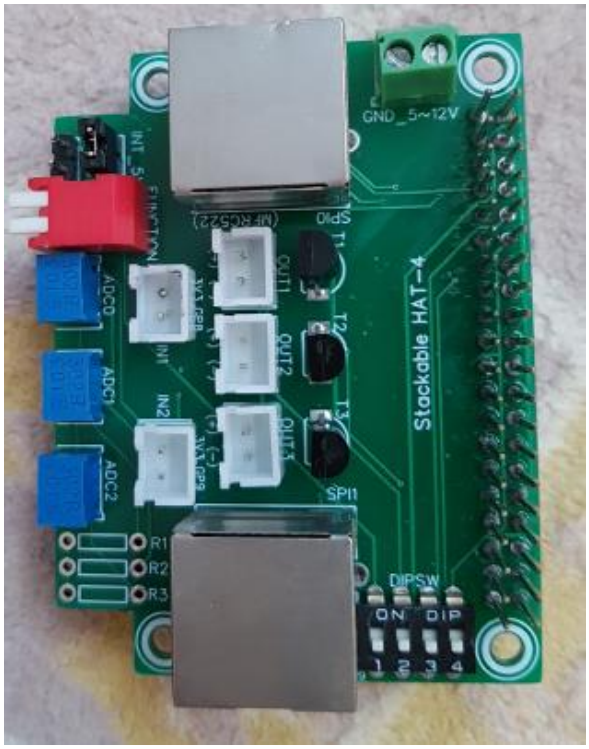
MLS (Multi Layer Stackable) Hat–4 User Guide

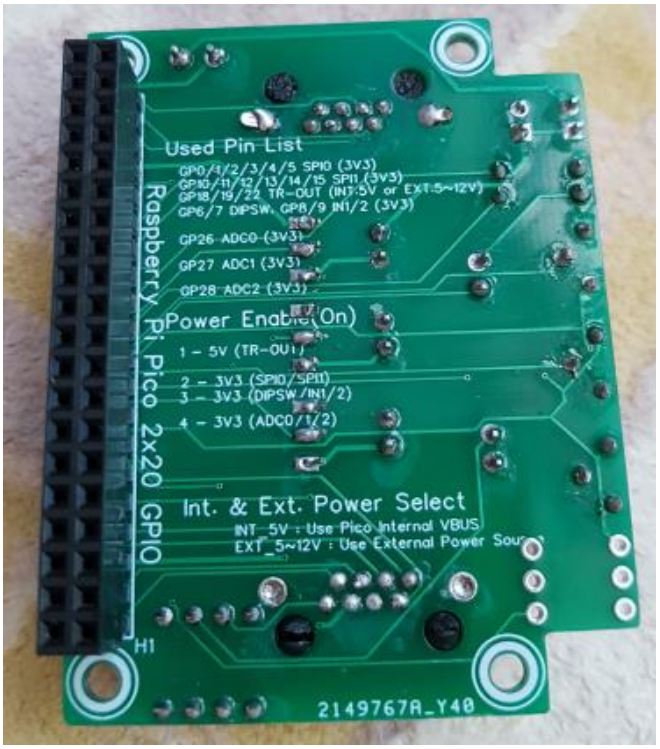
SPI0, SPI1 with RJ45 LAN Port ... 2 Port
TR switching output ... 3 Port
(Pico internal 5V and external 5~12V KF350-3.5 Connector
with 2.54mm jumper for enable and disable)
Digital 3.3V input ... 2 Port
DIPSW(x2) Function select ... 2 Port
Small ADC potentiometers ... 3 Port

1. Hardware Setup

a) PCBA (PCB Assembled)



Top Side



Bottom Side

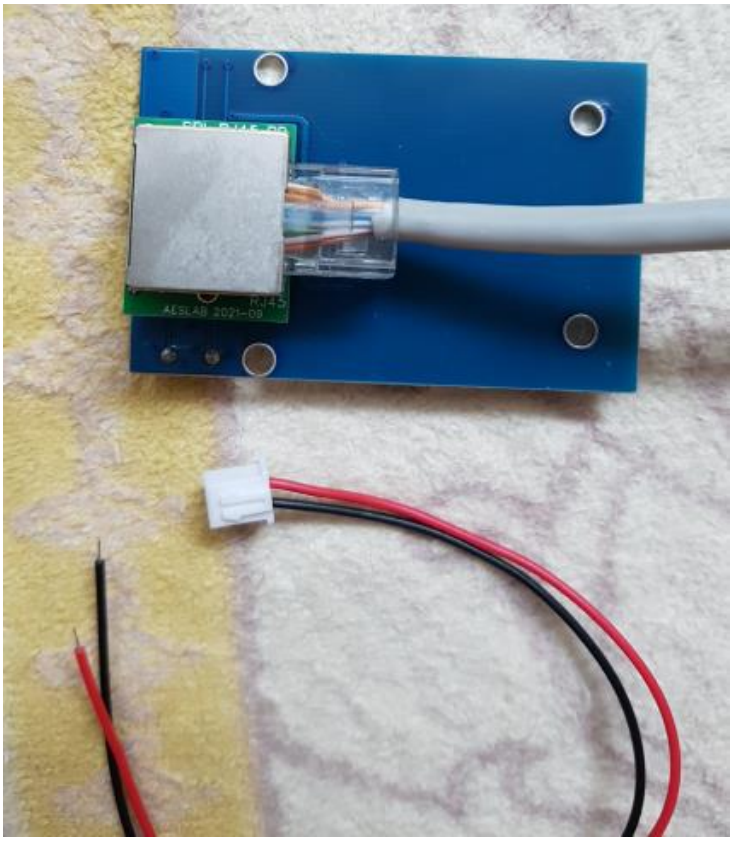
b) Used Pin List

GP0/1/2/3/4/5	SPI0
GP10/11/12/13/14/15	SPI1
GP18/19/22	TR-Out, Selectable Internal 5V, External 5~12V using Jumper
GP6/7	DIPSW(x2)
GP8/9	Digital Input
GP26/27/28	ADC (Potentiometer)

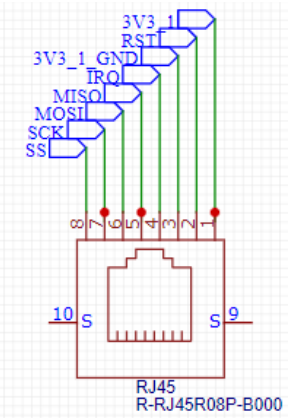
c) Power Enable (DIPSW On/Off)

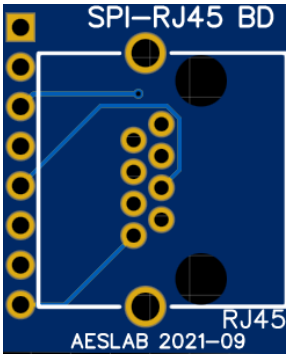
1	5V	TR-Out	2N2222A (~40V 800mA)
2	3V3	SPI0/1	SPI-RJ45 Connection
3	3V3	DIPSW/IN1/2	
4	3V3	ADC0/1/2	

d) Set Configuration



JST XH2.54 2.54mm 2P Female





SPI-RJ45 Small PCB

e) Parts

MFRC522 RFID Reader ... 1 EA
SPI-RJ45 Small PCB (Soldered to MFRC522) ... 1 EA
More Various SPI-RJ45 Small PCB will be available soon.

JST XH2.54 2.54mm 2P Female with 20cm wire, 26AWG ... 5 EA

2. MicroPython with Thonny IDE

a) MicroPython Class Library

MFRC522.py

b) MicroPython Unit Test Code

ADC.py
ADC_file.py

GP8_9_IN.py
GP6_7_DIPSW.py
GP18_19_22_TROut.py

test_RFID_read.py
test_RFID_write.py