

SOM Carrier Board

Page 2: Input Supply

Page 3: Power Supplies

Page 4: EASOM Board connector (MXM3)

Page 5: I2C GPIO Expander

Page 6: User LEDs and button

Page 7: Board control

Page 8: Push-buttons and Boot control

Page 9: JTAG Debug Interface

Page 10: UART-to-USB bridge interfaces

Page 11: Direct HDMI Interface

Page 12: Ethernet Interfaces for on-board PHYs

Page 13: Camera #0 Interfaces

Page 14: Camera #1 / ADC Interface

Page 15: Parallel LCD interface

Page 16: LVDS Interface 2 ch

Page 17: MIPI-DSI Display Interfaces

Page 18: MIPI-DSI to HDMI Adapter

Page 19: uSD card interface

Page 20: Mikrobis/Click Module Interface

Page 21: I2C Connections

Page 22: Dual CAN transceivers

Page 23: Real-Time Clock

Page 24: Audio Interfaces

Page 25: USB3.2 Type-C Interface

Page 26: USB3.2 Hub and Host Interface

Page 27: USB2 Host Interface

Page 28: PCIe Signal Routing

Page 29: M.2 (NGFF) Key E Connector

Page 30: M.2 (NGFF) Key E Voltage Translators

Page 31: M.2 Key B Connector (USB Host and PCIe Interfaces)

Page 32: M.2 Key M Connector

Page 33: Secure Elements

Page 34: Expansion Connectors

UL = UnLoaded = normally not mounted component.

Default jumper settings are indicated in the schematic.

However, always check jumper positions on actual boards
since there is no guarantee that all jumpers are in default place.

Rev A

First release



© Embedded Artists AB

TITLE: SOM Carrier Board rev A

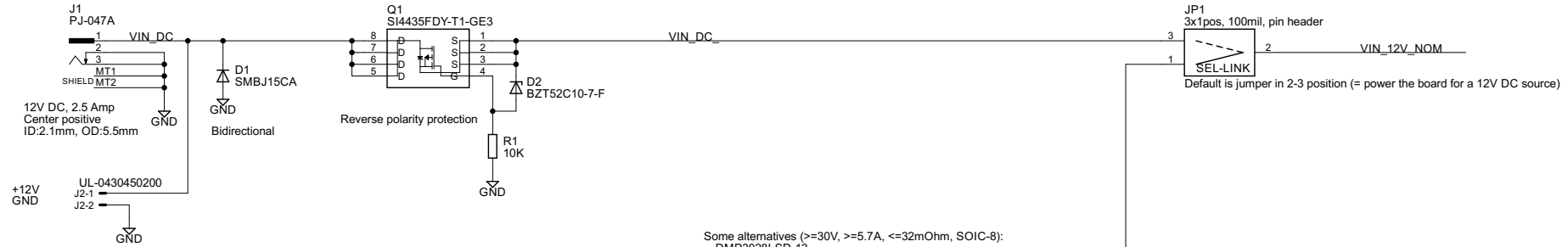
Document Number:

Date: 2025-12-02 00:16:46

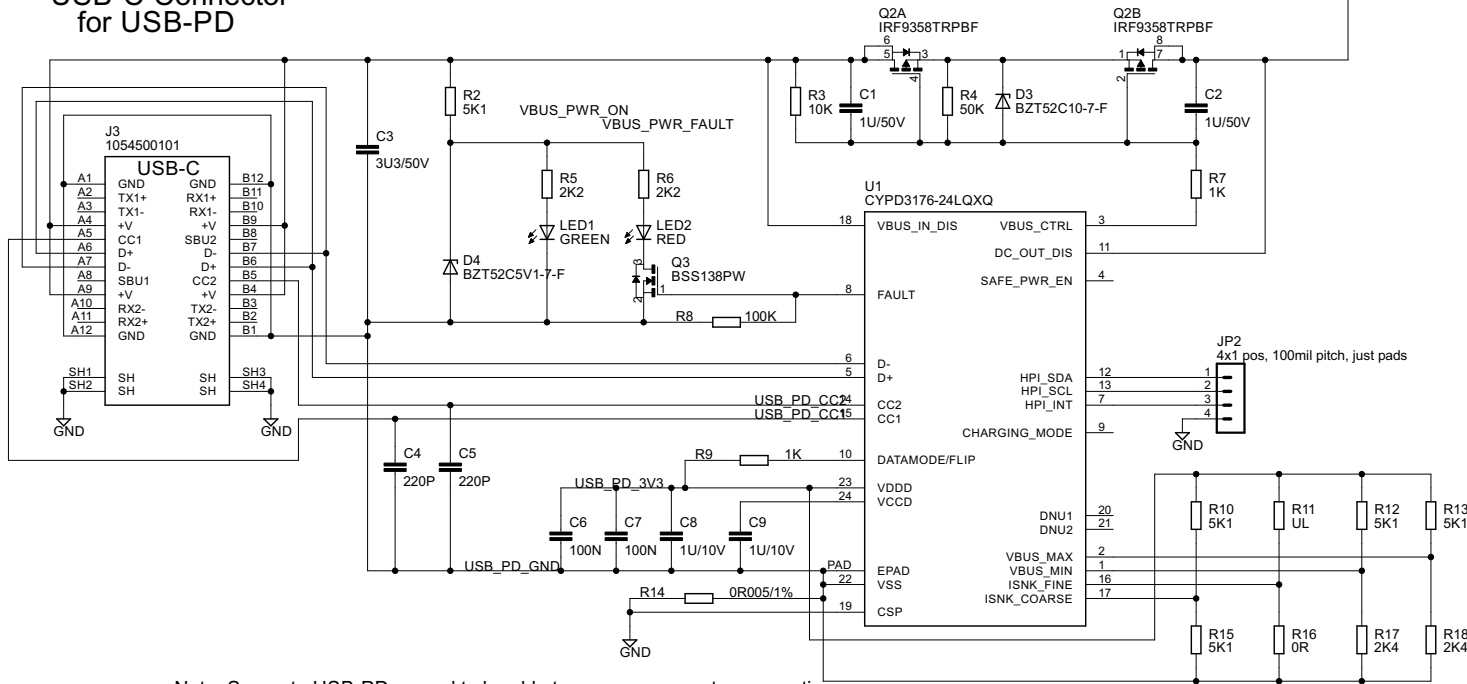
Sheet: 1/34

Input Supply

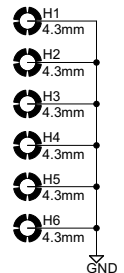
12V DC Input
≥30Watt



USB-C Connector
for USB-PD



Mounting Holes



Note: Separate USB-PD ground to be able to measure current consumption.

VBUS_MAX: 12V (PU=5K1, PD=2K4)
Note that VBUS = 15V or 20V is not allowed!
VBUS_MIN: 12V (PU=5K1, PD=2K4)
ISNK_COARSE: 3A (PU=5K1, PD=5K1)
ISNK_FINE: +0A (PU=UL, PD=0)



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

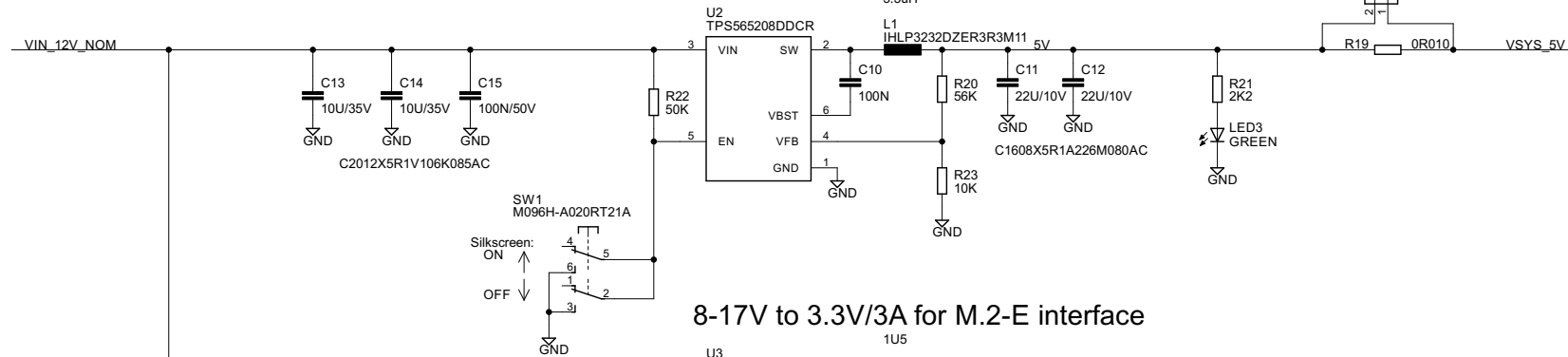
Sheet: 2/34

Powering

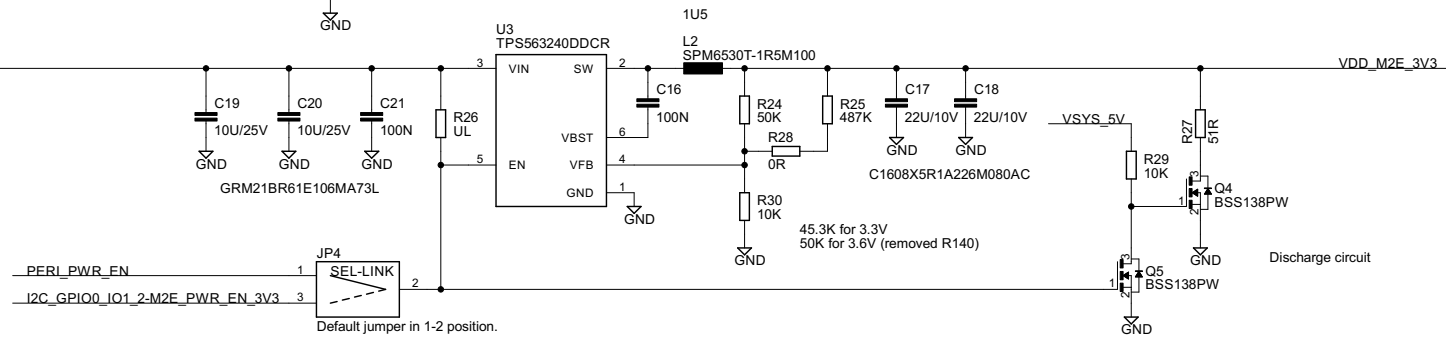
8-17V to 5V/5A for SOM and USB interfaces

Measure current: 10mV/Amp

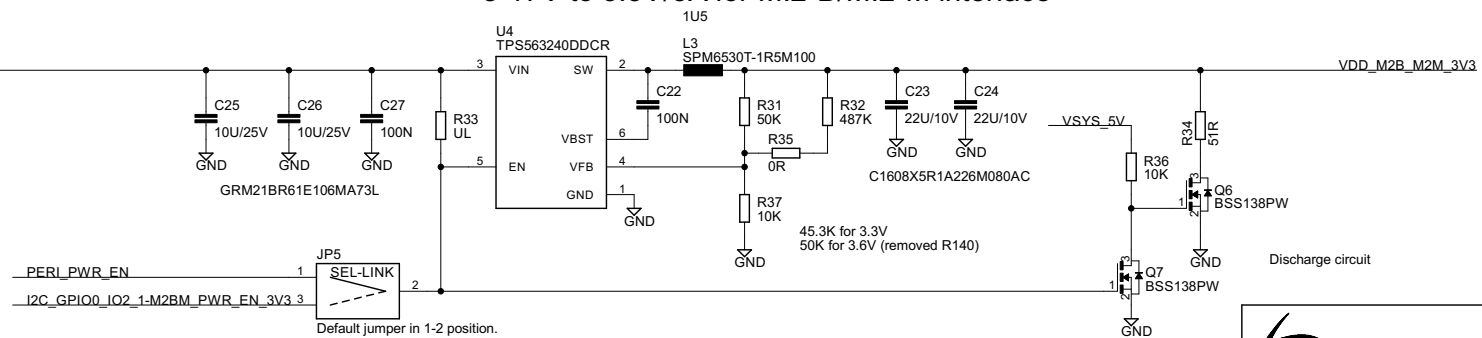
JP3
2x1pos, 100mil, just pads



8-17V to 3.3V/3A for M.2-E interface



8-17V to 3.3V/3A for M.2-B/M.2-M interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 3/34

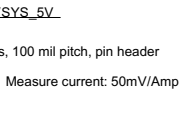
EASOM Board connector (MXM3)

J4B
AS0B826-S78B

MXM3 connector bottom side top side

PCIE_MXM3_RX0_N	321	PCIE_MXM3_RX0_P	319	PCIE_MXM3_TX0_N	317	PCIE_MXM3_TX0_P	315	PCIE_MXM3_CLK_N	307	PCIE_MXM3_CLK_P	305	BOOT_CTRL	303	PCIE_MXM3_RX1_N	299	PCIE_MXM3_RX1_P	297	PCIE_MXM3_TX1_N	295	PCIE_MXM3_TX1_P	293	CSI_CLK0P	287	CSI_CLK0M	285	CSI_D0P	283	CSI_D0M	279	CSI_D1P	277	CSI_D1M	275	CSI_D2P	273	CSI_D2M	271	CSI_D3P	269	CSI_D3M	267	ONOFF	265	MXM3_S125	263	MXM3_S124	261	JTAG_DEBUG_EN	259	JTAG_VCC	257	JTAG_TCK_SWCLK	255	JTAG_TMS_SWDIO	253	JTAG_TDI	251	JTAG_TDO	249	JTAG_TRSTN	247	JTAG_RESET_IN#	245	DSI_DP3	243	DSI_DP3	241	DSI_DP2	239	DSI_DP2	237	DSI_CK_P	235	DSI_CK_N	233	DSI_DP1	231	DSI_DP1	229	DSI_DP0	227	DSI_DP0	225	DSI_DP0	223	ADC_IN0-GPIO-CSI2_DN0	221	ADC_IN1-GPIO-CSI2_DP0	219	ADC_IN2-GPIO	217	ADC_IN3-GPIO-CSI2_DN1	215	ADC_IN4-GPIO-CSI2_DP1	213	ADC_IN5-GPIO	211	ADC_IN6-GPIO-CSI2_CKN	209	ADC_IN7-GPIO-CSI2_CKP	207	ADC_VREFH-GPIO	205	LCD_ENABLE-CSI2_DN2	203	LCD_VSYNCS-CSI2_DP2	201	LCD_HSYNCS	199	LCD_HSYNCS	197	LCD_CLK_DISP_EN-CSI2_DN3	195	LCD_CLK-CSI2_DP3	193	LCD_DATA07-B7	191	LCD_DATA06-B6	189	LCD_DATA05-B5	187	LCD_DATA04-B4	185	LCD_DATA03-B3	183	LCD_DATA02-B2	181	LCD_DATA01-B1	179	LCD_ENABLE-CSI2_DN2	177	LCD_VSYNCS-CSI2_DP2	175	LCD_HSYNCS	173	LCD_HSYNCS	171	LCD_CLK_DISP_EN-CSI2_DN3	169	LCD_CLK-CSI2_DP3	167	LCD_DATA07-B7	165	LCD_DATA06-B6	163	LCD_DATA05-B5	161	LCD_DATA04-B4	159	LCD_DATA03-B3	157	LCD_DATA02-B2	155	LCD_DATA01-B1	153	LCD_ENABLE-CSI2_DN2	151	LCD_VSYNCS-CSI2_DP2	149	LCD_HSYNCS	147	LCD_HSYNCS	145	LCD_CLK_DISP_EN-CSI2_DN3	143	LCD_CLK-CSI2_DP3	141	LCD_DATA07-B7	139	LCD_DATA06-B6	137	LCD_DATA05-B5	135	LCD_DATA04-B4	133	LCD_DATA03-B3	131	LCD_DATA02-B2	129	LCD_DATA01-B1	127	LCD_ENABLE-CSI2_DN2	125	LCD_VSYNCS-CSI2_DP2	123	LCD_HSYNCS	121	LCD_HSYNCS	119	LCD_CLK_DISP_EN-CSI2_DN3	117	LCD_CLK-CSI2_DP3	115	LCD_DATA07-B7	113	LCD_DATA06-B6	111	LCD_DATA05-B5	109	LCD_DATA04-B4	107	LCD_DATA03-B3	105	LCD_DATA02-B2	103	LCD_DATA01-B1	101	LCD_ENABLE-CSI2_DN2	99	LCD_VSYNCS-CSI2_DP2	97	LCD_HSYNCS	95	LCD_HSYNCS	93	LCD_CLK_DISP_EN-CSI2_DN3	91	LCD_CLK-CSI2_DP3	89	LCD_DATA07-B7	87	LCD_DATA06-B6	85	LCD_DATA05-B5	83	LCD_DATA04-B4	81	LCD_DATA03-B3	79	LCD_DATA02-B2	77	LCD_DATA01-B1	75	LCD_ENABLE-CSI2_DN2	73	LCD_VSYNCS-CSI2_DP2	71	LCD_HSYNCS	69	LCD_HSYNCS	67	LCD_CLK_DISP_EN-CSI2_DN3	65	LCD_CLK-CSI2_DP3	63	LCD_DATA07-B7	61	LCD_DATA06-B6	59	LCD_DATA05-B5	57	LCD_DATA04-B4	55	LCD_DATA03-B3	53	LCD_DATA02-B2	51	LCD_DATA01-B1	49	LCD_ENABLE-CSI2_DN2	47	LCD_VSYNCS-CSI2_DP2	45	LCD_HSYNCS	43	LCD_HSYNCS	41	LCD_CLK_DISP_EN-CSI2_DN3	39	LCD_CLK-CSI2_DP3	37	LCD_DATA07-B7	35	LCD_DATA06-B6	33	LCD_DATA05-B5	31	LCD_DATA04-B4	29	LCD_DATA03-B3	27	LCD_DATA02-B2	25	LCD_DATA01-B1	23	LCD_ENABLE-CSI2_DN2	21	LCD_VSYNCS-CSI2_DP2	19	LCD_HSYNCS	17	LCD_HSYNCS	15	LCD_CLK_DISP_EN-CSI2_DN3	13	LCD_CLK-CSI2_DP3	11	LCD_DATA07-B7	9	LCD_DATA06-B6	7	LCD_DATA05-B5	5	LCD_DATA04-B4	3	LCD_DATA03-B3	1	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1	0	LCD_ENABLE-CSI2_DN2	0	LCD_VSYNCS-CSI2_DP2	0	LCD_HSYNCS	0	LCD_HSYNCS	0	LCD_CLK_DISP_EN-CSI2_DN3	0	LCD_CLK-CSI2_DP3	0	LCD_DATA07-B7	0	LCD_DATA06-B6	0	LCD_DATA05-B5	0	LCD_DATA04-B4	0	LCD_DATA03-B3	0	LCD_DATA02-B2	0	LCD_DATA01-B1
-----------------	-----	-----------------	-----	-----------------	-----	-----------------	-----	-----------------	-----	-----------------	-----	-----------	-----	-----------------	-----	-----------------	-----	-----------------	-----	-----------------	-----	-----------	-----	-----------	-----	---------	-----	---------	-----	---------	-----	---------	-----	---------	-----	---------	-----	---------	-----	---------	-----	-------	-----	-----------	-----	-----------	-----	---------------	-----	----------	-----	----------------	-----	----------------	-----	----------	-----	----------	-----	------------	-----	----------------	-----	---------	-----	---------	-----	---------	-----	---------	-----	----------	-----	----------	-----	---------	-----	---------	-----	---------	-----	---------	-----	---------	-----	-----------------------	-----	-----------------------	-----	--------------	-----	-----------------------	-----	-----------------------	-----	--------------	-----	-----------------------	-----	-----------------------	-----	----------------	-----	---------------------	-----	---------------------	-----	------------	-----	------------	-----	--------------------------	-----	------------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------------	-----	---------------------	-----	------------	-----	------------	-----	--------------------------	-----	------------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------------	-----	---------------------	-----	------------	-----	------------	-----	--------------------------	-----	------------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------------	-----	---------------------	-----	------------	-----	------------	-----	--------------------------	-----	------------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------	-----	---------------------	----	---------------------	----	------------	----	------------	----	--------------------------	----	------------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------------	----	---------------------	----	------------	----	------------	----	--------------------------	----	------------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------------	----	---------------------	----	------------	----	------------	----	--------------------------	----	------------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------	----	---------------------	----	---------------------	----	------------	----	------------	----	--------------------------	----	------------------	----	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------------	---	---------------------	---	------------	---	------------	---	--------------------------	---	------------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------	---	---------------

MXM3 connector
mounting holes



This pin is ignored for now!
1.8V output

CARRIER_PWR_ON

OK - main console

OK - main console

OK - for M2-B

OK - for M2-B

OK - for M2-B

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

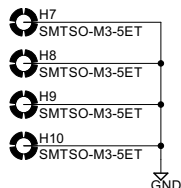
OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

OK - Cortex-M console

SMARC mounting holes



J4A
AS0B826-S78B

MXM3 connector bottom side top side

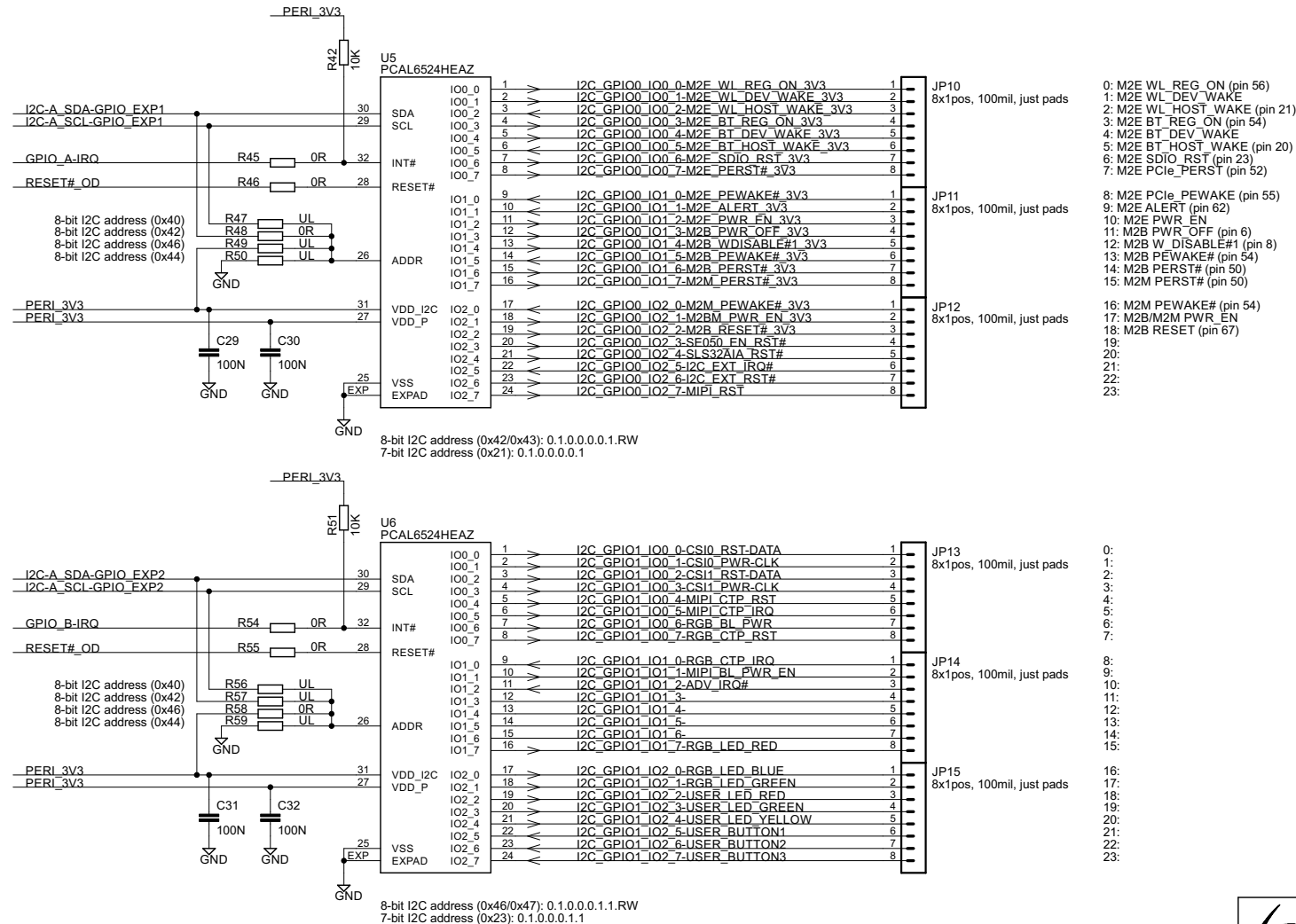
LCD_DATA00-B0	149	S74 GND	147	USB_OTG_OC	148
LCD_DATA15-G7	145	S73 LCD_G7	143	USB_OTG_PWR	146
LCD_DATA14-G6	143	S72 LCD_G6	141	USB_OTG_VBUS	144
LCD_DATA13-G5	141	S71 LCD_G5	139	USB_OTG_SSRXP	142
LCD_DATA12-G4	139	S70 LCD_G4	137	USB_OTG_SSRXN	140
LCD_DATA11-G3	137	S69 LCD_G3	135		138
LCD_DATA10-G2	135	S68 LCD_G2	133	USB_OTG_SSTXP	136
LCD_DATA09-G1	133	S67 LCD_G1	131	USB_OTG_SSTXN	134
LCD_DATA08-G0	131	S66 LCD_G0	129	USB_OTG_ID	132
LCD_DATA23-R7	129	S65 LCD_R7	127	USB_OTG_DP	130
LCD_DATA22-R6	127	S64 LCD_R6	125	USB_OTG_DN	128
LCD_DATA21-R5	125	S63 LCD_R5	123		126
LCD_DATA20-R4	123	S62 LCD_R4	121	ETH2_TRXP2	124
LCD_DATA19-R3	121	S61 LCD_R3	119	ETH2_TRXN2	122
LCD_DATA18-R2	119	S60 LCD_R2	117		120
LCD_DATA17-R1	117	S59 LCD_R1	115	ETH2_TRXP3	118
LCD_DATA16-R0	115	S58 LCD_R0	113	ETH2_TRXN3	116
		S57 GND	111	ETH2_LED_10_100	114
BI_CONTRAST_PWM-GPIO	109	S56 BL_PWM	107	ETH2_LED_ACT	112
BI_PWR_EN-GPIO	107	S55 BL_PWR_EN	105	ETH2_LED_1000	110
DISP_PWR_EN-GPIO	105	S54 DISP_PWR_EN	103	ETH2_TRXP0	108
TP_IRQ-GPIO	103	S53 TP_IRQ	101	ETH2_TRXN0	106
TP_RST-GPIO	101	S52 TP_RST	99	ETH2_TRXP1	104
I2C-C_SCL	99	S51 HDMI/I2C-C_SCL	97	ETH2_TRXN1	102
I2C-C_SDA	97	S50 HDMI/I2C-C_SDA	95	ETH2_TRXP2	100
I2C-B_SCL	95	S49 I2C-B_SCL	93	ETH2_TRXN2	98
I2C-B_SDA	93	S48 I2C-B_SDA	91	ETH1_TRXP2	96
I2C-A_SCL	91	S47 I2C-A_SCL	89	ETH1_TRXN2	94
I2C-A_SDA	89	S46 I2C-A_SDA	87	ETH1_TRXP3	92
LVDS0_CLK_N	87	S45 LVDS0_CLK_N	85	ETH1_TRXN3	90
LVDS0_CLK_P	85	S44 LVDS0_CLK_P	83	ETH1_LED_10_100	88
		S43 GND	81	ETH1_LED_ACT	86
LVDS0_DATA0_N	83	S42 LVDS0_D0_N	79	ETH1_LED_1000	84
LVDS0_DATA0_P	81	S41 LVDS0_D0_P	77	ETH1_TRXP0	82
		S40 GND	75	ETH1_TRXN0	80
LVDS0_DATA1_N	79	S39 LVDS0_D1_N	73	ETH1_TRXP1	78
LVDS0_DATA1_P	77	S38 LVDS0_D1_P	71	ETH1_TRXN1	76
		S37 GND	69	ETH1_TRXP2	74
LVDS0_DATA2_N	71	S36 LVDS0_D2_N	67	ETH1_TRXN2	72
LVDS0_DATA2_P	69	S35 LVDS0_D2_P	65	HDMI_CEC_IN	70
EARC_N_HPD	67	S34 GPIO-H	63	HDMI_D2P	68
LVDS0_DATA3_N	65	S33 LVDS0_D3_N	61	HDMI_D2M	66
LVDS0_DATA3_P	63	S32 LVDS0_D3_P	59		64
		S31 GND	57	HDMI_D1P	62
LVDS1_CLK_N	59	S30 LVDS1_CLK_N	55	HDMI_D1M	60
LVDS1_CLK_P	57	S29 LVDS1_CLK_P	53	HDMI_HPD	58
		S28 GND	51	HDMI_D0P	56
LVDS1_DATA0_N	53	S27 LVDS1_D0_N	49	HDMI_D0M	54
LVDS1_DATA0_P	51	S26 LVDS1_D0_P	47		52
		S25 GND	45	HDMI_CLKP	50
LVDS1_DATA1_N	49	S24 LVDS1_D1_N	43	HDMI_CLKM	48
LVDS1_DATA1_P	47	S23 LVDS1_D1_P	41		46
		S22 GND	39	MMC_DATA2	44
LVDS1_DATA2_N	43	S21 LVDS1_D2_N	37	MMC_DATA3	42
LVDS1_DATA2_P	41	S20 LVDS1_D2_P	35	MMC_DATA4	40
EARC_P_UTIL	39	S19 GPIO-J	33	MMC_CMD	38
LVDS1_DATA3_N	37	S18 LVDS1_D3_N	31	MMC_DATA5	36
LVDS1_DATA3_P	35	S17 LVDS1_D3_P	29	MMC_CLK	34
		S16 GND	27	MMC_DATA6	32
CAN1_RD	29	S15 CAN1_RX	25	MMC_DATA7	30
CAN1_TD	27	S14 CAN1_TX	23	MMC_DATA0	28
CAN2_RD	25	S13 CAN2_RX	21	MMC_DATA1	26
CAN2_TD	23	S12 CAN2_TX	19	SD_PWR	24
SPDIF_OUT-GPIO	21	S11 SPDIF_OUT	17	SD_DATA2	22
SPDIF_IN-GPIO	19	S10 SPDIF_IN	15	SD_DATA3	20
		S9 GND	13	SD_CMD	18
AUD_MCLK	15	S8 AUDIO_MCLK	11	SD_CLK	16
AUD_TXD	13	S7 AUDIO_TXD	9	SD_DATA0	14
AUD_TXC	11	S6 AUDIO_TXC	7	SD_DATA1	12
AUD_RXD	9	S5 AUDIO_RXD	5		10
AUD_TXFS	7	S4 AUDIO_TXFS	3	GPIO_C-SD_PWR_EN	8
		S3 GND	1	GPIO_D-SD_CD	6
AUD_RXC	5	S2 MOS_LEFT		GPIO_E-MIKROBUS_INT	4
AUD_RXFS	3	S1 MOS_RIGHT		GPIO_F	2

SDIO I/O to M.2-B

GND

GND

I2C GPIO Expander and user LEDs and button



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

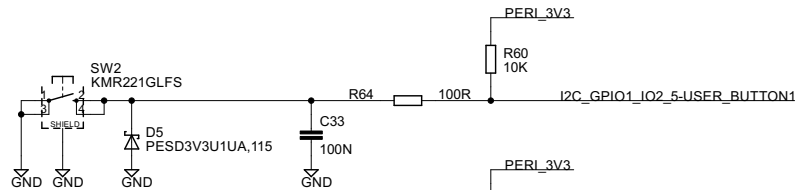
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 5/34

User LEDs and button

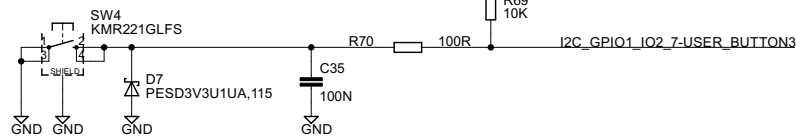
User button #1



User button #2

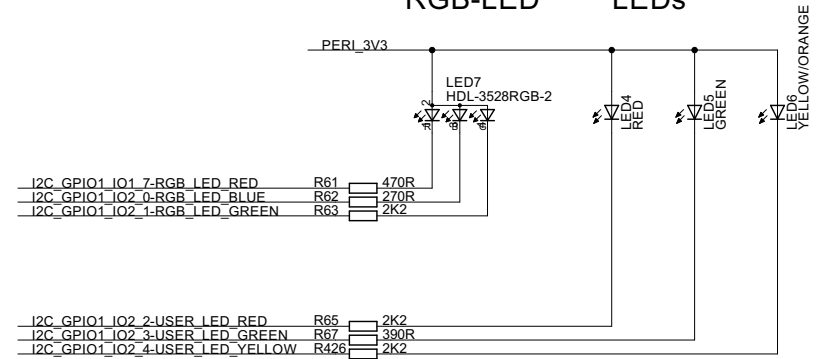


User button #3



User LEDs

RGB-LED LEDs



(C) Embedded Artists AB

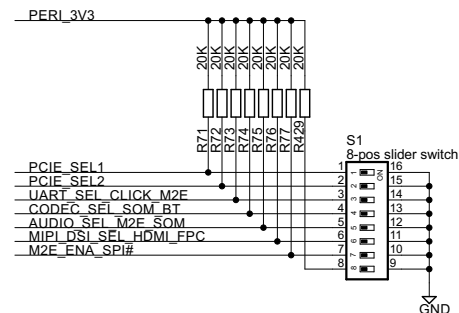
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 6/34

Board control



Slider no.

1 & 2

POS 1 / POS 2	SEL1 / SEL2	PCie direction
ON ON	0 0	MUX disabled
ON OFF	0 1	PCie connected to M.2 E-key connector (default)
OFF ON	1 0	PCie connected to M.2 B-key connector
OFF OFF	1 1	PCie connected to M.2 M-key connector

3

Signal: UART_SEL_CLICK_M2E
OFF-position: UART connected to Mikrobis/Click
ON-position: UART connected to M.2-E (default)

4

Signal: CODEC_SEL_SOM_BT
OFF-position: Bluetooth to Codec
ON-position: SOM to Codec (default)

5

Signal: AUDIO_SEL_M2E_SOM
OFF-position: BT on SOM to Codec
ON-position: M.2-E Bluetooth to Codec (default)

6

Signal: MIPI_DSI_SEL_HDMI_FPC
OFF-position: MIPI-DSI connected to FPC
ON-position: MIPI-DSI connected to ADV bridge (default)

7

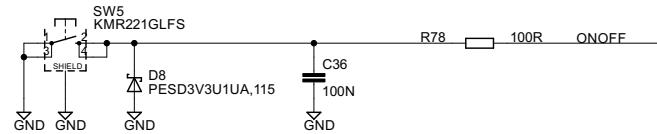
Signal: M2E_ENA_SPI#
OFF-position: SPI interface disabled
ON-position: Enable SPI interface on M.2-E (default)

8

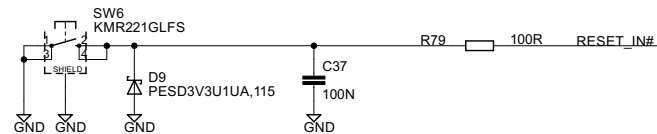
Not used

Push-buttons and Boot control

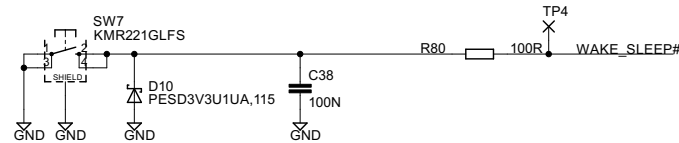
ONOFF push-button



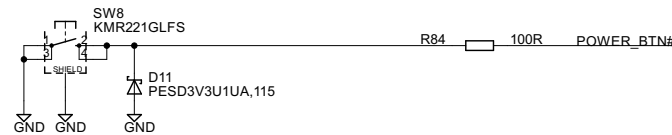
Reset push-button



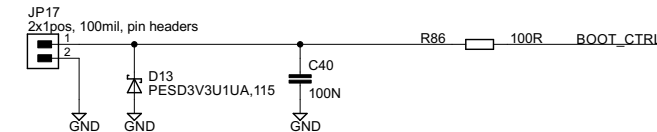
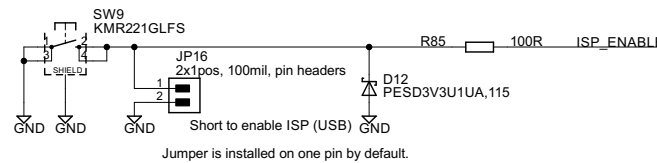
Wakeup push-button



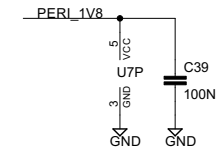
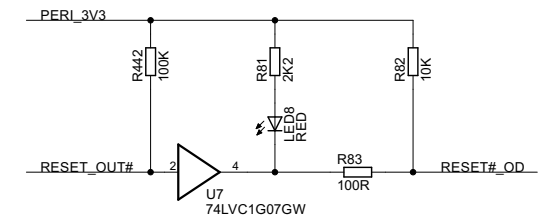
Power push-button



ISP Enable push-button and jumper



Reset LED



(C) Embedded Artists AB

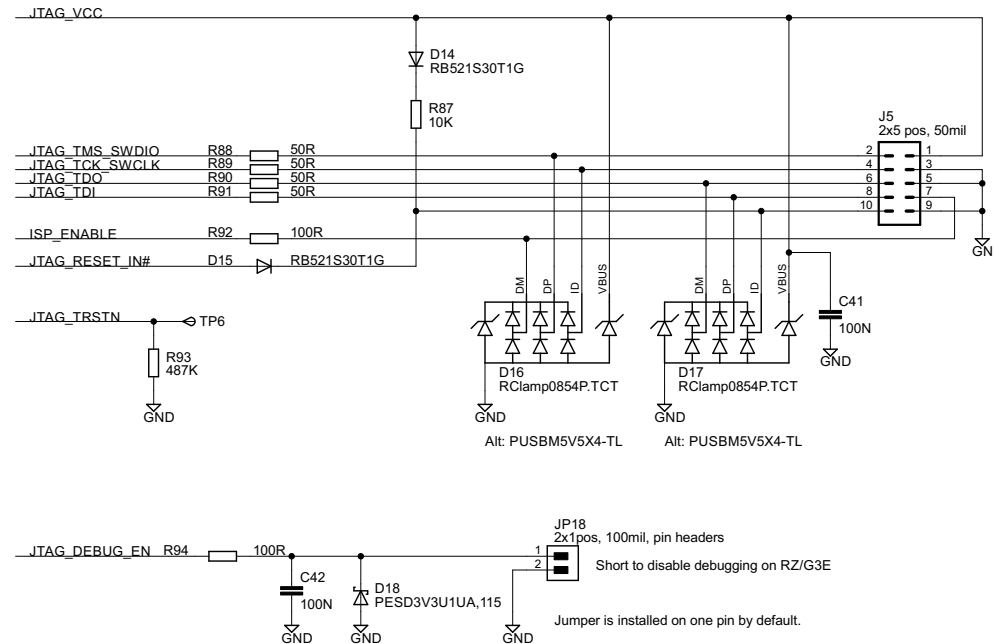
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 8/34

JTAG Debug Interface



ARM 10-pin interface Serial Wire Mode 10 pos (50 mil pitch) connector

2-SWDIO	1-VCC
4-SWCLK	3-GND
6-SWO	5-GND
8-N/U	7-Optional ISP_ENABLE
10-RESET	9-GND

ARM 10-pin interface JTAG Mode

2-TMS	1-VCC
4-TCLK	3-GND
6-TDO	5-GND
8-TDI	7-(RTCK)
10-RESET	9-GND



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

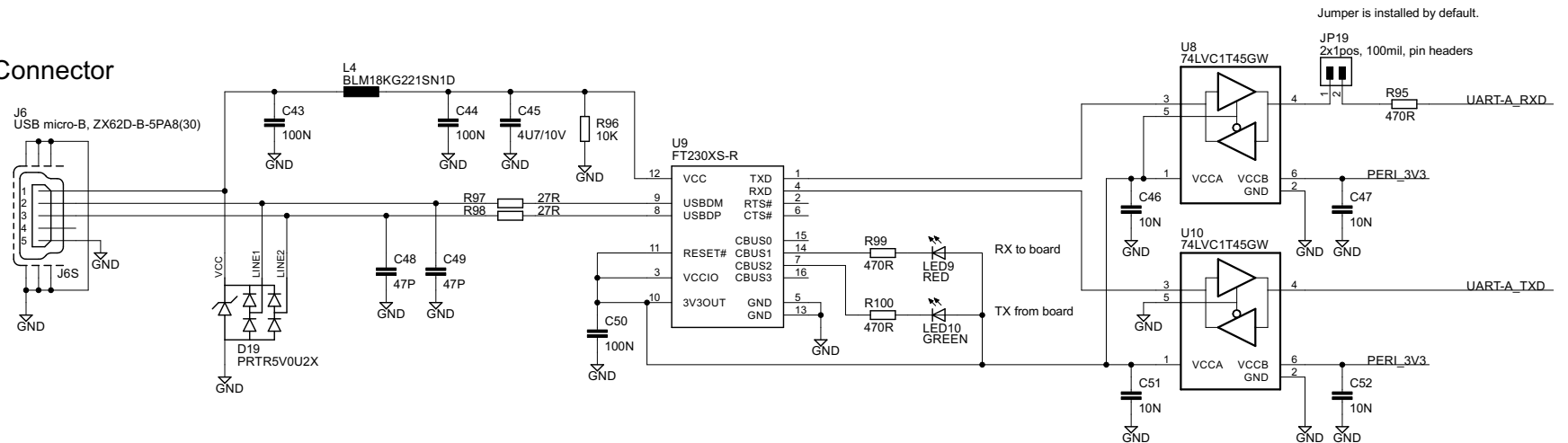
Document Number:

Date: 2025-12-02 00:16:46

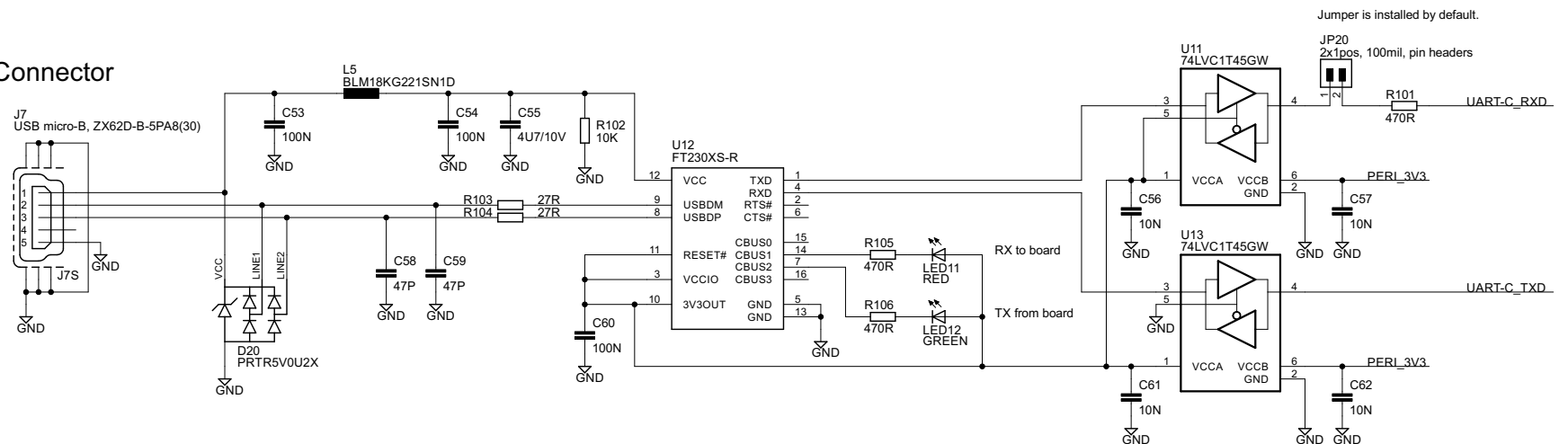
Sheet: 9/34

UART-to-USB bridge interfaces

Micro-B USB Connector



Micro-B USB Connector



(C) Embedded Artists AB

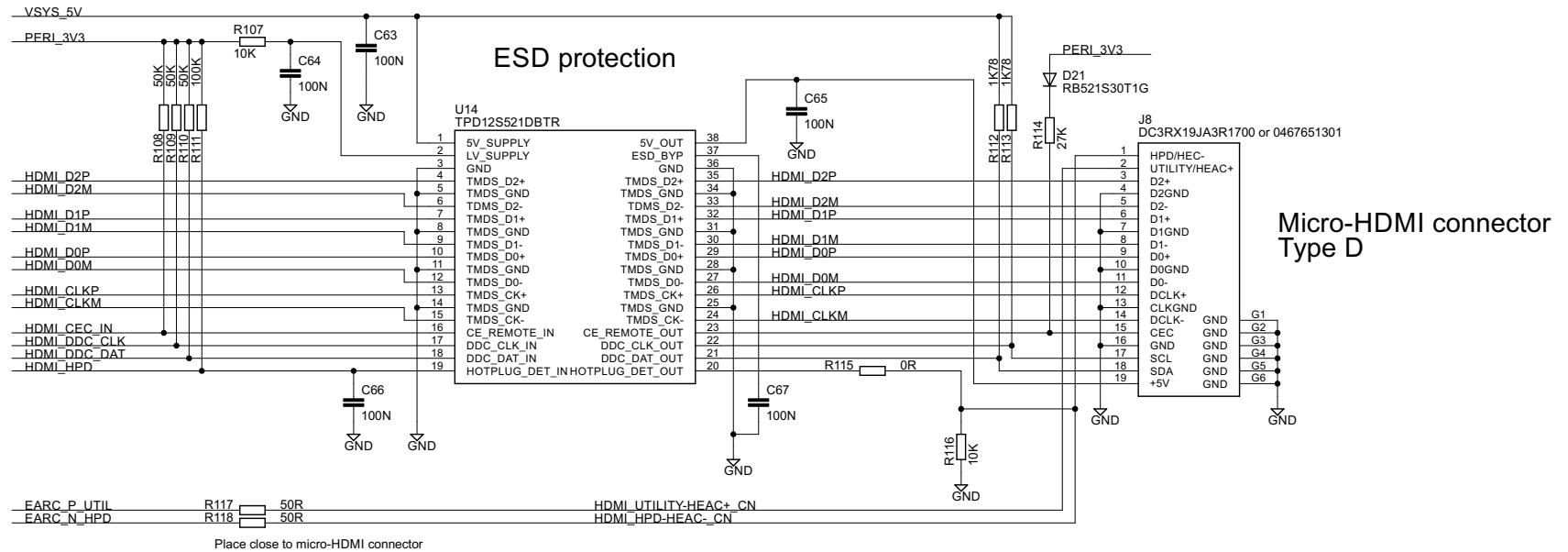
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 10/34

Direct HDMI Interface



(C) Embedded Artists AB

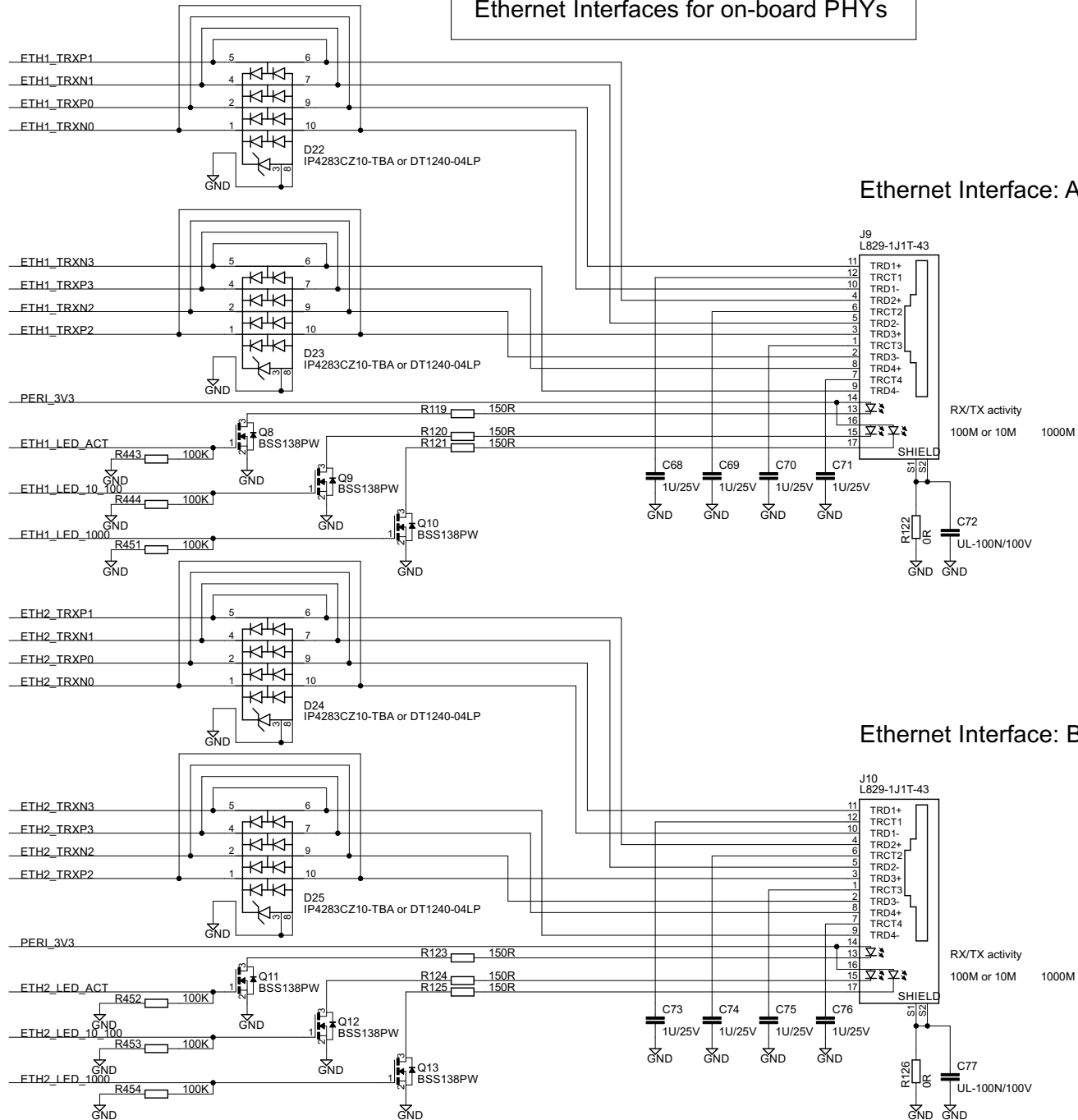
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

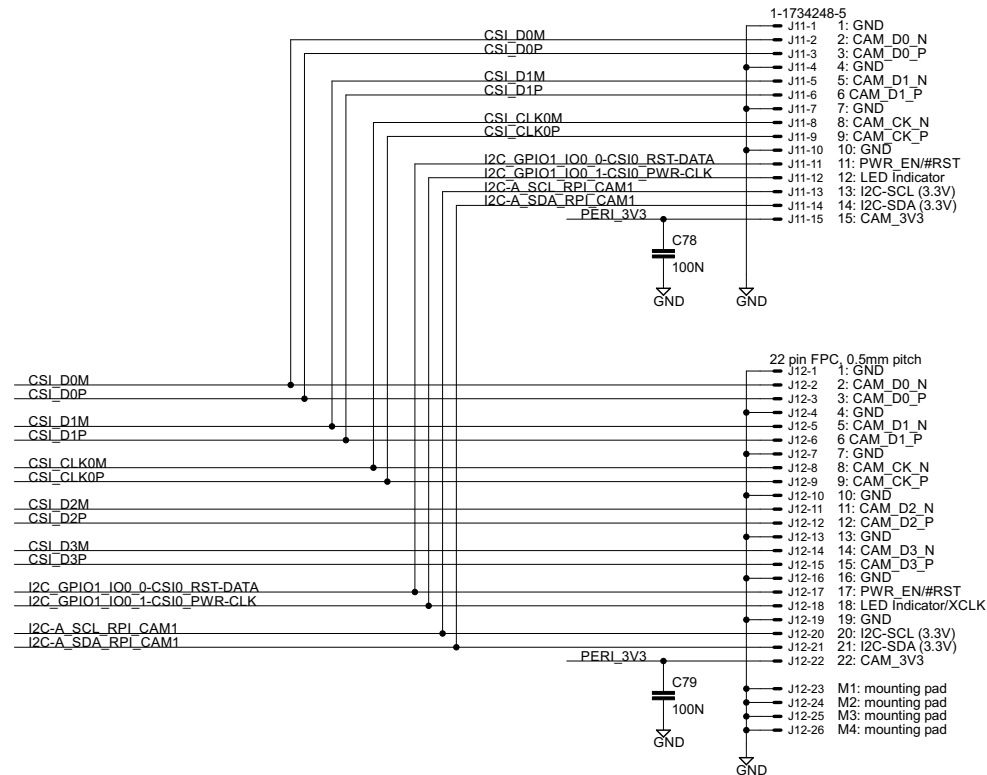
Sheet: 11/34

Ethernet Interfaces for on-board PHYs



Camera #0 Interfaces

Place connectors close to minimize stubs on MIPI-CSI signals



MIPI-CSI
2ch RPi Camera Pinout (15-Pin, 1.0mm pitch)

MIPI-CSI
4ch RPi Camera Pinout (22-Pin, 0.5mm pitch)



(C) Embedded Artists AB

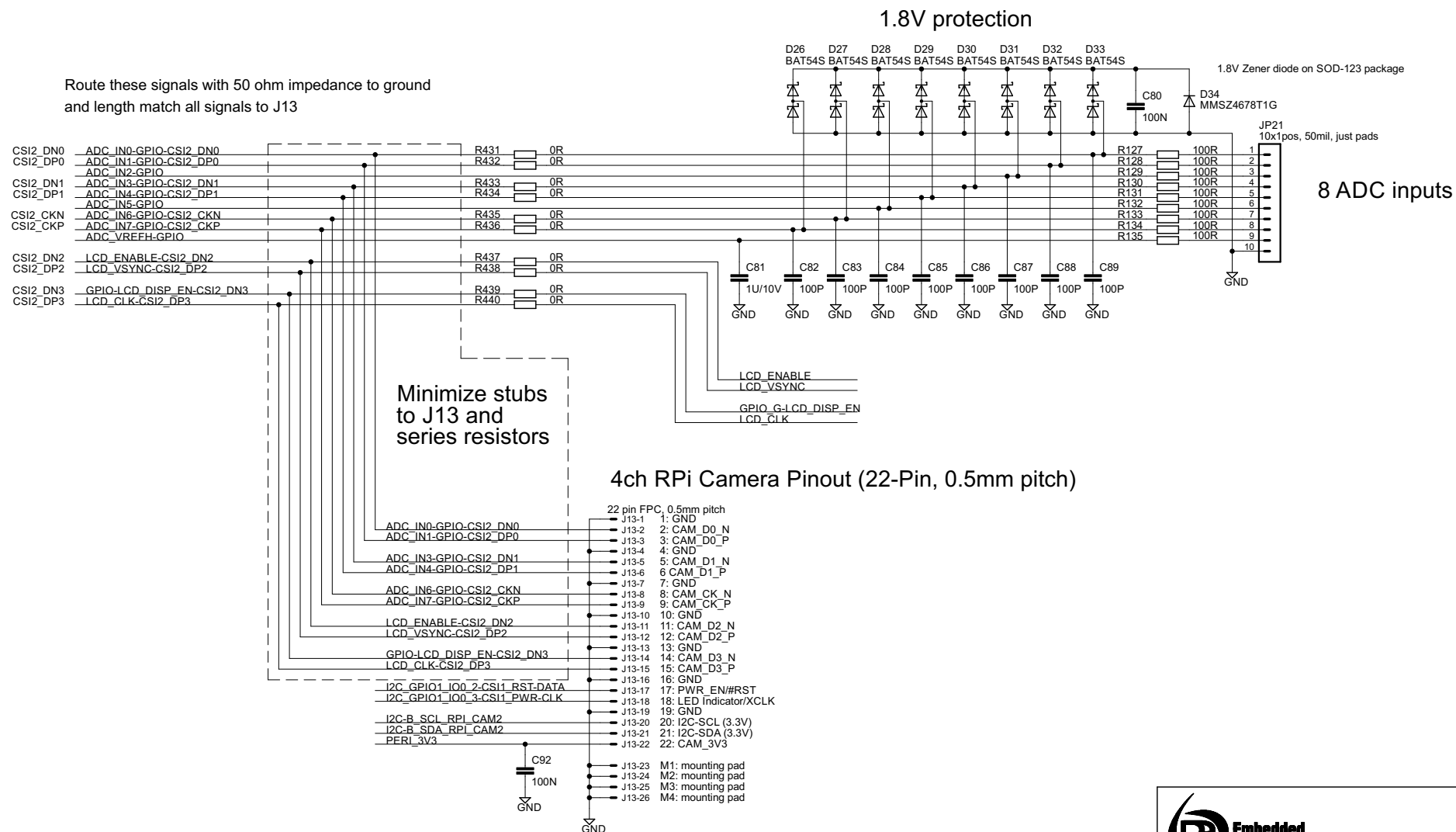
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 13/34

Camera #1 / ADC Interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

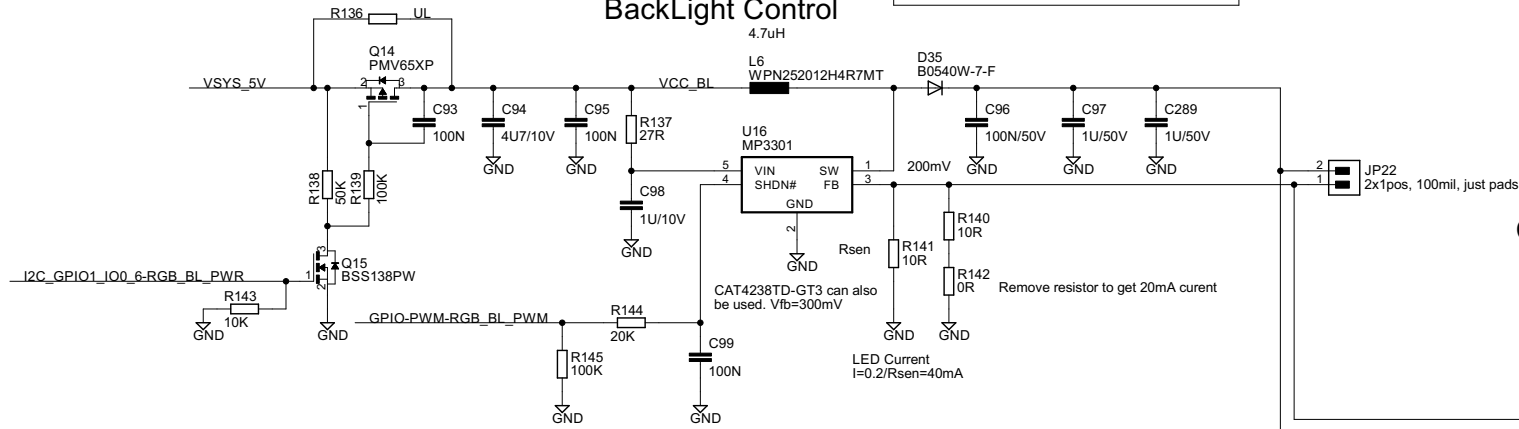
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 14/34

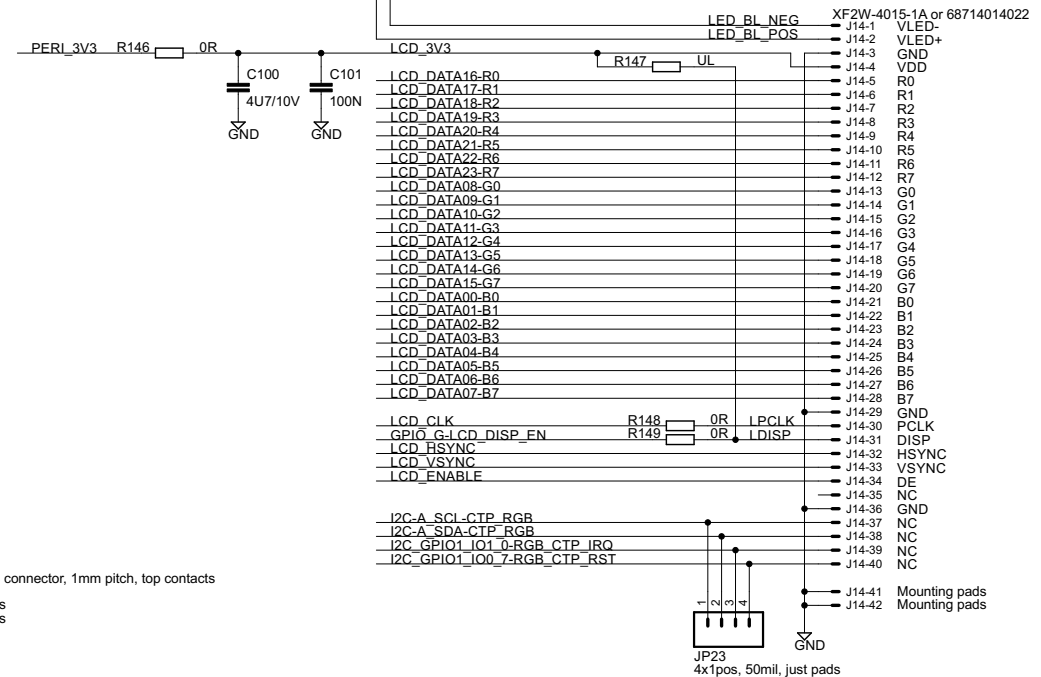
Parallel LCD interface

BackLight Control

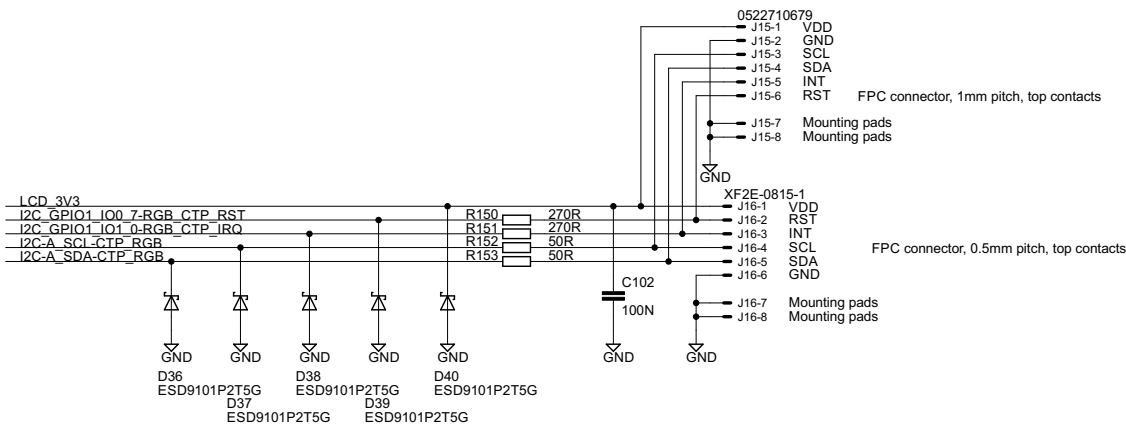


Common Parallel RGB Display pinning

Connector "D24"
(in silkscreen on PCB)
24-bit color depth mapping
FPC connector, 0.5mm pitch, bottom contacts



Touch controller I/F



(C) Embedded Artists AB

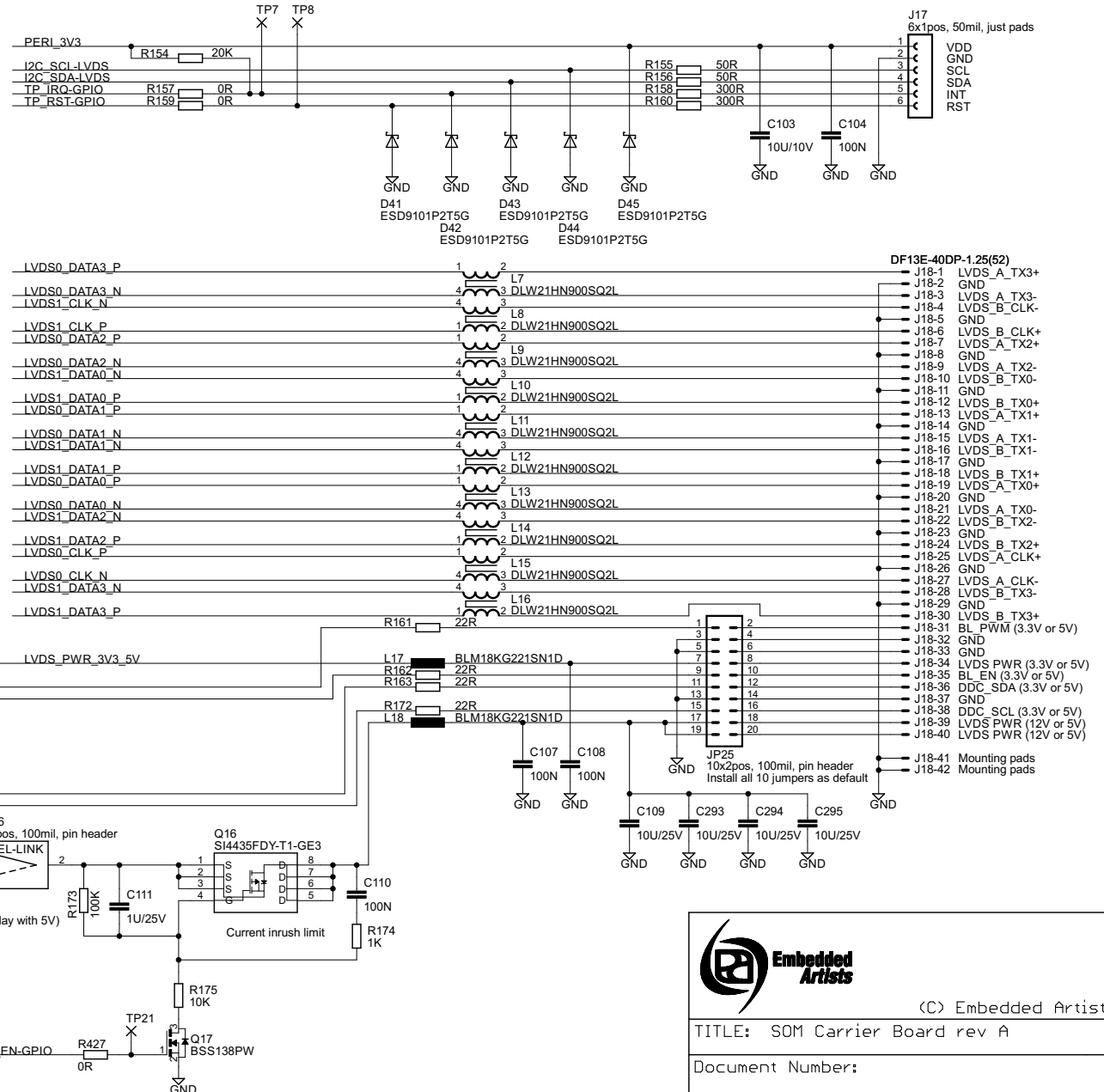
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46


Sheet: 15/34

LVDS Interface 2 ch



Default jumper in 1-2 position (= control signals to external display are 3.3V)

Default jumper in 2-3 position (= power external display with 5V)



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 16/34



Connector "C"
(in silkscreen on PCB)

Connects to NXP RK055HDMIPI4M
Display: RK055AHD091-CTG(720P)



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

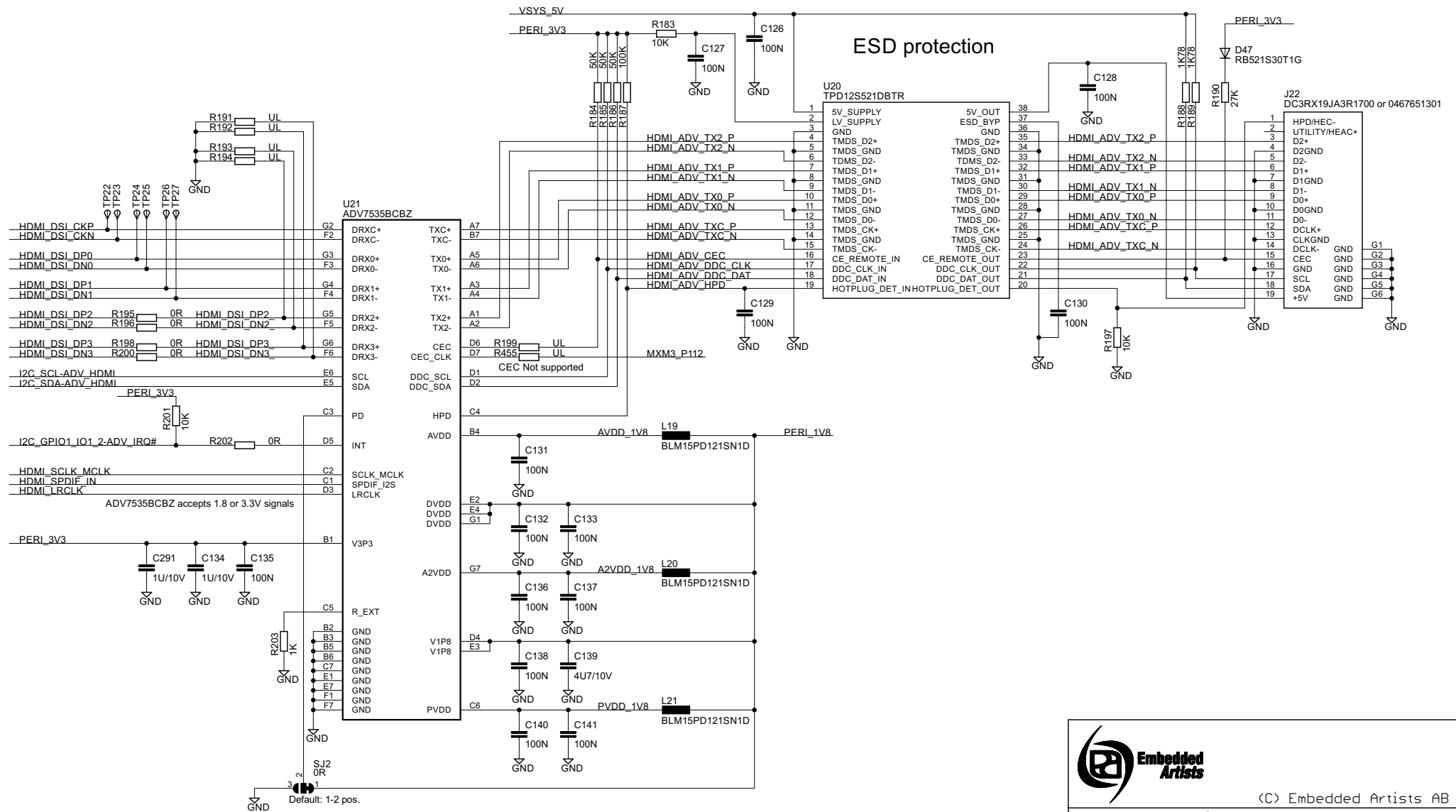
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 17/34

MIPI-DSI to HDMI Adapter

Micro-HDMI connector Type D



PD=low: 8-bit I2C address (0x72/0x73): 0.1.1.1.0.0.1.RW
7-bit I2C address (0x39): 0.1.1.1.0.0.1.RW

PD=high: 8-bit I2C address (0x7A/0x7B): 0.1.1.1.1.0.1.RW
Default 7-bit I2C address (0x3D): 0.1.1.1.1.0.1.RW



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

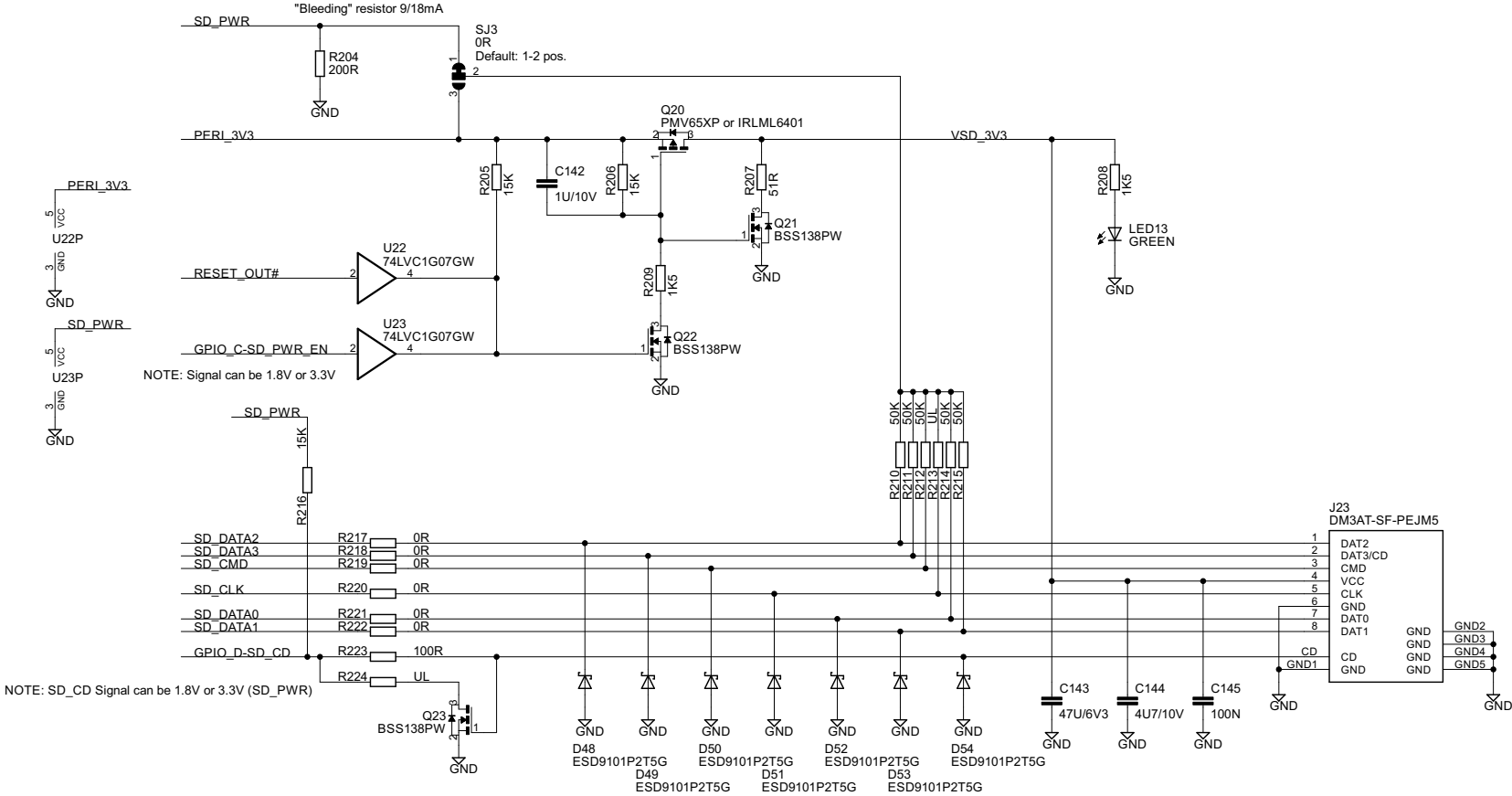
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 18/34

uSD card interface

Power Switch for uSD



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

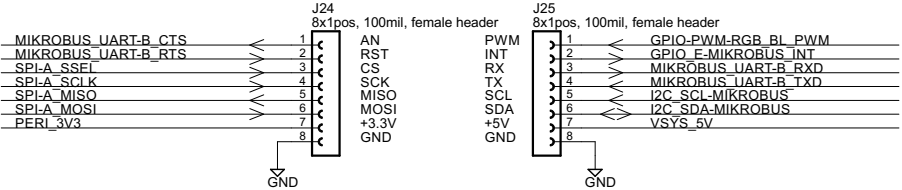
Document Number:

Date: 2025-12-02 00:16:46

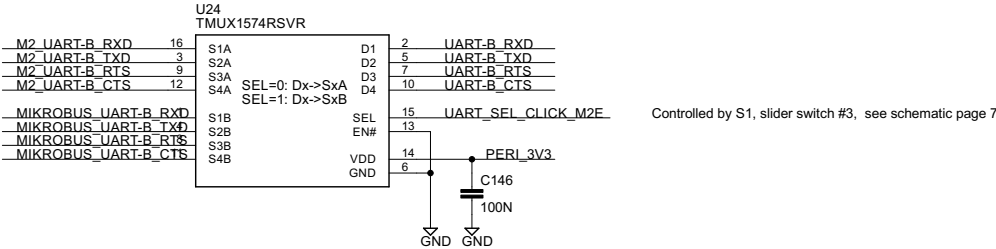
Sheet: 19/34

Mikrobus/Click Module Interface

Mikrobus/Click Module Interface



Multiplexor for connecting UART-B to either Mikrobus/Click or M.2-E Interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

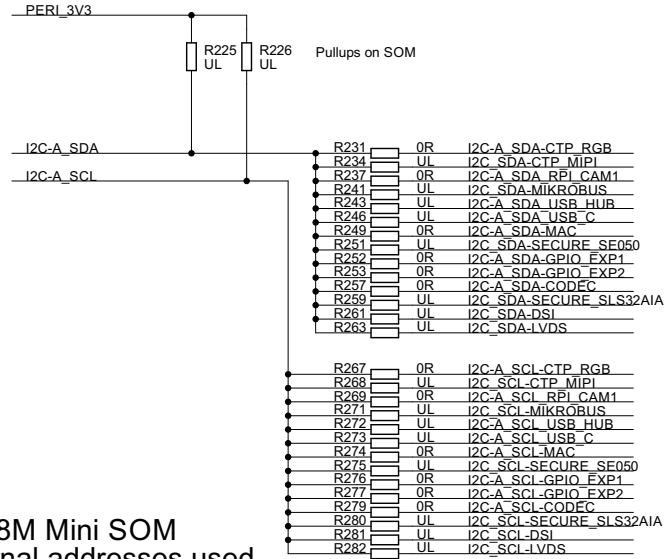
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 20/34

I2C Connections

I2C-A



iMX8M Mini SOM internal addresses used on I2C-A

64kbit E2PROM on SOM: 24LC64
8-bit I2C address (0xAA/0xAB): 1.0.1.0.1.0.1.RW
7-bit I2C address (0x55): 1.0.1.0.1.0.1

PMIC:
8-bit I2C address (0x90/0x91): 1.0.0.1.0.0.0.RW
7-bit I2C address (0x48): 1.0.0.1.0.0.0

RZ/G3E SOM internal addresses used on I2C-A

64kbit E2PROM on SOM: 24LC64
8-bit I2C address (0xAA/0xAB): 1.0.1.0.1.0.1.RW
7-bit I2C address (0x55): 1.0.1.0.1.0.1

PMIC: RAA215300A2GNP#HA8
8-bit I2C address (0x24/0x25): 0.0.1.0.0.1.0.RW
7-bit I2C address (0x12): 0.0.1.0.0.1.0
8-bit I2C address (0xDE/0xDF): 1.1.0.1.1.1.1.RW
7-bit I2C address (0x6F): 1.1.0.1.1.1.1

SLG46537V-programmed
8-bit I2C address (0x70/0x71): 0.1.1.1.0.0.0.RW
7-bit I2C address (0x38): 0.1.1.1.0.0.0

SLG46585M-G3E
8-bit I2C address (0x50/0x51): 0.1.0.1.0.0.0.RW
7-bit I2C address (0x28): 0.1.0.1.0.0.0

5P35023B-789NLGI
8-bit I2C address (0xD0/0xD1): 1.1.0.1.0.0.0.RW
7-bit I2C address (0x68): 1.1.0.1.0.0.0

GPIO expander: PCAL6524
8-bit I2C address (0x44/0x45): 0.1.0.0.0.1.0.RW
7-bit I2C address (0x22): 0.1.0.0.0.1.0

Units on I2C-A on SOM Carrier Board

GPIO expander #1: PCAL6524
8-bit I2C address (0x42/0x43): 0.1.0.0.0.0.1.RW
7-bit I2C address (0x21): 0.1.0.0.0.0.1

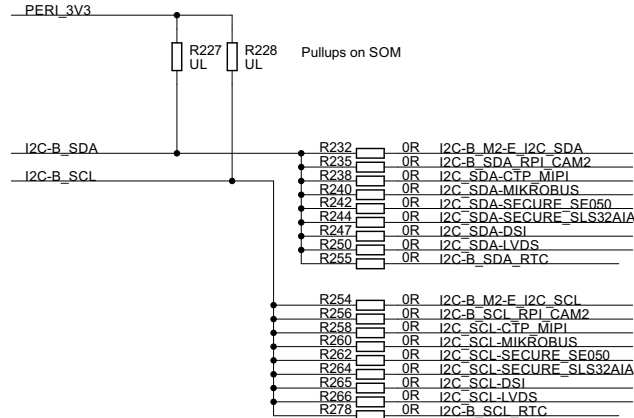
GPIO expander #2: PCAL6524
8-bit I2C address (0x46/0x47): 0.1.0.0.0.1.1.RW
7-bit I2C address (0x23): 0.1.0.0.0.1.1

Audio codec: DA7212
8-bit I2C address (0x34/0x35): 0.0.1.1.0.1.0.RW
7-bit I2C address (0x1A): 0.0.1.1.0.1.0

EUI-48 address memory
8-bit I2C address (0xA4/0xA5): 1.0.1.0.0.1.0.RW
7-bit I2C address (0x52): 1.0.1.0.0.1.0

CAM1 CSI Camera: unknown I2C-address

I2C-B



Units on I2C-B on SOM Carrier Board

M.2-E: (PCAL6408APWJ on 2EL/2DL/2LL)
8-bit I2C address (0x40/0x41): 0.1.0.0.0.0.0.RW
7-bit I2C address (0x20): 0.1.0.0.0.0.0

SE05x security processor
8-bit I2C address (0x90/0x91): 1.0.0.1.0.0.0.RW
7-bit I2C address (0x48): 1.0.0.1.0.0.0

SLS32AIA010MK Secure Element
8-bit I2C address (0x60/0x61): 0.1.1.0.0.0.0.RW
7-bit I2C address (0x30): 0.1.1.0.0.0.0

Real-Time Clock: PCF8523
8-bit I2C address (0xD0/0xD1): 1.1.0.1.0.0.0.RW
7-bit I2C address (0x68): 1.1.0.1.0.0.0

DSI-HDMI bridge: ADV7535
8-bit I2C address (0x7A/0x7B): 0.1.1.1.1.0.1.RW
7-bit I2C address (0x3D): 0.1.1.1.1.0.1.RW

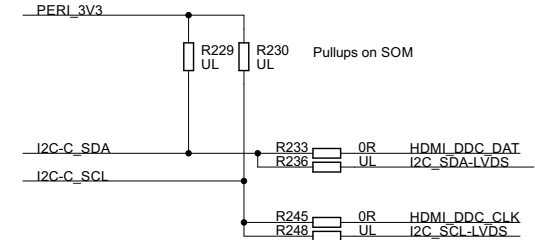
Mikrobus/Click I/F: unknown I2C-address

CAM2 CSI Camera: unknown I2C-address

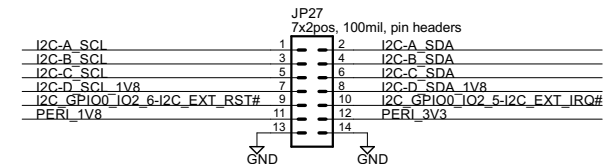
MIPI-DSI Display Capacitive Touch: unknown I2C-address

LVDS: unknown I2C-address

I2C-C



Access to I2C channels, and I2C Expansion connector



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

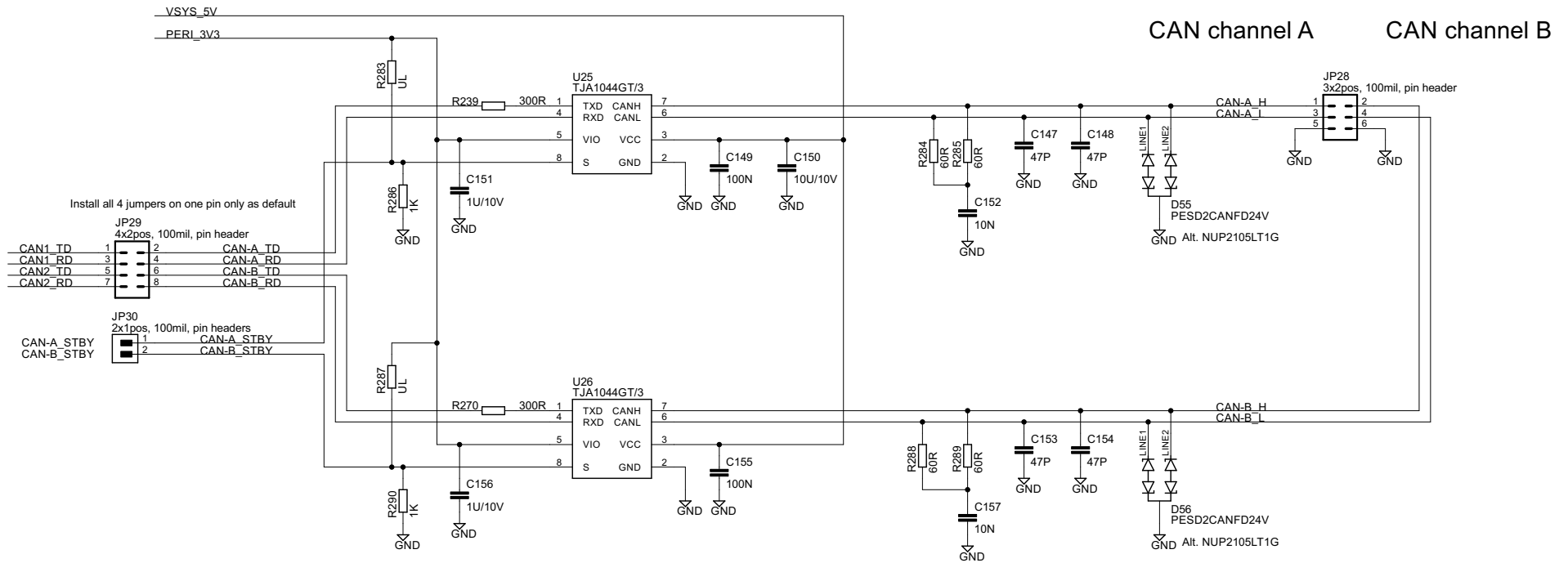
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 21/34

Dual CAN transceivers

CAN transceivers



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

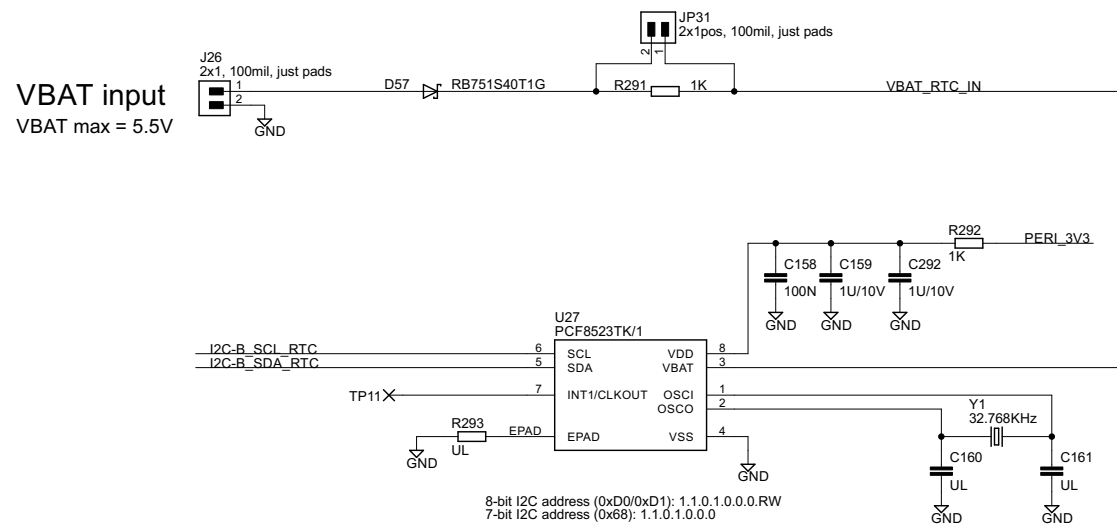
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 22/34

Real-Time Clock

Real Time Clock (PCF8523) with I2C interface
Standby mode: 150nA (typ)



© Embedded Artists AB

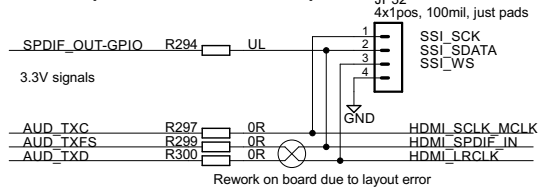
TITLE: SOM Carrier Board rev A

Document Number:

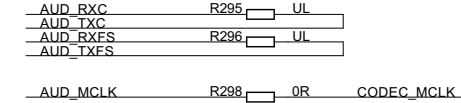
Date: 2025-12-02 00:16:46

Sheet: 23/34

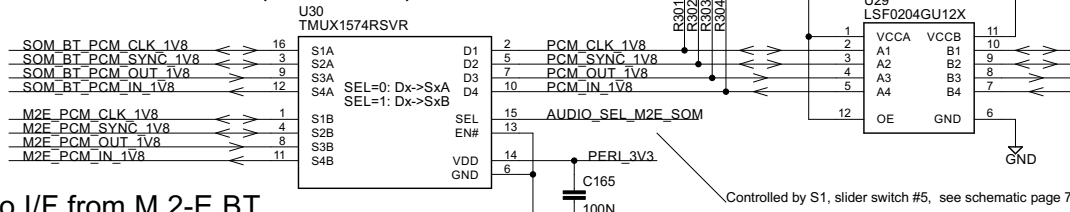
Audio output to HDMI adapter



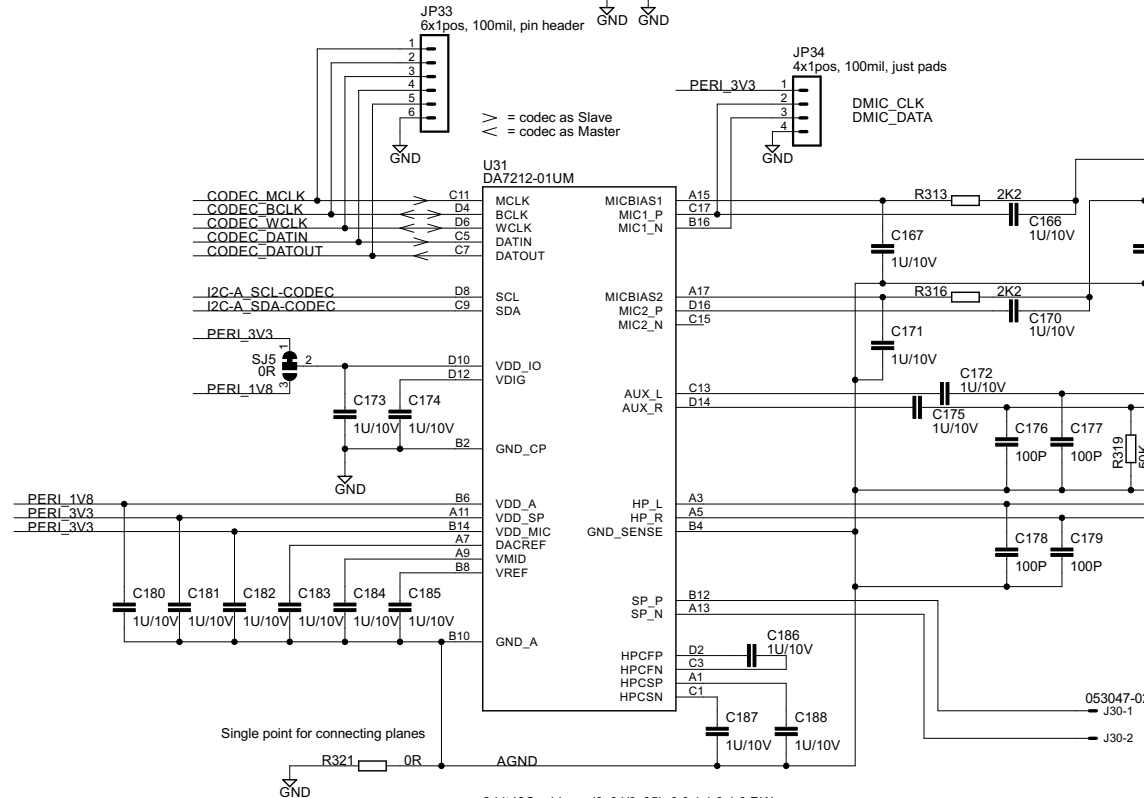
Audio Interfaces



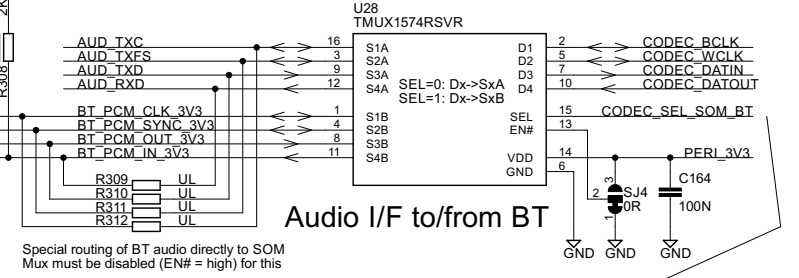
Audio I/F from SOM BT (if mounted)



Audio I/F from M.2-E BT



Audio I/F to/from SOM



Audio I/F to/from BT

Controlled by S1, slider switch #4, see schematic page 7

Microphone Input

Line Input

Headphone Output

To speaker



(C) Embedded Artists AB

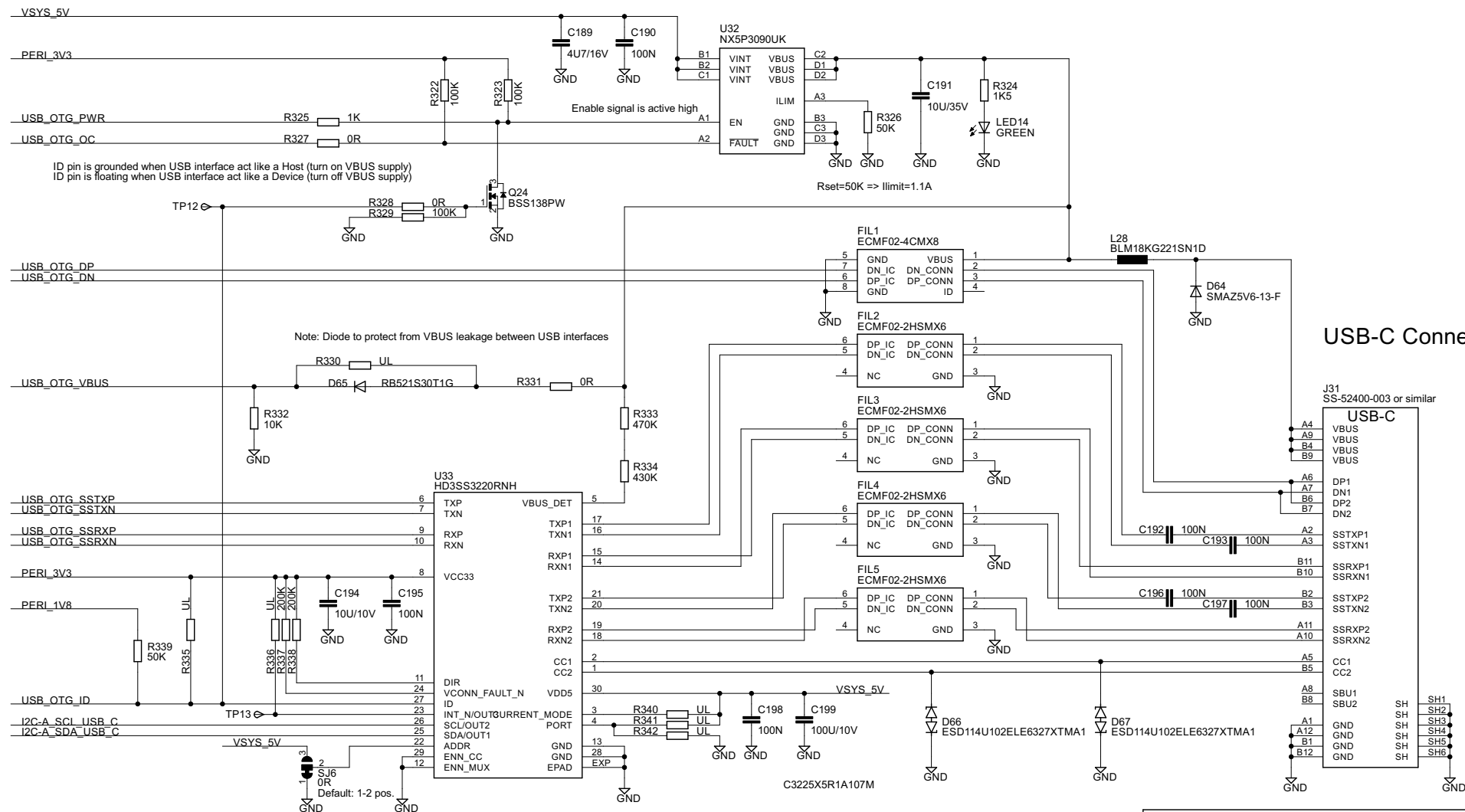
TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 24/34

USB3.2 Type-C Interface



ADDR=floating: GPIO mode, I2C disabled.

H - downstream-facing port (DFP): Pull-up to VDD5
NC - dual-role power (DRP): Leave unconnected
L - upstream-facing port (UFP): Pull-down or tie to GND



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

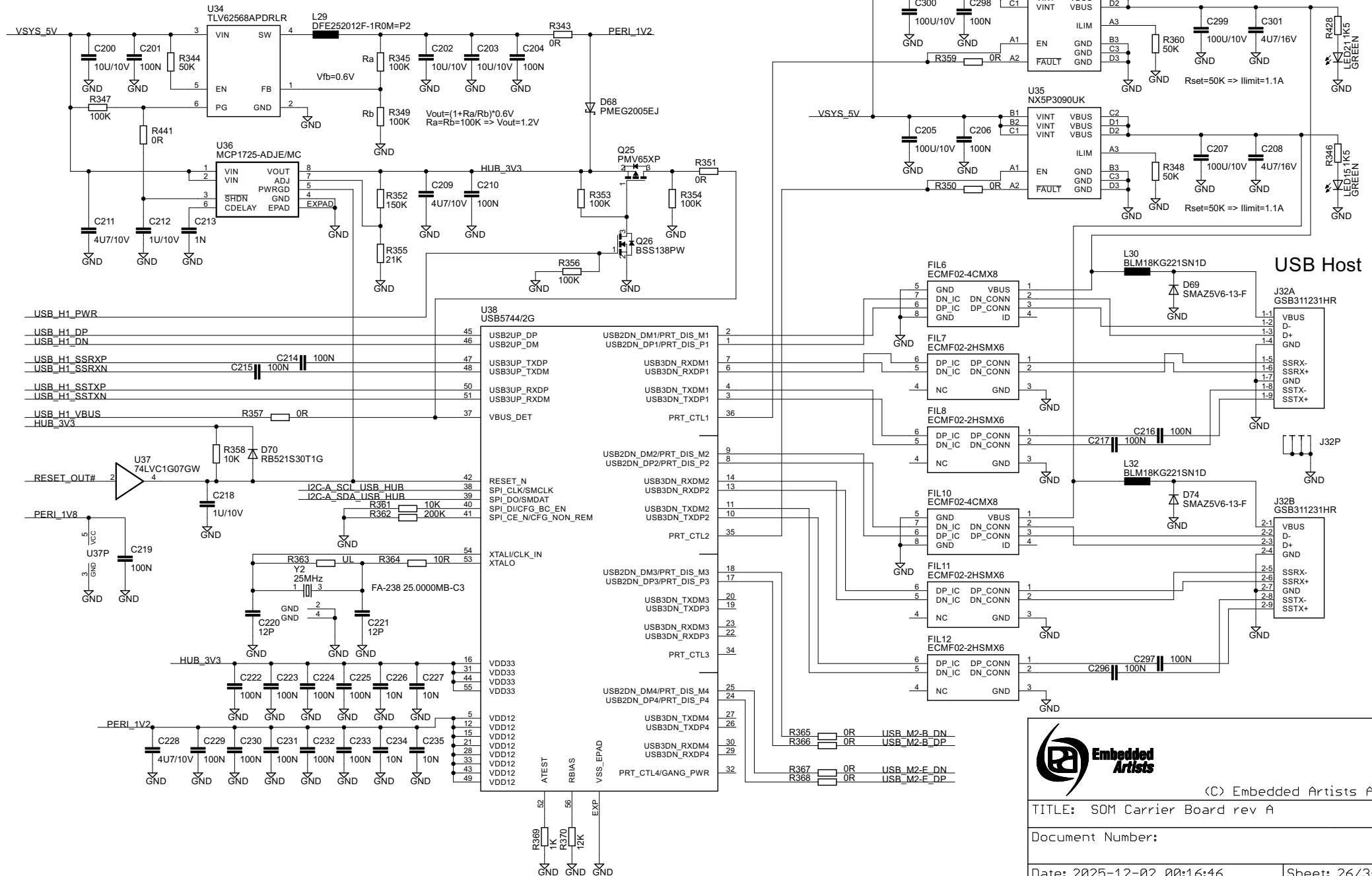
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 25/34

1.2V / 1A Buck DCDC (700mA needed)

USB3.2 Hub and Host Interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

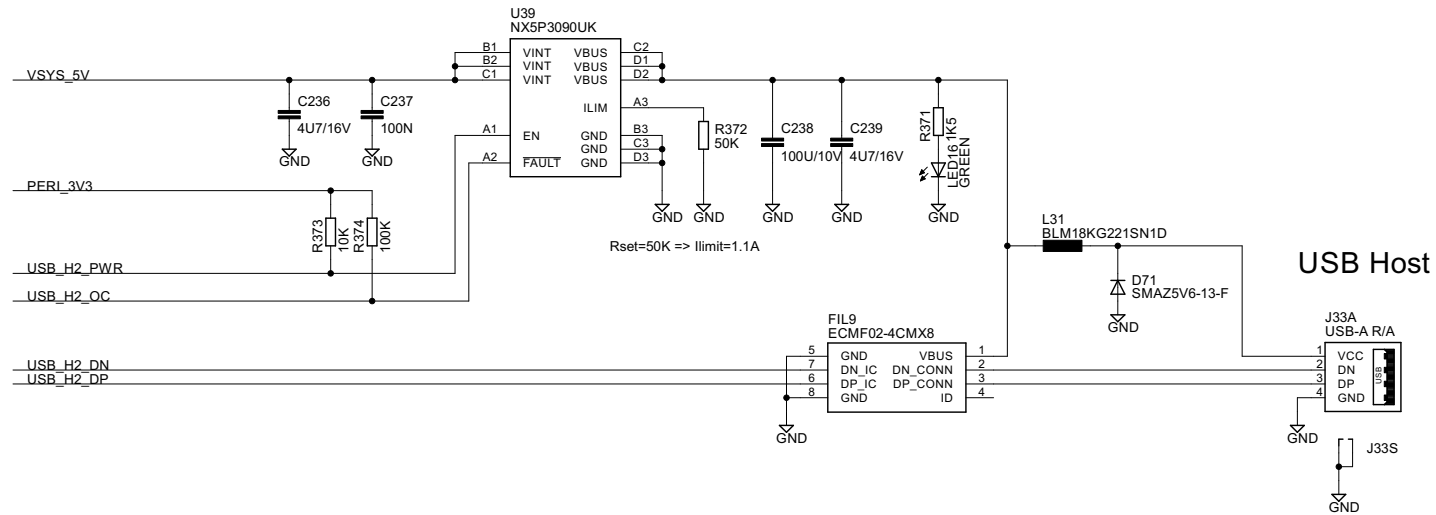
Document Number:

Date: 2025-12-02 00:16:46

Sheet: 26/34

USB2 Host Interface

Note: iMX8M Mini/Plus do not support this interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

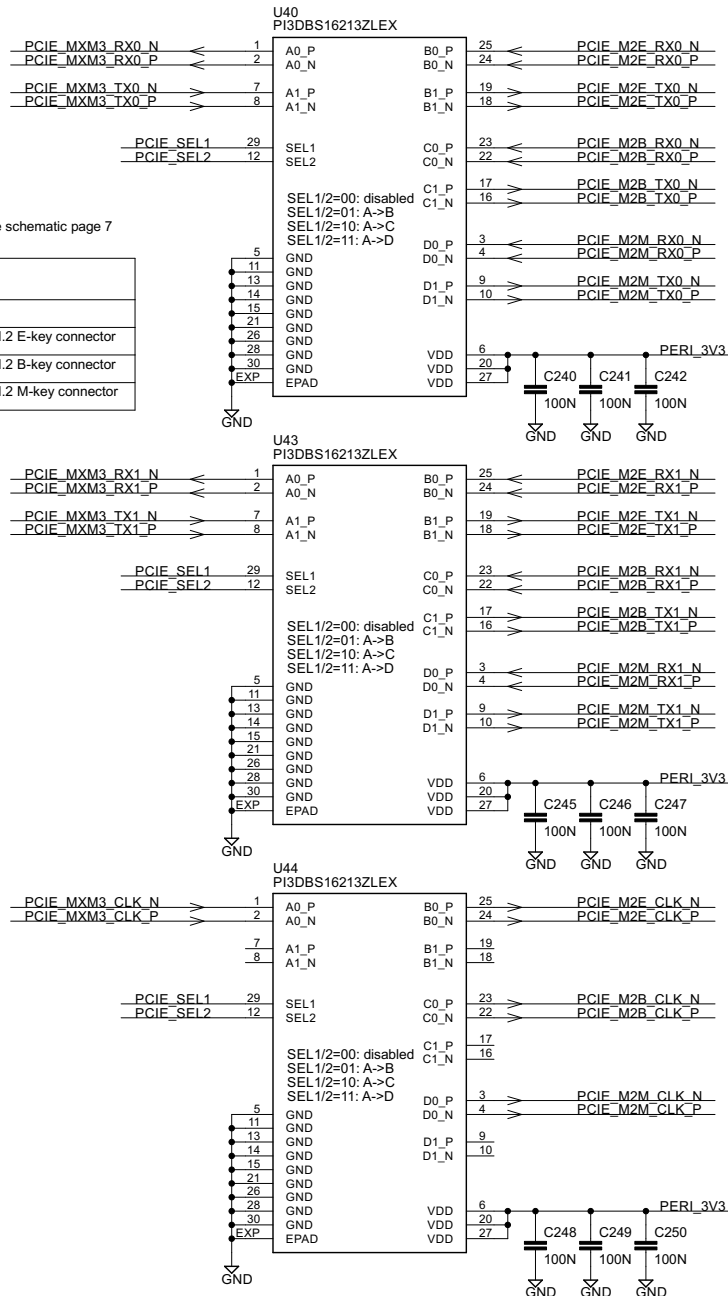
Sheet: 27/34

PCIe Signal Routing

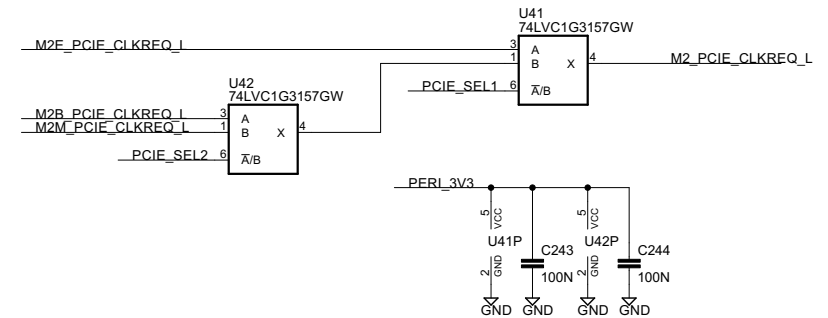
To processor

Controlled by S1, slider switch #1 & #2, see schematic page 7

SEL1 / SEL2	PCIe direction
0 0	MUX disabled
0 1	PCIe connected to M.2 E-key connector
1 0	PCIe connected to M.2 B-key connector
1 1	PCIe connected to M.2 M-key connector



SEL1 / SEL2	PCIe direction
0 0	M2E_PCIE_CLKREQ_L
0 1	M2E_PCIE_CLKREQ_L
1 0	M2B_PCIE_CLKREQ_L
1 1	M2M_PCIE_CLKREQ_L



(C) Embedded Artists AB

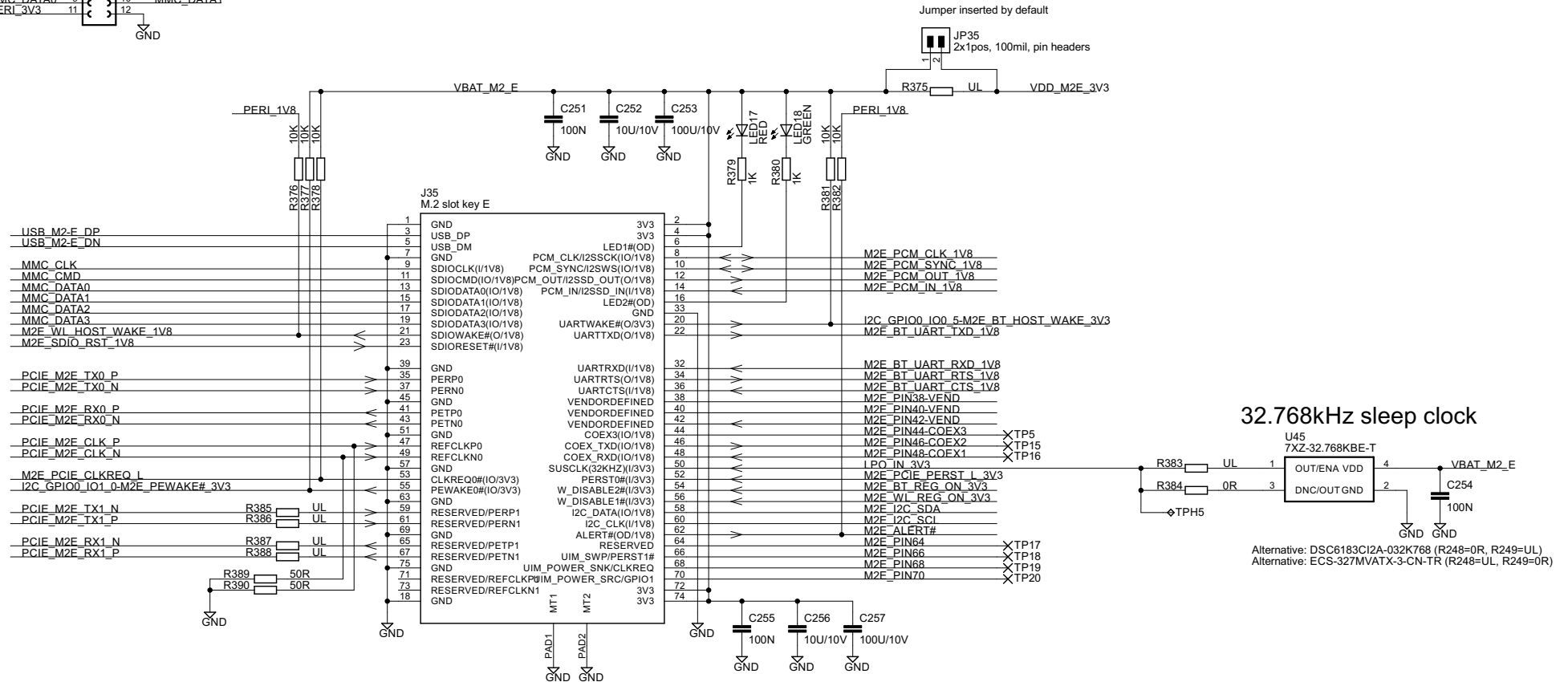
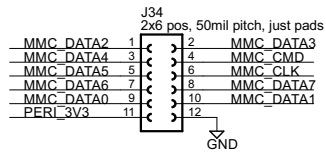
TITLE: SOM Carrier Board rev A

Document Number:

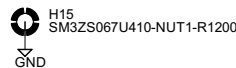
Date: 2025-12-02 00:16:46

Sheet: 28/34

M.2 (NGFF) Key E Connector



Standoff for M.2 connector, placed at 30mm distance from connector



(C) Embedded Artists AB

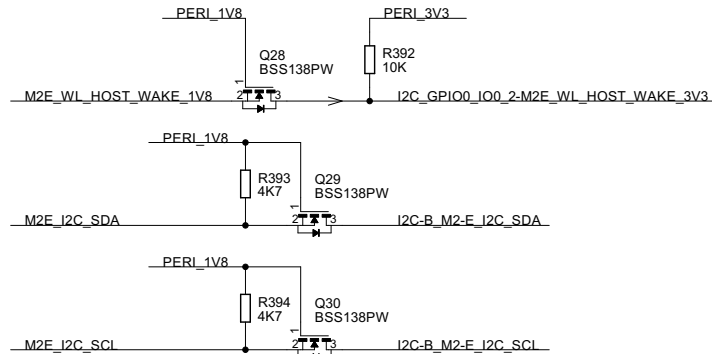
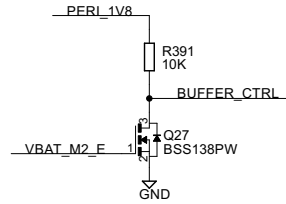
TITLE: SOM Carrier Board rev A

Document Number:

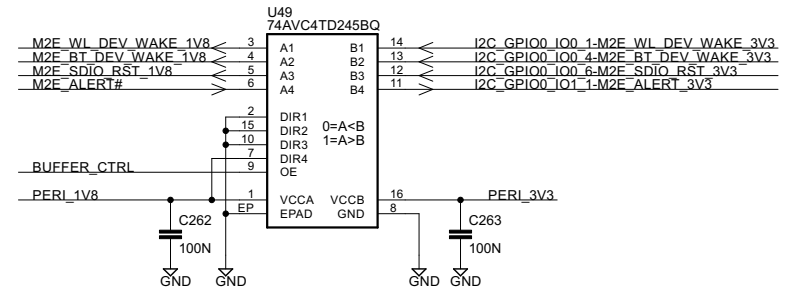
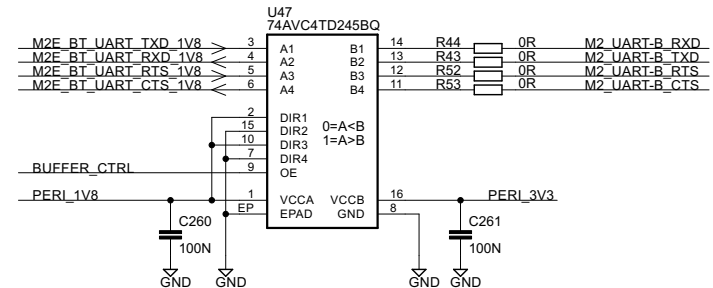
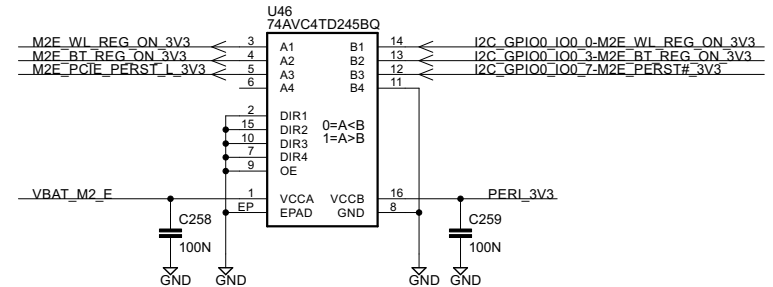
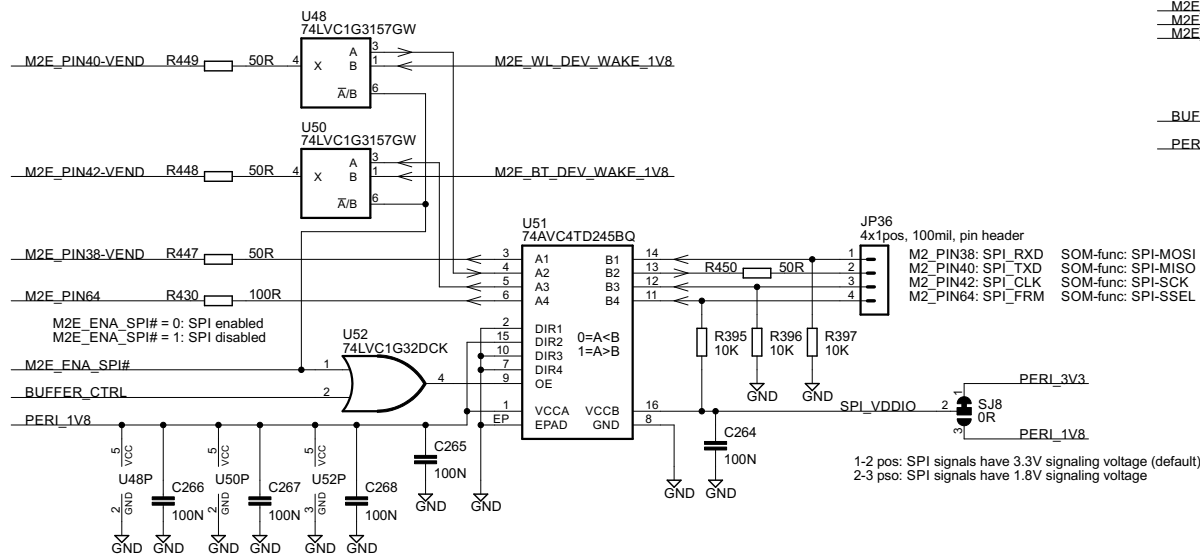
Date: 2025-12-02 00:16:46

Sheet: 29/34

M.2 (NGFF) Key E Voltage Translators



SPI Interface



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

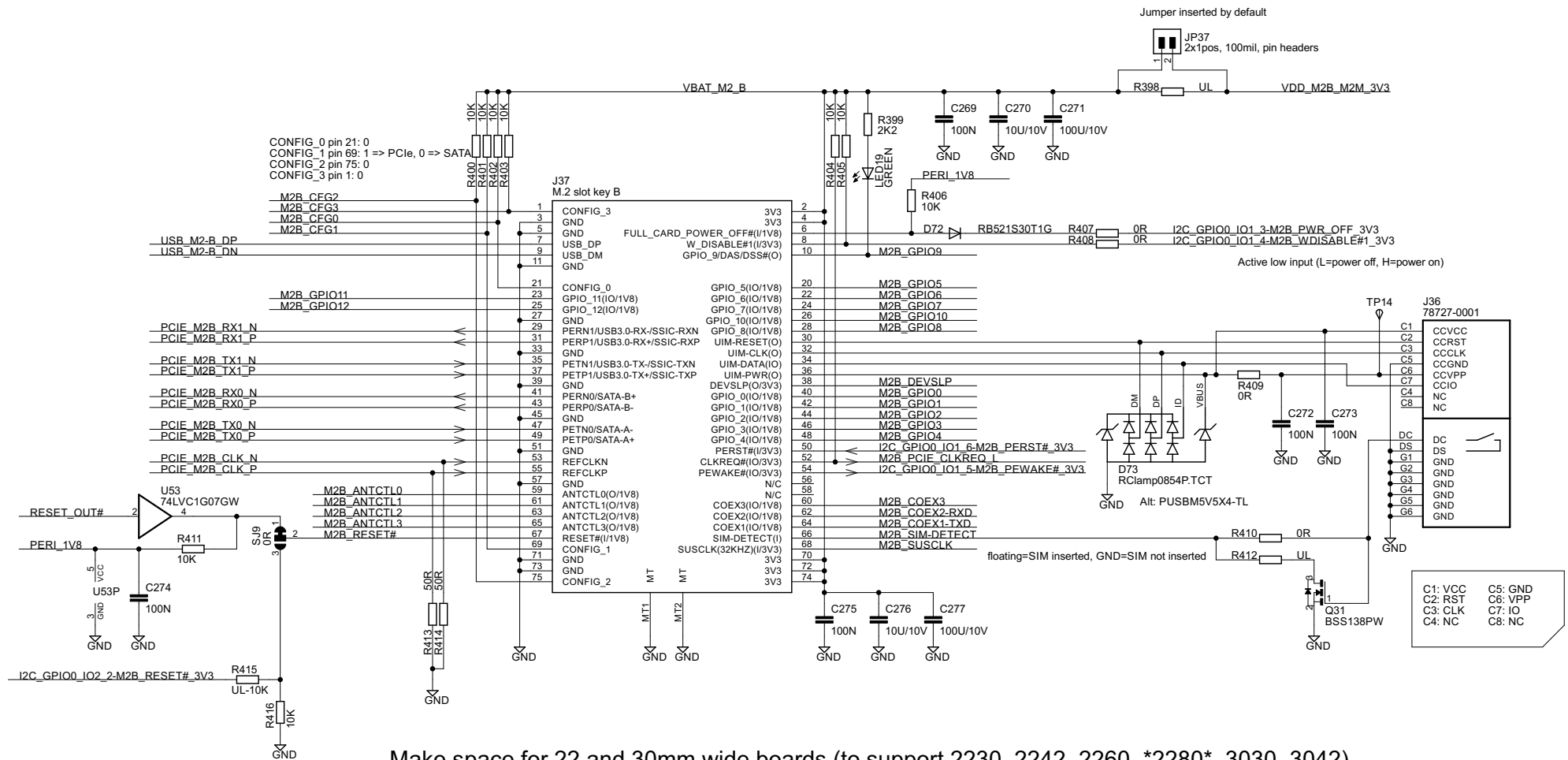
Document Number:

Date: 2025-12-02 00:16:46

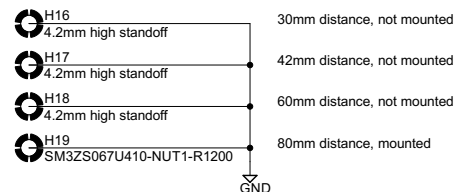
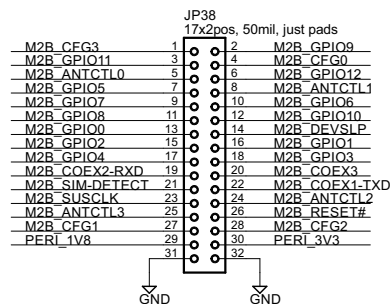
Sheet: 30/34

Controlled by S1, slider switch #7, see schematic page 7

M.2 Key B Connector (USB Host and PCIe Interfaces)



Make space for 22 and 30mm wide boards (to support 2230, 2242, 2260, *2280*, 3030, 3042)
Standoffs for M.2 connector, placed at 30, 42, 60 and 80 mm distance from connector



(C) Embedded Artists AB

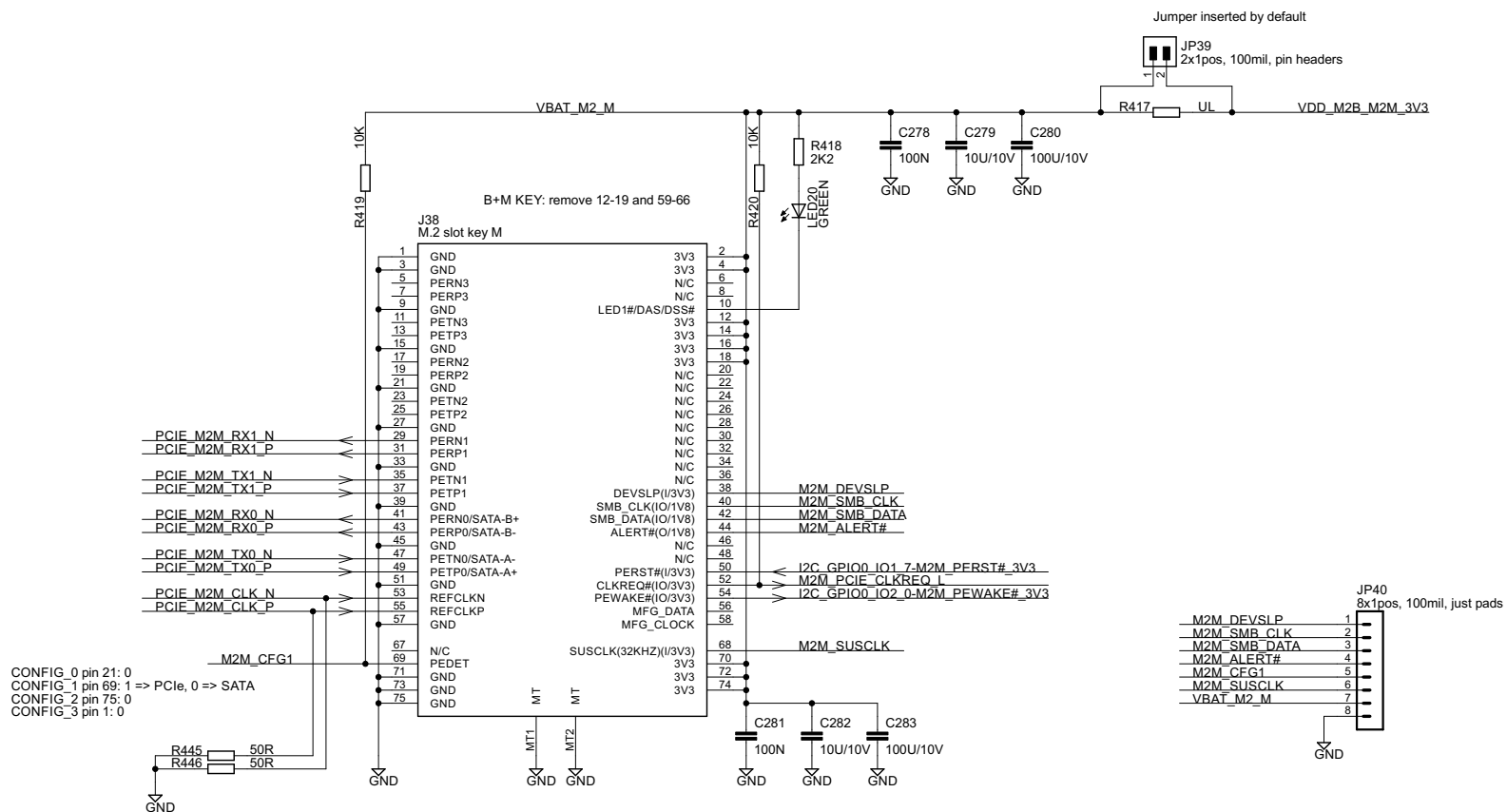
TITLE: SOM Carrier Board rev A

Document Number:

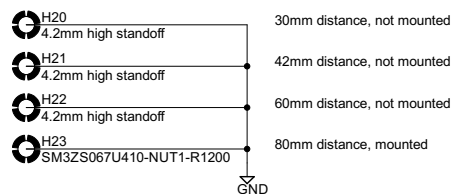
Date: 2025-12-02 00:16:46

Sheet: 31/34

M.2 Key M Connector



Make space for 22 and 30mm wide boards (to support 2230, 2242, 2260, *2280*, 3030, 3042)
Standoffs for M.2 connector, placed at 30, 42, 60 and 80 mm distance from connector



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

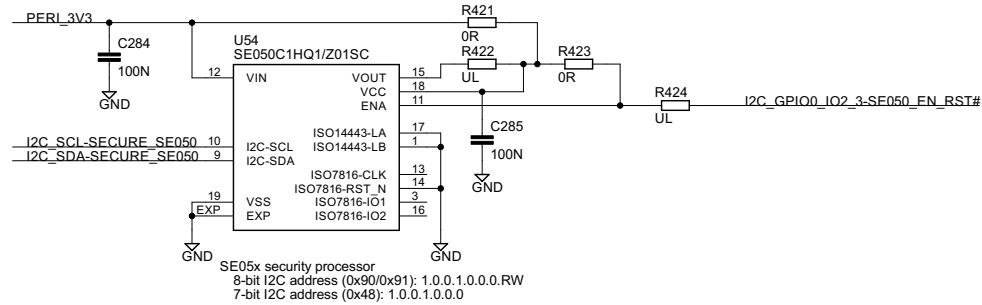
Document Number:

Date: 2025-12-02 00:16:46

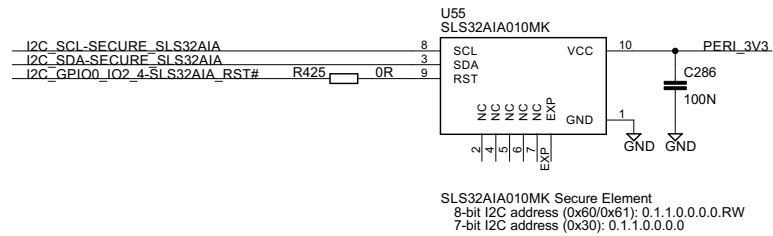
Sheet: 32/34

Secure Elements

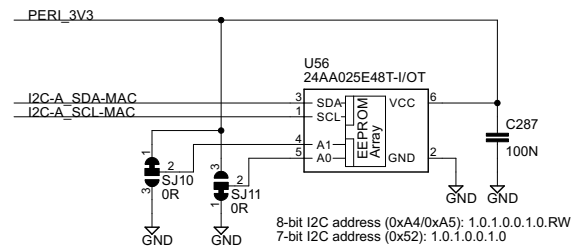
NXP SE050 secure element



Infineon OPTIGA Trust M secure element



1Kbit I2C-E2PROM with EUI-48



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 33/34

Expansion Connectors

JP41		17x2pos, 50mil, just pads
RESET_OUT#	1	2 RESET_IN#
PERI_PWR_EN	3	4 GPIO_A_IRQ
GPIO_B_IRQ	5	6 GPIO-PWM-RGB_BI_PWM
UART-A_TXD	7	8 UART-A_RTS
UART-A_CTS	9	10 UART-A_RXD
UART-B_TXD	11	12 UART-B_RTS
UART-B_CTS	13	14 UART-B_RXD
UART-C_TXD	15	16 UART-C_RXD
SPI-A_SCLK	17	18 SPI-A_MISO
SPI-A_MOSI	19	20 SPI-A_SS[0]
SPI-B_SCLK	21	22 SPI-B_MISO
SPI-B_MOSI	23	24 SPI-B_SS[0]
I2C-D_SCL_1V8	25	26 I2C-D_SDA_1V8
POWER_BTN#	27	28 MXM3_P114
WAKE_SLEEP#	29	30 MXM3_P112
M2_PCIE_CLKREQ_L	31	32 MXM3_P110
MXM3_P109	33	34 MXM3_P108

JP42		1x1pos, 50mil, just pad
		USB_H1_OC

JP45		5x1pos, 50mil, just pads
	1	BI_CONTRAST_PWM-GPIO
	2	BI_PWR_EN-GPIO
	3	DISP_PWR_EN-GPIO
	4	TP_IRQ-GPIO
	5	TP_RST-GPIO

JP47		7x1pos, 50mil, just pads
	1	CAN1_RD
	2	CAN1_TD
	3	CAN2_RD
	4	CAN2_TD
	5	SPDIF_OUT-GPIO
	6	SPDIF_IN-GPIO
	7	AUD_MCLK

JP48		7x1pos, 50mil, just pads
	1	AUD_TXD
	2	AUD_TXC
	3	AUD_RXD
	4	AUD_TXES
	5	AUD_RXC
	6	AUD_RXES
	7	GPIO_F

JP49		3x1pos, 50mil, just pads
	1	MXM3_S125
	2	MXM3_S124
	3	MXM3_S123

JP50		4x1pos, 100mil, just pads
	1	3.3V_ISO
	2	1.8V_ISO
	3	NVCC_RF
	4	GND



(C) Embedded Artists AB

TITLE: SOM Carrier Board rev A

Document Number:

Date: 2025-12-02 00:16:46

Sheet: 34/34