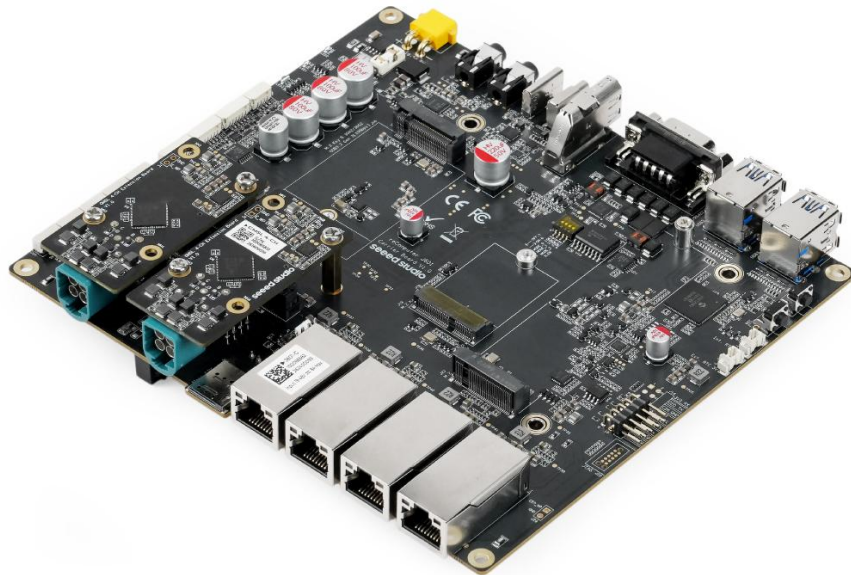

reComputer J601 Datasheet



Introduction

The reComputer J601 is a compact yet powerful edge AI carrier board for Jetson AGX Thor, delivering up to 2070 TFLOPS.

Built for development and production, it features M.2 Key E/M/B, 4x 10Gb RJ45, 4xUSB 3.2, HDMI 2.1, 8xGMSL, and various IO's, ensuring seamless integration.

It can be served as brain of humanoid. Supporting LLM & Physical AI frameworks like NVIDIA Isaac, Hugging Face, PyTorch, and ROS2/1, it bridges AI and robotics. With optimized real-time processing, it runs vision AI, transformers, and multimodal models, unlocking advanced AI for edge devices.

Part list

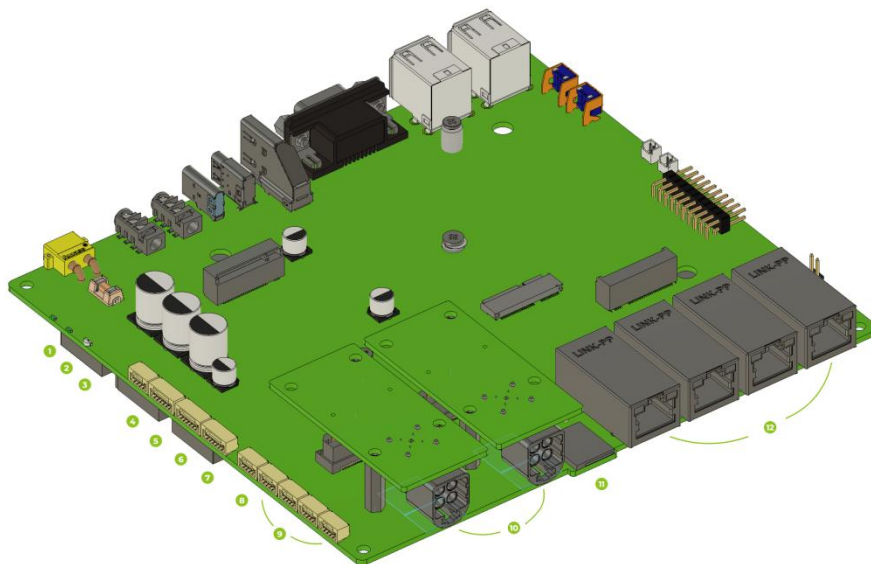
- Seeed Carrier Board (reComputer J601) x1
- GMSL Extension Board x2
- XT30 to DC power connector x1
- USB Type-C to Type-A cable x1
- Stud x4
- JST cable x9
- User Manual x1

Table of Contents

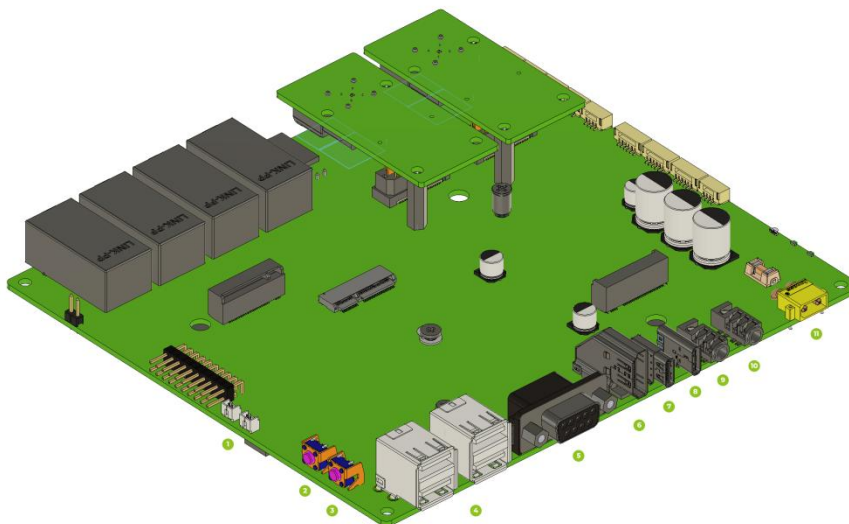
Introduction	2
Part list	2
Table of Contents	3
reComputer J601 Carrier Board	4
Carrier Board Specifications	6
GMSL Extension Board Specifications	8
Pin Connector Descriptions	9
USB Ports	9
USB Port List	9
USB 3.2 Type-A Connector Pin Description- J7, J8	10
USB 3.2 Type-C Connector Pin Description - J4	12
USB 2.0 Type-C - J3	14
Ethernet	15
10 Gigabit Ethernet - J32	15
10 Gigabit Ethernet - J33	17
10 Gigabit Ethernet - J34	19
10 Gigabit Ethernet - J35	21
M.2 Key M Slot - J23	23
M.2 Key E Slot - J19	28
M.2 Key B Slot - J10	33
12V Fan Connector For Module - J39	37
12V Fan Connector For Device - J15	37
RTC 2-Pin Header - J11,J13	38
Serial DB9 Connectors - J2	39
RS-232	39
RS-422	40
RS-485	40
Serial DB9 Mode Switch	41
Audio	43
Input - J6	43
Output - J5	43
JST Connectors	44
CAN GH-1.25 Connectors - J25,J28,J30,J31	44
RS-485 - GH-1.25 Connector - J24	46
I2C - GH-1.25 Connector - J12	46
I2S - GH-1.25 Connector - J14	47
GPI - GH-1.25 Connector - J20	48
GPO - GH-1.25 Connector - J14	49

reComputer J601 Carrier Board

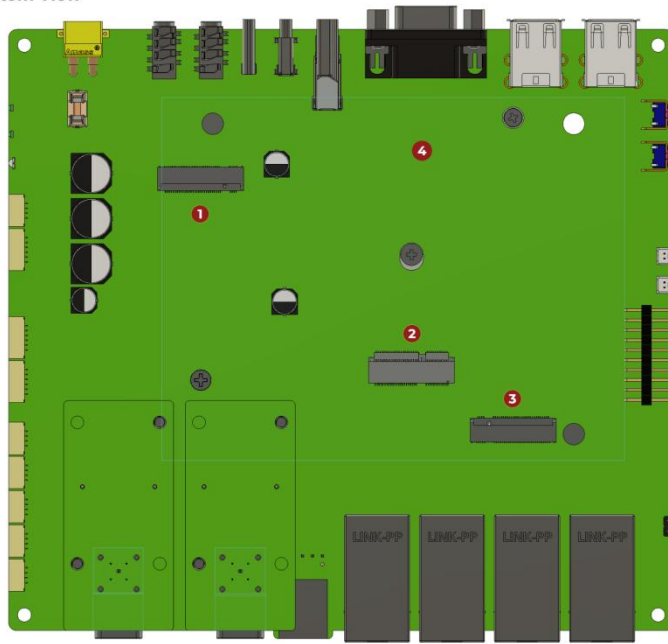
Side View 1



Side View 2



Bottom View



- 1 M.2 Key B Slot
- 2 M.2 Key E Slot
- 3 M.2 Key M Slot
- 4 RS-232/422/485 Mode Switch

Carrier Board Specifications

Module Compatibility	Jetson AGX Thor™ T5000 / Jetson AGX Thor™ T4000
PCB Size	168mm*155mm (without Jetson AGX Thor Module)
Display	1x HDMI 2.1
USB	4x USB 3.2 Type-A (10Gbps) 1x USB 2.0 Type C (Debug) 1x USB 3.0 Type C (Recovery)
Ethernet	4x RJ45 10GbE (3x RJ45 10GbE for T4000)
M.2 Key M	1x M.2 Key M, for NVMe 2280 SSD
M.2 Key E	1x M.2 Key E, for M.2 2230 WIFI Module
M.2 Key B	1x M.2 Key B, for 4G/5G Module
Serial	1x RS-232/422/485 (DB9 Connector)
JST Port	4x CAN JST Connector (T5000); 2x CAN JST Connector (T4000) 1x RS-485 JST Connector 1x I2S JST Connector 1x I2C JST Connector 4x GPI JST Connector

	4x GPO JST Connector
Audio	1x MIC 1x Output
FAN	1x 4 Pin Fan Connector(12V PWM)
RTC	RTC 2-Pin
LED	1x PWR LED, Green 1x SSD LED, Green 1x USR LED, RGB
Button	1x Recovery Button 1x RST Button
GMSL	2x Mini-Fakra Connector (For 8x GMSL2 Cameras)
Temperature	-10°C~60°C (with thermal grease) -10°C~55°C (with thermal pad)
Power supply	XT30 Connector, DC 19-48V
Jetpack	Jetpack 7

GMSL Extension Board Specifications

De-serializer	MAX96712
GMSL Interface	2x Mini-Fakra Male Connector
GMSL Input	Up to 8x GMSL2 Cameras
Connection Method	GMSL2 Fakra 1-to-4 M-M Cable
POC Interface Feature	Supports simultaneous power and data transmission

Pin Connector Descriptions

USB Ports

The carrier board supports several USB Connectors. One of them is a USB 2.0 Type-C connector for debug. The other USB Type-C connector is for recovery mode. There are four USB 3.2 Type A connectors for Host mode only.

USB Port List

Carrier Board			
4 x	USB 3.2 Type-A	Host Mode	J7,J8
1 x	USB 3.0 Type-C	Recovery, For Flashing	J4
1 x	USB 2.0 Type-C	Debug	J3

USB 3.2 Type-A Connector Pin Description- J7, J8

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir
1	-	-	-	VBUS Supply	Power
2	USB3_N	G10	USB2_3_N	USB 2.0, Port 3 Data	Bidir
3	USB3_P	G11	USB2_3_P		
4	-	-	-	Ground	Ground
5	UPHY_RX2_N	C22	UPHY0_RX2_N	UPHY block 0, Receive Lane 2	Input
6	UPHY_RX2_P	C23	UPHY0_RX2_P		
7	-	-	-	Ground	Ground
8	UPHY_TX2_N	G22	UPHY0_TX2_N	UPHY block 0, Transmit Lane 2	Output
9	UPHY_TX2_P	G23	UPHY0_TX2_P		
10	-	-	-	VBUS Supply	Power
11	USB3_N	G10	USB2_3_N	USB 2.0, Port 3 Data	Bidir
12	USB3_P	G11	USB2_3_P		

13	-	-	-	Ground	Ground
14	UPHY_RX2_N	C22	UPHY0_RX2_N	UPHY block 0, Receive Lane 2	Input
15	UPHY_RX2_P	C23	UPHY0_RX2_P		
16	-	-	-	Ground	Ground
17	UPHY_TX2_N	G22	UPHY0_TX2_N	UPHY block 0, Transmit Lane 2	Output
18	UPHY_TX2_P	G23	UPHY0_TX2_P		

USB 3.2 Type-C Connector Pin Description - J4

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir Default
A4/A9				VBUS Supply	Power
B4/B9					
A5	-	-	CC1	USB Type-C	-
B5	-	-	CC2	Configuration Channel	
B10	UPHY_RX1_N	A23	UPHY0_RX1_N	UPHY block 0, Receive Lane 1	Input
B11	UPHY_RX1_P	A22	UPHY0_RX1_P		
A3	UPHY_TX1_N	J23	UPHY0_TX1_N	UPHY block 0, Transmit Lane 1	Output
A2	UPHY_TX1_P	J22	UPHY0_TX1_P		
A10	UPHY_RX1_N	A23	UPHY0_RX1_N	UPHY block 0, Receive Lane 1	Input
A11	UPHY_RX1_P	A22	UPHY0_RX1_P		
B3	UPHY_TX1_N	J23	UPHY0_TX1_N	UPHY block 0, Transmit Lane 0	Output
B2	UPHY_TX1_P	J22	UPHY0_TX1_P		
A7/B7	USB0_N	F13	USB2_0_N	USB 2.0 Port 0 Data	Bidir
A6/B6	USB0_P	F12	USB2_0_P		

A1/B1	-	-	-	Ground	Ground
A12/B12					
S1/S2					
S3/S4					

USB 2.0 Type-C - J3

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir Default
A4/A9 B9/B4	-	-	-	VBUS Supply	Power
A5	-	-	CC1_2	-	-
B5	-	-	CC2_2	-	-
A7/B7	-	-	UART_USB_D N	-	Bidir
A6/B6	-	-	UART_USB_D P	-	
B1/B12 S1/S2/S 3/S4/S5 /S6	-	-	-	Ground	Ground

Ethernet

10 Gigabit Ethernet - J32

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir
1	-	-	TCT3	-	-
2	UPHY_TX15_N UPHY_RX15_N	J31 A31	TD3-	-	Bidir
3	UPHY_TX15_P UPHY_RX15_P	J30 A30	TD3+	-	Bidir
4	UPHY_TX15_P UPHY_RX15_P	J30 A30	TD2+	-	Bidir
5	UPHY_TX15_N UPHY_RX15_N	J31 A31	TD2-	-	Bidir
6	-	-	TCT2	-	-
7	-	-	TCT4	-	-
8	UPHY_TX15_P UPHY_RX15_P	J30 A30	TD4+	-	Bidir
9	UPHY_TX15_N UPHY_RX15_N	J31 A31	TD4-	-	Bidir
10	UPHY_TX15_N UPHY_RX15_N	J31 A31	TD1-	-	Bidir

11	UPHY_TX15_P UPHY_RX15_P	J30 A30	TD1+	-	Bidir
12	-	-	TCT1	-	-
13	YLWA	-	RJ45_YLWA	Yellow LED Anode	Input
14	YLWC	-	RJ45_YLWC	Yellow LED Cathode	Output
15	GRNA	-	RJ45_GRNA	Green LED Anode	Input
16	GRNC	-	RJ45_GRNC	Green LED Cathode	Output
S1	-	-	-	Shield Ground	Ground
S2					

Note:

1. 10 Gigabit Ethernet

2. Normal working condition: Green LED: Always on, Yellow LED: Flashing

10 Gigabit Ethernet - J33

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir
1	-	-	TCT3	-	-
2	UPHY_TX14_N UPHY_RX14_N	G30 C30	TD3-	-	Bidir
3	UPHY_TX14_P UPHY_RX14_P	G31 C31	TD3+	-	Bidir
4	UPHY_TX14_P UPHY_RX14_P	G31 C31	TD2+	-	Bidir
5	UPHY_TX14_N UPHY_RX14_N	G30 C30	TD2-	-	Bidir
6	-	-	TCT2	-	-
7	-	-	TCT4	-	-
8	UPHY_TX14_P UPHY_RX14_P	G31 C31	TD4+	-	Bidir
9	UPHY_TX14_N UPHY_RX14_N	G30 C30	TD4-	-	Bidir
10	UPHY_TX14_N UPHY_RX14_N	G30 C30	TD1-	-	Bidir
11	UPHY_TX14_P	G31	TD1+	-	Bidir

	UPHY_RX14_P	C31			
12	-	-	TCT1	-	-
13	YLWA	-	RJ45_YLWA	Yellow LED Anode	Input
14	YLWC	-	RJ45_YLWC	Yellow LED Cathode	Output
15	GRNA	-	RJ45_GRNA	Green LED Anode	Input
16	GRNC	-	RJ45_GRNC	Green LED Cathode	Output
S1	-	-	-	Shield Ground	Ground
S2					

Note:

1. 10 Gigabit Ethernet

2. Normal working condition: Green LED: Always on, Yellow LED: Flashing

10 Gigabit Ethernet - J34

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir
1	-	-	TCT3	-	-
2	UPHY_TX13_N UPHY_RX13_N	K28 B28	TD3-	-	Bidir
3	UPHY_TX13_P UPHY_RX13_P	K29 B29	TD3+	-	Bidir
4	UPHY_TX13_P UPHY_RX13_P	K29 B29	TD2+	-	Bidir
5	UPHY_TX13_N UPHY_RX13_N	K28 B28	TD2-	-	Bidir
6	-	-	TCT2	-	-
7	-	-	TCT4	-	-
8	UPHY_TX13_P UPHY_RX13_P	K29 B29	TD4+	-	Bidir
9	UPHY_TX13_N UPHY_RX13_N	K28 B28	TD4-	-	Bidir
10	UPHY_TX13_N UPHY_RX13_N	K28 B28	TD1-	-	Bidir
11	UPHY_TX13_P	K29	TD1+	-	Bidir

	UPHY_RX13_P	B29			
12	-	-	TCT1	-	-
13	YLWA	-	RJ45_YLWA	Yellow LED Anode	Input
14	YLWC	-	RJ45_YLWC	Yellow LED Cathode	Output
15	GRNA	-	RJ45_GRNA	Green LED Anode	Input
16	GRNC	-	RJ45_GRNC	Green LED Cathode	Output
S1	-	-	-	Shield Ground	Ground
S2					

Note:

1. 10 Gigabit Ethernet

2. Normal working condition: Green LED: Always on, Yellow LED: Flashing

10 Gigabit Ethernet - J35

Pin #	Module Pin Name	Module Pin #	Net Name	Usage/Description	Type/Dir
1	-	-	TCT3	-	-
2	UPHY_TX12_N UPHY_RX12_N	H29 D29	TD3-	-	Bidir
3	UPHY_TX12_P UPHY_RX12_P	H28 D28	TD3+	-	Bidir
4	UPHY_TX12_P UPHY_RX12_P	H28 D28	TD2+	-	Bidir
5	UPHY_TX12_N UPHY_RX12_N	H29 D29	TD2-	-	Bidir
6	-	-	TCT2	-	-
7	-	-	TCT4	-	-
8	UPHY_TX12_P UPHY_RX12_P	H28 D28	TD4+	-	Bidir
9	UPHY_TX12_N UPHY_RX12_N	H29 D29	TD4-	-	Bidir
10	UPHY_TX12_N UPHY_RX12_N	H29 D29	TD1-	-	Bidir
11	UPHY_TX12_P	H28	TD1+	-	Bidir

	UPHY_RX12_P	D28			
12	-	-	TCT1	-	-
13	YLWA	-	RJ45_YLWA	Yellow LED Anode	Input
14	YLWC	-	RJ45_YLWC	Yellow LED Cathode	Output
15	GRNA	-	RJ45_GRNA	Green LED Anode	Input
16	GRNC	-	RJ45_GRNC	Green LED Cathode	Output
S1	-	-	-	Shield Ground	Ground
S2					

Note:

1. 10 Gigabit Ethernet

2. Normal working condition: Green LED: Always on, Yellow LED: Flashing

M.2 Key M Slot - J23

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
3				
5	UPHY_RX11_N	A27	UPHY block 1, Receive Lane 3	Input
7	UPHY_RX11_P	A26		
9	-	-	Ground	Ground
11	UPHY_TX11_N	J27	UPHY block 1, Transmit Lane 3	Output
13	UPHY_TX11_P	J26		
15	-	-	Ground	Ground
17	UPHY_RX10_N	C26	UPHY block 1, Receive Lane 2	Input
19	UPHY_RX10_P	C27		
21	-	-	Ground	Ground
23	UPHY_TX10_N	G26	UPHY block 1, Transmit Lane 2	Output
25	UPHY_TX10_P	G27		
27	-	-	Ground	Ground
29	UPHY_RX9_N	B24	UPHY block 1, Receive Lane 1	Input

31	UPHY_RX9_P	B25		
33	-	-	Ground	Ground
35	UPHY_TX9_N	K24	UPHY block 1, Transmit Lane 1	Output
37	UPHY_TX9_P	K25		
39	-	-	Ground	Ground
41	UPHY_RX8_N	D25	UPHY block 1, Receive Lane 0	Input
43	UPHY_RX8_P	D24		
45	-	-	Ground	Ground
47	UPHY_TX8_N	H25	UPHY block 1, Transmit Lane 0	Output
49	UPHY_TX8_P	H24		
51	-	-	Ground	Ground
53	UPHY_REFCLK3_N	F33	PCIe output Reference Clock for controller #5	Output
55	UPHY_REFCLK3_P	F32		
57	-	-	Ground	Ground
59	-	-	Unused (Key)	Unused
61				
63				
65				

67	-	-	Unused	Unused
69				
71	-	-	Ground	Ground
73				
75				

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
2	-	-	Main 3.3V Supply	Power
4				
6	-	-	Unused	Unused
8				
10			SSD LED	Output
12	-	-	Main 3.3V Supply	Power
14				
16				
18				
20	-	-	Unused	Unused

22				
24				
26				
28				
30				
32				
34				
36				
38				
40	I2C3_CLK	F53	General I2C 12 Clock	Bidir/OD, 1.8V
42	I2C3_DAT	E53	General I2C 12 Data	
44	GPIO58	G19	M.2 Key M Alert	Input, 1.8V
46	-	-	Unused	Unused
48				
50	PEX_C5_RST_N	L18	PCIe Reset for controller #5	Output, 3.3V
52	PEX_C5_CLKREQ_N	L19	PCIe Clock Request for controller #5	Bidir/OD, 3.3V
54	PEX_WAKE_N	A8	PCIe Wake	Input/OD, 3.3V

56	-	-	Unused	Unused
58				
60	-	-	Unused (Key)	Unused (Key)
62				
64				
66				
68	-	-	32KHz Suspend Clock	Output, 3.3V
70	-	-	Main 3.3V Supply	Power
72				
74				
Note: For NVMe SSD, 2280. Supports PCIe Gen4.0.				

M.2 Key E Slot - J19

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
3	USB2_N	A11	USB 2.0, Port 2 Data	Bidir
5	USB2_P	A10		
7	-	-	Ground	Ground
9	-	-	Unused	Unused
11				
13				
15				
17				
19				
21				
23				
25				
27				
29				

31				
33	-	-	Ground	Ground
35	UPHY_TX3_P	G35	UPHY block 0, Transmit Lane 3	Output
37	UPHY_TX3_N	G34		
39	-		Ground	Ground
41	UPHY_RX3_P	B33	UPHY block 0, Receive Lane 3	Input
43	UPHY_RX3_N	B32		
45	-		Ground	Ground
47	UPHY_REFCLK6_P	D49	PCIe Output Reference Clock for controller #1	Output
49	UPHY_REFCLK6_N	D48		
51	-		Ground	Ground
53	PEX_C1_CLKREQ_N	B37	PCIe Clock Request for controller #1	Bidir
55	-	-	M2E_WIFI_WAKE	-
57	-	-	Ground	Ground
59	GPIO60	K6	M2E_SAR_TOUT	-
61	GPIO33	C54	M2E_AP_WAKE_BT	Output
63	-	-	Ground	Ground

65	-	-	Unused	Unused
67				
69	-	-	Ground	Ground
71	-	-	Unused	Unused
73				
75	-	-	Ground	Ground

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
2	-	-	Main 3.3V Supply	Power
4				
6	-	-	Unused	Unused
8	I2S1_CLK	L14	I2S Audio Port 1 Clock	Bidir
10	I2S1_FS	D8	I2S Audio Port 1 Left/Right Clock	Bidir
12	I2S1_SDIN	H8	Audio I2S Port 1 Data in	Input
14	I2S1_SDOUT	C7	Audio I2S Port 1 Data Out	Output
16	-	-	Unused	Unused
18	-	-	Ground	Ground

20	I2C9_DAT	J55	M2E_BT_WAKE	Input
22	UART5_RX	H58	UART 5 Receive	Input
24	-	-	Unused (Key)	Unused
26				
28				
30				
32	UART5_TX	J58	UART 5 Transmit	Output
34	UART5_CTS	H57	UART 5 Clear to Send	Input
36	UART5_RTS	K58	UART 5 Request to Send	Output
38	-	-	Unused	Unused
40				
42	GPIO33	C54	M2E_AP_WAKE_BT	Output
44	-	-	Unused	Unused
46				
48				
50	-	-	SUSCLK_32KHZ_M2E	-
52	PEX_C1_RST_N	B36	PCIe Reset for controller #1	Output
54	UART4_CTS	J6	M2E_BT_DISABLE_N	Output

56	GPIO01	J4	M2E_WIFI_DISABLE_N	Output
58	-	-	Unused	-
60				
62	GPIO48	D5	M2E_ALERT_N	Input
64	-	-	Unused	-
66				
68				
70				
72	-	-	Main 3.3V Supply	Power
74				Power
Note:				
For 2230 WiFi Module.				

M.2 Key B Slot - J10

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Unused	-
3	-	-	Ground	Ground
5				
7	USB1_P	C11	USB 2.0, Port 1 Data	Bidir
9	USB1_N	C10		Bidir
11	-	-	Ground	Ground
21	-	-	Unused	-
23	GPIO67	J19	M2B_WOWWAN_N	Bidir
25	GPIO50	J18	M2B_DPR_1V8	Output
27	-	-	Ground	Ground
29	UPHY_RX0_N	C35	M2B_SSRX4_N	Input
31	UPHY_RX0_P	C34	M2B_SSRX4_P	Input
33	-	-	Ground	Ground
35	UPHY_TX0_N	K33	M2B_SSTX4_N	Output
37	UPHY_TX0_P	K32	M2B_SSTX4_P	Output

39	-	-	Ground	Ground
41/43	-	-	Unused	-
45	-	-	Ground	Ground
47/49	-	-	Unused	-
51	-	-	Ground	Ground
53/55	-	-	Unused	-
57	-	-	Ground	Ground
59/61	-	-	Unused	-
63/65				
67	-	-	M2B_RSTn_3V3	Output
69	-	-	Unused	-
71/73	-	-	Ground	Ground
75	-	-	Unused	-
76/77	-	-	Ground	Ground

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
2/4	-	-	VDD_3V3_SYS	Power

6	GPIO57	G18	M2B_POWER_OFF	Output
8	-	-	M2B_W_DISABLE	Output
10	-	-	M2B_STATUS_LED	-
20/22 24	-	-	Unused	-
26	-	-	W_DISABLE2	-
28	-	-	Unused	-
30	-	-	M2B_USIM_RST	-
32	-	-	M2B_USIM_CLK	-
34	-	-	M2B_USIM_DATA	-
36	-	-	M2B_USIM_PWR	-
38	GPIO40	C5	M.2_WLAN_Tx_EN	Input
40/42 44/46 48/50 52/54 56/58	-	-	Unused	-
60	GPIO34	A18	M2B_LAA_n79_Tx_EN_1V8	Output

62/64	-	-	Unused	-
66	-	-	SIM_DETECT	-
68	-	-	M2B_SUSCLK_32KHZ	-
70/72/ 74	-	-	VDD_3V3_SYS	Power

12V Fan Connector For Module - J39

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	12V Power Supply	Power
3	FAN_TACH	E54	Fan Tachometer signal	Input
4	FAN_PWM	K62	Fan Pulse Width Modulation signal	Output

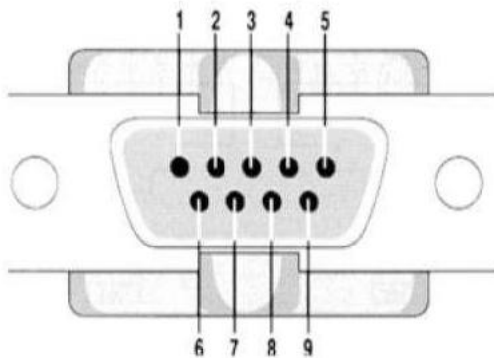
12V Fan Connector For Device - J15

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	12V Power Supply	Power
3	GPIO45	B54	Fan Tachometer signal	Input
4	GPIO36	F56	Fan Pulse Width Modulation signal	Output

RTC 2-Pin Header - J11,J13

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Direction Default
1	PMIC_BBATT	D37	Real-Time Clock: Optionally used to provide back-up power for RTC in the Power Sequencer.	Input
2	-	-	Ground	Ground

Serial DB9 Connectors - J2



RS-232

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	-	Unused
2	-	-	RXD	Input
3	-	-	TXD	Output
4	-	-	-	Unused
5	-	-	Ground	Ground
6	-	-	-	Unused
7	-	-	RTS	Output
8	-	-	CTS	Input
9	-	-	-	Unused

RS-422

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	TXD-	Output
2	-	-	TXD+	Output
3	-	-	RXD+	Input
4	-	-	RXD-	Input
5	-	-	Ground	Ground
6/7/8/9	-	-	-	Unused

RS-485

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Data -	Bidir, RS485 B
2	-	-	Data +	Bidir, RS485 A
3	-	-	-	Unused
4	-	-	-	Unused
5	-	-	Ground	Ground
6/7/8/9	-	-	-	Unused

Serial DB9 Mode Switch

SW3 - Mode Switch for J2

Pin #	Usage/Description
1	Mode_0
2	Mode_1
3	Mode_2
4	Slew

Mode Select Configuration

Note: When the switch is pressed down (ON), the bit is 0; When not pressed, the bit is 1

Mode_0	Mode_1	Mode_2	Mode	Status
0	0	0	RS-422 Full Duplex	1T/1R RS-422
0	0	1	Pure RS-232	3T/5R RS-232
0	1	0	RS-485 Half Duplex	1T/1R RS-485, TX ENABLE Low Active
0	1	1	RS-485 Half Duplex	1T/1R RS-485, TX ENABLE High Active
1	0	0	RS-422 Full Duplex	RS-422 with termination resistor
1	0	1	RS-232	1T/1R RS-232 co-exists with RS485 application without the need for the bus switch bus (for special usage)
1	1	0	RS-485	1T/1R RS-485 with termination resistor, TX ENABLE Low Active
1	1	1	Shutdown	All I/O pins are high impedance

Audio

Input - J6

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2				
3	-	-	MIC1_R	-
4	-	-	Unused	-
5	-	-	MIC1_L	-

Output - J5

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2				
3	-	-	HP_OUTR	-
4	-	-	Unused	-
5	-	-	HP_OUTL	-

JST Connectors

CAN GH-1.25 Connectors - J25,J28,J30,J31

J25

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	CAN3_L_ISO	Isolated CAN_L
3	-	-	CAN3_H_ISO	Isolated CAN_H
4	-	-	5V Power Supply	Power

J28

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	CAN2_L_ISO	Isolated CAN_L
3	-	-	CAN2_H_ISO	Isolated CAN_H
4	-	-	5V Power Supply	Power

J30

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	CAN1_L_ISO	Isolated CAN_L
3	-	-	CAN1_H_ISO	Isolated CAN_H
4	-	-	5V Power Supply	Power

J31

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	CAN0_L_ISO	Isolated CAN_L
3	-	-	CAN0_H_ISO	Isolated CAN_H
4	-	-	5V Power Supply	Power

RS-485 - GH-1.25 Connector - J24

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	-	-	RS485_B_CON	RS485-A
3	-	-	RS485_A_CON	RS485-B
4	-	-	5V Power Supply	Power

I2C - GH-1.25 Connector - J12

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	Ground	Ground
2	DP_AUX_CH2_N	E18	I2C4_SDA_3V3	Bidir
3	DP_AUX_CH2_P	E19	I2C4_SCL_3V3	Ouput
4	-	-	3V3 Power Supply	Power

I2S - GH-1.25 Connector - J14

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	3V3 Power Supper	Power
2	I2S2_DIN	F6	I2S2_DIN_3V3 (Level Shifted from 1.8V to 3.3V)	I2S Audio Port 2 Data In
3	I2S2_FS	E4	IS22_FS_3V3 (Level Shifted from 1.8V to 3.3V)	I2S Audio Port 2 Left/Right Clock
4	I2S2_CLK	G4	I2S2_SCLK_3V3 (Level Shifted from 1.8V to 3.3V)	I2S Audio Port 2 Clock
5	I2S2_DOUT	F5	I2S2_DOUT_3V3 (Level Shifted from 1.8V to 3.3V)	I2S Audio Port 2 Data Out
6	-	-	Ground	Ground

GPI - GH-1.25 Connector - J20

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	3V3 Power Supper	Power
2	SPI2_MISO	D62	GPI_1_3V3 (Level Shifted from 1.8V to 3.3V)	Input, 3.3V
3	GPIO64	J6	GPI_2_3V3 (Level Shifted from 1.8V to 3.3V)	Input, 3.3V
4	GPIO65	J7	GPI_3_3V3 (Level Shifted from 1.8V to 3.3V)	Input, 3.3V
5	GPIO49	G6	GPI_4_3V3 (Level Shifted from 1.8V to 3.3V)	Input, 3.3V
6	-	-	Ground	Ground

GPO - GH-1.25 Connector - J14

Pin #	Module Pin Name	Module Pin #	Usage/Description	Type/Dir Default
1	-	-	3V3 Power Supper	Power
2	GPIO13	G7	GPO_1_3V3 (Level Shifted from 1.8V to 3.3V)	Output, 3.3V
3	SPI2_CS0_N	D60	GPO_2_3V3 (Level Shifted from 1.8V to 3.3V)	Output, 3.3V
4	SPI2_CLK	E61	GPO_3_3V3 (Level Shifted from 1.8V to 3.3V)	Output, 3.3V
5	SPI2_MOSI	F60	GPO_4_3V3 (Level Shifted from 1.8V to 3.3V)	Output, 3.3V
6	-	-	Ground	Ground