



SOM-M8370 Development Kit

SMARC SOM & Carrier Board

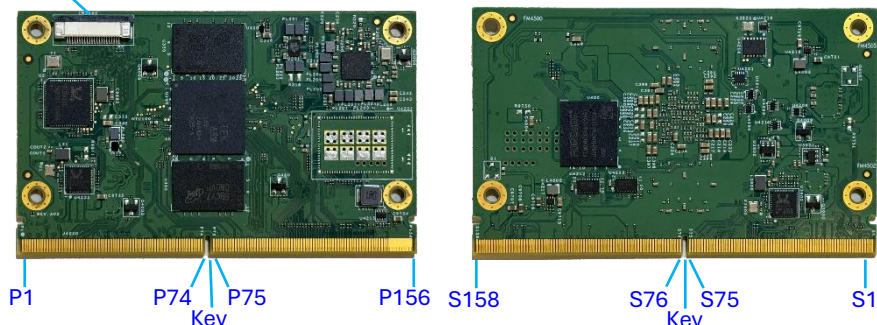
Pin Out

SOM-M8370 Pin-out & Signal Descriptions

CSI-0B (2-Lane) connector

Primary (Top) side

Secondary (Bottom) Side



SMARC Pin-out Primary (Top) Side

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing (<i>red</i> for default setting)	I/O Type	I/O Level	Comments
P1	N/A			
P2	N/A			
P3	CSI1A_L2P_T1B	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P4	CSI1A_L2N_T1C	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P5	N/A			
P6	N/A			
P7	CSI1A_L1P_T0C	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P8	CSI1A_L1N_T1A	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P9	N/A			
P10	CSI1B_L0P_T0A	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P11	CSI1B_L0N_T0B	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P12	N/A			
P13	CSI1A_L0P_T0A	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P14	CSI1A_L0N_T0B	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P15	N/A			
P16	CSI1B_L1P_T0C	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P17	CSI1B_L1N_T1A	AIO D- PHY	1.2V	MIPI-CSI1 4-lanes
P18	N/A			
P19	RTL8211_MDI3-	DIO MDI		From RTL8211
P20	RTL8211_MDI3+	DIO MDI		From RTL8211
P21	RTL8211_LED1	DO	3.3V	From RTL8211
P22	RTL8211_LED2	DO	3.3V	From RTL8211
P23	RTL8211_MDI2-	DIO MDI		From RTL8211
P24	RTL8211_MDI2+	DIO MDI		From RTL8211
P25	RTL8211_LED0	DO	3.3V	From RTL8211

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O Type	I/O Level	Comments
P26	RTL8211_MDI1-	DIO MDI		From RTL8211
P27	RTL8211_MDI1+	DIO MDI		From RTL8211
P28	N/A			
P29	RTL8211_MDIO-	DIO MDI		From RTL8211
P30	RTL8211_MDIO+	DIO MDI		From RTL8211
P31	N/A			
P32	N/A			
P33	GPIO: GPIO70 SPI: SPIM0_CLK SPI: SCP_SPI0_CK DMIC: DMIC3_DAT CAM: CMVREF1	DI	1.8V	SDIO I/F
P34	GPIO: GPIO163 SDIO: MSDC1_CMD SPDIF: SPDIF_OUT	DIO	1.8V	SDIO I/F
P35	GPIO: GPIO120 I2S: I2SO2_D3 I2S: I2SIN_D3 UART: URXD3 TDMIN: TDMIN_DI I2S: I2SO1_BCK	DI	1.8V	SDIO I/F
P36	GPIO: GPIO164 SDIO: MSDC1_CLK SPDIF: SPDIF_IN0	DO	1.8V	SDIO I/F
P37	GPIO: GPIO4 GPIO: TP_GPIO4_AO SPDIF: SPDIF_IN2 I2S: I2SO1_MCK DMIC: DMIC4_DAT I2S: I2SIN_D1 I2S: I2SO2_D1	DO	1.8V	SDIO I/F
P38	N/A			
P39	GPIO: GPIO165 SDIO: MSDC1_DAT0 SPDIF: SPDIF_IN1	DIO	1.8V	SDIO I/F
P40	GPIO: GPIO166 SDIO: MSDC1_DAT1 SPDIF: SPDIF_IN2	DIO	1.8V	SDIO I/F
P41	GPIO: GPIO167 SDIO: MSDC1_DAT2 PWM: PWM_0	DIO	1.8V	SDIO I/F
P42	GPIO: GPIO168 SDIO: MSDC1_DAT3 PWM: PWM_0 CLK: CLKM0	DIO	1.8V	SDIO I/F
P43	GPIO: GPIO126 DMIC: DMIC1_DAT SPI: SPINOR_CS TDMIN: TDMIN_BCK TCSYS: LVTS_SDO	DIO	1.8V	SPI NOR not to support
P44	GPIO: GPIO125 DMIC: DMIC1_CLK SPI: SPINOR_CK TDMIN: TDMIN_MCK TCSYS: LVTS_FOUT	DIO	1.8V	SPI NOR not to support
P45	GPIO: GPIO128 DMIC: DMIC2_CLK SPI: SPINOR_IO1 TDMIN: TDMIN_DI TCSYS: LVTS_SCF	DIO	1.8V	SPI NOR not to support
P46	GPIO: GPIO127 DMIC: DMIC1_DAT_R SPI: SPINOR_IO0 TDMIN: TDMIN_LRCK TCSYS: LVTS_26M	DIO	1.8V	SPI NOR not to support
P47	N/A			
P48	N/A			
P49	N/A			
P50	N/A			

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O Type	I/O Level	Comments
P51	N/A			
P52	N/A			
P53	N/A			
P54	GPIO: GPIO79 SPI: SPIM2_CSB SCPI: SCP_SPI2_CS I2S: I2SO1_MCK UART: UTXD2 UART: TP_UTXD2_AO PCM: PCM_SYNC	DO	1.8V	SPI I/F
P55	N/A			
P56	GPIO: GPIO80 SPI: SPIM2_CLK SCPI: SCP_SPI2_CK I2S: I2SO1_BCK UART: URXD2 UART: TP_URXD2_AO PCM: PCM_CLK	DO	1.8V	SPI I/F
P57	GPIO: GPIO82 SPI: SPIM2_MISO SCPI: SCP_SPI2_MI I2S: I2SO1_D0 UART: UCTS2 UART: TP_UCTS2_AO PCM: PCM_DI	DI	1.8V	SPI I/F
P58	GPIO: GPIO81 SPI: SPIM2_MOSI SCPI: SCP_SPI2_MO I2S: I2SO1_WS UART: URTS2 UART: TP_URTS2_AO PCM: PCM_DO	DO	1.8V	SPI I/F
P59	N/A			
P60	USB_DP_P0	DIO	3.3V	P0 USB
P61	USB_DM_P0	DIO	3.3V	P0 USB
P62	GPIO: GPIO84 USB: USB_DRVVBUS	DIO	3.3V	P0 USB
P63	GPIO: GPIO85 USB: VBUSVALID	DI	5V	P0 USB
P64	GPIO: GPIO83 USB: IDDIG	DI		P0 USB
P65	USB_DP_P2	DIO	3.3V	P2 USB
P66	USB_DM_P2	DIO	3.3V	P2 USB
P67	USB1_EN_OC#	DIO	3.3V	
P68	N/A			
P69	DSP1_DP	DIO	3.3V	From RTS5411S P1
P70	DSP1_DM	DIO	3.3V	From RTS5411S P1
P71	HUB1_EN_OC#	DI	3.3V	From RTS5411S P1
P72	N/A			
P73	N/A			
P74	HUB2_EN_OC#	DI	3.3V	From RTS5411S P2
P75	GPIO: GPIO48 PCIE: PERSTN	DO	3.3V	PCIE
P76	N/A			
P77	N/A			
P78	GPIO: GPIO49 PCIE: CLKREQN	DIO	3.3V	PCIE
P79	N/A			

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O Type	I/O Level	Comments
P80	N/A			
P81	N/A			
P82	N/A			
P83	PCIEG2_CLK_P	DO	1.2V	PCIE
P84	PCIEG2_CLK_N	DO	1.2V	PCIE
P85	N/A			
P86	PCIEG2_LN0_RXP	DI	1.2V	PCIE
P87	PCIEG2_LN0_RXN	DI	1.2V	PCIE
P88	N/A			
P89	PCIEG2_LN0_TXP	DO	1.2V	PCIE
P90	PCIEG2_LN0_TXN	DO	1.2V	PCIE
P91	N/A			
P92	HDMITX21_CH2_P	DO	1.8V	HDMI
P93	HDMITX21_CH2_M	DO	1.8V	HDMI
P94	N/A			
P95	HDMITX21_CH1_P	DO	1.8V	HDMI
P96	HDMITX21_CH1_M	DO	1.8V	HDMI
P97	N/A			
P98	HDMITX21_CH0_P	DO	1.8V	HDMI
P99	HDMITX21_CH0_M	DO	1.8V	HDMI
P100	N/A			
P101	HDMITX21_CLK_P	DO	1.8V	HDMI
P102	HDMITX21_CLK_M	DO	1.8V	HDMI
P103	N/A			
P104	HDMITX_HTPLG	DI	1.8V	HDMI
P105	HDMITX_SCL	DIO	1.8V	HDMI
P106	HDMITX_SDA	DIO	1.8V	HDMI
P107	HDMITX_CEC	DIO	1.8V	HDMI
P108	GPIO: GPIO18 GPIO:TP_GPIO2_AO CAM:CMFLASH0 CAM:CMVREF4 TDMIN:TDMIN_MCK UART:UTXD1 UART:TP_UTXD1_AO	DIO	1.8V	MIPI-CSIOA_PWR ENABLE
P109	GPIO: GPIO20 GPIO:TP_GPIO4_AO CAM:CMFLASH2 CLK:CLKM2 TDMIN:TDMIN_LRCK UART:URTS1 UART:TP_URTS1_AO	DIO	1.8V	MIPI-CSI1_PWR ENABLE
P110	GPIO: GPIO19 GPIO: TP_GPIO3_AO CAM: CMFLASH1 CAM: CMVREF5 TDMIN: TDMIN_BCK UART: URXD1 UART: TP_URXD1_AO	DIO	1.8V	MIPI-CSIOA_RESETN
P111	GPIO: GPIO21 GPIO:TP_GPIO5_AO	DIO	1.8V	MIPI-CSI1_RESETN

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing ("red" for default setting)	I/O Type	I/O Level	Comments
	CAM:CMFLASH3 CLK:CLKM3 TDMIN:TDMIN_DI UART:UCTS1 UART:TP_UCTS1_AO			
P112	GPIO: GPIO14 GPIO: TP_GPIO6_AO SPI: SPIM4_MOSI HDMI: HDMITX20_SCL	DIO	1.8V	
P113	GPIO: GPIO9 GPIO: TP_GPIO1_AO SPI: SPIM3_MOSI TDMIN: TDMIN_LRCK DMIC: DMIC2_CLK CAM: CMFLASH0 PMW: PWM_0	DIO	1.8V	
P114	GPIO: GPIO43 KP: KPCOL1 DP: DP_TX_HPD CAM: CMFLASH2	DIO	1.8V	
P115	GPIO: GPIO10 GPIO: TP_GPIO2_AO SPI: SPIM3_MISO TDMIN: TDMIN_DI DMIC: DMIC2_DAT CAM: CMFLASH1 PWM: PWM_1	DIO	1.8V	
P116	GPIO: GPIO44 KP: KPROW0	DIO	1.8V	
P117	GPIO: GPIO86 USB: IDDIG_1P UART: UTXD1 UART: URTS2 PWM: PWM_2 GPIO: TP_GPIO4_AO AUXIF: AUXIF_ST0	DIO	1.8V	
P118	GPIO: GPIO11 GPIO: TP_GPIO3_AO SPDIF: SPDIF_OUT I2S: I2SO1_D0 DMIC: DMIC2_DAT_R CAM: CMVREF6	DIO	1.8V	
P119	GPIO: GPIO87 USB: USB_DRVVBUS_1P UART: URXD1 UART: UCTS2 PWM: PWM_3 GPIO: TP_GPIO5_AO AUXIF: AUXIF_CLK0	DIO	1.8V	
P120	N/A			
P121	GPIO: GPIO59 I2C: SCL2 I2C: SCP_SCL0 I2C: SCP_SCL1	DO	1.8V	
P122	GPIO: GPIO60 I2C: SDA2 I2C: SCP_SDA0 I2C: SCP_SDA1	DIO	1.8V	
P123	N/A			
P124	N/A			
P125	N/A			
P126	GPIO: GPIO15 GPIO: TP_GPIO7_AO SPI: SPIM4_MISO HDMI: HDMITX20_SDA	DIO	1.8V	
P127	SYSRSTB	DI	1.8V	SYSTEM RESET KEY
P128	PWRKEY	DI	1.8V	POWER KEY
P129	GPIO: GPIO0 GPIO: TP_GPIO0_AO SPI: SPIM5_CSB UART: UTXD1 DMIC: DMIC3_CLK I2S: I2SIN_MCK I2S: I2SO2_MCK	DO	1.8V	UART P0
P130	GPIO: GPIO1 GPIO: TP_GPIO1_AO	DI	1.8V	UART P0

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O Type	I/O Level	Comments
	SPI: SPIM5_CLK UART: URXD1 DMIC: DMIC3_DAT I2S: I2SIN_BCK I2S: I2SO2_BCK			
P131	GPIO: GPIO02 GPIO: TP_GPIO2_AO SPI: SPIM5_MOSI UART: URTS1 DMIC: DMIC3_DAT_R I2S: I2SIN_WS I2S: I2SO2_WS	DI	1.8V	UART P0
P132	GPIO: GPIO03 GPIO: TP_GPIO3_AO SPI: SPIM5_MISO UART: UCTS1 DMIC: DMIC4_CLK I2S: I2SIN_D0 I2S: I2SO2_D0	DO	1.8V	UART P0
P133	N/A			
P134	GPIO: GPIO31 UART: UTXD0 UART: TP_UTXD1_AO UART: TP_UTXD2_AO	DO	1.8V	Console port
P135	GPIO: GPIO32 UART: URXD0 UART: TP_URXD1_AO UART: TP_URXD2_AO	DI	1.8V	Console port
P136	GPIO: GPIO35 UART: UTXD2 UART: URTS1 UART: TP_URTS1_AO UART: TP_UTXD2_AO	DO	1.8V	UART P2
P137	GPIO: GPIO36 UART: URXD2 UART: UCTS1 UART: TP_UCTS1_AO UART: TP_URXD2_AO	DI	1.8V	UART P2
P138	GPIO: GPIO33 UART: UTXD1 UART: URTS2 UART: TP_UTXD1_AO	DI	1.8V	UART P2
P139	GPIO: GPIO34 UART: URXD1 UART: UCTS2 UART: TP_URXD1_AO	DO	1.8V	UART P2
P140	GPIO: GPIO73 SPI: SPIM0_MIO2 UART: UTXD3 DMIC: DMIC4_DAT CLK: CLKM0 CAM: CMVREF4	DO	1.8V	UART P3
P141	GPIO: GPIO74 SPI: SPIM0_MIO3 UART: URXD3 DMIC: DMIC4_DAT_R CLK: CLKM1 CAM: CMVREF5	DI	1.8V	UART P3
P142	N/A			
P143	TXCAN	DO	1.8V	From MCP2518FDT-E/QBB
P144	RXCAN	DI	1.8V	From MCP2518FDT-E/QBB
P145	N/A			
P146	Reserved for HOMEKEY from MT6365			Reserved Function
P147	Vin	POWER	5V	
P148	Vin	POWER	5V	
P149	Vin	POWER	5V	
P150	Vin	POWER	5V	
P151	Vin	POWER	5V	
P152	Vin	POWER	5V	

SMARC Pin No. Primary (Top) Side	CPU PIN / Multiplexing ("red" for default setting)	I/O Type	I/O Level	Comments
P153	Vin	POWER	5V	
P154	Vin	POWER	5V	
P155	Vin	POWER	5V	
P156	Vin	POWER	5V	

SMARC Pin-out Secondary (Bottom) Side

SMARC Pin No. Secondary (Bottom) Side	CPU PIN / Multiplexing ("red" for default setting)	I/O	I/O Level	Comments
S1	GPIO: GPIO61 I2C: SCL3 I2C: SCP_SCL0 I2C: SCP_SCL1	DO	1.8V	MIPI-CSI1_I2C_SCL
S2	GPIO: GPIO62 I2C: SDA3 I2C: SCP_SDA0 I2C: SCP_SDA1	DIO	1.8V	MIPI-CSI1_I2C_SDA
S3	N/A			
S4	GPIO: GPIO24 CAM: CMMCLK2 PWM: PWM_3 EDP: EDP_TX_HPD	DIO	1.8V	MIPI-CSIOA_MCLK
S5	GPIO: GPIO65 I2C: SCL5 I2C: SCP_SCL0 I2C: SCP_SCL1	DO	1.8V	MIPI-CSIOA_I2C_SCL
S6	CMMCLK1			MIPI-CSI1_MCLK
S7	GPIO: GPIO66 I2C: SDA5 I2C: SCP_SDA0 I2C: SCP_SDA1	DIO	1.8V	MIPI-CSIOA_I2C_SDA
S8	CSIOA_L1P_T0C	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S9	CSIOA_L1N_T1A	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S10	N/A			
S11	CSIOA_L0P_T0A	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S12	CSIOA_L0N_T0B	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S13	N/A			
S14	CSIOA_L2P_T1B	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S15	CSIOA_L2N_T1C	AIO D-PHY	1.2V	MIPI-CSIOA 2-lanes
S16	N/A			
S17	RTL8153_MDI0+	DIO MDI		From RTL8153
S18	RTL8153_MDI0-	DIO MDI		From RTL8153
S19	RTL8153_LED1	DO	3.3V	From RTL8153
S20	RTL8153_MDI1+	DIO MDI		From RTL8153
S21	RTL8153_MDI1-	DIO MDI		From RTL8153
S22	RTL8153_LED2	DO	3.3V	From RTL8153
S23	RTL8153_MDI2+	DIO MDI		From RTL8153
S24	RTL8153_MDI2-	DIO MDI		From RTL8153
S25	N/A			
S26	RTL8153_MDI3+	DIO MDI		From RTL8153
S27	RTL8153_MDI3-	DIO MDI		From RTL8153

SMARC Pin No. Secondary (Bottom) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O	I/O Level	Comments
S28	N/A			
S29	N/A			
S30	N/A			
S31	RTL8153_LED0	DO	3.3V	From RTL8153
S32	N/A			
S33	N/A			
S34	N/A			
S35	N/A			
S36	N/A			
S37	N/A			
S38	GPIO: GPIO114 I2S: I2SO2_MCK I2S: I2SIN_MCK	DIO	1.8V	
S39	GPIO: GPIO109 I2S: I2SIN_WS I2S: SPLIN_BCK DMIC: DMIC4_DAT CAM: CMVREF6 AUXIF: AUXIF_ST1	DIO	1.8V	
S40	N/A			
S41	GPIO: GPIO110 I2S: I2SIN_D0 SPLIN: SPLIN_D0 DMIC: DMIC4_DAT_R CAM: CMVREF7 AUXIF: AUXIF_CLK1	DI	1.8V	
S42	GPIO: GPIO108 I2S: I2SIN_BCK SPLIN: SPLIN_LRCK DMIC: DMIC4_CLK CAM: CMVREF5 AUXIF: AUXIF_CLK0	DIO	1.8V	
S43	N/A			
S44	N/A			
S45	N/A			
S46	N/A			
S47	N/A			
S48	GPIO: GPIO63 I2C: SCL4	DO	1.8V	
S49	GPIO: GPIO64 I2C: SDA4	DIO	1.8V	
S50	GPIO: GPIO116 I2S: I2SO2_WS I2S: I2SIN_WS	DIO	1.8V	
S51	GPIO: GPIO117 I2S: I2SO2_D0 I2S: I2SIN_D0	DO	1.8V	
S52	N/A			
S53	GPIO: GPIO115 I2S: I2SO2_BCK I2S: I2SIN_BCK	DIO	1.8V	
S54	N/A			
S55	HUB4_EN_OC#	DIO	3.3V	From RTS5411S P4
S56	N/A			
S57	N/A			
S58	N/A			

SMARC Pin No. Secondary (Bottom) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O	I/O Level	Comments
S59	DSP4_DP	DIO		From RTS5411S P4
S60	DSP4_DM	DIO		From RTS5411S P4
S61	N/A			
S62	DSP2_SSTX+	DO		From RTS5411S P2
S63	DSP2_SSTX-	DO		From RTS5411S P2
S64	N/A			
S65	DSP2_SSRX+	DI		From RTS5411S P2
S66	DSP2_SSRX-	DI		From RTS5411S P2
S67	N/A			
S68	DSP2_DP	DIO		From RTS5411S P2
S69	DSP2_DM	DIO		From RTS5411S P2
S70	N/A			
S71	DSP1_SSTX+	DO		From RTS5411S P1
S72	DSP1_SSTX-	DO		From RTS5411S P1
S73	N/A			
S74	DSP1_SSRX+	DI		From RTS5411S P1
S75	DSP1_SSRX+	DI		From RTS5411S P1
S76	N/A			
S77	N/A			
S78	N/A			
S79	N/A			
S80	N/A			
S81	N/A			
S82	N/A			
S83	N/A			
S84	N/A			
S85	N/A			
S86	N/A			
S87	N/A			
S88	N/A			
S89	N/A			
S90	N/A			
S91	N/A			
S92	N/A			
S93	DP_LN0_TXP	AIO	1.2V	DP
S94	DP_LN0_TXN	AIO	1.2V	DP
S95	N/A	DI		DP
S96	DP_LN1_TXP	AIO	1.2V	DP

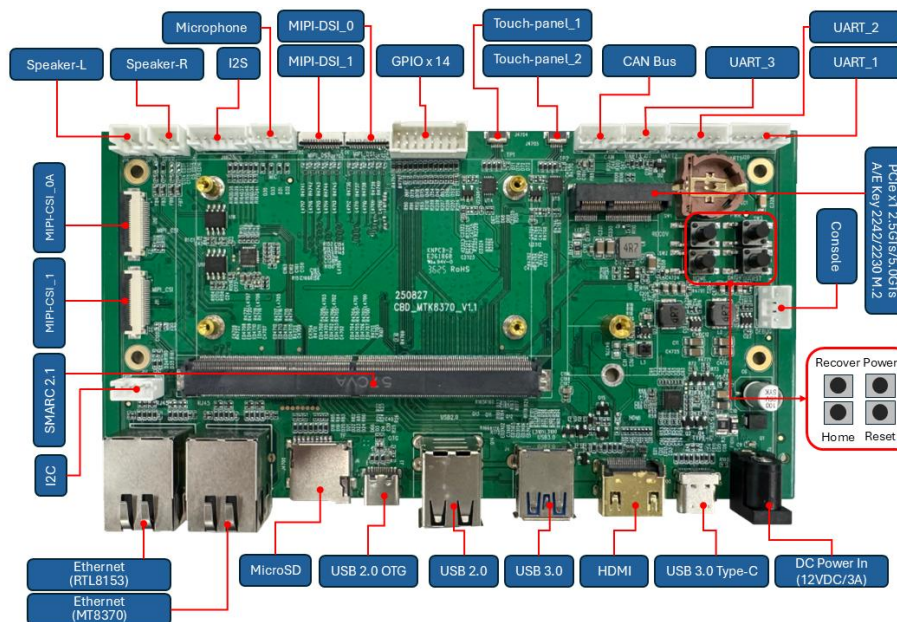
SMARC Pin No. Secondary (Bottom) Side	CPU PIN / Multiplexing (*red* for default setting)	I/O	I/O Level	Comments
S97	DP_LN1_TXN	AIO	1.2V	DP
S98	DPTX_HPD	DI		DP
S99	DP_LN2_TXP	AIO	1.2V	DP
S100	DP_LN2_TXN	AIO	1.2V	DP
S101	N/A			
S102	DP_LN3_TXP	AIO	1.2V	DP
S103	DP_LN3_TXN	AIO	1.2V	DP
S104	N/A			
S105	DPAUXP	AIO	1.2V	DP
S106	DPAUXN	AIO	1.2V	DP
S107	GPIO: GPIO72 SPI: SPIM0_MISO SPI: SCP_SPI0_MI DMIC: DMIC4_CLK CAM: CMVREF3	DO	1.8V	
S108	MUX_AUXP_CKP			From TMUXHS4212
S109	MUX_AUXN_CKN			From TMUXHS4212
S110	N/A			
S111	MUX_DSI_EDP_D0P			From TMUXHS4212
S112	MUX_DSI_EDP_D0N			From TMUXHS4212
S113	GPIO: GPIO28 DSI: DSI1_TE DSI: DSI_TE EDP: EDP_TX_HPD CAM: CMVREF3 PWM: PWM_3	DI	1.8V	
S114	MUX_DSI_EDP_D1P			From TMUXHS4212
S115	MUX_DSI_EDP_D1N			From TMUXHS4212
S116	GPIO: GPIO89 USB: IDDIG_2P UART: URXD2 UART: UCTS1 CLK: CLKM3 GPIO: TP_GPIO7_AO AUXIF: AUXIF_CLK1	DO	1.8V	
S117	DSI1_D2P_T0A			
S118	DSI1_D2N_T0B			
S119	N/A			
S120	DSI1_D3P_T2C			
S121	DSI1_D3N			
S122	GPIO: GPIO30 DISP: DISP_PWM1 DISP: DISP_PWM0 CAM: CMFLASH3 PWM: PWM_1	DO	1.8V	
S123	GPIO: GPIO13 GPIO: TP_GPIO5_AO SPI: SPIM4_CLK HDMI: HDMITX20_CEC	DIO	1.8V	
S124	N/A			
S125	DSIO_D0P_T0C			
S126	DSIO_D0N_T1A			
S127	GPIO: GPIO45 KP: KPROW1	DO	1.8V	

SMARC Pin No. Secondary (Bottom) Side	CPU PIN / Multiplexing ("red" for default setting)	I/O	I/O Level	Comments
	EDP: EDP_TX_HPD CAM: CMFLASH3 I2S: I2SIN_MCK			
S128	DSIO_D1P_T2A			
S129	DSIO_D1N_T2B			
S130	N/A			
S131	DSIO_D2P_T0A			
S132	DSIO_D2N_T0B			
S133	GPIO: GPIO111 I2S: I2SIN_D1 I2S: SPLIN_D1 DMIC: DMIC3_CLK SPDIF: SPDIF_OUT	DO	1.8V	
S134	DSIO_CKP_T1B			
S135	DSIO_CKN_T1C			
S136	N/A			
S137	DSIO_D3P_T2C			
S138	DSIO_D3N			
S139	GPIO: GPIO55 I2C: SCL0 I2C: SCP_SCL0 I2C: SCP_SCL1	DO	1.8V	
S140	GPIO: GPIO56 I2C: SDA0 I2C: SCP_SDA0 I2C: SCP_SDA1	DIO	1.8V	
S141	GPIO: GPIO29 DISP: DISP_PWM0 DISP: DISP_PWM1	DO	1.8V	
S142	GPIO: GPIO12 GPIO: TP_GPIO4_AO SPI: SPIM4_CSB HDMI: HDMITX20_HTPLG	DIO	1.8V	
S143	N/A			
S144	GPIO: GPIO26 DSI: DSI_TE DSI: DSI1_TE EDP: EDP_TX_HPD	DI	1.8V	
S145	GPIO: GPIO100 WDT: WATCHDOG	DO	1.8V	
S146	GPIO: GPIO47 PCI: WAKEN	DI	3.3V	PCIE
S147	VDD_RTC			
S148	N/A			
S149	N/A			
S150	N/A			
S151	N/A			
S152	N/A			
S153	N/A			
S154	N/A			
S155	GPIO: GPIO42 KP: KPCOLO	DIO	1.8V	Download Key
S156	N/A			
S157	N/A			
S158	N/A			

MIPI-CSI_0B (2-Lane) connector

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	VCC3V3	#3	GND
#4	CSI3_RX0+	#5	CSI3_RX0-	#6	GND
#7	CSI3_RX1+	#8	CSI3_RX1-	#9	GND
#10	N.C.	#11	N.C.	#12	CAM3_RST#
#13	N.C.	#14	N.C.	#15	GND
#16	CSI3_CLK+	#17	CSI3_CLK-	#18	GND
#19	I2C_CAM3_CLK/CSI3_TX+	#20	I2C_CAM3_DAT/CSI3_TX-	#21	CAM3_PWR#
#22	CAM3_MCK	#23	GND	#24	GND

SMARC Carrier Board Pin-out & Signal Descriptions



MIPI-CSI_0A (J10)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	VCC3V3	#3	GND
#4	CSI3_RX0+	#5	CSI3_RX0-	#6	GND
#7	CSI3_RX1+	#8	CSI3_RX1-	#9	GND
#10	N.C.	#11	N.C.	#12	CAM3_RST#
#13	N.C.	#14	N.C.	#15	GND
#16	CSI3_CLK+	#17	CSI3_CLK-	#18	GND
#19	I2C_CAM3_CLK/CSI3_TX+	#20	I2C_CAM3_DAT/CSI3_TX-	#21	CAM3_PWR#
#22	CAM3_MCK	#23	GND	#24	GND

MIPI-CSI_1 (J11)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	VCC3V3	#3	GND
#4	CSI3_RX0+	#5	CSI3_RX0-	#6	GND
#7	CSI3_RX1+	#8	CSI3_RX1-	#9	GND
#10	CSI3_RX2+	#11	CSI3_RX2-	#12	CAM3_RST#
#13	CSI3_RX3+	#14	CSI3_RX3-	#15	GND
#16	CSI3_CLK+	#17	CSI3_CLK-	#18	GND
#19	I2C_CAM3_CLK/CSI3_TX+	#20	I2C_CAM3_DAT/CSI3_TX-	#21	CAM3_PWR#
#22	CAM3_MCK	#23	GND	#24	GND

Speaker-L(J14)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	Speaker-	#2	Speaker+		

Speaker-R(J7)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	Speaker-	#2	Speaker+		

I2S(J18)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	SDOUT	#2	BCK	#3	CLK
#4	SDIN	#5	LRCK	#6	MCK

I2C(J17)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	PM CK	#3	PM_DAT
#4	GND				

Microphone(J16)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	MIC1+	#2	MIC1-	#3	MIC2+
#4	MIC2-				

Touch-Panel_1(J4704)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VIO3V3	#2	RST	#3	INT
#4	SCL0	#5	SDA0	#6	GND
#7	GND	#8	GND		

Touch-Panel_2(J4705)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VIO3V3	#2	RST	#3	INT
#4	SCL1	#5	SDA1	#6	GND
#7	GND	#8	GND		

GPIO(J23)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC5V	#2	PWM0_GPIO9	#3	MT8370_GPIO43
#4	PWM1_GPIO10	#5	MT8370_GPIO44	#6	PWM2_GPIO86
#7	PWM3_GPIO87	#8	LCM1_EN	#9	DSI0_DSI_TE
#10	LCD1_VDD_EN	#11	DSI1_DSI_TE	#12	MT8370_GPIO11
#13	MT8370_GPIO12	#14	MT8370_GPIO13		

MIPI-DSI0(J4702)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	IOVCC1V8	#2	DCDC_EN	#3	GND
#4	GND	#5	VDD(4V6)	#6	VDD(4V6)
#7	TE	#8	XRES	#9	GND
#10	MIPI2+	#11	MIPI2-	#12	GND
#13	MIPI1+	#14	MIPI1-	#15	GND
#16	MIMP_CLK+	#17	MIPI_CLK-	#18	GND
#19	MIPI0+	#20	MIPI0-	#21	GND
#22	MIPI3+	#23	MIPI3-	#24	GND
#25	N.C.	#26	BL_LED_EN	#27	GND
#28	VDD(4V6)	#29	VDD(4V6)	#30	VDD(4V6)
#31	VDD(4V6)				

MIPI-DSI1(J4703)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	IOVCC1V8	#2	DCDC_EN	#3	GND
#4	GND	#5	VDD(4V6)	#6	VDD(4V6)
#7	TE	#8	XRES	#9	GND
#10	MIPI2+	#11	MIPI2-	#12	GND
#13	MIPI1+	#14	MIPI1-	#15	GND
#16	MIMP_CLK+	#17	MIPI_CLK-	#18	GND
#19	MIPI0+	#20	MIPI0-	#21	GND
#22	MIPI3+	#23	MIPI3-	#24	GND
#25	N.C.	#26	BL_LED_EN	#27	GND
#28	VDD(4V6)	#29	VDD(4V6)	#30	VDD(4V6)
#31	VDD(4V6)				

CAN Bus(J19)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	N.C.	#2	CANH	#3	CANL
#4	CAN_VSS				

UART_1(J20)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC1V8	#2	RXD	#3	TXD
#4	RTS	#5	CTS	#6	GND

UART_2(J21)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC1V8	#2	RXD	#3	TXD
#4	RTS	#5	CTS	#6	GND

UART_3(J22)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	RXD	#3	TXD
#4	GND				

Console(J24)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#1	VCC3V3	#2	RXD	#3	TXD
#4	GND				

M.2(PCIE x1)

Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing	Pin No.	CPU PIN / Multiplexing
#2	VCC3V3	#4	VCC3V3	#6	LED
#7	GND	#18	GND	#23	GND
#33	GND	#35	PETp0	#36	GND
#37	PETn0	#39	GND	#41	PERp0
#43	PERn0	#45	GND	#47	REFCLKP0
#49	REFCLKN0	#52	PCIE_A_RST#	#53	CLKREQ0#
#55	PEWaKe0#	#57	GND	#63	GND
#69	GND	#72	VCC3V3	#74	VCC3V3
#76	GND	#77	GND		