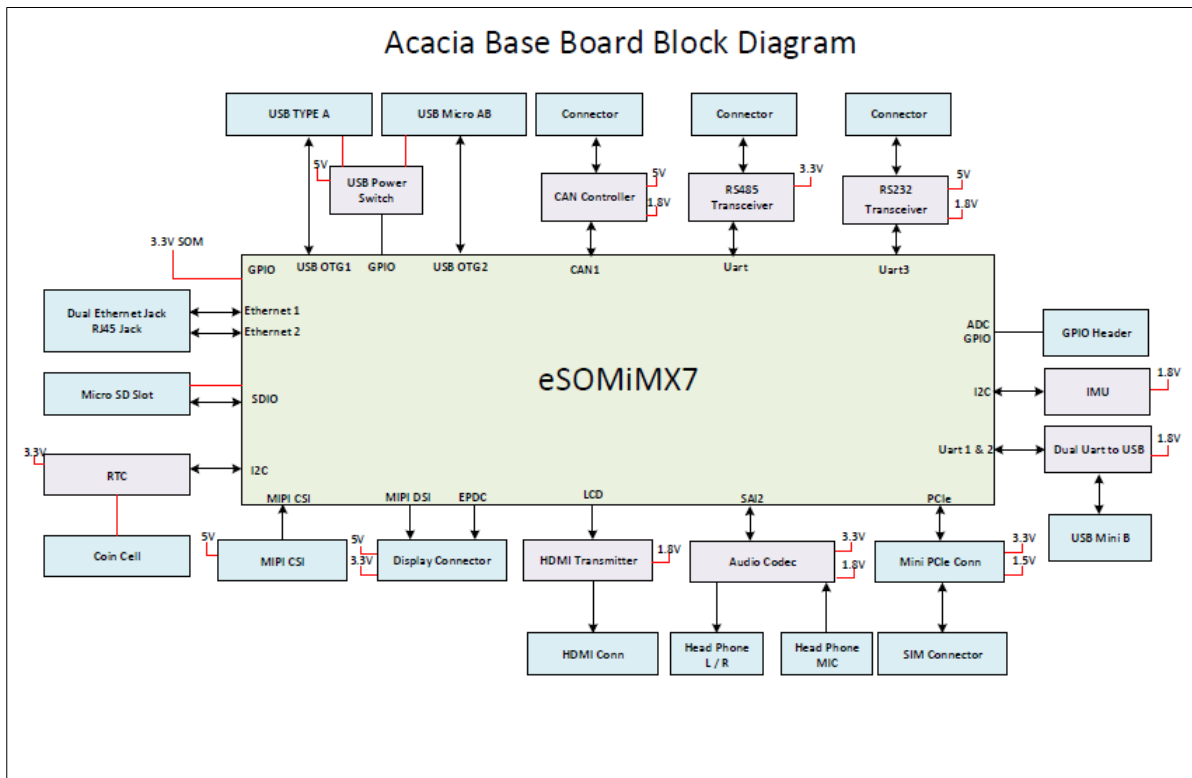


Figure 1: Block Diagram of Acacia Baseboard

The top and bottom view of the Acacia board are shown in the following figures.

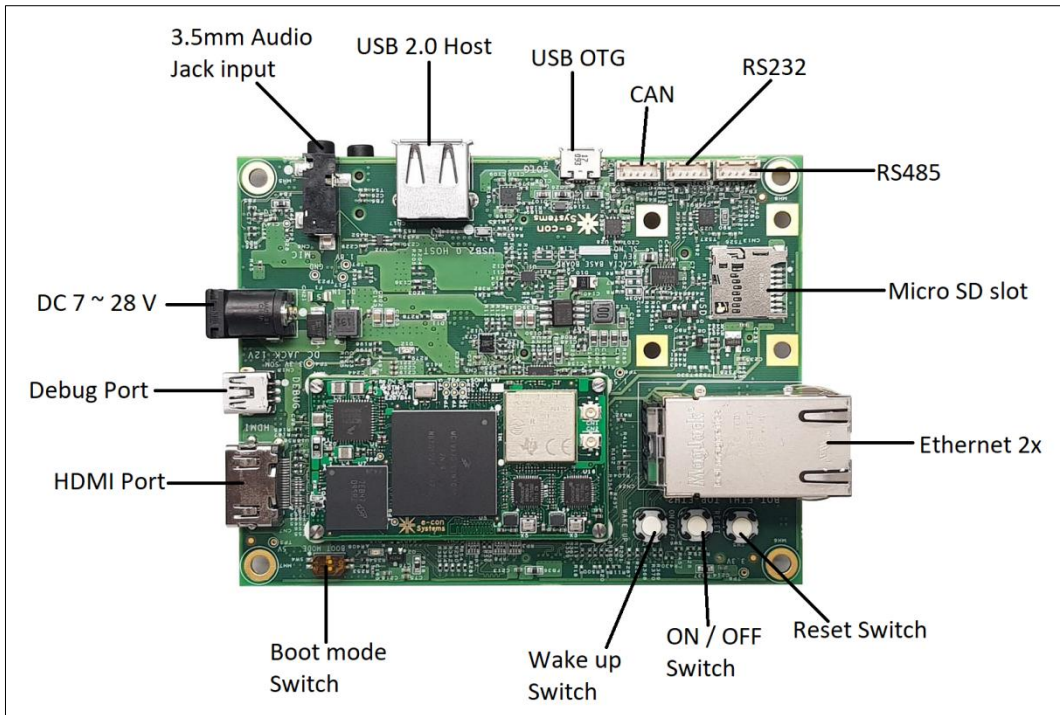


Figure 2: Acacia Board Top View

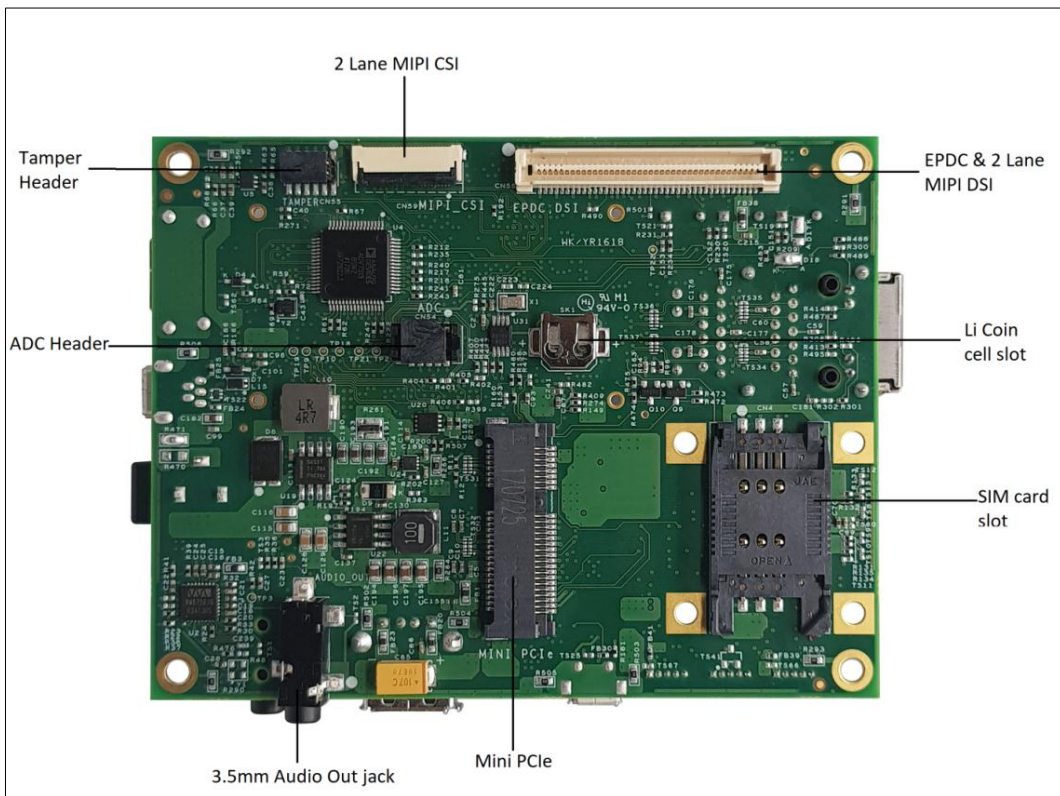


Figure 3: Acacia Board Bottom View

eSOMiMX7 Connector Details

This section describes about the eSOMiMX7 connector pin-out. Acacia base board has support for various interfaces such as Ethernet, MMC, IMU, Audio codec, USB 2.0 and so on.

The following table shows the eSOMiMX7 connector pinout.

Table 1: eSOMiMX7 Connector Pinout

S.No	Description	Connector Reference in Acacia	MFG	MFG Part No
1	SOM Connector	CN1, CN2	Hirose	DF40HC(3.0)-100DS-0.4V(51)
2	Mini PCIe connector	CN3	TE Connectivity	1775838-2
3	SIM card slot	CN4	JAE Electronics	SF7W006S1AE1000
4	Head set, Mic Jack	CN5 CN6	CUI Inc	SJ-3524-SMT-TR
5	HDMI Port	CN7	FCI	10029449-111RLF
6	Micro SD	CN13	Molex	503398-1892
7	USB 2.0 Host	CN17	TE Connectivity	292303-1
8	Debug UART	CN18	Molex	54819-0519
9	USB OTG	CN19	Molex	47590-0001
10	DC Power Jack	CN21	CUI Inc	PJ-102AH
11	Ethernet 2x	CN26	Stewart Connector	0845-2R1T-E4
12	RS232, RS485, CAN	CN50 CN51 CN52	Hirose	DF13-5P-1.25DSA
13	ADC Connector	CN54	FCI	20021221-00010C4LF
14	Tamper	CN55	Amphenol	20021121-00012C4LF
15	EPDC and MIPI DSI	CN58	TE Connectivity	5177984-3
16	MIPI CSI	CN59	Omron Electronics	XF2M-2415-1A
17	Coin Cell	SK1	Memory Protection Devices (MPD)	BK-879

eSOMiMX7 Detailed Connector Pinouts

This section describes each of the connectors in detail.

MMC or SD Card (CN7)

MMC or SD port is used for micro SD card (CN4) interface. The following table shows the MMC or SD card connector pinouts.

Table 2: MMC or SD Card Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	SD1_DATA2_iMX7_CONN	I/O	VCC_SD
2	SD1_DATA3_iMX7_CONN	I/O	VCC_SD
3	SD1_CMD_iMX7_CONN	I/O	VCC_SD
4	VDD_SD_CONN	PWR	
5	CLK_SD1_CLK_iMX7_CONN	I/O	VCC_SD
6	GND	PWR	
7	CLK_SD1_CLK_iMX7_CONN	I/O	VCC_SD
8	SD1_DATA1_iMX7_CONN	I/O	VCC_SD
9	nSD1_CD_iMX7_CONN	O	VCC_SD
10	GND	PWR	

Mini PCIe Standard Connector (CN8)

The following table shows the Mini PCIe connector pinouts.

Table 3: Mini PCIe Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	PCIE_WAKE_B	I/O	3.3V
2	VCC_PcIe_3P3	PWR	
3	NC		
4	GND	PWR	
5	NC		
6	VCC_PcIe_1P5	PWR	
7	PCIE_CLKREQ	I/O	3.3V
8	PCIE_UM_PWR	PWR	
9	GND	PWR	
10	PCIE_UM_DATA	I/O	3.3V
11	CLK_PcIe_CLK_N_iMX7_CONN	DIFF	
12	PCIE_UM_CLK	I/O	3.3V
13	CLK_PcIe_CLK_P_iMX7_CONN	DIFF	
14	PCIE_UM_RST	I/O	3.3V
15	GND	PWR	
16	PCIE_UM_VPP	PWR	
17	NC		
18	GND	PWR	

19	NC		
20	PCIE_DIS_B	I/O	3.3V
21	GND		
22	PCIE_RST_B	I/O	3.3V
23	PCle_TX_P_iMX7_CONN	DIFF	
24	VCC_PCIE_3P3	PWR	
25	PCle_RX_P_iMX7_CONN	DIFF	
26	GND	PWR	
27	GND	PWR	
28	VCC_PCIE_1P5	PWR	
29	GND	PWR	
30	I2C2_CLK_3P3	I	3.3V
31	PCle_TX_N_iMX7_CONN	DIFF	
32	I2C2_DATA_3P3	I/O	3.3V
33	PCle_TX_P_iMX7_CONN	DIFF	
34	GND	PWR	
35	GND	PWR	
36	PCle_USB_DN	DIFF	
37	GND	PWR	
38	PCle_USB_DP	DIFF	
39	VCC_PCIE_3P3	PWR	
40	GND	PWR	
41	VCC_PCIE_3P3	PWR	
42	LED_WWAN_B	I/O	3.3V
43	GND	PWR	
44	LED_WLAN_B	I/O	3.3V
45	NC		
46	LED_WPAN_B	I/O	3.3V
47	NC		
48	VCC_PCIE_1P5	PWR	
49	NC		
50	GND	PWR	
51	NC		
52	VCC_PCIE_3P3	PWR	
53	GND	PWR	
54	GND	PWR	
55	GND	PWR	
56	GND	PWR	

Headset and MIC Interface (CN10 and CN11)

A 3.5mm Stereo Jack is used for both headset and MIC interface. The following table shows the stereo audio jack (CN5) pinouts.

Table 4: Stereo Audio Jack (CN5) Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	HP_VGND_JACK	PWR	
2	HP_R_JACK	O ANALOG	
3	HP_L_JACK	O ANALOG	

4	HP_DETECT	O DIGITAL	
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The following table shows the MIC in jack (CN6) pinouts.

Table 5: MIC in Jack (CN6) Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	JACK_GND	PWR	
2	MIC_JACK	I ANALOG	
3	MIC_JACK	I ANALOG	
4	MIC_DETECT	PWR	

Debug USB (CN18)

In Acacia, USB to UART Bridge added to the UART interface as shown in the following table and terminated to the USB-mini B connector (CN18) with ESD protection.

Table 6: Debug USB Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VBUS_5V	PWR	
2	B_UART_USBD-	DIFF	
3	B_UART_USBD+	DIFF	
4	NC		
5	GND	PWR	

MIPI Display Interface and Electronic Paper Display Controller (EPDC) (CN58)

Acacia baseboard supports MIPI DSI for LCD interface. Also, Acacia has e-paper display interface through the EPDC. Both these signals are available in a single common connector. The following table shows the pinouts of the MIPI display interface and EPDC connector (CN58).

Table 7: MIPI Display Interface and EPDC Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_5V	PWR	
2	GND	PWR	
3	VCC_5V	PWR	
4	MIPI_DSI_D0_P_IMX7_CONN	DIFF	
5	VCC_5V	PWR	
6	MIPI_DSI_D0_N_IMX7_CONN	DIFF	
7	VCC_5V	PWR	
8	GND	PWR	
9	VCC_5V	PWR	
10	MIPI_DSI_CLK_P_IMX7_CONN	DIFF	
11	VCC_5V	PWR	
12	MIPI_DSI_CLK_N_IMX7_CONN	DIFF	
13	GND	PWR	

14	GND	PWR	
15	iMX7_CONN_QSPI_B_SS1_B	IO	3.3V
16	MIPI_DSI_D1_P_IMX7_CONN	DIF	
17	iMX7_CONN_QSPI_B_DATA3	IO	3.3V
18	MIPI_DSI_D1_N_IMX7_CONN	DIFF	
19	iMX7_CONN_QSPI_A_DATA3	IO	3.3V
20	GND	PWR	
21	iMX7_CONN_QSPI_A_SS0_B	IO	3.3V
22	IMX7_CONN_LCD_RESET	I	1.8V
23	iMX7_CONN_QSPI_A_SS1_B	IO	3.3V
24	GND	PWR	
25	iMX7_CONN_EPDC_BDR0	IO	3.3V
26	iMX7_CONN_EPDC_PWRSTAT	IO	3.3V
27	GND	PWR	
28	ETHERNET_P2_LED_100M	IO	3.3V
29	iMX7_CONN_EPDC_PWRCOM	IO	3.3V
30	GND	PWR	
31	iMX7_CONN_QSPI_A_DATA0	IO	3.3V
32	CONN_RGMII2_RXD3	IO	3.3V
33	iMX7_CONN_QSPI_A_DATA1	IO	3.3V
34	ETHERNET_P2_LED_1000M	IO	3.3V
35	iMX7_CONN_EPDC_BDR1	IO	3.3V
36	GND	PWR	
37	iMX7_CONN_QSPI_A_SCLK	IO	3.3V
38	ETHERNET_P2_ACT	IO	3.3V
39	GND	PWR	
40	GND	PWR	
41	iMX7_CONN_QSPI_A_DQS	IO	3.3V
42	iMX7_CONN_QSPI_B_DATA2	IO	3.3V
43	iMX7_CONN_QSPI_A_DATA2	IO	3.3V
44	EPDC_SDCE0	IO	3.3V
45	EPDC_GDSP	IO	3.3V
46	EPDC_SDCE1	IO	3.3V
47	EPDC_GDOE	IO	3.3V
48	EPDC_GDRL	IO	3.3V
49	EPDC_GDCLK	IO	3.3V
50	EPDC_SDCE3	IO	3.3V
51	EPDC_SDCE2	IO	3.3V
52	GND	PWR	
53	iMX7_CONN_QSPI_B_DQS	IO	3.3V
54	iMX7_CONN_QSPI_B_DATA1	IO	3.3V
55	GND	PWR	
56	GND	PWR	
57	iMX7_CONN_QSPI_B_SCLK	IO	3.3V
58	iMX7_CONN_QSPI_B_DATA0	IO	3.3V
59	iMX7_CONN_QSPI_B_SS0_B	IO	3.3V
60	GPIO1_IO10_IMX7_CONN	IO	3.3V
61	GND	PWR	
62	SAI1_TXC_IMX7_CONN	IO	3.3V
63	GND	PWR	

64	GND	PWR	
65	VCC_3P3	PWR	
66	SAI1_TXFS_iMX7_CONN	IO	3.3V
67	VCC_3P3	PWR	
68	UART2_RX_IMX7_CONN	PWR	
69	VCC_3P3	PWR	
70	I2C2_CLK_3P3	I	3.3V
71	VCC_3P3	PWR	
72	I2C2_DATA_3P3	IO	3.3V
73	VCC_3P3	PWR	
74	VCC_1P8	PWR	
75	VCC_3P3	PWR	
76	VCC_1P8	PWR	
77	VCC_3P3	PWR	
78	VCC_1P8	PWR	
79	GND	PWR	
80	GND	PWR	

Tamper Header (CN55)

Acacia has the tamper signals terminated in CN55. The following table shows the tamper header pinouts.

Table 8: Tamper Header Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_5V	PWR	
2	I2C2_CLK_3P3	O	3.3V
3	VDD_SNV5_1P8_CAP	PWR	
4	I2C2_DATA_3P3	IO	3.3V
5	iMX7_CONN_TAMPER0	I	VDD_SNV5_1P8_CAP
6	SPI_SCLK_ADC_CONN	O	3.3V
7	iMX7_CONN_TAMPER1	I	VDD_SNV5_1P8_CAP
8	SPI_MOSI_ADC_CONN	IO	3.3V
9	iMX7_CONN_TAMPER2	I	VDD_SNV5_1P8_CAP
10	SPI_MISO_ADC_CONN	IO	3.3V
11	GND	GND	
12	SPI_SS0_ADC_CONN	O	3.3V

ADC Header (CN54)

In Acacia, the ADC signals are terminated in CN54. The following table shows the AD header pinouts.

Table 9: AD Header Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_3P3	PWR	
2	ADC2_IN3_IMX7_CONN	I	1.8V

3	ADC1_IN1_IMX7_CONN	I	1.8V
4	ADC2_IN2_IMX7_CONN	I	1.8V
5	ADC1_IN3_IMX7_CONN	I	1.8V
6	ADC2_IN1_IMX7_CONN	I	1.8V
7	ADC1_IN0_IMX7_CONN	I	1.8V
8	ADC2_IN0_IMX7_CONN	I	1.8V
9	ADC1_IN2_IMX7_CONN	I	1.8V
10	GND	PWR	

HDMI Interface (CN7)

Acacia board is equipped with HDMI connector (CN7) with the ESD protection. The following table shows the HDMI connector pinouts.

Table 10: HDMI Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	HDMI_CON_TX2_P	DIFF	
2	GND	PWR	
3	HDMI_CON_TX2_N	DIFF	
4	HDMI_CON_TX1_P	DIFF	
5	GND	GND	
6	HDMI_CON_TX1_N	DIFF	
7	HDMI_CON_TX0_P	DIFF	
8	GND	PWR	
9	HDMI_CON_TX0_N	DIFF	
10	CLK_HDMI_CON_CLK_P	DIFF	
11	GND	PWR	
12	CLK_HDMI_CON_CLK_N	DIFF	
13	CEC	IO	3.3V
14	NC		
15	CLK_DDC_BUS_CLK	I	5V
16	DDC_BUS_DATA	IO	5V
17	GND	PWR	
18	HDMI_VCC_5V	PWR	
19	HDMI_HPD	I	5V

Serial Camera Interface – MIPI

Camera MIPI interfaces on Acacia are terminated in CN59 connector.

e-con Systems has a wide range camera daughter boards that can be interfaced with the Acacia board through this camera interface connector.

Note: Please write to sales@e-consystems.com, for availability and pricing information about the Acacia board.

Table 11: MIPI CSI Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	GND	PWR	
2	I2C2_CLK_3P3	I	3.3V
3	I2C2_DATA_3P3	IO	3.3V
4	iMX7_CONN_QSPI_A_SS1_B	O	3.3V
5	GND	PWR	
6	GND	PWR	
7	iMX7_CONN_QSPI_B_DATA3	O	3.3V
8	iMX7_CONN_QSPI_B_SS1_B	I	3.3V
9	NC		
10	NC		
11	MIPI_CSI_D0_P_IMX7_CONN	DIFF	
12	MIPI_CSI_D0_N_IMX7_CONN	DIFF	
13	GND	PWR	
14	MIPI_CSI_CLK_P_IMX7_CONN	DIFF	
15	MIPI_CSI_CLK_N_IMX7_CONN	DIFF	
16	GND	PWR	
17	MIPI_CSI_D1_P_IMX7_CONN	DIFF	
18	MIPI_CSI_D1_N_IMX7_CONN	DIFF	
19	NC		
20	NC		
21	VCC_5V_MIPI_CSI	PWR	
22	VCC_5V_MIPI_CSI	PWR	
23	VCC_5V_MIPI_CSI	PWR	
24	VCC_5V_MIPI_CSI	PWR	

USB Host 2.0 Port (CN17)

The Acacia baseboard has 2 OTG support out of which the second OTG can be used only as Host. The ID pin for OTG2 is directly connected to ground. OTG signals are directly terminated to the USB A connector with the ESD protection.

The following table shows the USB host connector pinout.

Table 12: USB host connector pinout

Pin No	Signal Name	IO Type	IO Level (V)
1	VBUS_USB_OTG2	PWR	
2	USB_OTG2_DN_IMX7_CONN	DIFF	
3	USB_OTG2_DP_IMX7_CONN	DIFF	
4	GND	PWR	

USB OTG Port (CN23)

The eSOMiMX7 module has built in USB OTG controller. The required connector is added in Acacia baseboard. USB OTG signals are directly terminated to the USB-micro AB connector with ESD protection.

The following table shows the OTG connector pinout.

Table 13: OTG connector Pinout

Pin No	Signal Name	IO Type	IO Level (V)
1	VBUS_USB_OTG1	PWR	
2	USB_OTG1_DN_iMX7_CONN	DIFF	
3	USB_OTG1_DP_iMX7_CONN	DIFF	
4	USB_OTG1_ID_iMX7_CONN	I	3.3V
5	GND	PWR	

Power Jack (CN21)

The 2.0 × 5.5mm positive centre power jack is used for the power supply. Acacia is designed to support a power supplied from 7V to 28V. The following figure shows the schematic view of the DC power supply jack.

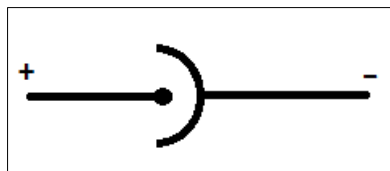


Figure 4: DC Power Supply Jack

The following table shows the DC power supply jack connector pinouts.

Table 14: DC Power Supply Jack Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_12V	PWR	
2	GND	PWR	
3	GND	PWR	

RS-232 (CN50)

Acacia baseboard has a RS-232 Transceiver with flow control support. The output from the transceiver is terminated in the CN50 connector with the ESD protection. The following table shows RS-232 connector pinouts.

Table 15: RS-232 Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	RS232_TX		
2	RS232_RX		
3	RS232_RTS		
4	RS232_CTS		
5	GND	PWR	

RS-485 (CN51)

Acacia baseboard has a RS-485 transceiver with the direction control support. The bus connected to a CN51 connector has a parallel termination of 100 Ohms. The output from the transceiver is terminated in the CN51 connector with the ESD protection.

The following table shows the RS-485 connector Pinouts

Table 16: RS-485 Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_3P3	PWR	
2	485_B		
3	485_A		
4	NC		
5	GND	PWR	

CAN (CN52)

Acacia baseboard has a high-speed CAN transceiver that a support a data rate of about 1 Mbps.

The following table shows the pinouts of the CAN connector.

Table 17: CAN Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_5V	PWR	
2	CAN_H		
3	CAN_L		
4	NC		
5	GND	PWR	

Ethernet (CN26)

eSOMiMX7 module has 2 Ethernet operating @ 1 Gbps. The Ethernet lines from the module are terminated to the CN26 connector. The connector has internal magnetics and the ESD protections are provided externally.

The following table shows the Ethernet connector pinouts.

Table 18: Ethernet Connector Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	GND	PWR	
2	P1MDIDN	DIFF	
3	P1MDICP	DIFF	
4	TRCT3		
5	P1MDIBN	DIFF	

6	P1MDIAP	DIFF	
7	TRCT1		
8	P1MDIDP	DIFF	
9	TRCT4		
10	P1MDICN	DIFF	
11	P1MDIBP	DIFF	
12	TRCT2		
13	P1MDIAN	DIFF	
14	TRCT1		
15	P2MDIAP	DIFF	
16	P2MDIBN	DIFF	
17	TRCT3		
18	P2MDICP	DIFF	
19	P2MDIDN	DIFF	
20	GND	PWR	
21	P2MDIAN	DIFF	
22	TRCT2		
23	P2MDIBP	DIFF	
24	P2MDICN	DIFF	
25	TRCT4		
26	P2MDIDP	DIFF	
27	ETHERNET_P2_ACT	IO	3.3V
28	VCC_3P3	PWR	
29	ETHERNET_P2_LED_100M	IO	3.3V
30	ETHERNET_P2_LED_1000M	IO	3.3V
31	ETHERNET_P1_ACT	IO	3.3V
32	VCC_3P3	PWR	
33	ETHERNET_P1_LED_100M	IO	3.3V
34	ETHERNET_P1_LED_1000M	IO	3.3V

RTC Battery (SK1)

Acacia has an external RTC IC powered by a Lithium (Li) battery connected to the SK1 socket. The voltage level of the coin cell must be in the range from 1.3V to 3.7V.

The following figure shows the specification of the battery.

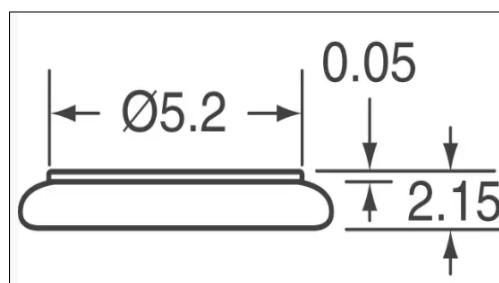


Figure 5: Li Coin Cell Specification

The following table shows the RTC Battery pinouts.

Table 19: RTC Battery Pinouts

Pin No	Signal Name	IO Type	IO Level (V)
1	VCC_LICELL	PWR	
2	GND	PWR	

Electrical Specifications

This section describes the operational ratings and digital IO characteristics in detail.

Operating Ratings

The following table shows the power and control signals.

Table 20: Operating Ratings

Parameter	Min	Typical	Max
Supply Voltage (Vdd)	7V	12V	28V
Current Consumption (Idd)		3A	

Digital VIO Characteristics

Table 21: Digital IO Characteristics

Symbol	Parameter	Min	Max	Remarks
VIL	Input Low Voltage	-0.3V	0.3x VDD_IO	
VIH	Input High Voltage	0.7x VDD_IO	VDD_IO + 0.3V	
VOL	Output Low Voltage	0	0.2x VDD_IO	
VOH	Output High Voltage	0.8x VDD_IO	VDD_IO	

Note: The board contains signals of both 3.3V and 1.8V IO. Care must be taken during DC analysis for IO signals. This table is applicable for both 3.3V and 1.8V.

Mechanical Specifications

The dimension of the Acacia board is 80 mm × 105 mm. The mechanical drawing and dimension of the Acacia board are shown in the following figures.

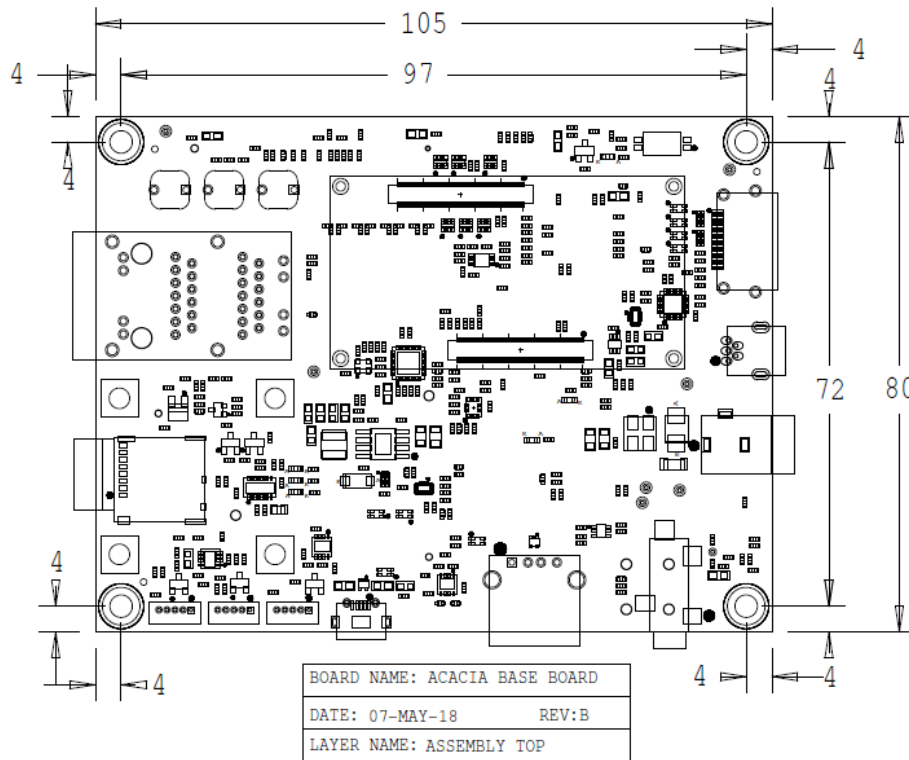


Figure 6: Acacia Board Top View

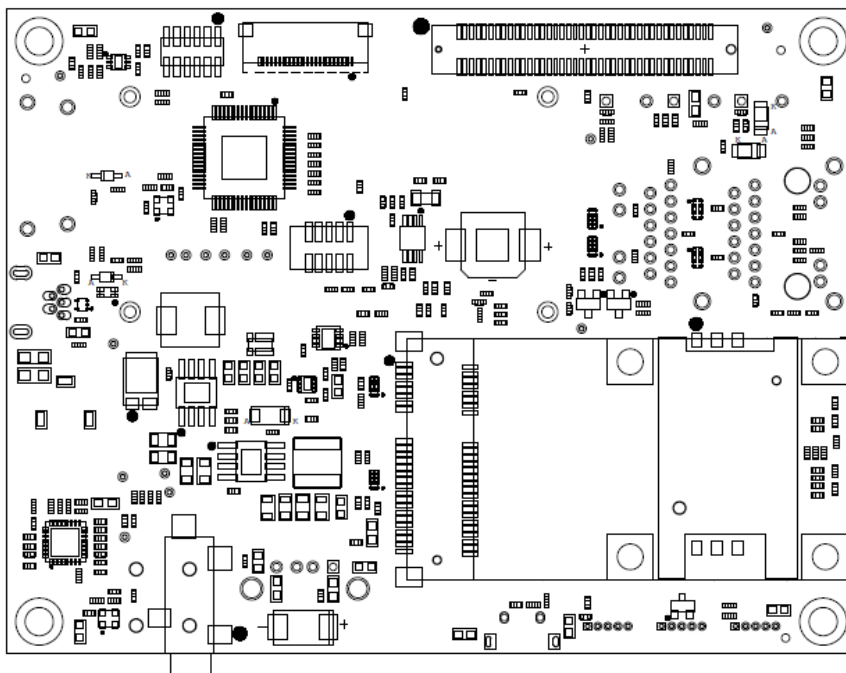


Figure 7: Acacia Board Bottom View

Glossary

ADC: Analogue to Digital Converter

CAN: Controller Area Network, a bus that is mainly used in automotive and industrial environment

CPU: Central Processor Unit

CSI: Camera Serial Interface

DAC: Digital to Analogue Converter

DSI: Display Serial Interface

ESD: Electrostatic Discharge, high voltage spike or spark that can damage electrostatic-sensitive devices

GND: Ground

GPIO: General Purpose Input/Output, pin that can be configured being an input or output

HDMI: High-Definition Multimedia Interface, combines audio and video signal for connecting monitors, TV sets or Projectors, electrical compatible with DVI-D

I²C: Inter-Integrated Circuit, two wire interfaces for connecting low-speed peripherals

LCD: Liquid Crystal Display

MIPI: Mobile Industry Processor Interface Alliance

mini PCIe: PCI Express Mini Card, card form factor for internal peripherals. The interface features PCIe and USB 2.0 connectivity

MMC: MultiMedia Card, flash memory card

MPD: Memory Protection Device

OTG: USB On-The-Go, a USB host interface that can also act as USB client when connected to another host interface

PCIe: PCI Express, high-speed serial computer expansion bus, replaces the PCI bus

PMIC: Power Management IC, integrated circuit that manages amongst others the power sequence of a system

RS-232: Single ended serial port interface

RS-422: Differential signaling serial port interface, full duplex

RS-485: Differential signaling serial port interface, half duplex, multi drop configuration possible

SD: Secure Digital, flash memory card

SIM: Subscriber Identification Module, identification card for GSM phones

SPI: Serial Peripheral Interface Bus, synchronous four wire full duplex bus for peripherals

UART: Universal Asynchronous Receiver/Transmitter, serial interface, in combination with a transceiver a RS232, RS422, RS485, IrDA or similar interface can be achieved

USB: Universal Serial Bus, serial interface for internal and external peripherals

VCC: Positive supply voltage

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To know about our General Product Warranty Terms, please visit the General Warranty Terms page on our website - <https://www.e-consystems.com/warranty.asp>

Revision History

Rev	Date	Description	Author
1.0	08-05-2018	Initial Draft	HW SOM Team