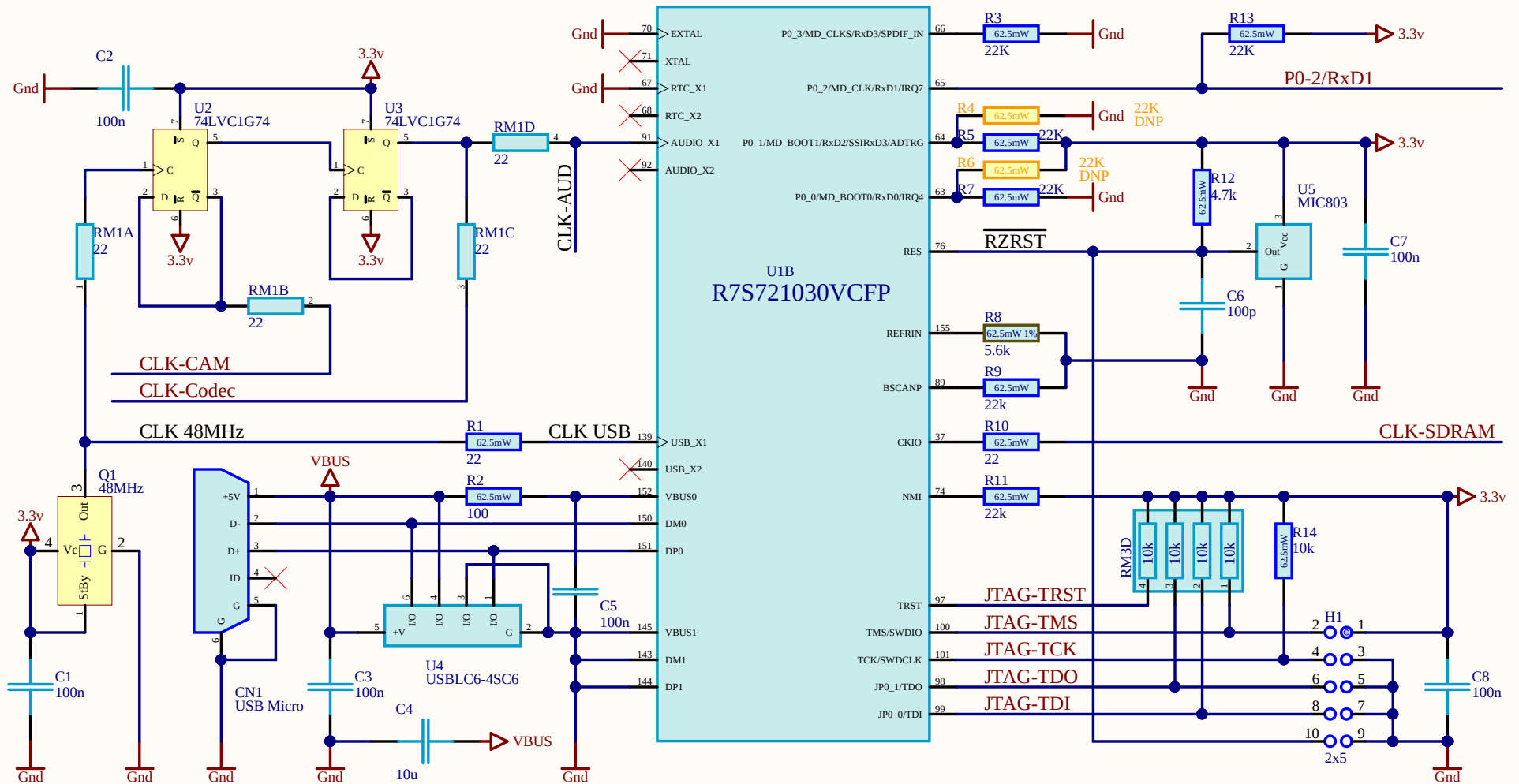




P1-0/DV0-DATA0	125
P1-1/DV0-DATA1	126
P1-2/DV0-DATA2	127
P1-3/DV0-DATA3	128
P1-4	129
P1-5	130
P1-6/SCL3	131
P1-7/SDA3	132
P1-8/DV0-DATA4	78
P1-9/DV0-DATA5	79
P1-10/DV0-DATA6	80
P1-11/DV0-DATA7	81
P1-12	82
P1-13/IRQ5	83
P1-14/IRQ6	84
P1-15/IRQ7	85
P2-0/CS3	56
P2-1/RAS	57
P2-2/CAS	59
P2-3/CKE	60
P2-4/DQMLL	94
P2-5/DQMLU	96
P2-6/RD/WR	134
P2-7(ESP EN)	135
P2-8(ESP IO0)	136
P2-9(ESP IO2)	137
P3-0/A1/SD-D2 0	103
P3-1/A2/SD-D3 0	104
P3-2/A3/SD-CMD 0	106
P3-3/A4/SD-CLK 0	108
P3-4/A5/SD-D0 0	110
P3-5/A6/SD-D1 0	111
P3-6/A7/SD-WP 0	112
P3-7/A8/SD-CD 0	113
P3-8/A9	114
P3-9/A10	115
P3-10/A11	117
P3-11/A12	118
P3-12/A13	120
P3-13/A14	122
P3-14/A15	124
P3-15/TxD1	133
P4-0/CTS1	164
P4-1/RTS1	165
P4-2/SPBIO20-0	166
P4-3/SPBIO30-0	167
P4-4/SPBCLK-0	168
P4-5/SPBSSL-0	169
P4-6/SPBIO00-0	170
P4-7/SPBIO10-0	172

P1_0/RIIC0SCL/IRQ4/ET_RXD0/DV0_DATA0	P1_1/RIIC0SDA/IRQ5/ET_RXD1/DV0_DATA1	P1_2/RIIC1SCL/IRQ6/ET_RXD2/DV0_DATA2	P1_3/RIIC1SDA/IRQ7/ET_RXD3/DV0_DATA3	P1_4/RIIC2SCL/IRQ0/DREQ0/VIO_D0	P1_5/RIIC2SDA/IRQ1/VIO_D1	P1_6/RIIC3SCL/IRQ2/SSIRxD0/VIO_D2	P1_7/RIIC3SDA/IRQ3/RxD2/VIO_D3	P1_8/AN0/IRQ0/RxD0/DV0_DATA4	P1_9/AN1/IRQ1/RxD1/DV0_DATA5	P1_10/AN2/IRQ2/RxD2/DV0_DATA6	P1_11/AN3/IRQ3/RxD3/DV0_DATA7	P1_12/AN4/IRQ4/ET_RXD0/VIO_D4	P1_13/AN5/IRQ5/ET_RXD1/VIO_D5	P1_14/AN6/IRQ6/ET_RXD2/VIO_D6	P1_15/AN7/IRQ7/ET_RXD3/VIO_D7	P2_0/CS3/RLIN30RX/SPDIF_IN/IRQ7	P2_1/RAS/RLIN30TX/SPDIF_OUT/IRQ6	P2_2/CAS/CAN1RX/TIOC0C/IRQ5	P2_3/CKE/CAN1TX/TIOC0D	P2_4/WE0/DQMLL/TIOC4A	P2_5/WE1/WE/DQMLU/TIOC3A	P2_6/RD/WR/SSIRxD3/TIOC2A	P2_7/CS0/SSISCK3/TIOC1A/IRQ2	P2_8/RD/SSITxD3/TIOC0A/CAN0TX	P2_9/A0/SSIWS3/SCK0/IRQ1/CAN0RX	P3_0/A1/SD_D2_0/LCD0_DATA0/ET_TXCLK	P3_1/A2/SD_D3_0/LCD0_DATA1/ET_TXER	P3_2/A3/SD_CMD_0/LCD0_DATA2/ET_TXEN	P3_3/A4/SD_CLK_0/LCD0_DATA3/ET_RXCLK	P3_4/A5/SD_D0_0/LCD0_DATA4/ET_RXER	P3_5/A6/SD_D1_0/LCD0_DATA5/ET_RXDV	P3_6/A7/SD_WP_0/LCD0_DATA6/ET_COL	P3_7/A8/SD_CD_0/LCD0_DATA7/ET_CRS	P3_8/A9/AUDIO_CLK/DV0_DATA8/SCK3	P3_9/A10/SPDIF_OUT/DV0_DATA9/TxD3	P3_10/A11/SPBIO01_0/TIOC3B/DV0_DATA10/RxD3	P3_11/A12/SPBIO11_0/TIOC3A/DV0_DATA11	P3_12/A13/SPBIO21_0/TIOC3C/DV0_DATA12	P3_13/A14/SPBIO31_0/TIOC3D/DV0_DATA13	P3_14/A15/VIO_CLK/SPDIF_IN/DV0_DATA14/SCK1/AUDIO_XOUT2	P3_15/A16/VIO_FLD/DV0_DATA15/TxD1	P4_0/A17/VIO_VD/TIOC1B/ET_MDC/CTS1	P4_1/A18/VIO_HD/TIOC2B/ET_MDIO/RTS1	P4_2/A19/SPBIO20_0/TRACEDATA2	P4_3/A20/SPBIO30_0/TRACEDATA3	P4_4/A21/SPBCLK_0/TRACECLK	P4_5/A22/SPBSSL_0/TRACECTL	P4_6/A23/SPBIO00_0/TRACEDATA0	P4_7/A24/SPBIO10_0/TRACEDATA1
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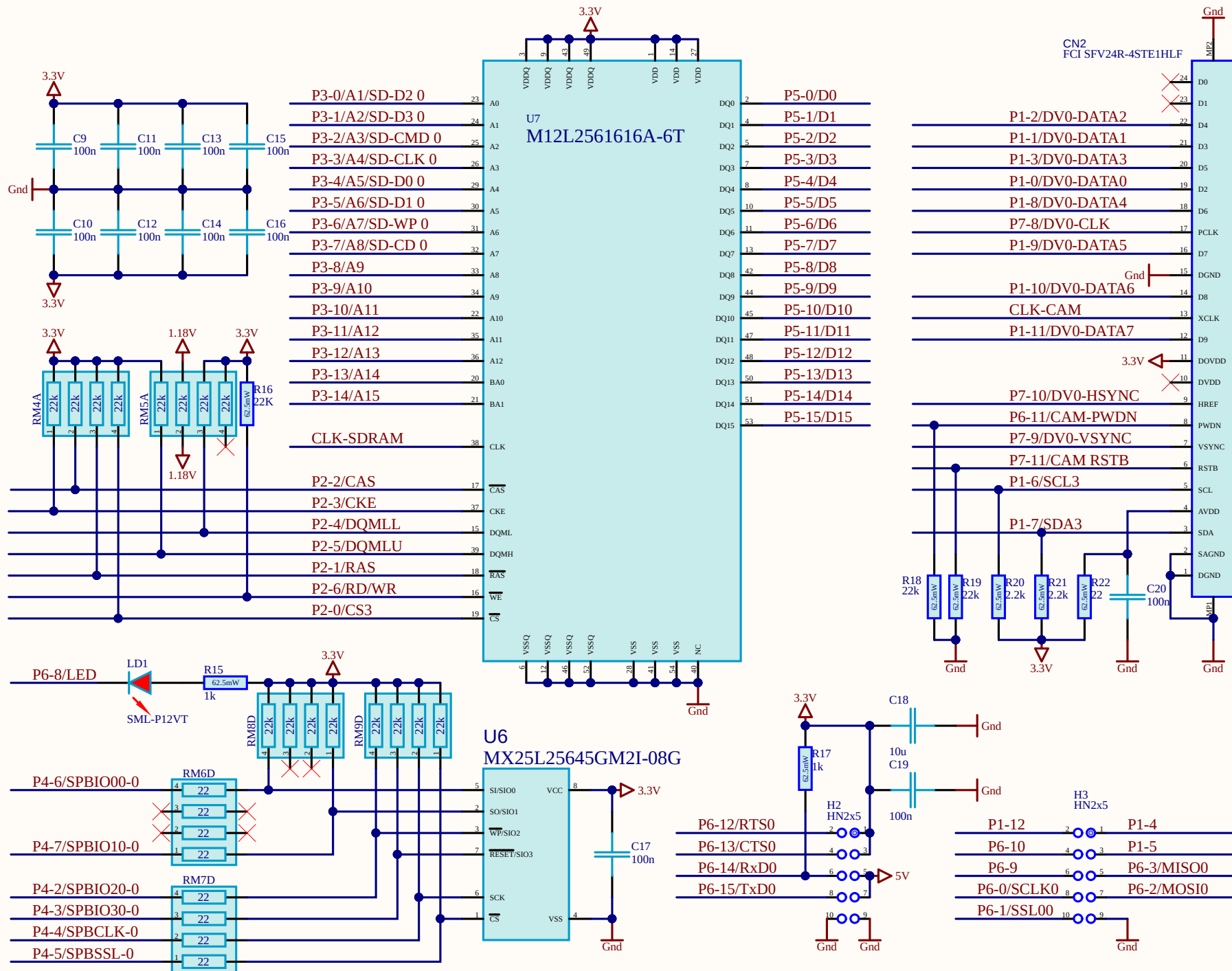
U1A

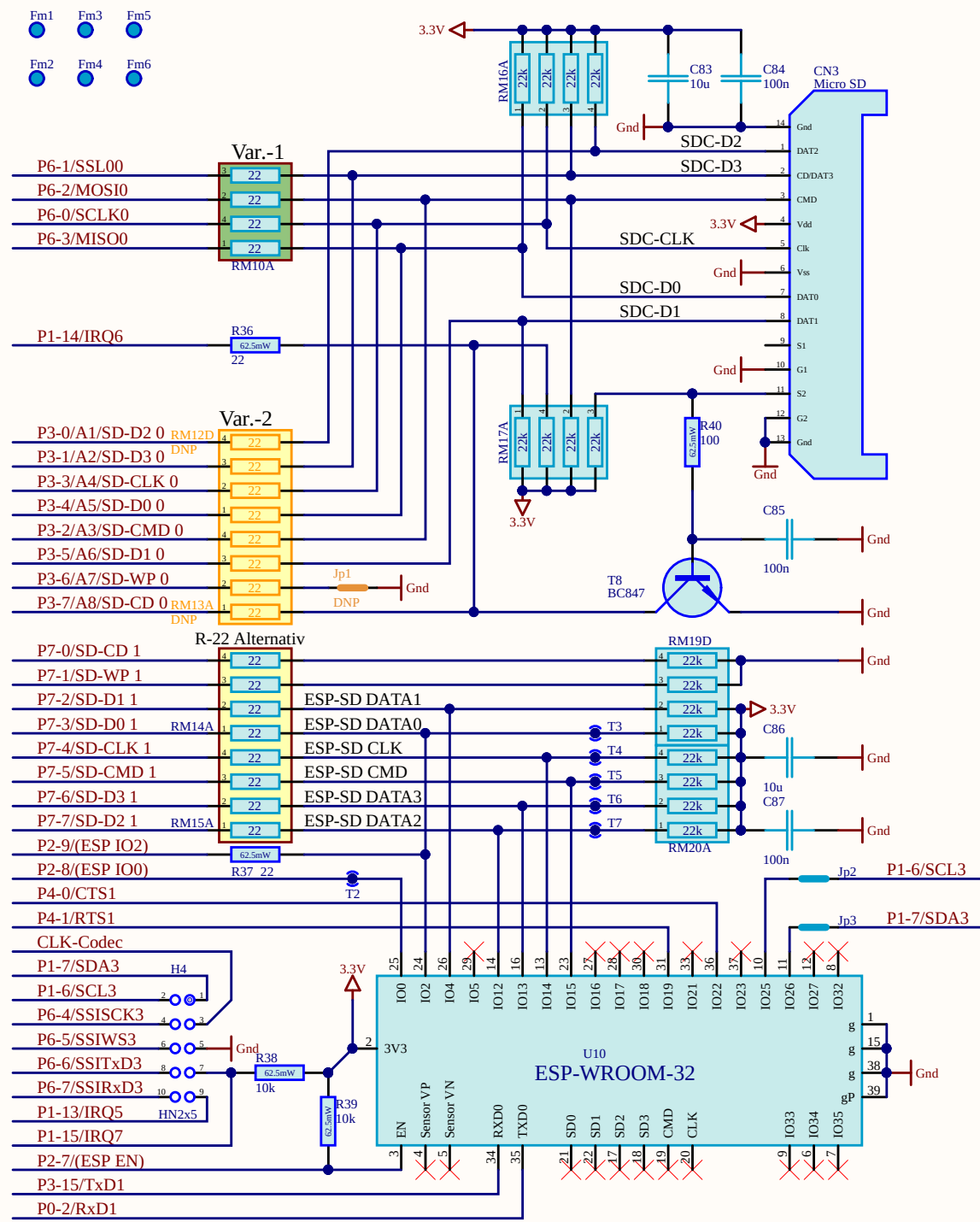
R7S721030VCFP

P7_0/LCD0_EXTCLK/MMC_CD/SD_CD_1/SPDIF_OUT/TIOC2A/DV0_DATA4/SCI_SCK0

P5_0/D0/MMC_D4/ET_TXD0/DV0_DATA16/LCD0_TCON0	P5_1/D1/MMC_D5/ET_TXD1/DV0_DATA17/LCD0_TCON1	P5_2/D2/MMC_D6/ET_TXD2/DV0_DATA18/LCD0_TCON2	P5_3/D3/MMC_D7/ET_TXD3/DV0_DATA19/LCD0_TCON3	P5_4/D4/RSPCK2/SSISCK1/DV0_DATA20	P5_5/D5/SSL20/SSIWS1/DV0_DATA21	P5_6/D6/MOSI2/SSITxD1/DV0_DATA22/SCK2	P5_7/D7/MISO2/SSIRxD1/DV0_DATA23/TxD2	P5_8/D8/CAN0RX/TIOC4A/IRQ3	P5_9/D9/CAN0TX/TIOC4B/IRQ4	P5_10/D10/IERxD/TIOC4C/IRQ5	P5_11/D11/IETxD/TIOC4D/IRQ6	P5_12/D12/SSISCK2/SCK4/AUDIO_XOUT2	P5_13/D13/SSIWS2/AUDIO_XOUT/AUDIO_XOUT3	P5_14/D14/SSIDATA2/RxD4/TIOC2A	P5_15/D15/SD_WP_1/TxD4	P6_0/D16/LCD0_DATA8/RSPCK0/TCLKA/WDT0VF	P6_1/D17/LCD0_DATA9/SSL00/TCLKB	P6_2/D18/LCD0_DATA10/MOSI0/TCLKC	P6_3/D19/LCD0_DATA11/MISO0/TCLKD	P6_4/D20/LCD0_DATA12/SSISCK3/MLB_CLK	P6_5/D21/LCD0_DATA13/SSIWS3/MLB_SIG	P6_6/D22/LCD0_DATA14/SSITxD3/MLB_DAT	P6_7/D23/LCD0_DATA15/SSIRxD3/IRQ0/TIOC3A/RLIN30RX	P6_8/D24/LCD0_DATA16/SSISCK0/IRQ1/TIOC3B/RLIN30TX	P6_9/D25/LCD0_DATA17/SSIWS0/IRQ2/TIOC3C	P6_10/D26/LCD0_DATA18/SSITxD0/IRQ3/TIOC3D/CAN1TX	P6_11/D27/LCD0_DATA19/SSIRxD0/SSIDATA2/SCK0/CAN1RX	P6_12/D28/LCD0_DATA20/RSPCK1/SSISCK2/RTS0/DV0_DATA0	P6_13/D29/LCD0_DATA21/SSL10/SSIWS2/CTS0/DV0_DATA1	P6_14/D30/LCD0_DATA22/MOSI1/SSIDATA2/RxD0/DV0_DATA2	P6_15/D31/LCD0_DATA23/MISO1/TxD0/DV0_DATA3	P7_1/CS1/AUDIO_XOUT/SD_WP_1/TxD2/DV0_DATA5/SCI_RXD0/IrRXD	P7_2/CS4/MMC_D1/SD_D1_1/IRQ4/CAN0RX/DV0_DATA6/SCI_TXD0/IrTXD	P7_3/CS5/MMC_D0/SD_D0_1/IRQ3/CAN0TX/DV0_DATA7/SCI_CTS0/RTS0	P7_4/WAIT/MMC_CLK/SD_CLK_1/IETxD/LCD0_CLK/SCI_SCK1	P7_5/BS/MMC_CMD/SD_CMD_1/TxD0/IERxD/LCD0_TCON4/SCI_RXD1	P7_6/WE2/DQMUL/MMC_D3/SD_D3_1/IRQ6/CTS2/LCD0_TCON5/SCI_TXD1	P7_7/WE3/DQMUU/AH/MMC_D2/SD_D2_1/IRQ5/RTS2/LCD0_TCON6/SCI_CTS1/RTS1	P7_8/CS2/SSISCK1/DV0_CLK/IRQ3/TxD0	P7_9/A25/SSIWS1/DV0_VSYNC/IRQ5/SCK3/TIOC1A	P7_10/TEND0/SSITxD1/DV0_HSYNC/RxD3	P7_11/DACK0/SSIRxD1/CAN_CLK/SCK2/TxD3/AUDIO_XOUT/AUDIO_XOUT3
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P5-0/D0	P5-1/D1	P5-2/D2	P5-3/D3	P5-4/D4	P5-5/D5	P5-6/D6	P5-7/D7	P5-8/D8	P5-9/D9	P5-10/D10	P5-11/D11	P5-12/D12	P5-13/D13	P5-14/D14	P5-15/D15	P6-0/SCLK0	P6-1/SSL00	P6-2/MOSI0	P6-3/MISO0	P6-4/SSISCK3	P6-5/SSIWS3	P6-6/SSITxD3	P6-7/SSIRxD3	P6-8/LED	P6-9	P6-10	P6-11/CAM-PWDN	P6-12/RTS0	P6-13/CTS0	P6-14/RxD0	P6-15/TxD0	P7-0/SD-CD 1	P7-1/SD-WP 1	P7-2/SD-D1 1	P7-3/SD-D0 1	P7-4/SD-CLK 1	P7-5/SD-CMD 1	P7-6/SD-D3 1	P7-7/SD-D2 1	P7-8/DV0-CLK	P7-9/DV0-VSYNC	P7-10/DV0-HSYNC	P7-11/CAM RSTB
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Bill of Materials

RZ-CMR.PrjPcb

Creation Date:	22.5.2018 r.			18:16:23	
Designator	Comment	Description	Case	MPN	Quantity
C1, C2, C3, C5, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C19, C20, C25, C26, C27, C28, C38, C42, C43, C44, C45, C46, C53, C54, C55, C56, C57, C58, C59, C60, C65, C66, C67, C68, C69, C70, C71, C73, C74, C78, C79, C81, C82, C84, C85, C87	100n	SMD-0402 16V X7R 10%	0402	GRM155R71H104KE14D	51
C4, C18, C21, C22, C23, C24, C35, C36, C37, C39, C40, C41, C47, C48, C49, C50, C51, C52, C72, C75, C76, C77, C80, C83, C86	10u	SMD-0603 6.3V X7R 10%	0603	CL10A106MQ8NNNC	25
C6	100p	SMD-0402 50V C0G 5%	0402	CS1005COG101J500NR	1
C29, C30, C33, C34	22n	SMD-0402 50V X7R 10%	0402	CC0402KRX7R8BB223	4
C31, C32	10p	SMD-0402 50V C0G 5%	0402	CC0402JRNPO9BN100	2
C61, C62, C63, C64	1u	SMD-0402 10V X5R	0402	CL05A105KO5NNNC	4
CN1	USB Micro	USB B Micro R/A SMD		10103594-0001LF	1
CN2	FCI SFV24R-4STE1HLF	KBCR-M04VG		SFV24R-2STE1HLF	1
CN3	Micro SD			Micro SD Socket PP T1 R03	1
D1, D2	SS14	SMD SMA 40V 1A	SMA	SS14-E3/61T	2
FB1, FB2, FB3, FB4, FB5, FB6, FB7, FB8, FB9	220	0603 2A 0.05ohm	0603	MPZ1608S221AT	9
H1	2x5				1
H2, H3, H4	HN2x5				3
Jp2, Jp3	0	SMD-0402 0-hom	0402	CR10-000-ZK	2
L1, L2	4.7u	1.7A 0.08om 7x4x1.65mm		LQH44PN4R7MP0L	2
LD1	SML-P12VT	Red 630nm 60mcd	0402	19-213SUBC/S400-A5/S208-2/S4/	1
LD5	SML-P12UT	Red 630nm 85mcd	0402	19-213SUBC/S400-A5/S208-2/S4/	1
Q1	48MHz			X1G0041710046 SG-210STF 48MHZ	1
R1, R10, R22, R36, R37	22	SMD 0402 0.0625W 5% 50V	0402	CR10-22R0-FK	5
R2, R40	100	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-07100RL	2
R3, R5, R7, R9, R11, R13, R16, R18, R19	22K	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-0722KL	9
R8, R32	5.6k	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-075K6L	2
R12	4.7k	SMD 0402 0.0625W 5% 50V	0402	CR10-4701-FK	1
R14, R38, R39	10k	SMD 0402 0.0625W 5% 50V	0402	CR10-1002-FK	3
R15, R17, R33	1k	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-071KL	3
R20, R21	2.2k	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-072K2L	2
R23, R24, R27, R28	100k	SMD 0402 0.0625W 5% 50V	0402	RC0402JR-07100KL	4
R29	4.7K	SMD 0402 0.0625W 5% 50V	0402	CR10-4701-FK	1
R30	12.1K	SMD 0402 0.0625W 5% 50V	0402	CR10-1212-FK	1
R31	1.5k	SMD 0402 0.0625W 5% 50V	0402	RC0402FR-071K5L	1
R35	330	SMD 0402 0.0625W 5% 50V	0402		1
RM1, RM6, RM7, RM10, RM14, RM15	22	SMD 4RM-0603 1\16W 5%	RA0805	YC124-JR-0722RL	6
RM3	10k	SMD 4RM-0603 1\16W 5%	RA0805	YC124-JR-0710KL	1
RM4, RM5, RM8, RM9, RM16, RM17, RM19, RM20	22k	SMD 4RM-0603 1\16W 5%	RA0805	YC124-JR-0722KL	8
T1, T8	BC847	SMD SOT523	SOT523	BC847BTT1G	2
U1	R7S721030VCFP			R7S721030VCFP#AA0	1
U2, U3	74LVC1G74		DQE (R-PX2SON-N8)	SN74LVC1G74DQER	2
U4	USBLC6-4SC6		SOT23-6	USBLC6-4SC6	1
U5	MIC803	Reset	SOT23	MIC803-29D2VM3-TR	1
U6	MX25L25645GM2I-08G	Flash 256Mb	SO-8/300	W25Q128JVSQI	1
U7	M12L2561616A-6T			M12I2561616A-6TG2A	1
U8, U9	AP3512E	Vin-4.5-18V 500KHz Fb-0.925V Imax-2A	SO-8/150EP	AP3512EMPTR-G1	2
U10	ESP-WROOM-32	WiFi/BT Module		ESP-WROOM-32	1
					174

VK-RZ/A1LU Ver 1.0 rev 0

9

H1 1

JTAG

mbed
Enabled



RoHS



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CN2

Pin
Header

Pin
Header

U9

C4

C5

C6

C7

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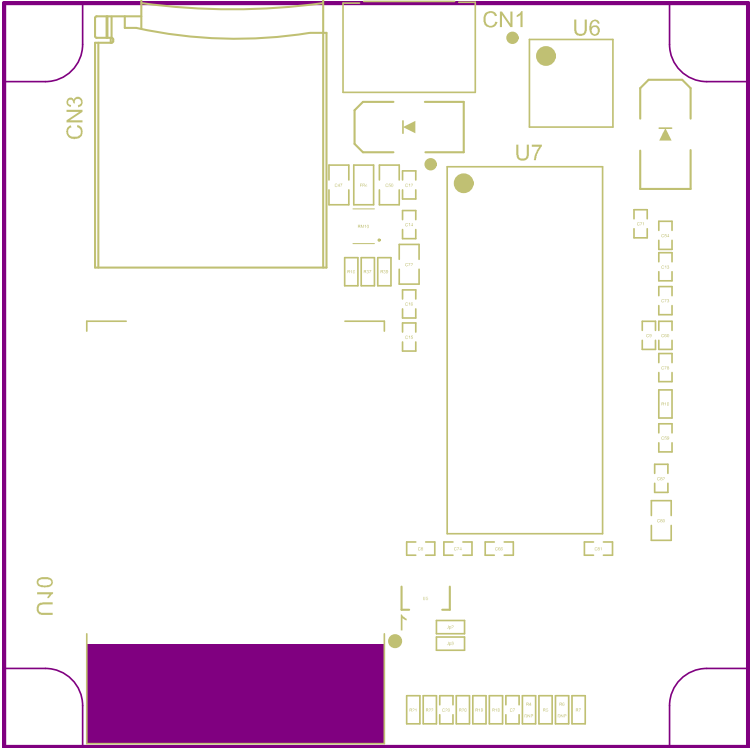
C318

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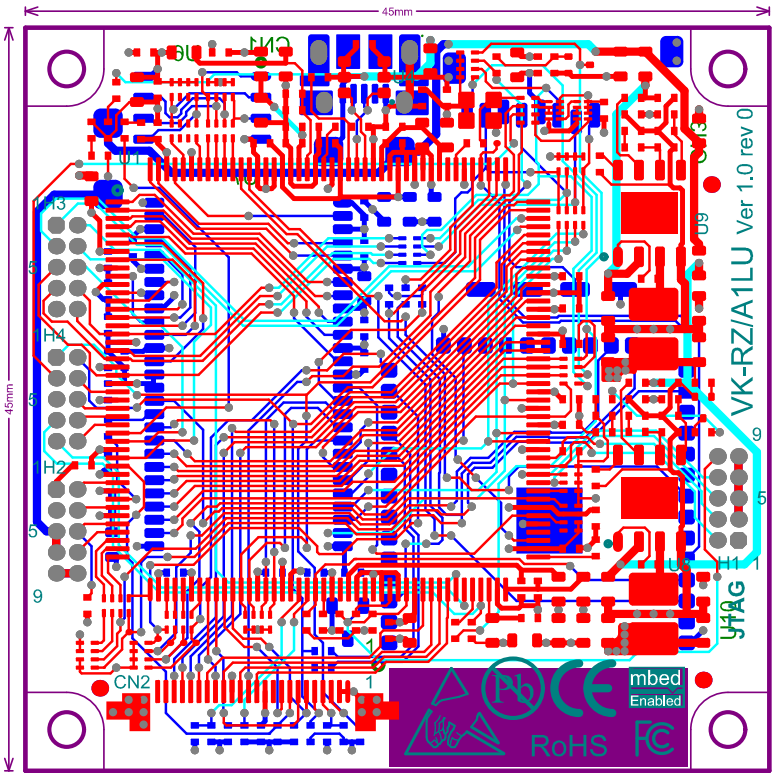
C322



CONSTRAINTS
Min Trace/Gap ----- 0.15 mm
Min Drill Hole Diameter ---- 0.2 mm
Min Annular Ring ----- 0.15 mm
LPI Color ----- Mat green
Finished Copper Weight --- 1 oz
Surface finish Immersion --- Gold

Top Layer
Signal Layer 1

Bottom Layer



Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.010mm	3.5	
3	Top Layer	Copper	0.035mm		
4	Dielectric 1	FR-4	0.254mm	4.2	
5	Signal Layer 1	Copper	0.035mm		
6	Dielectric 4		0.254mm	4.2	
7	1.18V	Copper	0.035mm		
8	Dielectric 2		0.254mm	4.2	
9	3.3V	Copper	0.035mm		
10	Dielectric 6		0.254mm	4.2	
11	Gnd	Copper	0.035mm		
12	Dielectric 5		0.254mm	4.2	
13	Bottom Layer	Copper	0.035mm		
14	Bottom Solder	Solder Resist	0.010mm	3.5	
15	Bottom Overlay				