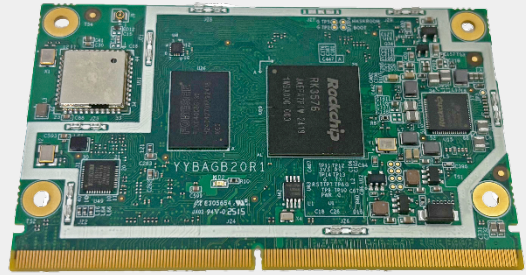


VT-SBC-SMARC-3576

Computer-on-Module



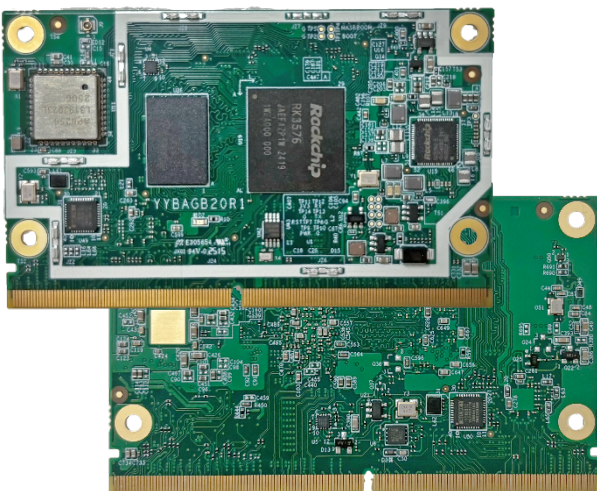
Product Brief

VT-SBC-SMARC-3576 Computer-on-Module (CoM) comes in a SMARC 2.1 form factor for easy integration into customers' development environment. It is powered by Rockchip RK3576 octa-core processor that integrates quad-core Cortex-A72 and quad-core Cortex-A53 with a separate NEON coprocessor. Its Arm Mali-G52 MC2 3D GPU supports OpenGL ES 1.1, 2.0, and 3.2, OpenCL up to 2.0, and Vulkan 1.1, providing exceptional graphics performance. Additionally, the 6 TOPS NPU supports mainstream AI frameworks, such as TensorFlow, Caffe, Tflite, Pytorch, Onnx NN, and Android NN for efficient multi-task handling and AI acceleration.

VT-SBC-SMARC-3576 supports up to 8K@30fps or 4K@120fps H.265 or 4K@60fps H.264 decoding, and 4K@60fps H.265/H.264 encoding, ensuring optimal video output quality. The 16MP single-channel ISP implements diverse algorithm accelerators, such as HDR, 3A, CAC, 3DNR, 2DNR, Sharpening, and Dehaze, delivering enhanced image processing performance.

For connectivity, the module offers two RGMII, supporting 10/100/1000Mbps Ethernet networking. A Wi-Fi and Bluetooth combo module offers a wireless connectivity option. In addition, various I/O signals are available for flexible expansion. VT-SBC-SMARC-3576 is ideally suitable for applications such as digital multimedia, smart retail, surveillance, edge computing, and industrial HMI.

Exterior and Features



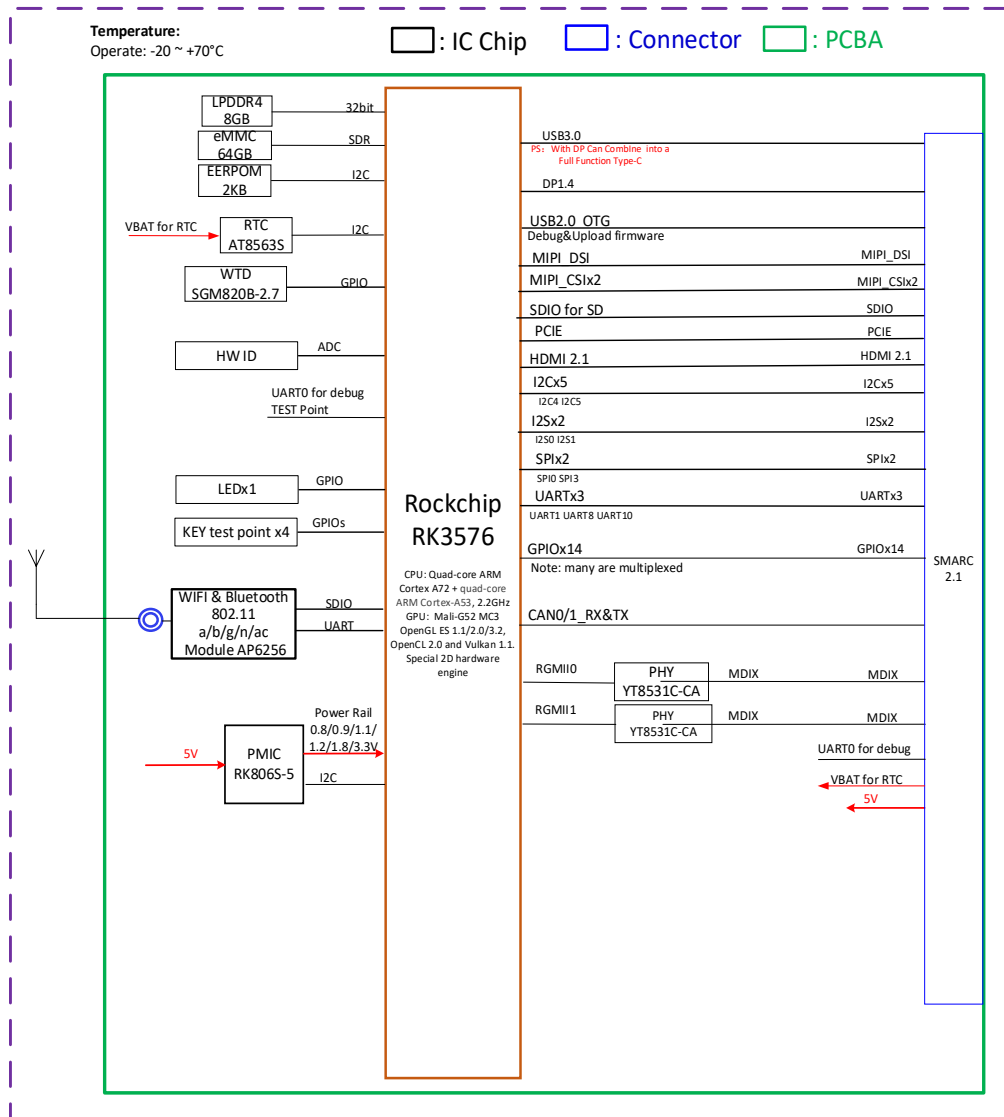
VT-SBC-SMARC-3576

-  Rockchip RK3576 octa-core processor
-  Multi-OS support: Android, Debian, Ubuntu
-  MIPI DSI/HDMI/DP/ for video output
-  Rich interface signals for flexible expansion
-  Gigabit Ethernet, Wi-Fi 5, and Bluetooth
-  6 TOPS NPU for AI acceleration
-  -20°C ~ +70°C extended operating temperature
-  SMARC 2.1 form factor for flexible integration

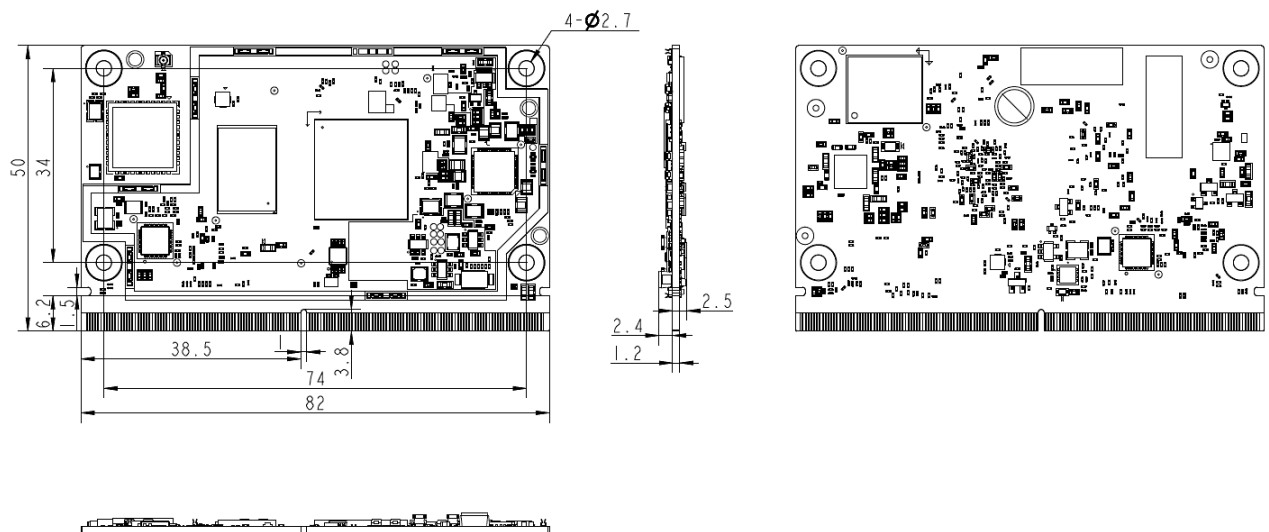
VT-SBC-SMARC-3576 Computer-on-Module Datasheet

Specifications			
System	CPU	Rockchip RK3576, quad-core ARM Cortex-A72 + quad-core ARM Cortex-A53 processor, up to 2.2GHz	
	GPU	Arm Mali G52 MC3 GPU, OpenGL ES 1.1/2.0/3.2, OpenCL 2.1, and Vulkan 1.2 supported	
	NPU	6 TOPS, int4/int8/int16/FP16/BF16/TF32 supported	
	Memory	8GB LPDDR4x	
	Storage	64GB eMMC V5.1	
Media	Video processing	8K@30fps or 4K@120fps H.265 or 4K@60fps H.264 decoder, 4K@60fps H.265/H.264 encoder	
	Camera ISP	16MP for single-channel camera (HDR, 3A, CAC, 3DNR, 2DNR, Sharpening, Dehaze...)	
Power	Input	5V DC	
	Consumption	Typical: 1.5W (power-on without applications running)	
Software	Operating system	Android 14, Debian 11, Ubuntu 22.04	
	Device management	BlueSphere MDM (Android version optional)	
Mechanical	Dimensions	82mm x 50mm x 3.7mm (SMARC 2.1 form factor)	
Environmental Condition	Temperature	Operating: -20°C ~ +70°C	Storage: -40°C ~ +85°C
	Humidity	Operating: 10%~95% RH	Storage: 5%~95% RH
I/O			
Display (Support multi-display in extended mode)	1 x 4-lane MIPI DSI (D-PHY/C-PHY), up to 2560 x 1600 @60Hz		
	1 x HDMI 2.1, up to 4K@120Hz		
	1 x DisplayPort 1.4 combo with USB 3.0 Type-C, up to 4K @120Hz		
Camera	1 x 4-Lane MIPI CSI-2, up to 4672 × 3504		
	1 x 2-Lane MIPI CSI-2, up to 4672 × 3504		
Audio	2 x I²S		
Ethernet	2 x RGMII, 10/100/1000Mbps		
Wi-Fi and Bluetooth	Wi-Fi IEEE 802.11 a/b/g/n/ac + BT 5.4		
USB	1 x USB 3.0 Type-C (OTG, DisplayPort 1.4)		
	1 x USB 3.0 host	1 x USB 2.0 host	
UART	3 x Communication UART		1 x Debug UART
CAN	2 x CAN FD		
GPIO	14 x GPIO (Max.)		
SPI	2 x SPI		
I²C	5 x I²C		
PICe	1 x PCIe 2.1 (5GT/s)		
SDIO	1 x 4-Bit SDIO 3.0		
System Control	4 x Test point (MaskROM, Reset, Recovery, Power on)		
	1 x LED indicator		
Watchdog Timer	Supported		
RTC	Supported (power from the carrier board)		

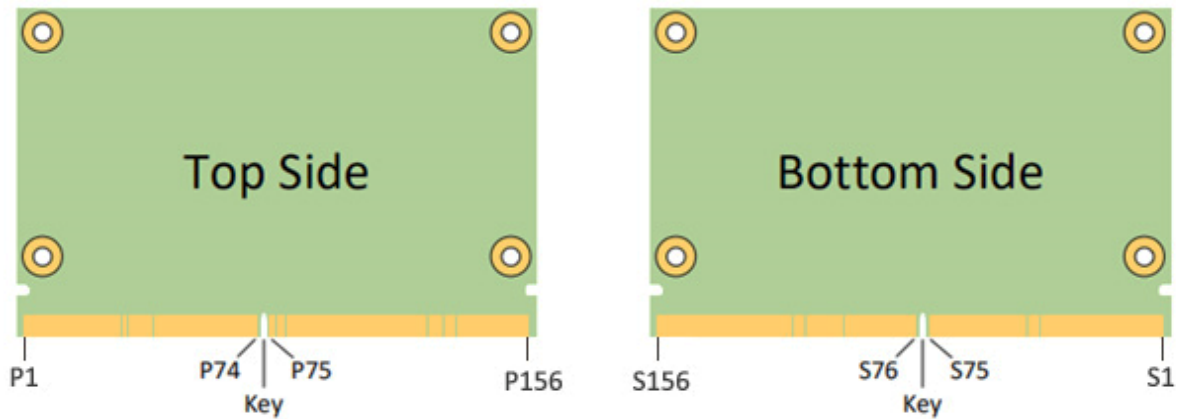
Block Diagram



Product Outlines



Edge Connector Pinout



Primary (Top) Side	Function 1*	Function 2	Level	Description
P1	NC	-	-	No connection
P2	GND	-	-	Ground
P3	MIPI_DPHY_CSIO_RX_CLKP	-	-	MIPI DPHY CSI 0 receive clock +
P4	MIPI_DPHY_CSIO_RX_CLKN	-	-	MIPI DPHY CSI 0 receive clock -
P5	NC	-	-	No connection
P6	NC	-	-	No connection
P7	MIPI_DPHY_CSIO_RX_D0P	-	-	MIPI DPHY CSI 0 receive data 0 +
P8	MIPI_DPHY_CSIO_RX_D0N	-	-	MIPI DPHY CSI 0 receive data 0 -
P9	GND	-	-	Ground
P10	MIPI_DPHY_CSIO_RX_D1P	-	-	MIPI DPHY CSI 0 receive data 1 +
P11	MIPI_DPHY_CSIO_RX_D1N	-	-	MIPI DPHY CSI 0 receive data 1 -
P12	GND	-	-	Ground
P13	MIPI_DPHY_CSIO_RX_D2P	-	-	MIPI DPHY CSI 0 receive data 2 +
P14	MIPI_DPHY_CSIO_RX_D2N	-	-	MIPI DPHY CSI 0 receive data 2 -
P15	GND	-	-	Ground
P16	MIPI_DPHY_CSIO_RX_D3P	-	-	MIPI DPHY CSI 0 receive data 3 +
P17	MIPI_DPHY_CSIO_RX_D3N	-	-	MIPI DPHY CSI 0 receive data 3 -
P18	GND	-	-	Ground
P19	PHY0_MDI3-	-	-	PHY 0 media dependent interface 3-
P20	PHY0_MDI3+	-	-	PHY 0 media dependent interface 3+
P21	LINK0_100M	-	-	PHY 0 100Mbps link indicator
P22	LINK0_1000M	-	-	PHY 0 1000Mbps link indicator
P23	PHY0_MDI2-	-	-	PHY 0 media dependent interface 2-
P24	PHY0_MDI2+	-	-	PHY 0 media dependent interface 2+
P25	LINK0_ACT	-	-	PHY 0 activity indicator
P26	PHY0_MDI1-	-	-	PHY 0 media dependent interface 1-
P27	PHY0_MDI1+	-	-	PHY 0 media dependent interface 1+

* Function 1 is set as the default. For specific pins, there are multiple functions available.

Primary (Top) Side	Function 1	Function 2	Level	Description
P28	GBE0_CTREF	-	-	Center-tap reference voltage for carrier board Ethernet magnetics (if required by the GBE PHY module)
P29	PHY0_MDIO-	-	-	PHY 0 media dependent interface 0-
P30	PHY0_MDIO+	-	-	PHY 0 media dependent interface 0+
P31	NC	-	-	No connection
P32	GND	-	-	Ground
P33	SDMMC0_WP	-	-	SDMMC 0 write protect
P34	SDMMC0_CMD	-	-	SDMMC 0 command
P35	SDMMC0_DET	-	-	SDMMC 0 card detection
P36	SDMMC0_CLK	-	-	SDMMC 0 clock
P37	SDMMC0_PWREN	-	-	SDMMC 0 power enable
P38	GND	-	-	Ground
P39	SDMMC0_D0	-	-	SDMMC 0 data 0
P40	SDMMC0_D1	-	-	SDMMC 0 data 1
P41	SDMMC0_D2	-	-	SDMMC 0 data 2
P42	SDMMC0_D3	-	-	SDMMC 0 data 3
P43	SPI0_CSN0_M0	-	1.8V	SPI 0 chip select - (mode 0)
P44	SPI0_CLK_M0	-	1.8V	SPI 0 clock (mode 0)
P45	SPI0_MISO_M0	-	1.8V	SPI 0 master in slave out (mode 0)
P46	SPI0_MOSI_M0	-	1.8V	SPI 0 master out slave in (mode 0)
P47	GND	-	-	Ground
P48	NC	-	-	No connection
P49	NC	-	-	No connection
P50	GND	-	-	Ground
P51	NC	-	-	No connection
P52	NC	-	-	No connection
P53	GND	-	-	Ground
P54	SPI3_CSN0_M0	-	1.8V	SPI 3 chip select - (mode 0)
P55	NC	-	-	No connection
P56	SPI3_CLK_M0	-	1.8V	SPI 3 clock (mode 0)
P57	SPI3_MISO_M0	-	1.8V	SPI 3 master in slave out (mode 0)
P58	SPI3_MOSI_M0	-	1.8V	SPI 3 master out slave in (mode 0)
P59	GND	-	-	Ground
P60	USB2_OTG0_DP	-	-	USB 2.0 OTG data +
P61	USB2_OTG0_DM	-	-	USB 2.0 OTG data -
P62	NC	-	-	No connection
P63	NC	-	-	No connection
P64	USB2_OTG0_ID	-	-	USB 2.0 OTG identification
P65	USB2_HOST1_DP	-	-	USB 2.0 host 1 data +
P66	USB2_HOST1_DM	-	-	USB 2.0 host 1 data -

Primary (Top) Side	Function 1	Function 2	Level	Description
P67	NC	-	-	No connection
P68	GND	-	-	Ground
P69	NC	-	-	No connection
P70	NC	-	-	No connection
P71	NC	-	-	No connection
P72	NC	-	-	No connection
P73	NC	-	-	No connection
P74	NC	-	-	No connection
KEY				
P75	PCIE0_PERSTn	-	-	PCIe 0 reset
P76	NC	-	-	No connection
P77	NC	-	-	No connection
P78	PCIE0_CLKREQn_M3	-	-	PCIe 0 clock request
P79	GND	-	-	Ground
P80	NC	-	-	No connection
P81	NC	-	-	No connection
P82	GND	-	-	Ground
P83	PCIE0_REFCLKP	-	-	PCIe 0 reference clock +
P84	PCIE0_REFCLKN	-	-	PCIe 0 reference clock -
P85	GND	-	-	Ground
P86	PCIE0_RXP	-	-	PCIe 0 receiver +
P87	PCIE0_RXN	-	-	PCIe 0 receiver -
P88	GND	-	-	Ground
P89	PCIE0_TXP	-	-	PCIe 0 transmitter +
P90	PCIE0_TXN	-	-	PCIe 0 transmitter -
P91	GND	-	-	Ground
P92	HDMI_TX_D2P	-	-	HDMI transmit data 2 +
P93	HDMI_TX_D2N	-	-	HDMI transmit data 2 -
P94	GND	-	-	Ground
P95	HDMI_TX_D1P	-	-	HDMI transmit data 1 +
P96	HDMI_TX_D1N	-	-	HDMI transmit data 1 -
P97	GND	-	-	Ground
P98	HDMI_TX_D0P	-	-	HDMI transmit data 0 +
P99	HDMI_TX_D0N	-	-	HDMI transmit data 0 -
P100	GND	-	-	Ground
P101	HDMI_TX_D3P	-	-	HDMI transmit data 3 +
P102	HDMI_TX_D3N	-	-	HDMI transmit data 3 -
P103	GND	-	-	Ground
P104	HDMI_TX_HPDIN_M0	-	-	HDMI hot plug detect input

Primary (Top) Side	Function 1	Function 2	Level	Description
P105	HDMI_TX_SCL	-	-	HDMI DDC clock
P106	HDMI_TX_SDA	-	-	HDMI DDC data
P107	NC	-	-	No connection
P108	MIPI_DCPHY_CSI_CAM0_PDN_H	GPIO3_D5	1.8V	Camera 0 power-down control
P109	MIPI_DPHY_CSI_CAM1_PDN_H	GPIO2_D7	1.8V	Camera 1 power-down control
P110	MIPI_DCPHY_CSI_CAM0_RST_H	GPIO3_D4	1.8V	Camera 0 reset
P111	MIPI_DPHY_CSI_CAM1_RST_H	GPIO3_B0	1.8V	Camera 1 reset
P112	NC	GPIO3_C7/UART8_RTSN_M0	1.8V	No connection by default
P113	GPIO2_D6	PWM2	1.8V	GPIO
P114	GPIO3_A4	-	1.8V	GPIO
P115	NC	GPIO3_C6/UART8_TX/ HDMI_TX_SBDP	-	No connection
P116	NC	GPIO3_C5/UART8_RX/ HDMI_TX_SBDN	-	No connection
P117	GPIO4_C0	HDMI_TX_CEC_M0	3.3V	GPIO
P118	MIPI_DPHY_CSI_CAM1_CLKOUT	GPIO4_A0	1.8V	Camera 1 clock output
P119	NC	GPIO3_D0/UART8_CTSN_M0	1.8V	No connection
P120	GND	-	-	Ground
P121	I2C2_SCL_M0_CC	I2C5_SCL_M3	1.8V	I ² C 2 clock
P122	I2C2_SDA_M0_CC	I2C5_SDA_M3	1.8V	I ² C 2 data
P123	NC	-	-	No connection
P124	NC	-	-	No connection
P125	NC	-	-	No connection
P126	NC	-	-	No connection
P127	RESET_IN#	NPOR	-	Input reset
P128	PWRON_L	-	-	Power on
P129	UART1_TX_M0	-	-	UART 1 transmit data
P130	UART1_RX_M0	-	-	UART 1 receive data
P131	UART1_RTSN_M0	-	-	UART 1 request to send
P132	UART1_CTSN_M0	-	-	UART 1 clear to send
P133	GND	-	-	Ground
P134	UART0_TX_M0_DEBUG	-	-	Debug UART 0 transmit data
P135	UART0_RX_M0_DEBUG	-	-	Debug UART 0 receive data
P136	UART8_TX_M0	-	-	UART 8 transmit data
P137	UART8_RX_M0	-	-	UART 8 receive data
P138	UART8_RTSN_M0	-	-	UART 8 request to send
P139	UART8_CTSN_M0	-	-	UART 8 clear to send
P140	UART10_TX_M2	-	-	UART 10 transmit data
P141	UART10_RX_M2	-	-	UART 10 receive data

Primary (Top) Side	Function 1	Function 2	Level	Description
P142	GND	-	-	Ground
P143	CAN0_TX_M2	-	-	CAN 0 transmit data
P144	CAN0_RX_M2	-	-	CAN 0 receive data
P145	CAN1_TX_M2	-	-	CAN 1 transmit data
P146	CAN1_RX_M2	-	-	CAN 1 receive data
P147	VCC5V0_SYS_S5	-	-	5V power input
P148	VCC5V0_SYS_S5	-	-	5V power input
P149	VCC5V0_SYS_S5	-	-	5V power input
P150	VCC5V0_SYS_S5	-	-	5V power input
P151	VCC5V0_SYS_S5	-	-	5V power input
P152	VCC5V0_SYS_S5	-	-	5V power input
P153	VCC5V0_SYS_S5	-	-	5V power input
P154	VCC5V0_SYS_S5	-	-	5V power input
P155	VCC5V0_SYS_S5	-	-	5V power input
P156	VCC5V0_SYS_S5	-	-	5V power input

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S1	I2C4_SCL_M3_MIPI_CAM0	I2C4_SCL_M3	1.8V	I ² C clock for camera 0 (ensure no address conflict with the peripheral for another I ² C 4)
S2	I2C4_SDA_M3_MIPI_CAM0	I2C4_SDA_M3	1.8V	I ² C data for camera 0 (ensure no address conflict with the peripheral for another I ² C 4)
S3	GND	-	-	Ground
S4	SAIO_MCLK_M0	-	1.8V	I ² S 0 master clock
S5	I2C5_SCL_M3_MIPI_CAM1	I2C5_SCL_M3	1.8V	I ² C clock for camera 1 (ensure no address conflict with the peripheral for another I ² C 5)
S6	MIPI_DPHY_CSI_CAM0_CLKOUT	-	-	Camera 0 clock output
S7	I2C5_SDA_M3_MIPI_CAM1	I2C5_SDA_M3	-	I ² C data for camera 1 (ensure no address conflict with the peripheral for another I ² C 5)
S8	MIPI_DPHY_CSI1_RX_CLKP	-	-	MIPI DPHY CSI 1 receive clock +
S9	MIPI_DPHY_CSI1_RX_CLKN	-	-	MIPI DPHY CSI 1 receive clock -
S10	GND	-	-	Ground
S11	MIPI_DPHY_CSI1_RX_D0P	-	-	MIPI DPHY CSI 1 receive data 0 +
S12	MIPI_DPHY_CSI1_RX_D0N	-	-	MIPI DPHY CSI 1 receive data 0 -
S13	GND	-	-	Ground
S14	MIPI_DPHY_CSI1_RX_D1P	-	-	MIPI DPHY CSI 1 receive data 1 +
S15	MIPI_DPHY_CSI1_RX_D1N	-	-	MIPI DPHY CSI 1 receive data 1 -

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S16	GND	-	-	Ground
S17	PHY1_MDI0+	-	-	PHY 1 media dependent interface 0+
S18	PHY1_MDI0-	-	-	PHY 1 media dependent interface 0-
S19	LINK1_100M	-	-	PHY 1 100Mbps link indicator
S20	PHY1_MDI1+	-	-	PHY 1 media dependent interface 1+
S21	PHY1_MDI1-	-	-	PHY 1 media dependent interface 1-
S22	LINK1_1000M	-	-	PHY 1 1000Mbps link indicator
S23	PHY1_MDI2+	-	-	PHY 1 media dependent interface 2+
S24	PHY1_MDI2-	-	-	PHY 1 media dependent interface 2-
S25	GND	-	-	Ground
S26	PHY1_MDI3+	-	-	PHY 1 media dependent interface 3+
S27	PHY1_MDI3-	-	-	PHY 1 media dependent interface 3-
S28	GBE1_CTREF	-	-	Center-tap reference voltage for carrier board Ethernet magnetics (if required by the GBE PHY module)
S29	NC	-	-	No connection
S30	NC	-	-	No connection
S31	LINK1_ACT	-	-	PHY1 activity indicator
S32	NC	-	-	No connection
S33	NC	-	-	No connection
S34	GND	-	-	Ground
S35	NC	-	-	No connection
S36	NC	-	-	No connection
S37	NC	-	-	No connection
S38	SAI1_MCLK_M0	-	1.8V	I ² S 1 master clock
S39	SAI1_LRCK_M0	-	1.8V	I ² S 1 left/right clock
S40	SAI1_SDO0_M0	-	1.8V	I ² S 1 serial data output 0
S41	SAI1_SDI0_M0	-	1.8V	I ² S 1 serial data input 0
S42	SAI1_SCLK_M0	-	1.8V	I ² S 1 serial clock
S43	NC	-	-	No connection
S44	NC	-	-	No connection
S45	NC	-	-	No connection
S46	NC	-	-	No connection
S47	GND	-	-	Ground
S48	I2C_GP_CK	I2C5_SCL_M3	1.8V	I ² C general purpose clock (ensure no address conflict with the peripheral for another I ² C 5)
S49	I2C_GP_DAT	I2C5_SCL_M3	1.8V	I ² C general purpose data (ensure no address conflict with the peripheral for another I ² C 5)
S50	SAI0_LRCK_M0	-	1.8V	I ² S 0 left/right clock
S51	SAI0_SDO0_M0	-	1.8V	I ² S 0 serial data output 0

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S52	SAIO_SDIO_M0	-	1.8V	I ² S 0 serial data input 0
S53	SAIO_SCLK_M0	-	1.8V	I ² S 0 serial clock 0
S54	NC	-	-	No connection
S55	NC	-	-	No connection
S56	NC	-	-	No connection
S57	NC	-	-	No connection
S58	NC	-	-	No connection
S59	NC	-	-	No connection
S60	NC	-	-	No connection
S61	GND	-	-	Ground
S62	NC	-	-	No connection
S63	NC	-	-	No connection
S64	GND	-	-	Ground
S65	NC	-	-	No connection
S66	NC	-	-	No connection
S67	GND	-	-	Ground
S68	NC	-	-	No connection
S69	NC	-	-	No connection
S70	GND	-	-	Ground
S71	USB3_HOST1_SSTXP	-	-	USB 3.0 Host 1 super speed transmit +
S72	USB3_HOST1_SSTXN	-	-	USB 3.0 Host 1 super speed transmit -
S73	GND	-	-	Ground
S74	USB3_HOST1_SSRXP	-	-	USB 3.0 Host 1 super speed receive +
S75	USB3_HOST1_SSRXN	-	-	USB 3.0 Host 1 super speed receive -
KEY				
S76	NC	-	-	No connection
S77	NC	-	-	No connection
S78	NC	-	-	No connection
S79	NC	-	-	No connection
S80	GND	-	-	Ground
S81	NC	-	-	No connection
S82	NC	-	-	No connection
S83	GND	-	-	Ground
S84	NC	-	-	No connection
S85	NC	-	-	No connection
S86	GND	-	-	Ground
S87	NC	-	-	No connection
S88	NC	-	-	No connection
S89	GND	-	-	Ground

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S90	NC	-	-	No connection
S91	NC	-	-	No connection
S92	GND	-	-	Ground
S93	USB3_OTG0_SSRX1P/DP_TX_D0P	-	-	USB 3.0 OTG 0 super speed receive 1 + / DisplayPort (DP) transmit data 0 +
S94	USB3_OTG0_SSRX1N/DP_TX_D0N	-	-	USB 3.0 OTG 0 super speed receive 1 - / DisplayPort (DP) transmit data 0 -
S95	DPO_AUX_SEL	-	-	DisplayPort (DP) auxiliary channel
S96	USB3_OTG0_SSTX1P/DP_TX_D1P	-	-	USB 3.0 OTG 0 super speed transmit 1 + / DisplayPort (DP) transmit data 1 +
S97	USB3_OTG0_SSTX1N/DP_TX_D1N	-	-	USB 3.0 OTG 0 super speed transmit 1 - / DisplayPort (DP) transmit data 1 -
S98	NC	-	-	No connection
S99	USB3_OTG0_SSRX2P/DP_TX_D2P	-	-	USB 3.0 OTG 0 super speed receive 2 + / DisplayPort (DP) transmit data 2 +
S100	USB3_OTG0_SSRX2N/DP_TX_D2N	-	-	USB 3.0 OTG 0 super speed receive 2 - / DisplayPort (DP) transmit data 2 -
S101	NC	-	-	No connection
S102	USB3_OTG0_SSTX2P/DP_TX_D3P	-	-	USB 3.0 OTG 0 super speed transmit 2 + / DisplayPort (DP) transmit data 3 +
S103	USB3_OTG0_SSTX2N/DP_TX_D3N	-	-	USB 3.0 OTG 0 super speed transmit 2 - / DisplayPort (DP) transmit data 3 -
S104	NC	-	-	No connection
S105	DP_TX_AUXP			DisplayPort (DP) transmit data aux. channel +
S106	DP_TX_AUXN			DisplayPort (DP) transmit data aux. channel -
S107	NC	-	-	No connection
S108	NC	-	-	No connection
S109	NC	-	-	No connection
S110	GND	-	-	Ground
S111	NC	-	-	No connection
S112	NC	-	-	No connection
S113	NC	-	-	No connection
S114	NC	-	-	No connection
S115	NC	-	-	No connection
S116	NC	-	-	No connection
S117	NC	-	-	No connection
S118	NC	-	-	No connection
S119	GND	-	-	Ground

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S120	NC	-	-	No connection
S121	NC	-	-	No connection
S122	NC	-	-	No connection
S123	GPIO13	-	-	GPIO
S124	GND	-	-	Ground
S125	MIPI_DPHY_DSI_TX_D0P	-	-	MIPI DSI transmit data 0 -
S126	MIPI_DPHY_DSI_TX_D0N	-	-	MIPI DSI transmit data 0 +
S127	GPIO0_B0	-	1.8V	MIPI DSI backlight enable
S128	MIPI_DPHY_DSI_TX_D1P	-	-	MIPI DSI transmit data 1 -
S129	MIPI_DPHY_DSI_TX_D1N	-	-	MIPI DSI transmit data 1 +
S130	GND	-	-	Ground
S131	MIPI_DPHY_DSI_TX_D2P	-	-	MIPI DSI transmit data 2 -
S132	MIPI_DPHY_DSI_TX_D2N	-	-	MIPI DSI transmit data 2 +
S133	GPIO4_D1	-	1.8V	LCD VDD enable
S134	MIPI_DPHY_DSI_TX_CLKP	-	-	MIPI DSI transmit clock +
S135	MIPI_DPHY_DSI_TX_CLKN	-	-	MIPI DSI transmit clock -
S136	GND	-	-	Ground
S137	MIPI_DPHY_DSI_TX_D3P	-	-	MIPI DSI transmit data 3 -
S138	MIPI_DPHY_DSI_TX_D3N	-	-	MIPI DSI transmit data 3 +
S139	I2C_LCD_CK	I2C4_SCL_M3	-	I ² C clock for LCD (ensure no address conflict with the peripheral for another I ² C 4)
S140	I2C_LCD_DAT	I2C4_SDA_M3	-	I ² C data for LCD (ensure no address conflict with the peripheral for another I ² C 4)
S141	LCD_PWM	GPIO3_D6	1.8V	LCD backlight PWM control
S142	NC	GPIO0_C5/ UART10_RX_M2	-	No connection
S143	GND	-	-	Ground
S144	NC	-	-	No connection
S145	WD_RESET	-	-	Watchdog output
S146	PCIE0_WAKEN_M0	-	-	PCIe 0 wake up
S147	VBAT_RTC	-	-	RTC battery power supply
S148	LID#	-	-	Lid open/close indication to Module. Low indicates lid closure (which system may use to initiate a sleep state). Carrier to float the line in in-active state. Active low, level sensitive. Should be de-bounced on the Module.

Secondary (Bottom) Side	Function 1	Function 2	Level	Description
S149	SLEEP#	-	-	Sleep indicator from the carrier board. May be sourced from user Sleep button or Carrier logic. Carrier to float the line in inactive state. Active low, level sensitive. Should be de-bounced on the Module.
S150	VIN_PWR_BAD#	-	-	Power bad indication from the carrier board. Module and carrier power supplies (other than module and carrier power supervisory circuits) shall not be enabled while this signal is held low by the carrier.
S151	NC	-	-	No connection
S152	NC	-	-	No connection
S153	GPIO0_B1	-	-	The module shall drive this signal low when the system is in a standby power state.
S154	GPIO0_B1	-	-	Carrier board circuits (apart from power management and power path circuits) should not be powered up until the module asserts the CARRIER_PWR_ON signal.
S155	SARADC_VIN1_KEY/RECOVERY	-	-	SARADC_VIN1_KEY/RECOVERY
S156	NC	-	-	No connection
S157	NC	-	-	No connection
S158	NC	-	-	No connection

Ordering Information

Ordering No.	Operating System	Memory	Storage	Form factor
VT-SBC-SMARC-3576-A	Android 14	8GB	64GB	SMARC 2.1
VT-SBC-SMARC-3576-D	Debian 11	8GB	64GB	SMARC 2.1
VT-SBC-SMARC-3576-U	Ubuntu 22.04	8GB	64GB	SMARC 2.1

Packing List	
VT-SBC-SMARC-3576 computer-on-module	1

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes many Fortune Global 500 companies. Its product lines cover edge intelligent hardware, IoT communication devices, industrial displays and BlueSphere cloud platforms.

With over 20 years of experience in R&D of intelligent edge hardware, Vantron has provided users with diverse embedded solutions featuring ARM and X86 architectures. Its offerings range from Linux, Android to Windows, from embedded to desktop level, and from gateways to servers. In addition, it provides users with system trimming, driver transplantation and more to cater to the unique needs of its users.

VT-SBC-SMARC-3576 V1.5 © 2024 Vantron Technology, Inc. All rights reserved. This document may be updated or modified by Vantron Technology without prior notice.