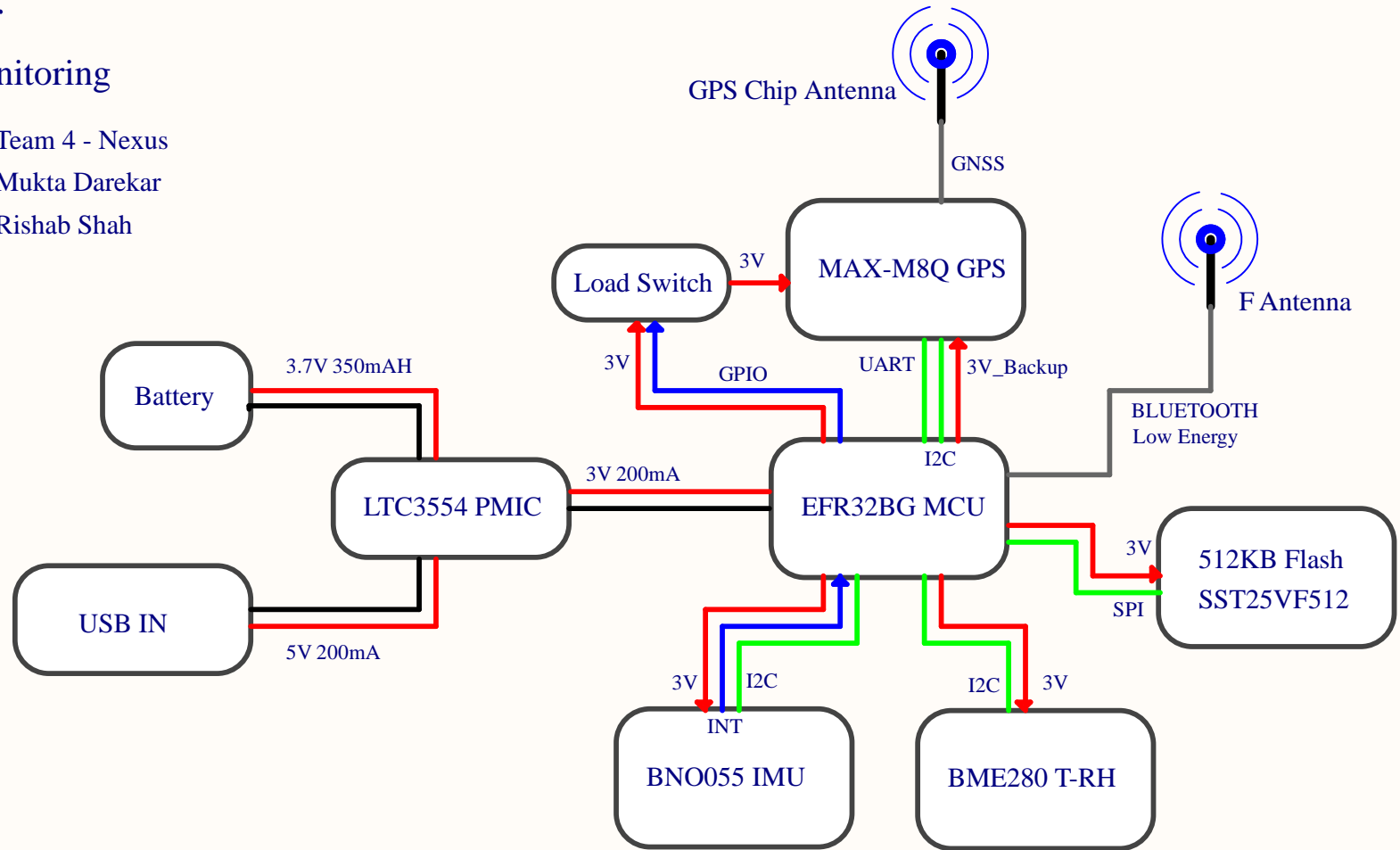


VaXinator

Payload Monitoring

Project Team: Team 4 - Nexus
Mukta Darekar
Rishab Shah



Notes Type used in all Schematic Files

△ Schematic Drawing Specific Notes

△ Circuit Specific Notes - Calculations for component values and important considerations

△ Layout checks specific Notes

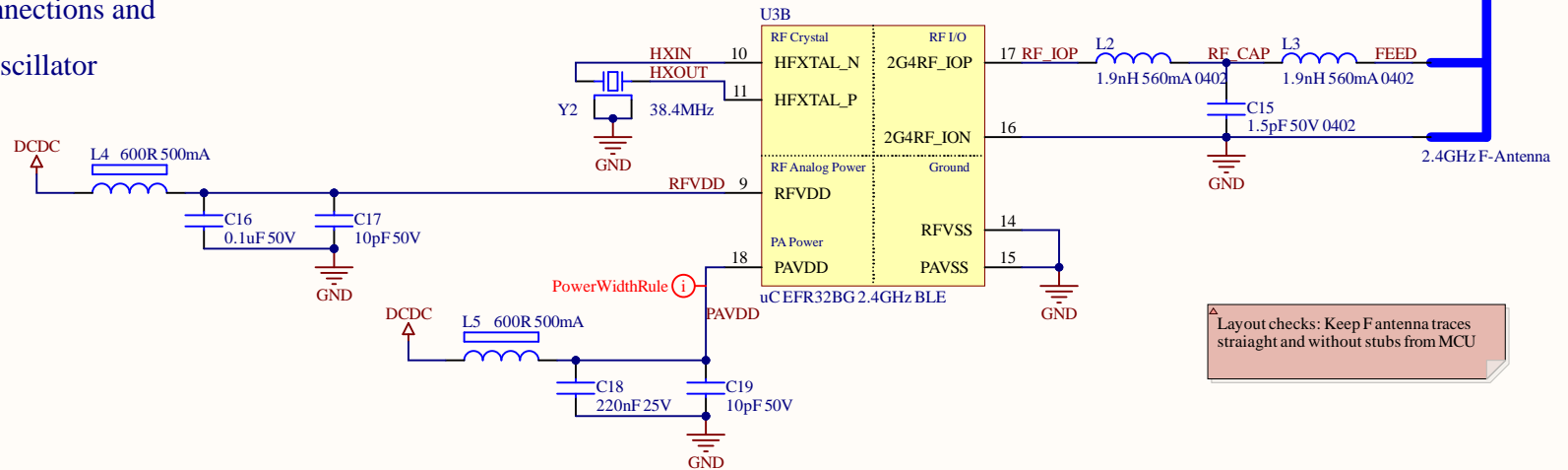
△ Modifications done while Layout designing Notes - Routing specific, Provision for testing

— RF Comm Bus
— +3VDD Supply
— MCU comm - I2C, UART, SPI
— GPIO OUT or IN
— Power Supply Bus

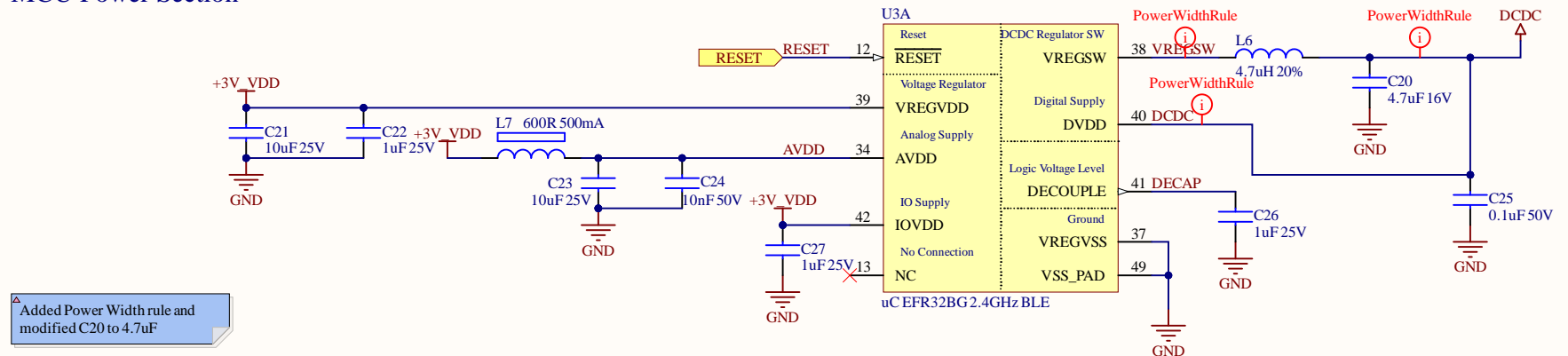
Title LPEDT_Project_VaXinator Block_Diagram.SchDoc		
Size Letter	Number 1	Revision 1
Date:	5/04/2022	Sheet of 1 of 4
File:	C:\Users\...\Block_Diagram.SchDoc	Drawn By: Mukta Darekar

MCU RF Section

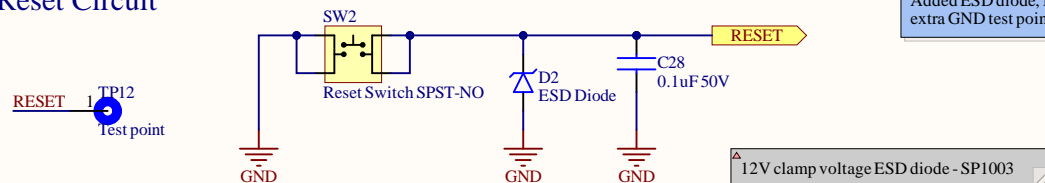
MCU Antenna connections and High Frequency Oscillator



MCU Power Section

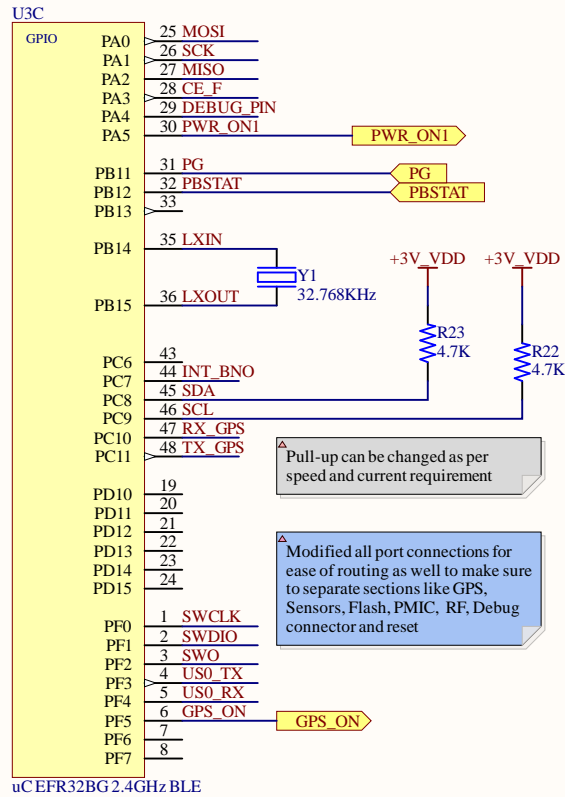


MCU Reset Circuit

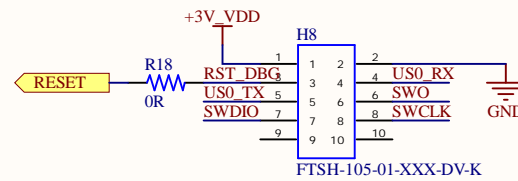


Title LPEDT_Project_VaXinator MCU_Power_and_RF_Section.SchDoc		
Size Letter	Number 1	Revision 2
Date: 5/04/2022	Sheet of 3 of 4	
File: C:\Users\...\MCU_Power_and_RF_Section.SchDoc	Schematics By: Mukta Darekar	

MCU GPIO connections



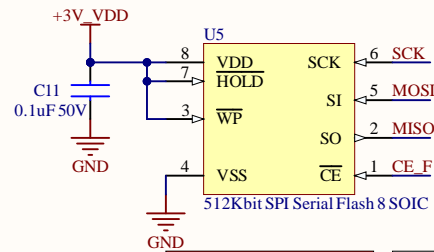
Debug connections



Important connections for programming purpose -> SWO, SWDIO, SWCLK, RESET, +3VDD, GND.

Removed PTI_FRAME, PTI_DATA as will not be used

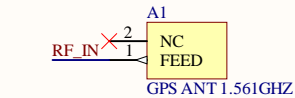
512KB SPI Flash



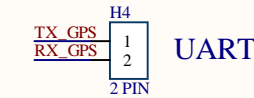
Addition of a CS test point -05/01/2022

Typical SPI connections

GPS Antenna

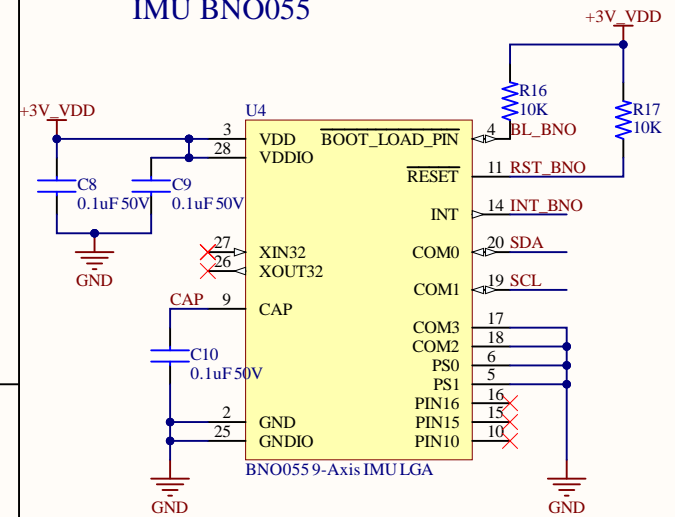


Layout checks:- make sure that GPS antenna is in opposite direction as F antenna



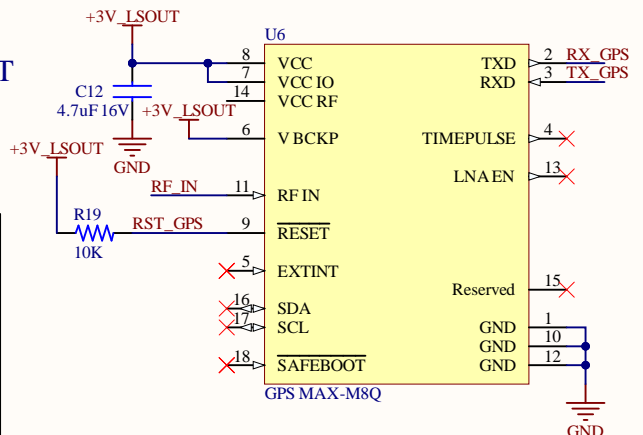
Added Header for debugging

IMU BNO055



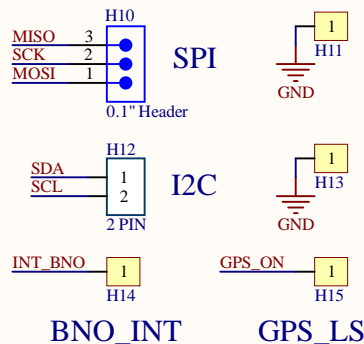
PS1 and PS0 -> GND for I2C selection
COM3 -> GND for I2C address = 0x28 (as per datasheet)

GPS Sensor - MAX-M8Q

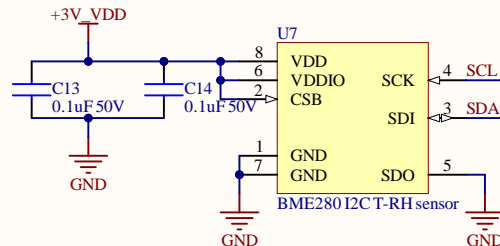


Removed RST_GPS from MCU connection and made Vbckp = +3V_LSOUT after considering application requirement and datasheet, Removed I2C connections as UART worked in SW

MCU Comm Test Points



T-RH Sensor BME280



SDO -> GND and CSB -> +3V as I2C selected (as per datasheet)

All components are 0603 package unless mentioned otherwise

Title					LPEDT_Project_VaXinator					Controller_Sensor_Section.SchDoc					
Size		Number		1		Revision		2							
Letter															
Date:		5/04/2022			Sheet of		4 of 4								
File:		C:\Users\A\Controller_Sensor_Section.Sch			Drawn By:		Rishab Shah								