

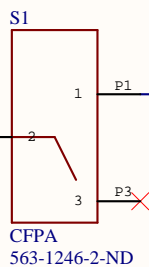
Title		
TI CC2650 Radio and MCU		
Size	Number	Revision
A3		1
Date:	6/27/2016	Sheet of
File:	C:\Users\...CC2650MCURadio.SchDoc	Drawn By: Craig Hesling



Title LoRaBug Main		
Size A3	Number	Revision 1
Date: 6/27/2016	Sheet of	
File: C:\Users\...Main.SchDoc	Drawn By: Craig Hesling	

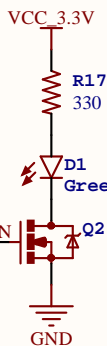
nRESET

Button General/Bootloader

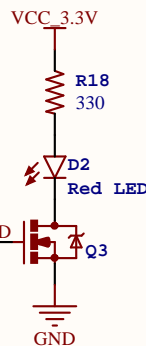


VCC_3.3V

LED_GREEN



LED_RED

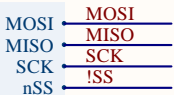


LED_RED

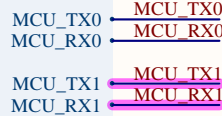
LED_GREEN

ADIO[0..7]

SPI



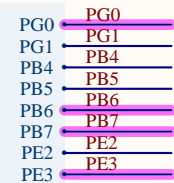
DUAL_UART



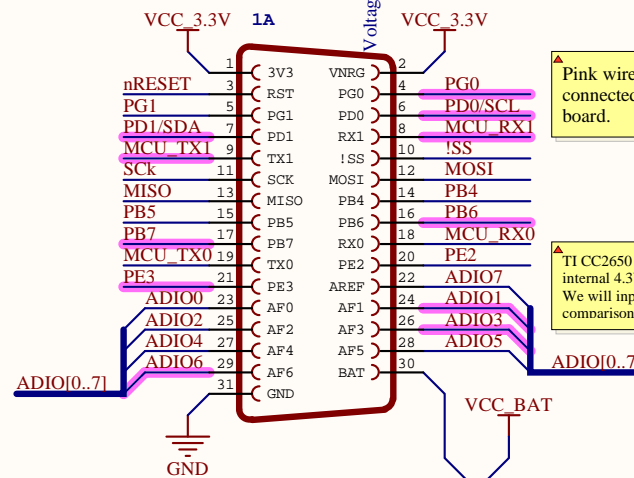
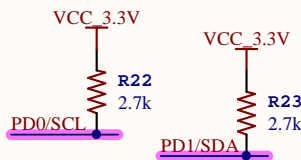
I2C



Extra/OC



I2C Pullups



Pink wires denote pins that are connected/used on the environment sensor board.

TI CC2650 doesn't have a dedicated AREF. It uses an internal 4.3V ref OR VDD5. We will input AREF as the last Analog pin for internal comparison.

Mount Points

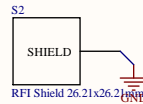


Title Peripherals		
Size A	Number	Revision 1
Date:	6/27/2016	Sheet of
File:	C:\Users\...\Peripherals.SchDoc	Drawn By: Craig Hesling

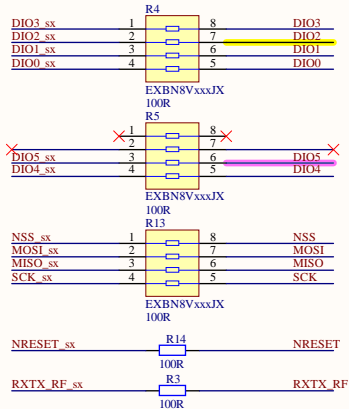
SX1276 RF Part:

Test Pads

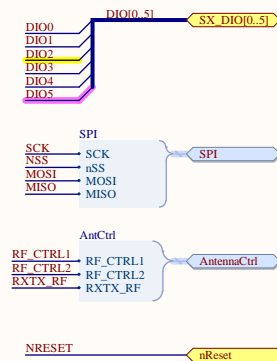
SCK → PR1
NSS → PR2
MISO → PR3
MOSI → PR4



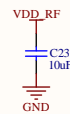
100Ohm Resistors:



Interface:



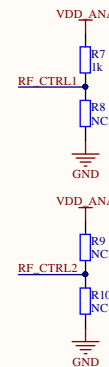
Power Input:



Power Select:

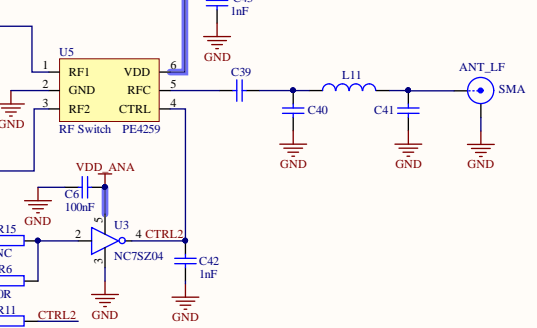


Pullup/Pulldowns:



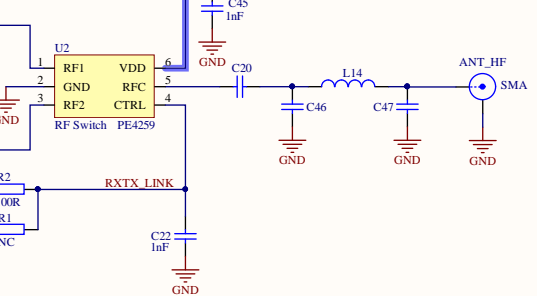
RFO_LF: +14dBm @ target 433MHz

RF Switch LF:



PA_BOOST: +20dBm @ target 915MHz

RF Switch HF:



Design Notes

- * PA_BOOST (Power Amplifier Boost) is configured for the high frequency(HF) side. This provides the +20dBm to the HF side. So, we do not use RFO_LF.
 - * The LF side can only do +14dBm with the RFO_LF.
 - * Saw filter U4 should be 16MHz wide and centered at 915MHz.
 - * Saw filter U6 should be centered at 433MHz.
 - * When RF Switch CTRL is high RF1 is selected.
- RF Switch Configuration:
* The given resistor configuration is for linked control of both RF switched through RF_CTRL1.
This is to mimic the controls of the Semtech mbed board.
RF_CTRL2 is connected to the SX's RXTX_RF to get feedback from the SX.
When RF_CTRL1 is high, both are in TX mode.

Title			
Semtech SX1276 Radio			
Size	Number		Revision
A3			1
Date:	6/27/2016	Sheet of	
File:	C:\Users\...SX1276Radio.SchDoc	Drawn By: Craig Hesling	

