CY8CKIT-028-SENSE IoT sense expansion kit

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Drawing Numbers

PCBA	121-60608-01
PCB	600-60608-01
FAB DRW	610-60608-01
ASSY DRW	620-60608-01
SCH DRW	630-60608-01

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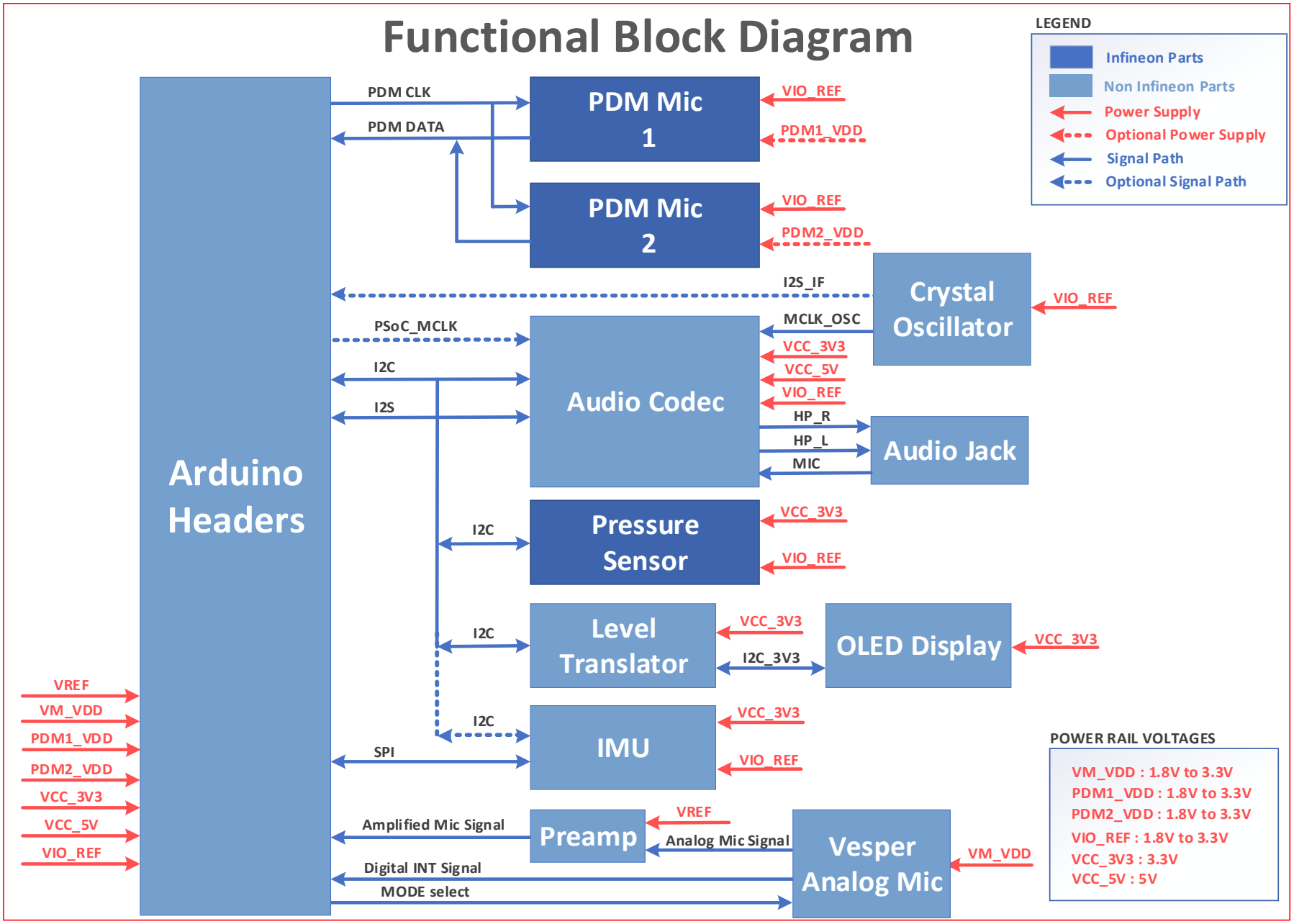
SCH Title : CY8CKIT-028-SENSE IoT sense expansion kit

Page Title: Title Page

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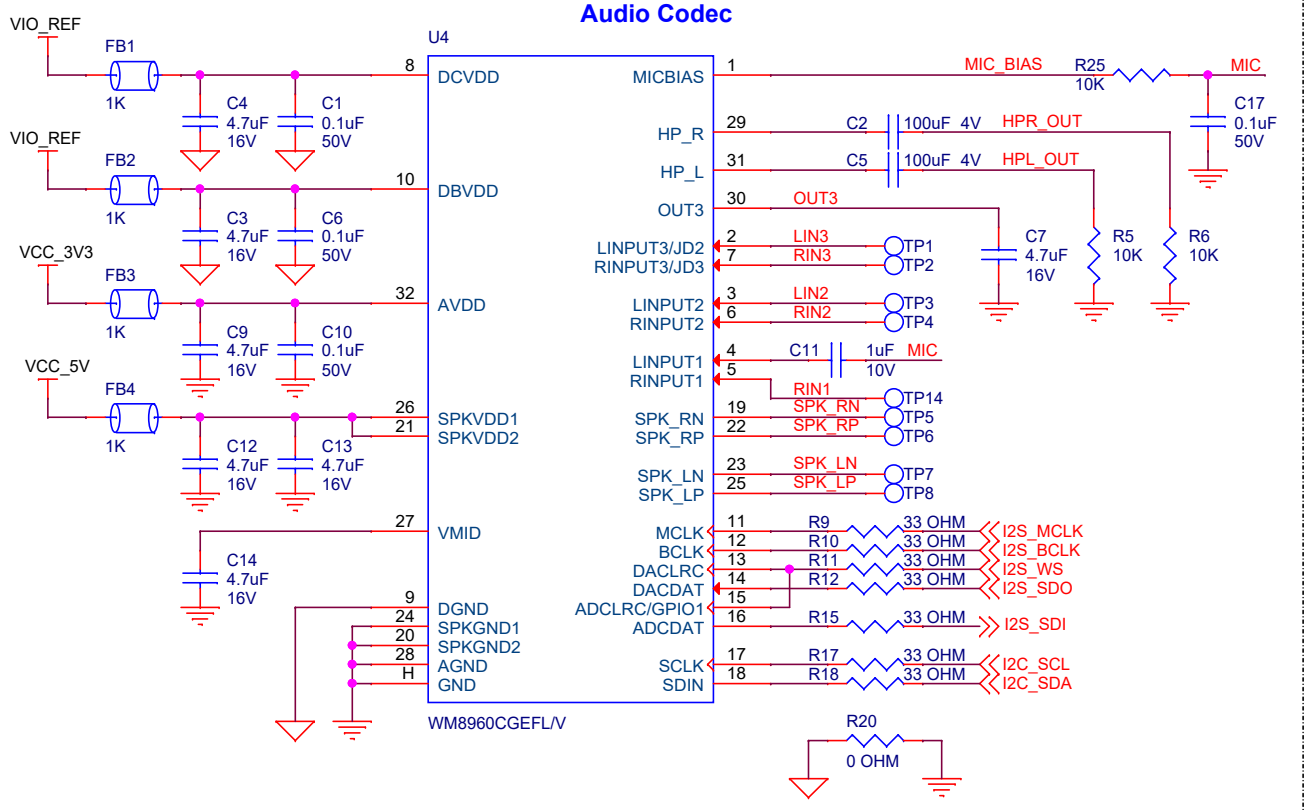
Functional Block Diagram



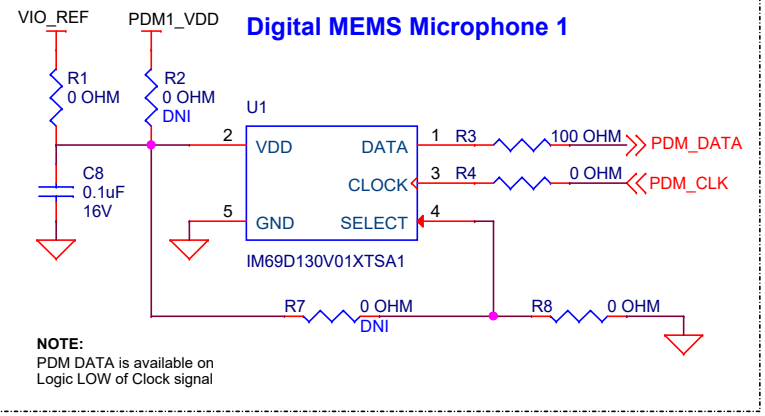
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SCH Title : CY8CKIT-028-SENSE IoT sense expansion kit				
Page Title: Functional Block Diagram				
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Audio Codec

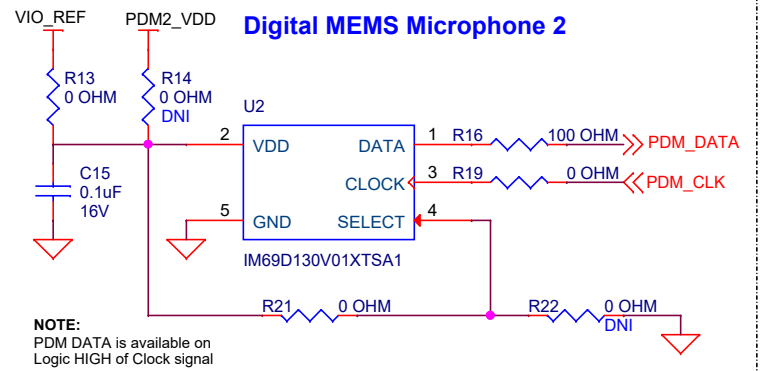


Digital MEMS Microphone 1



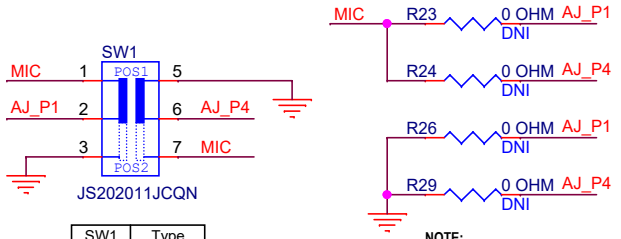
NOTE:
PDM DATA is available on
Logic LOW of Clock signal

Digital MEMS Microphone 2



NOTE:
PDM DATA is available on
Logic HIGH of Clock signal

Audio Jack Selection Switch

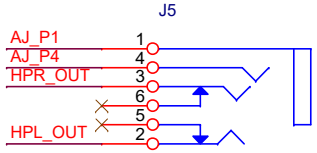


SW1	Type
POS1	AHJ
POS2	OMTP

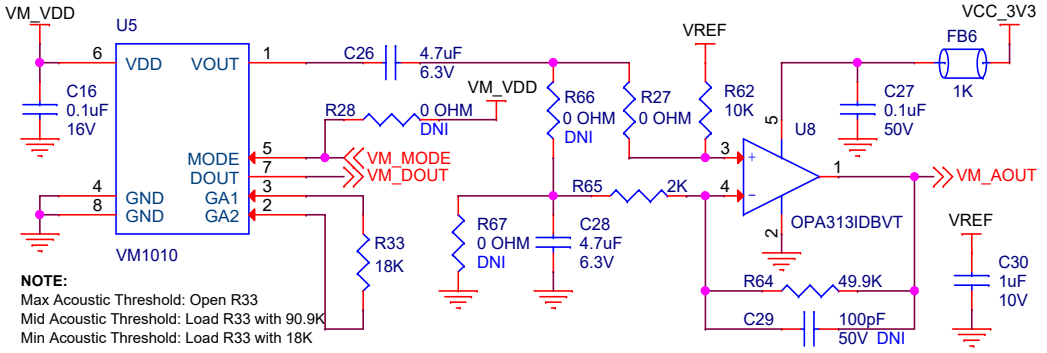
NOTE:
Default Position is POS1 (AHJ)

NOTE:
For AHJ Type:
Load: R23, R29
No Load: R24, R26
For OMTP Type:
Load: R24, R26
No Load: R23, R29

Audio Jack



Piezoelectric MEMS Analog Microphone and Preamplifier



NOTE:
Max Acoustic Threshold: Open R33
Mid Acoustic Threshold: Load R33 with 90.9K
Min Acoustic Threshold: Load R33 with 18K

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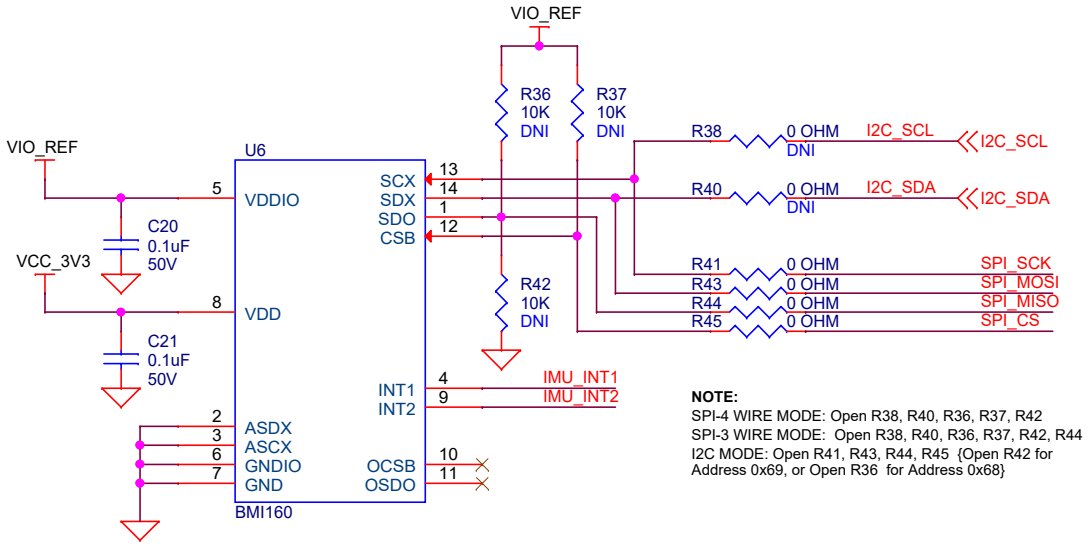
SCH Title : CY8CKIT-028-SENSE IoT sense expansion kit

Page Title: Audio Codec and PDM Mic interface

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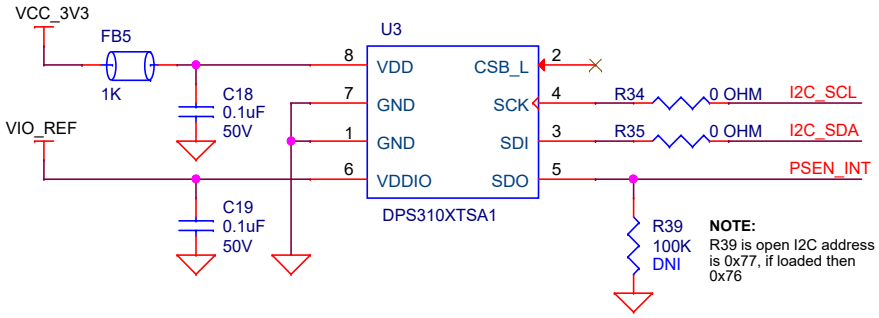
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6-axis Inertial Mesurement Unit



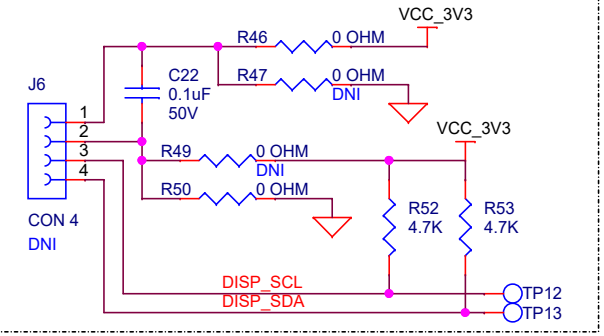
NOTE:
SPI-4 WIRE MODE: Open R38, R40, R36, R37, R42
SPI-3 WIRE MODE: Open R38, R40, R36, R37, R42, R44
I2C MODE: Open R41, R43, R44, R45 {Open R42 for Address 0x69, or Open R36 for Address 0x68}

Digital Barometric Pressure Sensor

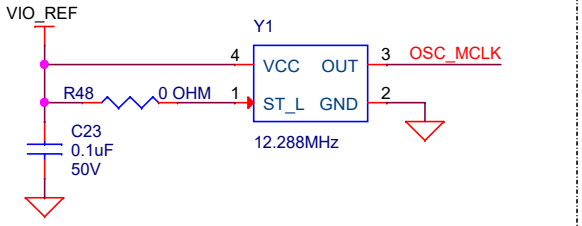


NOTE:
R39 is open I2C address is 0x77, if loaded then 0x76

OLED Display I2C Interface



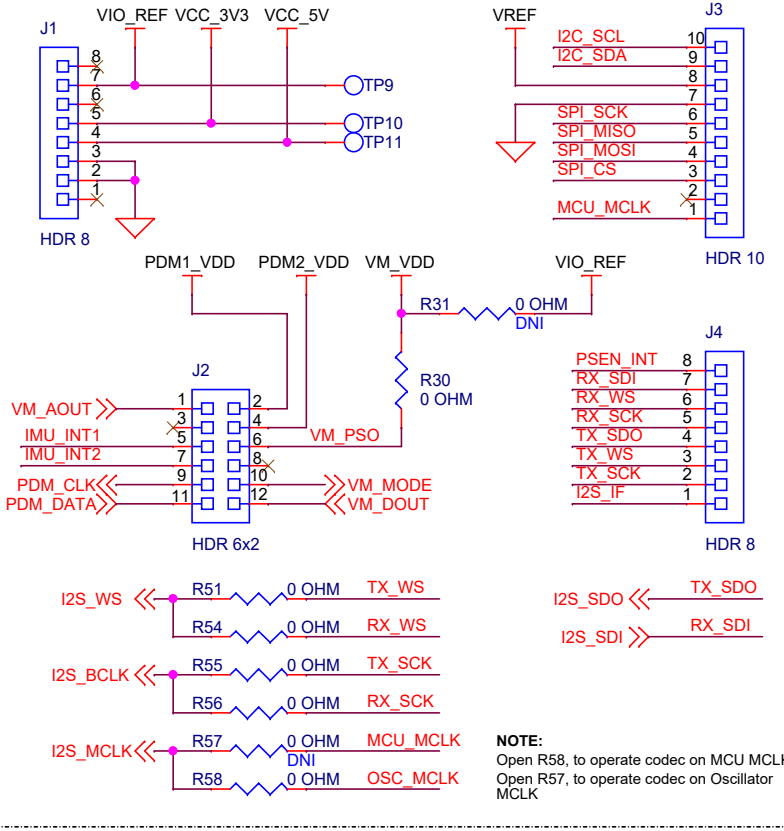
MCLK Crystal Oscillator



NOTE:
Load R59, to feed the OSC MCLK to MCU I2S peripheral

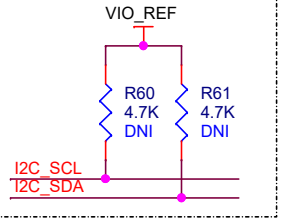
OSC_MCLK R59 0 OHM DNI I2S_IF

Arduino Pinout

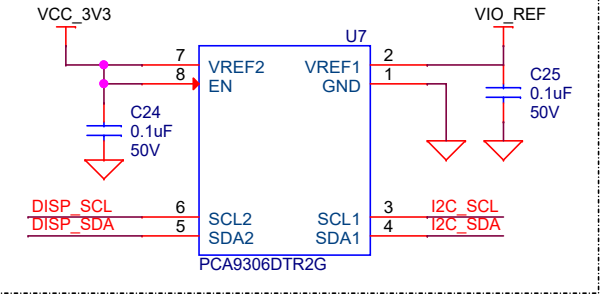


NOTE:
Open R58, to operate codec on MCU MCLK
Open R57, to operate codec on Oscillator MCLK

I2C Pull Ups



I2C Level Translator



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Page Title: Arduino Shield, IMU, Pressure Sensor Interface

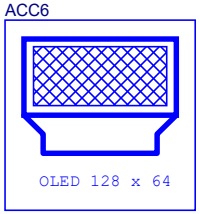
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ACCESSORIES

OLED Display Module

ACC6



OLED DISPLAY

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REVISION HISTORY

REV	DESCRIPTION OF CHANGE	ORIG. OF CHANGE	DATE
01	Initial Release	VAKI	11/2/2021
02	1. Added Preamplifier Circuit to Analog Mic 2. Rearranged the pin assignment of Arduino Pin Out	VAKI	09/3/2021
03	Update of BMX160 with BMI160	VAKI	16/2/2023

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