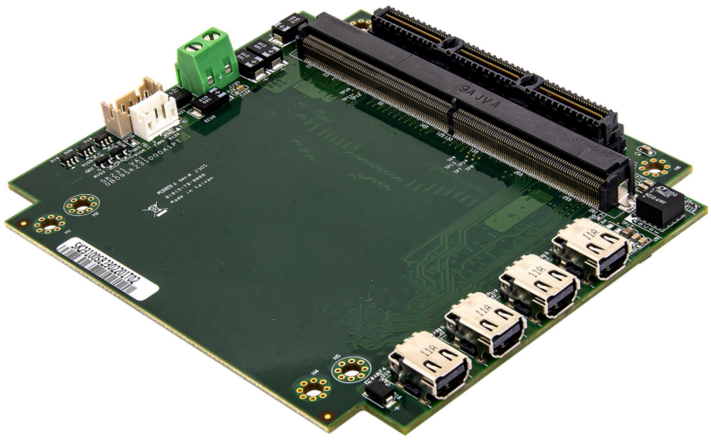
SK231

PCIe/104(Stack PC)Type1 MXM GPU Carrier



Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

Statement

RoHS Compliance

Perfectron RoHS Environmental Policy and Status Update

Perfectron is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with

European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

In order to meet the RoHS compliant directives, Perfectron has established an engineering and manufacturing task force to implement the introduction of green products. The task force will ensure that we follow the standard Perfectron development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which Perfectron are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant

Revision History

Revision	Date (yyyy/mm/dd)	Changes
V1.0	2024/03/22	First release

If any of the above items is damaged or missing, please contact your local distributor.

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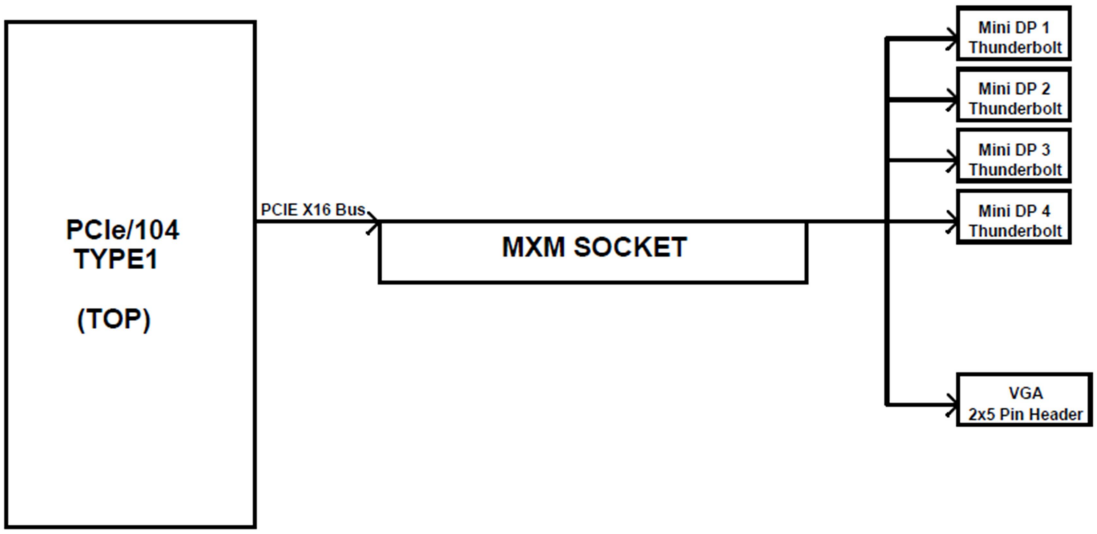
Chapter 1 : Product Introduction

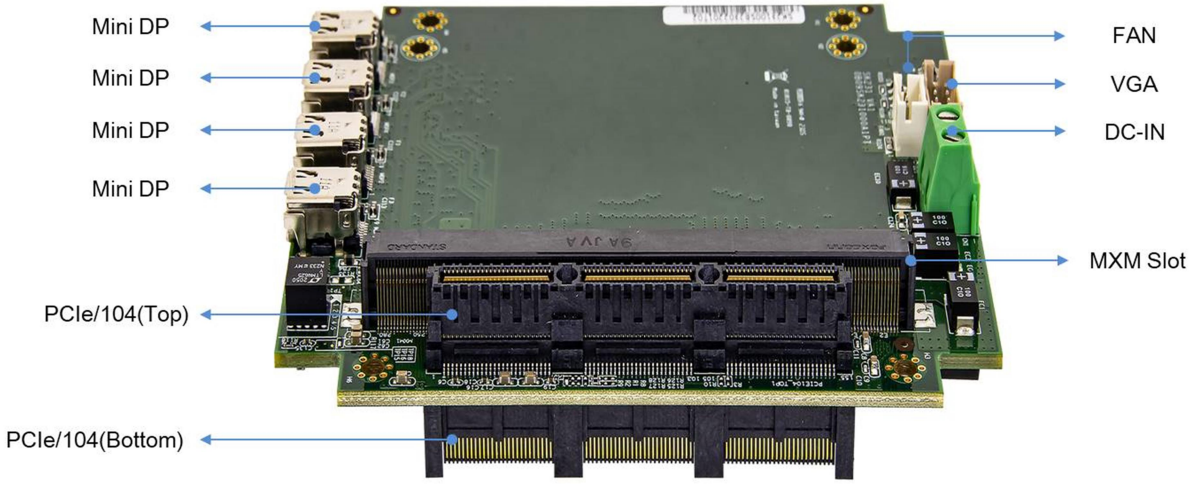
1.1 Specifications

System	
Form Factor	StackPC and PCIe/104
Bus Type	PCI-Express 3.0/2.0
Supported Modules	MXM 3.0 and 3.1 compliant Graphic card
I/O	2 x PCIe/104 Type1 (Top / Bottom) 4 x DisplayPort (FOXCONN 3VT11207-N730-7H) 1 x VGA (2x5 pin header) 1 x MXM DC-IN (2 pins Terminal Block)
Mechanical and Environment	
Dimension	90 x 106 mm
Operating Temp.	-40°C to 85°C
Relative Humidity	5% to 95%, non-condensing

1.2 Block Diagram



1.3 Appearance



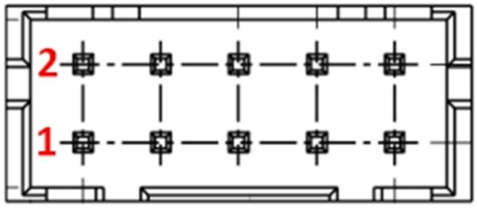
Chapter 2 : Jumpers and Connectors Loacation

2.1 Connector

2.1.1 VGA Connector

2*5P 180D P:2.0mm [E.I.C. 0110-02-163-100]

VGA			
Pin	Definition	Pin	Definition
1	RED	2	PWR
3	GREEN	4	GND
5	BLUE	6	GND
7	HSYNC	8	VSYNC
9	DDC_CLK	10	DDC_DAT



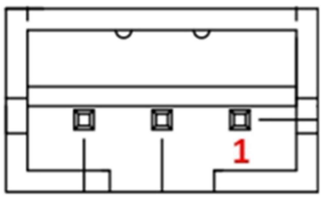
2.1.2 Power Connector

1*2P 180D P:5.0mm

Power Connector			
Pin	Definition	Pin	Definition
-	12V	+	GND

2.1.3 FAN1

Power Connector			
Pin	Definition		
1	NC		
2	+12V		
3	GND		



2.1.4 StackPC

Bottom: Samtec [ASP-129646-03]

Top: Samtec [ASP-129637-03]

PIN	DEFINITION	PIN	DEFINITION	PIN	DEFINITION	PIN	DEFINITION
1	USB_OC#_4_5	2	RST_HEADER#	53	STK0_WAKE-	54	STK1_SATA_ACT-
3	+V3.3S	4	+V3.3S	55	-TYPE_DETECT	56	GND
5	USBD1+	6	USBD0+	57	LAN0_MDI0P	58	PCIEX4_TXP0
7	USBD1-	8	USBD0-	59	LAN0_MDI0P	60	PCIEX4_TXN0
9	GND	10	GND	61	GND	62	GND
11	PCIE_TXP1_1	12	PCIE_TXP0	63	LAN1_MDIP0	64	PCIEX4_TXP1
13	PCIE_TXN1_1	14	PCIE_TXN0	65	LAN1_MDIN0	66	PCIEX4_TXN1
15	GND	16	GND	67	GND	68	GND
17	PCIE_TXP1_2	18	PCIE_TXP1_3	69	LAN0_MDI1P	70	PCIEX4_TXP2

19	PCIE_TXN1_2	20	PCIE_TXN1_3	71	LAN0_MDI1N	72	PCIEX4_TXN2
21	GND	22	GND	73	GND	74	GND
23	PCIE_RXP1_1	24	PCIE_RXN0	75	LAN1_MDI1P	76	PCIEX4_TXP4
25	PCIE_RXN1_1	26	PCIE_RXP0	77	LAN1_MDI1N	78	PCIEX4_TXN4
27	GND	28	GND	79	LAN1_ALED	80	LAN0_LED_LNK#_ACT
29	PCIE_RXP1_2	30	PCIE_RXP1_3	81	SATATXP1	82	SATATXP0
31	PCIE_RXN1_2	32	PCIE_RXN1_3	83	SATATXN1	84	SATATXN0
33	GND	34	GND	85	GND	86	GND
35	CLK_PCIE_2P_1	36	CLK_PCIE_3P	87	USBD3+	88	USBD2+
37	CLK_PCIE_2N_1	38	CLK_PCIE_3N	89	USBD3-	90	USBD2-
39	+5VSB	40	+5VSB	91	GND	92	GND
41	CLK_PCIE_2P_2	42	CLK_PCIE_2P_3	93	USBD5+	94	USBD4+
43	CLK_PCIE_2N_2	44	CLK_PCIE_2N_3	95	USBD5-	96	USBD4-
45	GND	46	ATXPWOK	97	GND	98	GND
47	SMB_DATA	48	CLK_ PCIEX4_P	99	LAN1_CTREF	100	EHC_0_CTREF
49	SMB_CLK	50	CLK_ PCIEX4_N	101	SPI_MOSI	102	SPI_SS0
51	SMB_ALERT#	52	PS_ON#	103	SPI_MISO	104	SPI_SS1

PIN	DEFINITION	PIN	DEFINITION
105	0RTSSTK2_SPISCK	106	LPC_CLK
107	SPI_SS2	108	GND
109	LAN0_MDI2P	110	PCIEX4_RXP0
111	LAN0_MDI2N	112	PCIEX4_RXN0
113	GND	114	GND
115	LAN1_MDI2P	116	PCIEX4_RXP1
117	LAN1_MDI2N	118	PCIEX4_RXN1
119	GND	120	GND
121	LAN0_MDI3P	122	PCIEX4_RXP2
123	LAN0_MDI3N	124	PCIEX4_RXN2
125	GND	126	GND
127	LAN1_MDI3P	128	PCIEX4_RXP3
129	LAN1_MDI3N	130	PCIEX4_RXN3
131	PE_PRSNT1_A-	132	PE_PRSNT0_A
133	SATARXP1	134	SATARXP0
135	SATARXN1	136	SATARXN0
137	GND	138	GND
139	FBUS_1P	140	FBUS_P0
141	FBUS_1N	142	FBUS_N0

143	GND	144	GND	
145	LPC_AD0	146	LPC_DRQ#	
147	LPC_AD1	148	LPC_SERIRQ#	
149	GND	150	GND	
151	LPC_AD2	152	LPC_FRAME#	
153	LPC_AD3	154	RTC_Battery	
155	FBUS_1RTS-	156	FBUS_0RTS	