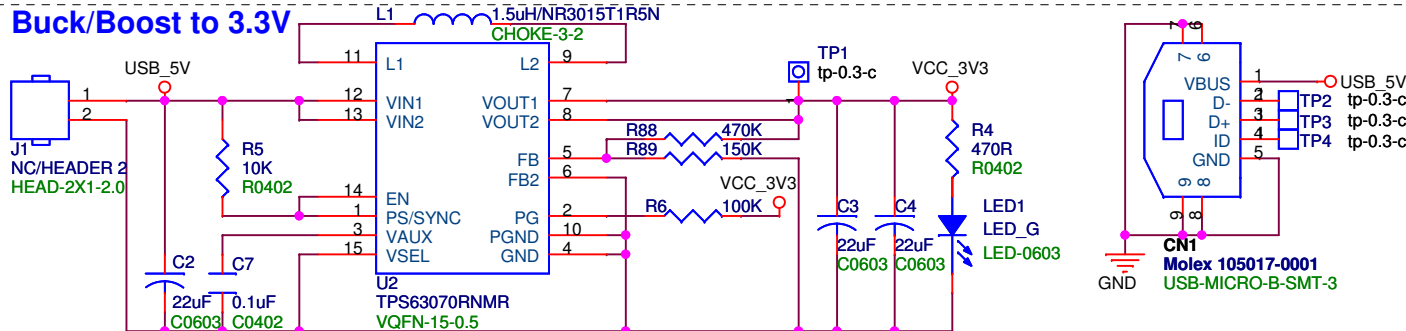


Buck/Boost to 3.3V

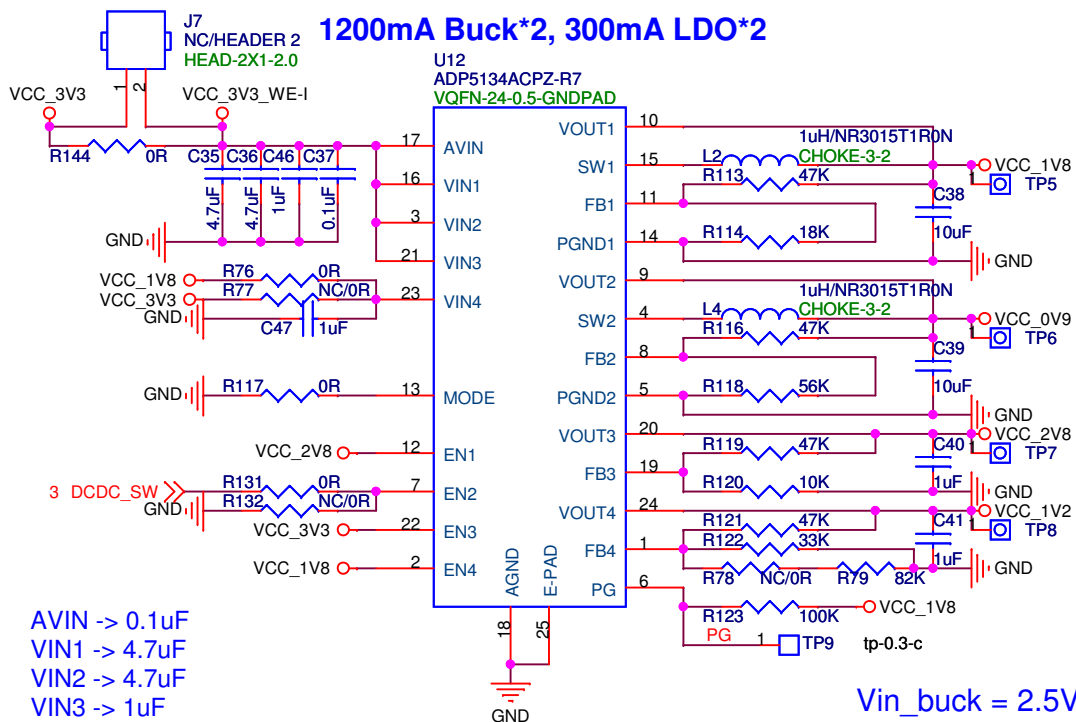


Vin : 2.0 ~ 16V
USB : 4.5 ~ 5.25V
AAA x 3 (or x4): 2.4 ~ 6V

Buck-boost Converter 2000mA

```
VIN = 2.0V~16V @VOUT>=3V, Vst = 3V~16V @VOUT<3V
VOUT = 2.5V~9V , VFB = 0.8V
3.3 = 0.8 * ( 1+ 470/150)
```

1200mA Buck*2, 300mA LDO*2



AVIN -> 0.1uF
VIN1 -> 4.7uF
VIN2 -> 4.7uF
VIN3 -> 1uF
VIN4 -> 1uF

$$\begin{aligned} 0.9 &= 0.5 * (1+47/56) \\ 1.2 &= 0.5 * (1+47/33) \\ 1.5 &= 0.5 * (1+47/23) \\ 1.8 &= 0.5 * (1+47/18) \\ 2.8 &= 0.5 * (1+47/10) \end{aligned}$$

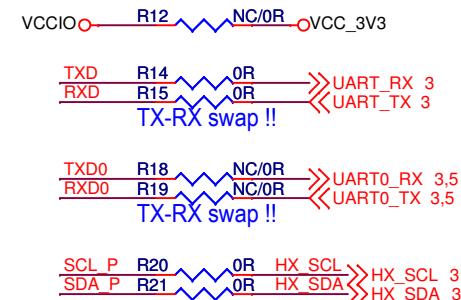
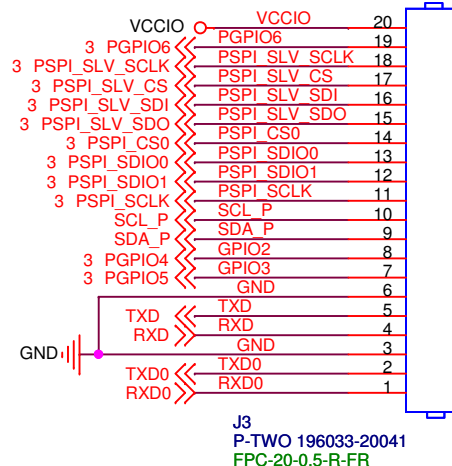
R76	R77	R78	VOUT	Sensor
0R	NC	NC	1.2V	HM0360
NC	0R	0R	1.5V	HM01B0

Power sequence:
3.3->2.8->1.8->1.2->0.9

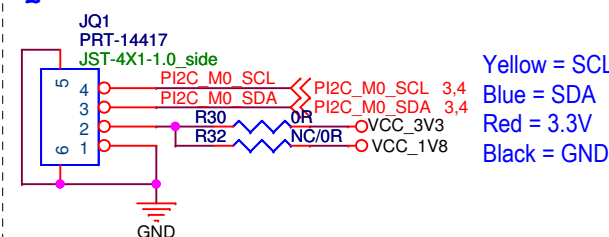
Vin_buck = 2.5V~5.5V
Vin_LDO = 1.7V~5.5V
Vout_buck= 0.8V~3.8V
Vout_LDO = 0.8V~5.2V
VFB1, VFB2 = 0.5V
VFB3, VFB4 = 0.5V


VIH EN>0.9V, Vdrop=0.5V

To P011 USB HUB FTDI TOOL

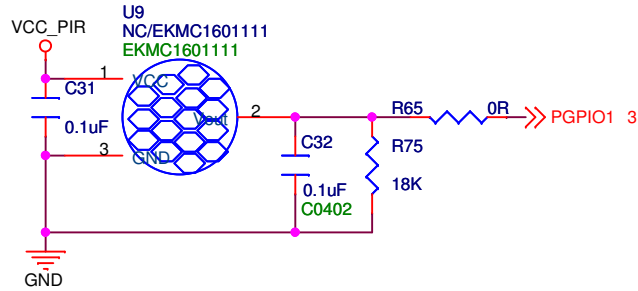


QwiiC



	Himax Technologies, Inc.	奇景光電股份有限公司
Title Power & Connector		
DWG NO		DATE Thursday, January 28, 2021
Size	Checked	Designer
A4		Jonathan
		Rev V1.0
		SHEET 2 / 5
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Digital PIR Sensor EKMC1601111 / EKMB1301111K



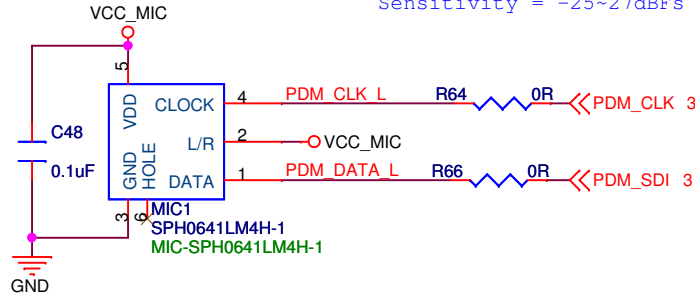
PIR digital type
EKMC1601111
VDD = 3V~6V
Isleep=170uA

PIR digital type
EKMB1301111K
VDD = 2.3V~4V
Isleep = 6uA

$V_{OUT} \geq V_{DD} - 0.5V$
 $I_{out} = 100uA$
 $V_{out} = 100uA * 33K = 3.3V$

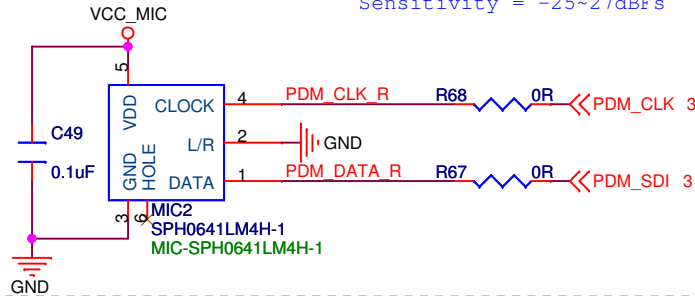
PDM Microphone L

VDD = 1.6V~3.6V
Sensitivity = -25~27dBFS

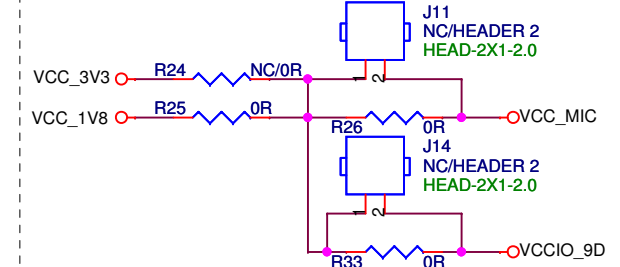


PDM Microphone R

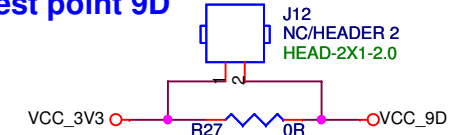
VDD = 1.6V~3.6V
Sensitivity = -25~27dBFS



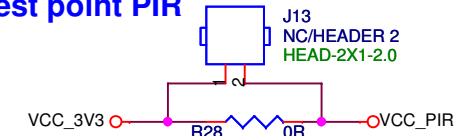
Test Point MIC & IO Voltage Selection



Test point 9D



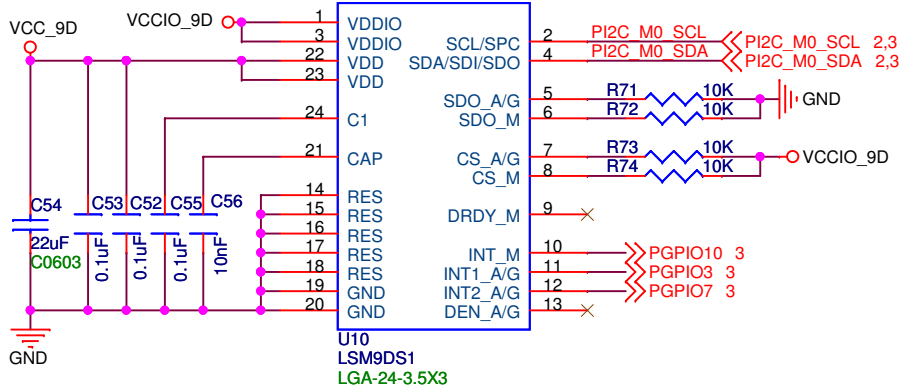
Test point PIR



LSM9DS1

3D accelerometer, 3D gyroscope, 3D magnetometer
VDD = 1.9V~3.6V

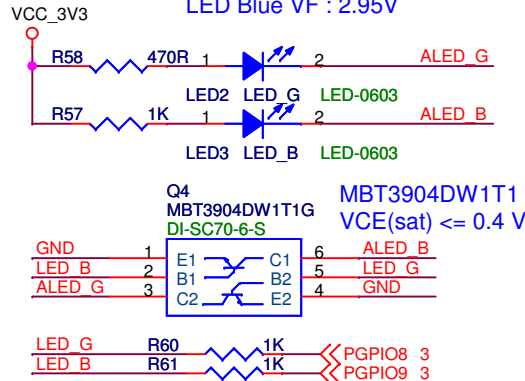
SDOM/AG	AD Addr	M Addr
0	0x6A	0x1C
1	0x6B	0x1E



<https://learn.sparkfun.com/tutorials/lsm9ds1-breakout-hookup-guide>

LEDs

General LED
LED Red VF : 1.8V
LED Green VF : 1.95V
LED Blue VF : 2.95V



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Technologies, Inc.

Title PIR/LED/PDM MIC/A+G+M					
DWG NO				DATE Thursday, January 28, 2021	
Size	Checked	Designer	Drawer	Rev	SHEET
A4			Jonathan	V1.0	4/5
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UART0&2 for debug purpose
UART1 for AT command



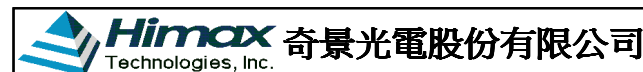
Layout the 50ohm RF trace to Antenna as short as possible.

[illegible]

1. GSM_VCC PCB trace $\geq 8\text{mil}$
2. Keep USIM card signals away from RF and VBAT.
3. CLK & IO \Rightarrow GND shielding

[illegible]

The diagram shows three MOSFETs (Q5, Q6, Q7) of type AO3400A SOT23GSD. Each MOSFET's gate is connected to a control signal (WNB_PWR_ON, WNB_WU_IN, WNB_RST), its drain is connected to a GPIO pin (PGPIO12, PGPIO13, PGPIO14) through a 100k resistor (R155, R157, R160), and its source is connected to GND.



Title NBloT module					
DWG NO			DATE Thursday, January 28, 2021		
Size	Checked	Designer	Drawer	Rev	SHEET
A			Jonathan	V1.0	5 / 5
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