ROHM Sensor Platform MultiSensor Shield

Rev	Contents	
01	Starting Schematic	1-12-2015
	Added interfaces, ROHM RGB, pressure and MEMS	2-13-2015
	Added KXG03 Gyro	4-14-2015
	Pulled in NXP Feedback	4-28-2015
	Added corner accels	5-13-2015
02	Removed J12 with R40 (BH1745NUC) Shorted NC2 to GND (All Corner Accels) Shorted VDDIO to VDD (All Corner Accels) Removed J5 to J11 Control Header Pins Changed H1,H2,H3,H8,H9 to DNP Added 3-Axis Magnetormeter (BM1422GMV) Added Level-Shifter/LDO for Mag	9-11-2015

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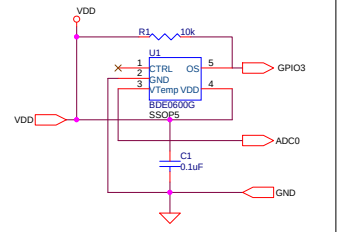
Temperature Sensor

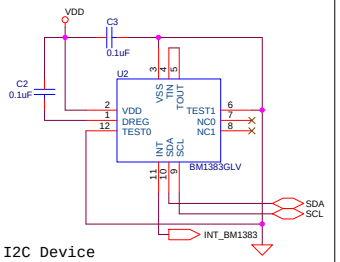
>>BDE0600G



ADC Device, 1 Interrupt (GPIO)

Pressure Sensor

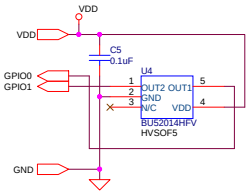
>>BM1383GLV



I2C Device
Device Address = 0x5D

Hall Sensor

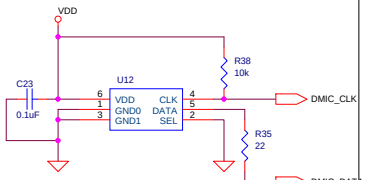
BU52014HFV



GPIO Output Device, 2 GPIO
OUT1/GPIO1 = South Pole Detection
OUT2/GPIO1 = North Pole Detection

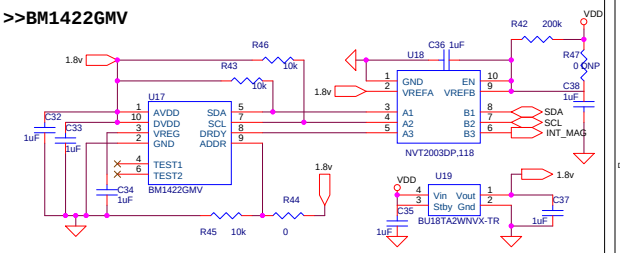
Digital Microphone

>>SPM0423HD4H-WB



3-Axis Magnetometer

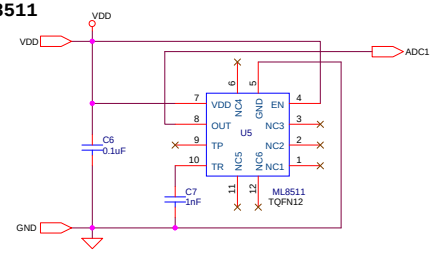
>>BM1422GMV



I2C Device
Device Addr = 0x0F

UV Sensor

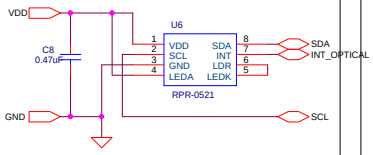
>>ML8511



ADC Device

ALS/Proximity Sensor

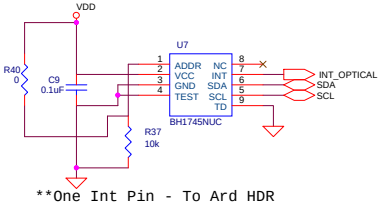
>>RPR-0521



I2C Device
Device Address = 0x70
INT - Open Drain

Color Sensor

>>BH1745NUC

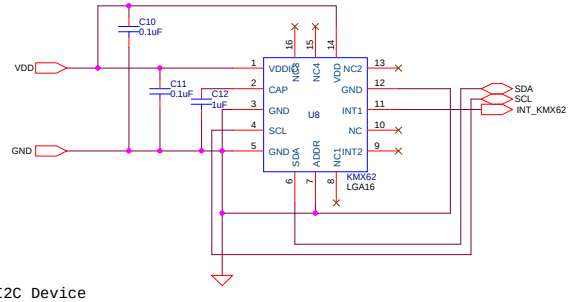


**One Int Pin - To Ard HDR

I2C Device
Use Jumper to select Addr Pin
Device Addr = 0x39
INT Open Drain

Accel + Mag MEM Sensors

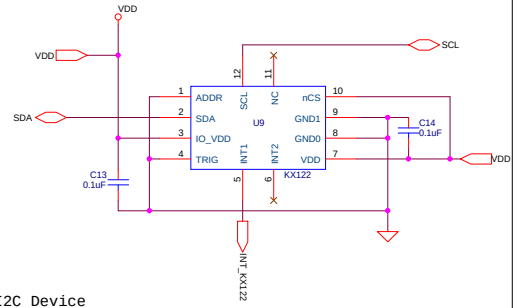
>>KMX062



I2C Device
Device Address = 0x0E

Accel MEM Sensors

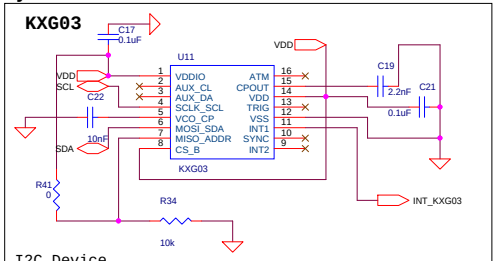
>>KX122



I2C Device
Device Address = 0x1E

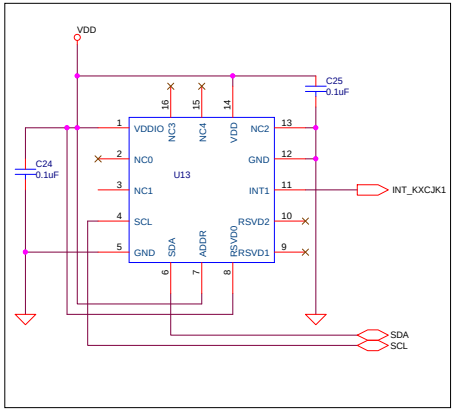
Gyro

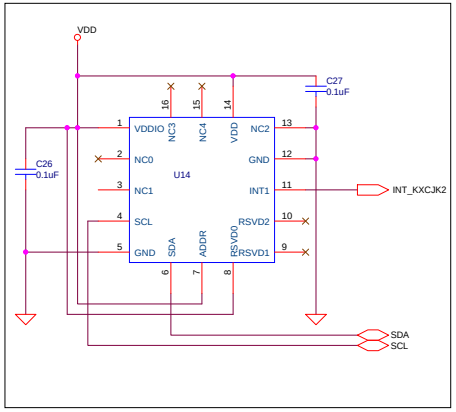
KXG03

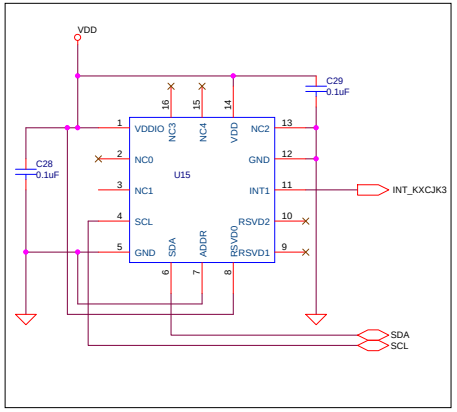


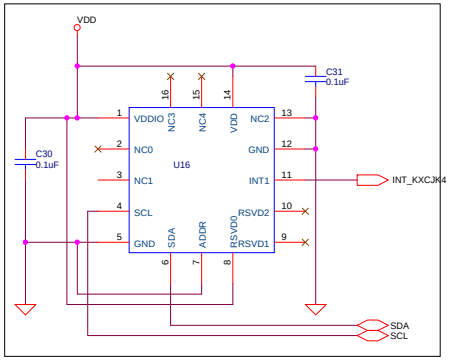
I2C Device
Device Addr = 0x4F

Corner Accels









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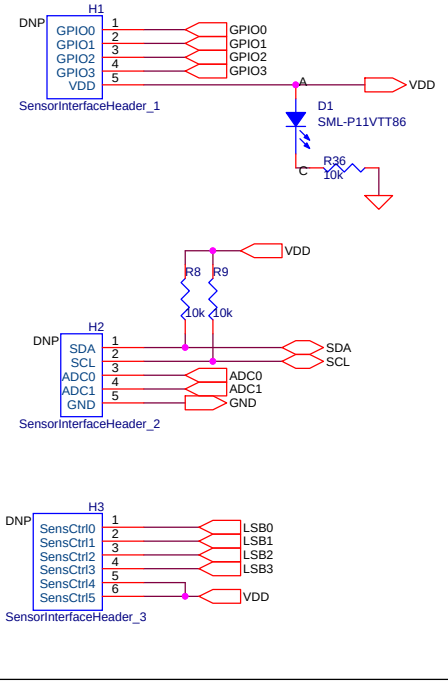
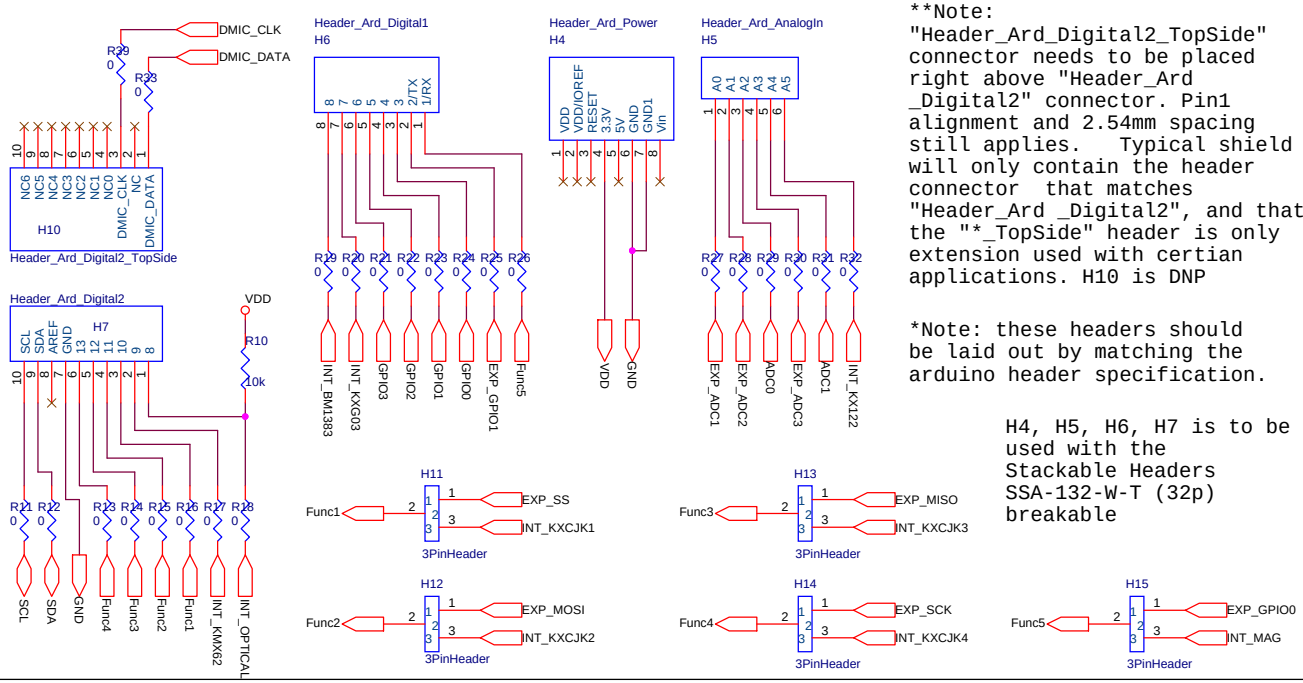
Sensor Platform Header Pins



Common Platform Header Pins (Shield Layout)

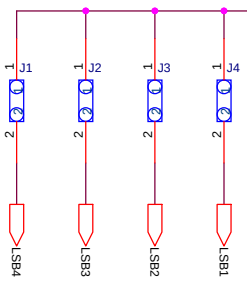


**Note:
"Header_Ard_Digital2_TopSide" connector needs to be placed right above "Header_Ard _Digital2" connector. Pin1 alignment and 2.54mm spacing still applies. Typical shield will only contain the header connector that matches "Header_Ard _Digital2", and that the "*_TopSide" header is only extension used with certian applications. H10 is DNP

*Note: these headers should be laid out by matching the arduino header specification.

H4, H5, H6, H7 is to be used with the Stackable Headers SSA-132-W-T (32p) breakable

Sensor Platform Control Header Pins (For Standalone Mode)



Sensor Control Scheme:
SensCtrl5 = MSB, SensCtrl0 = LSB

Bits 4:5 will denote "Multi-Sensor Board" (0b11)
Bits 0:3 will denote "Sensor Type"
for Standalone Operation

SensCtrl5, SensCtrl4 will always be pulled up

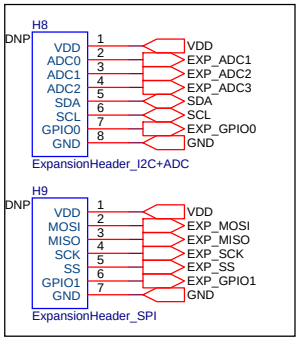
*Note: These are jumper-able 2pin headers (standard pitch). Each jumper will be used to denote a particular sensor output when connected to the Sensor Platform Base Board.

Silkscreen Information!

ROHM Base Board
LED Operation Control:
J1 = [3], J4 = [0]
Short = 1, Open = 0

Temp = 0000b
Pres = 0001b
Hall = 0010b
UV = 0011b
ALS = 0100b
Prox = 0101b
Color = 0110b
K62-Acc = 0111b
K62-Mag = 1000b
K22-Acc = 1001b
Gyro = 1010b

Expansion Headers



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