

## Notes

This board allows the user to test all of the features of the XBee TH modules.

The following peripherals are used on this board to test different features:

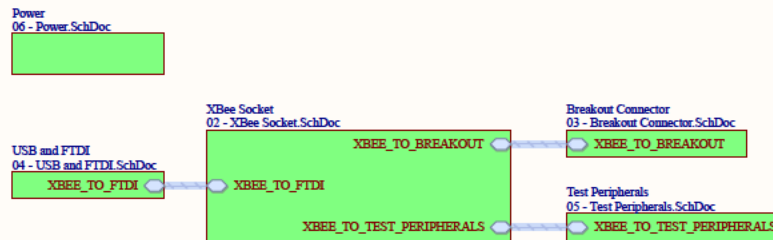
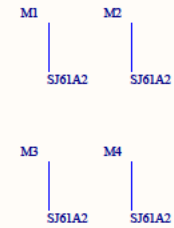
- USB-C Connector
- Powers the whole board with 5V
- Provides a simple UART communication with the module that is compatible with XCTU
- Dip switches are provided on each UART line from the USB which allows the user to disconnect any of these lines if he/she wants to test the UART lines with other peripherals
- Battery Connector
- Can power the whole board with 2V to 5V so long as the USB-C Connector is not plugged in
- This allows the user to easily power the module in a portable setting
- XBee Current Measurement
- Allows the user to measure the current draw of the XBee in any mode
- Easy to use interface: Switch the current measure switch to the "Active" position and place a current meter probe across the current measure header
- LEDs
- LED indicators for the following lines: UART DOUT, UART DIN, ON/#SLP/DIO9, Conn Status/DIO5, and RSSI/PWM0/DIO10
- Allows the user to easily test the GPIOs
- Buttons
- Buttons for the following lines: Reset and Comm/AD0/DIO0
- Allows the user to easily reset and commission the XBee module
- Grove Connector
- Grove connector connects to pins 19 and 7 on the XBee module
- This allows for I2C, ADC, and DIO testing on the Grove.
- Breakout Connector
- 40-pin external header that connects to power, ground, and each XBee pin
- This allows the user to connect to any XBee pin easily to test the XBee with other peripherals

## PCB and Stencil

PCB1



## Rubber Feet (Bottom)

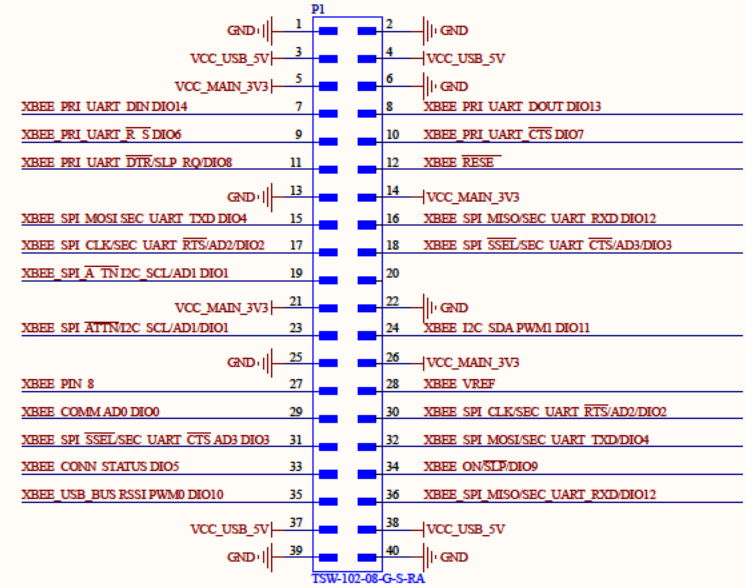
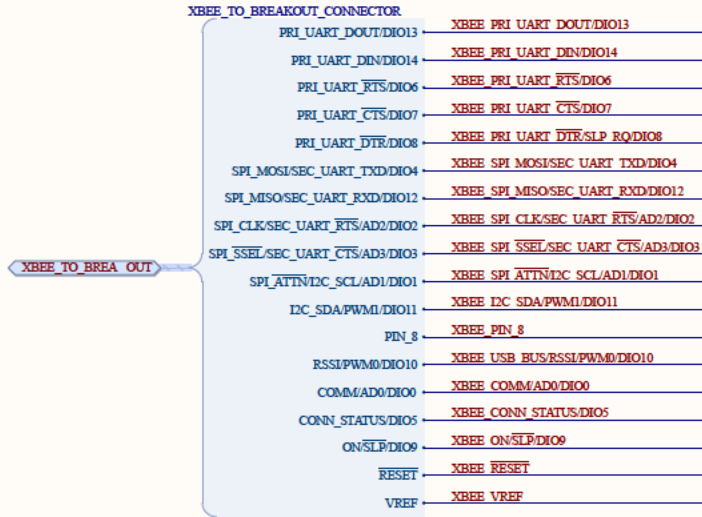


|   |              |                    |  |  |
|---|--------------|--------------------|--|--|
| Title <b>Block Diagram</b>                    |              | Digi International |  |  |
| Variation 55001994-02                         | Revision B   |                    |  |  |
| Engineer                                      | Sheet 1 of 6 |                    |  |  |
| Description PCA_XBIB USB-C TH Base_Direct USB |              |                    |  |  |

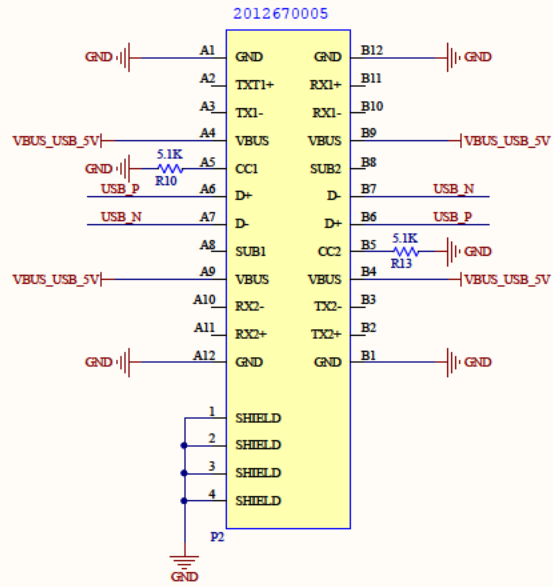


# Breakout Connector

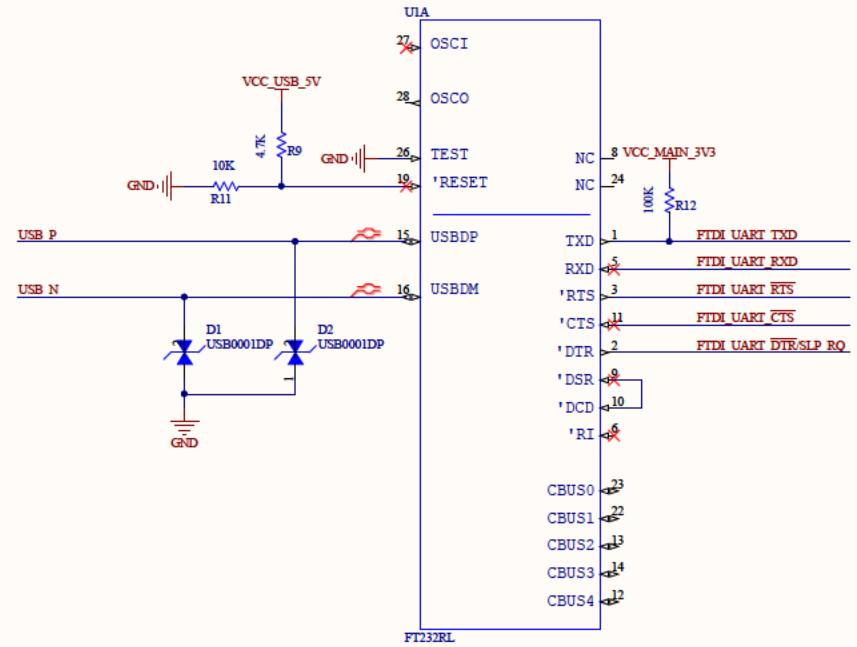
The Breakout Connector is connected to every pin on the XBee module and allows the user to test the pins on separate boards.



## USB Type C Connector

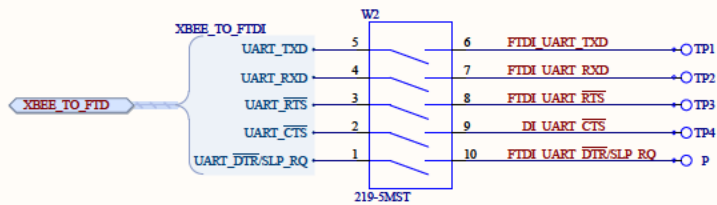


## FT232R FTDI Chip (USB to UART)



## FTDI Dip Switch

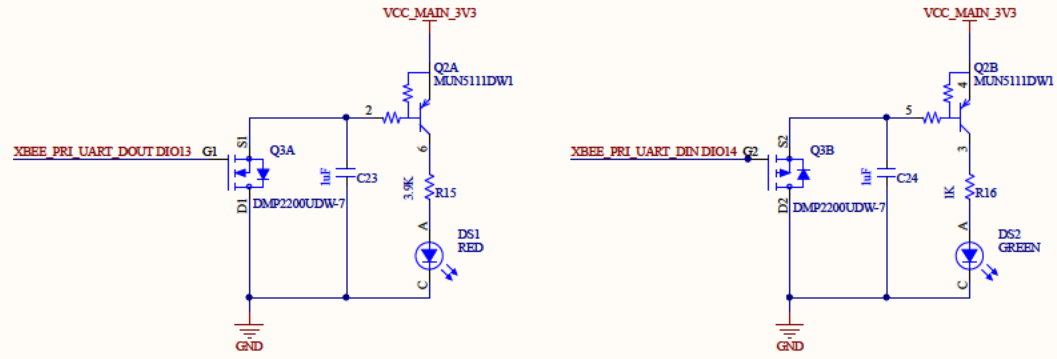
This dip switch allows the user to disconnect any of the primary UART lines from the FTDI chip if external testing needs to be done on these lines.



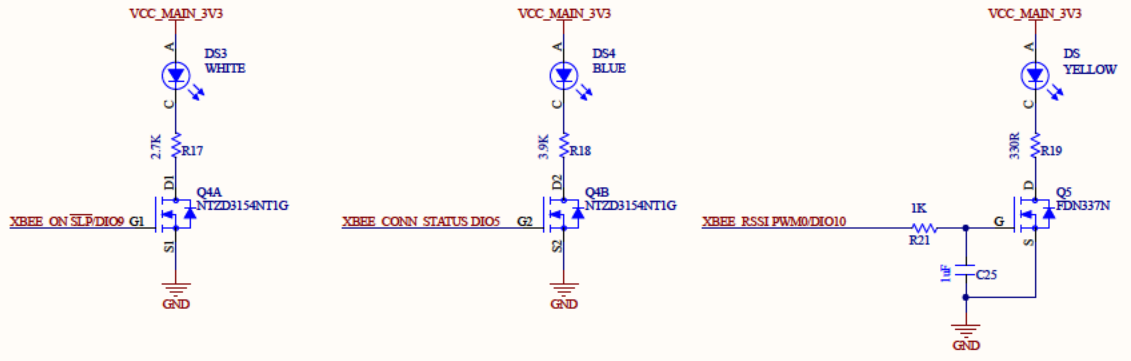
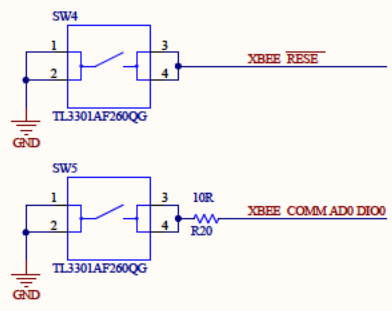
|   |              |                    |
|---|--------------|--------------------|
| Title <b>USB and FTDI</b>                     |              | Digi International |
| Variation 55001994-02                         | Revision B   |                    |
| Engineer                                      | Sheet 4 of 6 |                    |
| Description PCA_XBIB USB-C TH Base_Direct USB |              |                    |

| XBEE_TO_TEST_PERIPHERALS |                               |
|--------------------------|-------------------------------|
| RESET_BUTTON             | XBEE RESET                    |
| COMM/AD0/DIO0_BUTTON     | XBEE COMM/AD0/DIO0            |
| DOUT_LED                 | XBEE PRI UART DOUT/DIO13      |
| DIN_LED                  | XBEE PRI UART DIN/DIO14       |
| ON/SLP/DIO9_LED          | XBEE ON/SLP/DIO9              |
| CONN_STATUS/DIO5_LED     | XBEE CONN_STATUS/DIO5         |
| RSSI/PWM/DIO10_LED       | XBEE RSSI/PWM/DIO10           |
| I2C_SCL_SENSOR/GROVE     | XBEE SPI_ATT/I2C_SCL/AD1/DIO1 |
| I2C_SDA_SENSOR/GROVE     | XBEE I2C_SDA/PWM1/DIO11       |

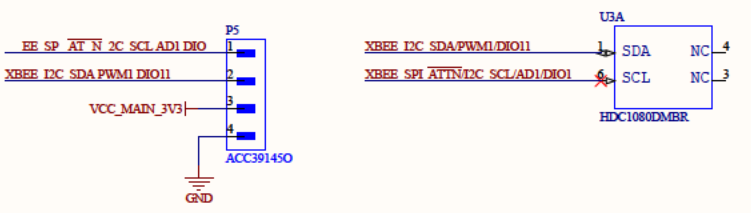
### LEDs



### Buttons



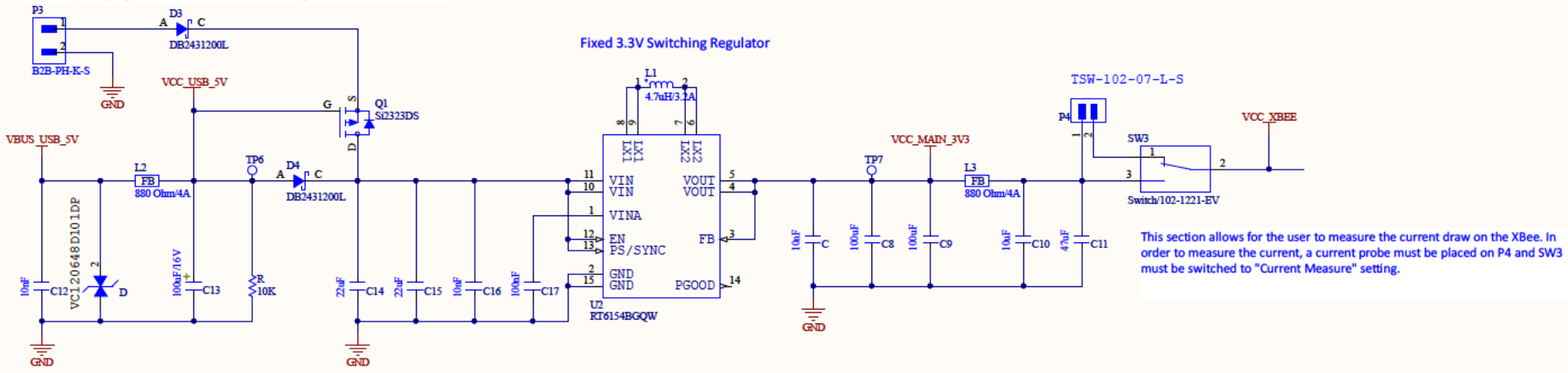
### I2C Grove and Sensor



### 3.3V Supply

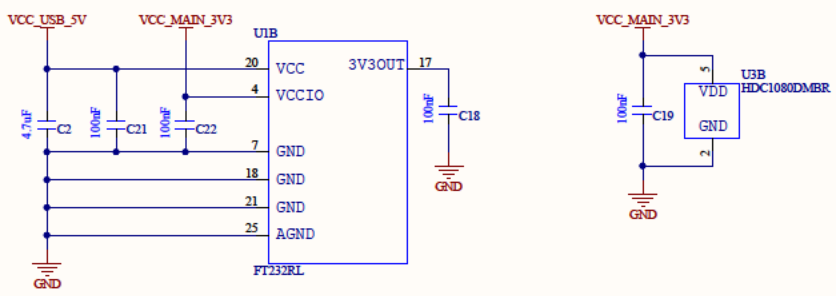
The supply on the development board will either come from the USB connection or from a battery connection  
 If both are plugged in, the USB will power the board  
 The battery will plug into the P3 header and can range from 2V to 5V

Place J6 on P4  
 390088-02



This section allows for the user to measure the current draw on the XBee. In order to measure the current, a current probe must be placed on P4 and SW3 must be switched to "Current Measure" setting.

### IC Power



|   |              |                    |  |
|---|--------------|--------------------|--|
| Title <b>Power</b>                            |              | Digi International |  |
| Variation 55001994-02                         | Revision B   |                    |  |
| Engineer                                      | Sheet 6 of 6 |                    |  |
| Description PCA_XBIB USB-C TH Base_Direct USB |              |                    |  |