



SMALL EMERGE COMMON USER INTERFACE

Changelog:

SCH Q26038-001 REV A :
Based off Q26034-003 Design.
PCB Q25086-001

SCH Q26038-001 REV B :
PCB Q25086-002

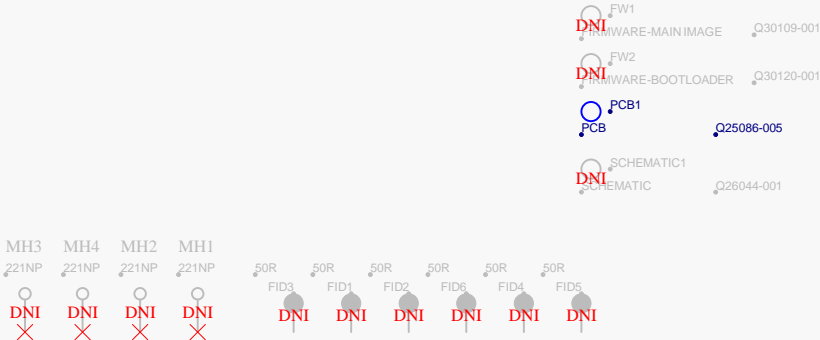
CHANGE HARDWARE REV BITS TO 0001.
CHANGE LCD CONNECTOR TO OMRON.
SWAP SPI0_MISO AND SPI0_MOSI.
DELETE CLK RESISTOR ON SD CARD SLOT.
CHANGE CONNECTOR REFERENCE DESIGNATORS TO MATCH T600 INTEGRATED TELEMETRY BOARD.
SWAP RXD AND TXD ON DEBUG SERIAL CONNECTOR, OMIT 3.3V CONNECTION THERE.
FIX NAME SWAP SPI1_CS0 AND SPI1_CS1.
CHANGE TELEMETRY CONNECTOR PIN 13 TO WIFI SOFTWARE RESET.
CHANGE LCD SIGNAL RESISTOR PACKS TO DISCRETE 0402'S.
DELETE OPTION FOR SDIO WIFI INTERFACE.
ADD RTC_nINT TO A GPIO0 PIN FREED UP FROM SDIO WIFI INTERFACE.
ADD A/D INPUTS FROM SHUNT AMP ON TELEM BD.
CHANGED PULLUP RESISTOR ON 32768HZ CLOCK TO 10K.
ADDED DIGITAL MONITORING OF KEYSWITCH AND CHARGER POWER AND SYSTEM_UP.
MOVED SPARE_RADIO POWER SIGNAL.
CHANGED LSD DIODES TO ES1 TO LOWER COST.
CHANGED C193 FROM 470 TO 1500uF.
CHANGED R6 BACK TO 10K.

SCH Q26038-001 REV C :
PCB Q25086-003

CHANGE HARDWARE REV BITS TO 002
DELETE R159 SERIES RESISTOR ON A15.
ADD C343-C346 ON KEYPAD INPUTS FOR NOISE SUPPRESSION.
REMOVE FRAM OPTION. ADD INFINEON TPM IC.
ADD D30-D32 IN POWER FAIL CKTS.

SCH Q26038-001 REV D :
PCB Q25086-004 / Q25086-005
Replace membrane connectors with 1mm pitch 22 ckt ZIF connectors
Add 237 ohm 0402 resistors to the membrane page
Update REV bits

PART NUMBERS FOR REFERENCE ONLY:
PRINTED CIRCUIT ASSEMBLY 1244465

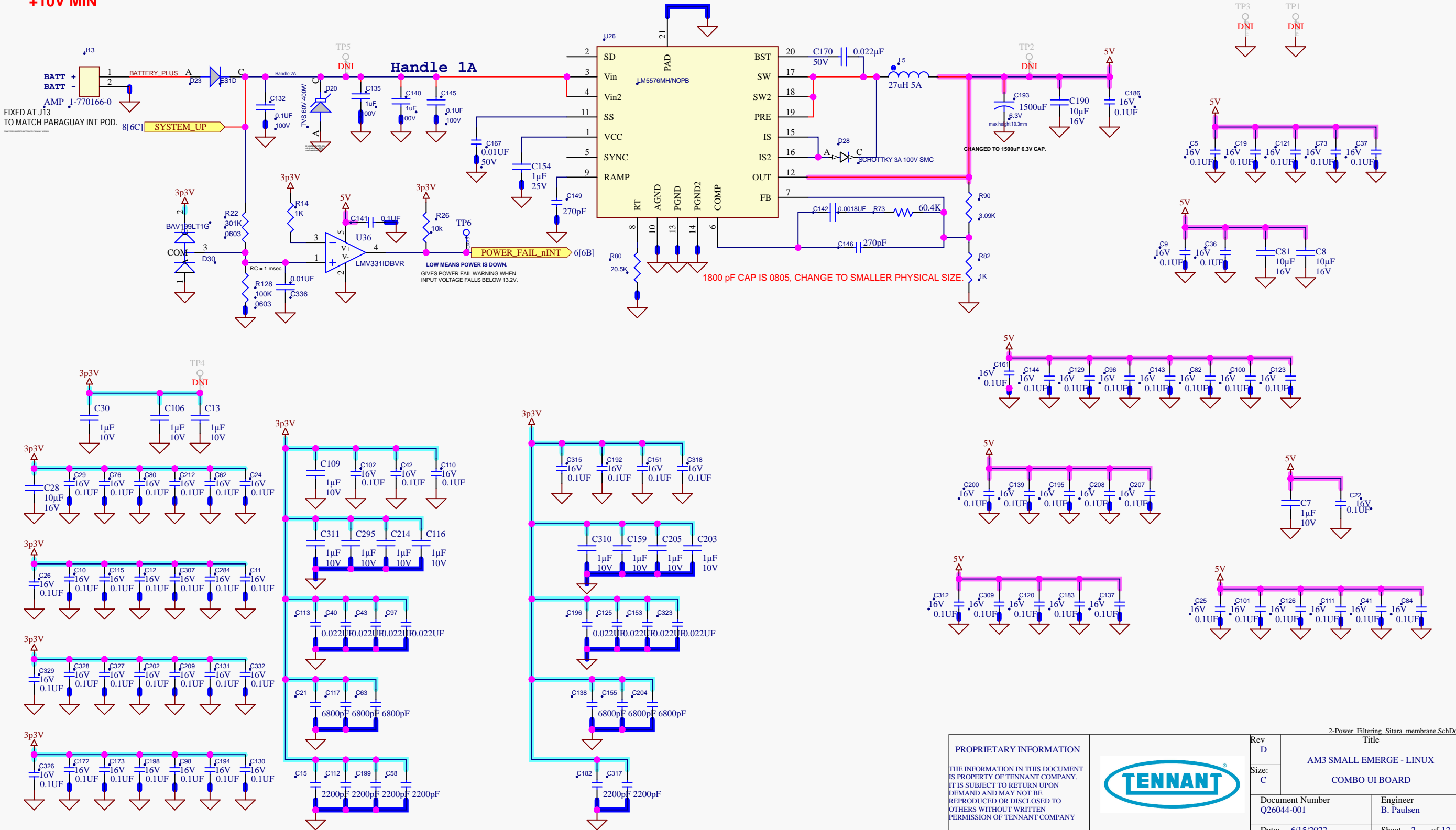


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POWER INPUT
52.2V MAX.
+36V/+24 NOMINAL
+10V MIN

POWER SUPPLY +5V, 75VIN, 3A

1.5% feedback reference accuracy

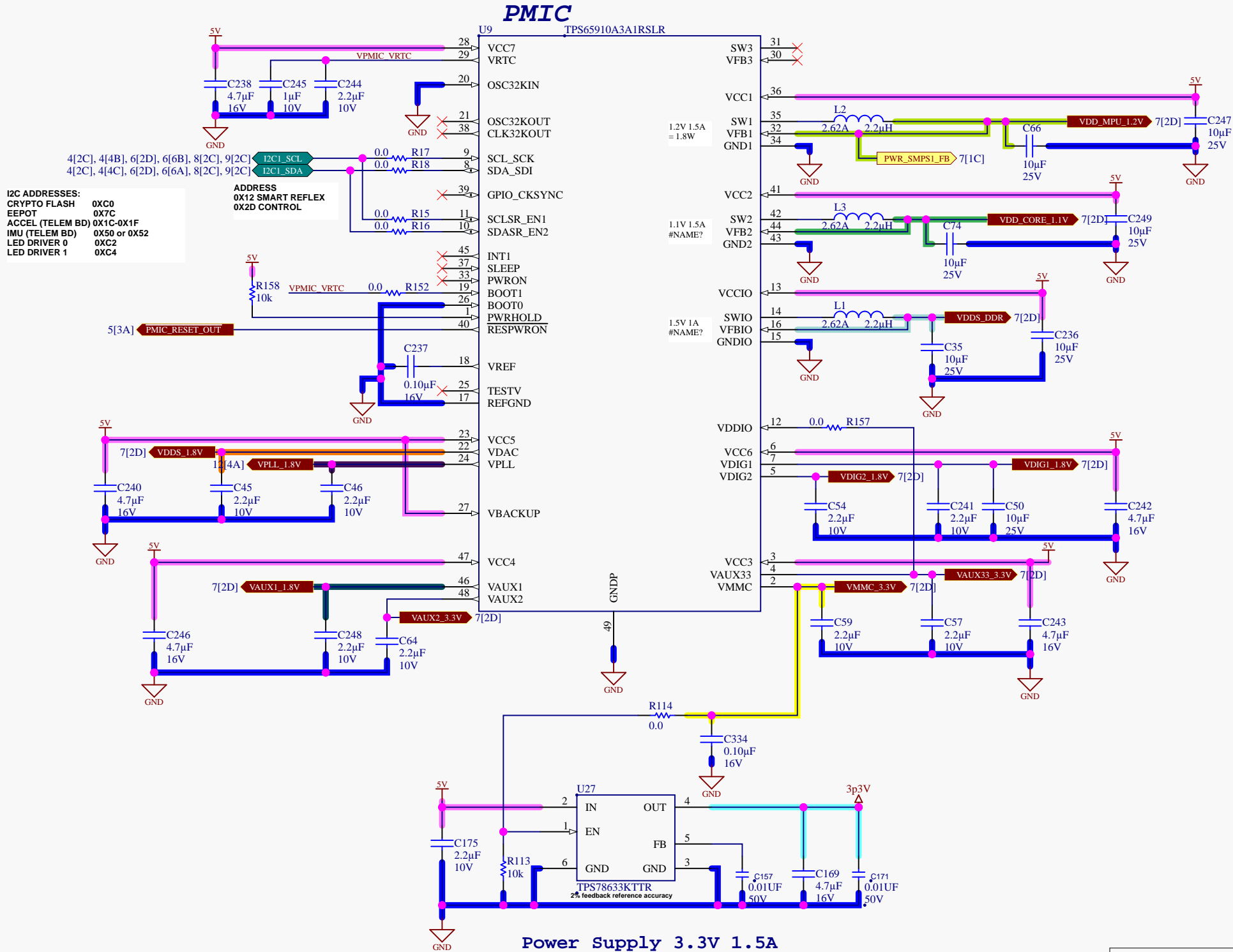


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SETTINGS FOR VDD_MPU POWER:
FROM TABLE 5.7 OF SPRS717K

MIN.	NOM.	MAX.	FREQ.
1.272V	1.325V	1.378V	1000MHZ
1.210V	1.260V	1.326V	800MHZ
1.152V	1.200V	1.248V	720MHZ
1.056V	1.100V	1.144V	600MHZ AND LOWER, PMIC DEFAULT.

TPS65910 Power Supply AM335x Power Rail Voltage

VAUX2 (300mA)	VDDSHV1, 3, 5, 6 (500mA) 3.3V (rails that are 3.3V)
VDIG1 (300mA)	VDDSHV1, 3, 5, 6 (500mA) 1.8V (rails that are 1.8V)
VMMC (300mA)	VDDSHV4 (60mA) & VDDSHV2 1.8V/3.3V
VDD2 SMPS (1500mA)	VDD CORE (1000mA) 1.1V
VDD1 SMPS (1500mA)	VDD MPU (1500mA) 1.2V
No supply needed	VDD_RTC 1.1V
VRTC	VDD_RTC (10mA) 1.8V
VIO_SMPS (1000mA)	VDDSDR (200mA) 1.8V (or 1.5V for DDR3)
VIO_SMPS (1000mA)	VREFSSTL (10mA) 0.9V or 0.75V
VDAC (150mA)	VDDSDR (100mA) 1.8V
VDIG2 (300mA)	VDDSDR_CORE_BG (40mA) 1.8V
VDIG2 (300mA)	VDDSDR_CORE_MPU_BB (40mA) 1.8V
VDIG2 (300mA)	VDDSDR_PLL_DDR (25mA) 1.8V
VDIG2 (300mA)	VDDSDR_PLL_CORE_LCD (25mA) 1.8V
VDIG2 (300mA)	VDDSDR_PLL_MPU (25mA) 1.8V
VDIG2 (300mA)	VDDSDR_OSC (10mA) 1.8V
VAUX1 (300mA)	VDDA1P8V_USB0/1 (50mA) 1.8V
VAUX33 (150mA)	VDDA3P3V_USB0/1 (10mA) 3.3V
VAUX33 (150mA)	USB_VBUS0/1 3.3V
VPLL (50mA)	VDDA_ADC 1.8V
VDD3 SMPS (100mA)	Not Used -
VIO_SMPS (1000mA)	DDR2 SDRAM (320mA) 1.8V

Table 3: AM335x Power supplies from TPS65910A

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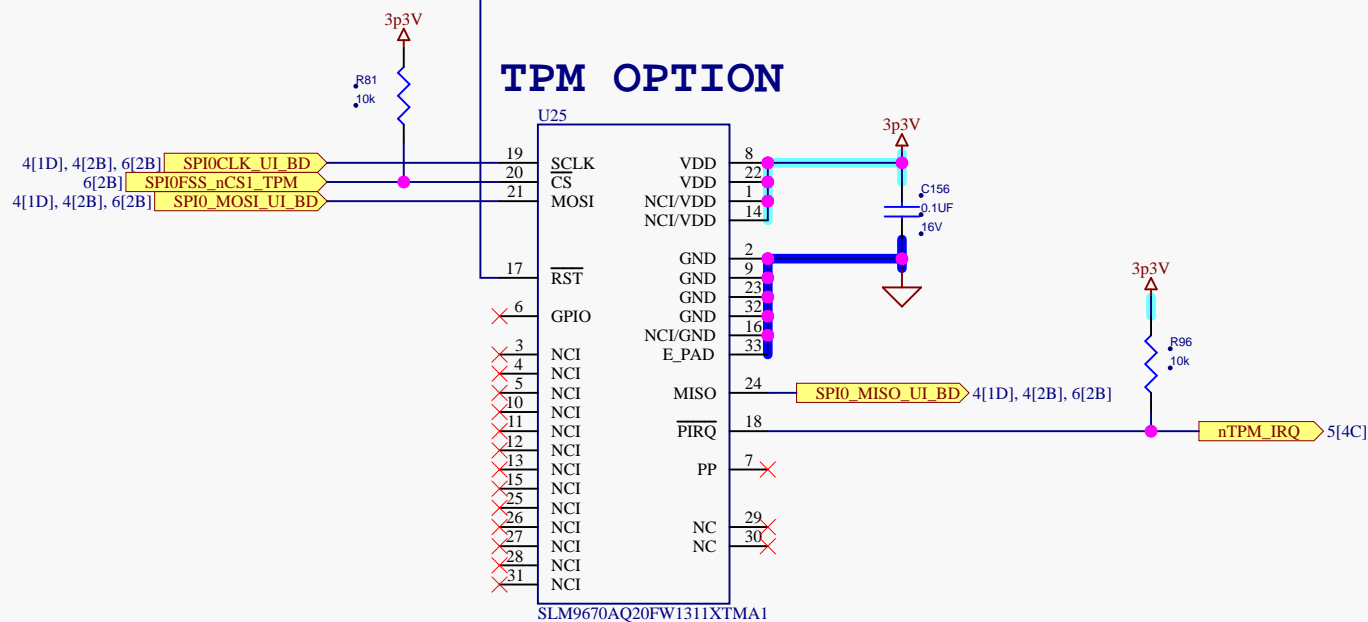
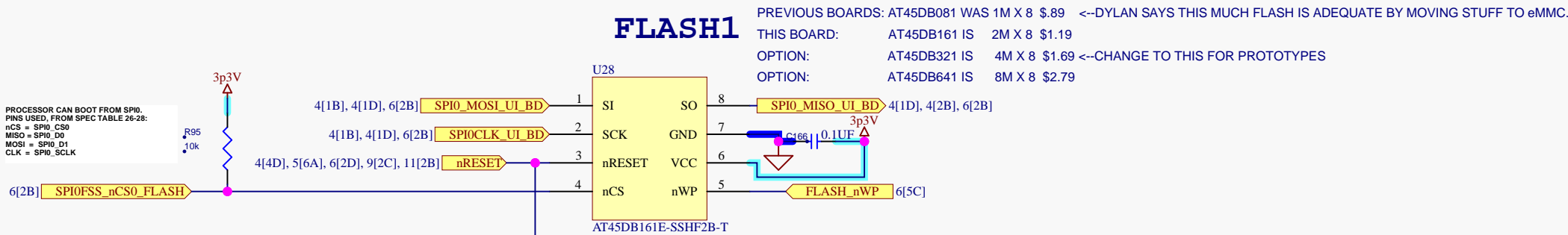
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A

B

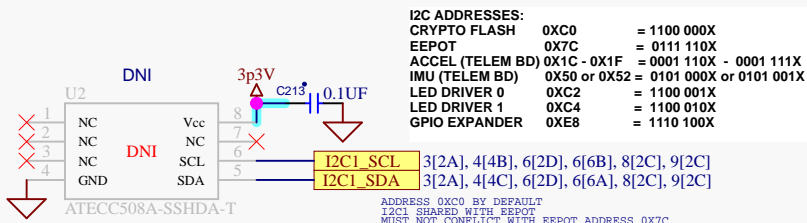
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D

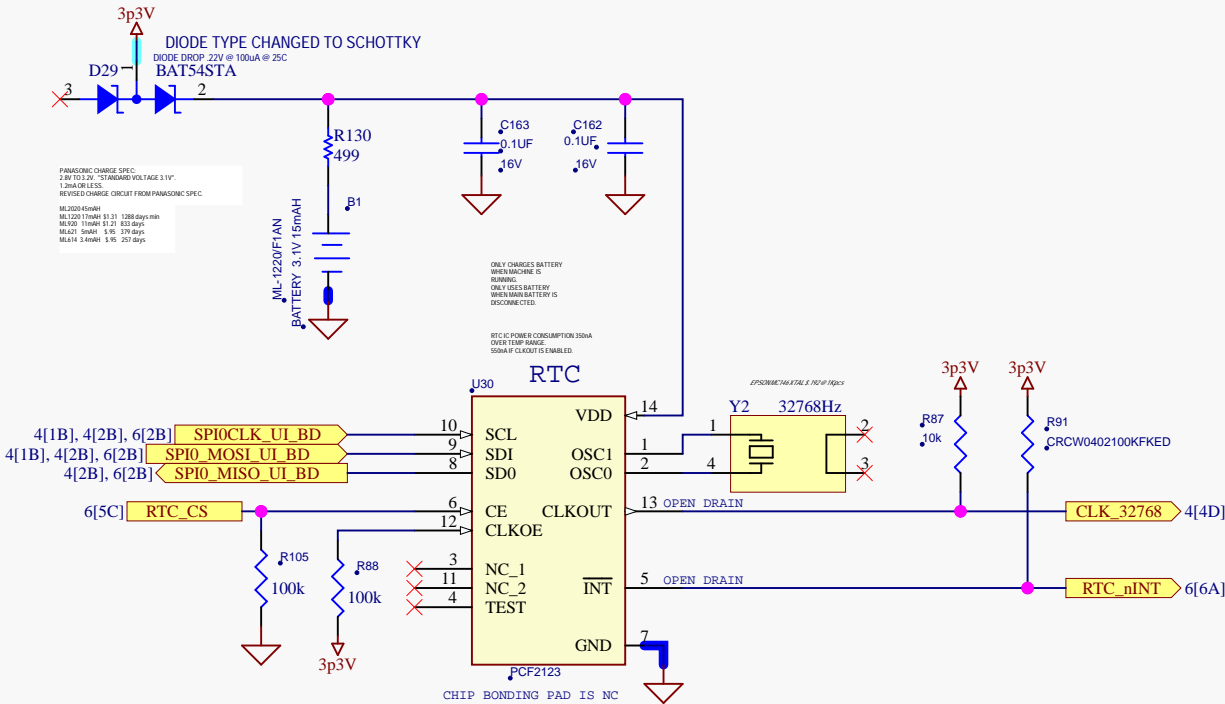


checked: SDO tristated on all SSI0 devices when deselected.

CRYPTO FLASH OPTION

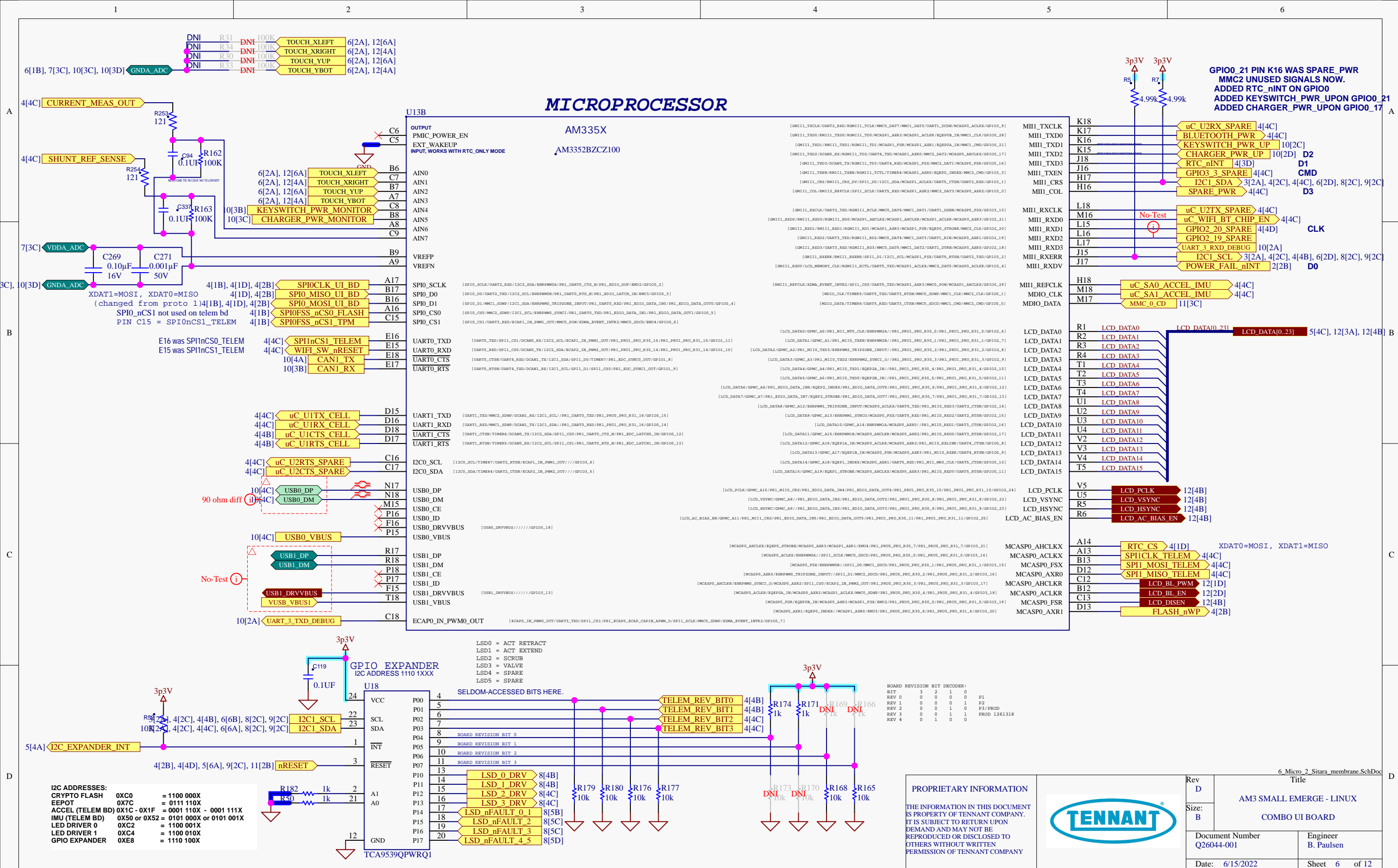


RTC





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A

A

B

B



D

A

B

C

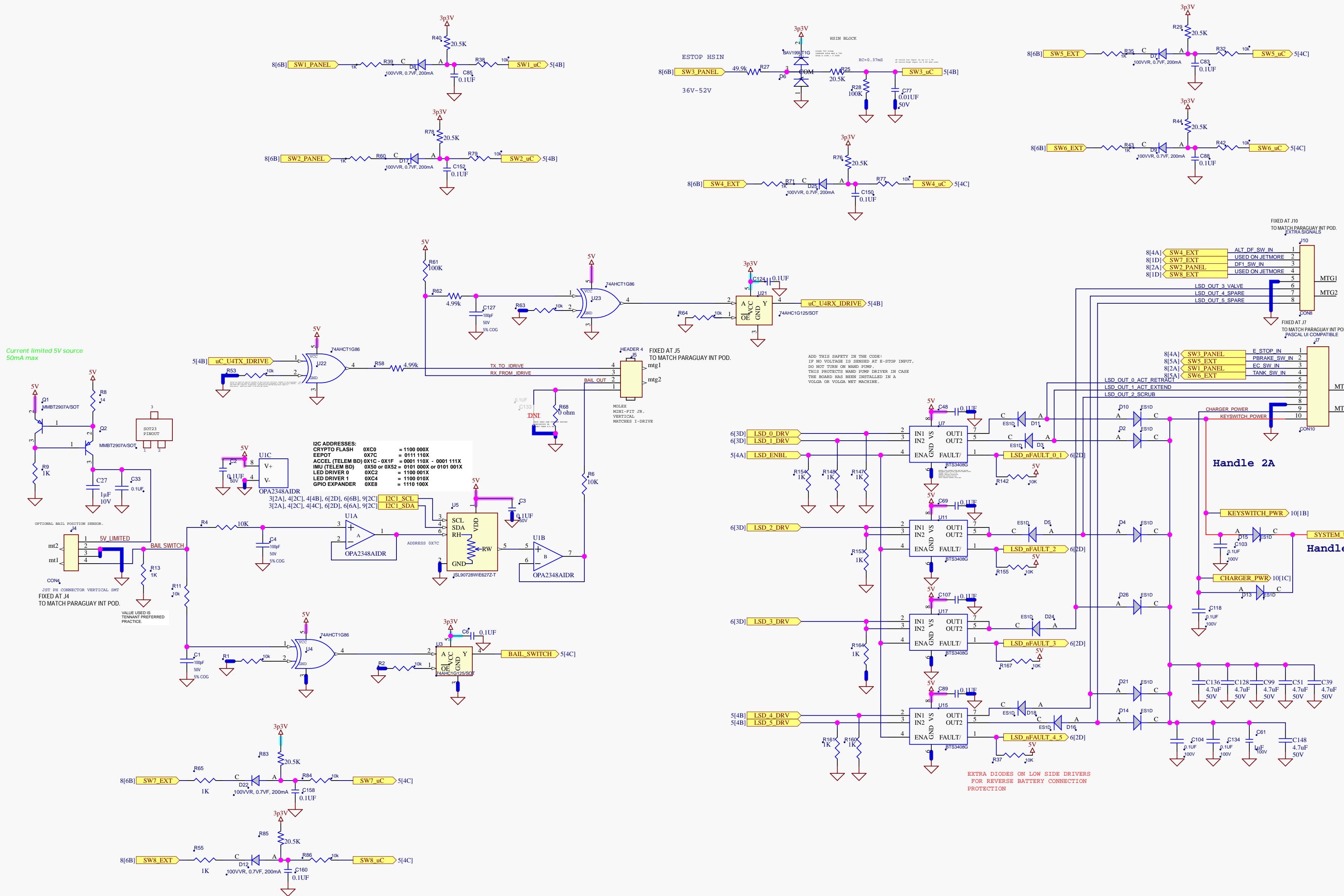
D

A

B

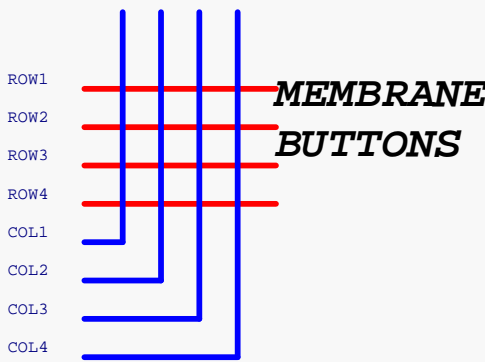
C

D

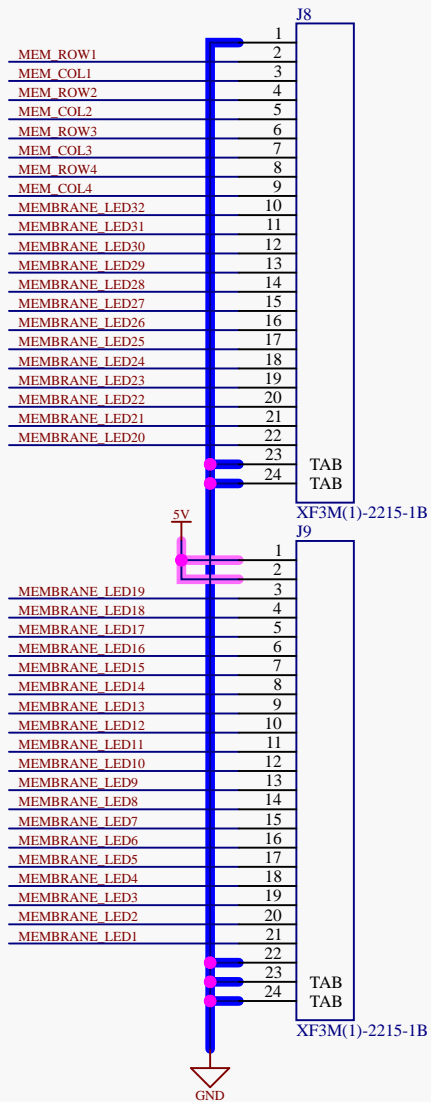
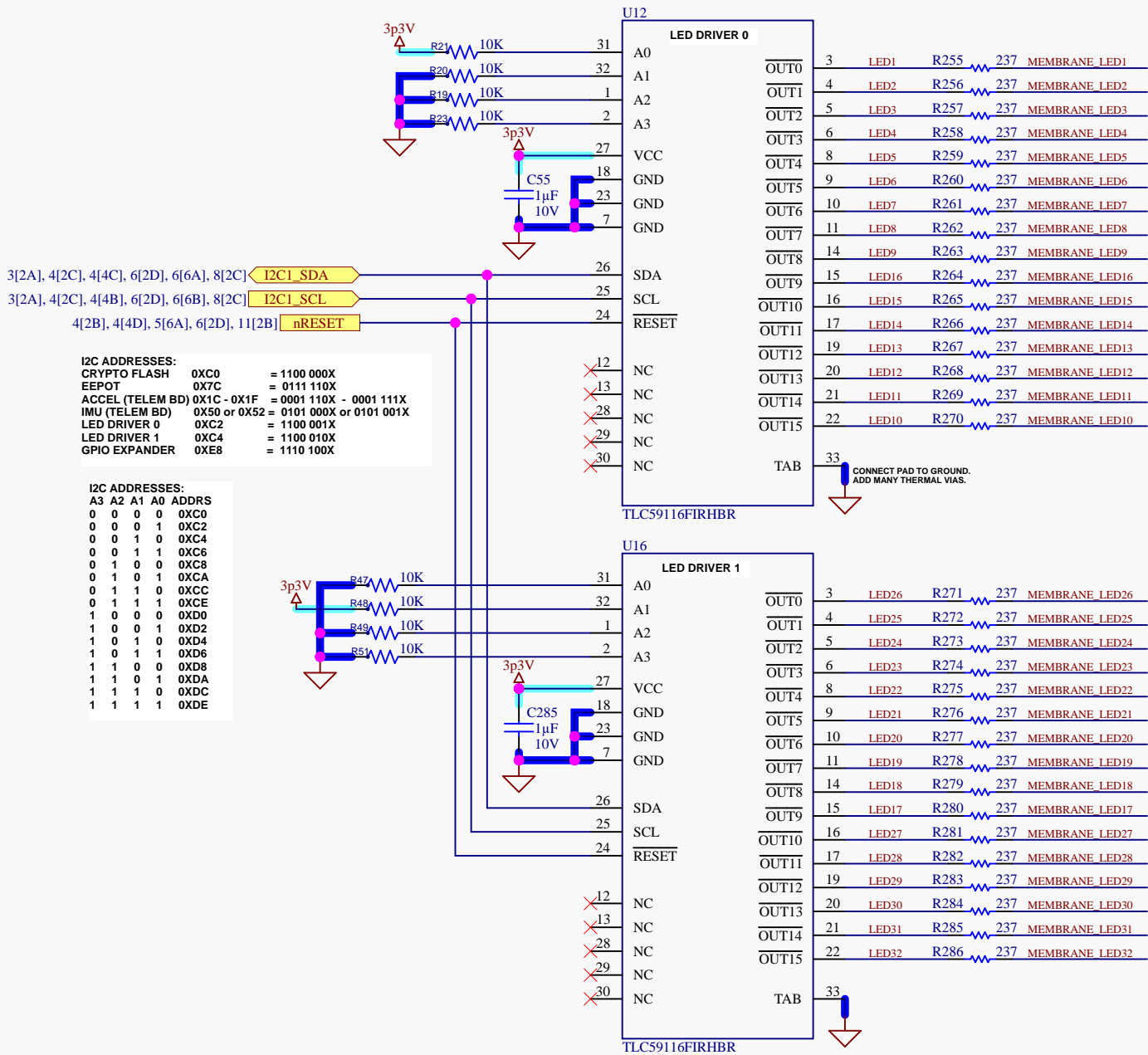
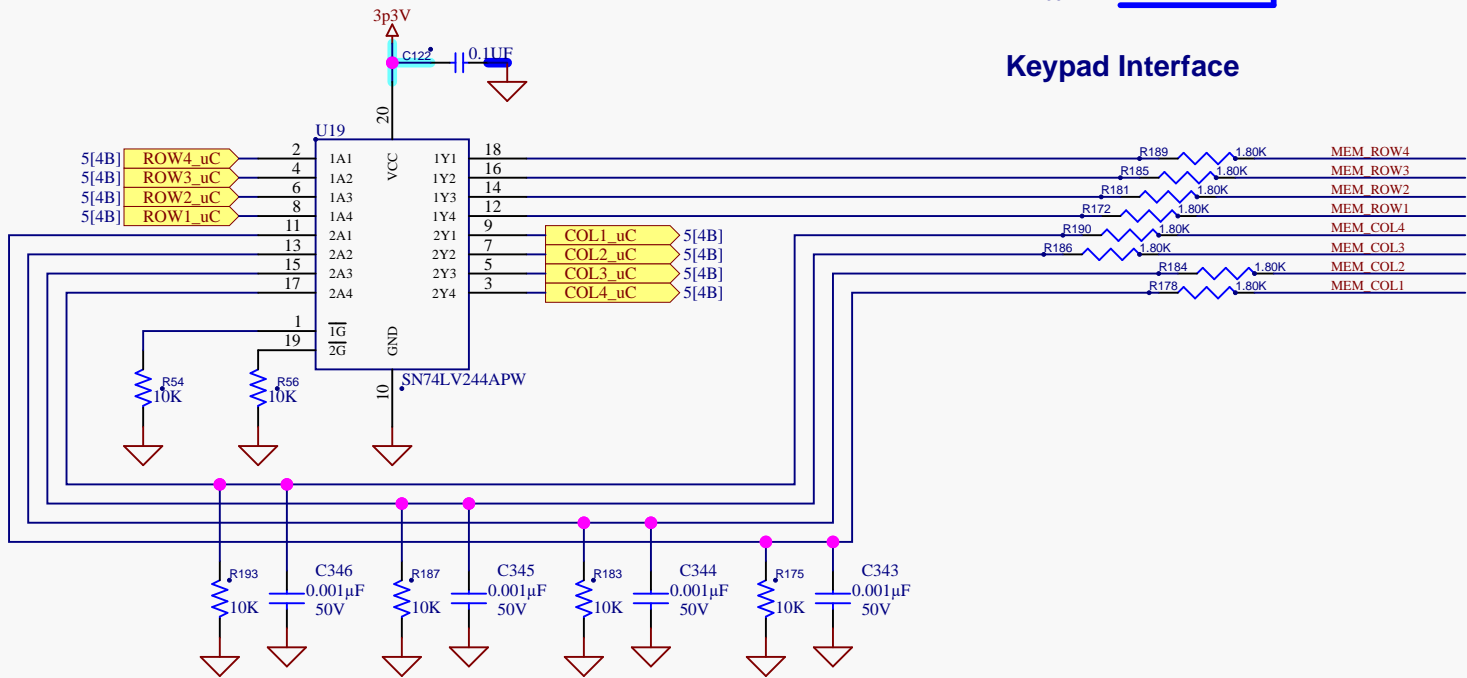


Keypad & LED interfaces

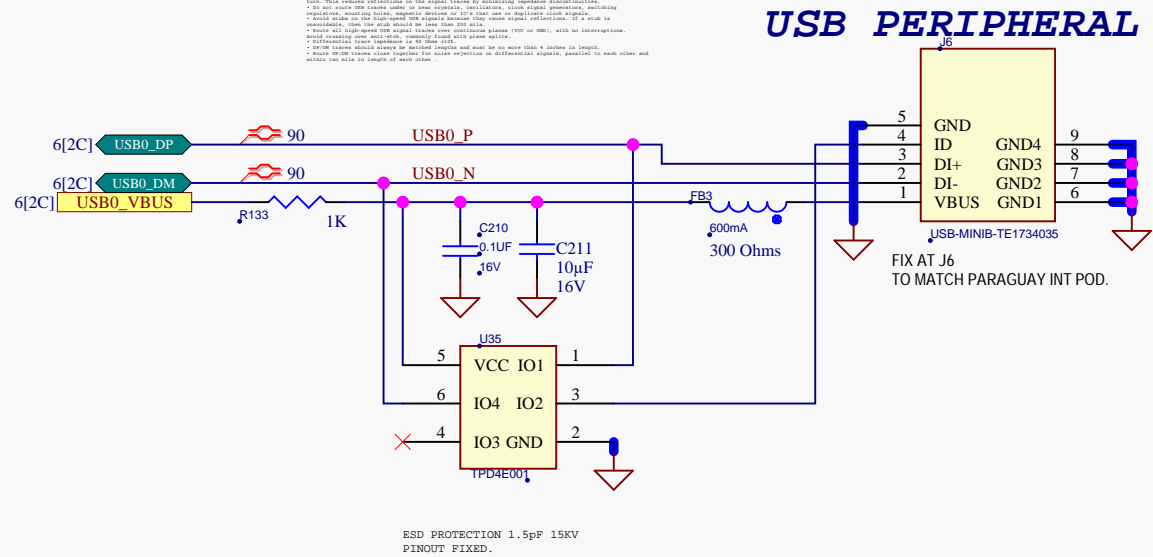
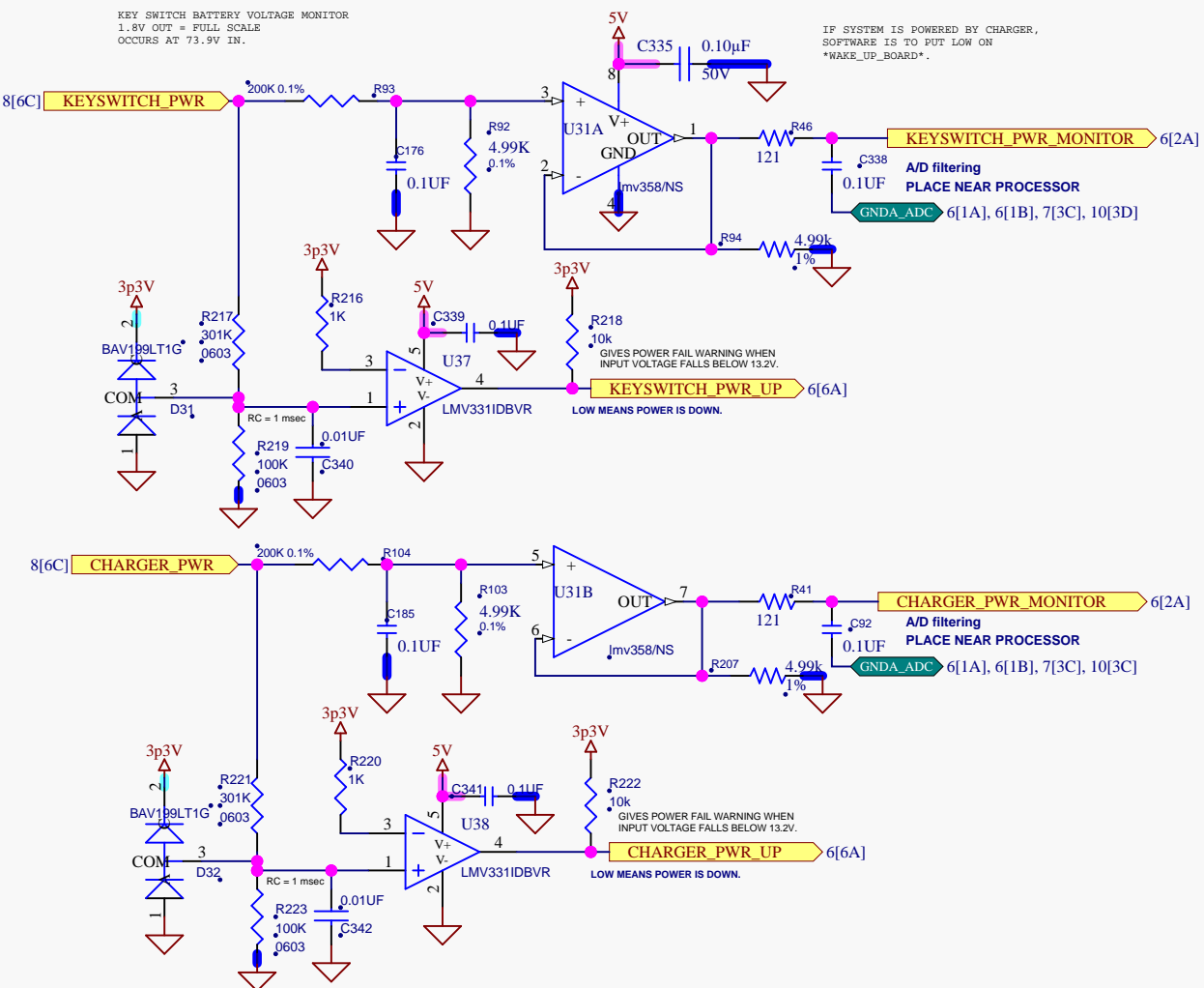
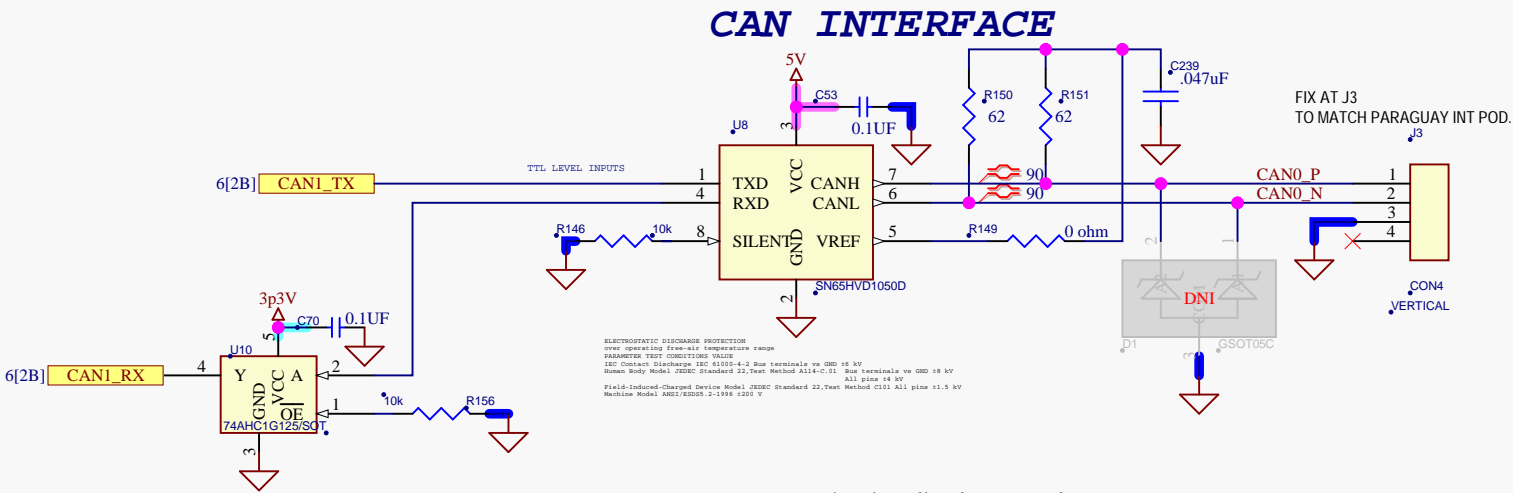
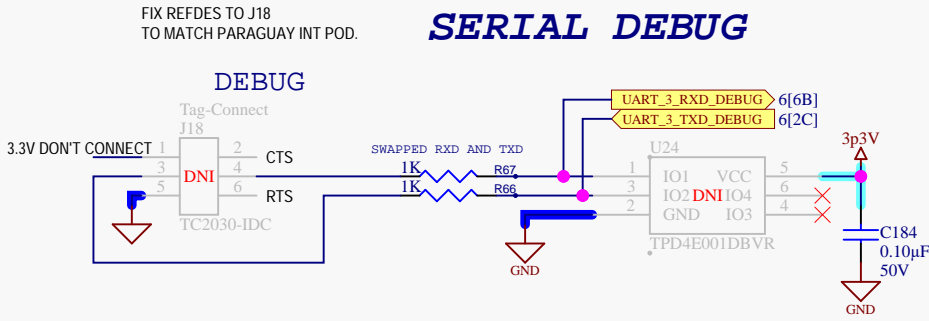
Conventional 4 x 4 scanned keyboard. CPU will output a logic "1" to the Rows one at a time, and scan the returning Cols for a key press. Pull-downs on the Cols insure a logic "0" if a key in that column is not pressed. 244 isolates the CPU from the keypad. Series resistors will protect the buffer.



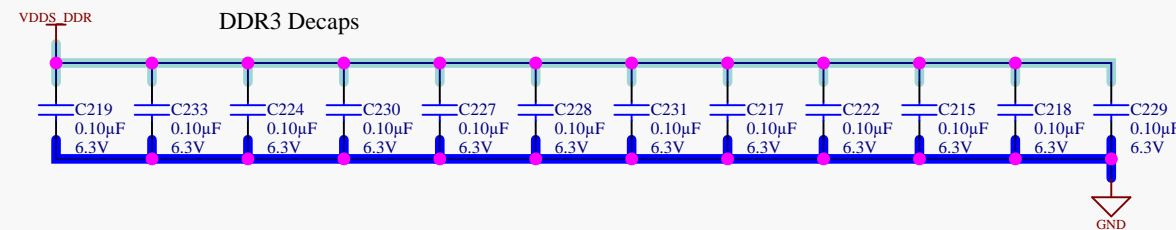
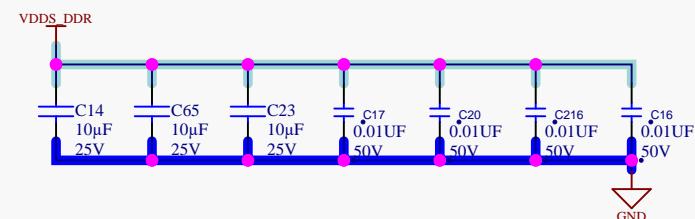
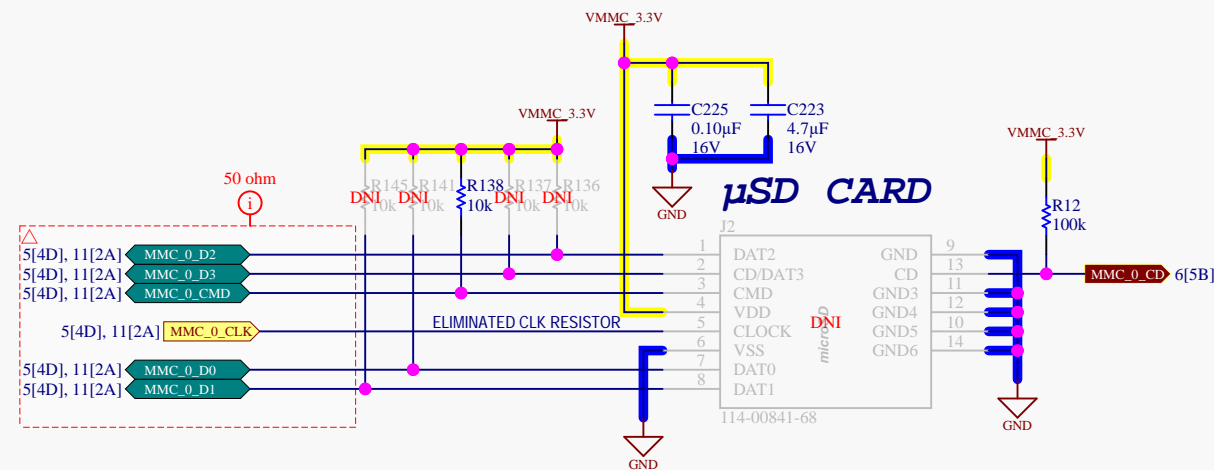
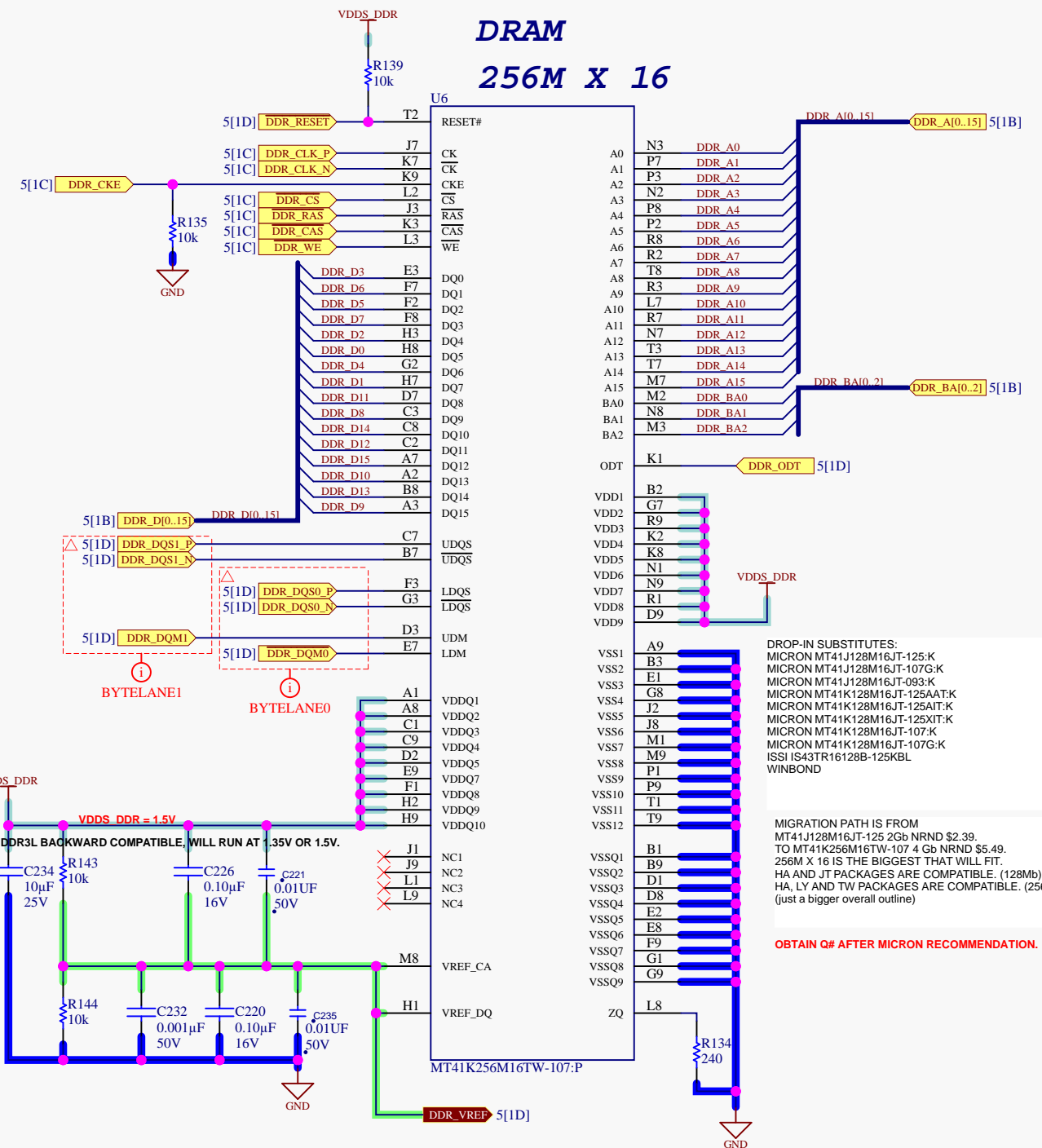
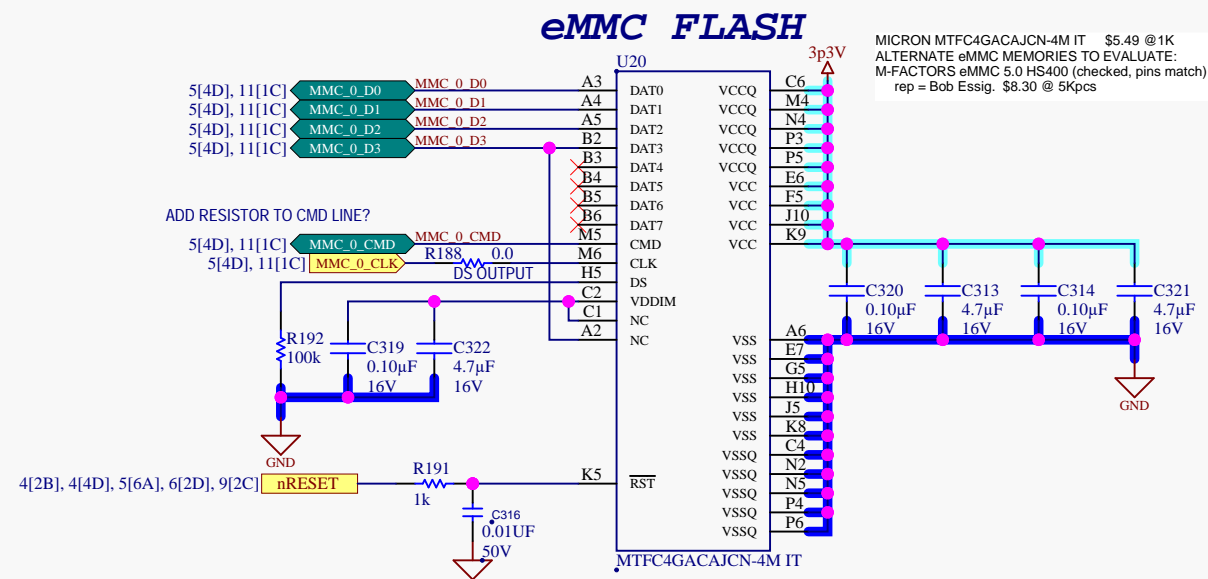
Keypad Interface



INTERFACES



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