## M2 Connector

File: connector.kicad\_sch

## SIM7080G

File: peripherals.kicad\_sch



File: mcu.kicad\_sch

Approved By:

Designed By: Rodney Osodo

Abstract Machines

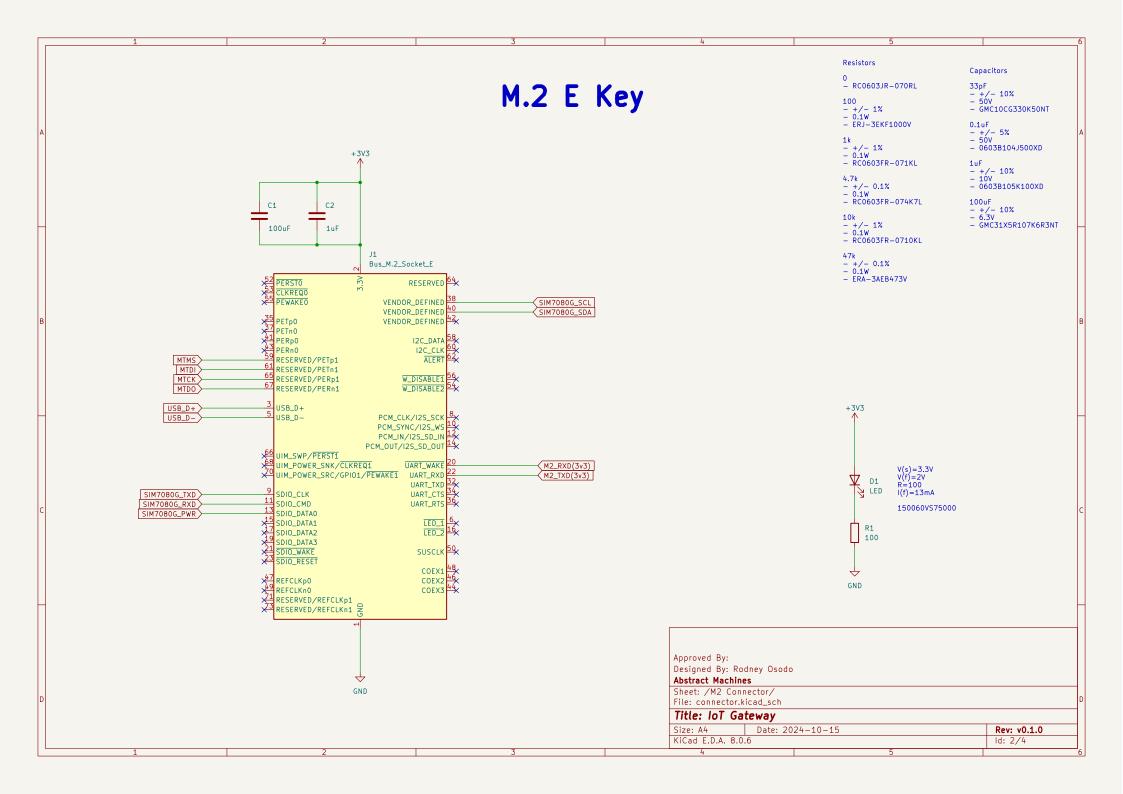
Sheet: /

File: am-iot-gateway.kicad\_sch

Title: IoT Gateway

 Size: A4
 Date: 2024-10-15
 Rev: v0.1.0

 KiCad E.D.A. 8.0.6
 Id: 1/4



## MCU-ESP32-C6-MINI +3V3 C4 С3 +3V3 0.1uF 0.05A @ 12VDC SPST-NO GND GND PTS815 SJM 250 SMTR LFS 10K ESP32-C6-MINI-1/U RESET EN/CHIP\_PU UOTXD/GPI016 M2\_RXD(3v3) M2\_TXD(3v3) **DEBUG** UORXD/GPI017 x2 GPI00/ADC1\_CH0/XTAL\_32K\_P x3 GPI01/ADC1\_CH1/XTAL\_32K\_N x5 GPI02/ADC1\_CH2 x6 GPI03/ADC1\_CH3 C6 GPI013/USB\_D+ USB\_D+ USB\_D-SW1 = 1uF 0.1uF GPI012/USB\_D-SW\_Push DEBUG TestPoint TP1 SIM7080G RXD TestPoint TP2 MTMS MTMS/GPIO4/ADC1\_CH4 SIM7080G\_SCL SIM7080G\_TXD TestPoint TP3 GPI09 SIM7080G\_SDA MTDI/GPI05/ADC1\_CH5 SIM7080G\_TXD MTCK MTCK/GPIO6/ADC1\_CH6 GPI014 GND GND GND MTDO/GPI07 SIM7080G\_RXD GPI015 +3V3 GPI018 SIM7080G\_PWR GPI019 O FID1 Fiducial GPI020 GPI021 O FID2 Fiducial GPI022 GPI023 DEBUG ₩ RESET RESET O FID3 Fiducial J2 SWCLK мтск O FID4 Fiducial ESP32-C6-MINI-1 SWDIO MTMS SWDIO SWO MTDO O FID5 Fiducial O FID6 Fiducial GND GND Approved By: Designed By: Rodney Osodo **Abstract Machines** Sheet: /mcu/ File: mcu.kicad\_sch Title: IoT Gateway Size: A4 Date: 2024-10-15 Rev: v0.1.0 KiCad E.D.A. 8.0.6 Id: 3/4

## **ANTENNAE SIM7080G** STATUS LEDS +178 50Ω GNSS\_ANT U2 SIM7080G GNSS Antenna R3 100 R4 100 50Ω +1V8 PWR\_KEY PWRKEY V(s)=1.8V V(f)=1.2V R=50 I(f)=12mA VDD\_EXT GND GND GND D2 LED. USB\_BOOT HAN1102W-1-TR × 38 ADC SolderJumper\_2\_Open RF\_ANT NETLIGHT SS8050 X 4 UART1\_CTS X 5 UART1\_DCD X 6 UART1\_DTR X 7 UART1\_RI X 3 UART1\_RTS UART1\_RTS UART1\_RTD 50Ω RF\_ANT ANT\_CONTROL1 43 × 44 × R9 47K SIM7080G\_SCL SIM7080G\_SDA RF Antenna I2C\_SDA 500 1 UART1\_TXD USB\_VBUS 24 × 26 × USB\_DP 25 × GND X 23 UART2\_RXD VART2\_TXD GND The input and output impedance are matched × 62 × 61 UART3\_TXD LEVEL SHIFTER +178 15 SIM\_DATA 17 SIM\_RST 18 SIM\_VDD R11 100 +3V3 +1V8 × 57 GPI01 SPI02 GPI03 GPI04 GPI05 GPI05 GPI05 \* \* \* \* V(s)=1.8V V(f)=1.2V R=50 I(f)=12mA C10 ESDA6V1SC5 GND 8 GND\_1 13 GND\_2 19 GND\_3 21 GND\_4 27 GND\_5 30 GND\_6 31 GND\_6 36 GND\_1 65 GND\_1 65 GND\_1 65 GND\_1 1 65 GND\_1 1 65 GND\_1 1 65 GND\_1 1 67 GND\_1 5 70 GND\_1 5 70 GND\_1 7 72 GND\_2 7 72 GND\_2 7 72 GND\_2 7 72 LED. R13 4.7K C11 0.1uF HAN1102W-1-TR Q2 558050 STATUS 0.1uF GND R14 47K GND GND TXB0108RGY GND SIM CARD J5 NSIM-5-B GND VCC C1\_1 VCC\_1 C6\_X SIM\_VDD SIM\_RST C2\_2 SIM\_DATA C3\_1 C1K\_1 SIM\_CLK GND -COVER\_GND\_1 G3 PWR\_KEY +3V3 +373 R15 4.7K COVER\_GND\_\_4 COVER\_GND\_\_5 Q3 558050 SIM7080G\_PWR C13 C14 C15 C16 GND R16 47K 100uF 100uF 100uF 1uF Approved By: GND GND GND GND Designed By: Rodney Osodo Abstract Machines Sheet: /SIM7080G/ File: peripherals.kicad\_sch Title: IoT Gateway Rev: v0.1.0