

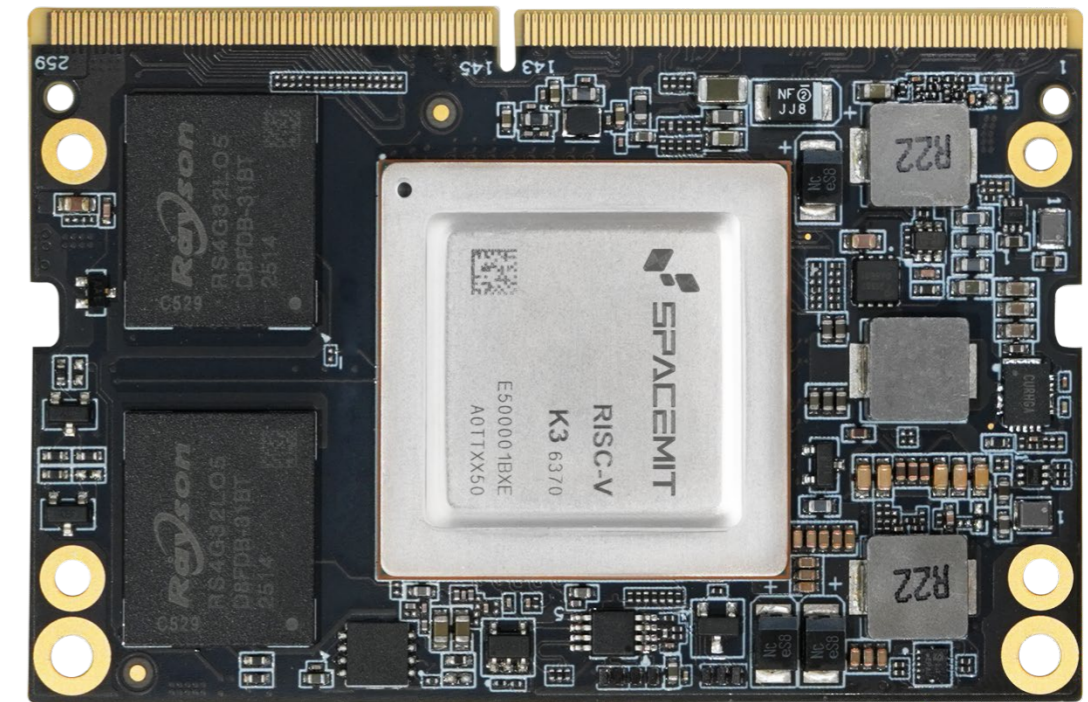


CORE-K3JD4

High-performance RISC-V Edge Core Board

V0.1 2026-5-7

FIREFLY TECHNOLOGY





Product features



High-performance RISC-V AI Processor K3

Equipped with an 8-core X100™ 64-bit RISC-V AI Processor SpacemiT Key Stone K3, it features a maximum main frequency of 2.4GHz and a computing power of 130KDMIPS. Supporting the complete RVA23 Profile, it delivers robust performance and can meet the requirements of high-performance computing and complex scenario applications.



Supports running 30B large models

Powered by an 8-core A100™ processor, it delivers 60 TOPS general AI computing power, fully supporting RVV vector instruction set, native FP8 inference and multi-modal algorithm acceleration. It supports 30B large models, with measured inference speed exceeding 10Tokens/S@30B.



4K HD Video Hardware Encoding and Decoding

Supports 4K@120fps H.265/H.264/VP9 high-definition video decoding, enabling smooth parsing of high-bitrate UHD video streams with clear and stutter-free playback. It also supports 4K@60fps H.265/H.264 hardware video encoding for efficient video compression, recording and transmission, saving storage space and bandwidth while maintaining excellent image quality.



High-Bandwidth LPDDR5 & UFS2.2 High-Speed Storage

Supports up to 32GB large-capacity LPDDR5 high-bandwidth memory paired with UFS2.2 high-speed storage. Featuring larger capacity, higher bandwidth and lower power consumption, it enables faster data read and write speeds to meet the requirements of large model private deployment for memory capacity and real-time response speed.

Product features



Higher-Level Security Defense Technology

Supports M/S/U three-level privileges, defends against Spectre, Meltdown and other vulnerability attacks at the hardware level, adopts RISC-V PMP/ePMP and dedicated IOPMP mechanisms to establish high-level security protection, supports secure boot, secure storage and signature verification, and integrates AES, SHA, RSA, SM2, SM3 and SM4 algorithms.



RISC-V Parallel Computing & Hardware Virtualization

Adopts brand-new RISC-V architecture, supports 1024-bit RVV1.0 vector computing and Vector Crypto encryption. With TCM cache & DMA acceleration, it greatly improves data throughput. Relying on RVH1.0, AIA and IOMMU extensions, it fully supports full hardware virtualization for CPU, memory and peripherals.



Rich expansion interfaces

260Pin gold finger interface, physical form and pin definition compliant with NVIDIA Jetson Orin Nano standard. Integrated with I2C, I2S, SPI, UART, CAN, PWM, GPIO, PCIe3.0, USB3.0, USB2.0, MIPI-DSI, MIPI-CSI, DP and other expansion interfaces, to meet peripheral expansion needs of diverse scenarios.



Wide Application Scenarios

Widely applicable to edge computing, computing power services, data security, private large model deployment, AI computers, AI teaching, robotics, AI retail, intelligent computing servers, smart home and other fields.

Specifications

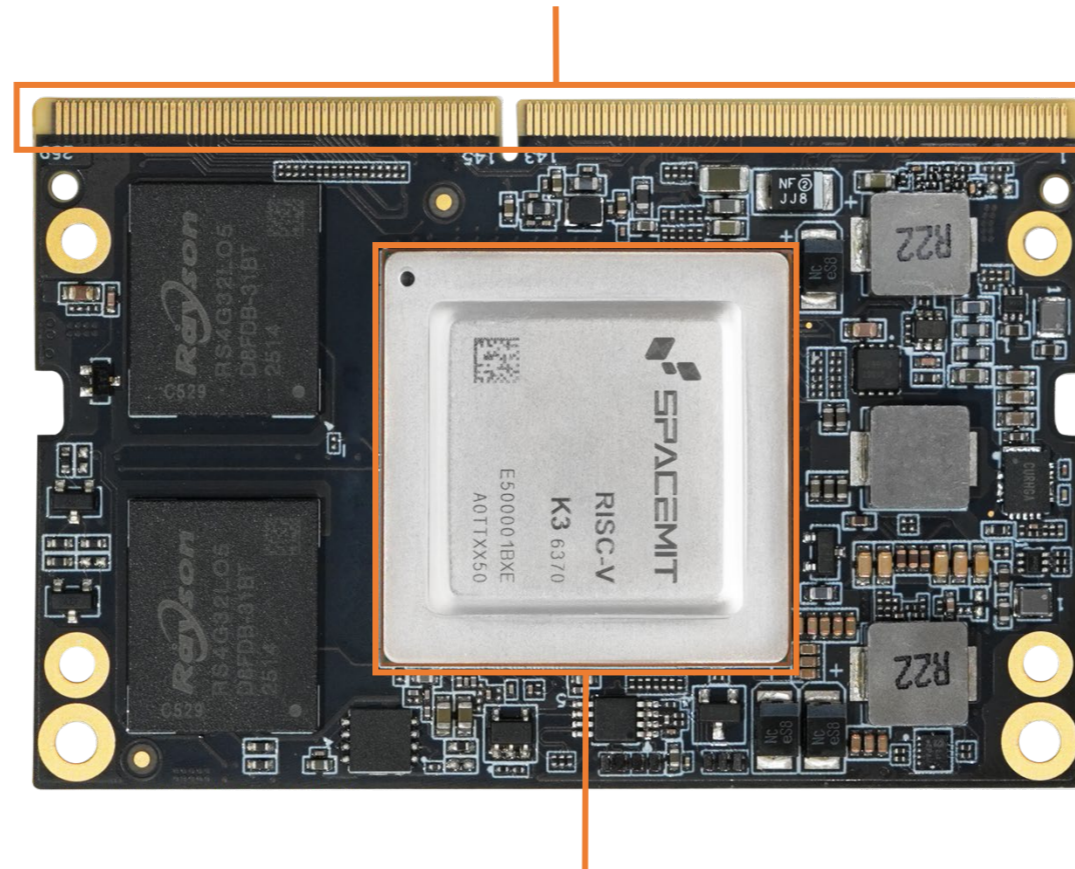


Specifications		
Basic Specifications	SOC	SpacemiT Key Stone K3
	CPU	8-core X100™ 64-bit RISC-V AI Processor, max main frequency 2.4GHz, 130KDMIPS general computing power, full RVA23 Profile support, single-core Specint2006>9.0/GHz, equivalent to ARM-A76
	AI performance	8-core A100™ delivers 60TOPS AI computing power (SquareINT4), supporting BF16, FP16, FP8, INT8, INT4 and other data formats. Equipped with RVV vector instruction set, native FP8 inference and multi-modal algorithm acceleration, it supports 30B local models, with inference performance exceeding 10Tokens/S@30B, and adapts to various AI algorithms and model deployment.
	GPU	Integrated 3D graphics engine, supporting Vulkan 1.3, OpenCL 3.0, OpenGL ES 1.1/3.2, EGL 1.5
	Codec	Video decoding: 4K@120fps H.265/H.264/VP9 Video encoding: 4K@60fps H.265/H.264
	RAM	8GB/16GB/32GB LPDDR5
	Storage	128GB/256GB/512GB UFS2.2
	Power	12V (Support 12V~19V wide voltage input)
	OS	Ubuntu 26.04, Buildroot Linux with QT GUI, Fedora, Bianbu OS, Deepin, OpenKylin, OpenHarmony 6.1, OpenEuler
	Interface	Gold finger (SODIMM 260P standard interface, 0.5mm pitch)
	Size	69.6mm × 45.0mm × 4.5mm
	Weight	≈ 23g
	Environment	Operating Temperature: -20°C ~ 60°C, Storage Temperature: -20°C ~ 70°C, Operating Humidity: 10% ~ 90%RH (No condensation)
Interface Specifications	Internet	Via GMAC interface, expandable to 4-channel Gigabit Ethernet, supporting TSN protocol
	Video input	4 × MIPI-CSI (4 Lanes, 1.5 Gbps/Lane, supports 1/2/4 Lane mode) Supports simultaneous input of up to 12 cameras
	Video output	1 × MIPI-DSI (8 Lanes, 4.5Gbps/Lane, Max resolution 4K@60fps) 2 × DP/eDP (Max resolution 4K@60fps)
	Audio	6 × Full-duplex I ² S (48kHz sampling rate) 4 × Half-duplex I ² S (2 connected to DP/eDP controller, 48kHz sampling rate) 2 × DP/eDP audio interfaces (192kHz sampling rate)
	PCIe	8 × PCIe 3.0 (8Gbps/Lane, PCIe x8 supports RC & EP modes, hot-pluggable)
	USB	3 × USB3.0 HOST (combo with PCIe), 1 × USB3.0 DRD (Type-C, including USB2.0 OTG), 1 × USB2.0 HOST
	Others	6 × SPI, 17 × UART, 9 × I2C, 10 × CAN FD, 30 × PWM, 2 × eSPI, GPIO

Interface description

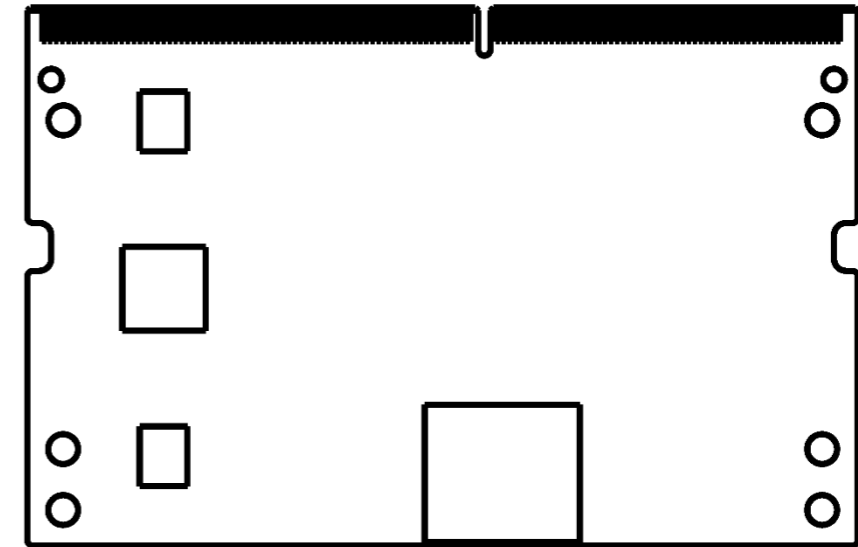
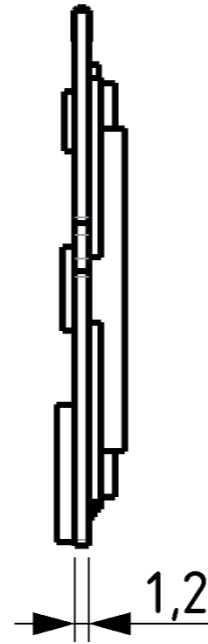
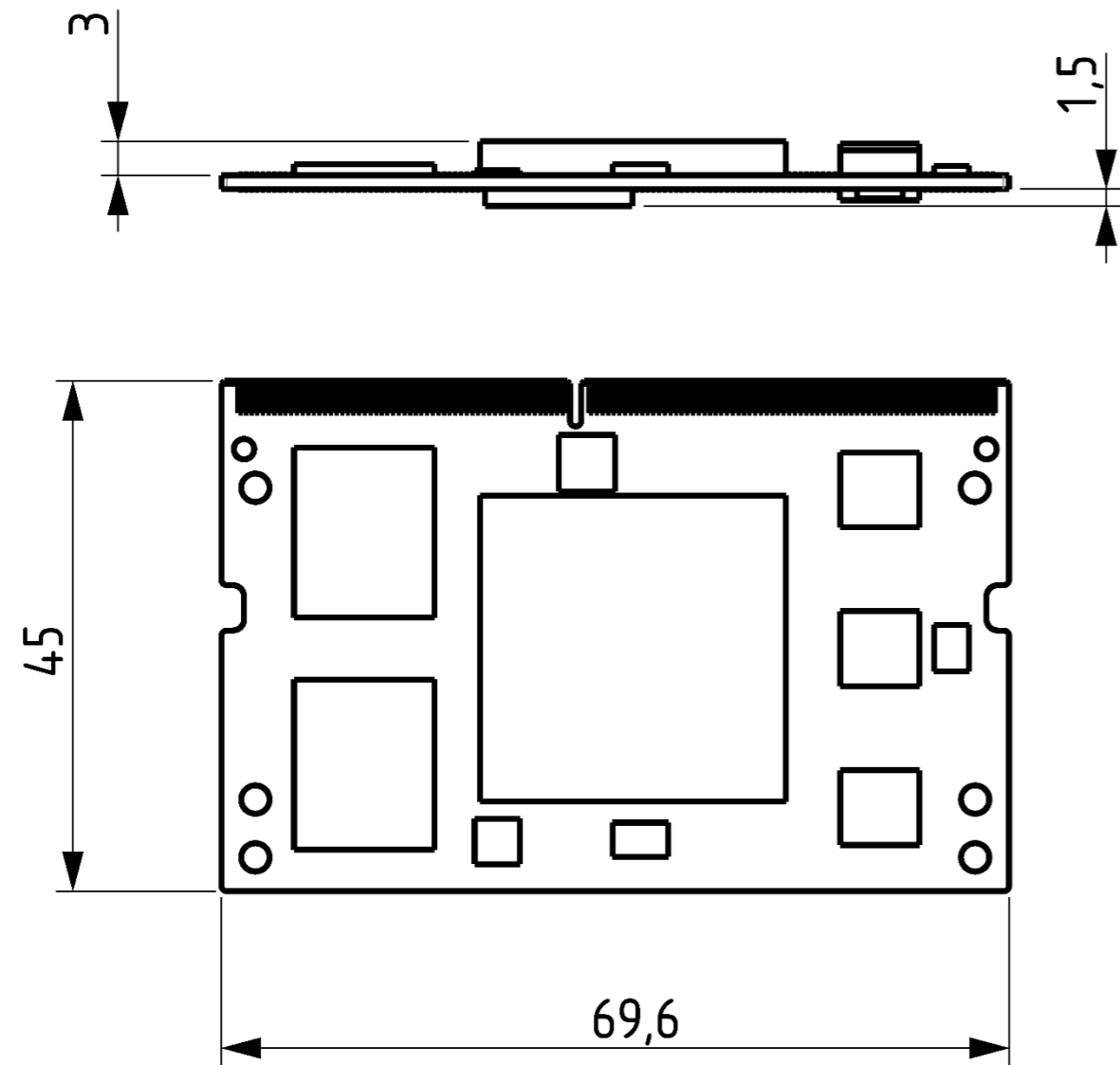


Gold finger
(260 PIN, SODIMM, 0.5mm pitch)



SpacemiT Key Stone K3
(Main frequency up to 2.4GHz)

Dimension





Interface definition

Notes1:
 Pin type: I = input, O = output, I/O = input/output (bidirectional), G= Ground , P = power supply , DOWN = Internal pull down , UP = Internal pull UP , L = Lowe Level , H = High level

PIN	CORE-K3JD4 Core board pin definition	K3JD4 Pin Number	Pin type	IO Power domain	I/O Pull	Function for Floor (MB-JD4-K3-MINI-V01)
1	GND		G			GND
3	MIPI_CS10_DN2	AE38	-	-		NC
5	MIPI_CS10_DP2	AE39	-	-		NC
7	GND		G			GND
9	MIPI_CS11_CLKN	AB39	-			NC
11	MIPI_CS11_CLKP	AB40	-			NC
13	GND		G			GND
15	MIPI_CS10_DN3	AD39	-	-		NC
17	MIPI_CS10_DP3	AD40	-	-		NC
19	GND		G			GND
21	MIPI_CS12_DN2	V39	-	-		NC
23	MIPI_CS12_DP2	V40	-	-		NC
25	GND		G			GND
27	MIPI_CS13_CLKN	W38	-	-		NC
29	MIPI_CS13_CLKP	W39	-	-		NC
31	GND		G			GND



Interface definition

33	MIPI_CSI2_DN3	V36	-	-		NC
35	MIPI_CSI2_DP3	V37	-	-		NC
37	GND		G			GND
39	USB_DRD_RX1N	AT12	O	-		USB_DRD_RX1N
41	USB_DRD_RX1P	AU12	O	-		USB_DRD_RX1P
43	GND		G			GND
45	USB_DRD_TX1N	AY10	I	-		USB_DRD_TX1N
47	USB_DRD_TX1P	AW10	I	-		USB_DRD_TX1P
49	GND		G			GND
51	USB_DRD_RX2N	AW11	O	-		USB_DRD_RX2N
53	USB_DRD_RX2P	AV11	O	-		USB_DRD_RX2P
55	GND		G			GND
57	USB_DRD_TX2N	AW12	O	-		USB_DRD_TX2N
59	USB_DRD_TX2P	AY12	O	-		USB_DRD_TX2P
61	GND		G			GND
63	EDP1_TX0N	AT18	I	-		DP1_TX0N
65	EDP1_TX0P	AU18	I	-		DP1_TX0P
67	GND		G			GND



Interface definition

69	EDP1_TX1N	AW18	I	-		DP1_TX1N
71	EDP1_TX1P	AY18	I	-		DP1_TX1P
73	GND		G			GND
75	EDP1_TX2N	AW19	I	-		DP1_TX2N
77	EDP1_TX2P	AV19	I	-		DP1_TX2P
79	GND		G			GND
81	EDP1_TX3N	AW20	I	-		DP1_TX3N
83	EDP1_TX3P	AY20	I	-		DP1_TX3P
85	GND		G			GND
87	GPIO[3]_58 { GMAC2_PPS / R.UART2_RXD / R.CAN0_TXD / PCIEC_PERSTN / R.I2C0_SDA / PWM16 }	M36	I/O	1.8V	DOWN	USBCC_INT_L
89	GPIO[5]_104 { SSP0_TXD / SSP2_TXD / USB30H-1_DRV / CAN3_RXD / PCIED_PWRDET }	AW27	-	-	DOWN	NC
91	GPIO[5]_106 { SSP0_SCLK / SSP2_SCLK / R.I2C1_SDA / I2C3_SDA / PCIED_WAKEN / PWM18 }	AP27	-	-	DOWN	NC
93	GPIO[5]_105 { SSP0_RXD / SSP2_RXD / R.I2C1_SCL / I2C3_SCL / PCIED_PERSTN / PWM17 }	AR27	-	-	DOWN	NC
95	GPIO[5]_107 { SSP0_FRM / SSP2_FRM / R.CAN4_TXD / USB30-0_DIR / PCIED_CLKREQN / PWM19 }	AY27	-	-	DOWN	NC
97	GPIO[3]_70 { R.GMAC3_TX_EN / SSPA4_FRM / ESPIO_D2 / IR1_RX / MNCLK_OUT1 / SSP3_SCLK }	J40	-	-	UP	NC
99	GPIO[3]_48 { GMAC2_TX_D0 / UART6_TXD / CAN1_RXD / PCIEA_AUXEN / I2C0_SCL / PWM6 }	J35	-	-	DOWN	NC
101	GPIO[3]_49 { GMAC2_TX_D1 / UART6_RXD / CAN1_TXD / PCIEA_PWRDET / I2C0_SDA / PWM7 }	K35	-	-	DOWN	NC
103	GPIO[3]_51 { GMAC2_TX_D2 / UART6_RTS / CAN2_RXD / PCIEA_ATNLED / I2C4_SDA / PWM9 }	M35	-	-	DOWN	NC



Interface definition

105	GPIO[3]_50 { GMAC2_TX_CLK / UART6_CTS / CAN2_TXD / PCIEA_MRLN / I2C4_SCL / PWM8 }	L35	-	-	DOWN	NC
107	GND		G			GND
109	USB20_A_DRD_USB_M	AU14	I/O	-		USB20_A_DRD_USB_M
111	USB20_A_DRD_USB_P	AT14	I/O	-		USB20_A_DRD_USB_P
113	GND		G			GND
115	USB20_B_USB_M	C18	I/O	-		USB20_B_USB_M
117	USB20_B_USB_P	B18	I/O	-		USB20_B_USB_P
119	GND		G			GND
121	USB20_HOST_M	B22	I/O	-		USB20_HOST_M
123	USB20_HOST_P	C22	I/O	-		USB20_HOST_P
125	GND		G			GND
127	GPIO[3]_59 { R.GMAC3_RXDV / R.UART5_TXD / PCIEC_WAKEN / R.I2C1_SCL / PWM17 }	J38	-	-	DOWN	NC
129	GND		G			GND
131	PCIE0_RX0N	G22	O	-		PCIE0_RX0n
133	PCIE0_RX0P	F22	O	-		PCIE0_RX0p
135	GND		G			GND
137	PCIE0_RX1N	E21	O	-		PCIE0_RX1n
139	PCIE0_RX1P	D21	O	-		PCIE0_RX1p



Interface definition

141	GND		G			GND
143	GPIO[4]_87 { R.SSP0_RXD / R.ESPI0_D1 / UART4_RXD / CAN2_RXD / PCIEA_MRLN / PCIEB_PRSENT2N }	AU25	I/O	3.3V	DOWN	NC
145	GPIO[4]_86 { R.SSP0_TXD / R.ESPI0_D0 / UART4_TXD / CAN2_TXD / PCIEA_PWRDET / USB30-0_DIR }	AT35	I/O	3.3V	DOWN	NC
147	GND		G			GND
149	PCIE1_RX0N	E19	I	-		PCIE1_RX0n
151	PCIE1_RX0P	D19	I	-		PCIE1_RX0p
153	GND		G			GND
155	PCIE1_RX1N	F18	I/O	-		PCIE1_RX1n
157	PCIE1_RX1P	G18	I/O	-		PCIE1_RX1p
159	GND		G			GND
161	PCIE2/USB3-B_RX0N	E17	I	-		PCIE2/USB3-B_RX0n
163	PCIE2/USB3-B_RX0P	D17	I	-		PCIE2/USB3-B_RX0p
165	GND		G			GND
167	PCIE5_RX0N	E9	O	-		NC
169	PCIE5_RX0P	D9	O	-		NC
171	GND		G			GND
173	PCIE5_REFCLK_N	B8	I	-		NC
175	PCIE5_REFCLK_P	C8	I	-		NC



Interface definition

177	GND		G			GND
179	GPIO[4]_80 { R.SSPA0_SYSCLK / SSPA2_SYSCLK / R.UART4_TXD / CAN3_RXD / PCIEA_WAKEN / I2C2_SCL }	AR34	I/O	3.3V	DOWN	PCIEA_WAKEn
181	GPIO[4]_79 { R.SSPA0_RXD / SSPA2_RXD / UART8_RTS / PCIEA_PERSTN / I2C1_SDA }	AP34	I/O	3.3V	DOWN	PCIEA_PERSTn
183	GPIO[4]_76 { R.SSPA0_CLK / SSPA2_CLK / UART8_TXD / CAN0_TXD / PCIEE_PERSTN / I2C0_SCL }	AR33	I/O	3.3V	DOWN	NC
185	GPIO[1]_00 { GMAC0_RXDV / SSPA5_CLK / PWM0 / IR1_RX / ESPI0_D0 / I2C0_SCL }	AY32	I/O	3.3V	DOWN	I2C0_SCL
187	GPIO[1]_01 { GMAC0_RX_D0 / SSPA5_FRM / PWM1 / R.IR1_RX / ESPI0_D1 / I2C0_SDA }	AW32	I/O	3.3V	DOWN	I2C0_SDA
189	GPIO[4]_82 { SSP0_RXD / SSPA0_FRM / UART9_CTSN / UART5_RXD / PCIEA_PRSENT2N / I2C3_SCL }	AV34	I/O	3.3V	DOWN	I2C3_SCL
191	GPIO[4]_83 { SSP0_SCLK / SSPA0_TXD / UART9_RTSN / UART5_TXD / PCIEA_ATTEN / I2C3_SDA }	AW34	I/O	3.3V	DOWN	I2C3_SDA
193	GPIO[5]_113 { SSP1_SCLK / SSPA0_TXD / R.GPIO[30] / PCIEB_PERSTN }	AY26	I/O	1.8V	DOWN	NC
195	GPIO[5]_114 { SSP1_FRM / SSPA0_RXD / R.GPIO[31] / PCIEB_WAKEN }	AP25	I/O	1.8V	DOWN	NC
197	GPIO[5]_112 { SSP1_RXD / SSPA0_FRM / UCIE_DESDA / I2C4_SDA / USB30-3_DRV / R.PWM9 }	AW26	I/O	1.8V	DOWN	NC
199	GPIO[5]_111 { SSP1_TXD / SSPA0_CLK / UCIE_DESCL / I2C4_SCL / USB30-0_INT / R.PWM8 }	AU26	I/O	1.8V	DOWN	NC
201	GND		G			GND
203	GPIO[5]_121 { UART1_TXD / I2C2_SDA / R.CAN3_RXD / CAN4_RXD / PCIEB_MRLN }	AT24	I/O	1.8V	UP	NC
205	GPIO[5]_120 { UART1_RXD / I2C2_SCL / R.CAN3_TXD / CAN4_TXD / PCIEB_PWRDET }	AR24	I/O	1.8V	UP	NC
207	GPIO[5]_118 { UART1_RTSN / USB30_DRD_DRV / R.GPIO[35] / PCIEB_PWRCTN }	AW25	I/O	1.8V	DOWN	NC
209	GPIO[5]_119 { UART1_CTSN / USB30-0_INT / PCIEB_AUXEN }	AP24	I/O	1.8V	UP	NC
211	GPIO[5]_124 { MMC2_DAT[1] / SSPA1_TXD / PCIED_PERSTN / E/DP0_HPDP / PCIEB_EINT }	AT23	I/O	1.8V	UP	NC



Interface definition

213	GPIO[4]_93 { R.GPIO[25] / R.ESPI0_ALERT / UART0_TXD / ESPI0_D2 / I2C5_SCL / R.PWM4 }	AW37	I/O	3.3V	UP	I2C5_SCL
215	GPIO[4]_94 { R.GPIO[26] / UART0_RXD / ESPI0_D3 / I2C5_SDA / R.PWM6 }	AY37	I/O	3.3V	DOWN	I2C5_SDA
217	GPIO[3]_43 { GMAC2_RX_D0 / UART0_RXD / CLK_CAMCK4 / PCIEA_WAKEN / I2C0_SDA / PWM1 }	J34	-	-	UP	NC
219	GPIO[1]_03 { GMAC0_RX_CLK / SSPA5_RXD / PWM3 / PCIED_PERSTN / ESPI0_D3 / I2C1_SDA }	AU32	-	-	DOWN	NC
221	GPIO[1]_05 { GMAC0_RX_D3 / PWM5 / PCIED_CLKREQN / ESPI0_CLK / I2C2_SCL }	AP32	-	-	DOWN	NC
223	GPIO[1]_12 { GMAC0_MDC / UART7_CTSN / CAN0_RXD / PCIEC_PERSTN / UART8_TXD / I2C4_SDA }	AW30	-	-	DOWN	NC
225	GPIO[1]_14 { GMAC0_INT_N / UART7_RXD / PWM14 / PCIEC_CLKREQN / MNCLK_OUT1 / I2C6_SCL }	AW29	-	-	DOWN	NC
227	PCIE3_REFCLK_N	B12	-	-		NC
229	PCIE3_REFCLK_P	C12	-	-		NC
231	GND		G			GND
233	GPIO[4]_88 { R.SSP0_SCLK / R.ESPI0_D2 / R.UART3_TXD / PCIEB_PERSTN / PCIEA_ATNLED / CAN1_RXD }	AV35	I	3.3V	DOWN	SHUTDOWN_REQ
235	VCC_RTC(5V)	-	I	5V		VCC_RTC
237	POWER_EN(5V)	-	I	5V		POWER_EN
239	PMIC_RST_OUTn(1V8)	-	I/O	1.8V		PMIC_RST_OUTn
241	GND		G			GND
243	GND		G			GND
245	GND		G			GND
247	GND		G			GND



Interface definition

249	GND		G			GND
251	VDD_IN(5V/20V)	-	P	PI 12V		VCC_12V
253	VDD_IN(5V/20V)	-	P	PI 12V		VCC_12V
255	VDD_IN(5V/20V)	-	P	PI 12V		VCC_12V
257	VDD_IN(5V/20V)	-	P	PI 12V		VCC_12V
259	VDD_IN(5V/20V)	-	P	PI 12V		VCC_12V
PIN	CORE-K3JD4 Core board pin definition	K3JD4 Pin Number	Pin type	IO Power domain	I/O Pull	Function for Floor (MB-JD4-K3-MINI-V01)
2	GND		G			GND
4	MIPI_CSIO_DN0	AG39	-			NC
6	MIPI_CSIO_DP0	AG38	-			NC
8	GND		G			GND
10	MIPI_CSIO_CLKN	AF36	-			NC
12	MIPI_CSIO_CLKP	AF37	-			NC
14	GND		G			GND
16	MIPI_CSIO_DN1	AF40	-			NC
18	MIPI_CSIO_DP1	AF39	-			NC
20	GND		G			GND
22	MIPI_CSIO2_DN0	Y40	-			NC



Interface definition

24	MIPI_CSI2_DP0	Y39	-			NC
26	GND		G			GND
28	MIPI_CSI2_CLKN	AB33	-			NC
30	MIPI_CSI2_CLKP	AB34	-			NC
32	GND		G			GND
34	MIPI_CSI2_DN1	Y37	-			NC
36	MIPI_CSI2_DP1	Y36	-			NC
38	GND		G			GND
40	PCIE4/USB3-D_RX0N	D13	O			PCIE4/USB3-D_RX0n
42	PCIE4/USB3-D_RX0P	E13	O			PCIE4/USB3-D_RX0p
44	GND		G			GND
46	PCIE4/USB3-D_TX0N	A9	I			PCIE4/USB3-D_TX0n
48	PCIE4/USB3-D_TX0P	B9	I			PCIE4/USB3-D_TX0p
50	GND		G			GND
52	PCIE4_REFCLK_N	C10	-			NC
54	PCIE4_REFCLK_P	B10	-			NC
56	GND		G			GND
58	PCIE3/USB3-C_RX0N	D15	O			PCIE3/USB3-C_RX0n



Interface definition

60	PCIE3/USB3-C_RX0P	E15	O			PCIE3/USB3-C_RX0p
62	GND		G			GND
64	PCIE3/USB3-C_TX0N	A11	I			PCIE3/USB3-C_TX0n
66	PCIE3/USB3-C_TX0P	B11	I			PCIE3/USB3-C_TX0p
68	GND		G			GND
70	MIPI_DSI1_D0N	AM40	-			NC
72	MIPI_DSI1_D0P	AM39	-			NC
74	GND		G			GND
76	MIPI_DSI1_CLKN	AL38	-			NC
78	MIPI_DSI1_CLKP	AL39	-			NC
80	GND		G			GND
82	MIPI_DSI1_D1N	AM34	-			NC
84	MIPI_DSI1_D1P	AM33	-			NC
86	GND	-	G			GND
88	GPIO[3]_74 { R.GMAC3_CLK_REF / CLK_CAMCK2 / ESPI0_RESETN / VCXO_REQ / USB30H-1_DRV / R.I2C0_SCL }	N40	I/O	1.8V	DOWN	LT8211UXE1_RST
90	GPIO[3]_67 { R.GMAC3_TX_CLK / R.GPIO[22] / R.SSP1_FRM / CLK_CAMCK4 / PCIEC_PWRDET / R.PWM3 }	M39	I/O	1.8V	DOWN	SATA_DEVSLP
92	GPIO[3]_53 { GMAC2_TX_EN / UART3_CTSN / SSP0_TXD / PCIEA_EINT / PWM11 }	H36	I/O	1.8V	DOWN	USB30_PHY_5V_EN
94	GPIO[1]_02 { GMAC0_RX_D1 / SSPA5_TXD / PWM2 / ESPI0_D2 / I2C1_SCL }	AV32	I/O	1.8V	DOWN	HUB20_PWR_EN



Interface definition

96	GPIO[3]_72 { R.GMAC3_MDIO / SSPA4_RXD / ESPI0_CS / E/DP1_HPD / DSI0_TE }	L40	I/O	1.8V	UP	e/DP1_HPD
98	EDP1_AUXN	AW17	I/O			DP1_AUXN
100	EDP1_AUXP	AV17	I/O			DP1_AUXP
102	GND		G			GND
104	GPIO[3]_60 { R.GMAC3_RX_D0 / R.UART5_RXD / R.SSP0_TXD / PCIEC_CLKREQN / R.I2C1_SDA / PWM18 }	L38	-		UP	NC
106	GPIO[3]_62 { R.GMAC3_RX_CLK / R.SSP0_SCLK / PCIEC_ATTEN / I2C6_SDA }	N38	-		DOWN	NC
108	GPIO[3]_61 { R.GMAC3_RX_D1 / R.SSP0_RXD / PCIEC_PRSENT2N / I2C6_SCL / PWM19 }	M38	-		UP	NC
110	GPIO[3]_63 { R.GMAC3_RX_D2 / R.GPIO[18] / R.SSP0_FRM / PCIEC_PWRCTN / I2C5_SCL }	P38	-		DOWN	NC
112	GPIO[3]_71 { R.GMAC3_MDC / SSPA4_TXD / ESPI0_D3 / R.IR0_RX / MNCLK_OUT2 / SSP3_FRM }	K40	-		UP	NC
114	GPIO[3]_45 { GMAC2_RX_CLK / UART10_RXD / CAN0_RXD / PCIEA_PRSENT2N / PWM3 }	L34	-		UP	NC
116	GPIO[3]_75 { R.GMAC3_PPS / CLK_CAMCK1 / ESPI0_ALERT / VCXO_OUT / USB30H-2_DRV / R.I2C0_SDA }	P40	-		DOWN	NC
118	GPIO[5]_122 { MMC2_DAT[3] / SSPA1_CLK / UART6_TXD / R.UART0_TXD / PCIEB_ATNLED }	AW24	-		UP	NC
120	GPIO[3]_44 { GMAC2_RX_D1 / UART10_TXD / CAN0_TXD / PCIEA_CLKREQN / PWM2 }	K34	-		UP	NC
122	GPIO[4]_85 { CLK_CAMCK3 / SSPA0_SYSCLK / UART9_RXD / USB30-2_DRV / PCIEA_AUXEN }	AY33	I/O	1.8V	DOWN	LT8711_EN
124	GPIO[4]_77 { R.SSPA0_FRM / SSPA2_FRM / UART8_RXD / CAN0_RXD / PCIEE_WAKEN / I2C0_SDA }	AT33	I/O	3.3V	DOWN	USB20_VCC5V0_EN
126	GPIO[3]_57 { GMAC2_CLK_REF / R.UART2_TXD / R.CAN0_RXD / EDP0_HPD / R.I2C0_SCL / PWM15 }	L37	I/O	1.8V	DOWN	WORK_LED
128	GPIO[3]_73 { R.GMAC3_INT_N / SSPA4_SYSCLK / ESPI0_CLK / R.IR1_RX / USB20_HOST_DRV }	M40	I/O	1.8V	UP	PCIE_PWR_EN
130	GPIO[5]_103 { SSPA3_SYSCLK / USB20_HOST_DRV / CAN3_TXD / PCIED_AUXEN / I2C1_SDA }	AY28	I/O	1.8V	DOWN	LED_R



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132	GND		G			GND
134	PCIE0_TX0N	A21	I			PCle0_TX0n
136	PCIE0_TX0P	B21	I			PCle0_TX0p
138	GND		G			GND
140	PCIE0_TX1N	B19	I			PCle0_TX1n
142	PCIE0_TX1P	A19	I			PCle0_TX1p
144	GND		G			GND
146	GND		G			GND
148	PCIE1_TX0N	A17	I			PCle1_TX0n
150	PCIE1_TX0P	B17	I			PCle1_TX0p
152	GND		G			GND
154	PCIE1_TX1N	B15	I			PCle1_TX1n
156	PCIE1_TX1P	A15	I			PCle1_TX1p
158	GND		G			GND
160	PCIE0_REFCLK_N	C20	I			PCle0_REFCLK_n
162	PCIE0_REFCLK_P	B20	I			PCle0_REFCLK_P
164	GND		G			GND
166	PCIE2/USB3-B_TX0N	A13	I			PCle2/USB3-B_TX0n



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168	PCIE2/USB3-B_TX0P	B13	I			PCIE2/USB3-B_TX0p
170	GND		G			GND
172	PCIE5_TX0N	A7	-			NC
174	PCIE5_TX0P	B7	-			NC
176	GND		G			GND
178	GPIO[3]_42 { GMAC2_RXDV / UART0_TXD / PCIEA_PERSTN / I2C0_SCL / PWM0 }	H34	I/O	1.8V	UP	MOD_SLEEP
180	GPIO[4]_81 { SSP0_TXD / SSPA0_CLK / R.UART4_RXD / CAN3_TXD / PCIEA_CLKREQN / I2C2_SDA }	AT34	I/O	3.3V	DOWN	PCIEA_CLKREQn
182	GPIO[4]_78 { R.SSPA0_TXD / SSPA2_TXD / UART8_CTS / PCIEE_CLKREQN / I2C1_SCL }	AP35	I/O	3.3V	DOWN	USB30_VCC5V0_EN
184	PHY1_MDI0-	-	I/O			PHY1_MDI0-
186	PHY1_MDI0+	-	I/O			PHY1_MDI0+
188	PHY1_LED1/CFG_LDO0	-	I			PHY1_LED1/CFG_LDO0
190	PHY1_MDI1-	-	I/O			PHY1_MDI1-
192	PHY1_MDI1+	-	I/O			PHY1_MDI1+
194	PHY1_LED2/CFG_LDO1	-	I			PHY1_LED2/CFG_LDO1
196	PHY1_MDI2-	-	I/O			PHY1_MDI2-
198	PHY1_MDI2+	-	I/O			PHY1_MDI2+
200	GND		G			GND
202	PHY1_MDI3-	-	I/O			PHY1_MDI3-



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204	PHY1_MDI3+	-	I/O			PHY1_MDI3+
206	GPIO[5]_123 { MMC2_DAT[2] / SSPA1_FRM / UART6_RXD / R.UART0_RXD / PCIEB_PWRLED }	AY24	I	1.8V	UP	SDMMC_DET_L
208	FAN_TACH(1V8)	-	I/O	1.8V		FAN_TACH_1V8
210	PMIC_32K_OUT(3V3)	-	-	-		NC
212	GPIO[3]_56 { GMAC2_INT_N / UART3_TXD / SSP0_FRM / R.UART3_TXD / PWM14 }	J37	I/O	1.8V	DOWN	LED_B
214	GPIO[3]_69 { R.GMAC3_TX_D3 / SSPA4_CLK / ESPI0_D1 / E/DP1_HPD / DSI0_TE / SSP3_RXD }	H40	I/O	1.8V	DOWN	FORCE_RECOVERY
216	GPIO[5]_125 { MMC2_DAT[0] / SSPA1_RXD / PCIED_WAKEN / E/DP1_HPD / PCIEB_EINTEG }	AU23	-	-	UP	NC
218	GPIO[5]_126 { MMC2_CMD / SSPA1_SYSCLK / PCIED_CLKREQN / I2C5_SCL }	AV23	I/O	1.8V	UP	SDIO_PWR_EN
220	GPIO[5]_101 { SSP3_SCLK / SSPA3_TXD / UART4_CTS / CAN4_RXD / PCIED_ATTN / MNCLK_OUT1 }	AU28	I/O	1.8V	DOWN	RTC_INT
222	GPIO[5]_102 { SSP3_FRM / SSPA3_RXD / UART4_RTS / CAN4_TXD / PCIED_PWRCTN / I2C1_SCL }	AV28	-	-	DOWN	NC
224	GPIO[5]_100 { SSP3_RXD / SSPA3_FRM / UART4_RXD / R.CAN2_RXD / PCIED_PRSENT2N / CLK32K_OUT }	AT28	-	-	DOWN	NC
226	GPIO[5]_99 { SSP3_TXD / SSPA3_CLK / UART4_TXD / R.CAN2_TXD / CLK_CAMCK4 }	AR28	-	-	DOWN	NC
228	GPIO[5]_127 { MMC2_CLK / PCIED_PRSENT2N / I2C5_SDA / USB30-2_DRV }	AY23	-	-	DOWN	NC
230	FAN_PWM(1V8)	-	I	1.8V		FAN_PWM_1V8
232	GPIO[3]_54 { GMAC2_MDC / UART3_RTSN / SSP0_RXD / PCIEA_EINTEG / I2C1_SCL / PWM12 }	H38	I/O	1.8V	DOWN	I2C1_SCL
234	GPIO[3]_55 { GMAC2_MDIO / UART3_RXD / SSP0_SCLK / R.UART3_RXD / I2C1_SDA / PWM13 }	H37	I/O	1.8V	DOWN	I2C1_SDA
236	PWR_SSP_SCLK { GPIO[122] / UART0_TXD }	E36	I/O	1.8V	UP	UART0_TXD_PMU
238	PWR_SSP_FRM { GPIO[123] / UART0_RXD }	G40	I/O	1.8V	UP	UART0_RXD_PMU





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240	GPIO[4]_84 { SSP0_FRM / SSPA0_RXD / UART9_TXD / USB30-1_DRV / PCIEA_PWRCTN / DSI0_TE }	AY34	I/O	3.3V	DOWN	SLEEP_WAKE
242	GND		G			GND
244	GND		G			GND
246	GND		G			GND
248	GND		G			GND
250	GND		G			GND
252	VDD_IN(5V/20V)		P	PI 12V		VCC_12V
254	VDD_IN(5V/20V)		P	PI 12V		VCC_12V
256	VDD_IN(5V/20V)		P	PI 12V		VCC_12V
258	VDD_IN(5V/20V)		P	PI 12V		VCC_12V
260	VDD_IN(5V/20V)		P	PI 12V		VCC_12V




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