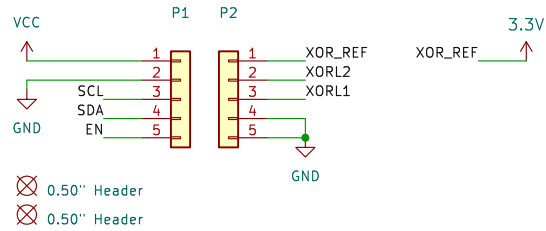


# Inertial Measurement Unit (IMU) Stamp

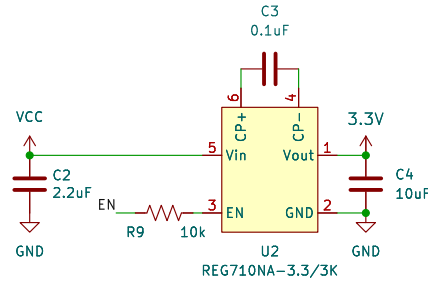
Vin: 1.8–5.5V  
Imax: calculate

## I/O

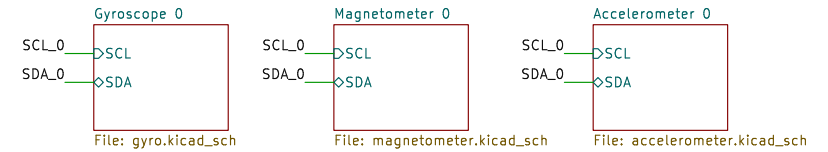
2 sides of castellated holes on the edge of board



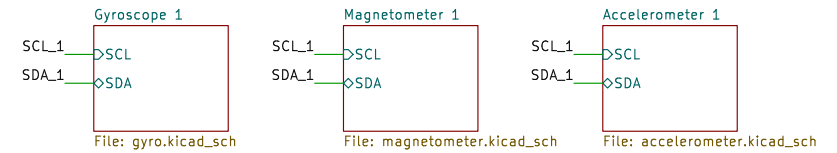
## 3.3V Regulator



## BLOCK 0

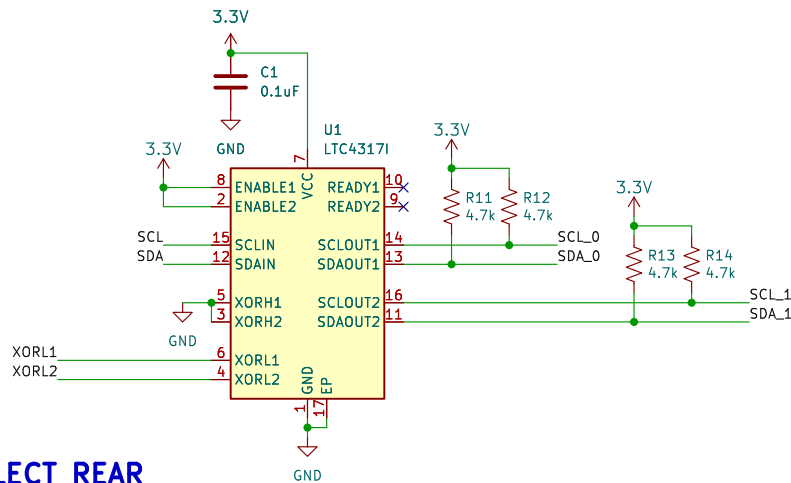


## BLOCK 1



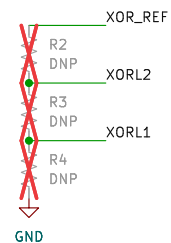
## I2C TRANSLATOR

see LTC4317 datasheet for information on setting the addresses of these.



## I2C ADDRESS SELECT REAR

For proto/breadboard use without a PCB to set address.



Sheet: /  
File: imu-stamp.kicad\_sch

### Title:

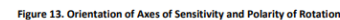
Size: A4  
KiCad E.D.A. kicad 7.0.1

Date:

Rev:  
Id: 1/7

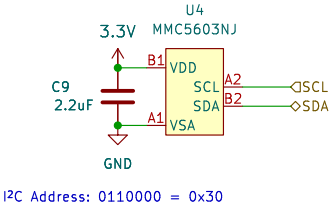
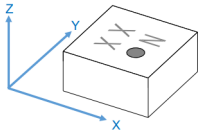


Figure 13 shows the orientation of the axes of sensitivity and the polarity of rotation. Note the pin 1 identifier (•) in the figure.

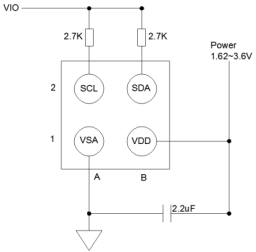


Rev:  
Id: 2/7

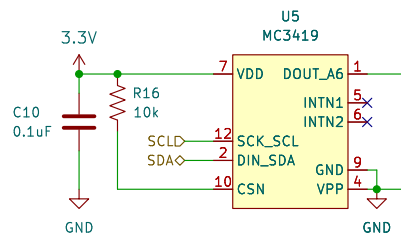
RELATIONSHIP BETWEEN THE MAGNETIC FIELD AND OUTPUT CODE  
The measurement data increases as the magnetic flux density increases in the arrow directions.



EXTERNAL CIRCUITRY CONNECTION  
The MMC5603NJ can operate from a single 1.62V to 3.6V supply. The circuit connection diagrams below illustrate power supply connection options.



<TOP VIEW>  
Connection Block Diagram



I<sup>2</sup>C Address: 1001100 = 0x4C

programmable interrupt:  
set to open-drain

### 3.2 PACKAGE ORIENTATION

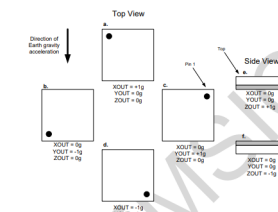


Figure 3. Package Orientation

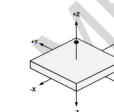
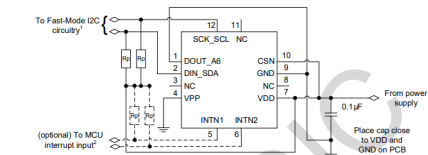


Figure 4. Package Axis Reference

### 3.4 TYPICAL APPLICATION CIRCUITS



NOTE<sup>1</sup>: R<sub>p</sub> are typically 4.7kΩ pullup resistors to VDDIO, per I2C specification. When VDDIO is powered down, DIN\_SDA and SCK\_SCL will be driven low by internal ESD diodes.  
NOTE<sup>2</sup>: Attach typical 4.7kΩ pullup resistor if INTN is defined as open-drain.

Figure 5. Typical I2C Application Circuit

Sheet: /Accelerometer 0/  
File: accelerometer.kicad\_sch

**Title:**

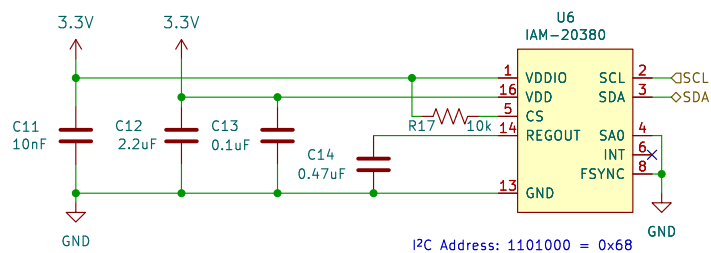
Size: A4

Date:

KiCad E.D.A. kicad 7.0.1

**Rev:**

Id: 4/7



## 10.1 ORIENTATION OF AXES

Figure 13 shows the orientation of the axes of sensitivity and the polarity of rotation. Note the pin 1 identifier (•) in the figure.

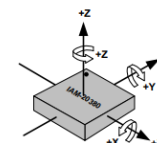
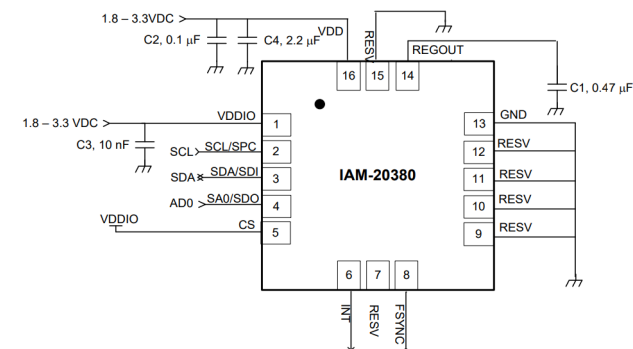


Figure 13. Orientation of Axes of Sensitivity and Polarity of Rotation

## TYPICAL OPERATING CIRCUIT



Sheet: /Gyroscope 0/  
File: gyro.kicad\_sch

### Title:

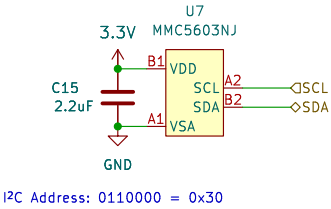
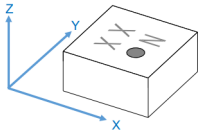
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KiCad E.D.A. kicad 7.0.1

Date:

Rev:

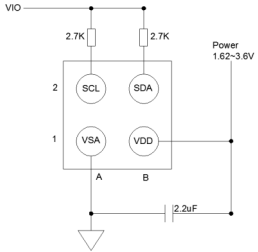
Id: 5/7

RELATIONSHIP BETWEEN THE MAGNETIC FIELD AND OUTPUT CODE  
The measurement data increases as the magnetic flux density increases in the arrow directions.

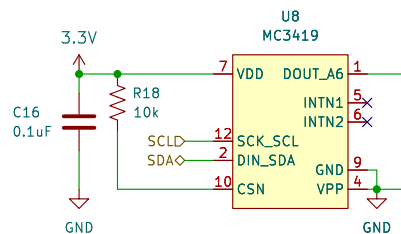


EXTERNAL CIRCUITRY CONNECTION

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<TOP VIEW>  
Connection Block Diagram



I<sup>2</sup>C Address: 1001100 = 0x4C

programmable interrupt:  
set to open-drain

### 3.2 PACKAGE ORIENTATION

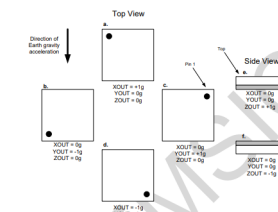


Figure 3. Package Orientation

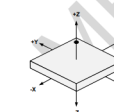
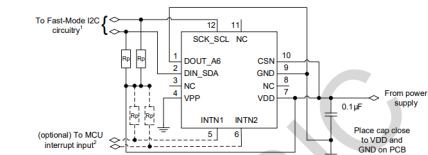


Figure 4. Package Axis Reference

### 3.4 TYPICAL APPLICATION CIRCUITS



NOTE<sup>1</sup>: Rp are typically 4.7kΩ pullup resistors to VDDIO, per I2C specification. When VDDIO is powered down, DIN\_SDA and SCK\_SCL will be driven low by internal ESD diodes.  
NOTE<sup>2</sup>: Attach typical 4.7kΩ pullup resistor if INTN is defined as open-drain.

Figure 5. Typical I2C Application Circuit

Sheet: /Accelerometer 1/  
File: accelerometer.kicad\_sch

**Title:**

Size: A4

Date:

KiCad E.D.A. kicad 7.0.1

**Rev:**

Id: 7/7