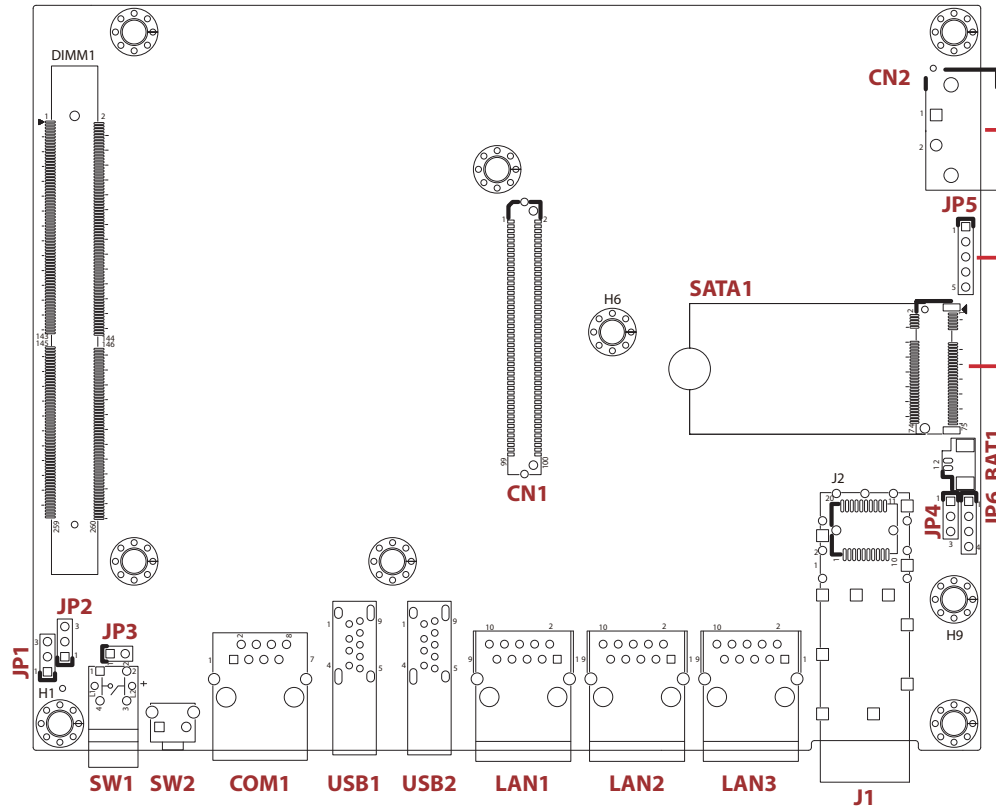


ISA 141 Quick Reference Guide

ISB141 Top Side Layout Placement



CN2: Power Connector

Pin	Description
1	POWER_IN1
2	PGND

JP5: MCU Programm Header

Pin	Description
1	P3V3_MCU
2	SWCLK
3	GND
4	SWDIO
5	MCU_RST_B

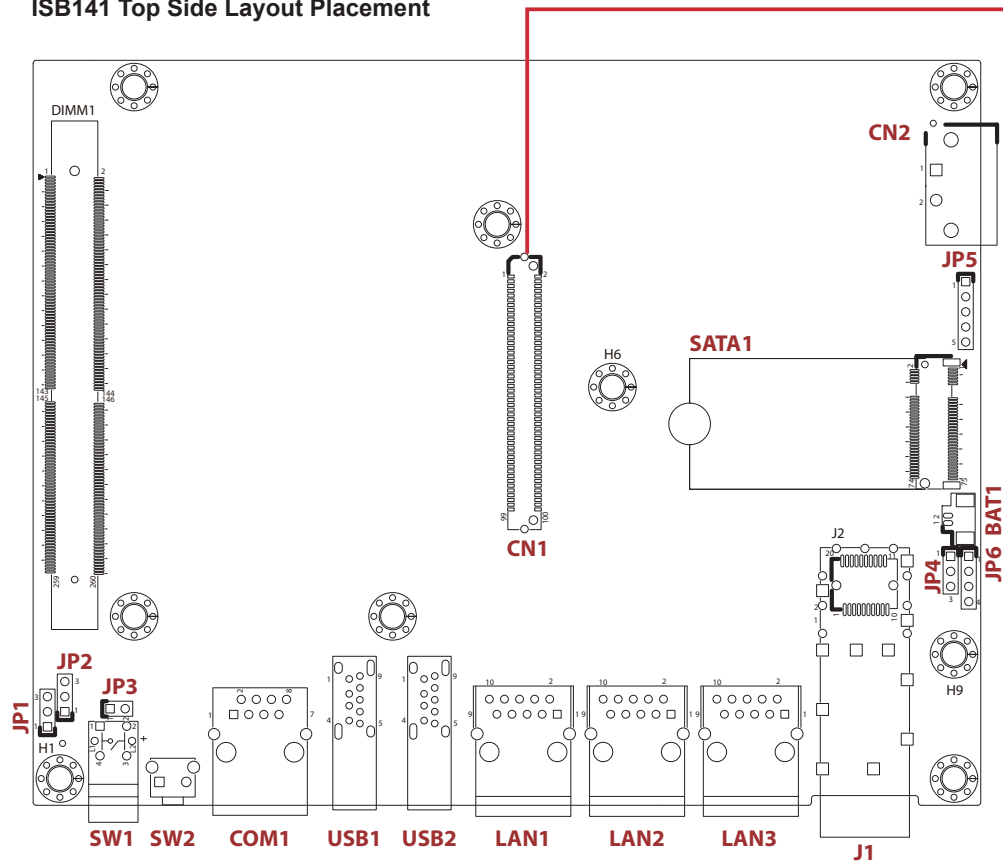
SATA1: M.2 Key B SATA

Pin.	Signal	Pin.	Signal
1	NC	2	P3V3
3	GND	4	P3V3
5	GND	6	NC
7	NC	8	NC
9	NC	10	M2_SATA_LED#
11	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC
37	NC	38	NC
39	GND	40	NC
41	M2_RX_DP	42	NC
43	M2_RX_DN	44	NC
45	GND	46	NC
47	M2_TX_DN	48	NC
49	M2_TX_DP	50	NC
51	GND	52	NC
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	NC	68	NC
69	NC	70	P3V3
71	GND	72	P3V3
73	GND	74	P3V3
75	NC		



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ISB141 Top Side Layout Placement



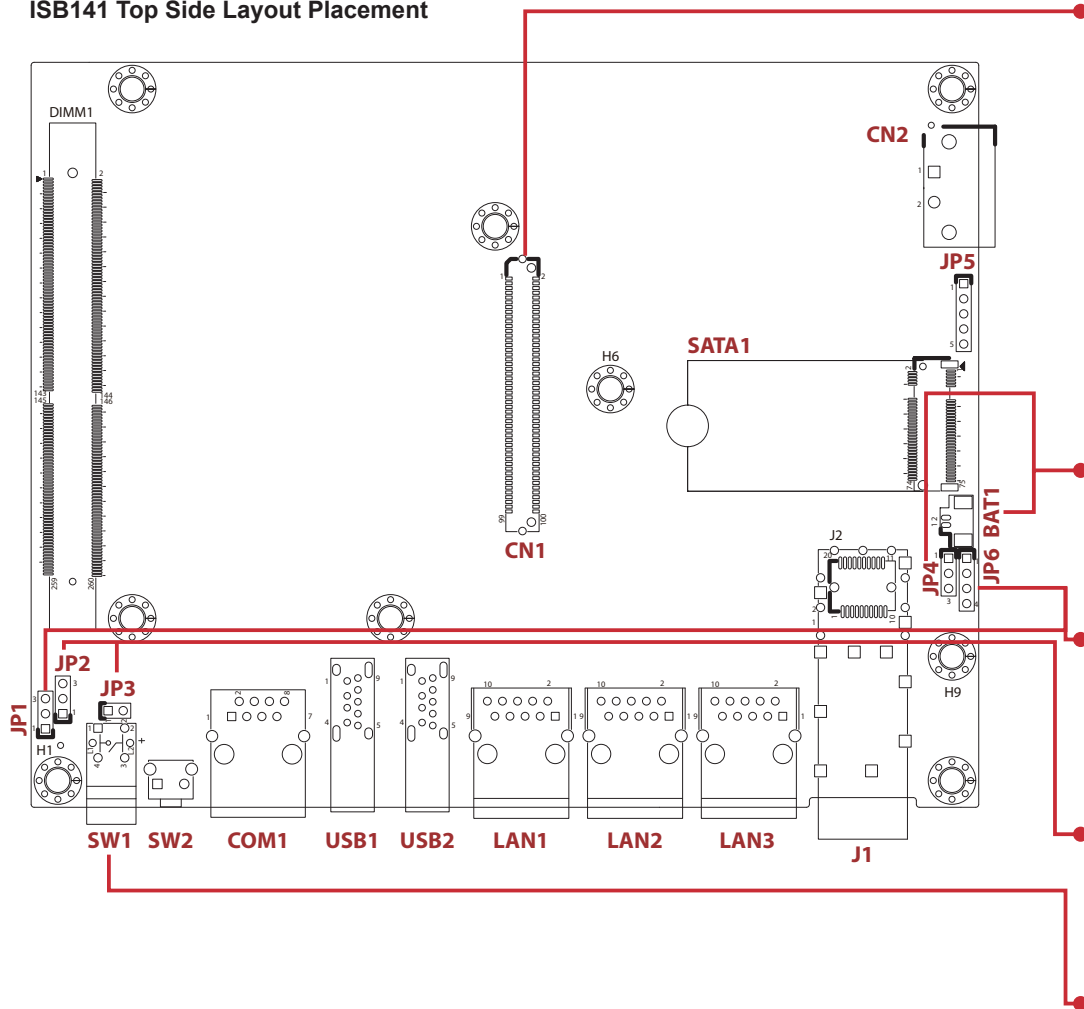
CN1: Board to Board connector

Pin.	Signal	Pin.	Signal
1	VIN	2	VIN
3	VIN	4	VIN
5	VIN	6	VIN
7	PGND	8	PGND
9	PGND	10	PGND
11	PGND	12	PGND
13	P3V3	14	P3V3
15	P3V3	16	P3V3
17	P3V3	18	P3V3
19	GND	20	GND
21	P1V8	22	GND
23	P3V3_5G_EN	24	P3V3_AUX
25	P3V3_5G_PG	26	P3V3_AUX
27	MCU_5G_SERRIA_PLAS2#_0	28	P3V3_AUX
29	MCU_5G_SERRIA_PLAS2#_1	30	MCU_5G_DIS_1
31	MCU_5G_W_DISABLE#_0	32	MCU_5G_GPS_DISABLE#_0
33	MCU_5G_W_DISABLE#_1	34	MCU_5G_GPS_DISABLE#_1
35	MCU_5G_POWER_OFF#_0	36	BUF_PLT_RST_R_N
37	MCU_5G_POWER_OFF#_1	38	DC_IN2_STATUS
39	WIFI0_W_DISABLE1#	40	WIFI_PCIE_RST1#
41	WIFI1_W_DISABLE1#	42	WIFI_PCIE_RST0#
43	MCU_5G_DIS_0	44	MCU_5G_MODULE_RST1#
45	MODULE_WIFI_LED_0	46	MCU_5G_MODULE_RST0#
47	MODULE_WIFI_LED_1	48	WIFI_CLKREQ_N_1
49	MODULE_5G_LED_0	50	WIFI_CLKREQ_N_0
51	MODULE_5G_LED_1	52	5G_CLKREQ_N_1
53	GND	54	5G_CLKREQ_N_0
55	PCIE_CLK3_DN	56	SLOT_SMB_MCU_CLK
57	PCIE_CLK3_DP	58	SLOT_SMB_MCU_DATA
59	GND	60	GND
61	PCIE_CLK2_DP	62	USB2_P2_DP
63	PCIE_CLK2_DN	64	USB2_P2_DN
65	GND	66	USB2_P3_DP
67	PCIE_CLK1_DP	68	USB2_P3_DN
69	PCIE_CLK1_DN	70	USB2_P4_DP



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CN1: Board to Board connector

Pin.	Signal	Pin.	Signal
71	GND	72	USB2_P4_DN
73	PCIE_CLK0_DP	74	USB2_P5_DP
75	PCIE_CLK0_DN	76	USB2_P5_DN
77	GND	78	GND
79	MINIW_TX_DP1	80	MINIW_RX_DP1
81	MINIW_TX_DN1	82	MINIW_RX_DN1
83	GND	84	GND
85	MINIW_TX_DP0	86	MINIW_RX_DP0
87	MINIW_TX_DN0	88	MINIW_RX_DN0
89	GND	90	GND
91	USB3_5G_TX_DP1	92	USB3_5G_RX_DP1
93	USB3_5G_TX_DN1	94	USB3_5G_RX_DN1
95	GND	96	GND
97	USB3_5G_TX_DP0	98	USB3_5G_RX_DP0
99	USB3_5G_TX_DN0	100	USB3_5G_RX_DN0

BAT1: Battery Connector

Pin	Description
1	BAT_C
2	GND

JP4: Clear CMOS

Pin	Description
1	RTC_RST_N
2	GND
3	NC

JP6: MCU UART Header

Pin	Description
1	P3V3_MCU
2	MCU_UART2_TX
3	MCU_UART2_RX
4	GND

JP1: SOC UART Header

Pin	Description
1	PSE_UART2_RXD_R
2	GND
3	PSE_UART2_TXD_R

JP2: Clear RTC Registers

Pin	Description
1	SRTC_RST_N
2	GND
3	NC

JP3: Power Button Header (For debug)

Pin	Description
1	FP_PWRBTN_N_R
2	GND

SW1: Power Button

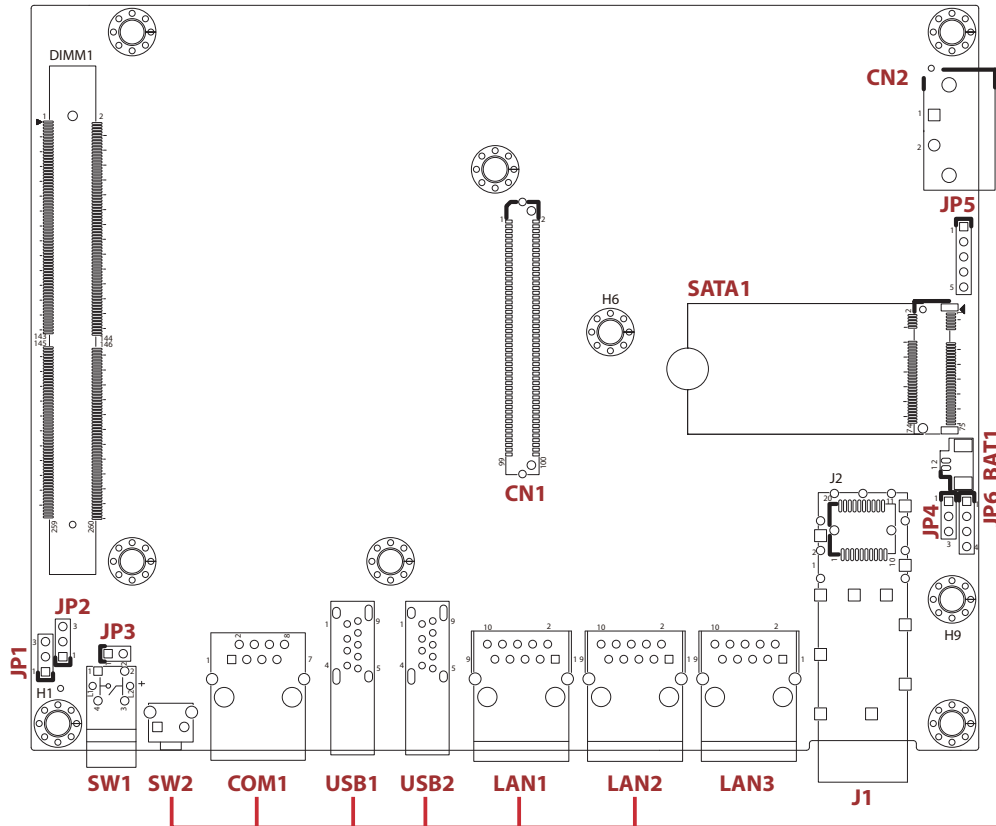
Pin	Description	Pin	Description
1	GND	2	FP_PWRBTN_N
3	FP_PWRBTN_N	4	GND
L1	LED(Blue)	L2	LED(RED)

* L1: LED Blue means system in S0 mode
L2: LED Red means system in S5 mode



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SW2: Reset Button

Pin	Description	Pin	Description
1	GND	2	FP_RST_BTN_N_L
3	CHASSIS GND	4	CHASSIS GND

COM1: Console Port

Pin	Description	Pin	Description
1	COM_UART_RTS_N	2	COM_UART_DTR_N
3	COM_UART_TXD	4	GND
5	COM_UART_DCD_N	6	COM_UART_RXD
7	COM_UART_DSR_N	8	COM_UART_CTS_N

USB1: USB 3.0 Port

Pin	Description	Pin	Description
1	P5V_USB3	2	USB2N0_C
3	USB2P0_C	4	GND
5	USB3RN0_C	6	USB3RP0_C
7	GND	8	USB3TN0_C
9	USB3TP0_C		

USB2: USB 3.0 Port

Pin	Description	Pin	Description
1	P5V_USB3	2	USB2N1_C
3	USB2P1_C	4	GND
5	USB3RN1_C	6	USB3RP1_C
7	GND	8	USB3TN1_C
9	USB3TP1_C		

LAN1: LAN Port

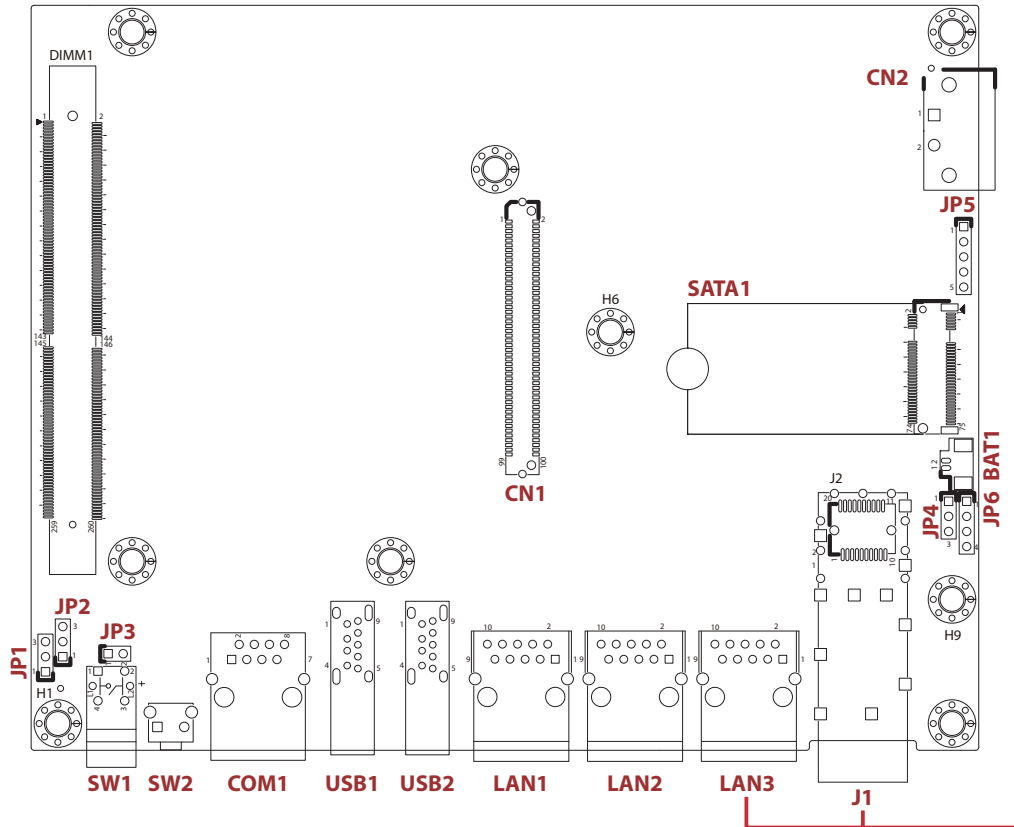
Pin	Description	Pin	Description
1	MDI_P_00A	2	MDI_N_00A
3	MDI_P_01A	4	MDI_N_01A
5	CT	6	CT
7	MDI_P_02A	8	MDI_N_02A
9	MDI_P_03A	10	MDI_N_03A

LAN2: LAN Port

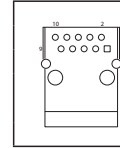
Pin	Description	Pin	Description
1	MDI_P_00B	2	MDI_N_00B
3	MDI_P_01B	4	MDI_N_01B
5	CT	6	CT
7	MDI_P_02B	8	MDI_N_02B
9	MDI_P_03B	10	MDI_N_03B

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ISB141 Top Side Layout Placement

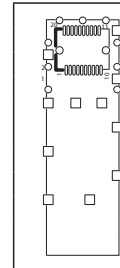


LAN3: LAN Port



Pin	Description	Pin	Description
1	MDI_P_00C	2	MDI_N_00C
3	MDI_P_01C	4	MDI_N_01C
5	CT	6	CT
7	MDI_P_02C	8	MDI_N_02C
9	MDI_P_03C	10	MDI_N_03C

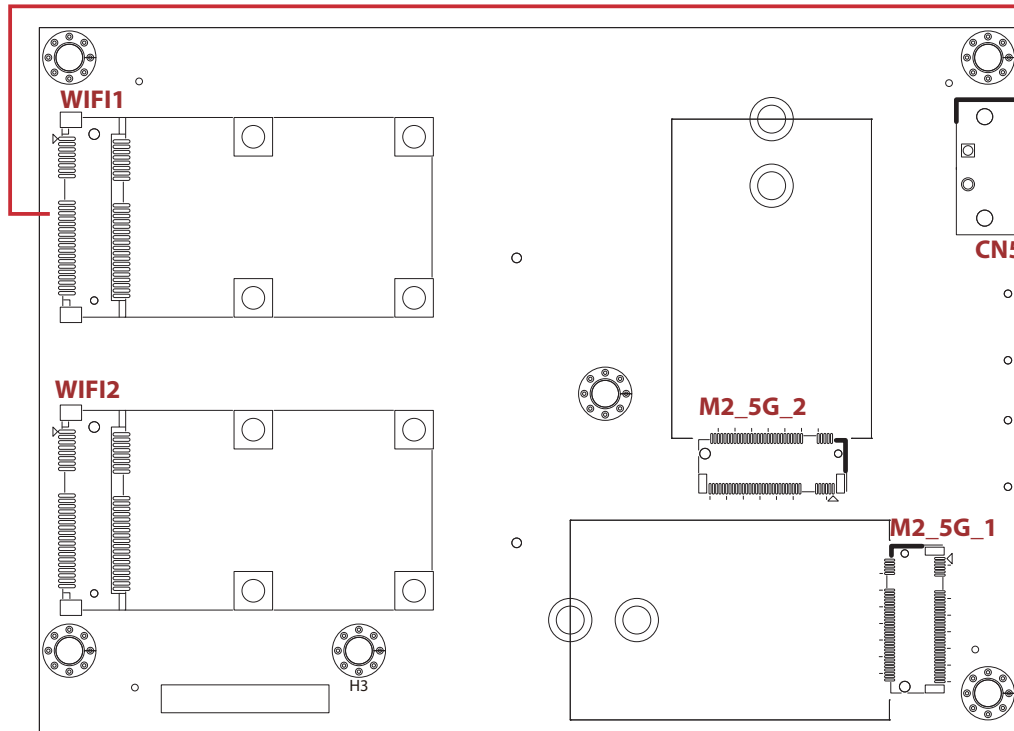
J1: SFP Port (Combo Port with LAN3)



Pin	Description	Pin	Description
1	GND	2	SFP_TXFAULT
3	TX_DISABLE0_1	4	SFP_SDA
5	SFP_SCL	6	SFP_MOD-ABS
7	SFP_RS0	8	SFP_RX_LOS
9	SFP_RS1	10	GND
11	GND	12	SFP_RX_N
13	SFP_RX_P	14	GND
15	P3V3_SFP+_RX0	16	P3V3_SFP+_TX0
17	GND	18	SFP_TX_P
19	SFP_TX_N	20	GND

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


WIF11: mini-PCIe Connector



Pin	Description	Pin	Description
1	Wake	2	P3V3_MNPE
3	NC	4	GND
5	NC	6	NC
7	WIFI_CLKREQ_N_0(NC)	8	NC
9	GND	10	NC
11	PCIE_CLK0_DN	12	NC
13	PCIE_CLK0_DP	14	NC
15	GND	16	NC
17	NC	18	GND
19	NC	20	WIFI0_W_DISABLE1#
21	GND	22	WIFI_PCIE_RST0#
23	MINIW_RX_DN0	24	P3V3_MNPE
25	MINIW_RX_DP0	26	GND
27	GND	28	NC
29	GND	30	NC
31	MINIW_TX_DN0	32	NC
33	MINIW_TX_DP0	34	GND
35	GND	36	USB2_P4_DN(NC)
37	NC	38	USB2_P4_DP(NC)
39	P3V3_MNPE	40	GND
41	P3V3_MNPE	42	NC
43	GND	44	MODULE_WIFI_LED_0
45	NC	46	NC
47	NC	48	NC
49	NC	50	GND
51	NC	52	P3V3_MNPE

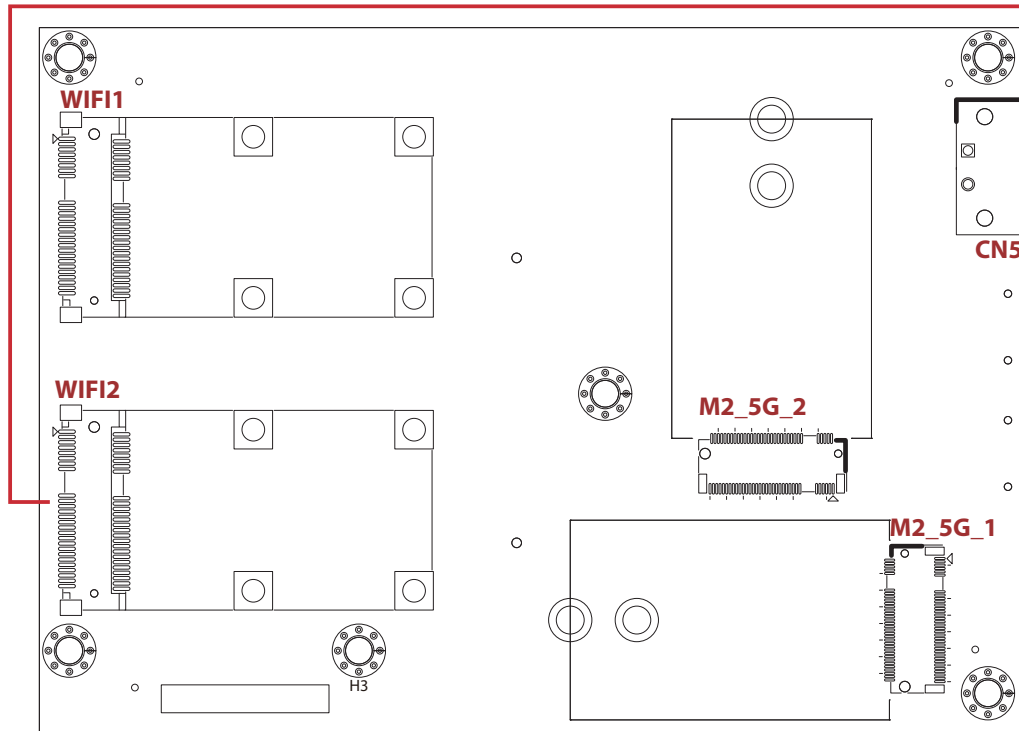
CN5: Power Connector



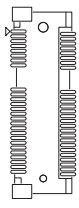
Pin	Description
1	POWER_IN2
2	PGND

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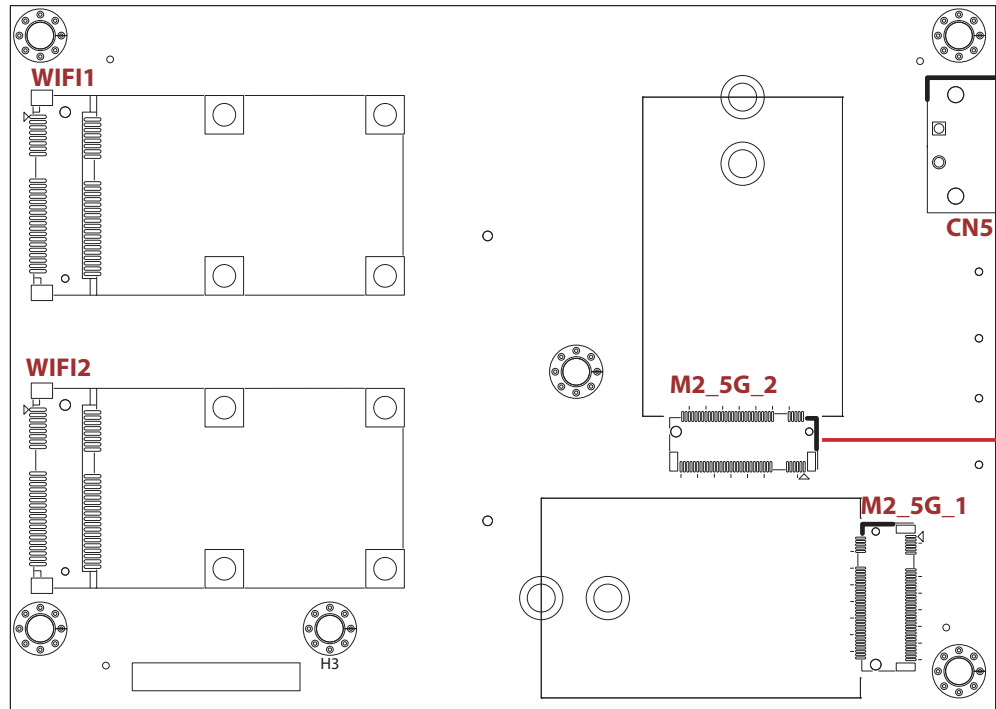
WIF12: mini-PCIe Connector



Pin	Description	Pin	Description
1	Wake	2	P3V3_MNPE
3	NC	4	GND
5	NC	6	NC
7	WIFI_CLKREQ_N_1(NC)	8	NC
9	GND	10	NC
11	PCIE_CLK1_DN	12	NC
13	PCIE_CLK1_DP	14	NC
15	GND	16	NC
17	NC	18	GND
19	NC	20	WIFI1_W_DISABLE1#
21	GND	22	WIFI_PCIE_RST1#
23	MINIW_RX_DN1	24	P3V3_MNPE
25	MINIW_RX_DP1	26	GND
27	GND	28	NC
29	GND	30	NC
31	MINIW_TX_DN1	32	NC
33	MINIW_TX_DP1	34	GND
35	GND	36	USB2_P5_DN(NC)
37	NC	38	USB2_P5_DP(NC)
39	P3V3_MNPE	40	GND
41	P3V3_MNPE	42	NC
43	GND	44	MODULE_WIFI_LED_1
45	NC	46	NC
47	NC	48	NC
49	NC	50	GND
51	NC	52	P3V3_MNPE

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NSK141 Top Side Layout Placement

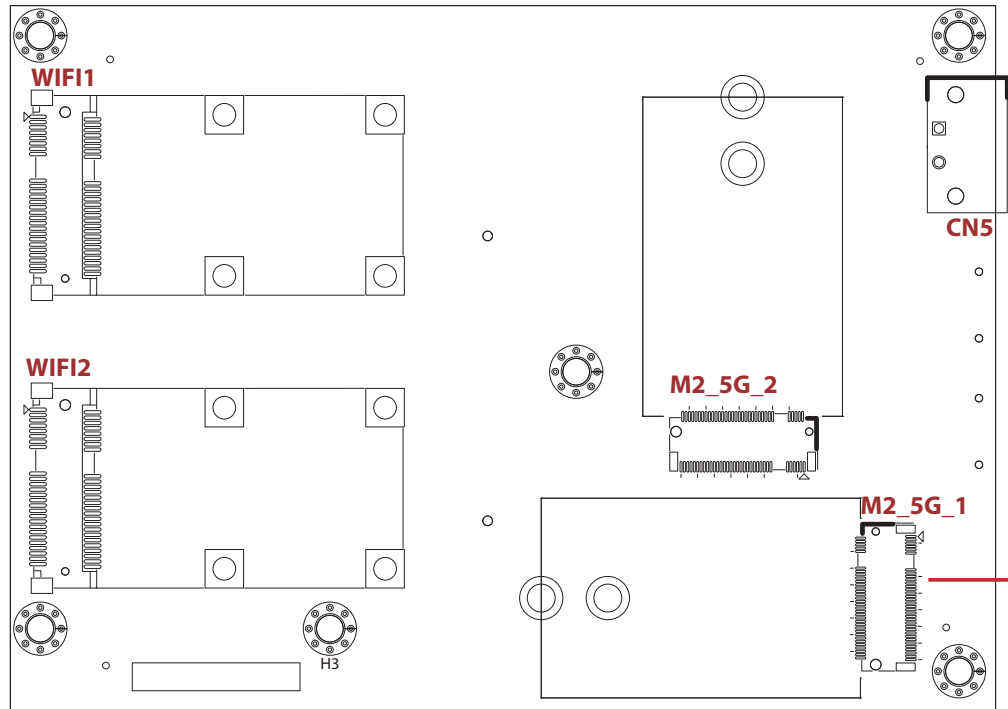


M2_5G_2: M.2 Key B Connector

Pin	Description	Pin	Description
1	M2_5G_CONFIG3_1	2	P3V3_5G
3	GND	4	P3V3_5G
5	GND	6	5G_POWER_OFF#_1
7	USB2_P3_DP	8	5G_W_DISABLE#_1
9	USB2_P3_DN	10	MODULE_5G_LED_1
11	GND	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	NC
19	NC	20	PCIE_DIS_1
21	M2_5G_CONFIG0_1	22	VBUS_SENSE_1
23	WAKE_ON_WWAN(NC)	24	VCC1_5G_1
25	DPR_5G_1	26	5G_GPS_DISABLE#_1
27	GND	28	5G_SERRIA_PLAS2#_1(NC)
29	USB3_5G_RX_DN1	30	5G_UIM2_RESET1
31	USB3_5G_RX_DP1	32	5G_UIM2_CLK1
33	GND	34	5G_UIM2_DATA1
35	USB3_5G_TX_DN1	36	5G_UIM2_PWR1_M
37	USB3_5G_TX_DP1	38	VCC2_5G_1
39	GND	40	5G_UIM2_DETECT2
41	NC	42	5G_UIM2_DATA2
43	NC	44	5G_UIM2_CLK2
45	GND	46	5G_UIM2_RESET2
47	NC	48	5G_UIM2_PWR2_M
49	NC	50	NC
51	GND	52	5G_CLKREQ_N_1(NC)
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	5G_UIM2_DETECT1
67	MODULE1_1P8_RST#(NC)	68	VCC3_5G_1
69	M2_5G_CONFIG1_1	70	P3V3_5G
71	GND	72	P3V3_5G
73	GND	74	P3V3_5G
75	M2_5G_CONFIG2_1		

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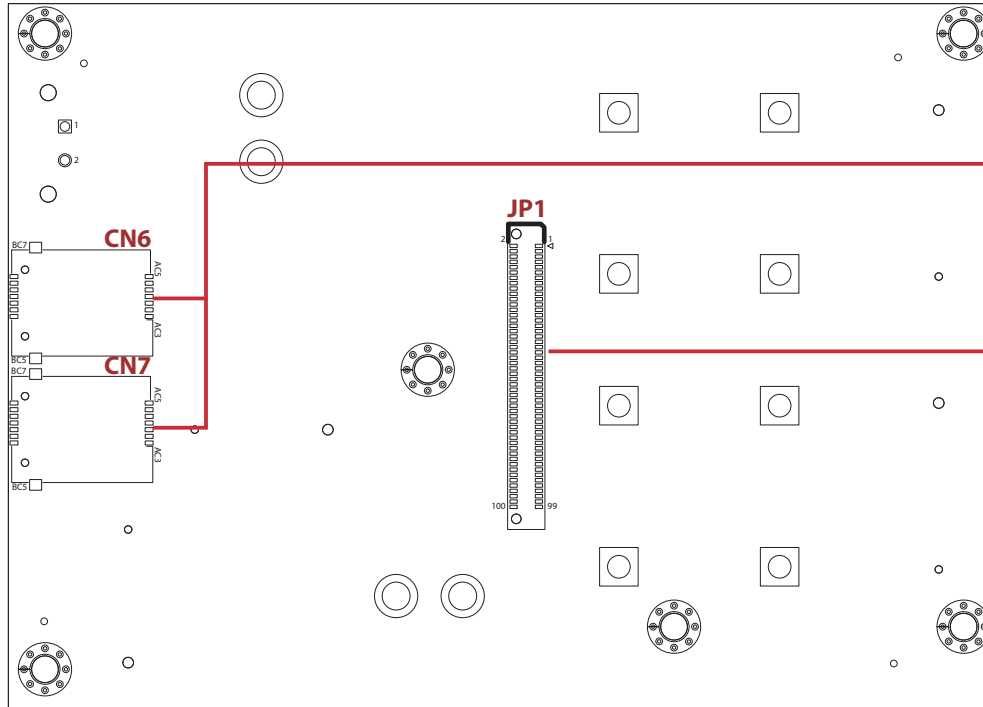


M2_5G_1: M.2 Key B Connector

Pin	Description	Pin	Description
1	M2_5G_CONFIG3_0	2	P3V3_5G
3	GND	4	P3V3_5G
5	GND	6	5G_POWER_OFF#_0
7	USB2_P2_DP	8	5G_W_DISABLE#_0
9	USB2_P2_DN	10	MODULE_5G_LED_0
11	GND	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	NC
19	NC	20	PCIE_DIS_0
21	M2_5G_CONFIG0_0	22	VBUS_SENSE_0
23	WAKE_ON_WWAN	24	VCC1_5G_0
25	DPR_5G_0	26	5G_GPS_DISABLE#_0
27	GND	28	5G_SERRIA_PLAS2#_0(NC)
29	USB3_5G_RX_DN0	30	5G_UIM1_RESET1
31	USB3_5G_RX_DP0	32	5G_UIM1_CLK1
33	GND	34	5G_UIM1_DATA1
35	USB3_5G_TX_DN0	36	5G_UIM1_PWR1_M
37	USB3_5G_TX_DP0	38	VCC2_5G_0
39	GND	40	5G_UIM1_DETECT2
41	NC	42	5G_UIM1_DATA2
43	NC	44	5G_UIM1_CLK2
45	GND	46	5G_UIM1_RESET2
47	NC	48	5G_UIM1_PWR2_M
49	NC	50	NC
51	GND	52	5G_CLKREQ_N_0(NC)
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	5G_UIM1_DETECT1
67	MODULE0_1P8_RST#(NC)	68	VCC3_5G_0
69	M2_5G_CONFIG1_0	70	P3V3_5G
71	GND	72	P3V3_5G
73	GND	74	P3V3_5G
75	M2_5G_CONFIG2_0		

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CN6: SIM Connector

Pin	Description	Pin	Description
AC1	5G_UIM2_PWR1	AC2	5G_UIM2_RESET1
AC3	5G_UIM2_CLK1	ACD	UIM2_DETECT1
AC5	GND	AC6	NC
AC7	5G_UIM2_DATA1		
BC1	5G_UIM2_PWR2	BC2	5G_UIM2_RESET2
BC3	5G_UIM2_CLK2	BCD	UIM2_DETECT2
BC5	GND	BC6	NC
BC7	5G_UIM2_DATA2		

CN7: SIM Connector

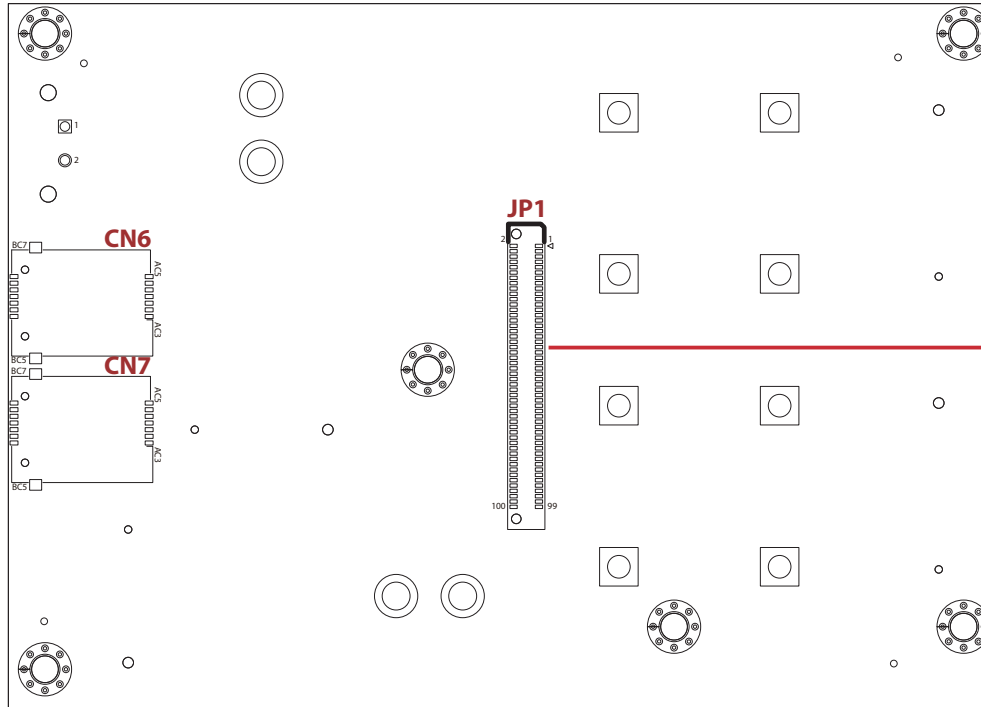
Pin	Description	Pin	Description
AC1	5G_UIM1_PWR1	AC2	5G_UIM1_RESET1
AC3	5G_UIM1_CLK1	ACD	UIM1_DETECT1
AC5	GND	AC6	NC
AC7	5G_UIM1_DATA1		
BC1	5G_UIM1_PWR2	BC2	5G_UIM1_RESET2
BC3	5G_UIM1_CLK2	BCD	UIM1_DETECT2
BC5	GND	BC6	NC
BC7	5G_UIM1_DATA2		

JP1: Board to Board connector

Pin	Description	Pin	Description
1	VIN	2	VIN
3	VIN	4	VIN
5	VIN	6	VIN
7	PGND	8	PGND
9	PGND	10	PGND
11	PGND	12	PGND
13	P3V3	14	P3V3
15	P3V3	16	P3V3
17	P3V3	18	P3V3
19	GND	20	GND
21	P1V8	22	GND
23	P3V3_5G_EN	24	P3V3_AUX
25	P3V3_5G_PG	26	P3V3_AUX
27	MCU_5G_SERRIA_PLAS2#_0	28	P3V3_AUX
29	MCU_5G_SERRIA_PLAS2#_1	30	MCU_5G_DIS_1
31	MCU_5G_W_DISABLE#_0	32	MCU_5G_GPS_DISABLE#_0
33	MCU_5G_W_DISABLE#_1	34	MCU_5G_GPS_DISABLE#_1
35	MCU_5G_POWER_OFF#_0	36	BUF_PLT_RST_R_N
37	MCU_5G_POWER_OFF#_1	38	DC_IN2_STATUS
39	WIFI0_W_DISABLE1#	40	WIFI_PCIE_RST1#

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JP1: Board to Board connector

Pin	Description	Pin	Description
41	WIFI1_W_DISABLE1#	42	WIFI_PCIE_RST0#
43	MCU_5G_DIS_0	44	MCU_5G_MODULE_RST1#
45	MODULE_WIFI_LED_0	46	MCU_5G_MODULE_RST0#
47	MODULE_WIFI_LED_1	48	WIFI_CLKREQ_N_1
49	MODULE_5G_LED_0	50	WIFI_CLKREQ_N_0
51	MODULE_5G_LED_1	52	5G_CLKREQ_N_1
53	GND	54	5G_CLKREQ_N_0
55	NC	56	NC
57	NC	58	NC
59	GND	60	GND
61	NC	62	USB2_P2_DP
63	NC	64	USB2_P2_DN
65	GND	66	USB2_P3_DP
67	PCIE_CLK1_DP	68	USB2_P3_DN
69	PCIE_CLK1_DN	70	USB2_P4_DP
71	GND	72	USB2_P4_DN
73	PCIE_CLK0_DP	74	USB2_P5_DP
75	PCIE_CLK0_DN	76	USB2_P5_DN
77	GND	78	GND
79	MINIW_TX_DP1	80	MINIW_RX_DP1
81	MINIW_TX_DN1	82	MINIW_RX_DN1
83	GND	84	GND
85	MINIW_TX_DP0	86	MINIW_RX_DP0
87	MINIW_TX_DN0	88	MINIW_RX_DN0
89	GND	90	GND
91	USB3_5G_TX_DP1	92	USB3_5G_RX_DP1
93	USB3_5G_TX_DN1	94	USB3_5G_RX_DN1
95	GND	96	GND
97	USB3_5G_TX_DP0	98	USB3_5G_RX_DP0
99	USB3_5G_TX_DN0	100	USB3_5G_RX_DN0

