
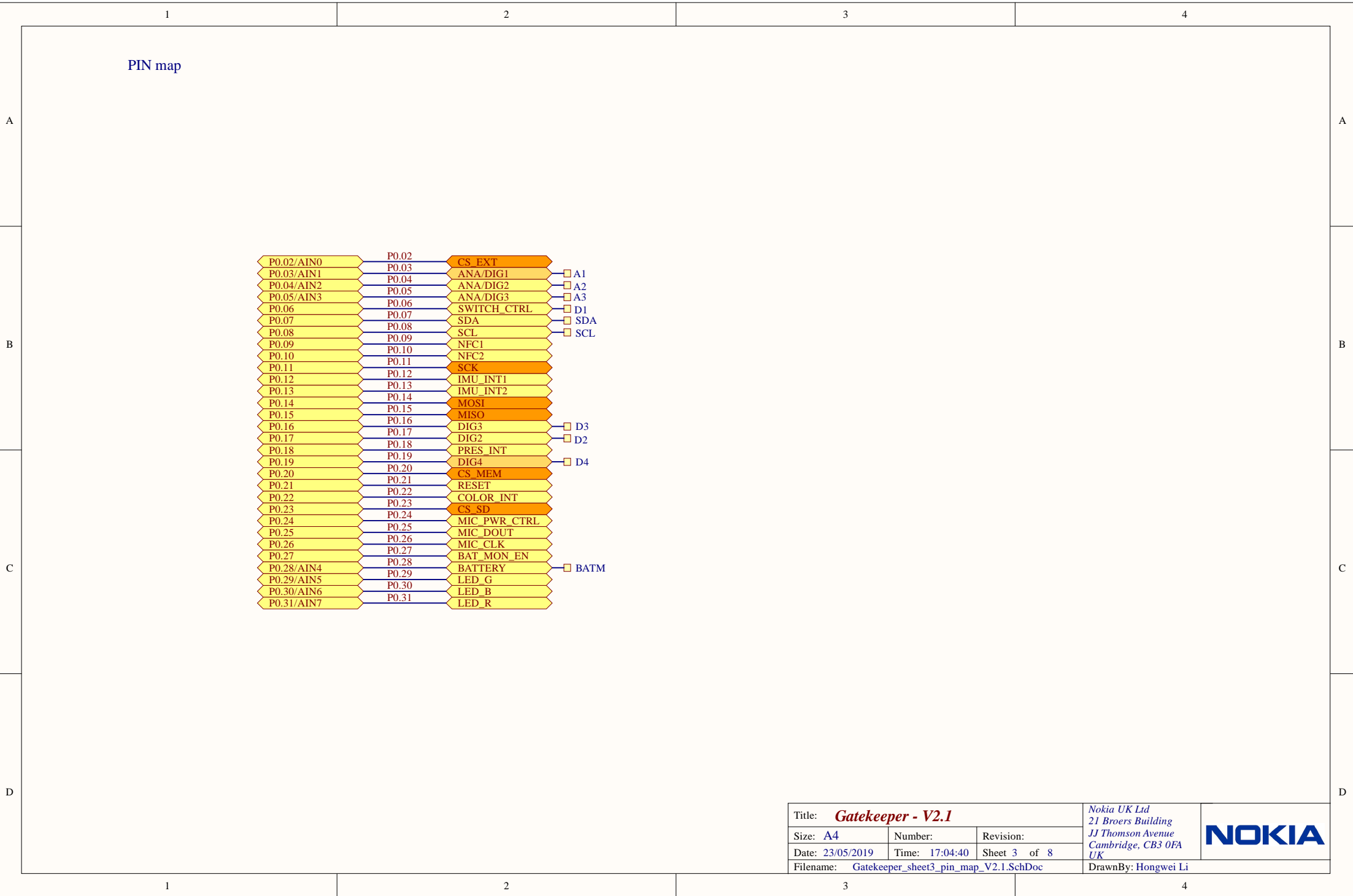


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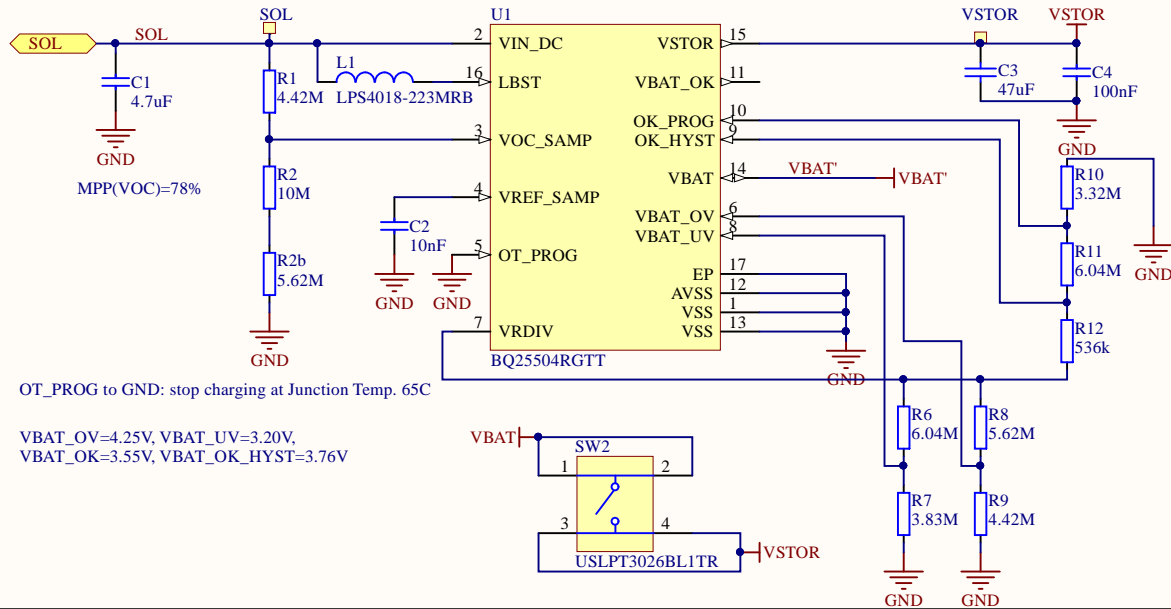
Gatekeeper V2

- Sheet 1: Cover Sheet
- Sheet 2: nRF MCU
- Sheet 3: Pin Map
- Sheet 4: Power Supply (V2.2)
- Sheet 5: IMU Sensors
- Sheet 6: Environment Sensors
- Sheet 7: Microphone and LED
- Sheet 8: Connector and Interface

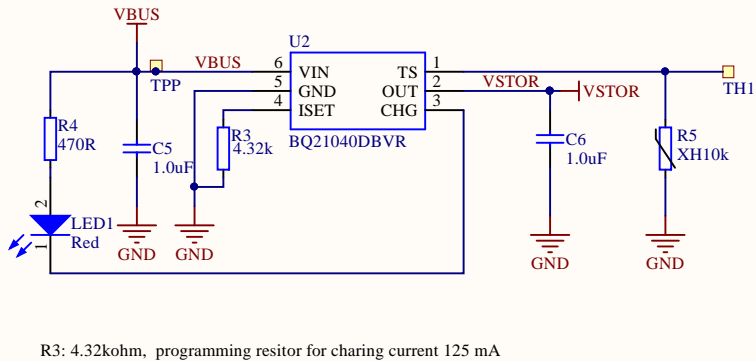
Title <i>Gatekeeper - V2.1</i>			
Size: <i>A4</i>	Number:	Revision:	
Date: <i>23/05/2019</i>	Time: <i>17:04:40</i>	Sheet <i>1</i> of <i>8</i>	
Filename: <i>Gatekeeper sheet1 cover V2.2.SchDoc</i>			
DrawnBy: <i>Hongwei Li</i>			
			<i>Nokia UK Ltd</i> <i>21 Broers Building</i> <i>JJ Thomson Avenue</i> <i>Cambridge, CB3 0FA</i> <i>UK</i>



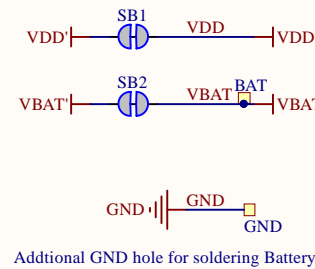
Solar Panel Battery charger 1



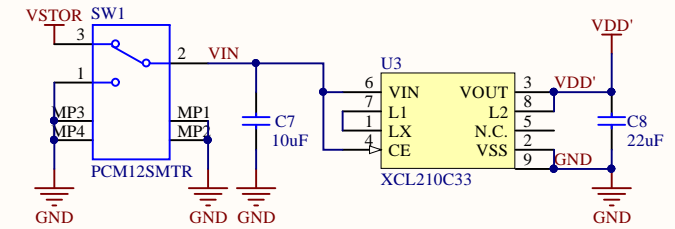
USB Battery charger 2



Jumper for current measurement

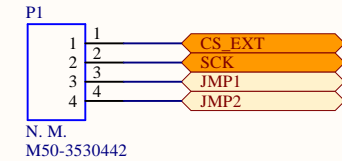


Voltage regulator

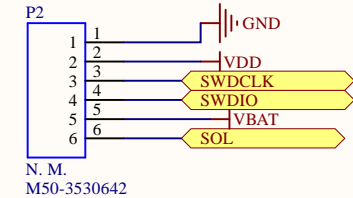


Connectors with options

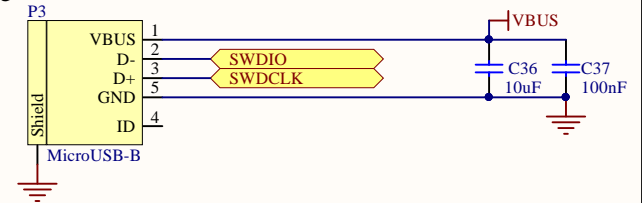
- P1: 1. Connection to mainboard, 1.27 mm pin strip, Harwin M50-3530442
2. Pogo pin with long tail for connection to main board as well, Mill-Max, 0985-2-15-20-71-14-11-0



- P2: Connection to mainboard, 1.27 mm pin strip, through hole straight, Harwin M50-3530642



- P3: 1. Programming connector, use 4-pin, pitch 1.25 mm right angle header and wire housing, Molex 53048-0410 (cable 15134-0403)
2. Pogo with short tail, Mill-Max, 0985-0-15-20-71-14-11-0



Title: **Gatekeeper - V2.1**

Size: **A4**

Date: **23/05/2019**

Filename: **Gatekeeper_sheet4_power_supply_V2.2.SchDoc**

Number:

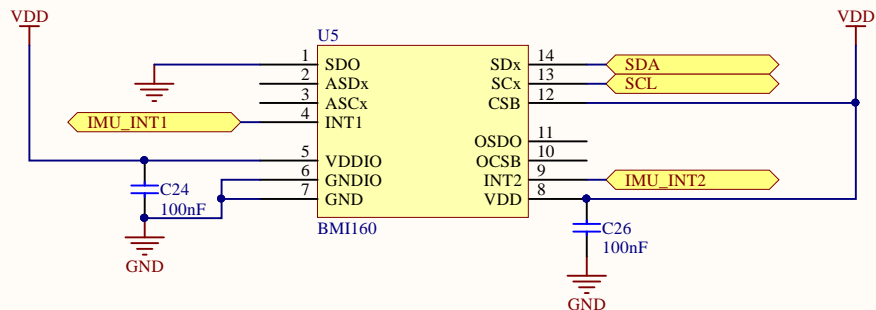
Time: **17:04:41**

Revision: **Sheet 4 of 8**

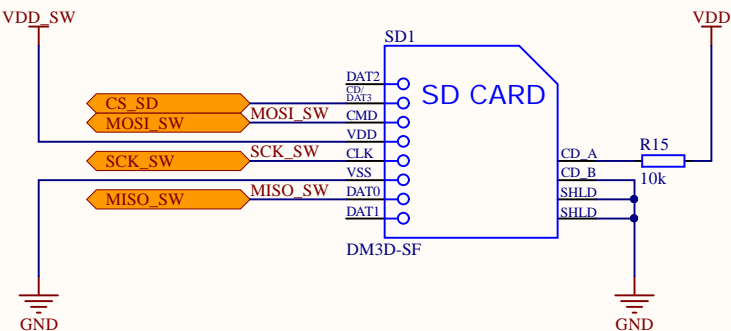
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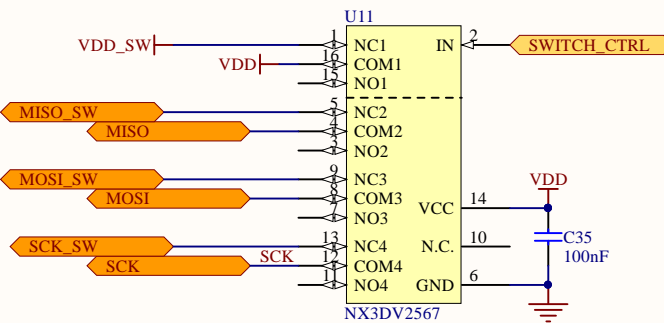
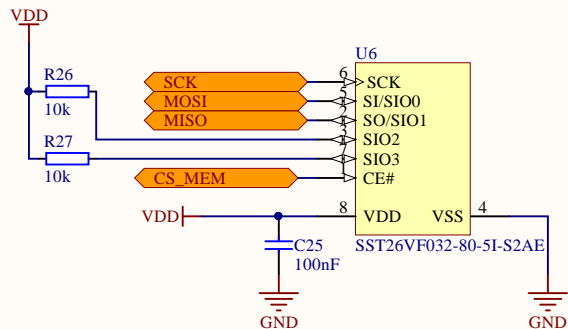
Motion tracking device I2C address: 0x68



SPI Micro SD card



SPI SRAM or FLASH MEMORY

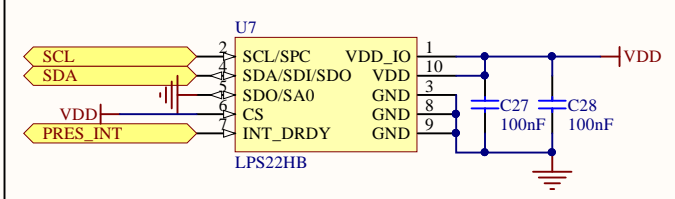


Title:	Gatekeeper - V2.1		
Size:	A4	Number:	Revision:
Date:	23/05/2019	Time:	17:04:41
Filename:	Gatekeeper_sheet5_IMU_sensor_V2.1.SchDoc		

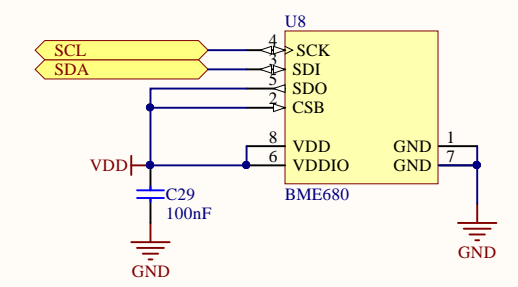
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Pressure/Altitude and Temperature sensor I2C address: 0x5C



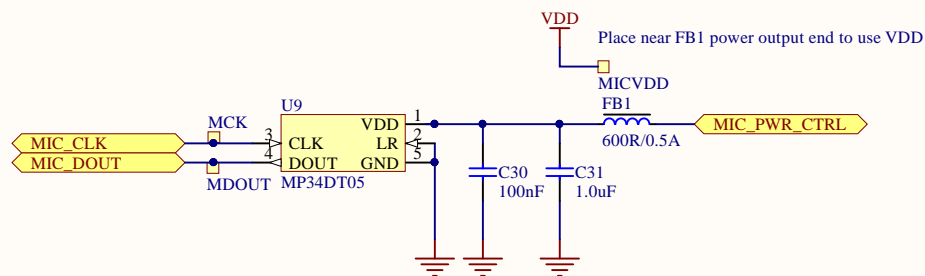
Gas sensor I2C address: 0x77



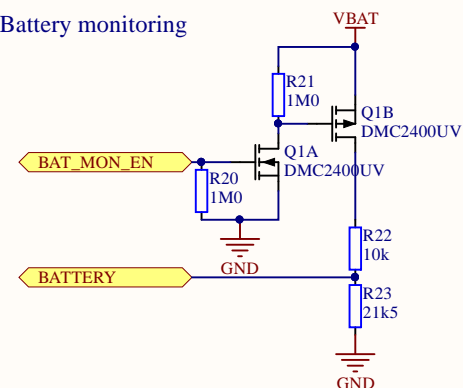
SDO: Slave address LSB, 1:0x77
CSB: 0 for SPI, 1 for I2C

I2C: SCK: serial clock (SCL), SDI: data(SDA), SDO: Slave address LSB(GND=0, Vddio=1)
SPI: CSB: chip select, active low. SCK: serial clock. SDI: serial data input. SDO: serial data output

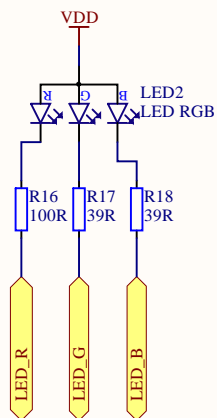
Digital Microphone



Battery monitoring

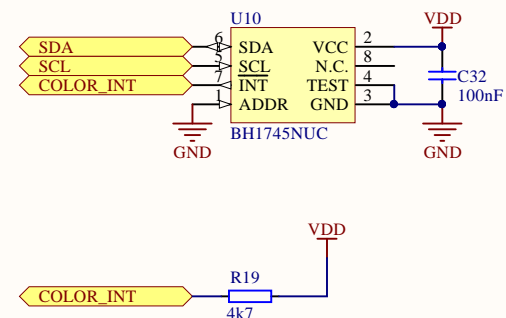


LEDs



Color sensor I2C address: 0x38

Use BH1749NUC, pin compatible



Title: **Gatekeeper - V2.1**

Size: **A4**

Number:

Revision:

Date: 23/05/2019

Time: 17:04:41

Sheet 7 of 8

Filename: Gatekeeper_sheet7_mic_LED_V2.1.SchDoc

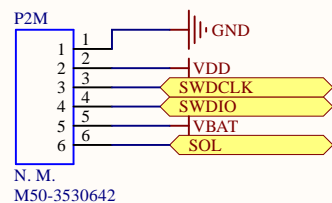
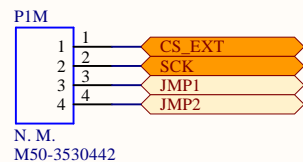
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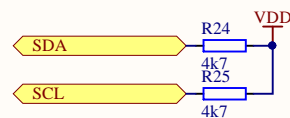
NOKIA

Connector to power board

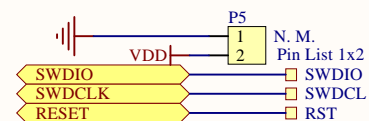
P1M 1 and 2 can also be used as digital pins.



I2C Pull resistors



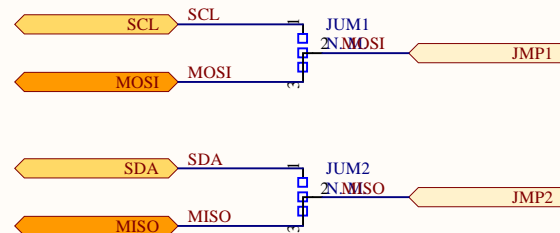
Programming / debugging interface



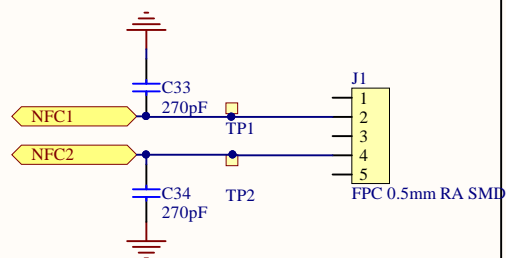
Jumpers for SPI and I2C selection on the pogo pin

Default to SPI interface.

Cut trace and populate 0603 0 ohm resistors on the other side for I2C



NFC antenna connector



Title: **Gatekeeper - V2.1**

Size: **A4**

Date: 23/05/2019

Filename: Gatekeeper_sheet8_connection_interface_V2.1.SchDoc

Number:

Time: 17:04:41

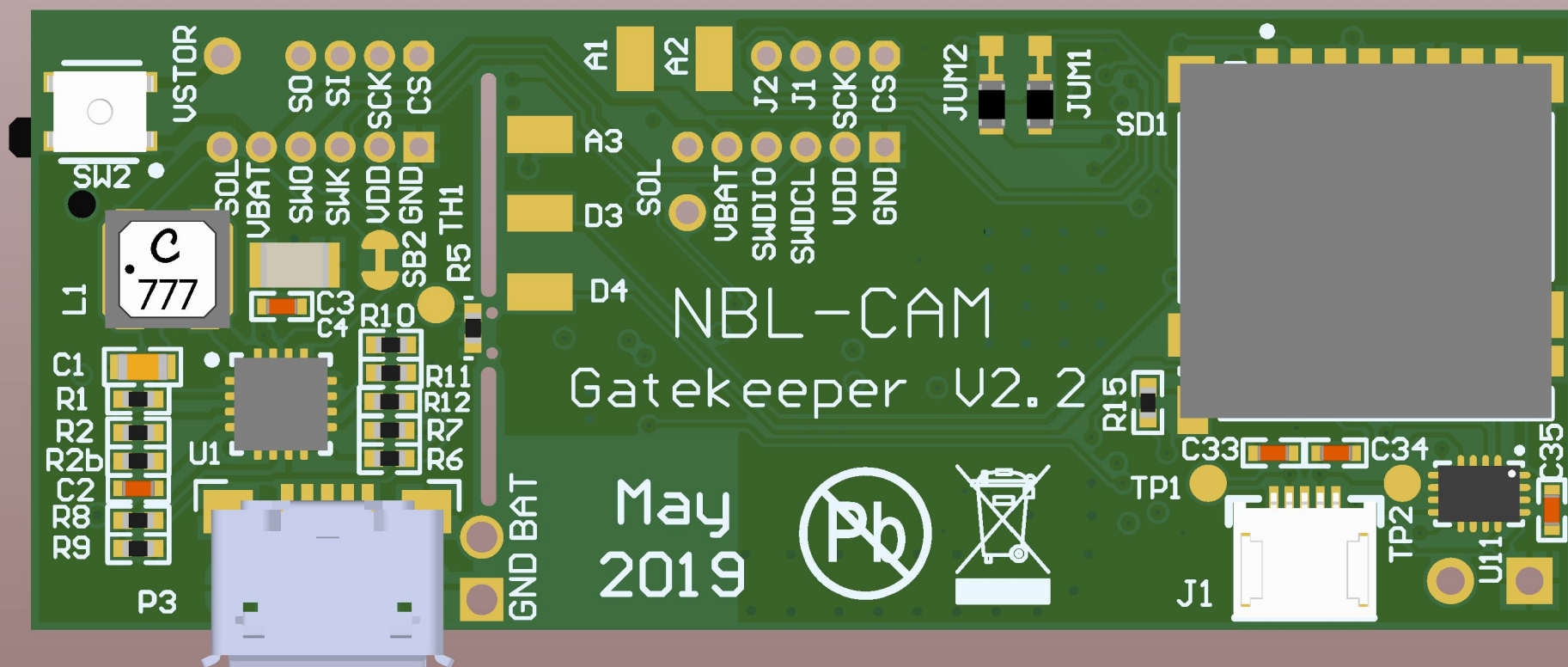
Revision:

Sheet 8 of 8

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May
2019