

BIGTREE TECH Manta E3EZ, EZ2209, CB1, BLTouch

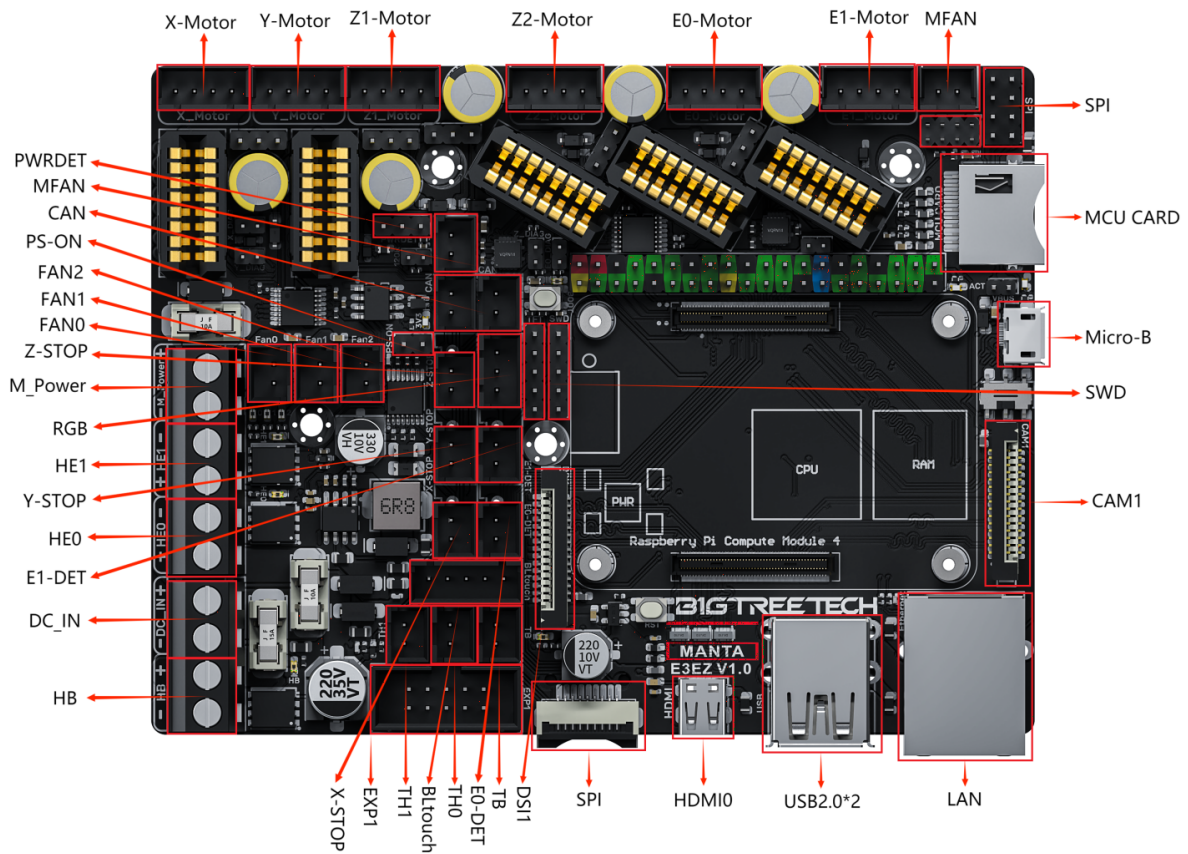
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BIGTREE TECH Manta E3EZ

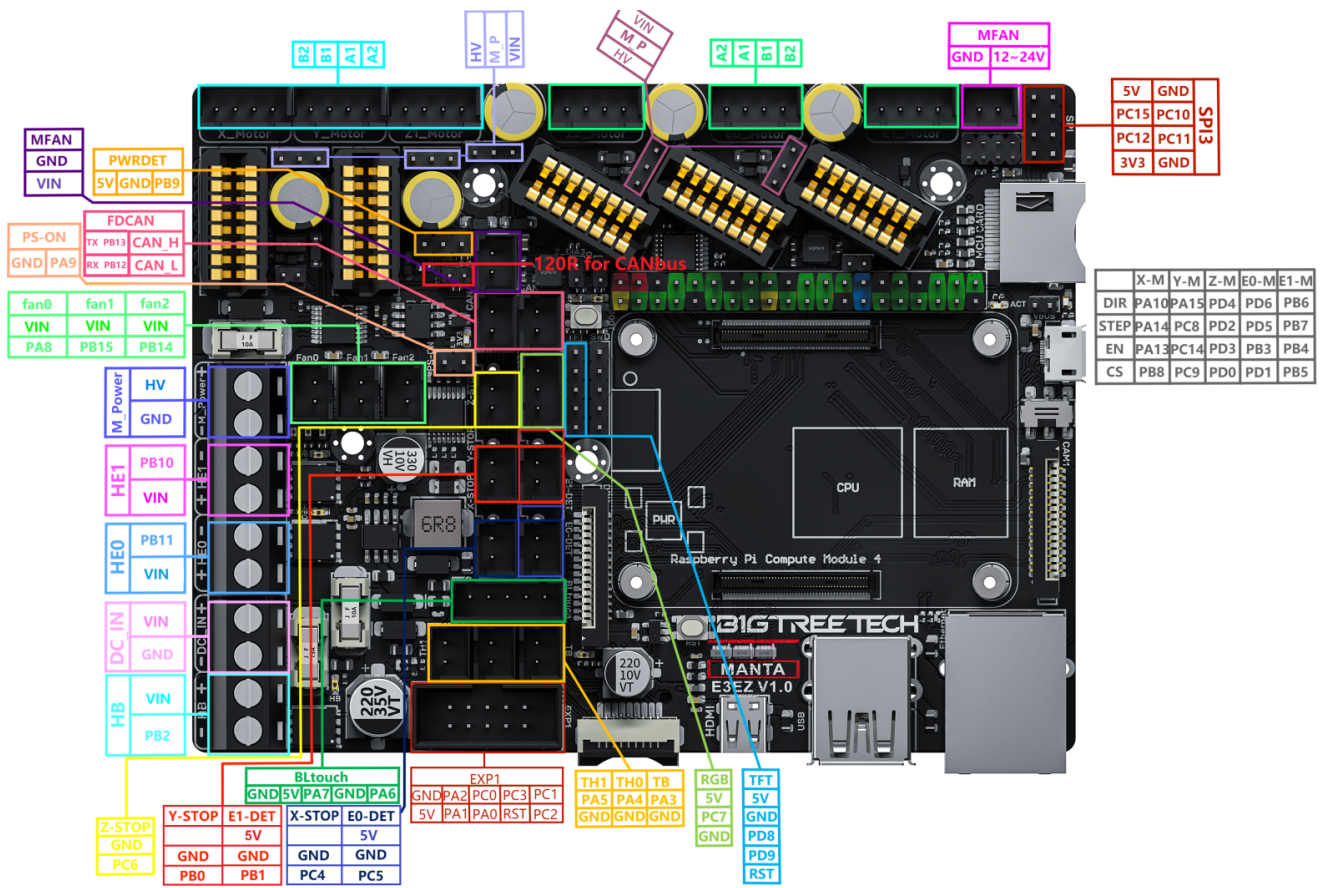
BIGTREETECH Manta E3EZ V1.0 Schematic

[Manta-E3EZ GitHub](#)

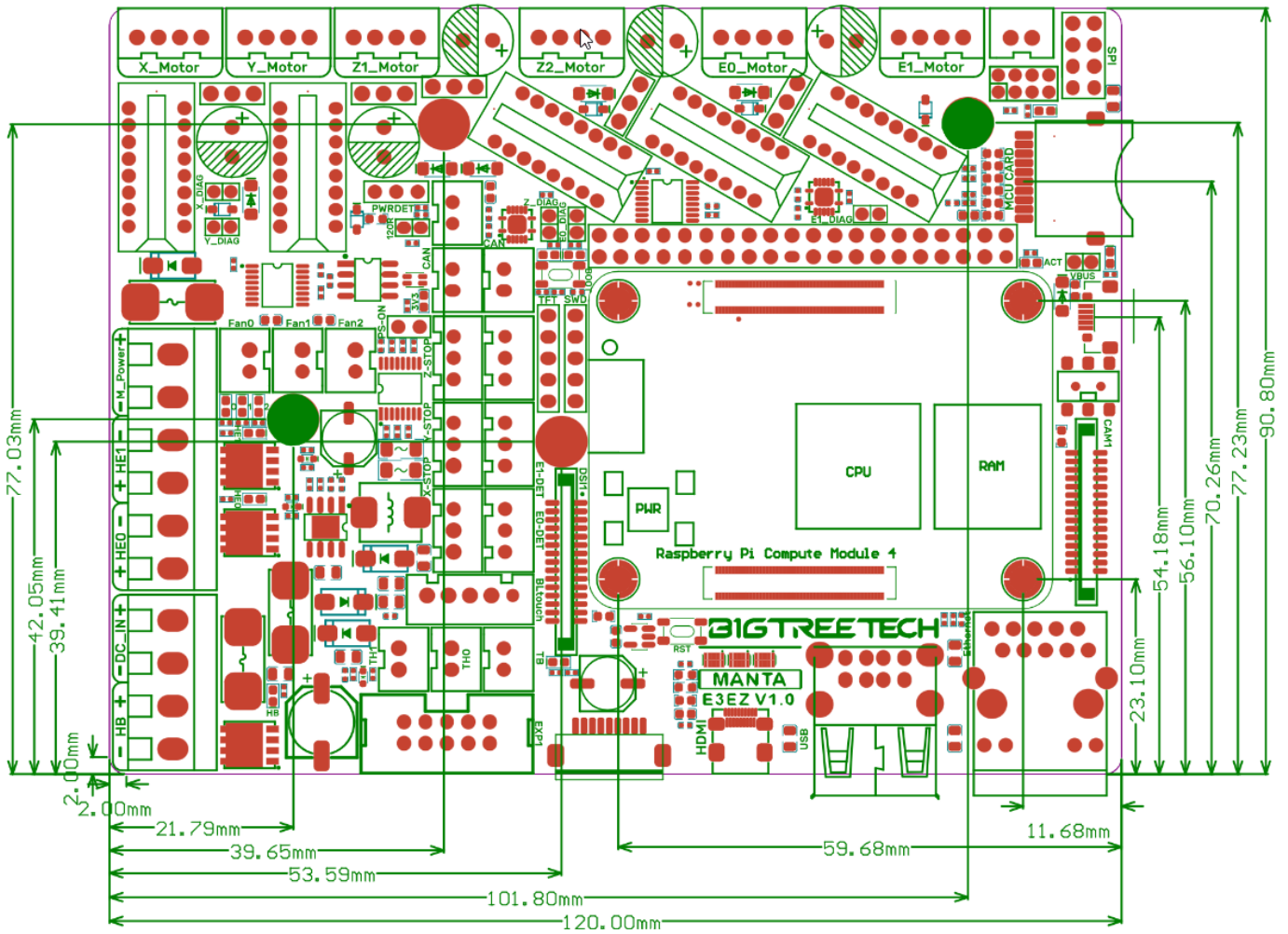
Interface



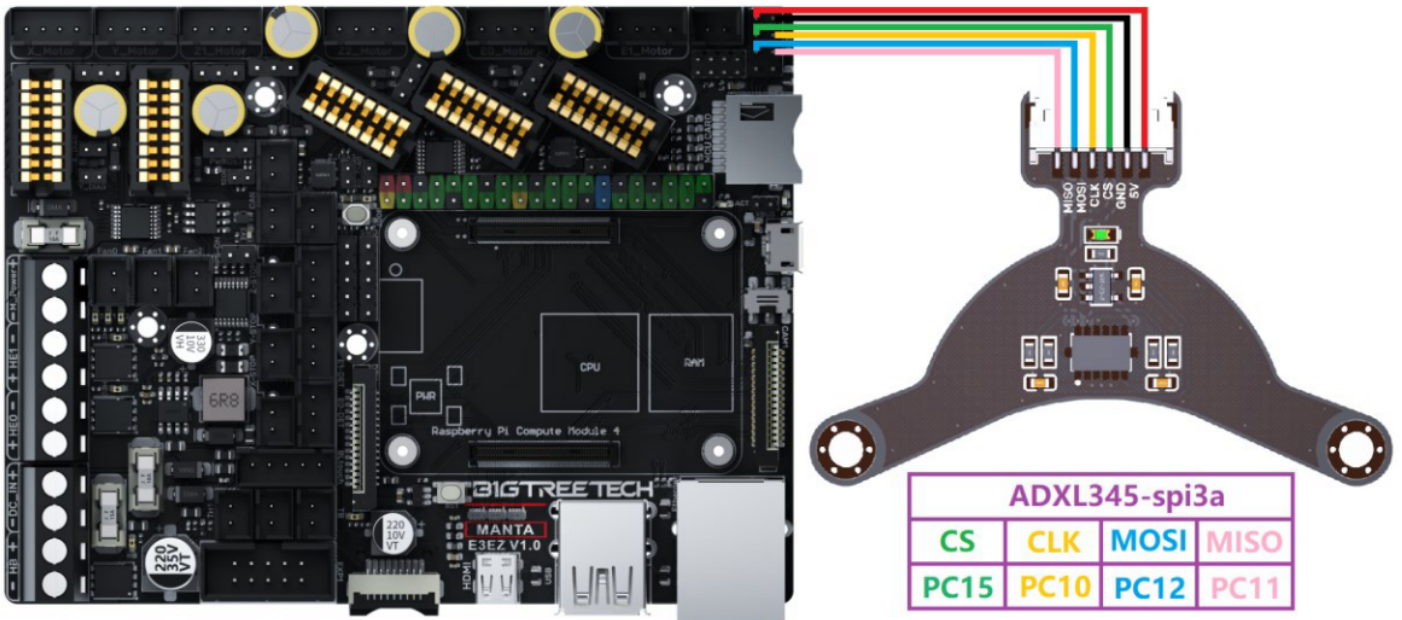
Pinout



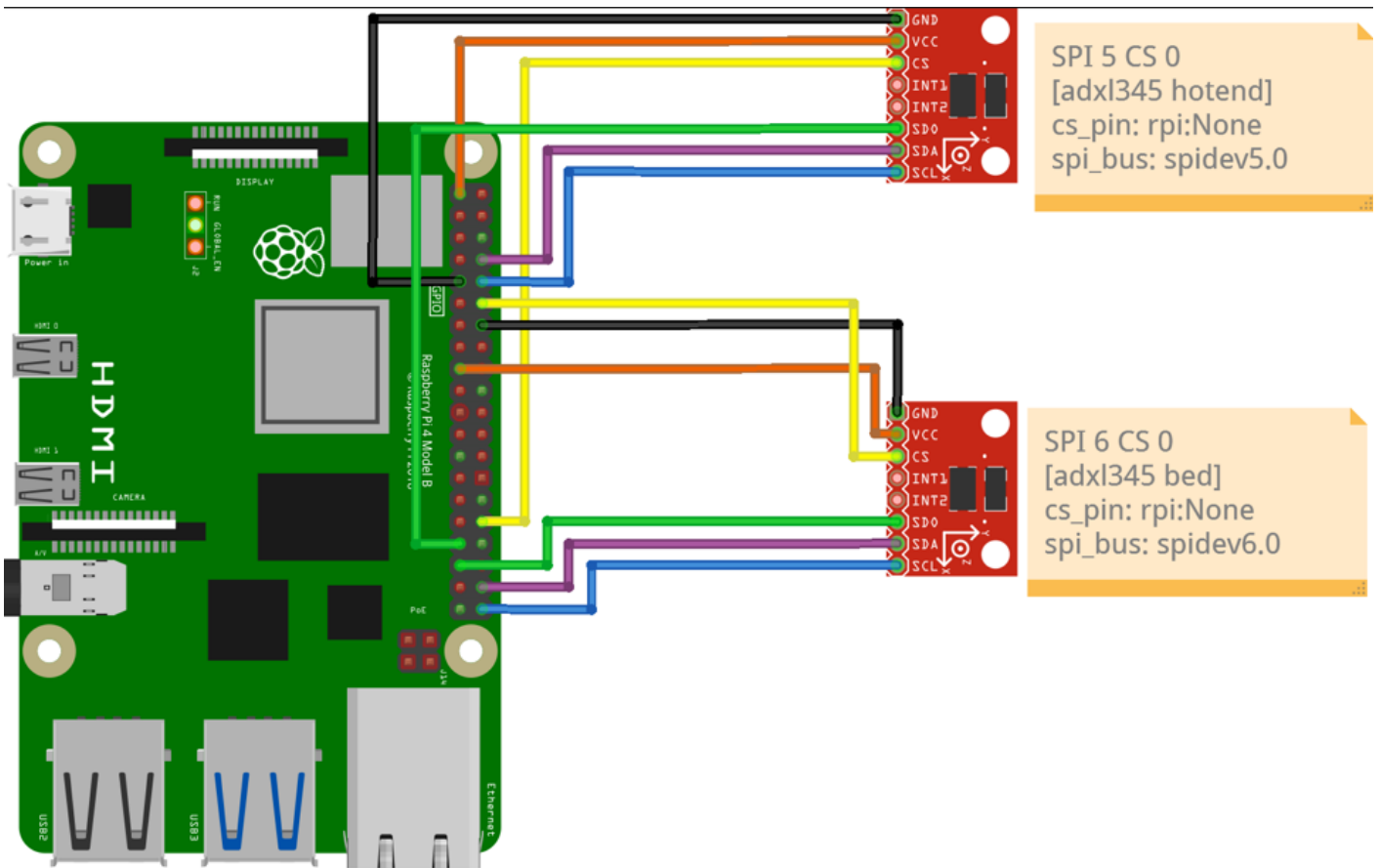
Size



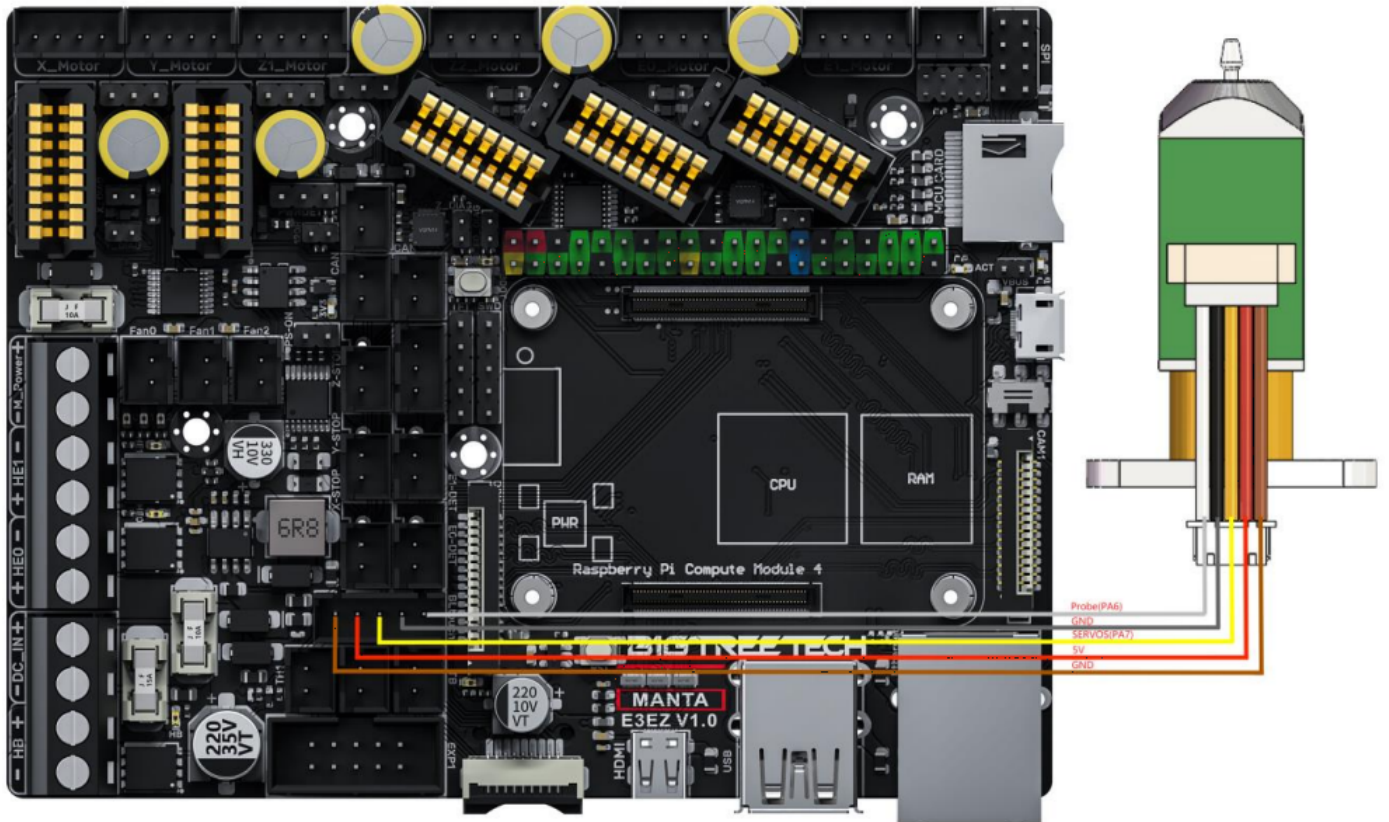
ADXL345 accelerometer



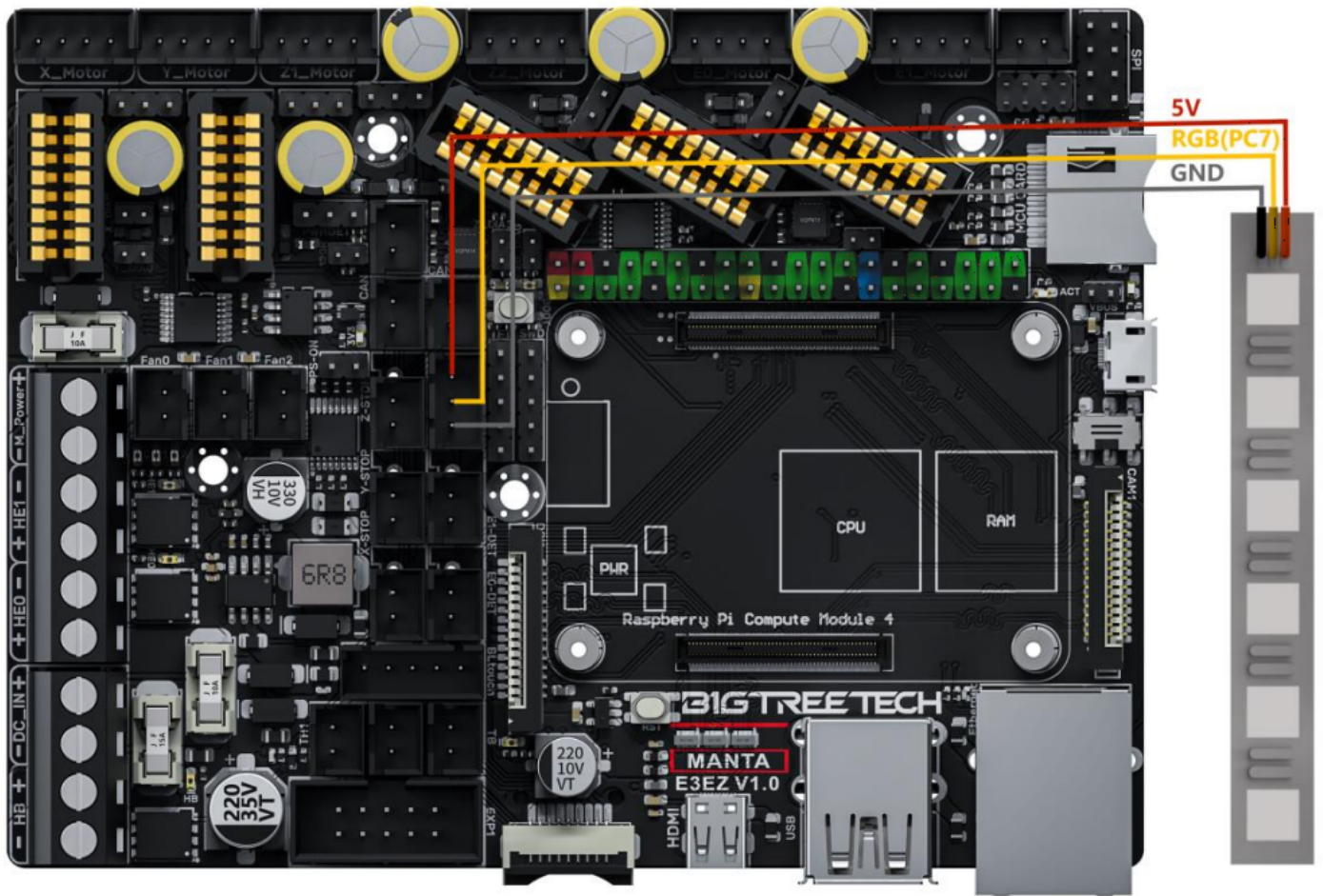
```
[adx1345]
cs_pin: PC15
spi_bus: spi3a
#spi_software_sclk_pin: PC10
#spi_software_mosi_pin: PC12
#spi_software_miso_pin: PC11
```



BLTouch Wiring



RGB Wiring



Klipper

printer.cfg

```
[include mainsail.cfg]
[include macros/*.cfg]

[virtual_sdcard]
path: /home/biqu/printer_data/gcodes
on_error_gcode: CANCEL_PRINT

[mcu]
serial: /dev/serial/by-id/usb-Klipper_XXXXXXXXXXXXXXXX

[printer]
kinematics: cartesian
max_velocity: 300
max_accel: 3000
max_z_velocity: 5
max_z_accel: 100

#####
# Temperature Sensors
#####

[temperature_sensor CB1]
sensor_type: temperature_host
min_temp: 10
max_temp: 100

[temperature_sensor E3EZ]
sensor_type: temperature_mcu
min_temp: 10
max_temp: 100

#####
# Fan Settings
#####
```

[heater_fan HotendFan]

pin: PB15

max_power: 1.0

fan_speed: 0.7

kick_start_time: 0.1

heater: extruder

heater_temp: 50.0

[fan]

pin: PA8

[temperature_fan BoardFan]

pin: PB14

max_power: 1.0

sensor_type: temperature_host

control:watermark

target_temp: 45

min_temp: 0

max_temp: 90

off_below: 0.10

kick_start_time: 0.50

max_speed: 0.9

min_speed: 0.3

#####

neopixel Settings

#####

[neopixel Licht]

pin: PC7

chain_count: 2

initial_RED: 0.0

initial_GREEN: 1.0

initial_BLUE: 0.0

initial_WHITE: 0.0

#####

BLTouch Settings

#####

```
[bltouch]
sensor_pin: PA6
control_pin: PA7
samples: 2
#horizontal_move_z: 10
speed: 20
x_offset: -31
y_offset: -8
#z_offset: 0.0
```

```
#####
# Bed Mesh Settings
#####
```

```
[bed_mesh]
speed: 100
horizontal_move_z: 10
mesh_min: 10, 10
mesh_max: 133, 145
probe_count: 4, 4
mesh_pps: 2,2
fade_start: 1
fade_end: 10
fade_target: 0
```

```
#####
# 128x64 Full Graphic Creality CR10 / ENDER 3 stockdisplay
#####
```

```
[display]
lcd_type: st7920
cs_pin: EXP1_7
sclk_pin: EXP1_6
sid_pin: EXP1_8
encoder_pins: ^EXP1_5, ^EXP1_3
click_pin: ^!EXP1_2
```

```
[output_pin beeper]
pin: EXP1_1
```

```
#####
```

```
# X configuration
```

```
#####
```

```
[stepper_x]
```

```
step_pin: PA14
```

```
dir_pin: PA10
```

```
enable_pin: !PA13
```

```
microsteps: 16
```

```
rotation_distance: 40
```

```
endstop_pin: ^PC4
```

```
position_min: -20
```

```
position_endstop: -20
```

```
position_max: 165
```

```
homing_speed: 50
```

```
[tmc2209 stepper_x]
```

```
uart_pin: PB8
```

```
#diag_pin: PC4
```

```
run_current: 0.800
```

```
stealthchop_threshold: 999999
```

```
#####
```

```
# Y configuration
```

```
#####
```

```
[stepper_y]
```

```
step_pin: PC8
```

```
dir_pin: PA15
```

```
enable_pin: !PC14
```

```
microsteps: 16
```

```
rotation_distance: 40
```

```
endstop_pin: ^PB0
```

```
position_endstop: 0
```

```
position_min: -5
```

```
position_endstop: -5
```

```
position_max: 165
```

```
homing_speed: 50
```

```
[tmc2209 stepper_y]
uart_pin: PC9
#diag_pin: PB0
run_current: 0.800
stealthchop_threshold: 999999
```

```
#####
```

```
# z configuration
```

```
#####
```

```
[stepper_z]
step_pin: PD2
dir_pin: PD4
enable_pin: !PD3
microsteps: 16
rotation_distance: 8
endstop_pin: probe:z_virtual_endstop
#position_endstop: 0
position_max: 180
position_min: -2.0
```

```
[tmc2209 stepper_z]
uart_pin: PD0
#diag_pin: PC6
run_current: 0.650
stealthchop_threshold: 999999
```

```
[safe_z_home]
home_xy_position: 114, 87 # Change coordinates to the center of your print bed
speed: 50
z_hop: 10 # Move up 10mm
z_hop_speed: 5
```

```
#####
```

```
# E configuration
```

```
#####
```

```
[extruder]
step_pin: PD5
dir_pin: !PD6
```

```
enable_pin: !PB3
microsteps: 16
rotation_distance: 33.500
nozzle_diameter: 0.400
filament_diameter: 1.750
heater_pin: PB11 #HE0
sensor_type: EPCOS 100K B57560G104F
sensor_pin: PA4 #TH0
#control: pid
#pid_Kp: 21.527
#pid_Ki: 1.063
#pid_Kd: 108.982
min_temp: 0
max_temp: 270

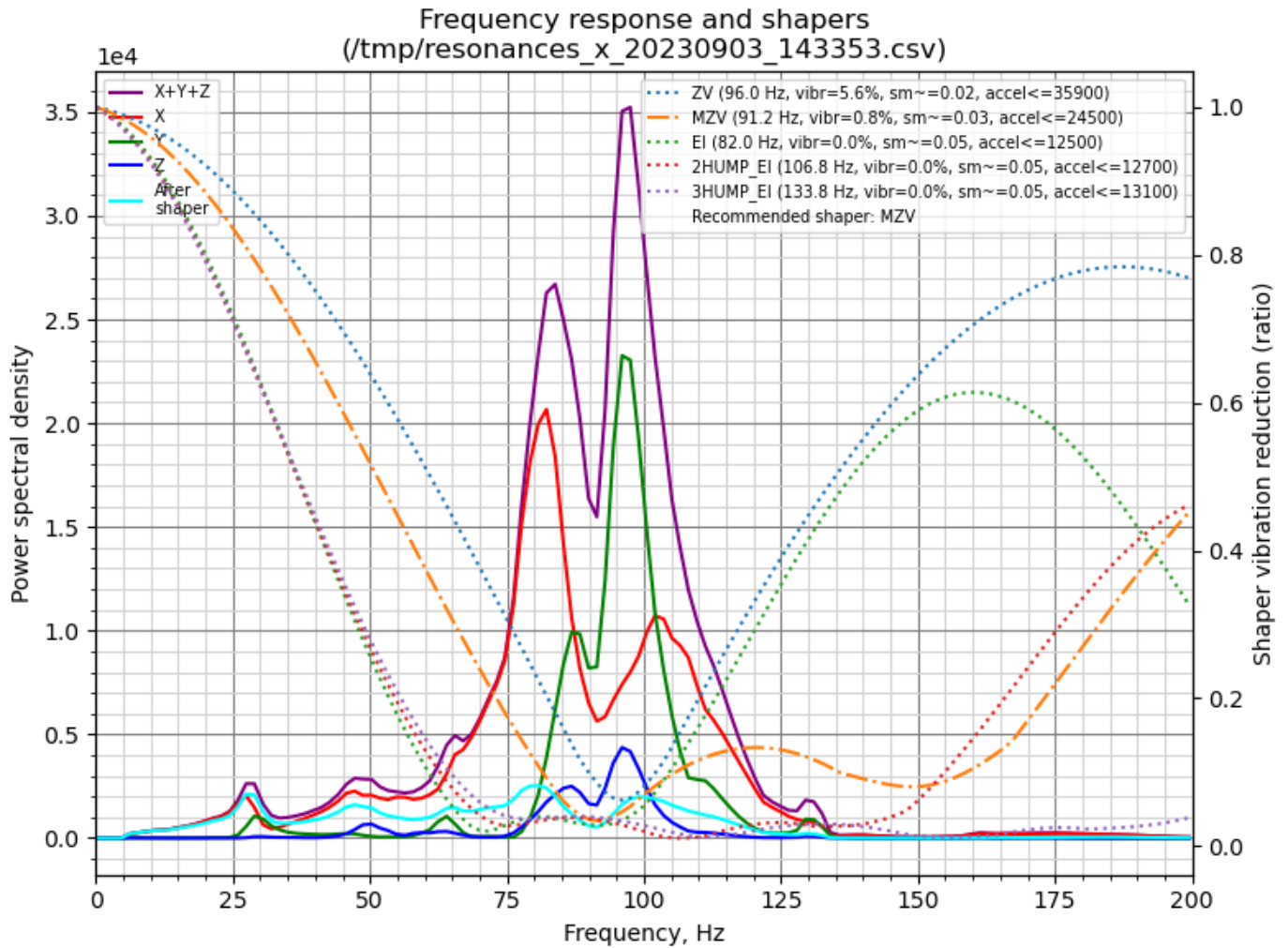
[tmc2209 extruder]
uart_pin: PD1
run_current: 0.800
stealthchop_threshold: 999999

[heater_bed]
heater_pin: PB2 #HB
sensor_type: EPCOS 100K B57560G104F #Generic 3950
sensor_pin: PA3 #TB
#control: watermark
min_temp: 0
max_temp: 130

[board_pins]
aliases:
  # EXP1 header
  EXP1_1=PC1, EXP1_3=PC3, EXP1_5=PC0, EXP1_7=PA2, EXP1_9=<GND>,
  EXP1_2=PC2, EXP1_4=<RST>, EXP1_6=PA0, EXP1_8=PA1, EXP1_10=<5V>
```

input shaping X Y

X Axis



Y Axis

Frequency response and shapers
 (/tmp/resonances_y_20230903_142936.csv)

