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Page 12:	Camera / Display Interfaces
Page 13:	I2C Connections
Page 14:	LVDS#0 Interfaces
Page 15:	LVDS#1 Interfaces
Page 16:	Parallel LCD Interface
Page 17:	Expansion Connectors
Page 18:	Audio Interface
Page 19:	Debug Interface

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 D-D1

Changed expansion connectors to 0.5mm pitch FPC.
Added break-off section for expansion connectors.
Added optional 100MHz PCIe clock (for iMX7).
Added JP11 pads on rev D1.

Rev C

Added onoff-handling for Android. R176/177 mounted.
Added C82, C83, R174, R203, Q21. Changed R57 (60R).
Added R171, R172, R204, R205, JP7, JP8, JP9, JP10.
Mount R93, R94.

Rev B2

Changed to alphabetical numbering of UART, SPI and I2C.

Rev B-B1

Several small enhancements. Added battery charging.
Corrected D17, D23 and D24.

Rev A

Correct U5 pinning error. Added R139 (100K). Change C13.
Correct Q1 pinning. Change L17/L24 to UL.
Added SJ8 for uSD/MMC powering from COM board.
Added H3, J35, JP4/JP6, LED8, Q17/Q18/Q19, U16/U19,
U20, R139/ R145/R146/R141/R147/R148/R178/R179,
R180/R181/R143, SJ12, C113/C132/C133/C134/C109,
C139/C111/C112/C135/C136/C137/C138



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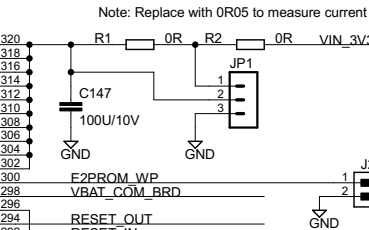
Sheet: 1/20

EACOM Board connector (MXM3)

J1B
AS0B826-S78B

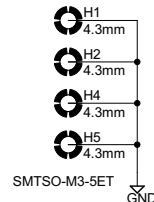
MXM3 connector

bottom side	top side
PCIE_RX_N	321
PCIE_RX_P	319
PCIE_TX_N	317
PCIE_TX_P	315
PCIE_CLK_N	313
PCIE_CLK_P	311
SATA_RX-PCIE_REFCLK_P	309
SATA_RXN-PCIE_REFCLK_N	307
SATA_TXN	305
SATA_TXP	303
CSL_CLK0P	301
CSL_CLK0M	299
CSL_D0P	297
CSL_D0M	295
CSL_D1P	293
CSL_D1M	291
CSL_D2P	289
CSL_D2M	287
CSL_D3P	285
CSL_D3M	283
CSL_DATA07	281
CSL_DATA06	279
CSL_DATA05	277
CSL_DATA04	275
CSL_DATA03-TP_IRQ_LCD	273
CSL_DATA02-XBEE_RST	271
CSL_DATA01	269
CSL_DATA00	267
CSL_PIXCLK	265
CSL_MCLK	263
CSL_VSYNCP	261
CSL_HSYNCP	259
GPIO_33-SCAM_DATA	257
GPIO_34	255
GPIO_35	253
GPIO_36	251
GPIO_37	249
GPIO_38	247
GPIO_39	245
GPIO_40	243
VADC_IN0-MIPI_DSI_CP	241
VADC_IN1-MIPI_DSI_CN	239
VADC_IN2-MIPI_DSI_DP0	237
VADC_IN3-MIPI_DSI_DN0	235
ADC1_IN0-MIPI_DSI_DP1	233
ADC1_IN1-MIPI_DSI_DN1	231
ADC1_IN2-GPIO	229
ADC1_IN3-GPIO	227
ADC2_IN0-GPIO	225
ADC2_IN1-GPIO	223
ADC2_IN2-GPIO	221
ADC2_IN3-GPIO	219
ADC2_VREF-H-GPIO	217
ADC_VREF-H-GPIO	215
LCD_ENABLE	213
LCD_VSYNCP	211
LCD_HSYNCP	209
LCD_DISP_EN-GPIO	207
LCD_CLK	205
LCD_DATA07	203
LCD_DATA06	201
LCD_DATA05	199
LCD_DATA04	197
LCD_DATA03	195
LCD_DATA02	193
LCD_DATA01	191



320	E2PROM_WP	P156
318	VBAT_COM_BRD	P155
316	RESET_OUT	P154
314	RESET_IN	P153
312	PERI_PWR_EN	P152
310	GPIO1	P151
308	GPIO2	P150
306	PWM	P149
304	UART-A_TXD	P148
302	UART-A_RTS	P147
300	UART-A_CTS	P146
298	UART-B_TXD	P145
296	UART-B_RTS	P144
294	UART-B_CTS	P143
292	UART-C_TXD	P142
290	UART-C_RTS	P141
288	UART-C_CTS	P140
286	GPIO_1-PCIE_PERST	P139
284	PWM1-LVDS0_BI_CTRL	P138
282	UART-A_TXD	P137
280	UART-A_RTS	P136
278	UART-A_CTS	P135
276	UART-B_TXD	P134
274	UART-B_RTS	P133
272	UART-B_CTS	P132
270	UART-C_TXD	P131
268	UART-C_RTS	P130
266	UART-C_CTS	P129
264	UART-D_TXD	P128
262	UART-D_RTS	P127
260	SPI-A_CLK	P126
258	SPI-A_MISO	P125
256	SPI-A_MOSI	P124
254	SPI-A_SSSEL	P123
252	SPI-B_CLK	P122
250	SPI-B_MISO	P121
248	SPI-B_MOSI	P120
246	SPI-B_SSSEL	P119
244	GPIO_2-SATA_SLEEP	P118
242	GPIO_3-LVDS1_PWR_EN	P117
240	GPIO_4-LVDS1_RL_PWR_EN	P116
238	GPIO_5-LVDS1_CAP_TCH_INT	P115
236	GPIO_6-RF_ON	P114
234	GPIO_7	P113
232	GPIO_8	P112
230	GPIO_9	P111
228	GPIO_10	P110
226	GPIO_11	P109
224	GPIO_12	P108
222	GPIO_13	P107
220	GPIO_14	P106
218	GPIO_15	P105
216	GPIO_16	P104
214	GPIO_17	P103
212	GPIO_18	P102
210	GPIO_19	P101
208	GPIO_20	P100
206	GPIO_21	P99
204	GPIO_22	P98
202	GPIO_23	P97
200	GPIO_24	P96
198	GPIO_25	P95
196	GPIO_26	P94
194	GPIO_27	P93
192		P92
190		P91
188		P90
186		P89
184		P88
182	ONOFF	P87
180	USB_HOST_VBUS	P86
178		P85
176		P84
174		P83
172		P82
170		P81
168	USB_HOST_DP	P79
166	USB_HOST_DN	P78
164		P77
162	USB_HOST_OC	P76
160	USB_HOST_PWR	P75

SMARC mounting holes



J1A
AS0B826-S78B

MXM3 connector

bottom side	top side
LCD_DATA00	149
LCD_DATA15	147
LCD_DATA14	145
LCD_DATA13	143
LCD_DATA12	141
LCD_DATA11	139
LCD_DATA10	137
LCD_DATA09	135
LCD_DATA08	133
LCD_DATA07	131
LCD_DATA06	129
LCD_DATA05	127
LCD_DATA04	125
LCD_DATA03	123
LCD_DATA02	121
LCD_DATA01	119
LCD_DATA00	117
LCD_DATA16	115
BL_CONTRAST_PWM-GPIO	113
BL_PWR_EN-GPIO	111
DISP_PWR_EN-GPIO	109
TP_IRQ-GPIO	107
TP_RST-GPIO	105
I2C-C_SCL	103
I2C-C_SDA	101
I2C-B_SCL	99
I2C-A_SCL	97
I2C-A_SDA	95
LVDS0_CLK_N	93
LVDS0_CLK_P	91
LVDS0_DATA0_N	89
LVDS0_DATA0_P	87
LVDS0_DATA1_N	85
LVDS0_DATA1_P	83
LVDS0_DATA2_N	81
LVDS0_DATA2_P	79
LVDS0_DATA3_N	77
LVDS0_DATA3_P	75
LVDS1_CLK_N	73
LVDS1_CLK_P	71
LVDS1_DATA0_N	69
LVDS1_DATA0_P	67
LVDS1_DATA1_N	65
LVDS1_DATA1_P	63
LVDS1_DATA2_N	61
LVDS1_DATA2_P	59
LVDS1_DATA3_N	57
LVDS1_DATA3_P	55
CAN1_RD	53
CAN1_TD	51
CAN2_RD	49
CAN2_TD	47
SPDIF_OUT-GPIO	45
SPDIF_IN-GPIO	43
AUD_MCLK	41
AUD_TXD	39
AUD_TXC	37
AUD_RXD	35
AUD_TXFS	33
MOS_LEFT-GPIO	31
MOS_RIGHT-GPIO	29
USB_OTG_OC	27
USB_OTG_PWR	25
USB_OTG_VBUS	23
USB_OTG_SSRXN	21
USB_OTG_SSRXN	19
USB_OTG_SSRXN	17
USB_OTG_SSRXN	15
USB_OTG_SSRXN	13
USB_OTG_SSRXN	11
USB_OTG_SSRXN	9
USB_OTG_SSRXN	7
USB_OTG_SSRXN	5
USB_OTG_SSRXN	3
USB_OTG_SSRXN	1
ETH2_TRXP2	148
ETH2_TRXN2	146
ETH2_TRXP3	144
ETH2_TRXN3	142
ETH2_LED_10_100	140
ETH2_LED_1000	138
ETH2_TRXP0	136
ETH2_TRXN0	134
ETH2_TRXP1	132
ETH2_TRXN1	130
ETH2_TRXP2	128
ETH2_TRXN2	126
ETH2_TRXP3	124
ETH2_TRXN3	122
ETH2_LED_10_100	120
ETH2_LED_1000	118
ETH2_TRXP0	116
ETH2_TRXN0	114
ETH2_TRXP1	112
ETH2_TRXN1	110
ETH2_TRXP2	108
ETH2_TRXN2	106
ETH2_TRXP3	104
ETH2_TRXN3	102
ETH2_LED_10_100	100
ETH2_LED_1000	98
ETH2_TRXP0	96
ETH2_TRXN0	94
ETH2_TRXP1	92
ETH2_TRXN1	90
ETH2_TRXP2	88
ETH2_TRXN2	86
ETH2_TRXP3	84
ETH2_TRXN3	82
ETH2_LED_10_100	80
ETH2_LED_1000	78
ETH2_TRXP0	76
ETH2_TRXN0	74
ETH2_TRXP1	72
ETH2_TRXN1	70
ETH2_TRXP2	68
ETH2_TRXN2	66
ETH2_TRXP3	64
ETH2_TRXN3	62
ETH2_LED_10_100	60
ETH2_LED_1000	58
ETH2_TRXP0	56
ETH2_TRXN0	54
ETH2_TRXP1	52
ETH2_TRXN1	50
ETH2_TRXP2	48
ETH2_TRXN2	46
ETH2_TRXP3	44
ETH2_TRXN3	42
ETH2_LED_10_100	40
ETH2_LED_1000	38
ETH2_TRXP0	36
ETH2_TRXN0	34
ETH2_TRXP1	32
ETH2_TRXN1	30
ETH2_TRXP2	28
ETH2_TRXN2	26
ETH2_TRXP3	24
ETH2_TRXN3	22
ETH2_LED_10_100	20
ETH2_LED_1000	18
ETH2_TRXP0	16
ETH2_TRXN0	14
ETH2_TRXP1	12
ETH2_TRXN1	10
ETH2_TRXP2	8
ETH2_TRXN2	6
ETH2_TRXP3	4
ETH2_TRXN3	2



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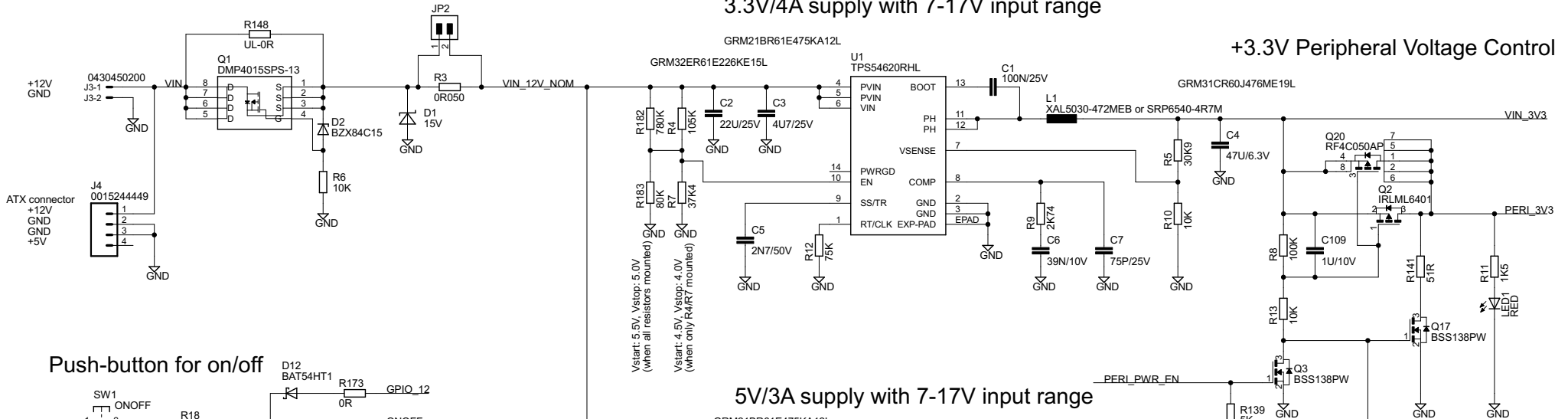
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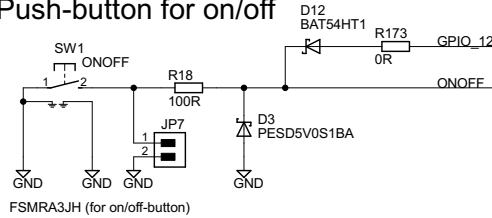
Power Supply Input

3.3V/4A supply with 7-17V input range

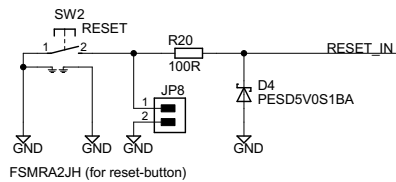
+3.3V Peripheral Voltage Control



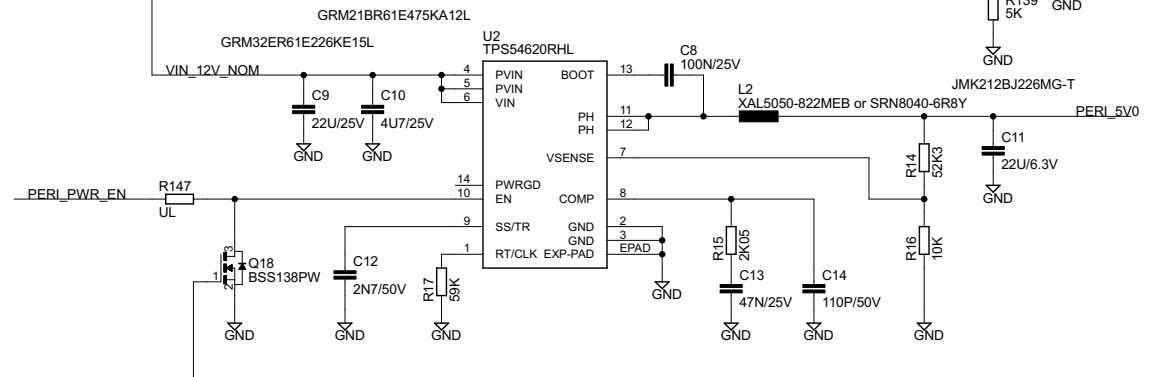
Push-button for on/off



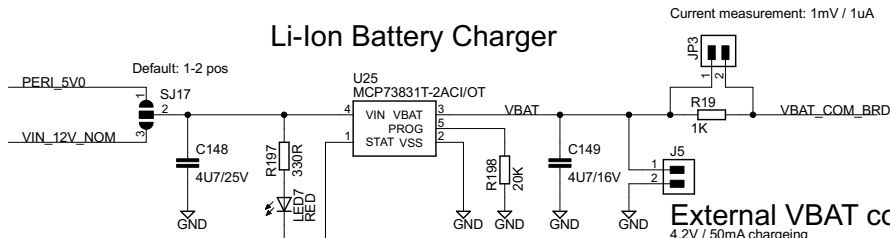
Push-button for reset



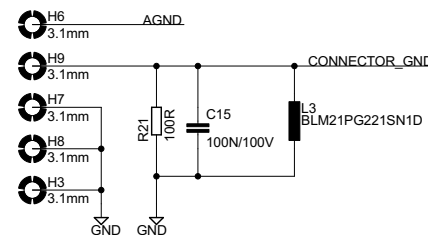
5V/3A supply with 7-17V input range



Li-Ion Battery Charger



Mounting Holes



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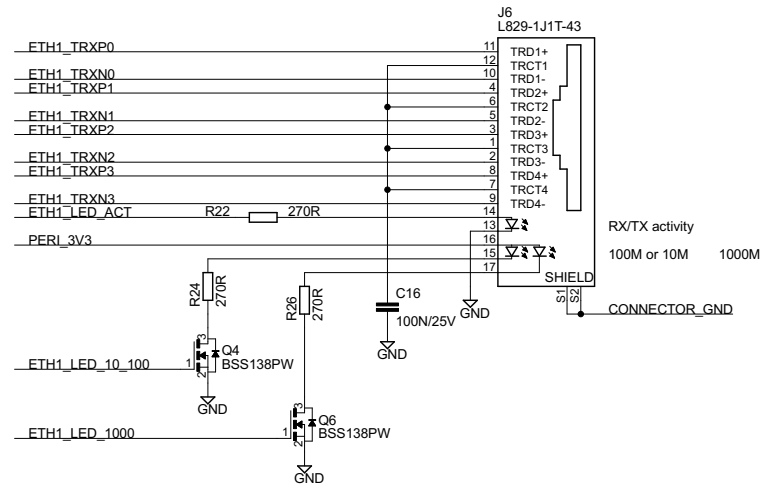
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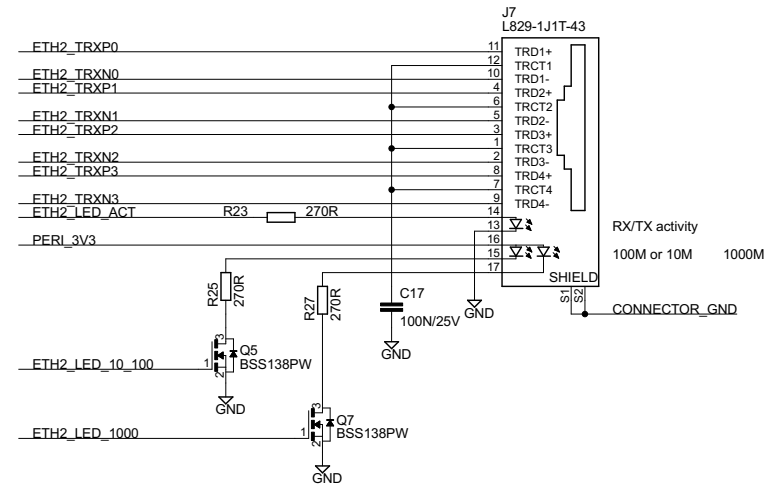
Note: This design is not recommended for customer carrier boards since VBAT will be above maximum recommended voltage (3.6V). A 3.3V LDO is recommended to control the voltage below 3.6V.

Ethernet interfaces

Ethernet Interface #1



Ethernet Interface #2



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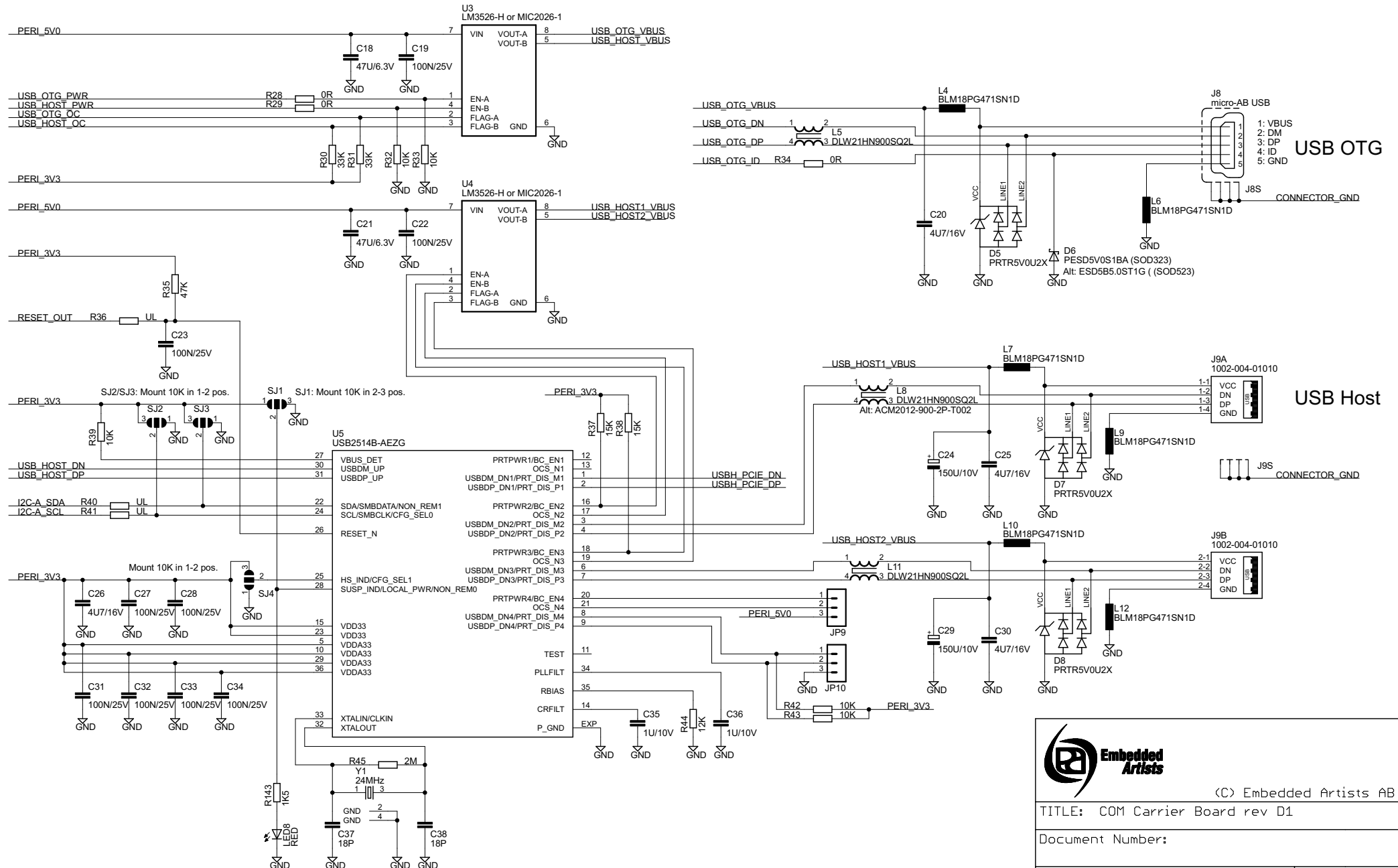
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USB Interfaces



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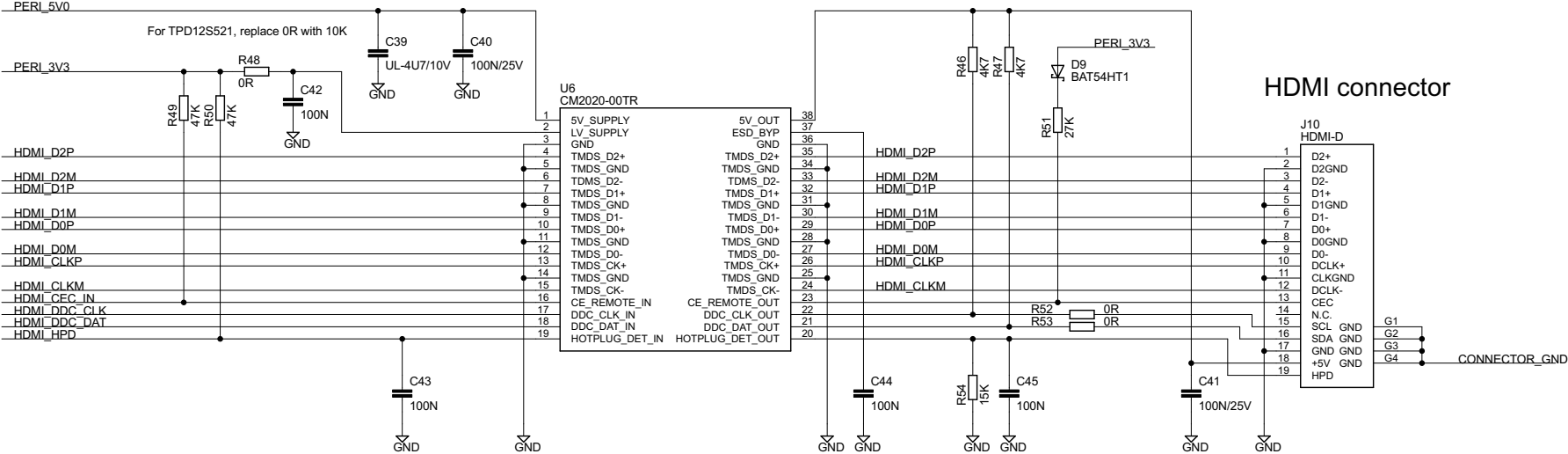
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HDMI Interface



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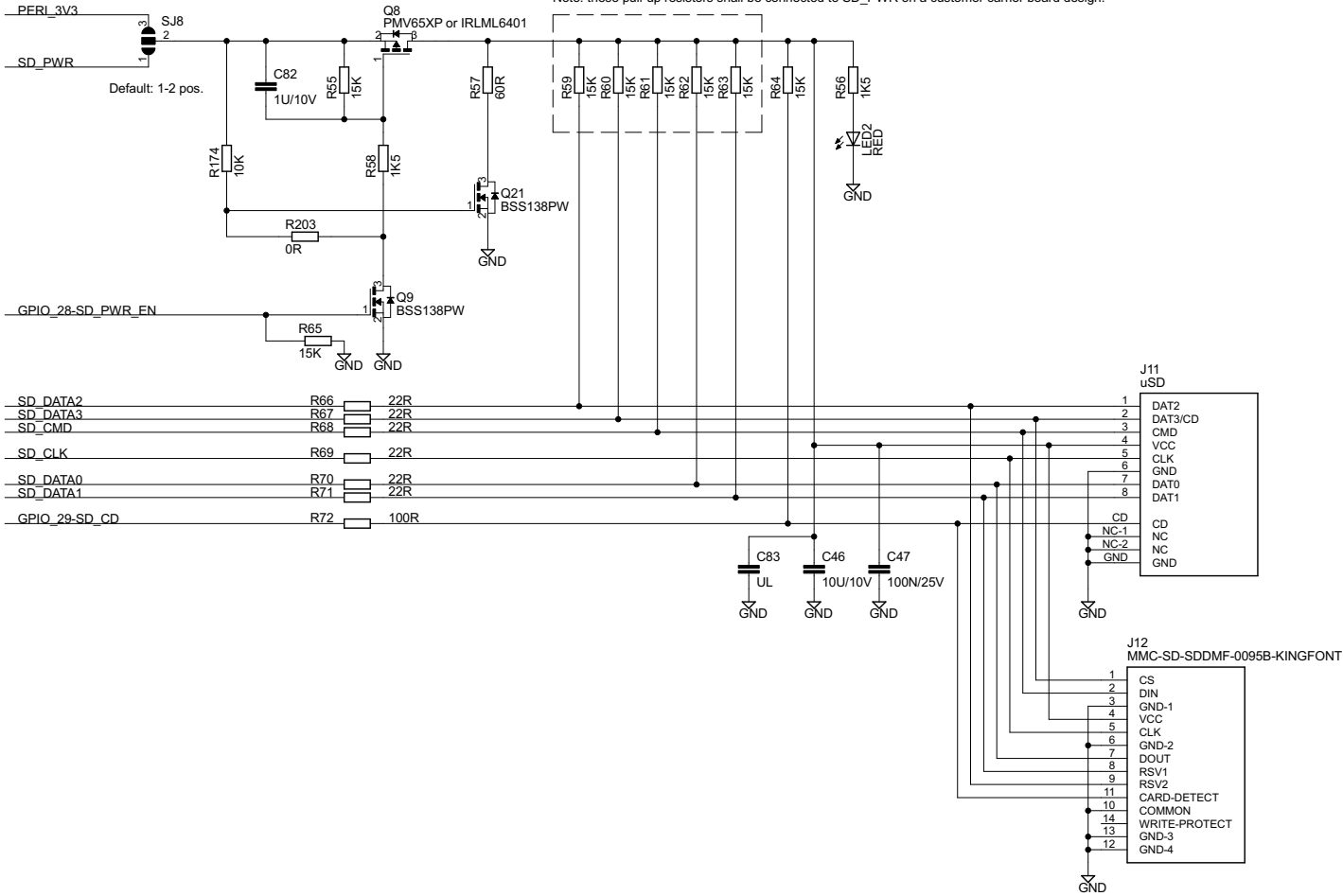
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Sheet: 6/20

uSD Memory Card Interface

Note: the board is shipped with position 1-2 shorted
This is not correct for customer carrier boards.
The SD/MMC card shall be powered by PERI_3V3.

Note: these pull-up resistors shall be connected to SD_PWR on a customer carrier board design.



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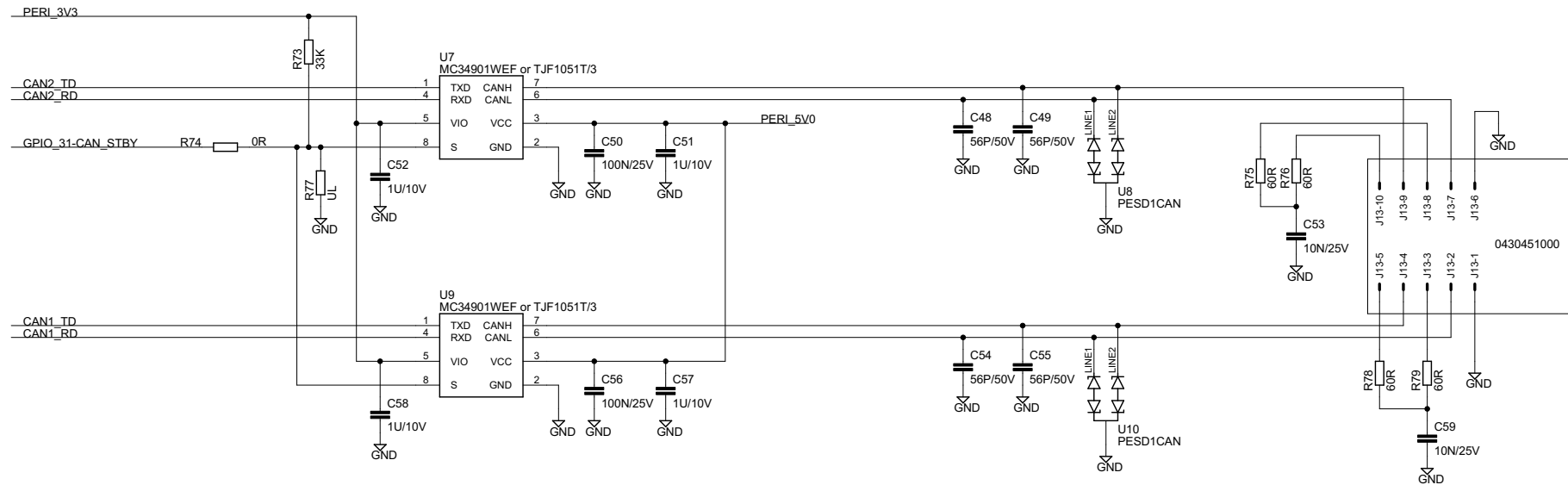
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CAN Interfaces

CAN transceivers



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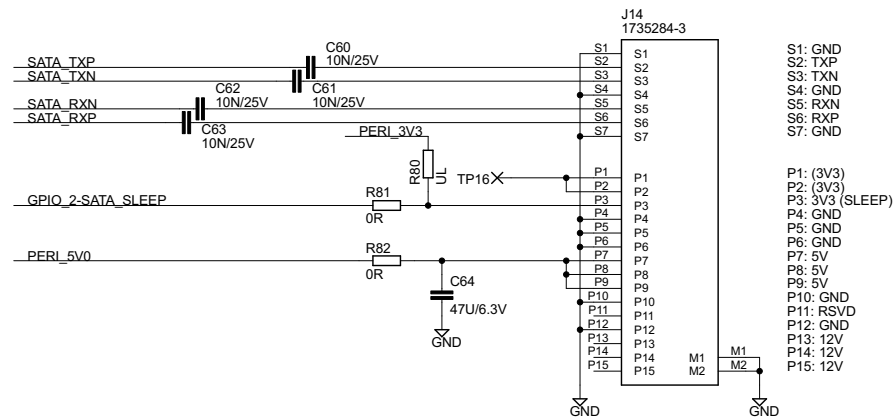
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SATA Interface

22 pos SATA Connector



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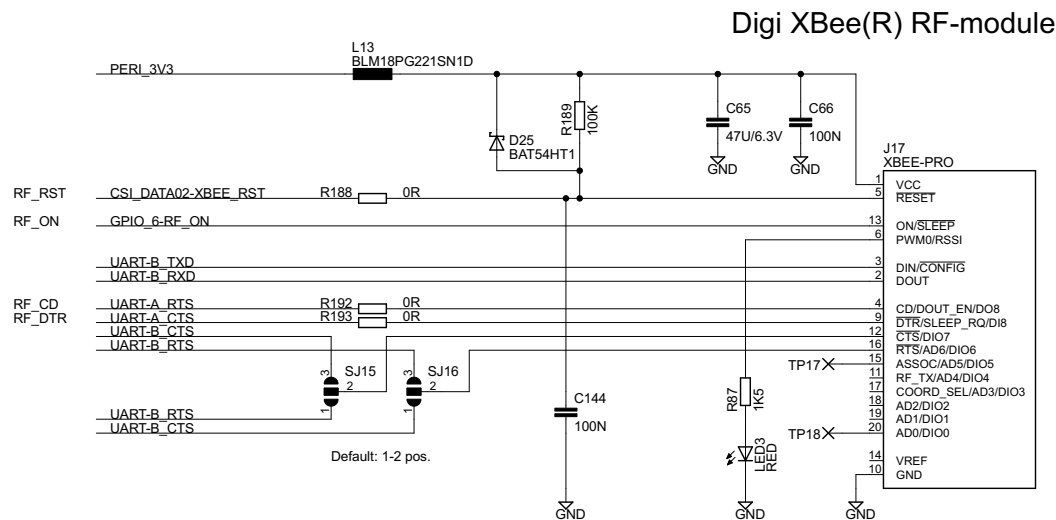
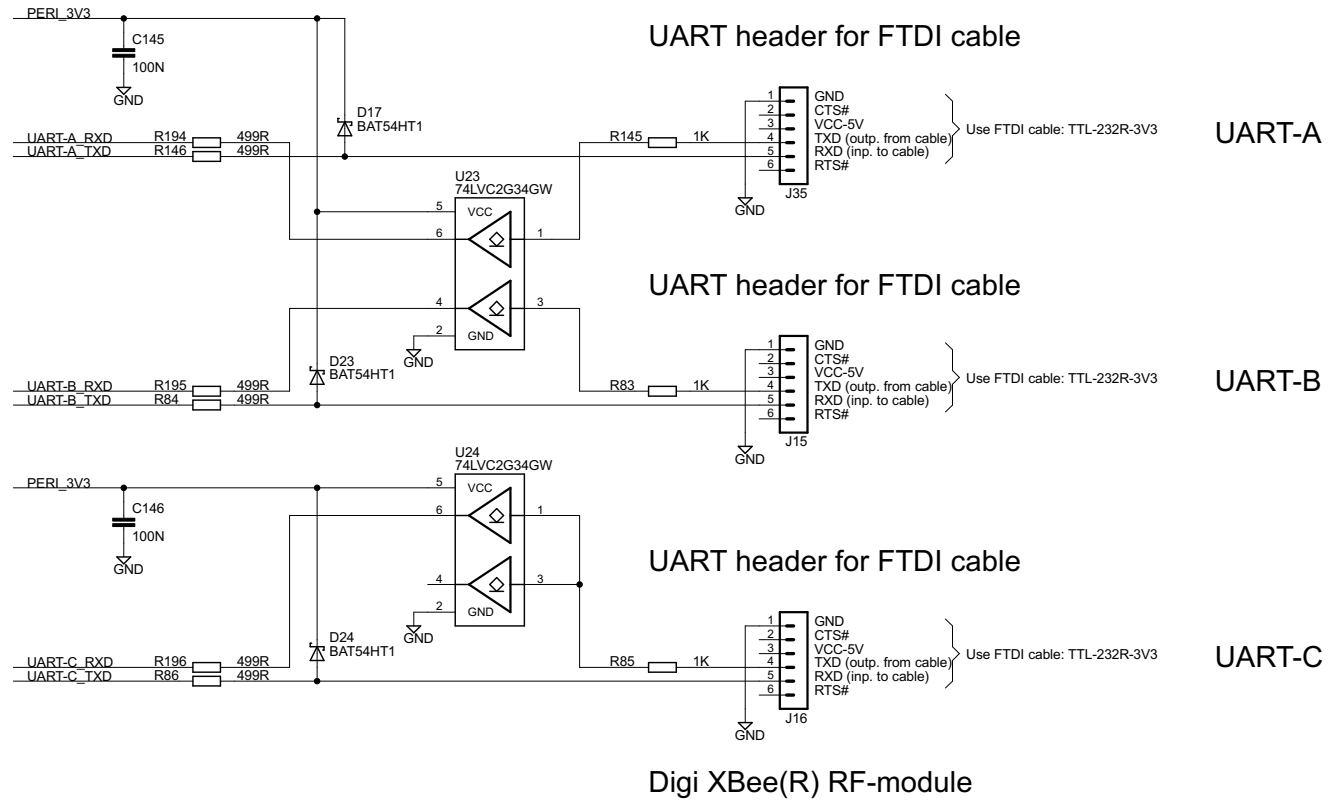
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UART Interfaces



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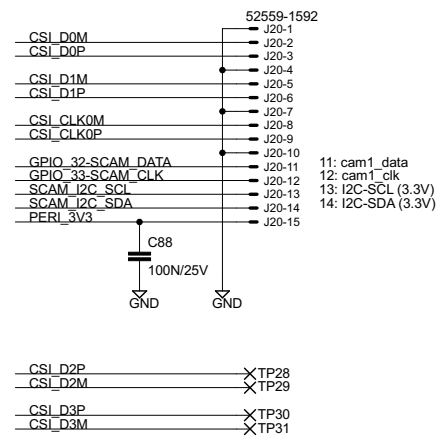
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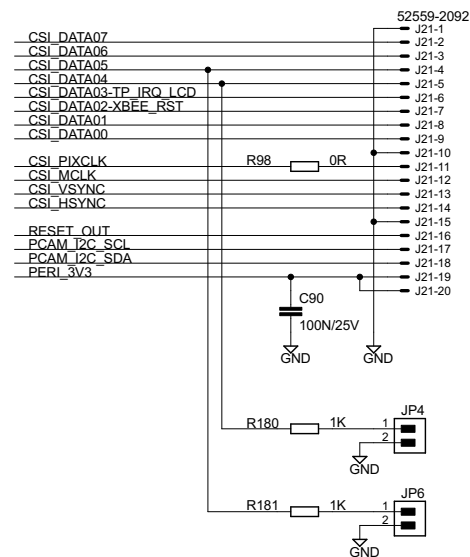
Sheet: 10/20

Camera / Display Interfaces

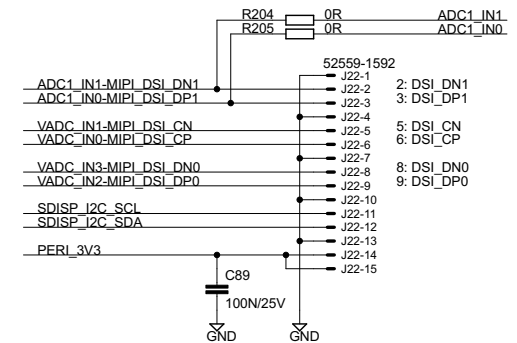
RPI serial camera (MIPI)



Parallel camera interface (+3.3V logic levels)



RPI serial display (MIPI) or VADC signals



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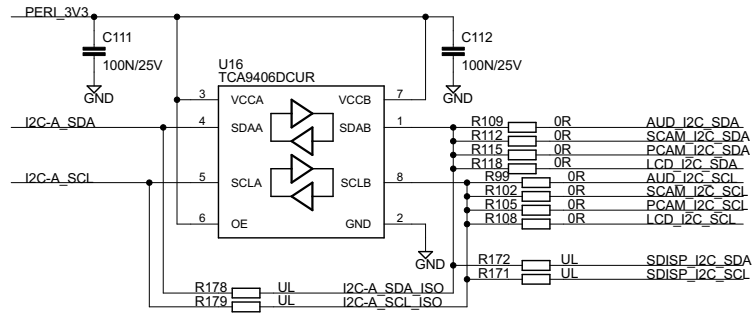
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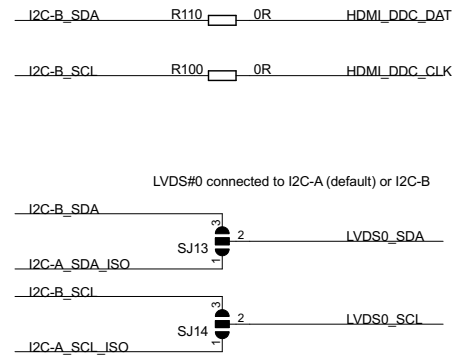
I2C Connections

I2C-A

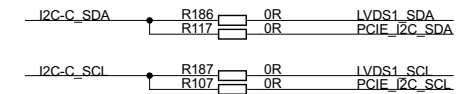


Audio codec: WM8731SEDS
8-bit I2C address (0x34/0x35): 0.0.1.1.0.1.0.RW
7-bit I2C address (0x1A): 0.0.1.1.0.1.0

I2C-B



I2C-C



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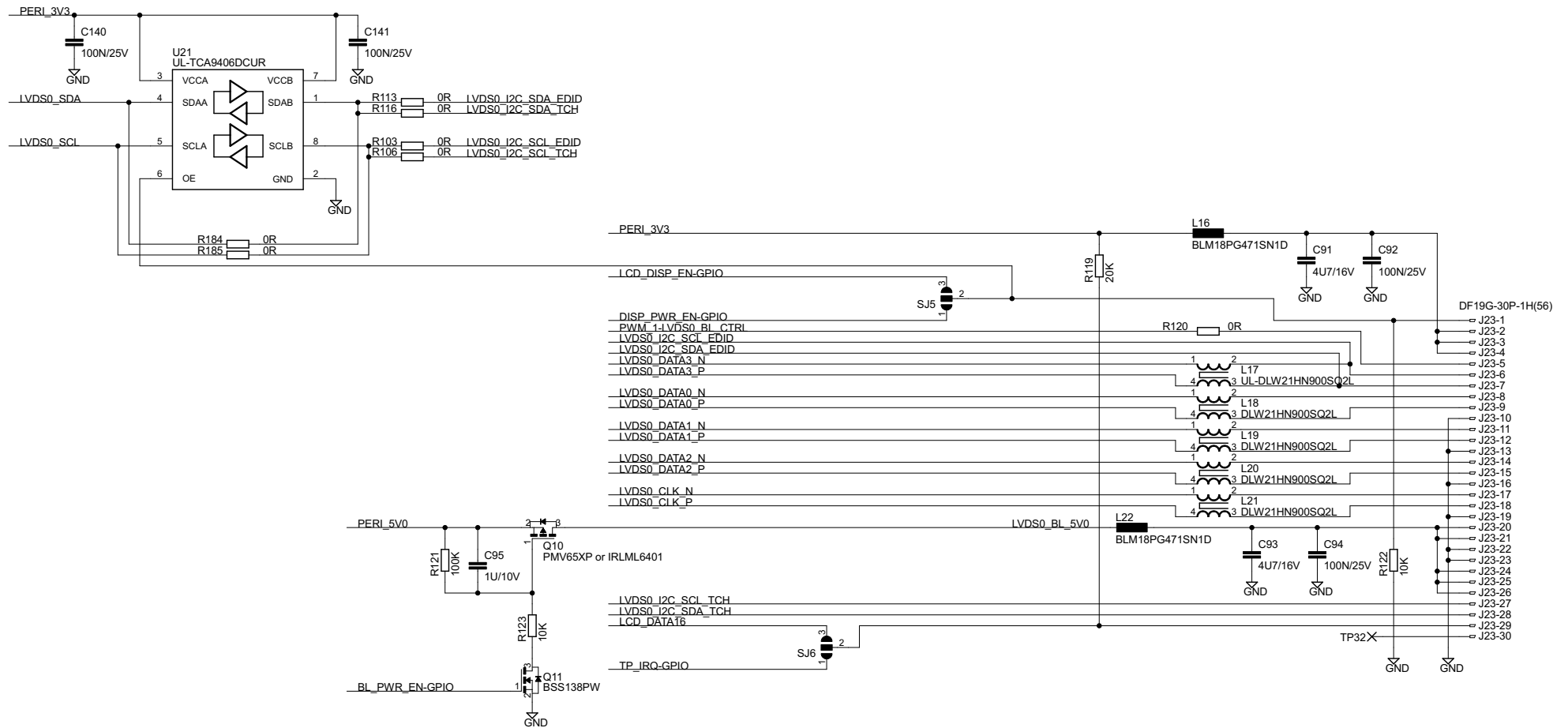
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LVDS Interface #0



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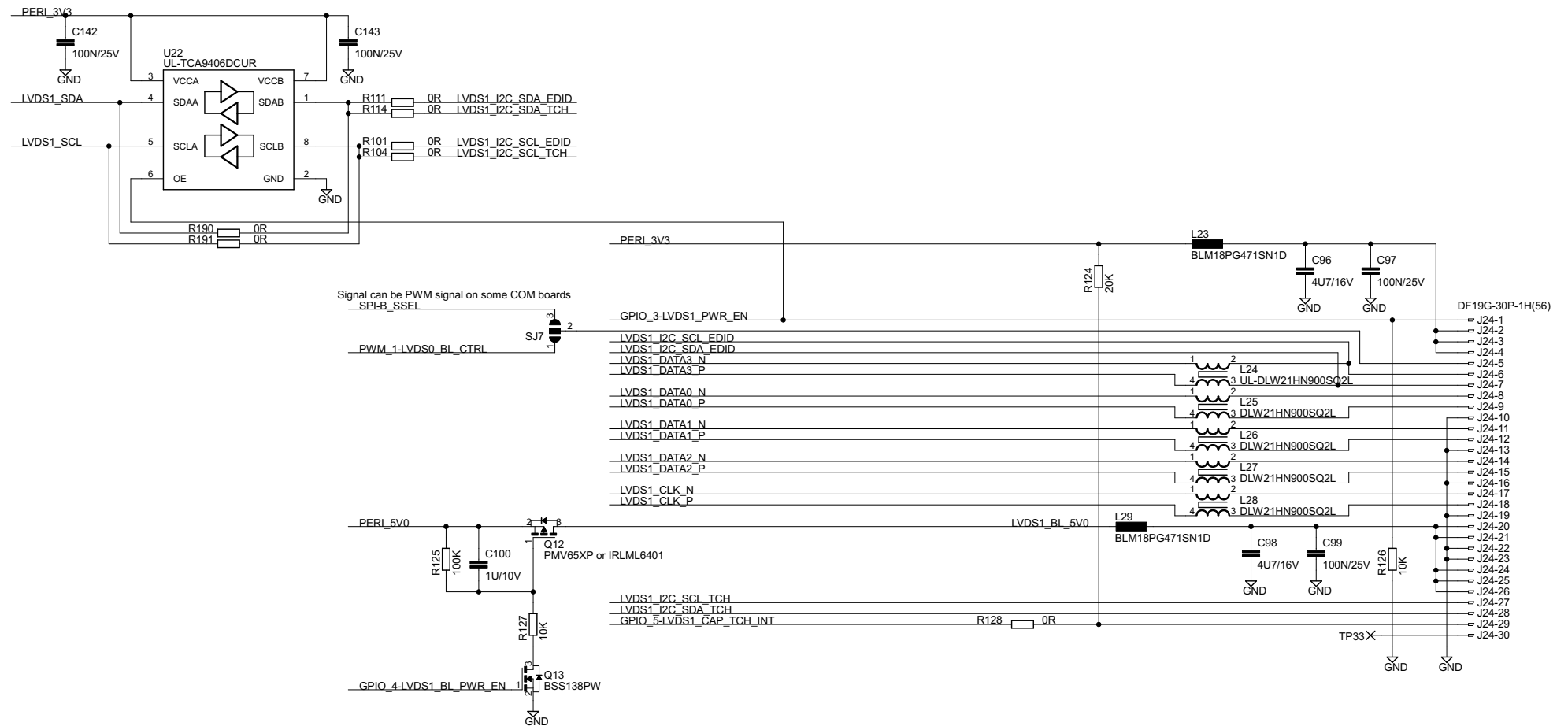
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LVDS Interface #1



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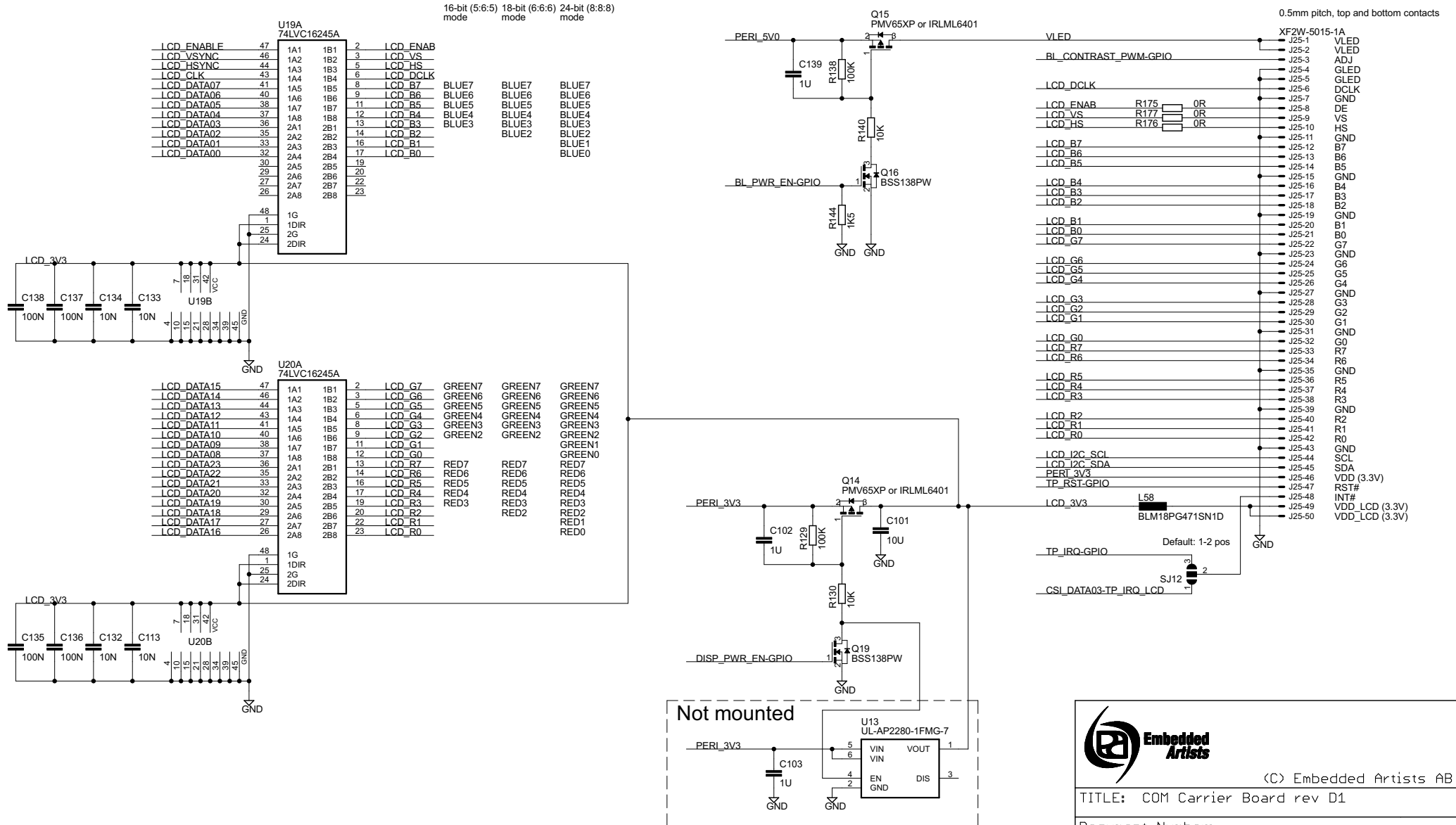
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Parallel LCD Interface



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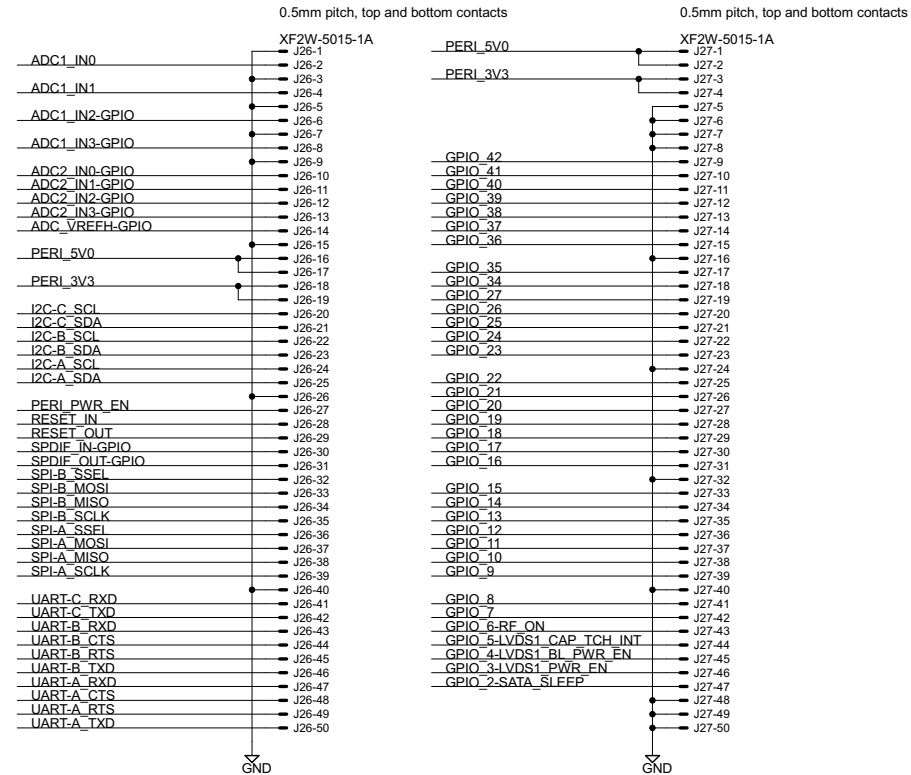
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Expansion Connectors

Dual 50-pos FPC Connectors (0.50mm pitch)



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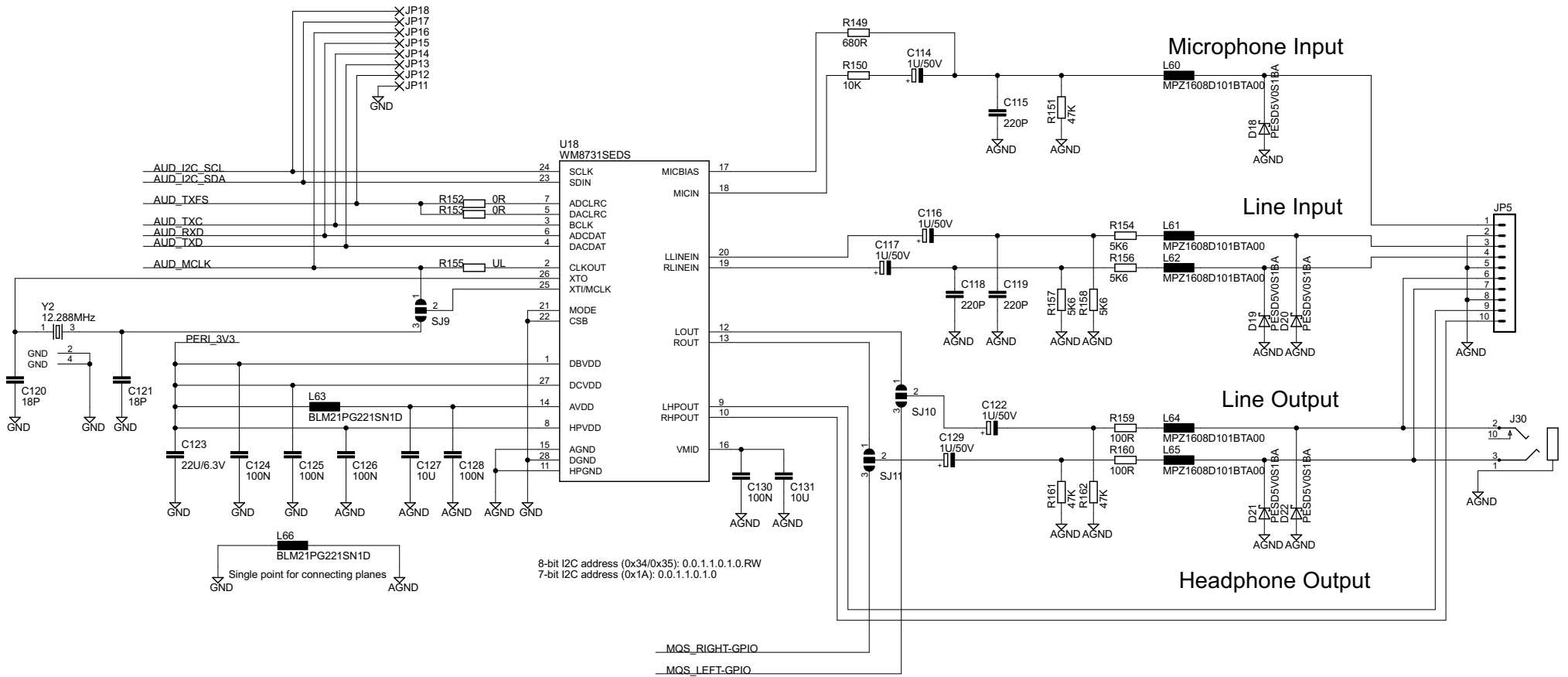
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Audio Interface



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TITLE: COM Carrier Board rev D1

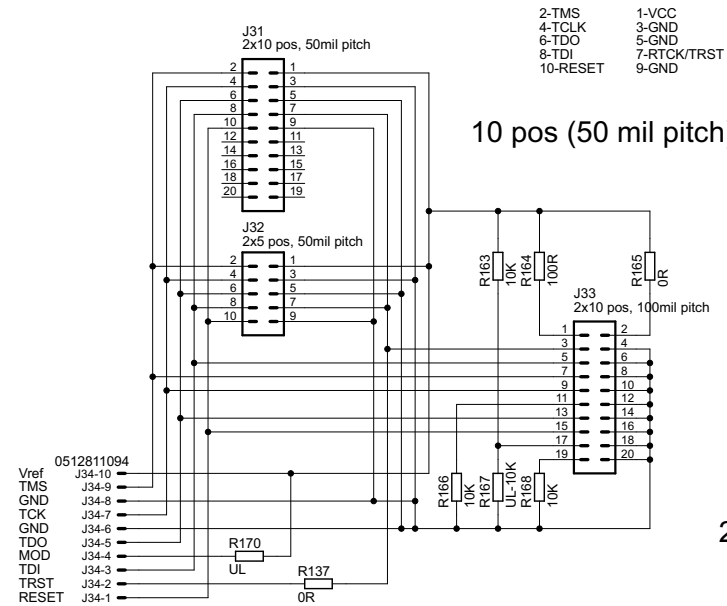
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Debug Interface

JTAG Debug Interfaces ARM 10-pin interface JTAG Mode



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

10 pos (50 mil pitch) connector

ARM 20-pin interface JTAG Mode

1-VCC (Vref)
3-N/C (TRST)
5-TDI
7-TMS
9-TCLK
11-RTCK
13-TDO
15-RESET
17-N/C
19-N/C
2-N/C
4-GND
6-GND
8-GND
10-GND
12-GND
14-GND
16-GND
18-GND
20-GND

20 pos (100 mil pitch) connector



(C) Embedded Artists AB

TITLE: COM Carrier Board rev D1

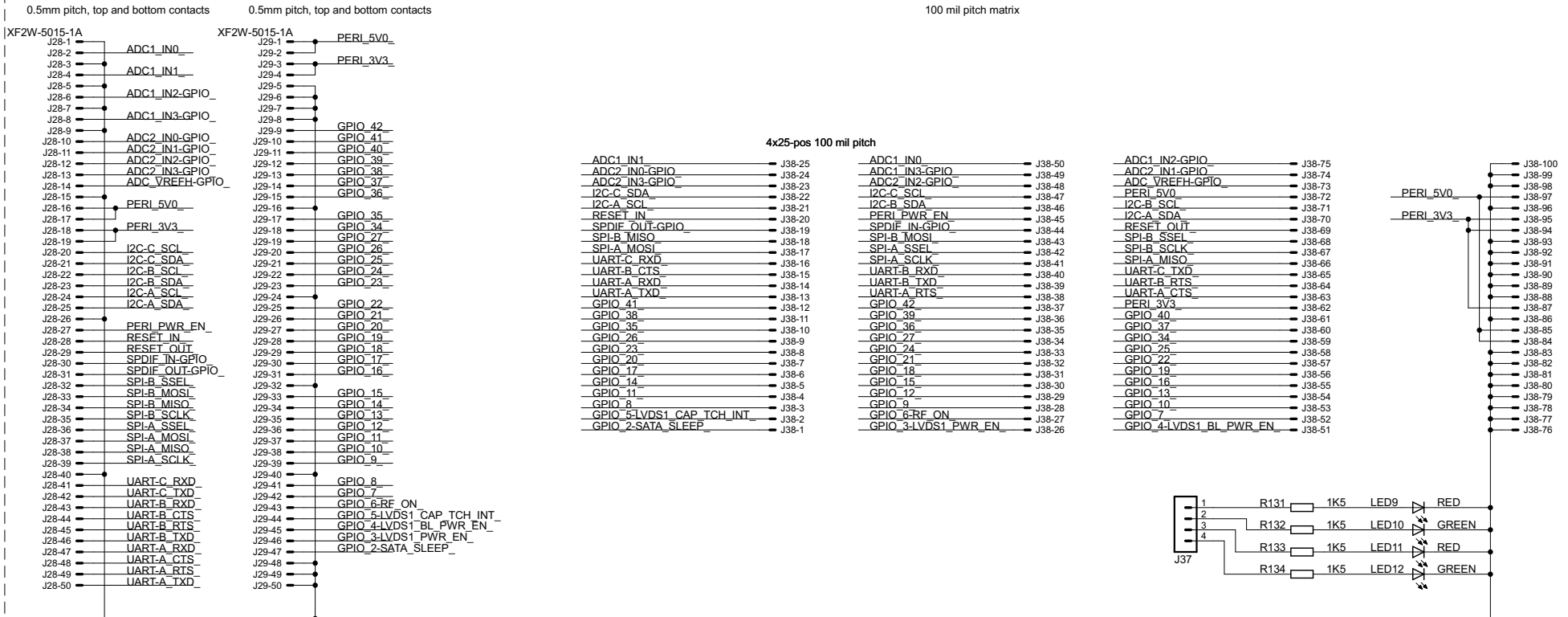
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Break-off Board for Expansion Connectors

Break-off Board with 100 mil pitch access to all signals



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TITLE: COM Carrier Board rev D1

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