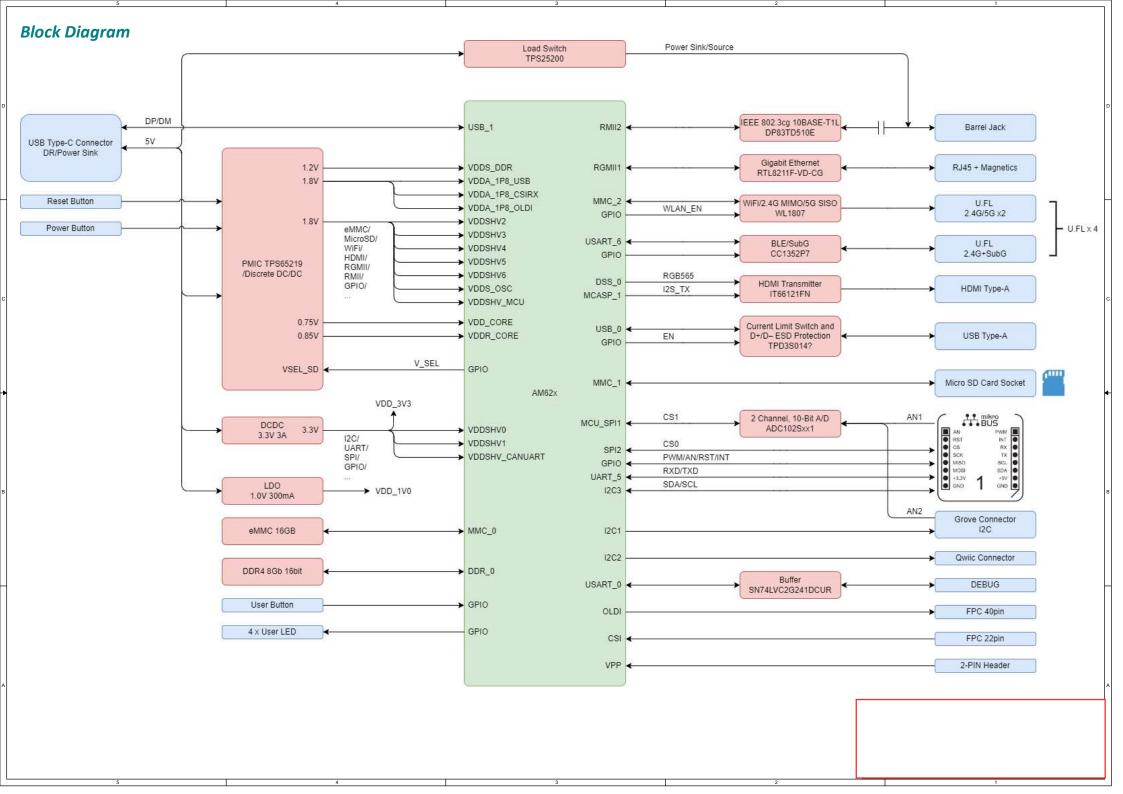
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021	021_BUTTONs & LEDs	
022	022_GROVE &QWIIC &MikroBus &ADC	

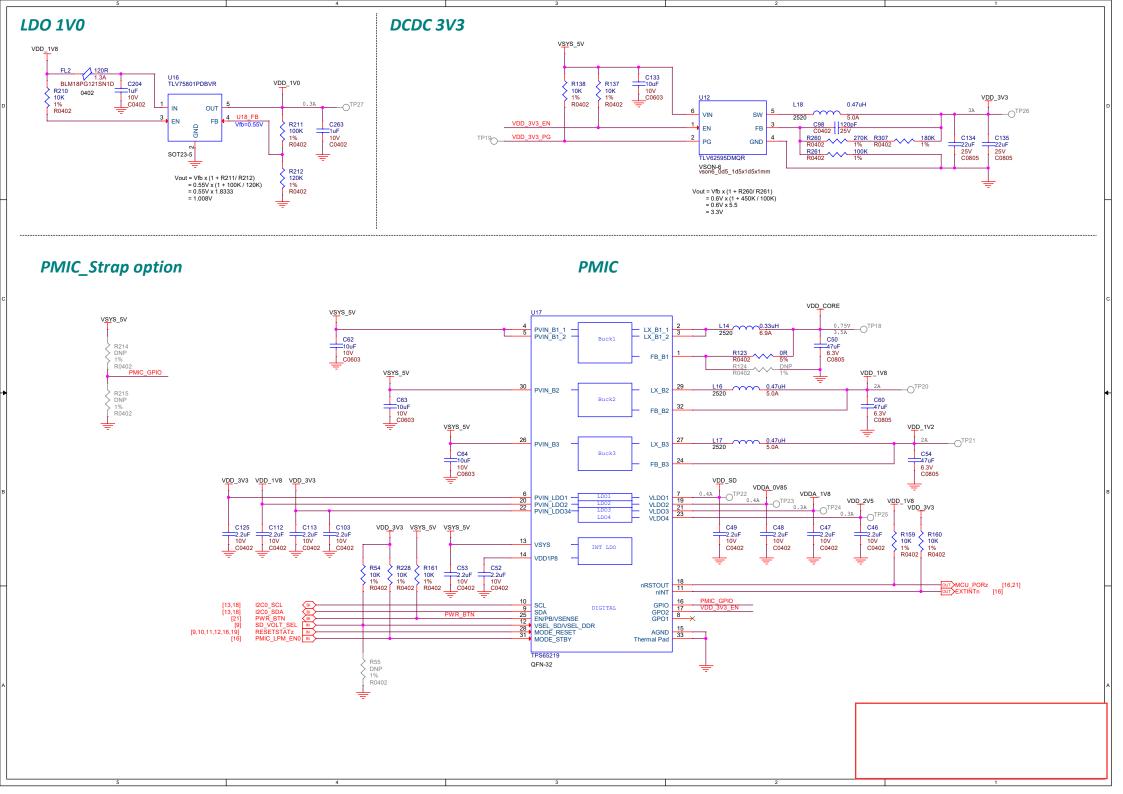
REVISION HISTORY				
VER #	DATE	DESCRIPTION OF CHANGES	AUTHOR	
0.20	15 Sep. 2022	DVT1 Board release	qxn	
0.21	Nov. 10, 2022	1. Modify all crystal CL value to match frequency 2. Add serial termination resistors for RGB data lane 3. Add CMC on HDMI output 4. Use WKUP CLKOUTO for WiFi 5. Use MCU_OBSCLK0 for GBE 6. Increase resistance on all board LEDs 7. Remove R243 TP_INT Pulldown 8. Add ferrite bead on Grove and QWIIC 9. Add feed forward capacitor on TLV62595 10. Remove ESDs on HDMI TMDS signals	qxn	
0.22	Dc. 12, 2022	1. Add feed forward capacitor on TLV62595 2. Remove ESDs on HDMI TMDS signals 3. Add ferrite bead on HDMI shield 4. Change R16 and R80 to 0R 5. Change pullup resistors to 2.2k on I2C0-I2C3 6. Change FB30 and FB31 to 0R	qxn	
1.0	Dc. 27, 2022	1. Add testpoint to QWIIC 2. Add serial resistors on I2C0 - I2C3 SCL 3. Add more capacitors on VDD_1V2 4. Add 0R on HDMI shield 5. Add series resistor on SPE LED control	qxn	

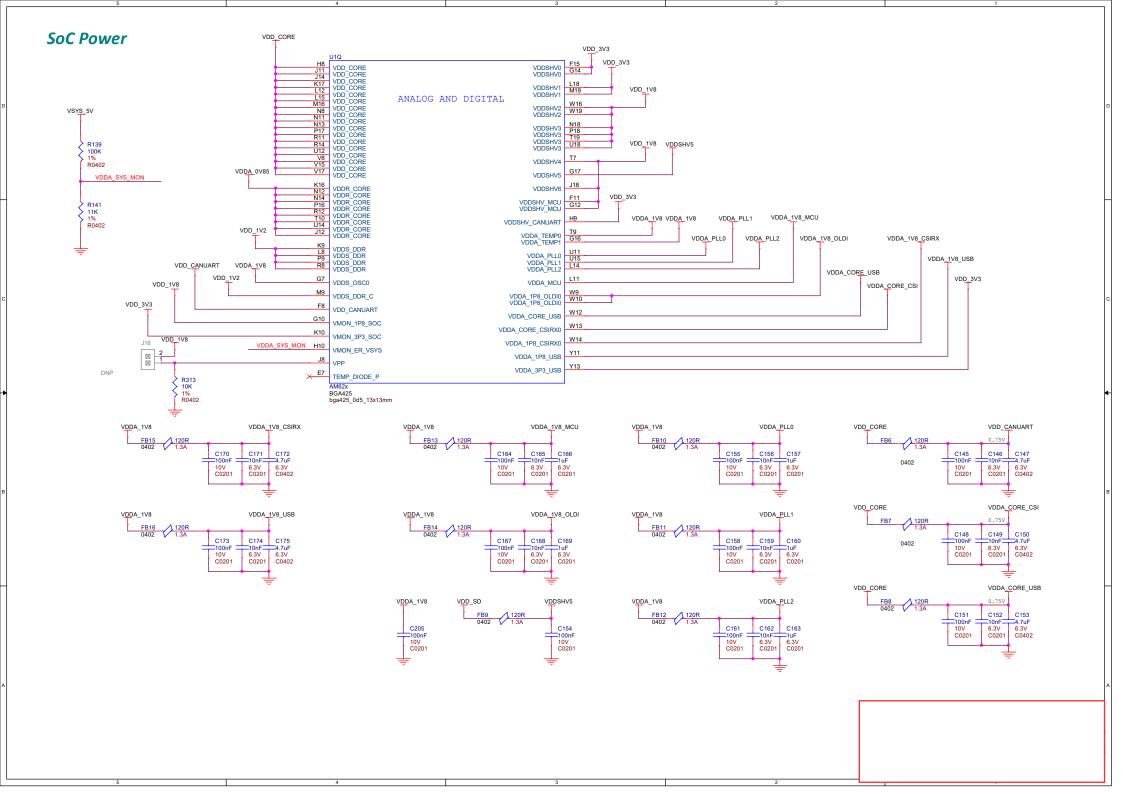




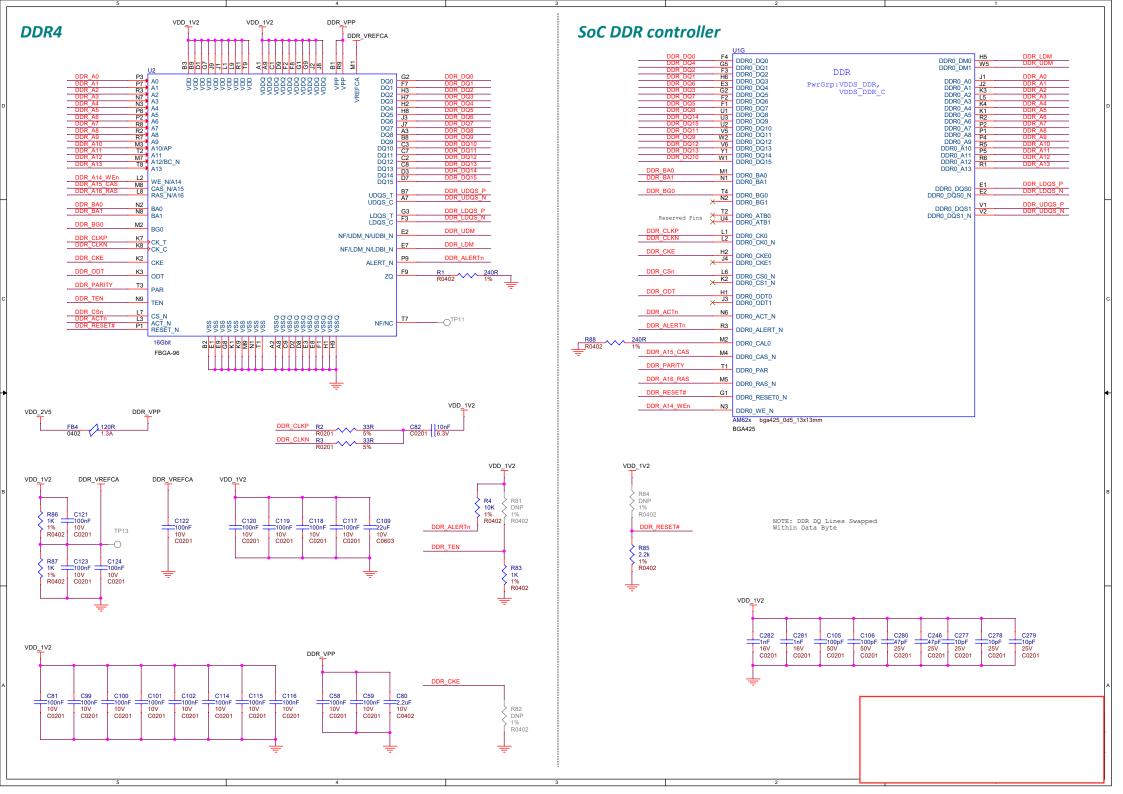
Power tree 1.0A 230mA OLDI 1.77A 3.3V@3A 2.41A 200mA DC/DC VDDSHV0/1/ TLV62595DMQR VDDSHV_CANUART 250mA Single-Pair Ethernet PoDL 5V 3.77A VDDA_1P8_USB/ USB Type-C VDDA_1P8_CSIRX/ VDDA_1P8_OLDI/ 1.8V@400mA 200mA LDO3 0.46A ➤ LDOIN_1/3/4 VDDSHV_MCU/ VDDS_OSC 20mA HDMI LDO2 0.85V@400mA 1.0A 80mA Buck1/2/3 VDDR_CORE 0.08A 0.75V@3.5A 2850mA LDOIN_2 Buck1 VDD_CORE Buck2 = 500mA USB TYPE-A 1.2V@2A 0.67A 200mA PMIC Buck3 TPS6521901RHBR VDDS_DDR 1.8V@2A 0.87A 200mA VDDSHV2/3/4/6 3.3V/1.8V@400mA 60mA > VDDSHV5 100mA ➤ VDD5V Testpoint ◆→ VPP 2.5V@400mA 0.195A mikroBus LDO4 500mA 100mA VDD3V3 60mA VPP 400mA DDR4 VDD 300mA Micro SD Card 0.14A 150mA VDDIO 100mA eMMC 100mA Grove/Qwiic Connector 135mA VDDA2P5 VDDIO RTL8211F-VD-CG 30mA 130mA 40mA AVDD 10mA > VDDIO DP83TD510E 1.0V 10mA 0.01A LDO DVDD TLV75801PDBVR 1000mA VBAT 200mA WL1807 10mA VDD33 10mA VDDIO IT66121FN 70mA VDD12 100mA CC1352P

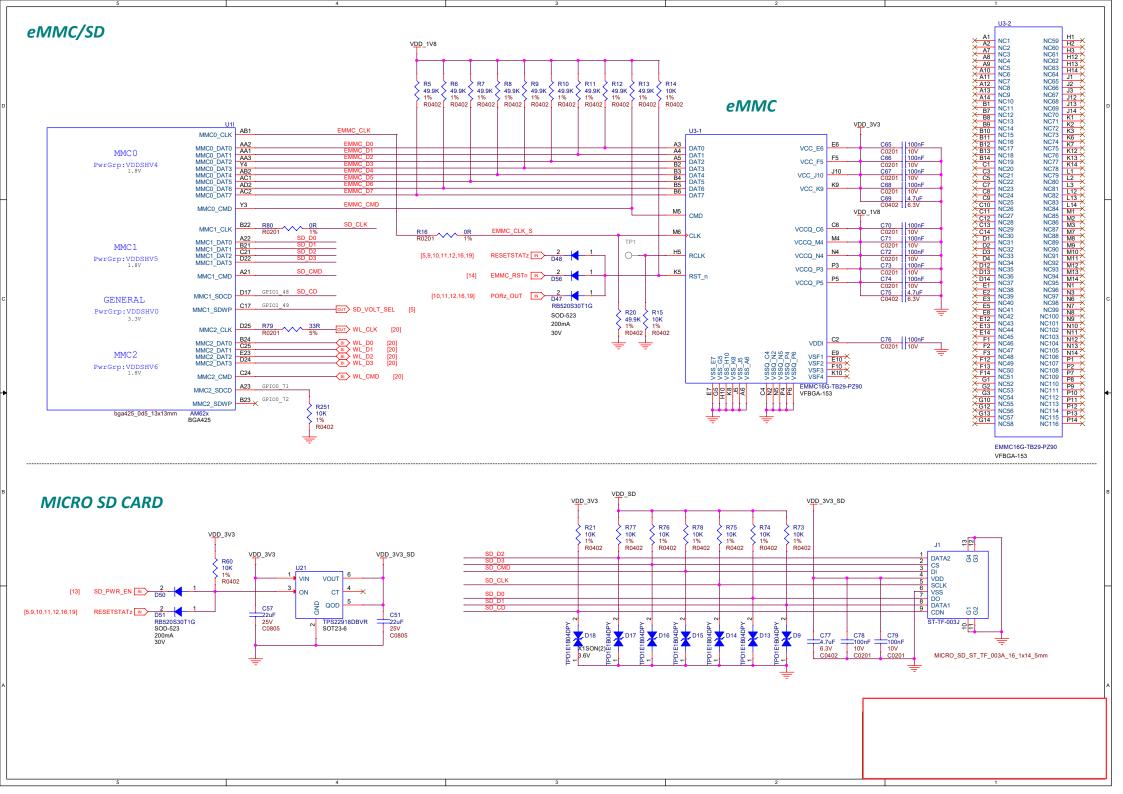
I2C Usage Diagram PMIC TPS65219 12C0 0x30 BOARD ID EEPROM 24FC04HT-I/OT 0x50 RTC BQ32002 0x68 WiFi/2.4G MIMO/5G SISO M2 1216 WiFi Module ADDR:?? 12C1 Grove Connector 12C2 OLDI/LCD HDMI SII9022ACNU 0x39, 0x60, 0x3D 12C3 MikroBus1 MCU_I2C0 QWIIC Connector WKUP_I2C0 CSI

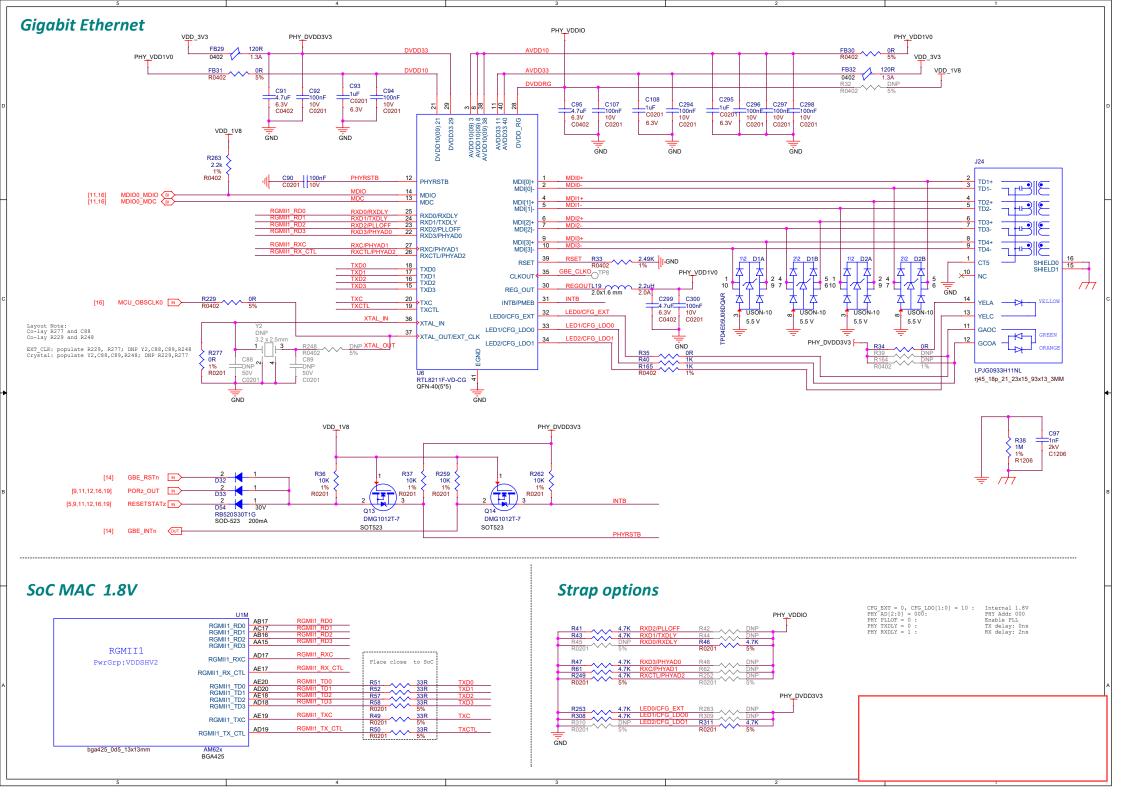


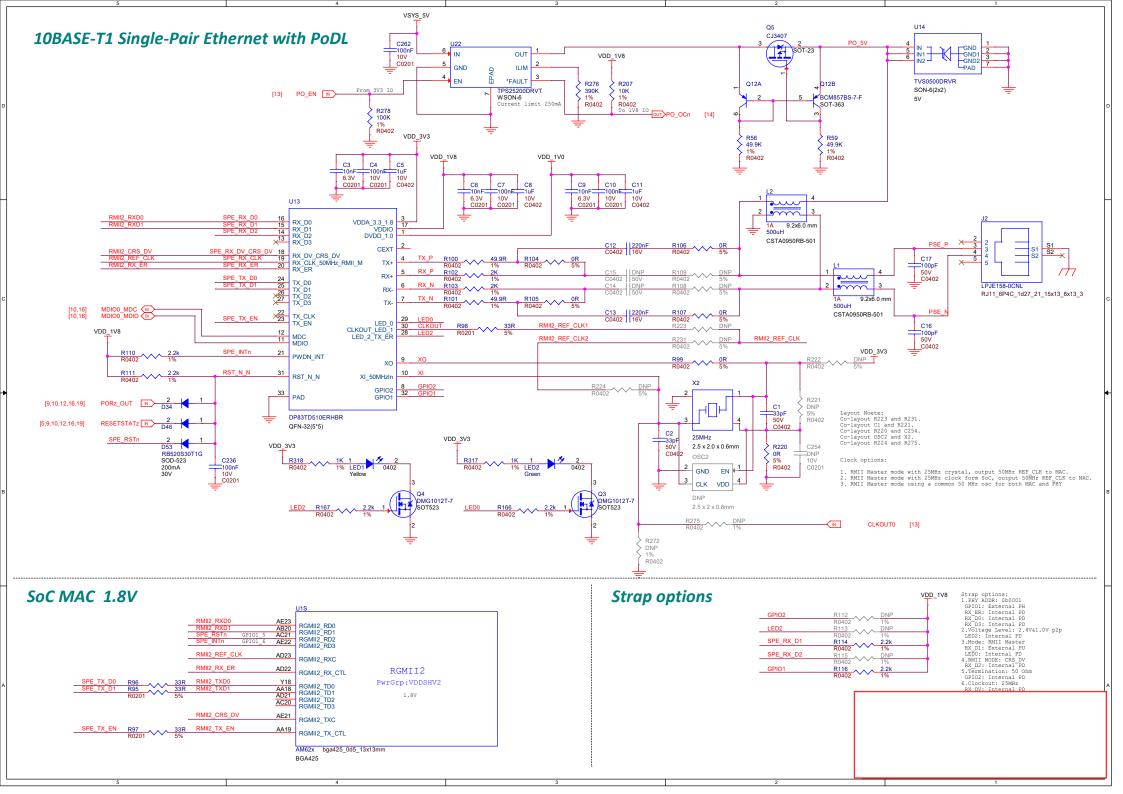


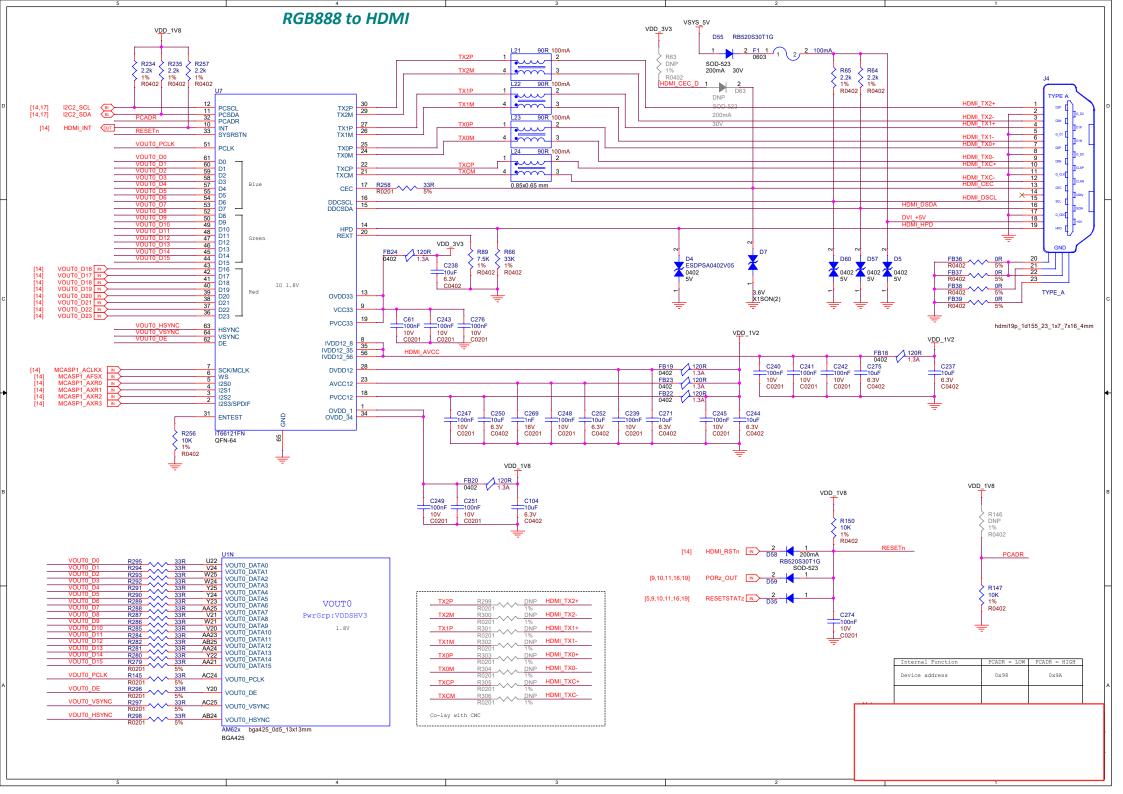
SoC DCAPs VDD_CORE VDDA_0V85 C203 =10uF C179 =4.7uF C180 =100nF C187 =100nF C191 =100nF C193 =100nF C194 =100nF C132 =10uF C178 4.7uF C196 =100nF C198 =100nF C201 =100nF C177 C176 C181 C182 C183 C184 C185 C186 C188 C189 C190 C192 C195 C197 C199 C200 C202 100nF 6.3V C0402 6.3V C0201 10V C0201 6.3V C0402 6.3V C0402 10V C0201 C0402 VDD_1V8 VDD_1V2 VDD_3V3 C206 C207 C208 C209 C210 C211 C212 C213 C272 C214 C215 =1uF C216 C217 C218 C219 C220 C221 C222 C223 C270 C273 C231 =10uF C224 C226 C227 C229 C230 C225 C228 4.7uF 6.3V C0402 100nF 6.3V C0201 6.3V C0402 10V C0201 10V C0201 6.3V C0402 6.3V C0402 10V C0201 6.3V C0201 10V C0201 10V C0201 10V C0201 10V C0201 10V C0201 ÷ ÷ ÷ | VSS | R18 | | VSS | R20 | | VSS | T6 | | VSS | T13 | | VSS | T14 | | VSS | T16 | | VSS | T16 | | VSS | T17 | | VSS | T17 | | VSS | V19 | | VSS | V10 | | V GROUND U1P H15 CAP_VDDS0 W17 CAP_VDDS1 U7 CAP_VDDS2 U7 CAP_VDDS3 H17 CAP_VDDS4 CAP_VDDS6 CAP_VDDS6 CAP H11 CAP_VDDS_MCU G9 CAP_VDDS_CANUART AM62x bga425_0d5_13x13mm C144 C143 C142 C141 C140 C139 C138 BGA425 1uF 1uF 6.3V 6.3V C0201 C0201 1uF 1uF 1uF 6.3V 6.3V 6.3V C0201 C0201 C0201 1uF 6.3V 1uF 6.3V C0201 C0201 C0201 C0201 VSS AM62x BGA425 bga425_0d5_13x13mm

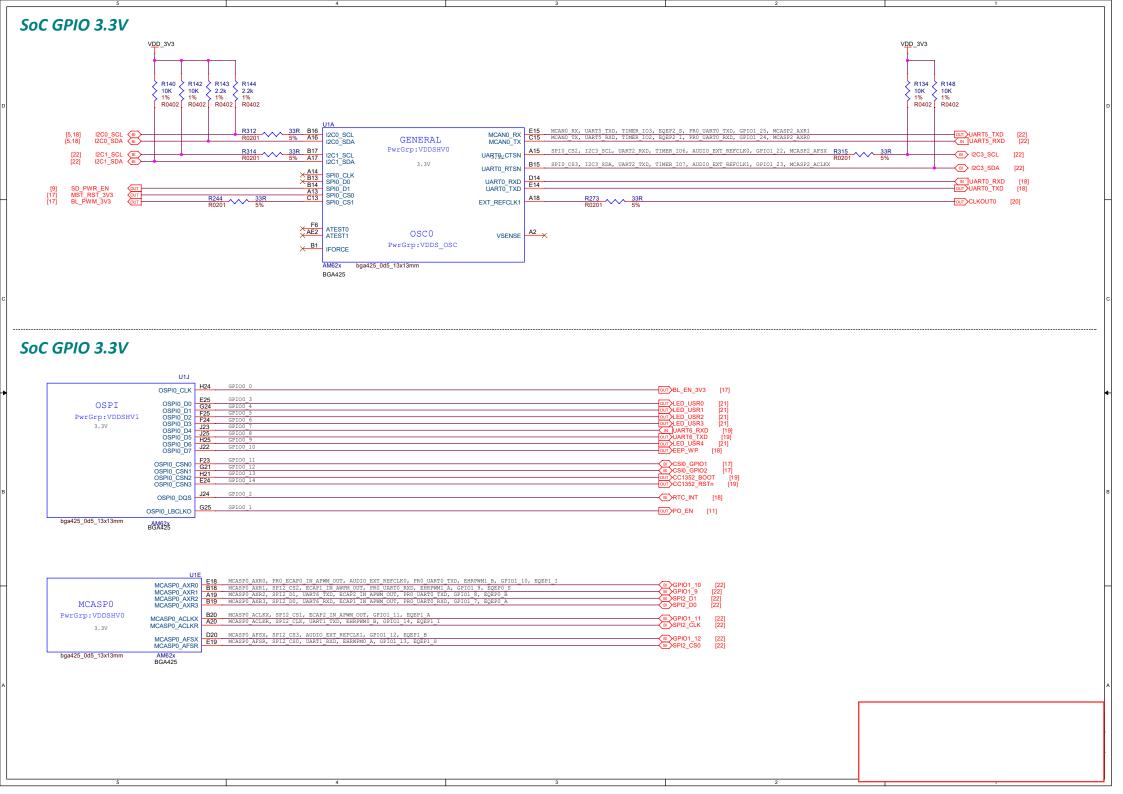




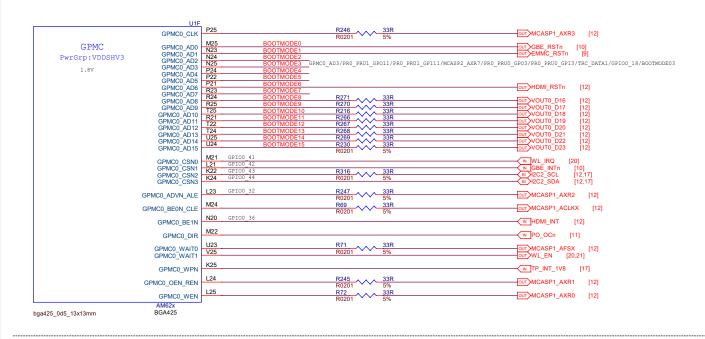




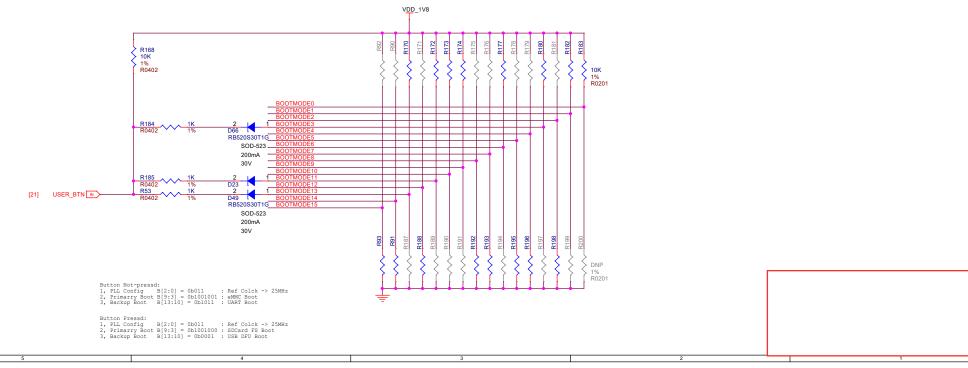


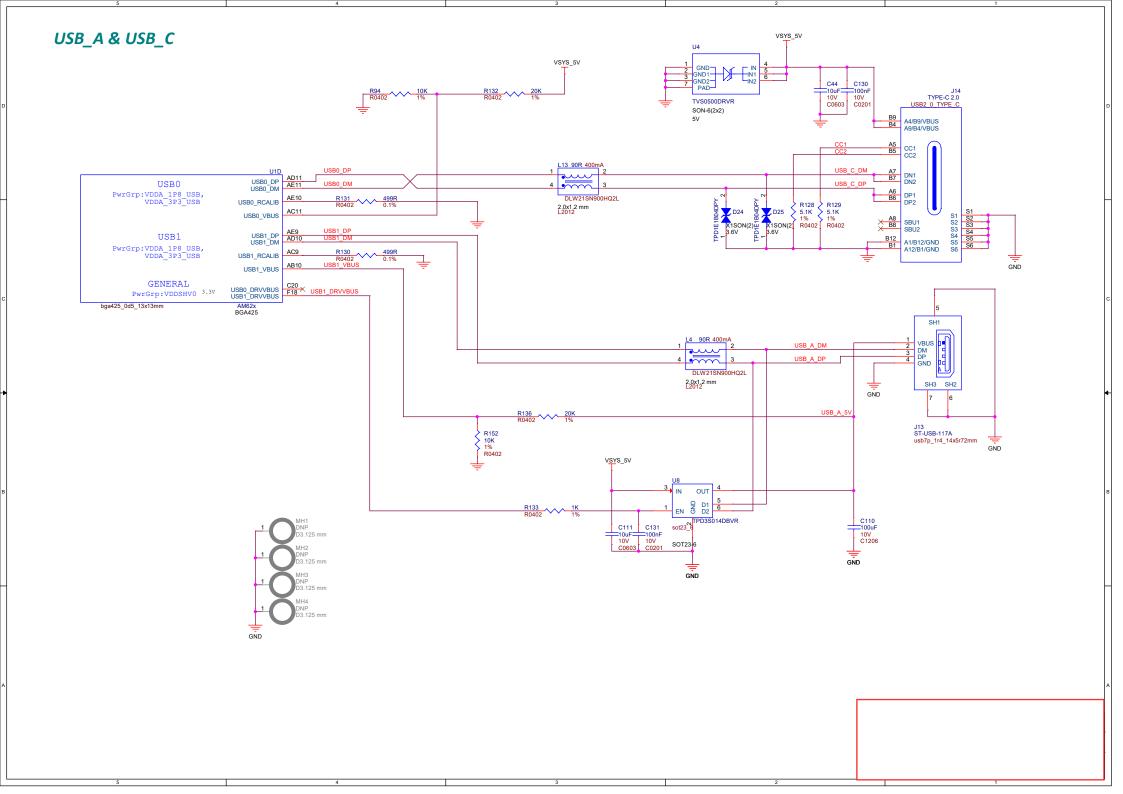


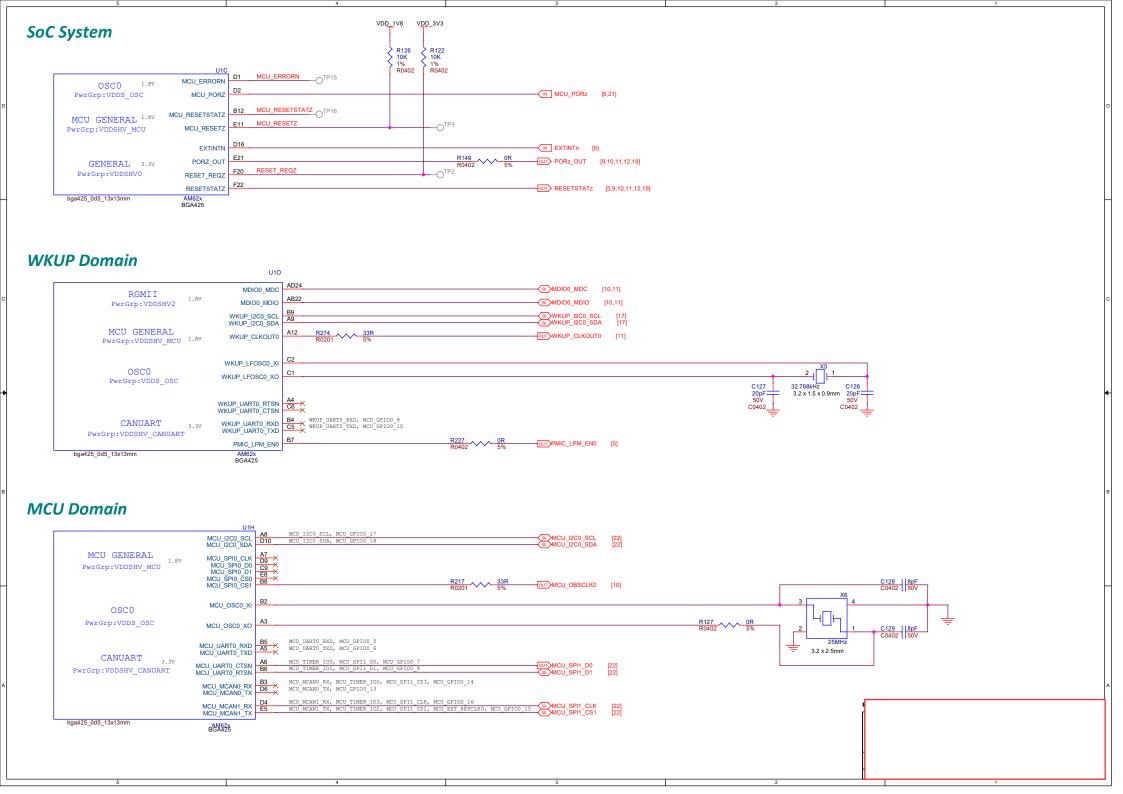
SoC GPIO 1.8V

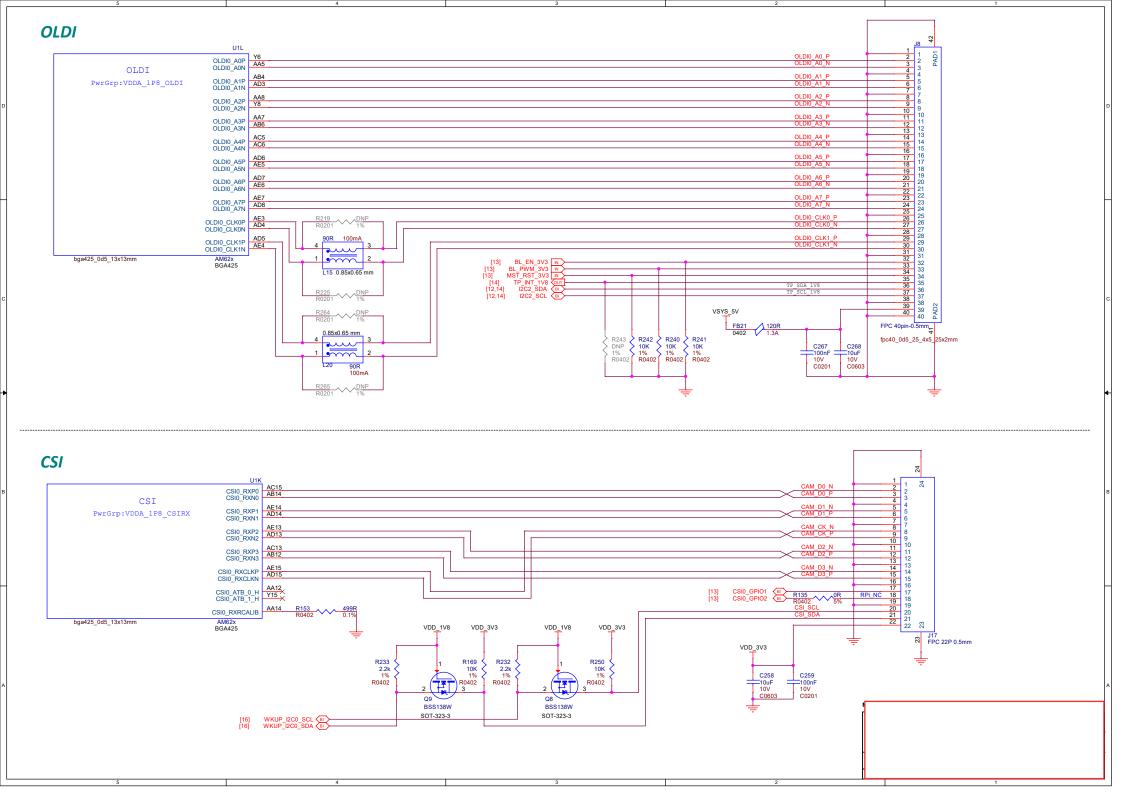


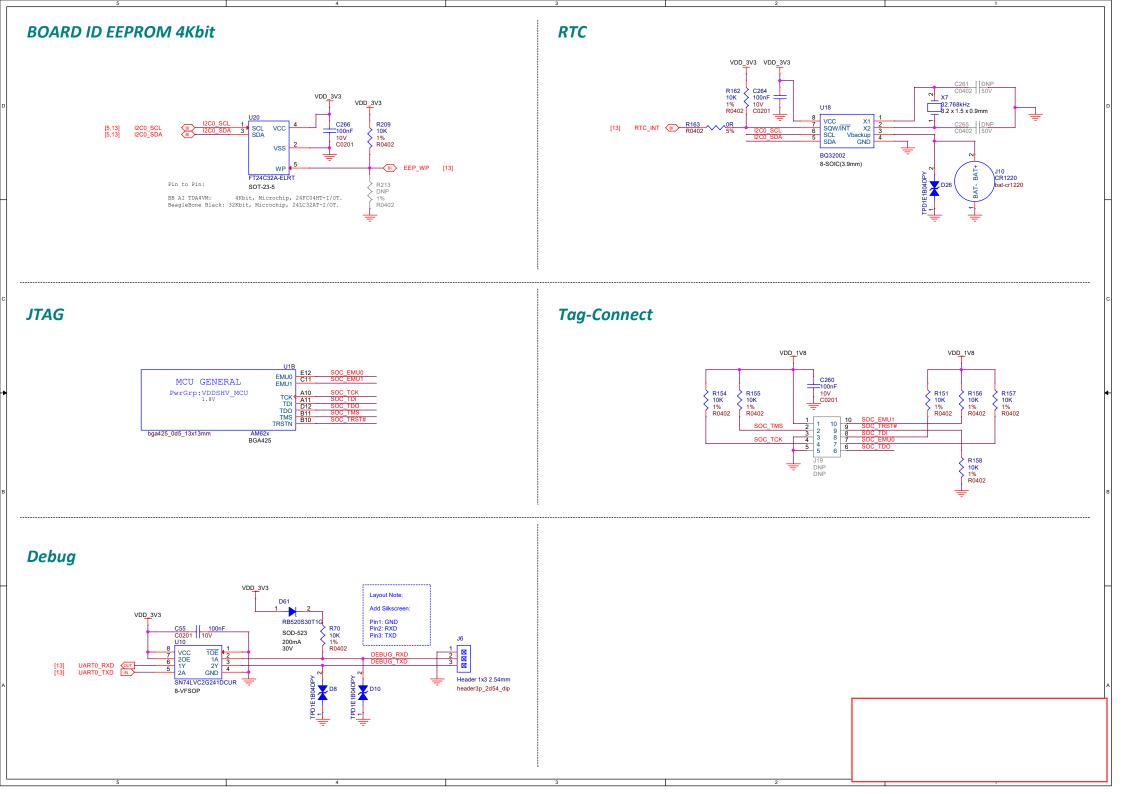
Bootstrap

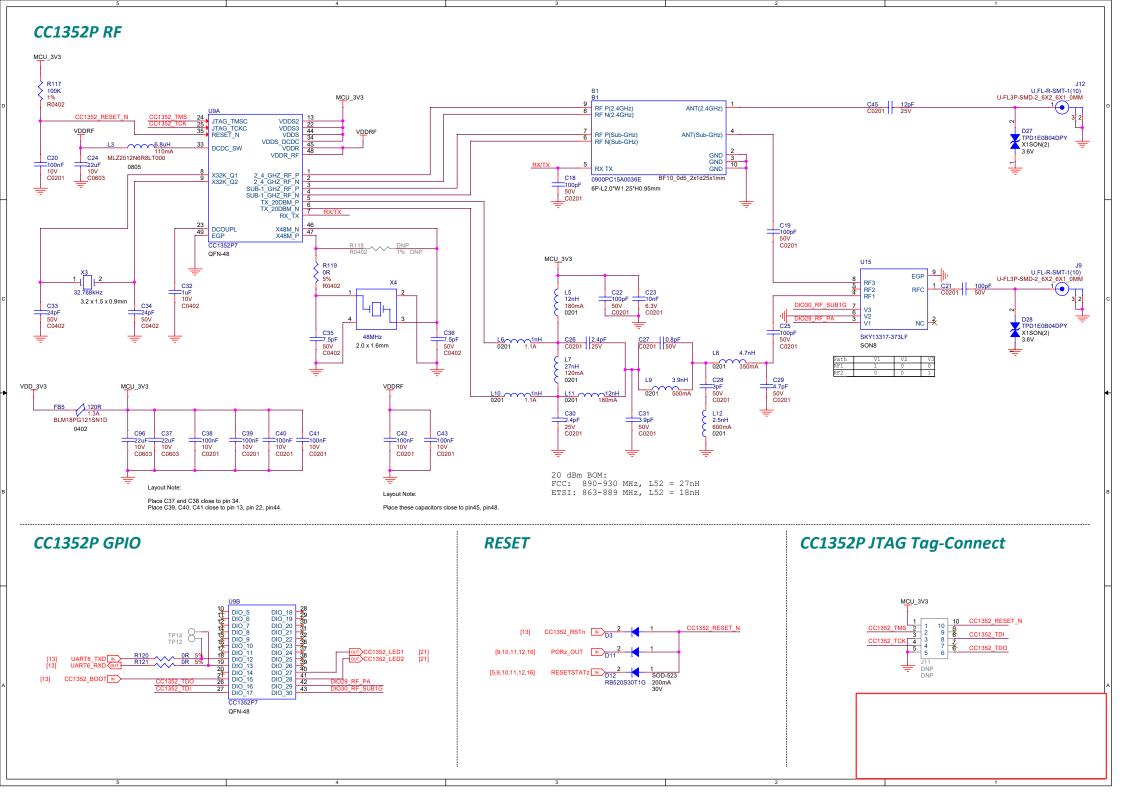


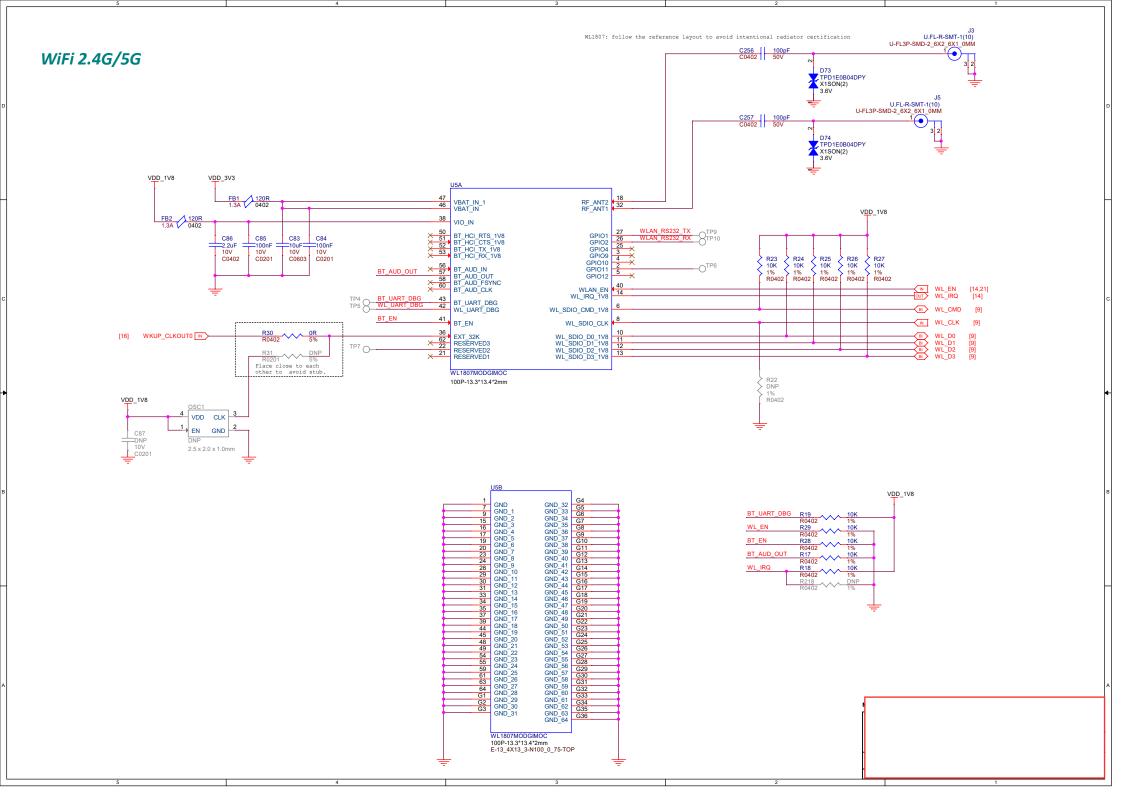












Reset Button User Button Power Button Layout Noete: Place TP17 and TP28 close to each othter, keep 2.54mm spacing. 1 | ____ OUT MCU_PORz [5,16] OUT USER_BTN [14] PWR_BTN [5] TS23M-BN-PT-PF TS23M-BN-PT-PF TS23M-BN-PT-PF L4.7*W3.5*H1.85mm-90D L4.7*W3.5*H1.85mm-90D L4.7*W3.5*H1.85mm-90D button2_3p_4d55x2d3x1d88mm button2_3p_4d55x2d3x1d88mm button2_3p_4d55x2d3x1d88mm **LEDs** [19] CC1352_LED2 N [19] CC1352_LED1 N LED_USR4 N LED_USR3 IN VDD_3V3 LED_USR2 IN [13] LED_USR1 IN [13] [13] LED_USR0 N R205 2.2k 1% R0402 R237 2.2k 1% R0402 2.2k 1% R0402 2.2k > 1% R0402 2.2k 1% R0402 LED8 LED9 LED10 LED7 Green 0402 LED4 Green 0402 LED3 LED11 Red 0402 LED5 LED6 Yellow Yellow LED6 Green 0402 Green 0402 Green 0402 0402 0402 0402 Yellow Yellow Yellow Green Green Green Green Green 20mA N 20mA 20mA 20mA 20mA 20mA 20mA 20mA 20mA [14,20] WL_EN R239 2.2k R0402 1%

