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

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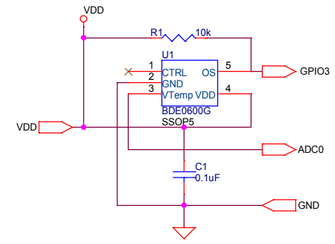
Temperature Sensor

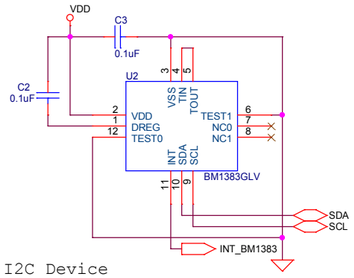
>>BDE0600G



ADC Device, 1 Interrupt (GPIO)

Pressure Sensor

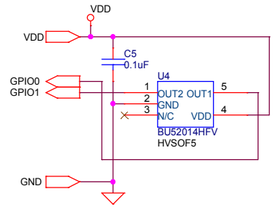
>>BM1383GLV



I2C Device
Device Address = 0x5D

Hall Sensor

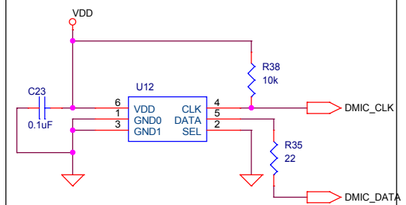
BU52014HFV



GPIO Output Device, 2 GPIO
OUT1/GPIO0 = South Pole Detection
OUT2/GPIO1 = North Pole Detection

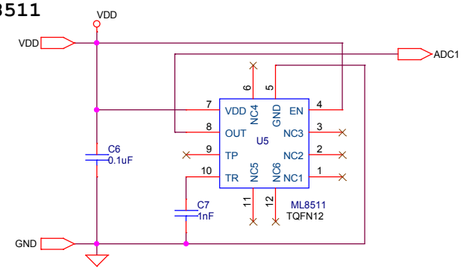
Digital Microphone

>>SPM0423HD4H-WB



UV Sensor

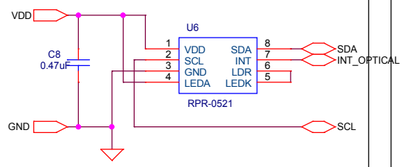
>>ML8511



ADC Device

ALS/Proximity Sensor

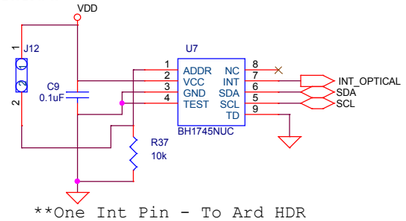
>>RPR-0521



I2C Device
Device Address = 0x70
INT - Open Drain

Color Sensor

>>BH1745NUC

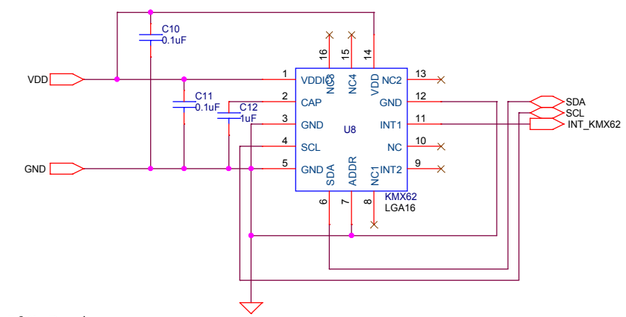


**One Int Pin - To Ard HDR

I2C Device
Use Jumper to select Addr Pin
Device Addr = 0x38 or 0x39 for Addr = 0 or 1 respectively
INT Open Drain

Accel + Mag MEM Sensors

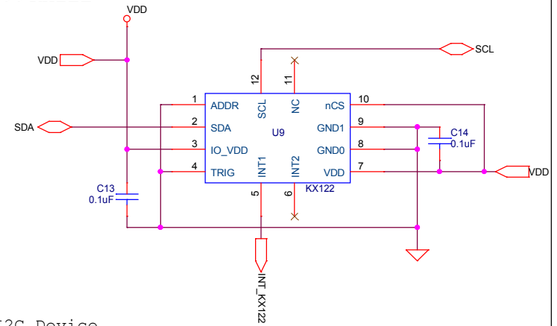
>>KMX062



I2C Device
Device Address = 0x0E

Accel MEM Sensors

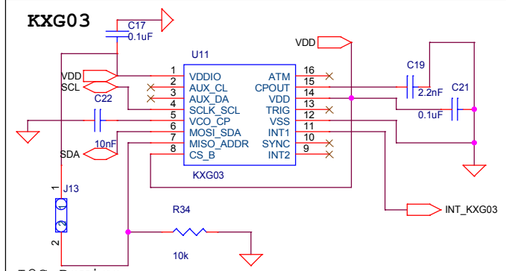
>>KX122



I2C Device
Device Address = 0x1E

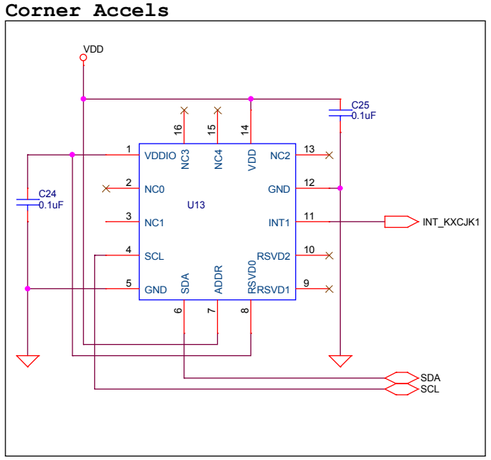
Gyro

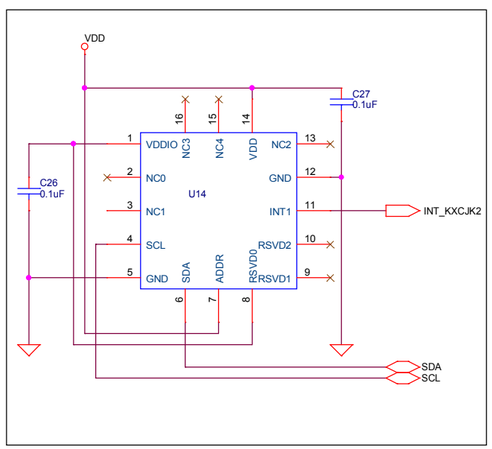
KXG03

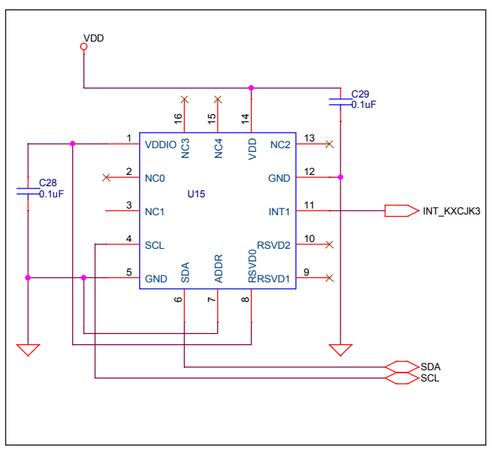


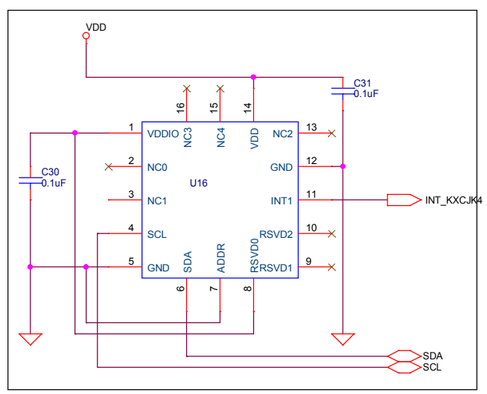
I2C Device
Use Jumper to select Addr Pin
Device Addr = 100111X where X is Addr pin.

Corner Accels









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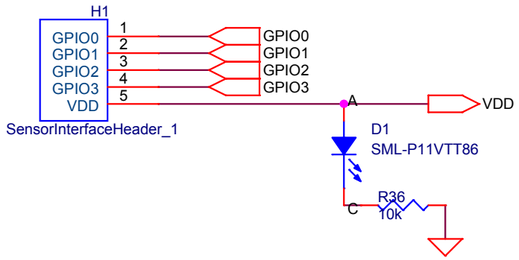
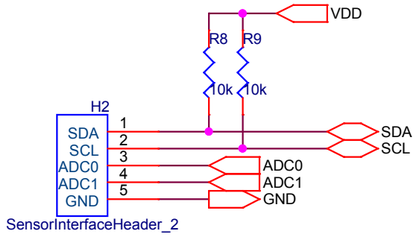
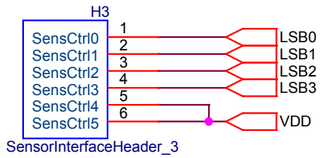
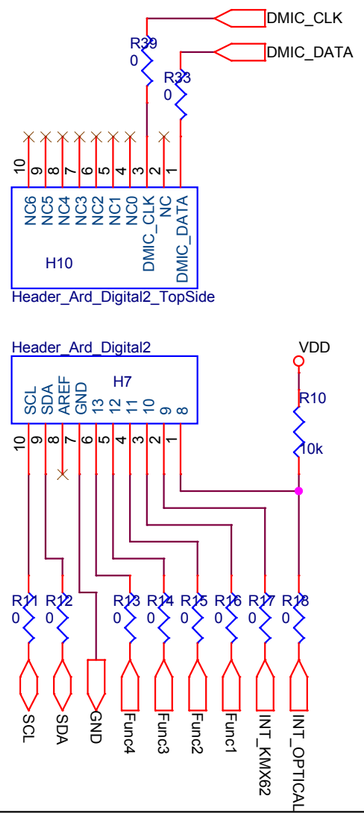
Sensor Platform Header Pins

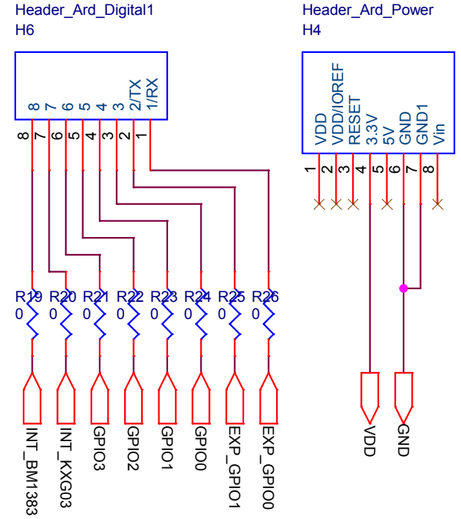


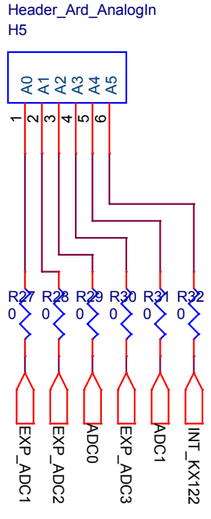


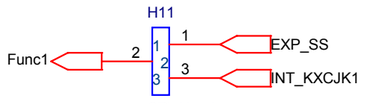


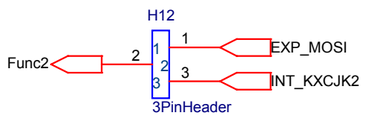
Common Platform Header Pins (Shield Layout)

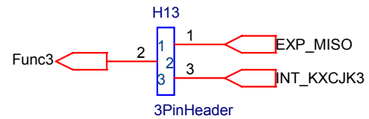


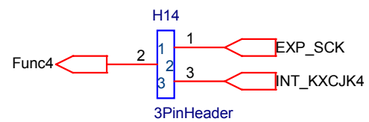








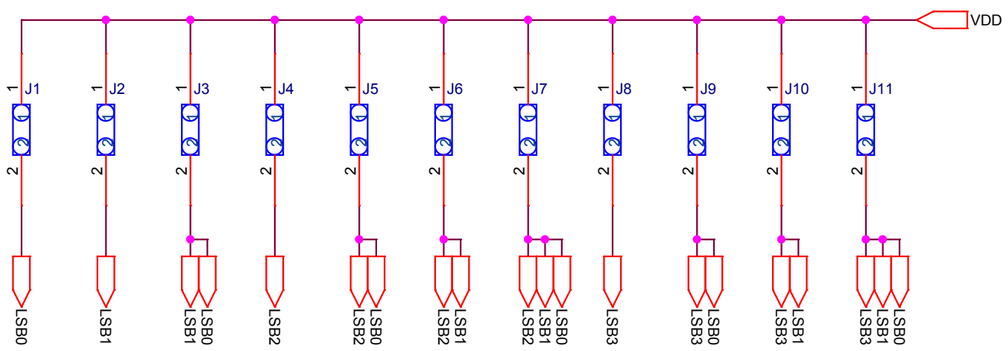




**Note:
"Header_Ard_Digital2_TopSide" connector needs to be placed right above "Header_Ard _Digital2" connector. Pin1 alignment and 2.54mm spacing still applies. Typical shield will only contain the header connector that matches "Header_Ard _Digital2", and that the "*_TopSide" header is only extension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

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

Sensor Platform Control Header Pins (For Standalone Mode)



*Note: These are jumper-able 2pin headers (standard pitch). Each jumper will be used to denote a particular IC for the standalone LED output. These headers should have no impact on the PC Precision Output Mode.

Sensor Control Scheme:
SensCtrl5 = MSB, SensCtrl0 = LSB

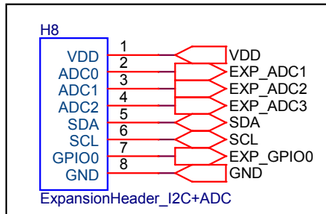
Bits 4:5 will denote "Multi-Sensor Board" (0b11)
Bits 0:3 will denote "Sensor Type"
for Standalone Operation

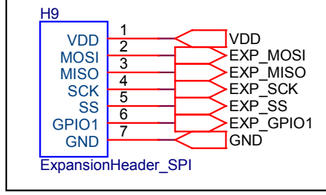
SensCtrl5, SensCtrl4 will always be pulled up

Bits[0:3] Designation:

No J	=> Temperature	= 0	= 0b0000
J1	=> Pressure	= 1	= 0b0001
J2	=> Humidity	= 2	= 0b0010
J3	=> Hall Sensor	= 3	= 0b0011
J4	=> UV	= 4	= 0b0100
J5	=> ALS	= 5	= 0b0101
J6	=> Prox	= 6	= 0b0110
J7	=> Color	= 7	= 0b0111
J8	=> Accel1	= 8	= 0b1000
J9	=> Mag	= 9	= 0b1001
J10	=> Accel2	= 10	= 0b1010
J11	=> Gyro	= 11	= 0b1011

Expansion Headers





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