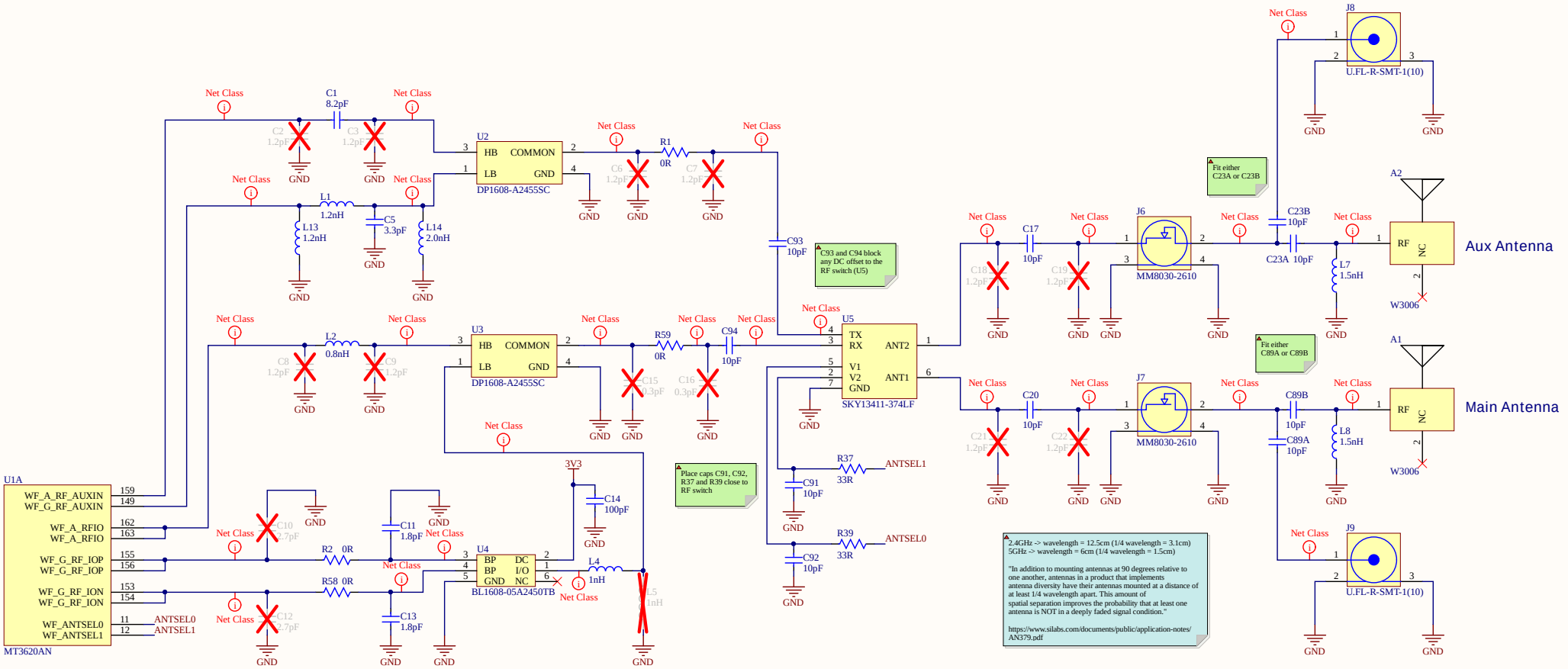
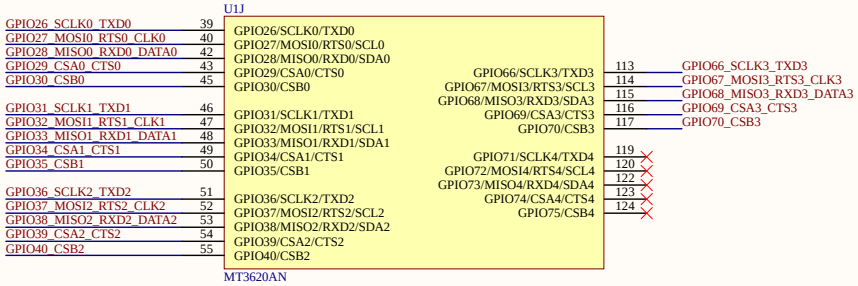
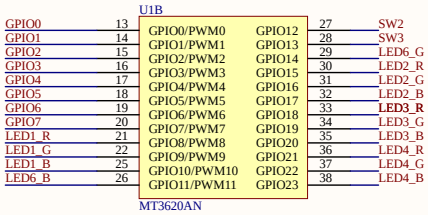


Microsoft Azure Sphere	NAME OF THIS PROJECT P-MT3620RDB-1-0.PrjPcb		TITLE OF THIS SHEET MT3620 RDB WiFi
FILE PATH P-MT3620RDB-1-0_WiFi.SchDoc	LAST MODIFIED 09/04/2019	PAGE 1 OF 5	DRAWN BY Stuart Taylor / REVISION 1.0

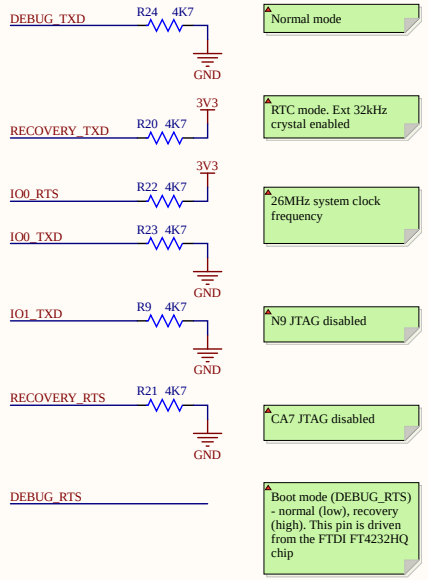
Configurable I/O Blocks



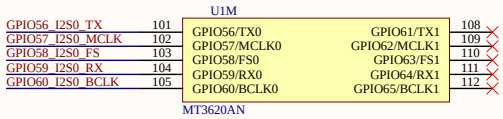
GPIOs



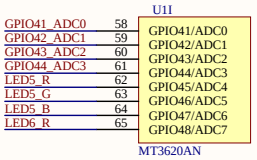
Strapping



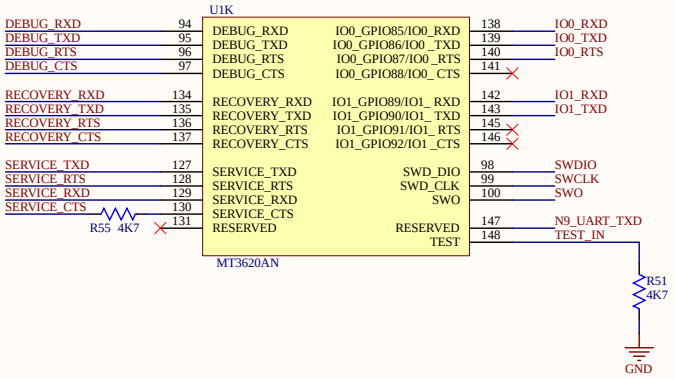
I2S Audio



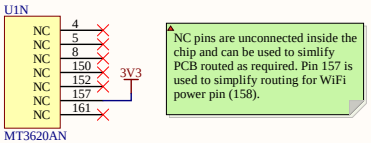
ADCs and GPIOs



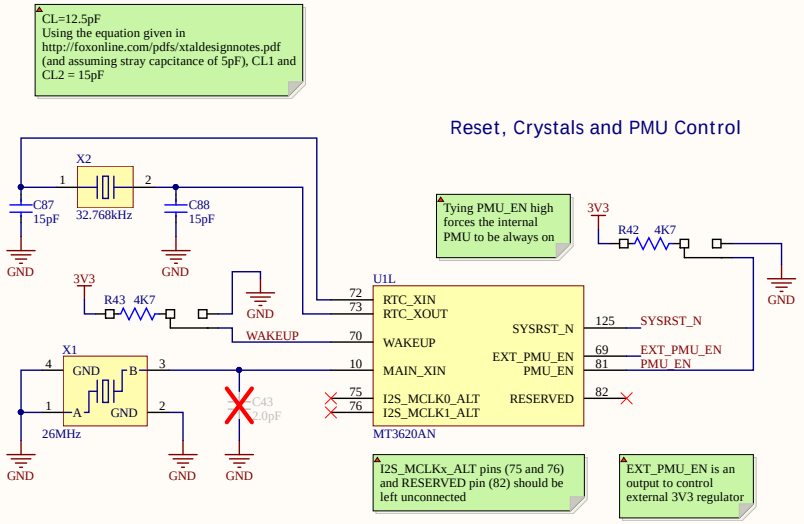
Support Interface



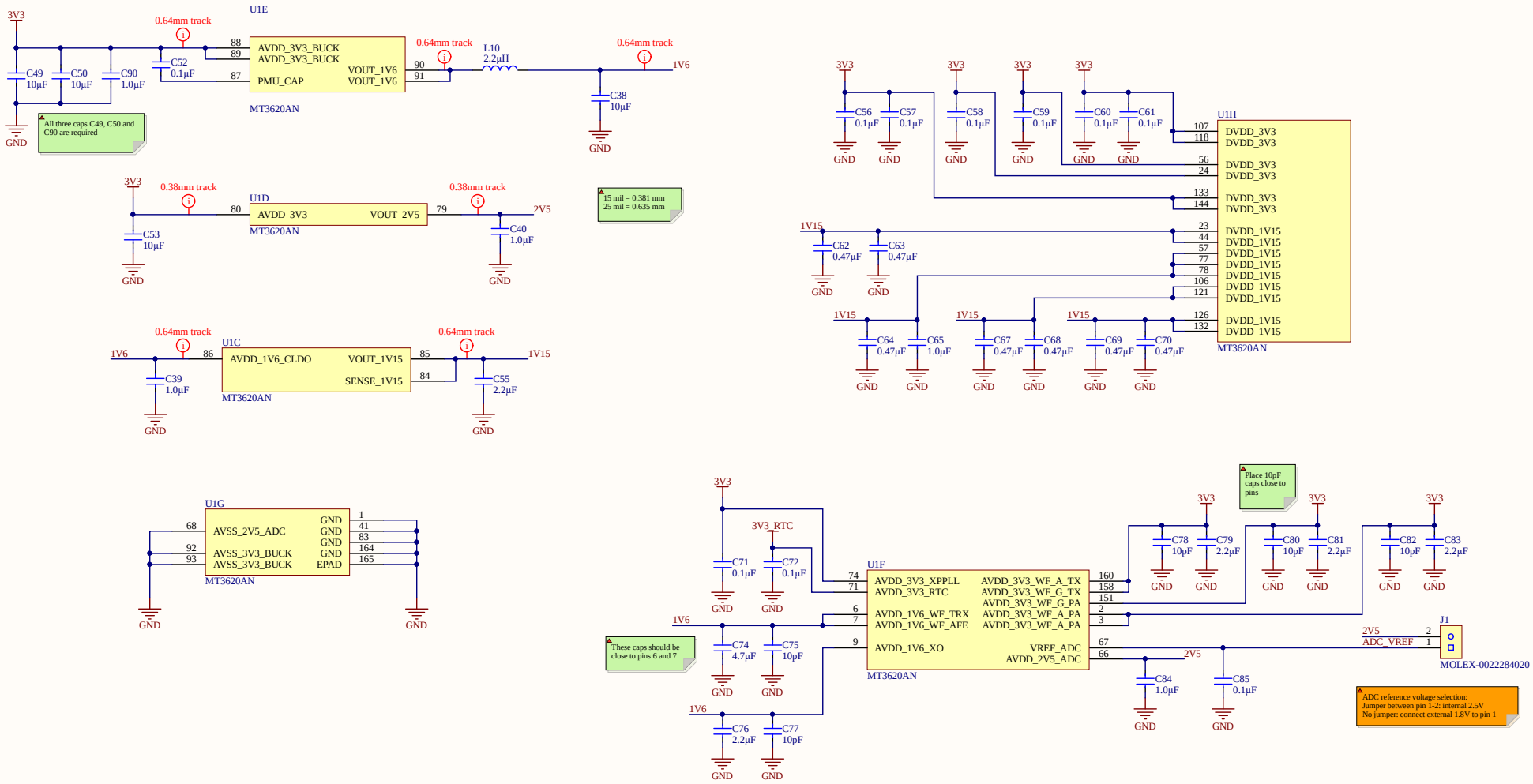
NC Pins



Reset, Crystals and PMU Control

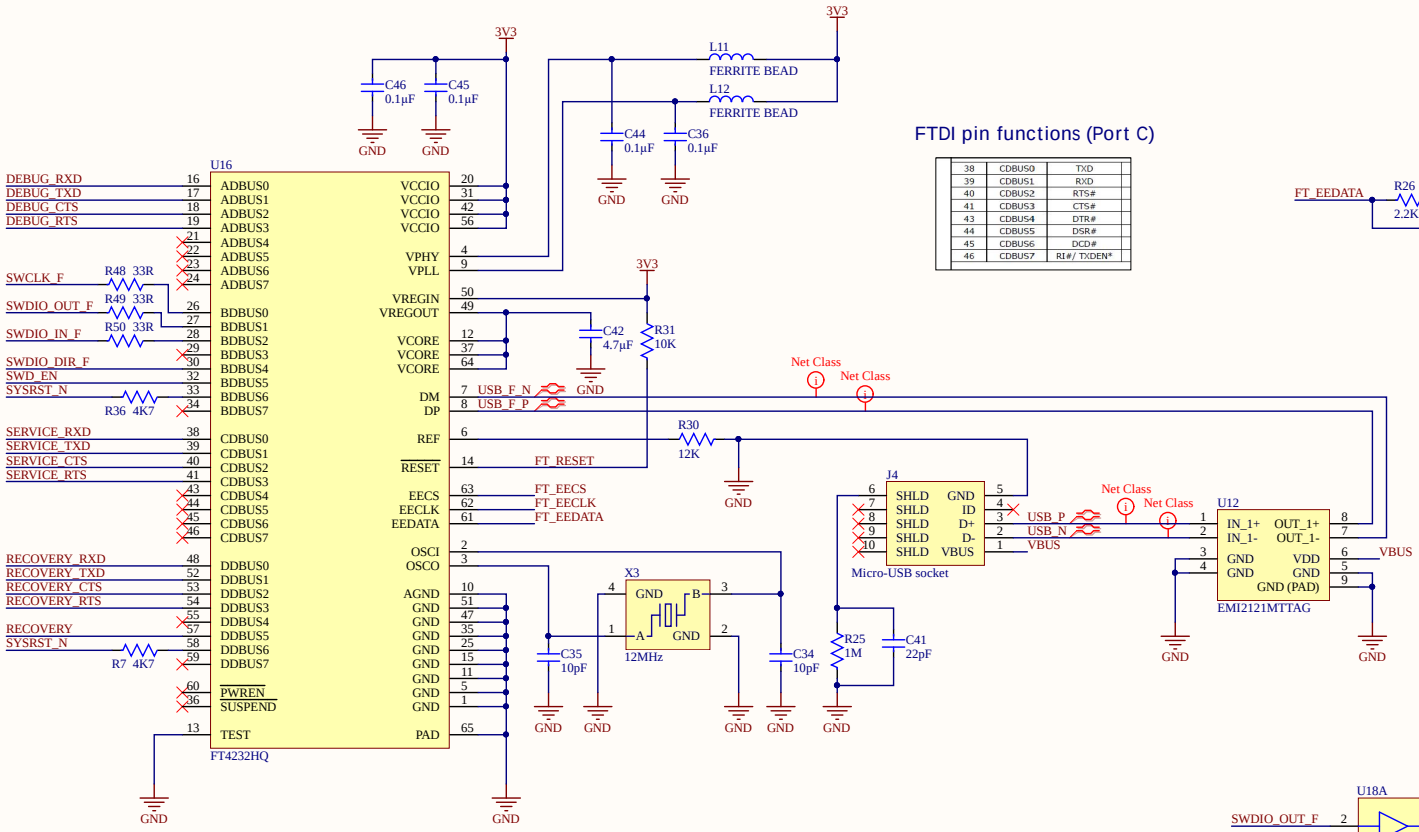


Microsoft Azure Sphere	NAME OF THIS PROJECT P-MT3620RDB-1-0.PrjPcb	TITLE OF THIS SHEET MT3620 RDB PIO	
FILE PATH P-MT3620RDB-1-0_PIO.SchDoc	LAST MODIFIED 09/04/2019	PAGE 2 OF 5	DRAWN BY Stuart Taylor / REVISION 1.0



Microsoft Azure Sphere	NAME OF THIS PROJECT P-MT3620RDB-1-0.PrjPcb		TITLE OF THIS SHEET MT3620 RDB PMU
FILE PATH P-MT3620RDB-1-0_PMU.SchDoc	LAST MODIFIED 09/04/2019	PAGE 3 OF 5	DRAWN BY Stuart Taylor / REVISION 1.0

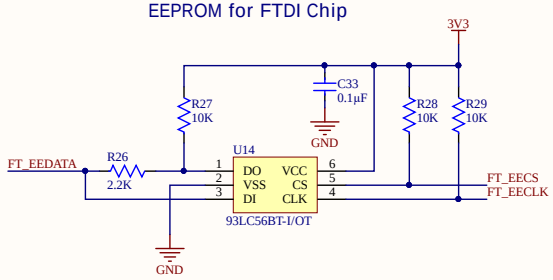
FTDI USB Interface



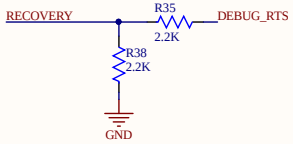
FTDI pin functions (Port C)

38	CDBUS0	TXD
39	CDBUS1	RXD
40	CDBUS2	RTS#
41	CDBUS3	CTS#
43	CDBUS4	DTR#
44	CDBUS5	DSR#
45	CDBUS6	DCD#
46	CDBUS7	RI#/ TXDEN*

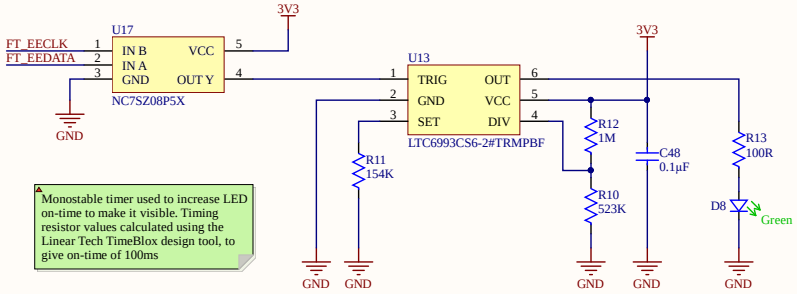
EEPROM for FTDI Chip



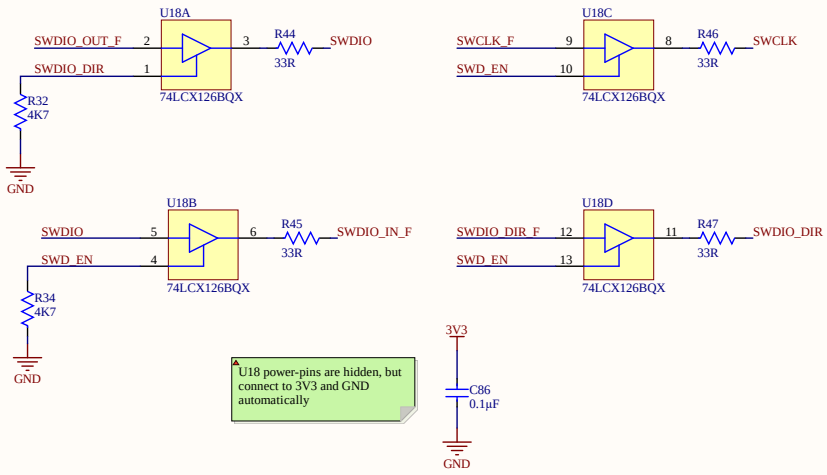
FTDI Recovery



FTDI Activity LED



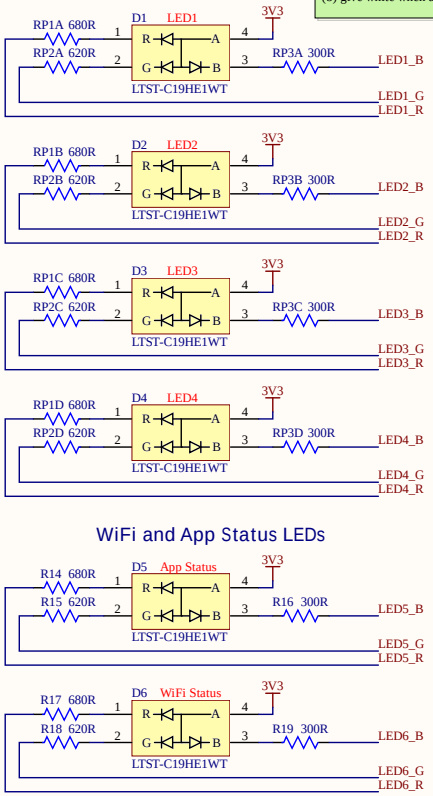
SWD_DIO Tri-state Buffer



Microsoft Azure Sphere	NAME OF THIS PROJECT P-MT3620RDB-1-0.PrjPcb		TITLE OF THIS SHEET MT3620 RDB FTDI
FILE PATH P-MT3620RDB-1-0_FTDI.SchDoc	LAST MODIFIED 09/04/2019	PAGE 4 OF 5	DRAWN BY Stuart Taylor / REVISION 1.0

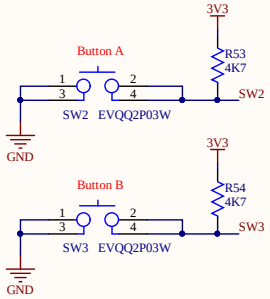
User LEDs

RGB LED resistor values chosen to (a) give subjectively equaly brightness for R, G and B, and (b) give white when all on

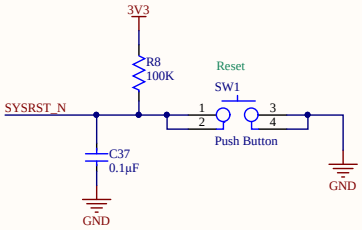


WiFi and App Status LEDs

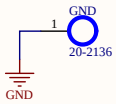
User Buttons



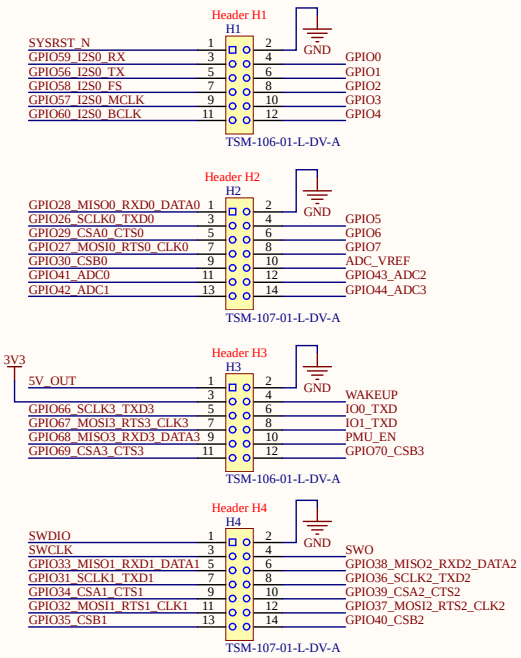
Reset Button



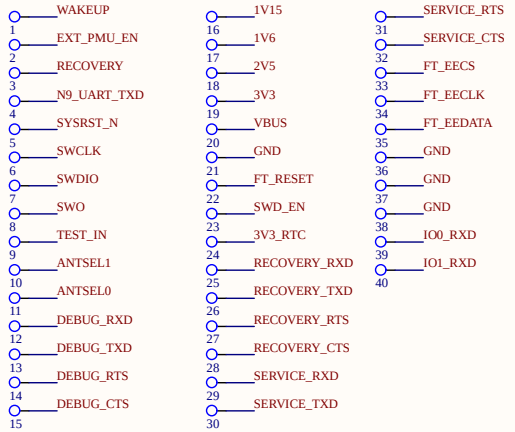
Ground Test Point



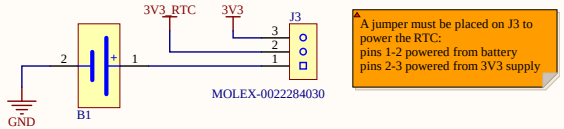
Interface Headers



Test Points



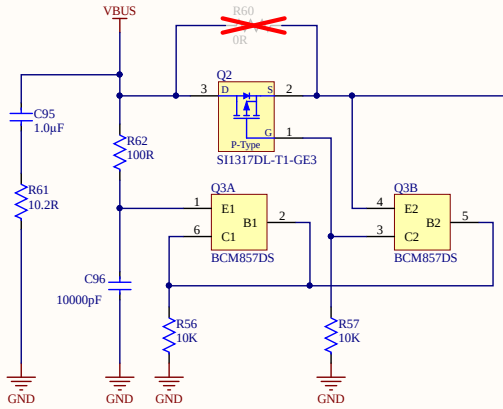
3V3 RTC Battery Supply

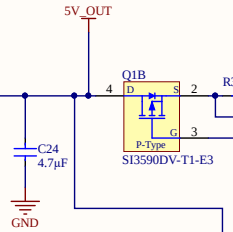


A jumper must be placed on J3 to power the RTC:
pins 1-2 powered from battery
pins 2-3 powered from 3V3 supply

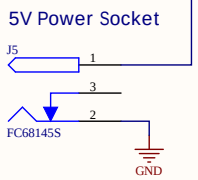
Negative-Voltage / Over-Voltage / Over-Current Protection

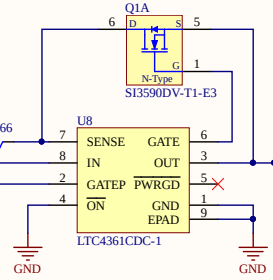
Ideal Diode





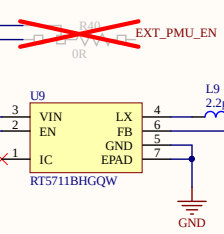
5V Power Socket





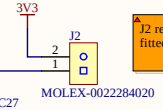
LTC4361CDC-1 is a reverse voltage, over-voltage and over-current protection chip. R3 set to give trip current of 0.75A. If trip current exceeded, input power must be removed to reset the device. If the voltage at the IN pin exceeds 5.8V, GATE is pulled low, switching off the load. When input voltage returns below 5.7V, GATE is pulled high restoring power to load.

3V3 Buck Converter



Vout = 0.6 (1+ R4/R5)
= 0.6 (1 + 4.518)
= 3.311V

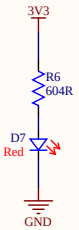
3V3 Isolator



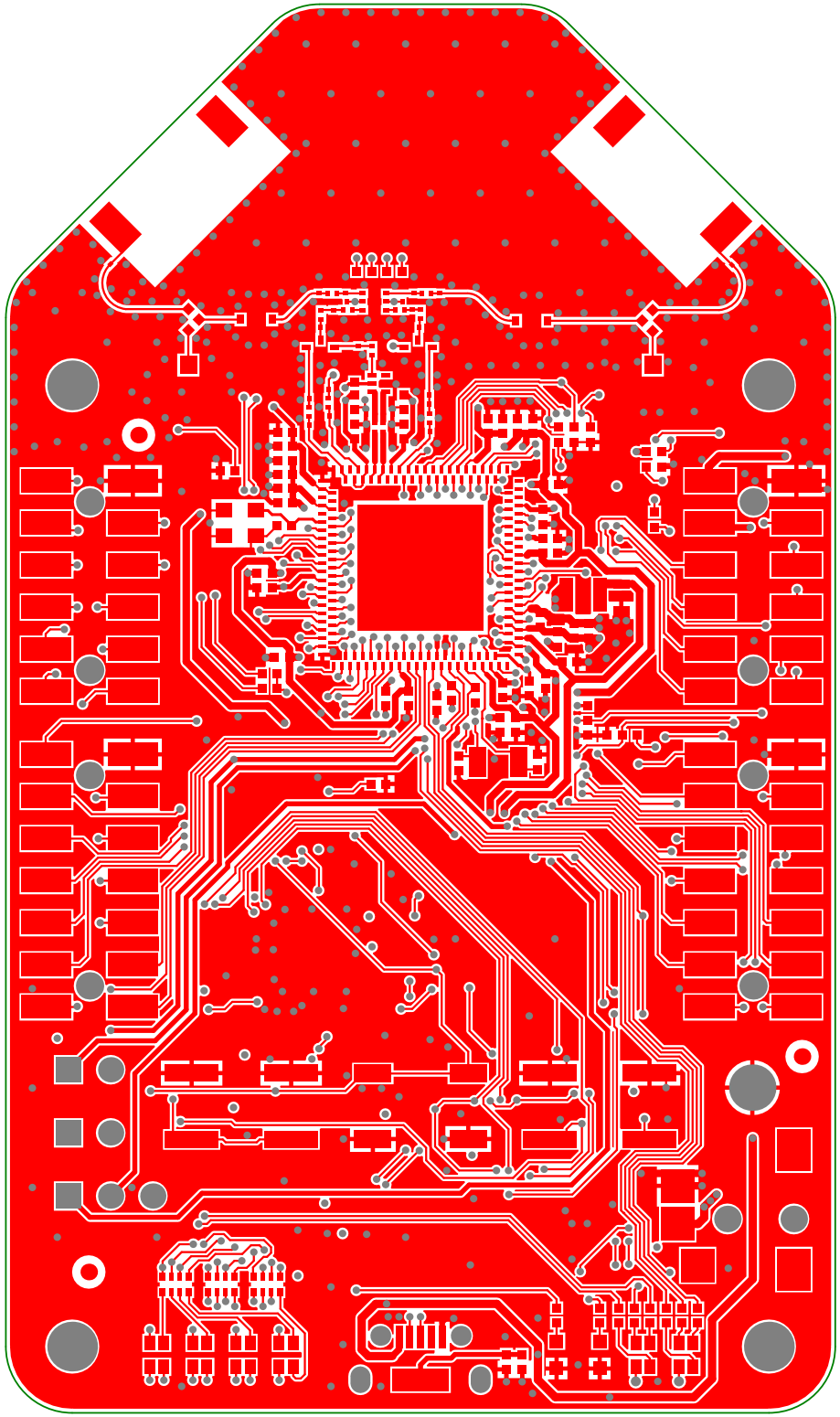
J2 requires a jumper fitted by default

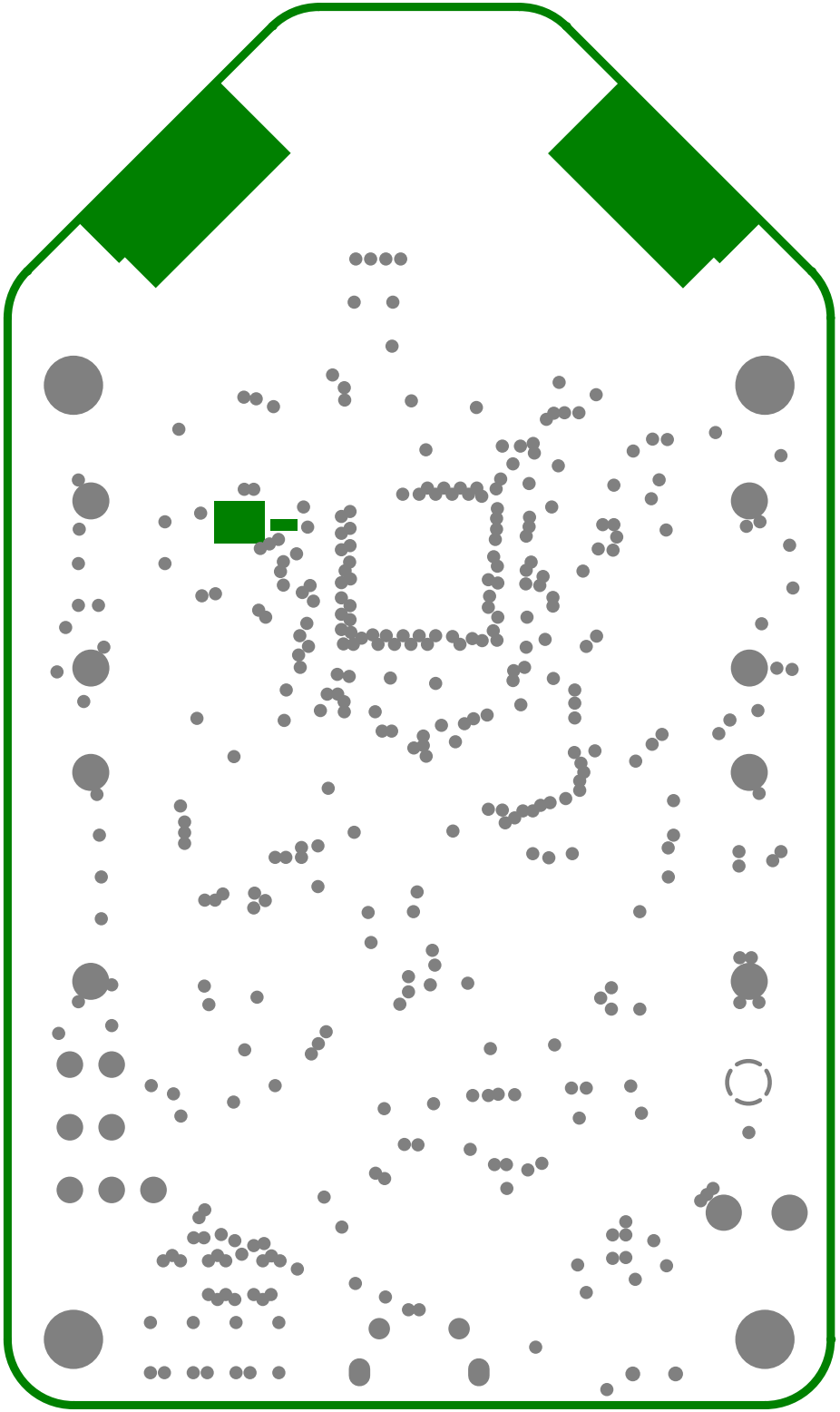
C27 is over-speced to handle high in-rush currents

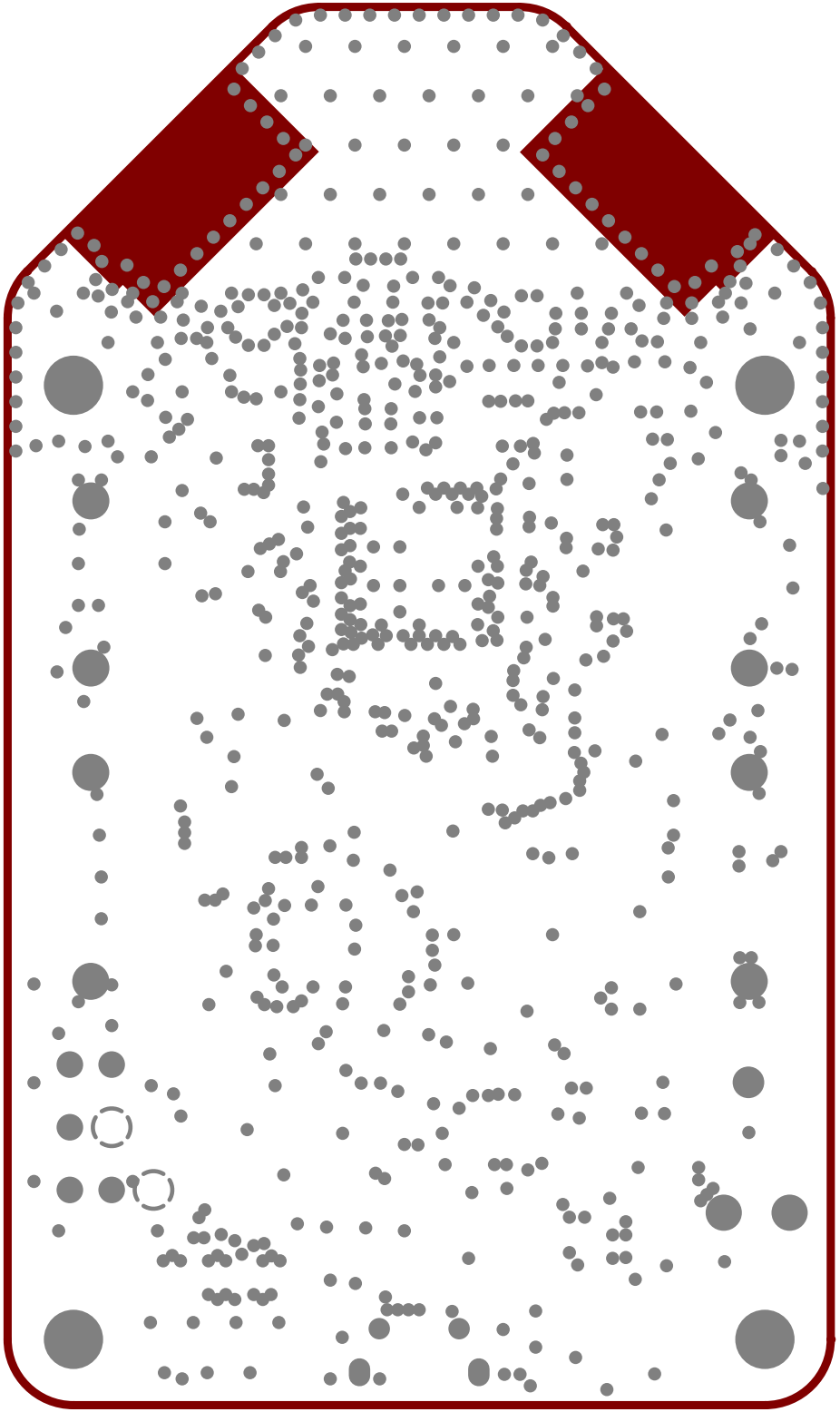
3V3 Power Supply LED

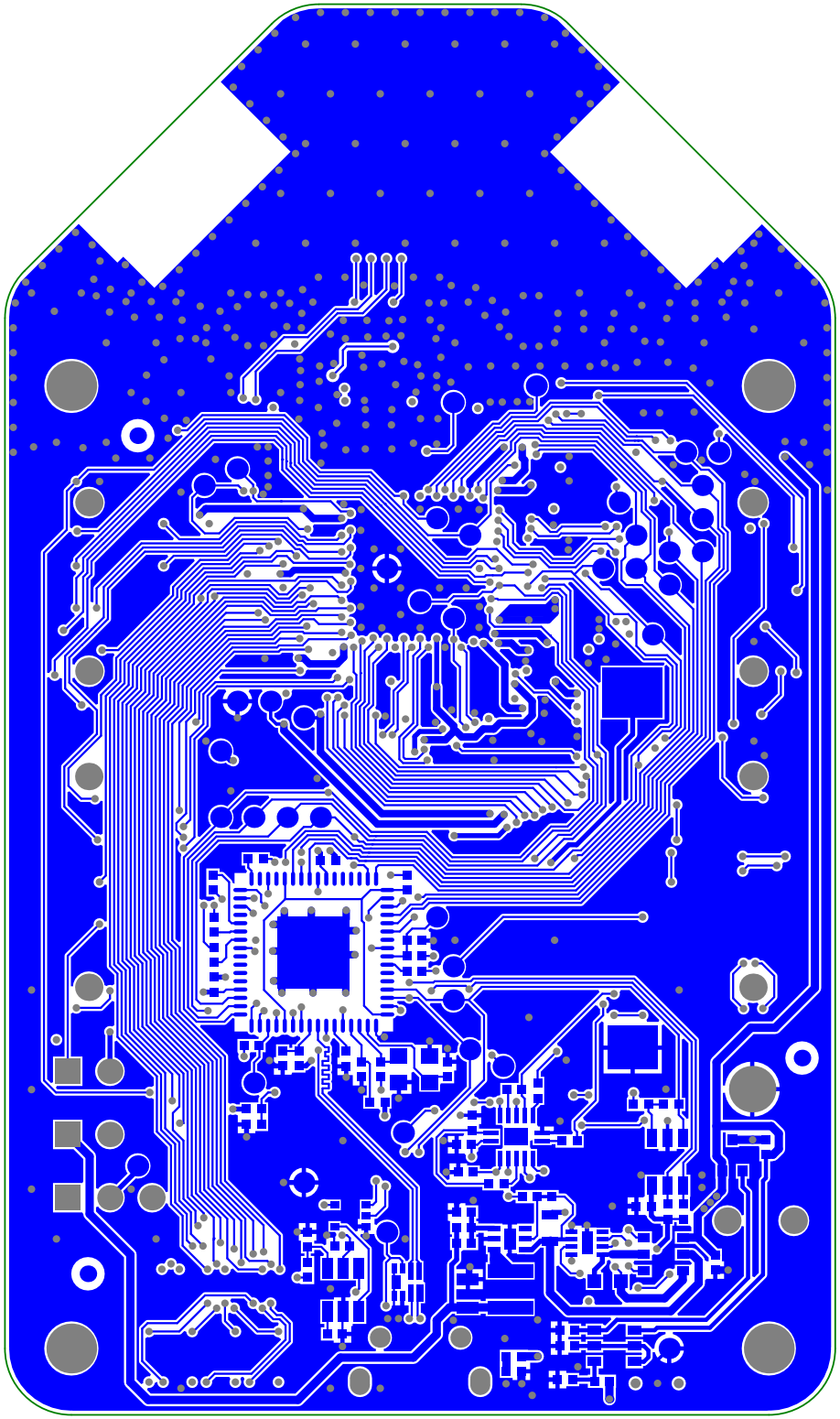


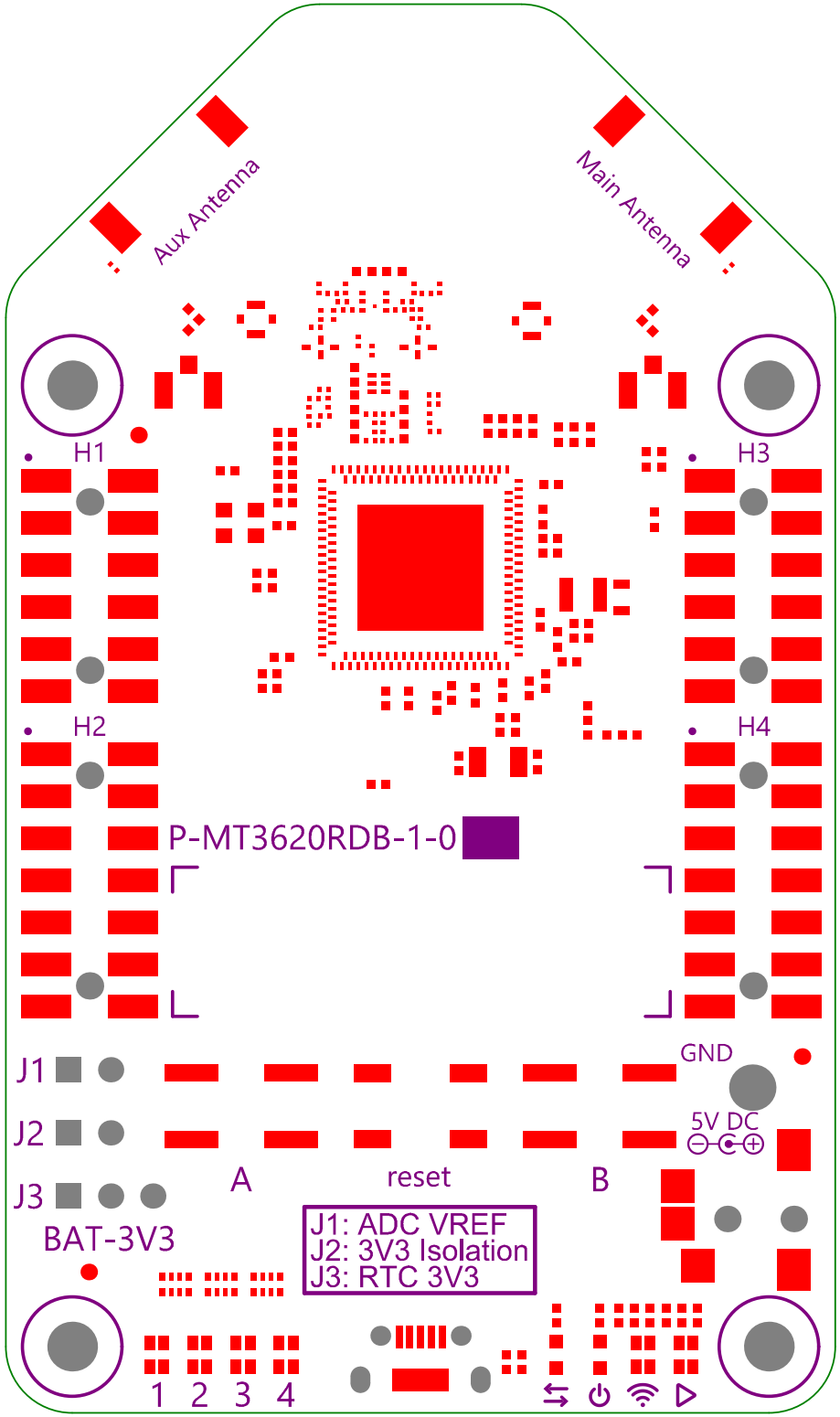
Microsoft Azure Sphere	NAME OF THIS PROJECT: P-MT3620RDB-1-0.PrjPcb	TITLE OF THIS SHEET: MT3620 RDB Dev	
FILE PATH: P-MT3620RDB-1-0_Dev.SchDoc	LAST MODIFIED: 09/04/2019	PAGE 5 OF 5	DRAWN BY: Stuart Taylor — REVISION: 1.0










Aux Antenna
Main Antenna
H1
H3
H2
H4
P-MT3620RDB-1-0
J1
J2
J3
BAT-3V3
GND
5V DC
A
reset
B
J1: ADC VREF
J2: 3V3 Isolation
J3: RTC 3V3
1 2 3 4