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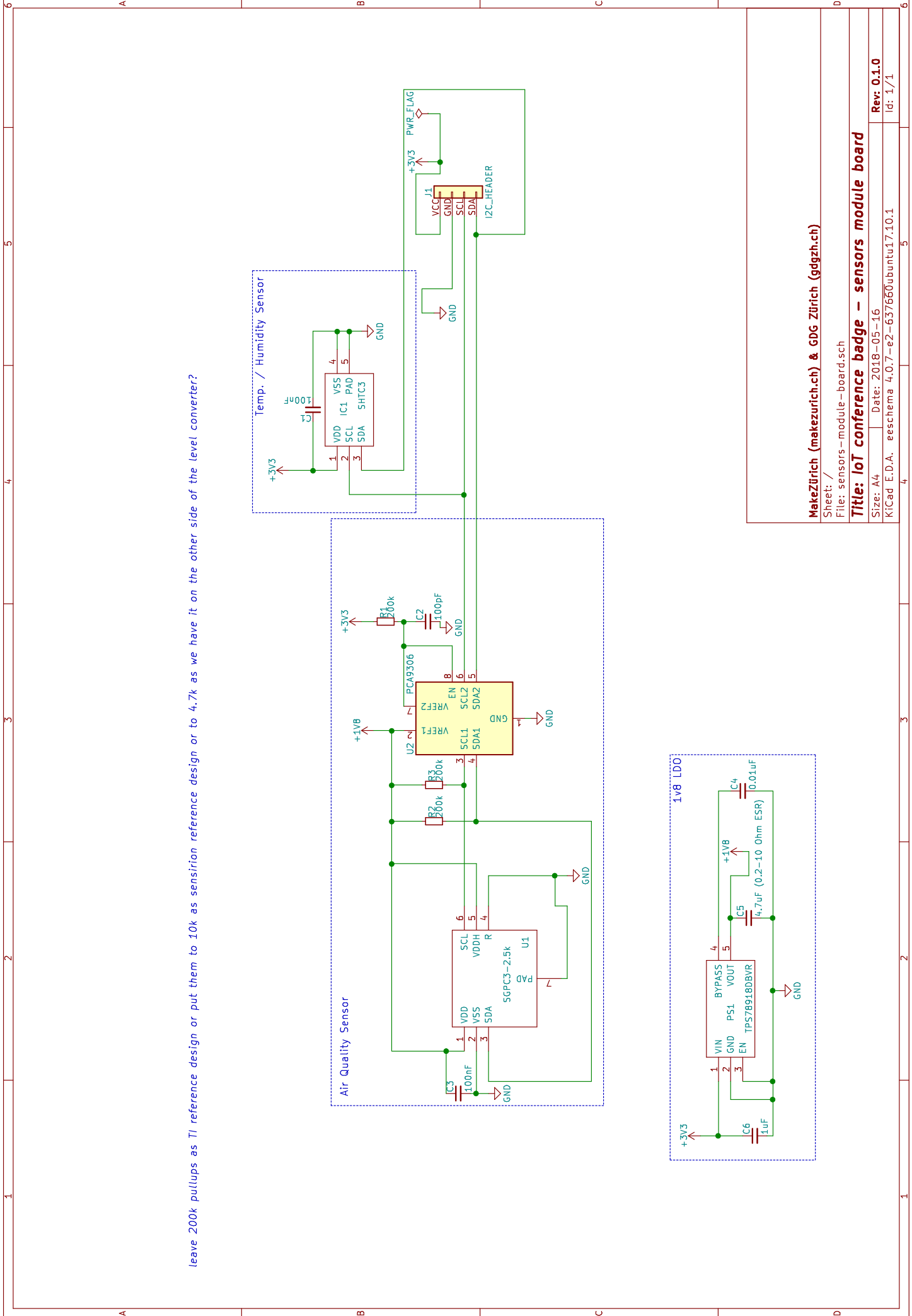
Air Quality Sensor (SGPC3-2.5k): This sensor is connected to the PCA9306. Its VDD pin (1) is connected to +3V3 through a 100nF capacitor (C3). Its VSS pin (2) is connected to GND. Its SCL pin (6) is connected to the SCL1 pin (3) of the PCA9306. Its VDDH pin (5) is connected to +1V8 through a 200k resistor (R2). Its SDA pin (3) is connected to the SDA1 pin (4) of the PCA9306. Its P pin (7) is connected to GND.

Temp. / Humidity Sensor (SHTC3): This sensor is connected to the PCA9306. Its VDD pin (1) is connected to +3V3 through a 100nF capacitor (C1). Its VSS pin (4) is connected to GND. Its SCL pin (2) is connected to the SCL2 pin (5) of the PCA9306. Its SDA pin (3) is connected to the SDA2 pin (6) of the PCA9306. Its PAD pin (5) is connected to GND.

PCA9306 I2C Level Converter: This component is used to convert the 3.3V I2C signals from the sensors to the 1.8V signals required by the Raspberry Pi. Its VREF1 pin (2) is connected to +1V8. Its VREF2 pin (8) is connected to +3V3 through a 200k resistor (R1). Its EN pin (9) is connected to GND. Its SCL1 pin (3) is connected to the SCL2 pin (5). Its SDA1 pin (4) is connected to the SDA2 pin (6).

1v8 LDO: This module provides the 1.8V supply for the PCA9306. It is connected to +3V3 at its VIN pin (1) and GND at its PS1 pin (2). Its EN pin (3) is connected to GND. Its VOUT pin (5) is connected to +1V8. It includes a 1uF capacitor (C6) at the input and a 4.7uF capacitor (C5) at the output, along with a 0.01uF capacitor (C4) for bypassing.

I2C Header: This header provides the connection points for the Raspberry Pi. It includes VCC (connected to +3V3), GND, SCL, SDA, and a PWR_FLAG pin.



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1v8 LDO: This component is used to generate the 1.8V supply voltage for the PCA9306. Its VIN pin (1) is connected to +3V3. Its GND pin (2) is connected to GND. Its PS1 pin (3) is connected to GND. Its EN pin (4) is connected to GND. Its VOUT pin (5) is connected to +1V8. Its BYPASS pin (6) is connected to GND. Its C4 pin (7) is connected to GND. Its C5 pin (8) is connected to GND. Its C6 pin (9) is connected to GND. Its C7 pin (10) is connected to GND. Its C8 pin (11) is connected to GND. Its C9 pin (12) is connected to GND. Its C10 pin (13) is connected to GND. Its C11 pin (14) is connected to GND. Its C12 pin (15) is connected to GND. Its C13 pin (16) is connected to GND. Its C14 pin (17) is connected to GND. Its C15 pin (18) is connected to GND. Its C16 pin (19) is connected to GND. Its C17 pin (20) is connected to GND. Its C18 pin (21) is connected to GND. Its C19 pin (22) is connected to GND. Its C20 pin (23) is connected to GND. Its C21 pin (24) is connected to GND. 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Figure 1: IoT conference badge – sensors module board

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