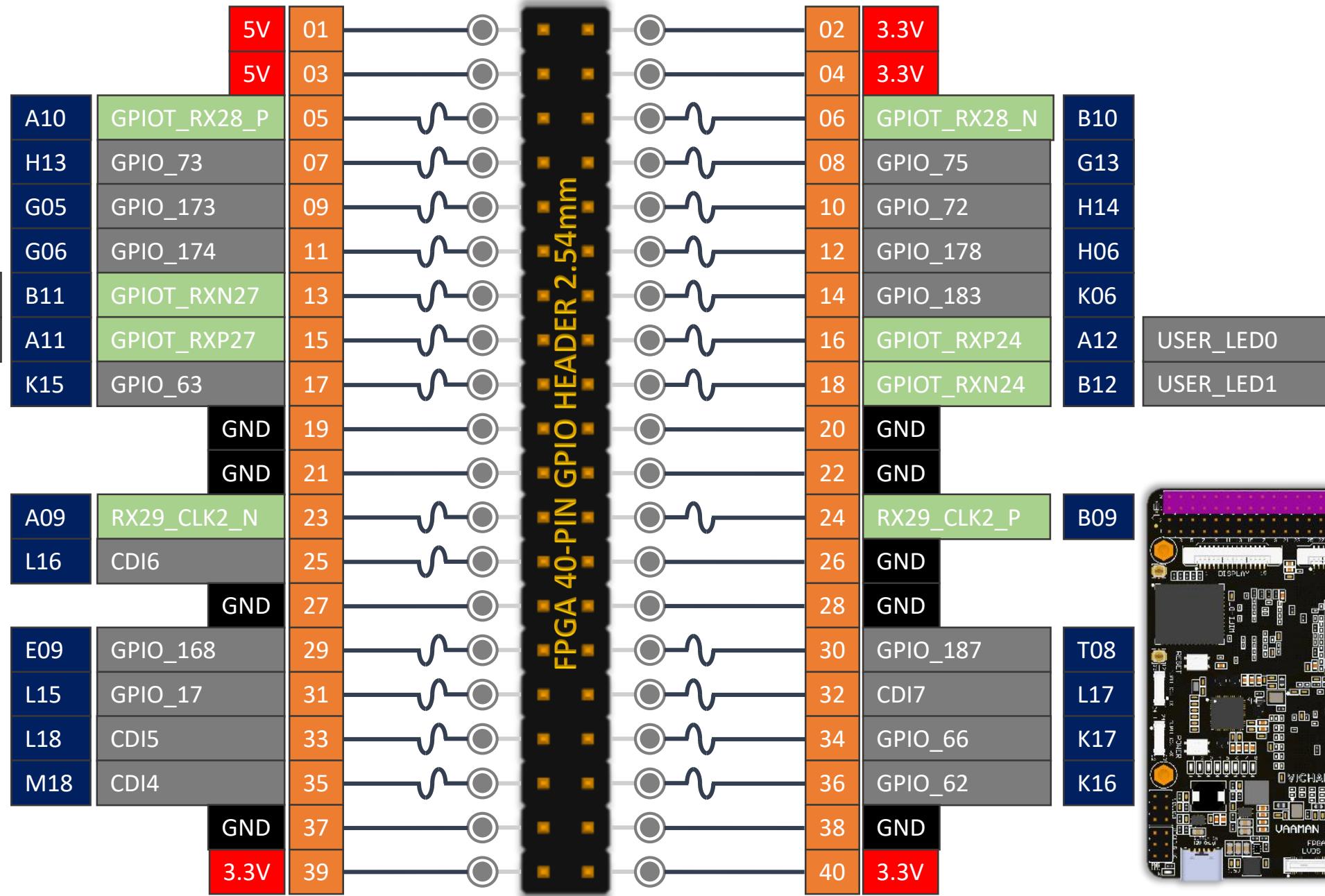
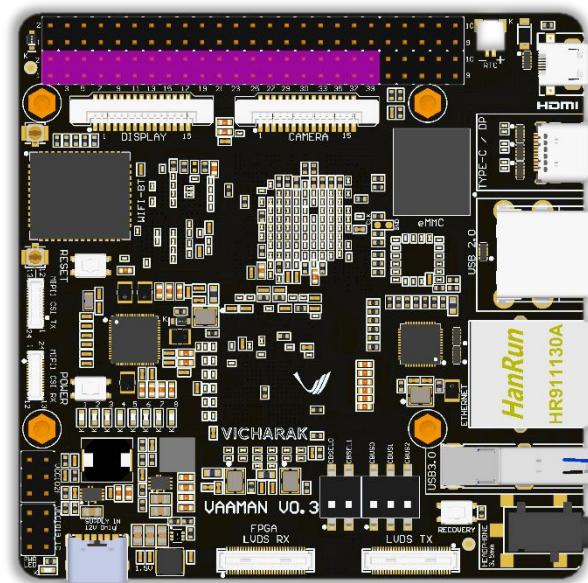
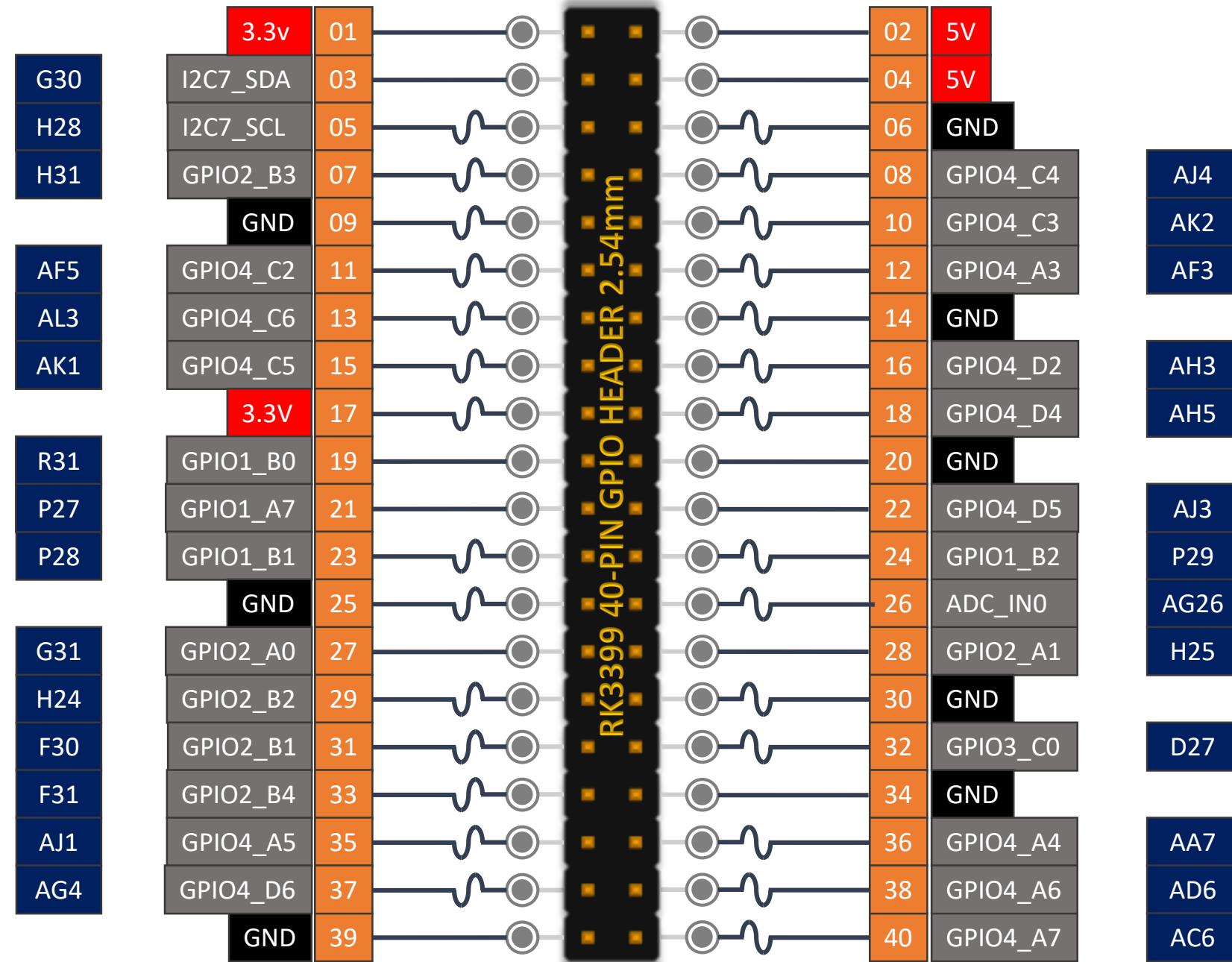
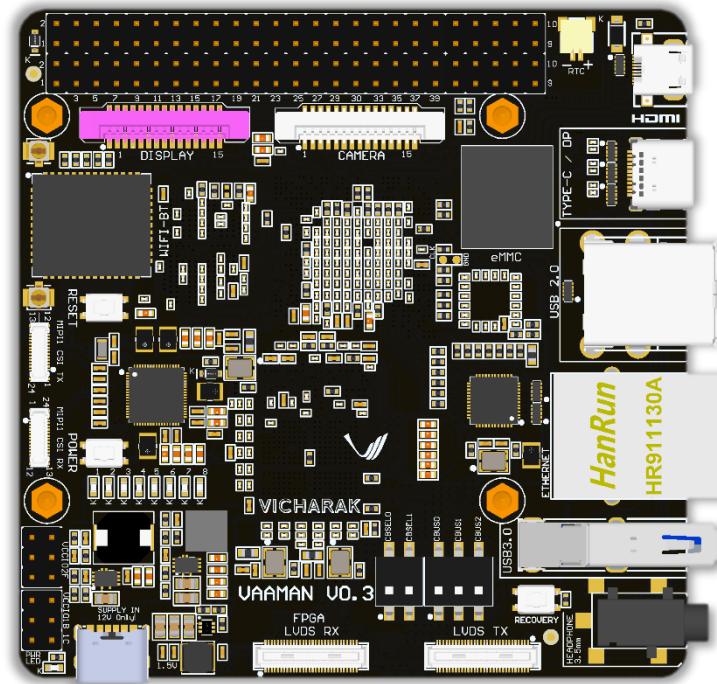
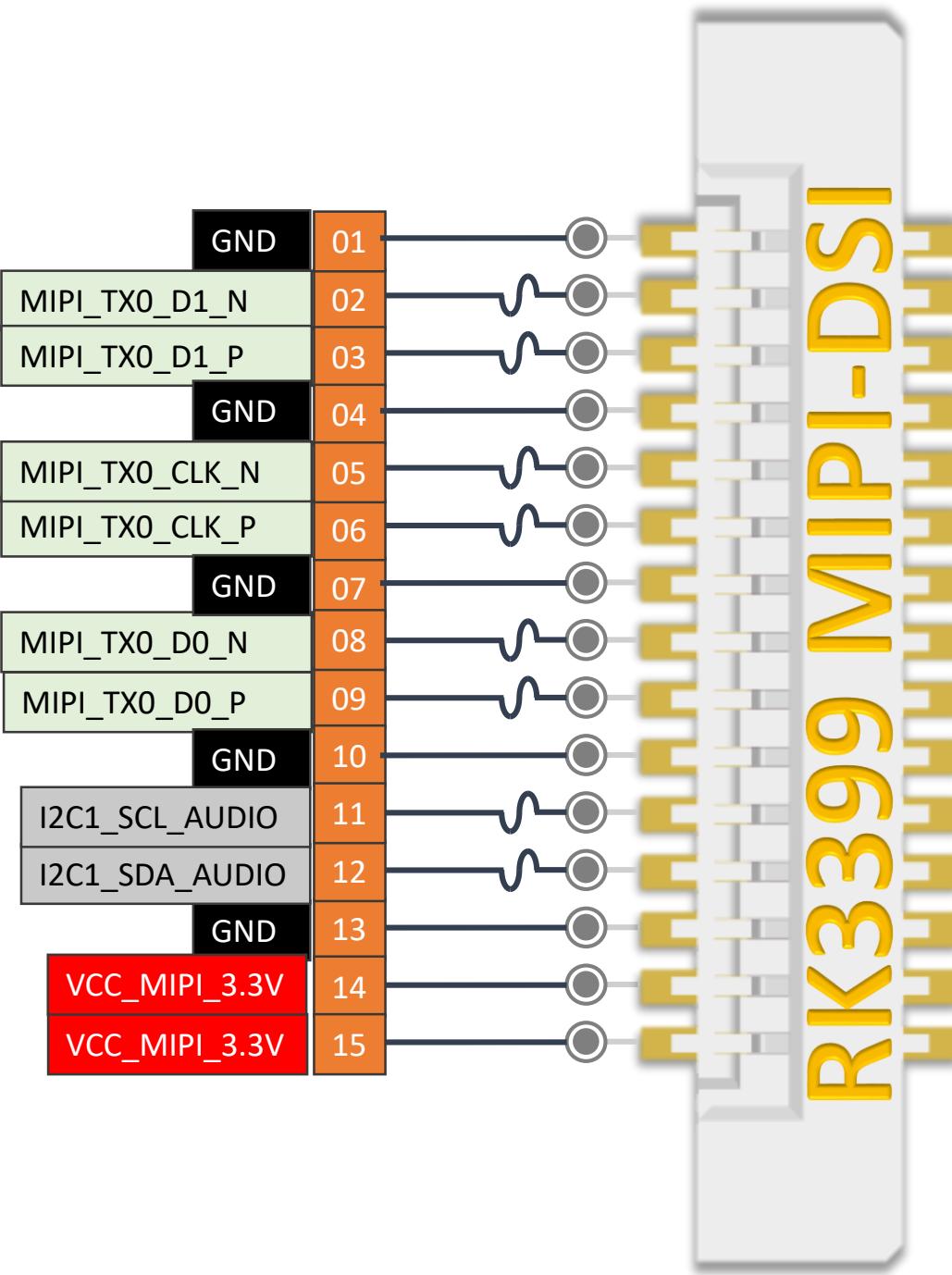


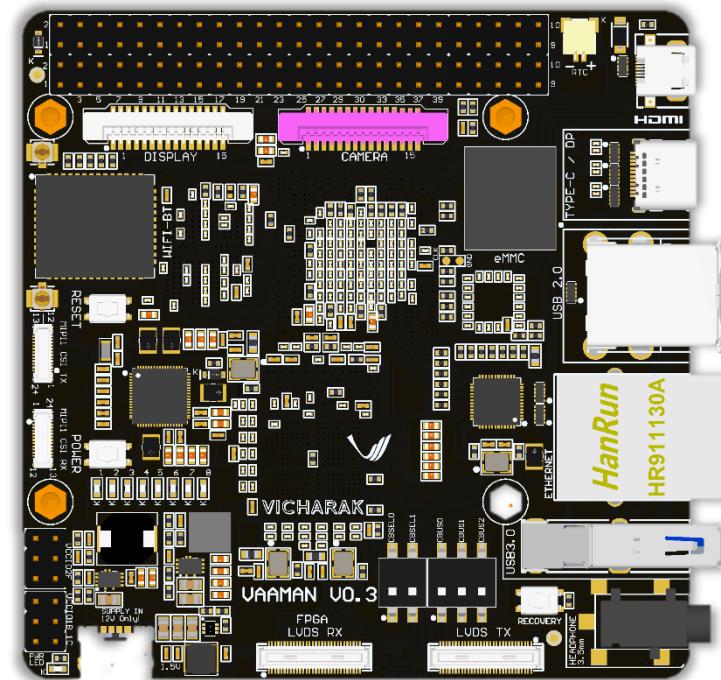
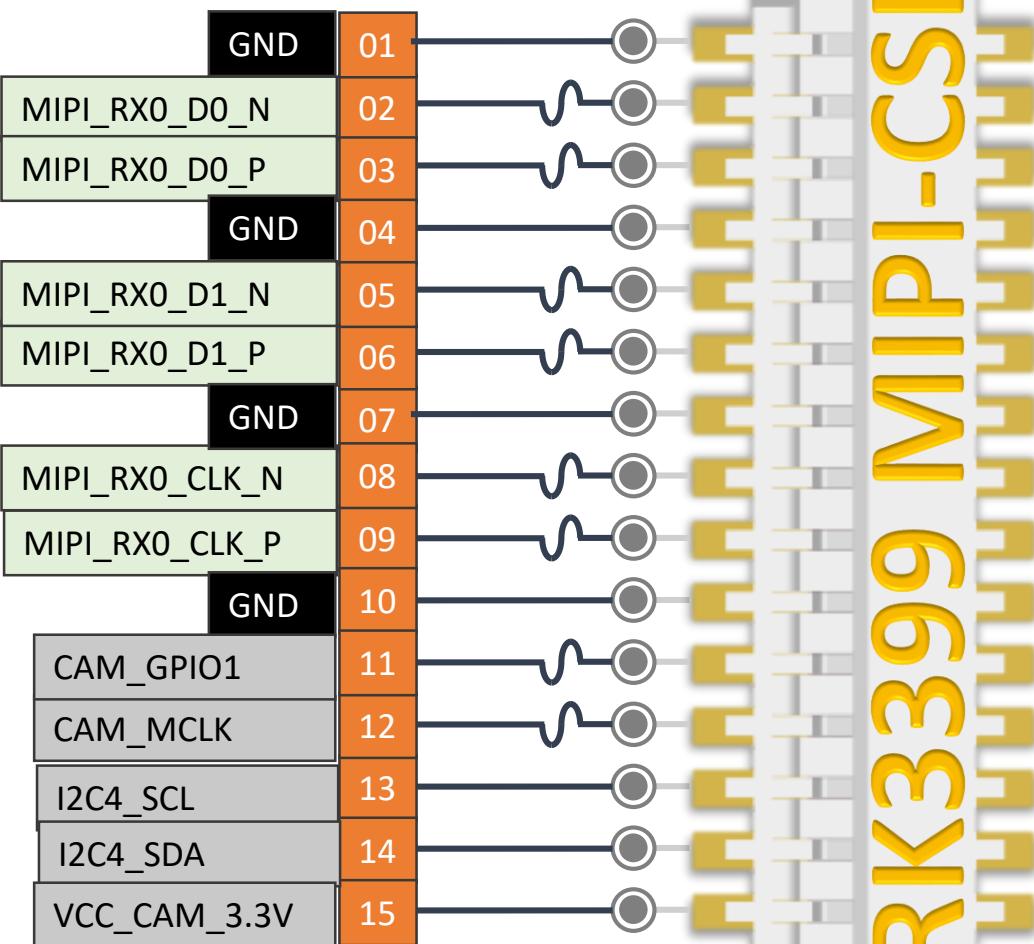
## 1 FPGA GPIOs



## 2 RK3399 GPIOs

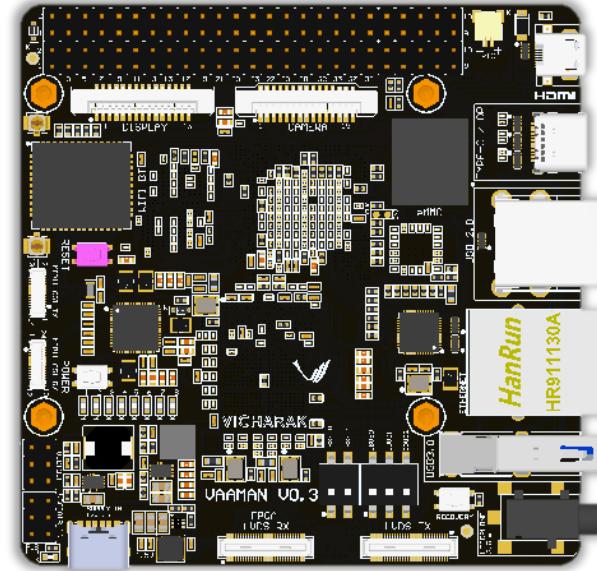


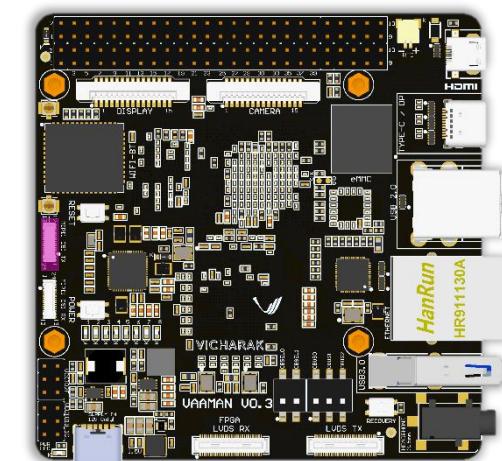
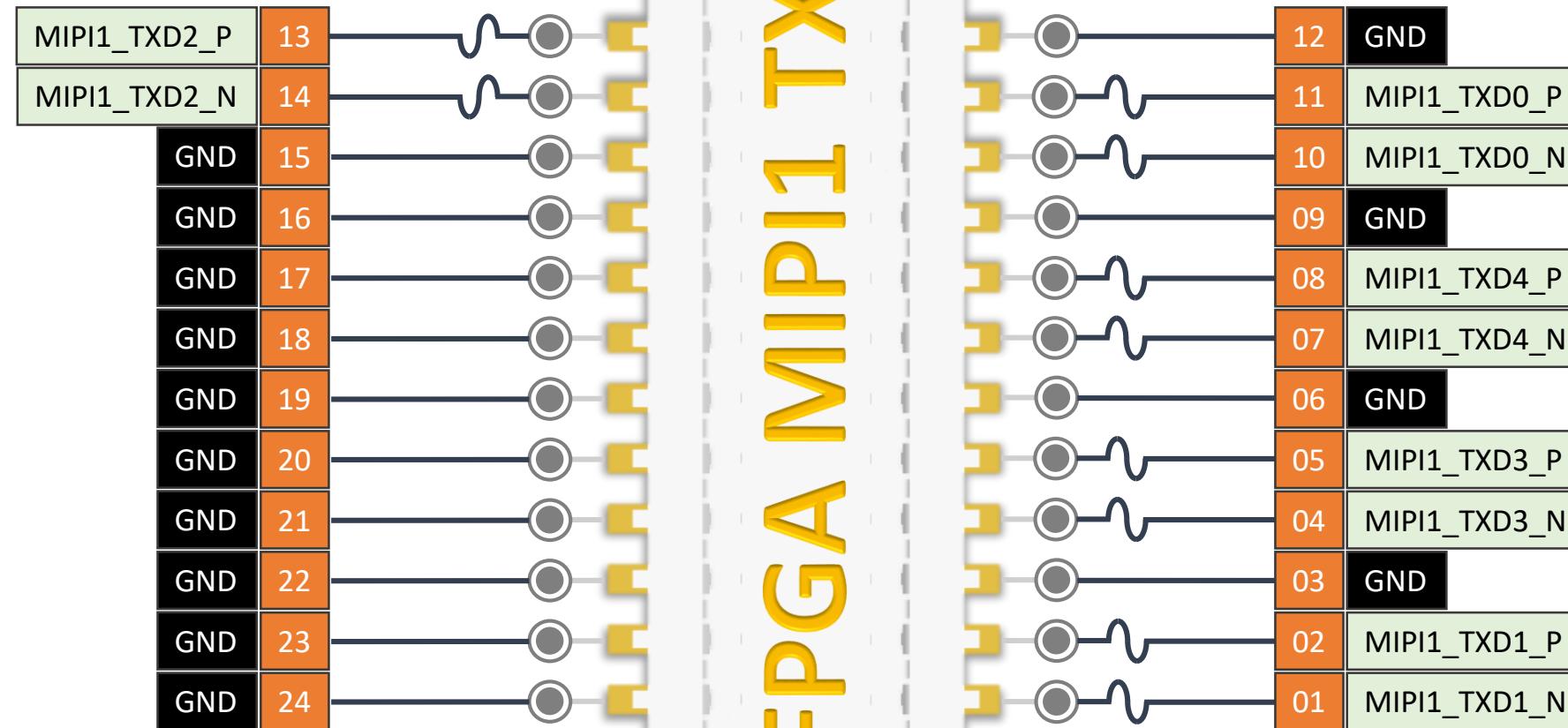


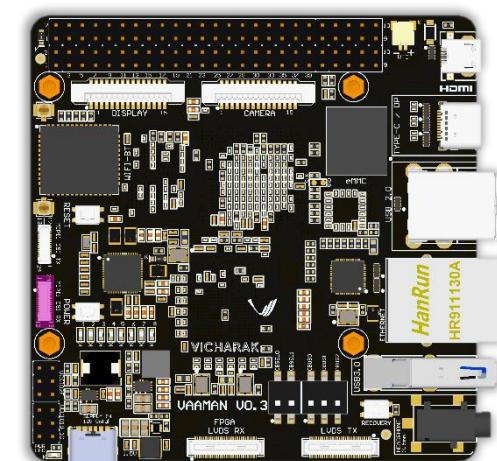
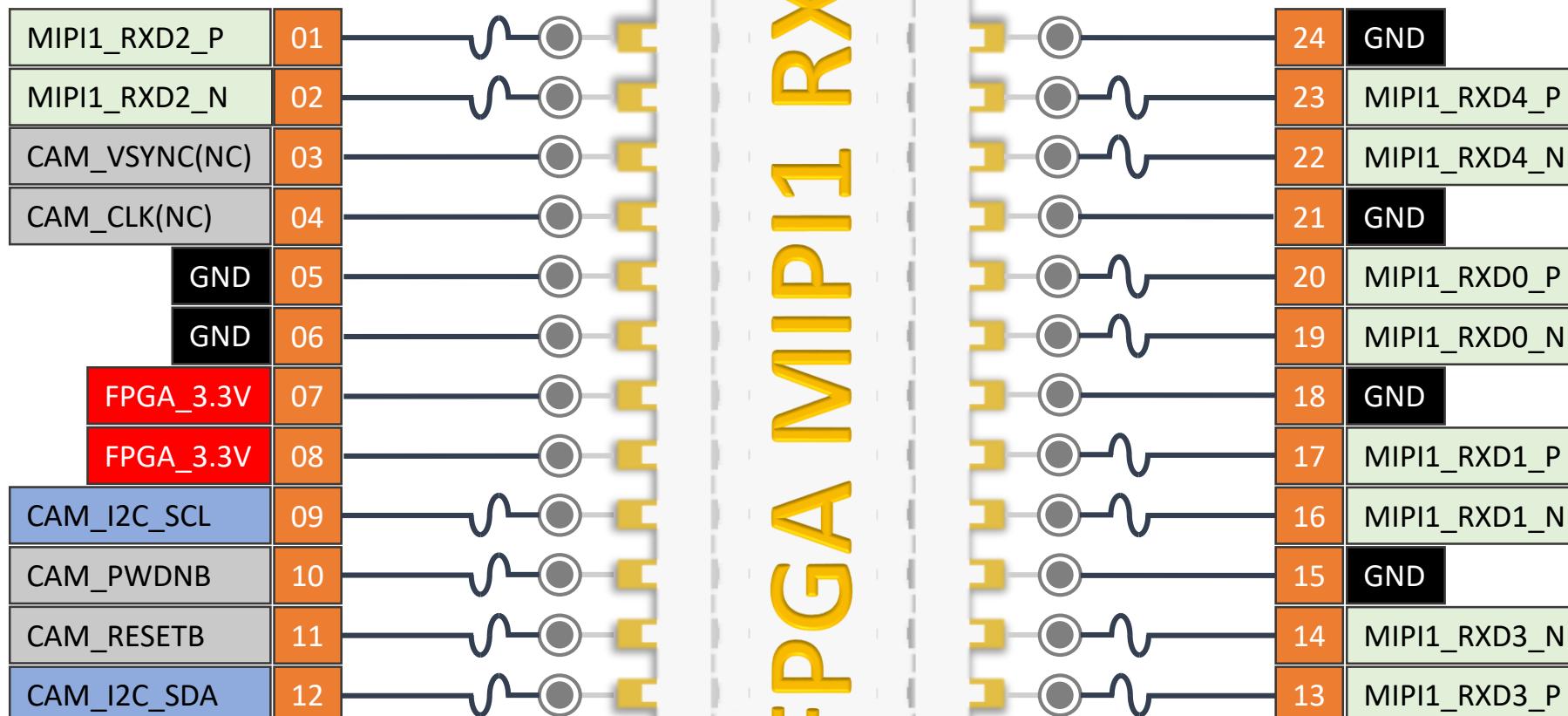




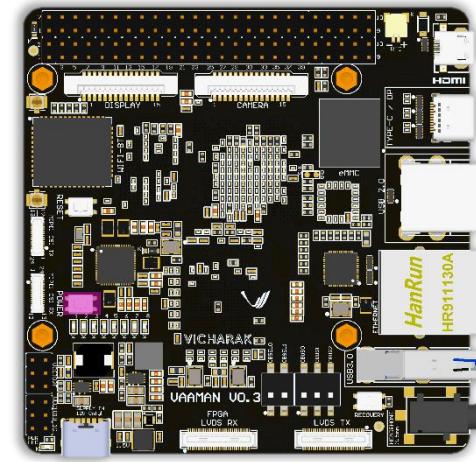
Board **Reset** Push-Button







## 9 Power Key



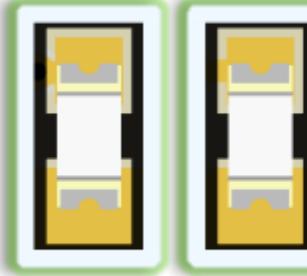
PIN NUMBER

 AA6

PIN NAME

 GPIO3\_D5

01



02



AE5

 GPIO\_L\_150\_NSTATUS J14

03

 CDONE N18

04

 GPIO\_T\_RXP24 A12

05

 GPIO\_T\_RXN24 B12

06

 GPIO\_T\_RXP27 A11

07

 GPIO\_T\_RXN27 B11

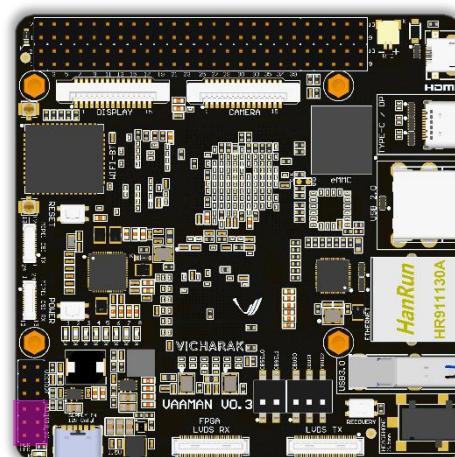
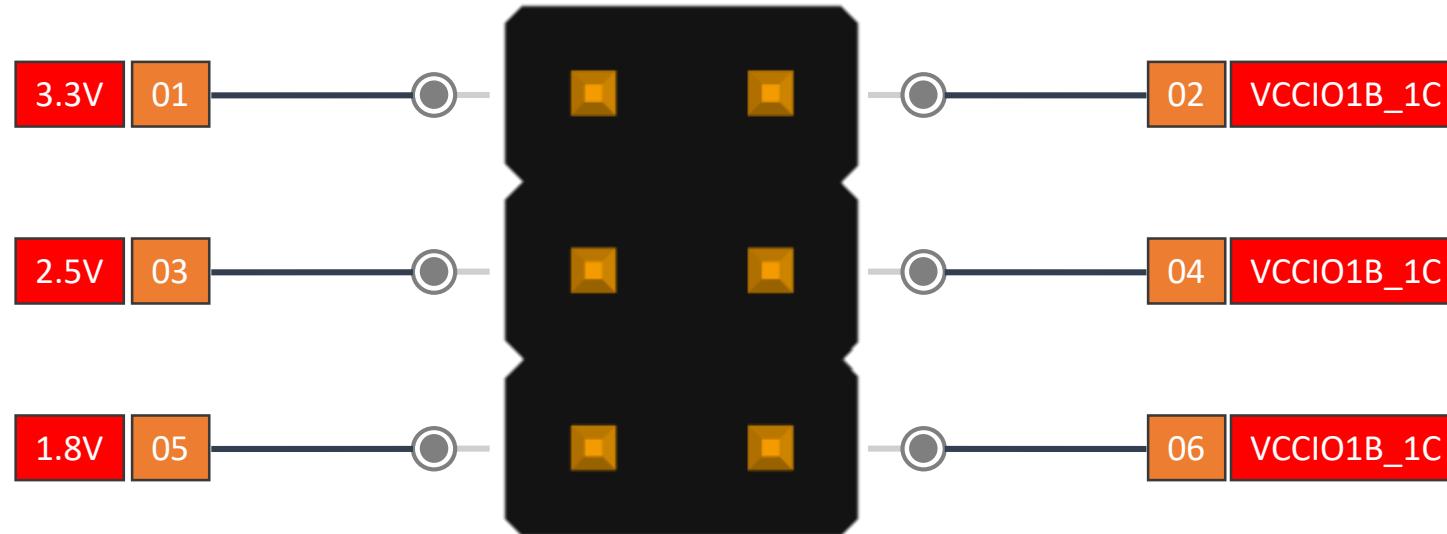
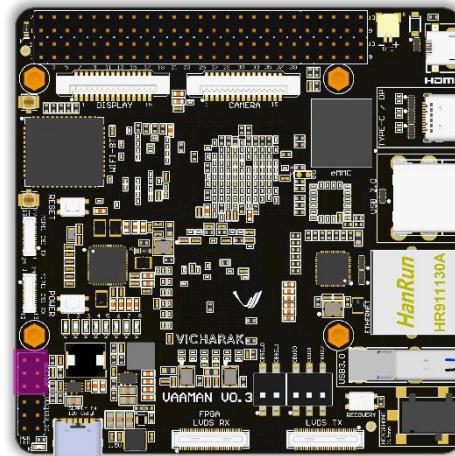
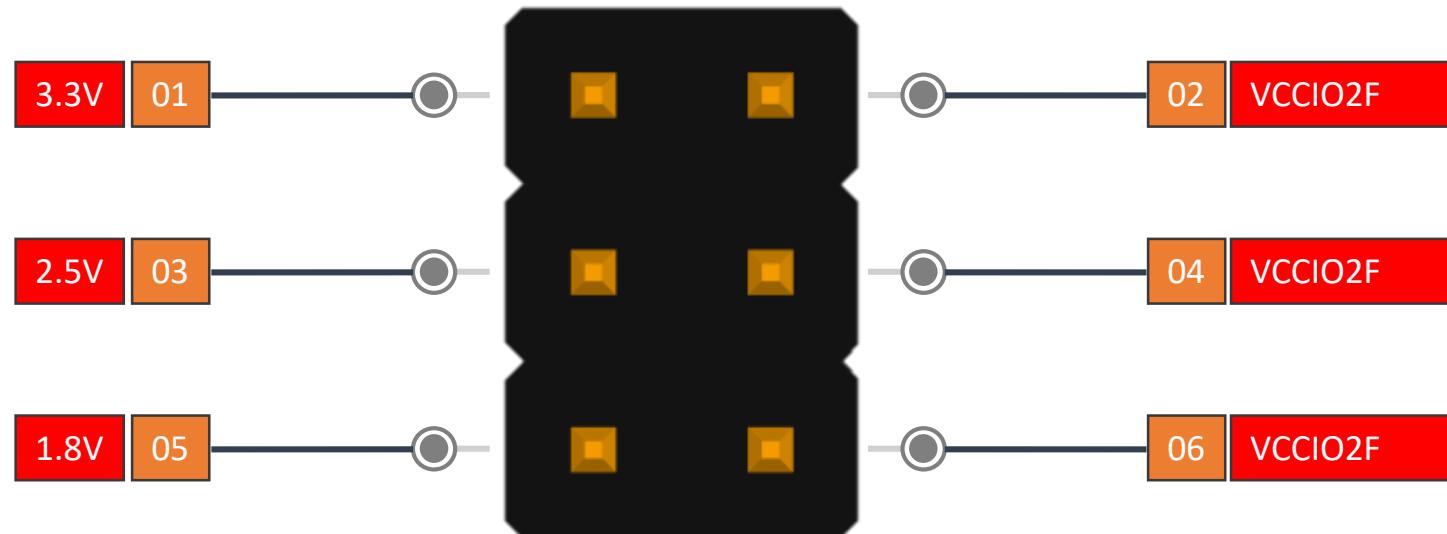
08



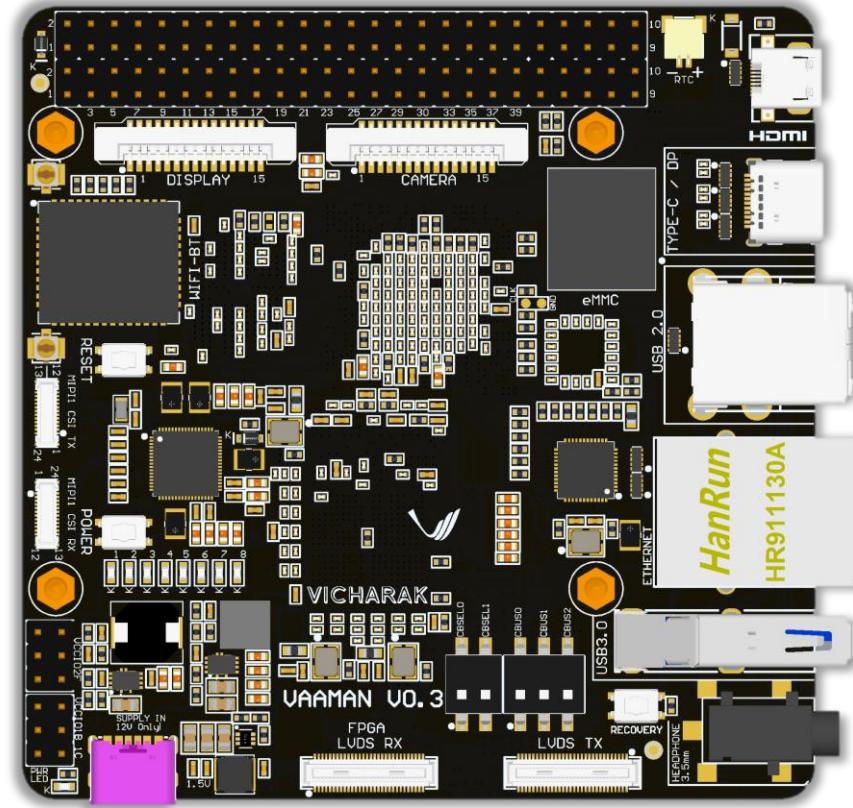
RK3399 USER LEDs

FPGA USER LEDs

01	Active HIGH
02	Active HIGH
03	Active LOW
04	Active HIGH
05	Active HIGH
06	Active HIGH
07	Active HIGH
08	Active HIGH



Jumper	VCCIO1B_1C (J2)	VCCIO2F (J3)
Connect pins 1 and 2	3.3 V (default)	3.3 V (default)
Connect pins 3 and 4	2.5 V	2.5 V
Connect pins 5 and 6	1.8 V	1.8 V



USB PD, support USB Type C PD 2.0, 9V/2A, 12V/2A

Qualcomm® Quick Charge™: Supports QC 3.0/2.0 adapter, 9V/2A, 12V/1.5A

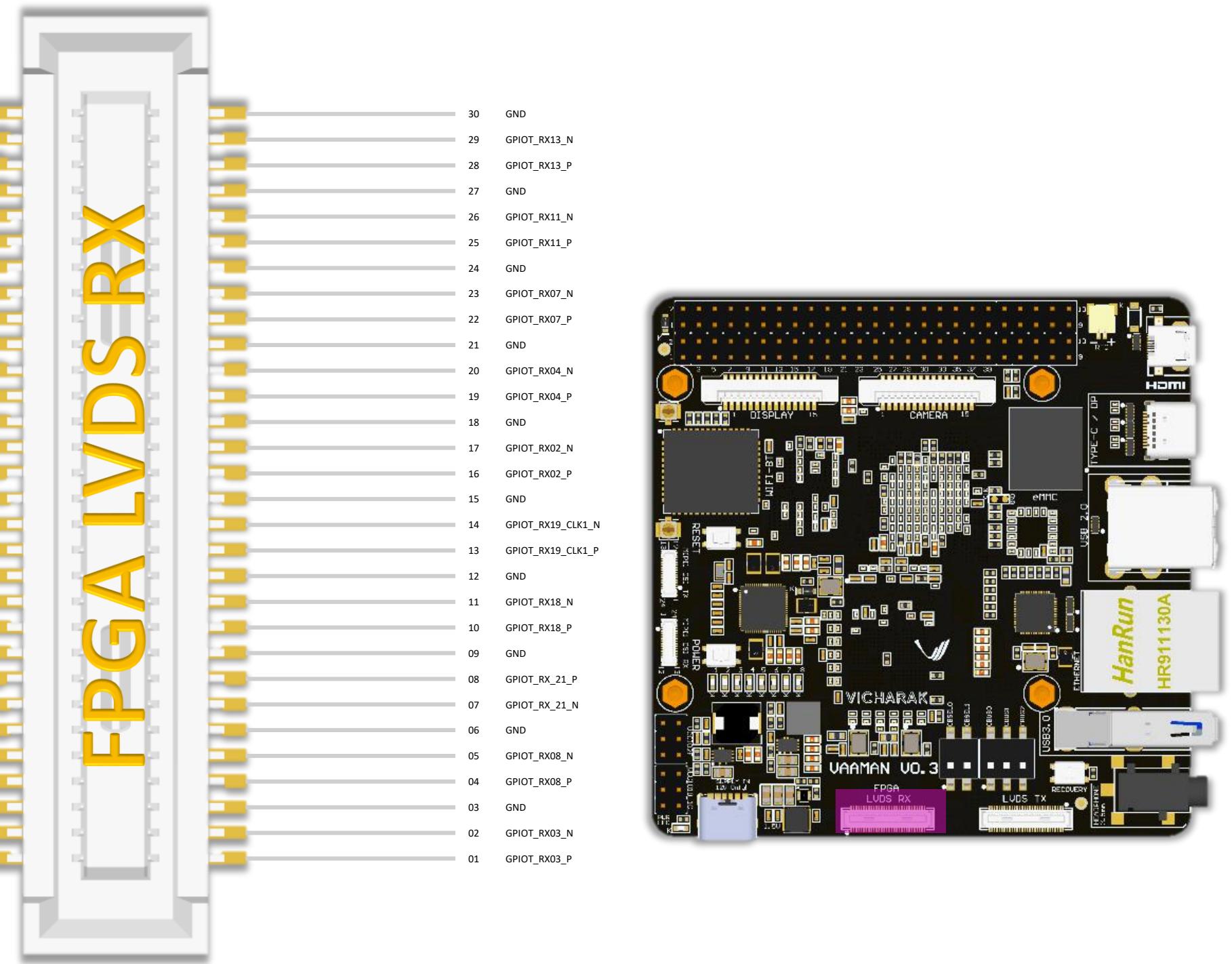
The diagram shows the pinout for an FPGA LVDS Rx module. It consists of two columns of pins, each labeled with a large yellow 3D-style text label.

**FPGA** (Left Column):

- Pin 31: GPIOT\_RX14\_N
- Pin 32: GPIOT\_RX14\_P
- Pin 33: GND
- Pin 34: GPIOT\_RX12\_N
- Pin 35: GPIOT\_RX12\_P
- Pin 36: GND
- Pin 37: GPIOT\_RX17\_P
- Pin 38: GPIOT\_RX17\_N
- Pin 39: GND
- Pin 40: GPIOT\_RX09\_CLK0\_N
- Pin 41: GPIOT\_RX09\_CLK0\_P
- Pin 42: GND
- Pin 43: GPIOT\_RX16\_N
- Pin 44: GPIOT\_RX16\_P
- Pin 45: GND
- Pin 46: GPIOT\_RX15\_N
- Pin 47: GPIOT\_RX15\_P
- Pin 48: GND
- Pin 49: GPIOT\_RX20\_P
- Pin 50: GPIOT\_RX20\_N
- Pin 51: GND
- Pin 52: GPIOT\_RX05\_N
- Pin 53: GPIOT\_RX05\_P
- Pin 54: GND
- Pin 55: GPIOT\_RX01\_P
- Pin 56: GPIOT\_RX01\_N
- Pin 57: GND
- Pin 58: GPIOT\_RX06\_N
- Pin 59: GPIOT\_RX06\_P
- Pin 60: GND

**LVDS Rx** (Right Column):

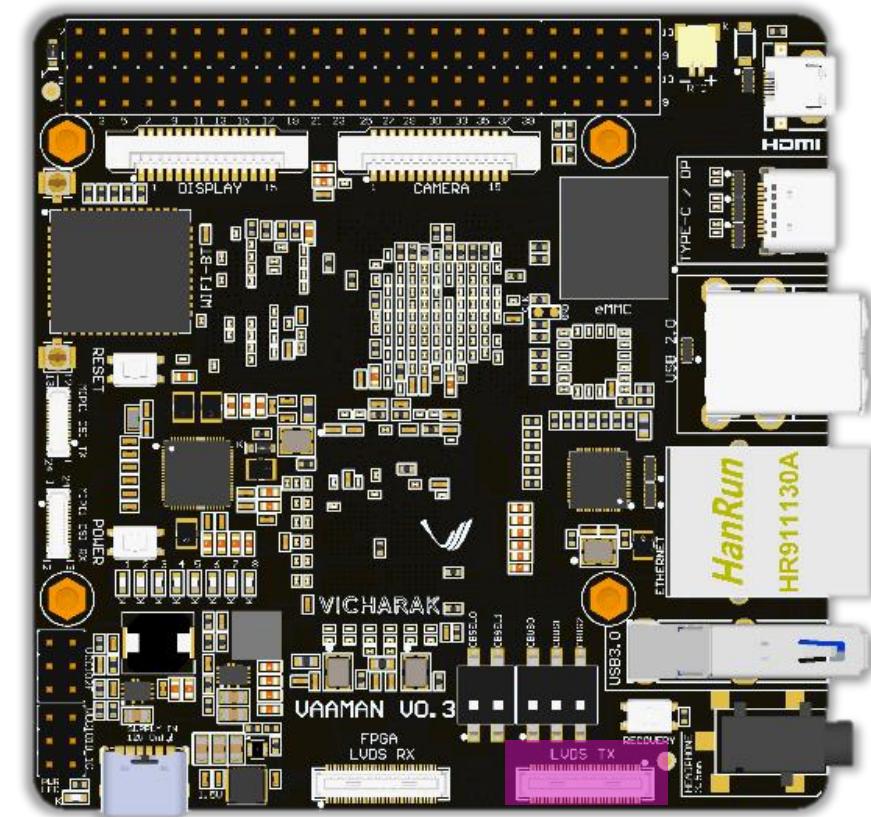
- Pin 30: GND
- Pin 29: GPIOT\_RX13\_N
- Pin 28: GPIOT\_RX13\_P
- Pin 27: GND
- Pin 26: GPIOT\_RX11\_N
- Pin 25: GPIOT\_RX11\_P
- Pin 24: GND
- Pin 23: GPIOT\_RX07\_N
- Pin 22: GPIOT\_RX07\_P
- Pin 21: GND
- Pin 20: GPIOT\_RX04\_N
- Pin 19: GPIOT\_RX04\_P
- Pin 18: GND
- Pin 17: GPIOT\_RX02\_N
- Pin 16: GPIOT\_RX02\_P
- Pin 15: GND
- Pin 14: GPIOT\_RX19\_CLK1
- Pin 13: GPIOT\_RX19\_CLK1
- Pin 12: GND
- Pin 11: GPIOT\_RX18\_N
- Pin 10: GPIOT\_RX18\_P
- Pin 09: GND
- Pin 08: GPIOT\_RX\_21\_P
- Pin 07: GPIOT\_RX\_21\_N
- Pin 06: GND
- Pin 05: GPIOT\_RX08\_N
- Pin 04: GPIOT\_RX08\_P
- Pin 03: GND
- Pin 02: GPIOT\_RX03\_N
- Pin 01: GPIOT\_RX03\_P

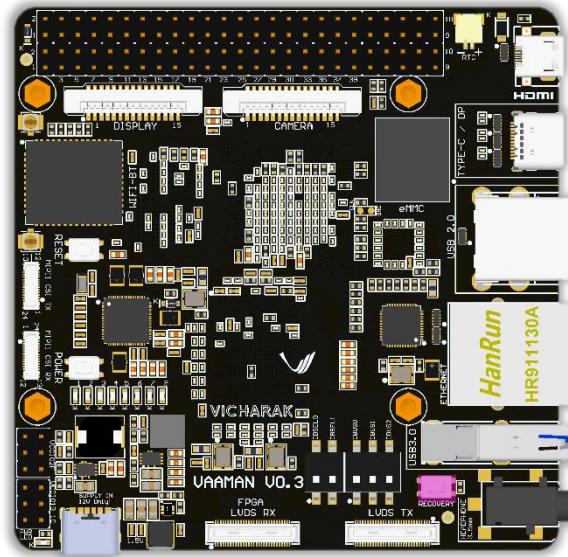


GPIOB_TX13_N	31		
GPIOB_TX13_P	32		
GND	33		
GPIOB_TX02_N	34		
GPIOB_TX02_P	35		
GND	36		
GPIOB_TX00_N	37		
GPIOB_TX00_P	38		
GND	39		
GPIOB_TX01_N	40		
GPIOB_TX01_P	41		
GND	42		
GPIOB_TX08_N	43		
GPIOB_TX08_P	44		
GND	45		
GPIOB_TX07_P	46		
GPIOB_TX07_N	47		
GND	48		
GPIOB_TX11_N	49		
GPIOB_TX11_P	50		
GND	51		
GPIOB_TX15_P	52		
GPIOB_TX15_N	53		
GND	54		
GPIOB_TX14_N	55		
GPIOB_TX14_P	56		
GND	57		
GPIOB_TX19_P	58		
GPIOB_TX19_N	59		
GND	60		

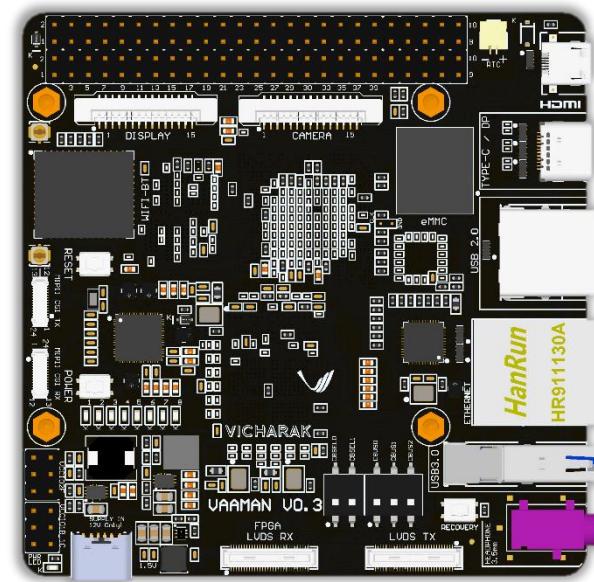
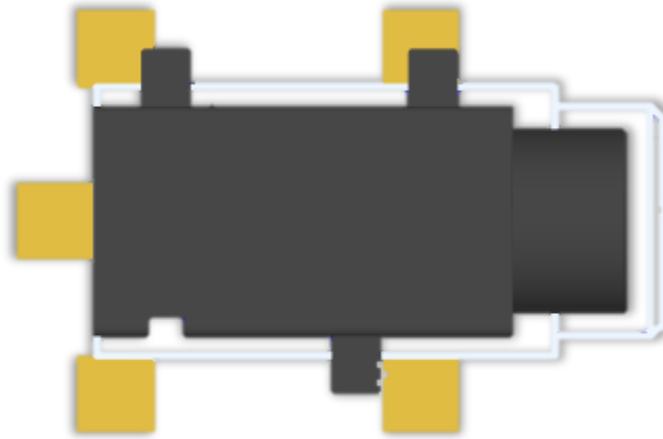


		30	GND
		29	GPIOB_TX05_N
		28	GPIOB_TX05_P
		27	GND
		26	GPIOB_TX03_N
		25	GPIOB_TX03_P
		24	GND
		23	GPIOB_TX04_P
		22	GPIOB_TX04_N
		21	GND
		20	GPIOB_TX06_N
		19	GPIOB_TX06_P
		18	GND
		17	GPIOB_TX09_P
		16	GPIOB_TX09_N
		15	GND
		14	GPIOB_TX10_N
		13	GPIOB_TX10_P
		12	GND
		11	GPIOB_TX18_N
		10	GPIOB_TX18_P
		09	GND
		08	GPIOB_TX12_P
		07	GPIOB_TX12_N
		06	GND
		05	GPIOB_TX17_N
		04	GPIOB_TX17_P
		03	GND
		02	GPIOB_TX16_N
		01	GPIOB_TX16_P

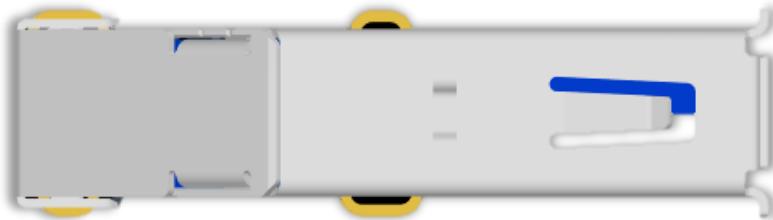




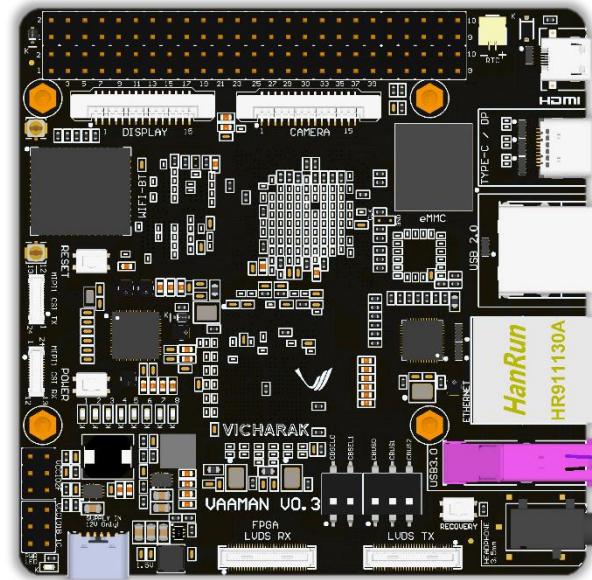
RECOVERY push button to allow user to easily flash over USB the on-board eMMC storage.



3.5mm jack with mic HD codec that supports up to 24-bit/96KHz audio.

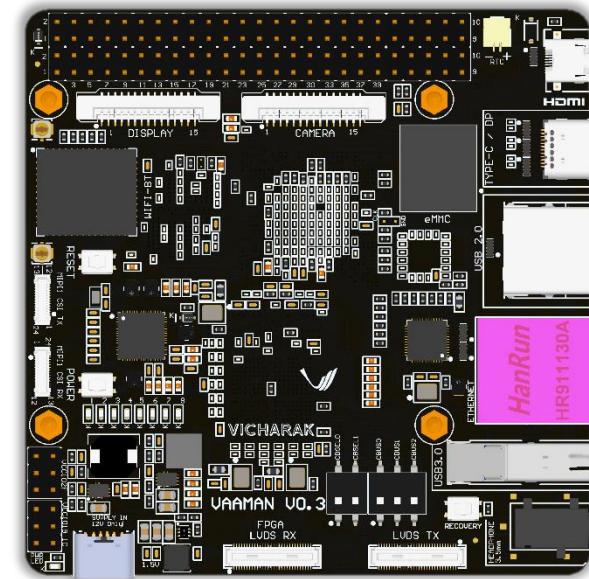


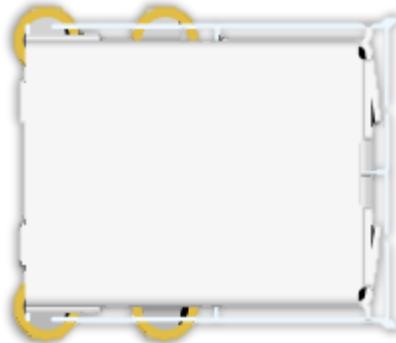
USB3.0 HOST



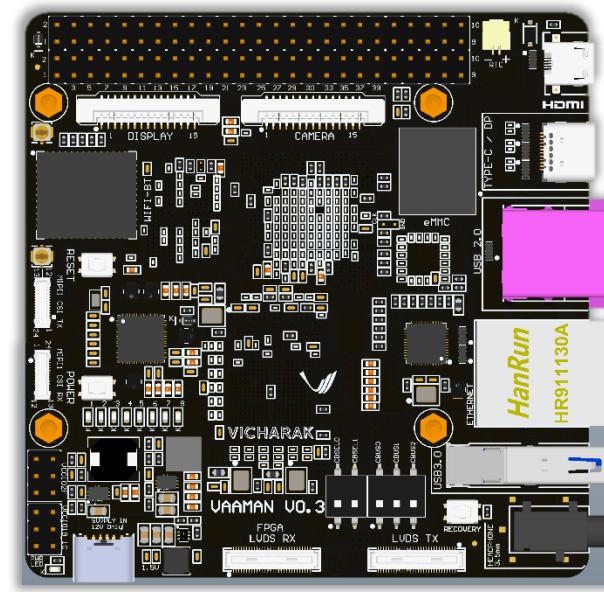


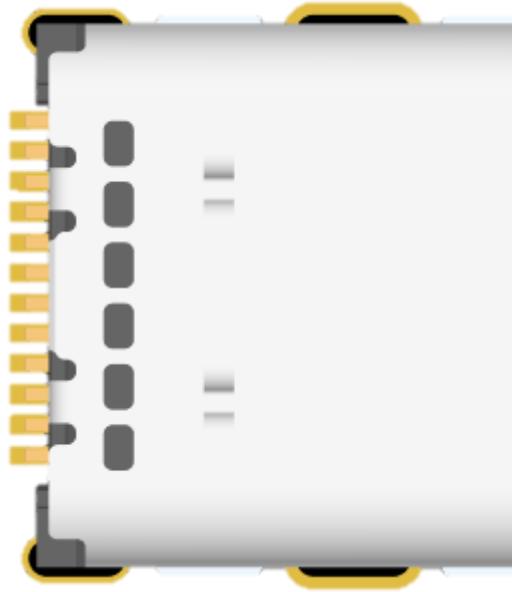
ETHERNET (10/100/1000Mbps)



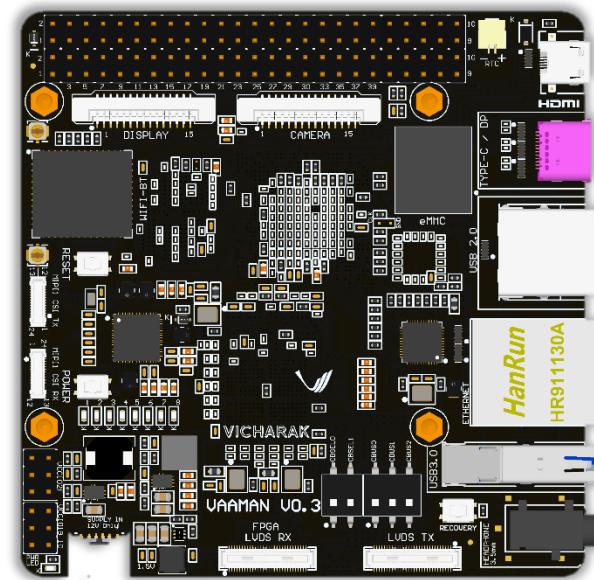


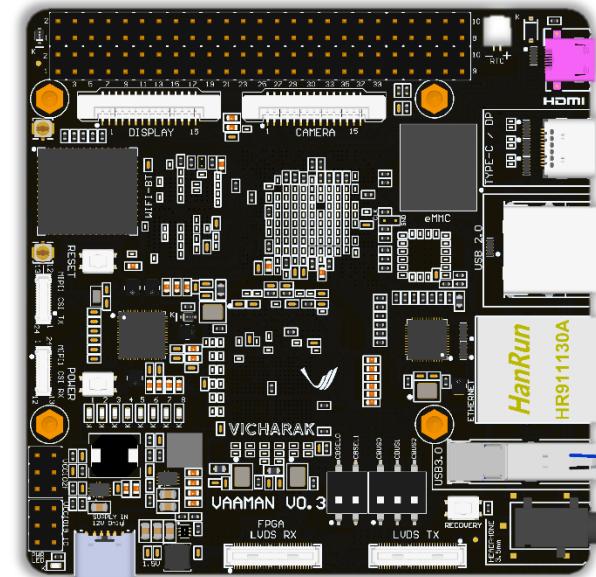
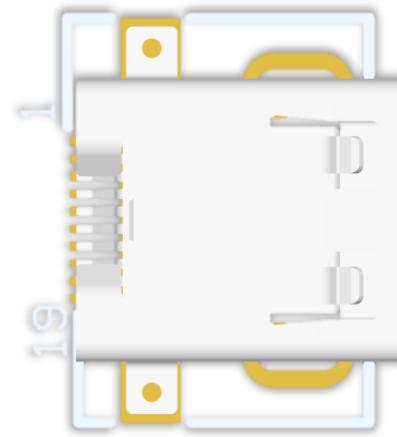
2x USB2.0 HOST

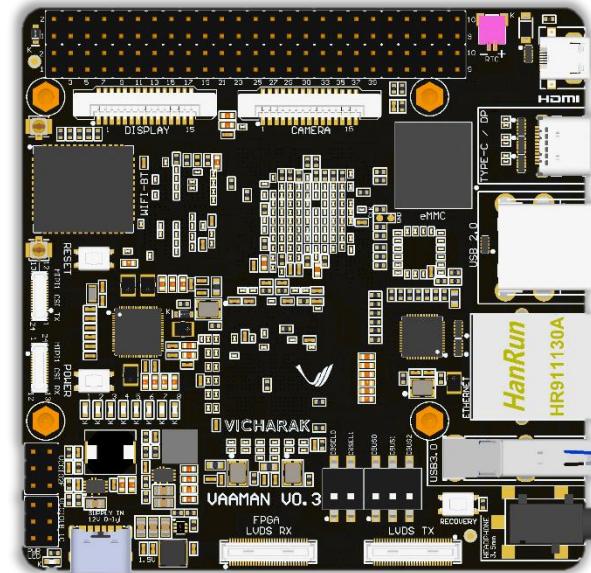
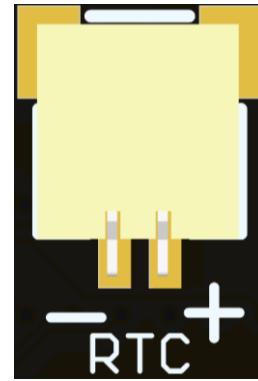


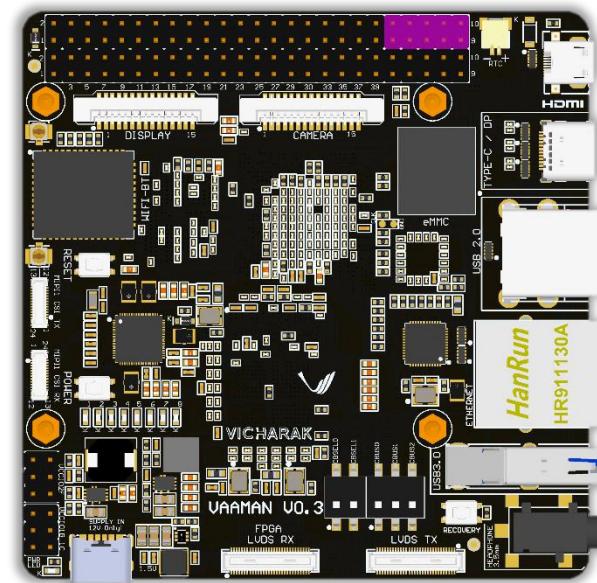
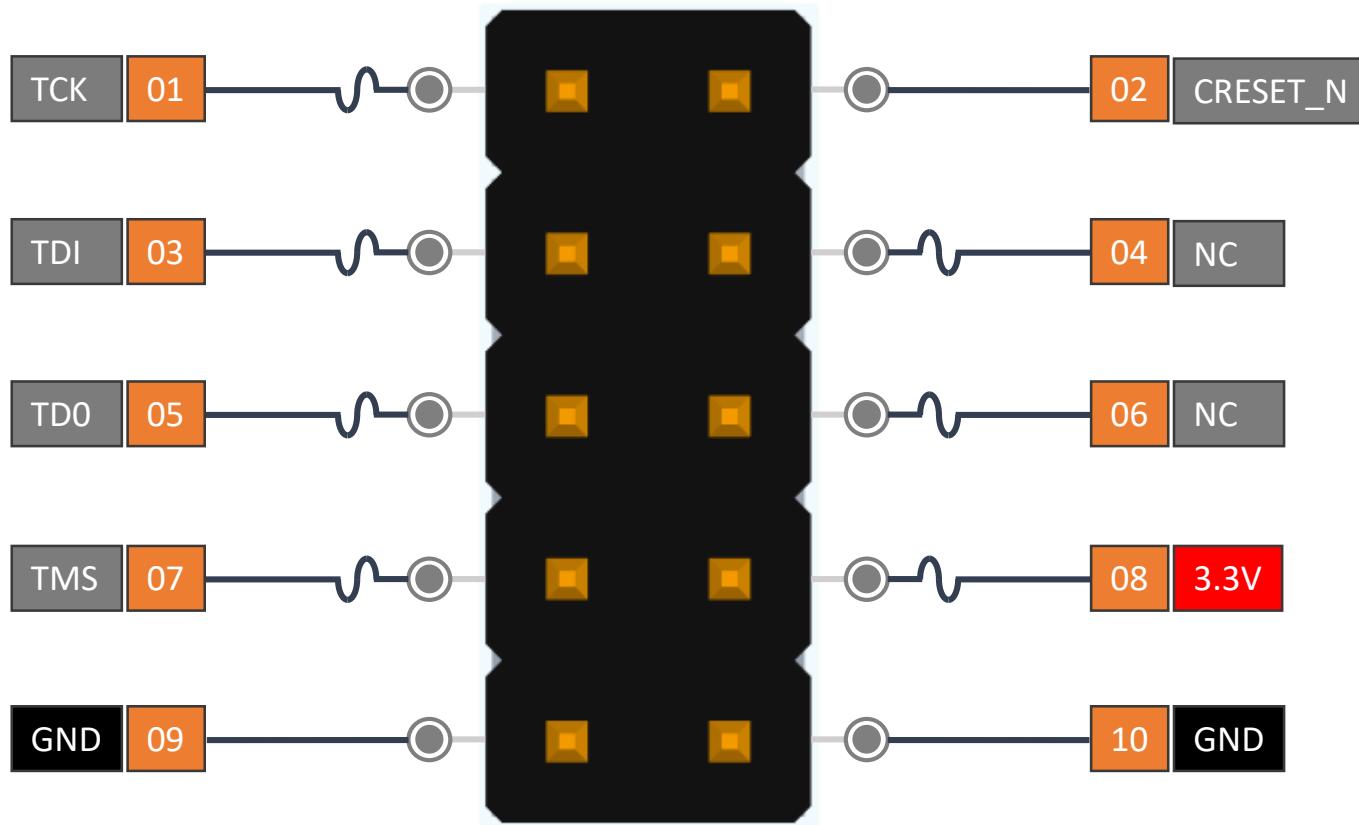


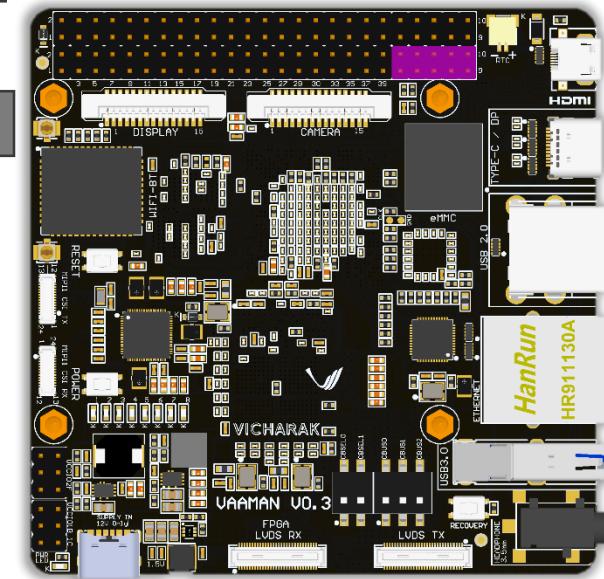
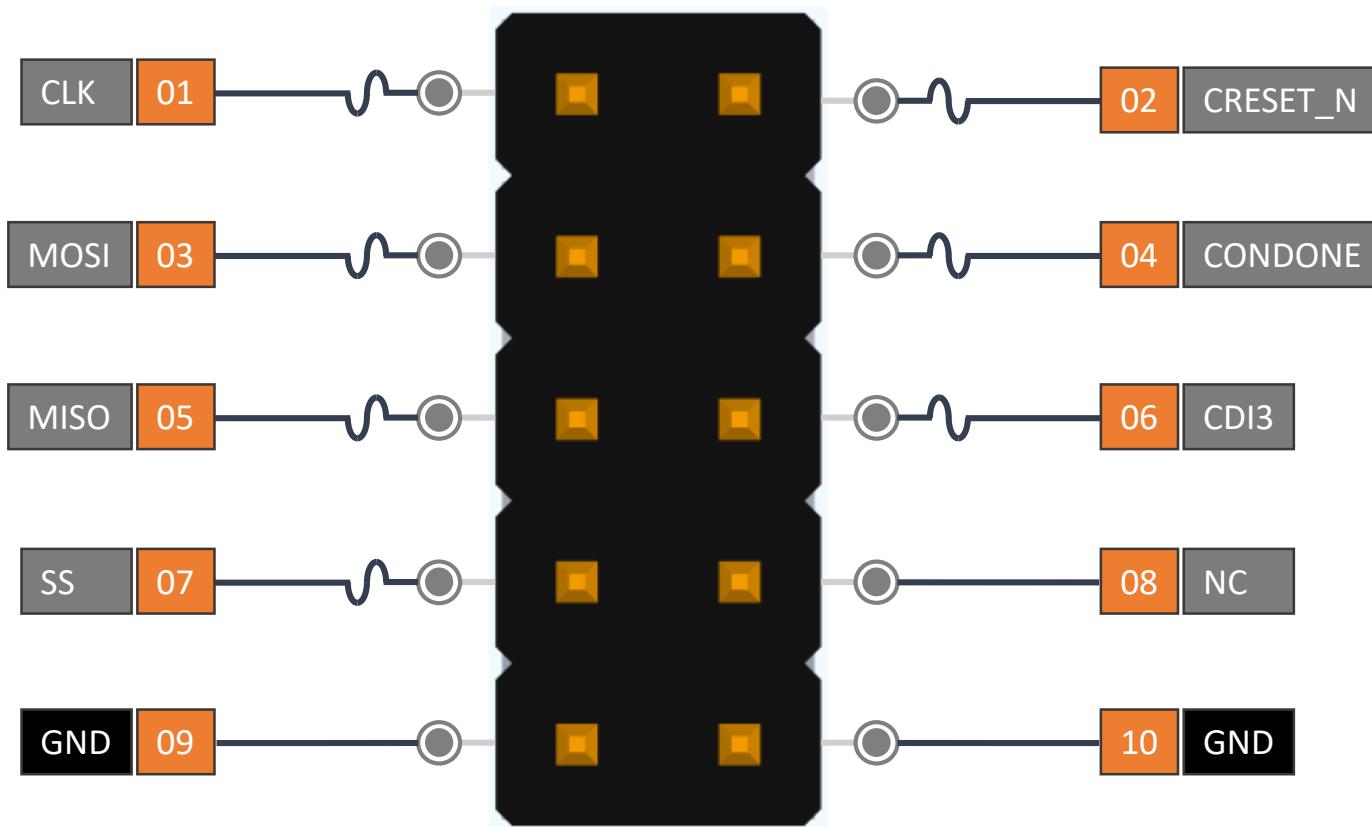
TYPE-C(USB3.0) / DisplayPort

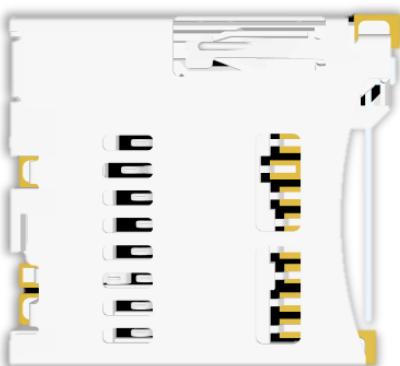




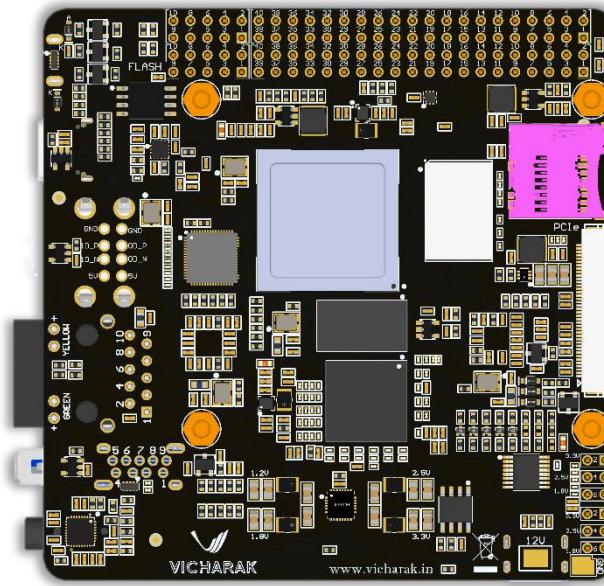


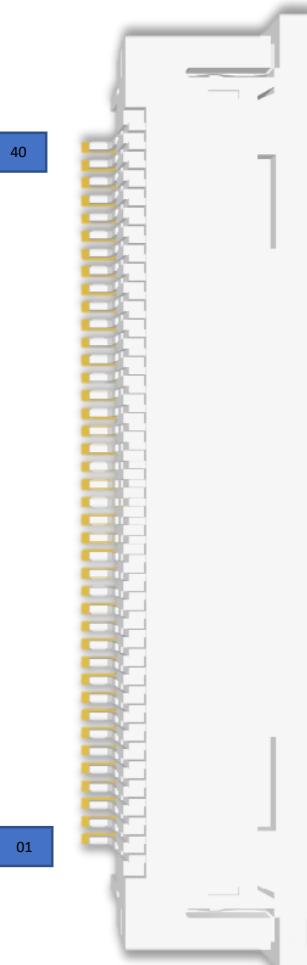




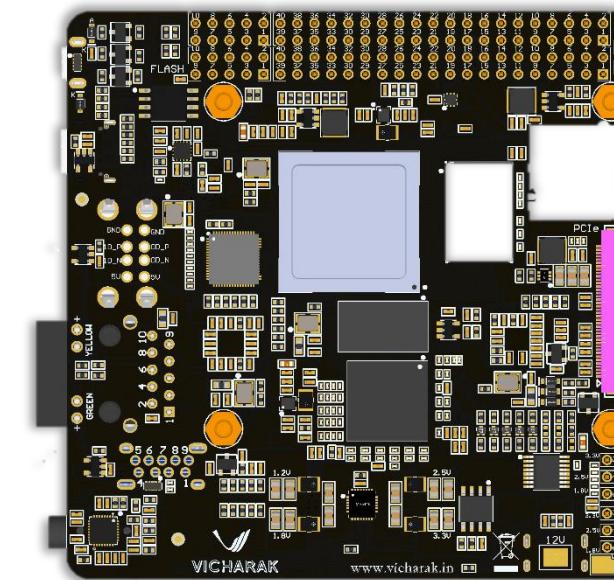


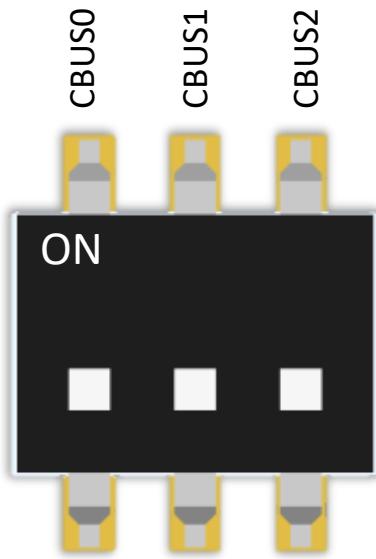
MicroSD Card





01	PCIE_CLKREQ_
02	GND
03	PCIE_TX3_P
04	PCIE_TX3_N
05	GND
06	PCIE_RX3_P
07	PCIE_RX3_N
08	GND
09	PCIE_TX0_P
10	PCIE_TX0_N
11	GND
12	PCIE_PERST_L
13	GND
14	PCIE_TX1_P
15	PCIE_TX1_N
16	GND
17	PCIE_RX0_P
18	PCIE_RX0_N
19	GND
20	PCIE_RX1_P
21	PCIE_RX1_N
22	GND
23	PCIE_TX2_P
24	PCIE_TX2_N
25	GND
26	PCIE_REF_CLK
27	PCIE_REF_CLK
28	GND
29	PCIE_RX2_P
30	PCIE_RX2_N
31	GND
32-40	VCC3V3_PCIE





*Table 5: SPI Hardware Settings*

If you do not make any connections, the default mode is x1 SPI active.

Configuration Mode	Parallel/Serial	TEST_N	SS_N	CBUS2, CBUS1, CBUS0	Width
SPI Active	Serial	1	1	3'b111	x1
	Parallel	1	1	3'b110	x2
	Parallel	1	1	3'b101	x4
SPI Passive	Serial	1	0	3'b111	x1
	Parallel	1	0	3'b110	x2
	Parallel	1	0	3'b101	x4
	Parallel	1	0	3'b100	x8
	Parallel	1	0	3'b011	x16
	Parallel	1	0	3'b010	x32

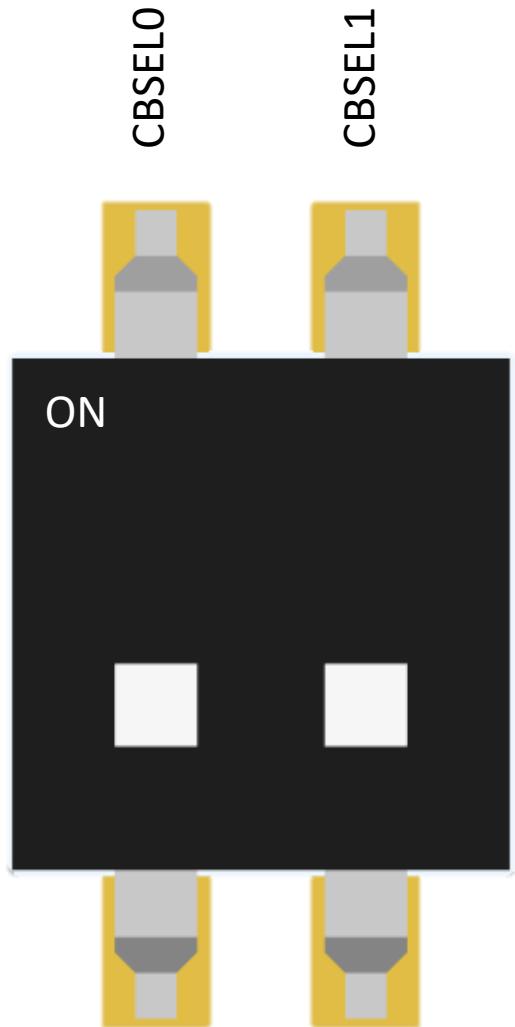
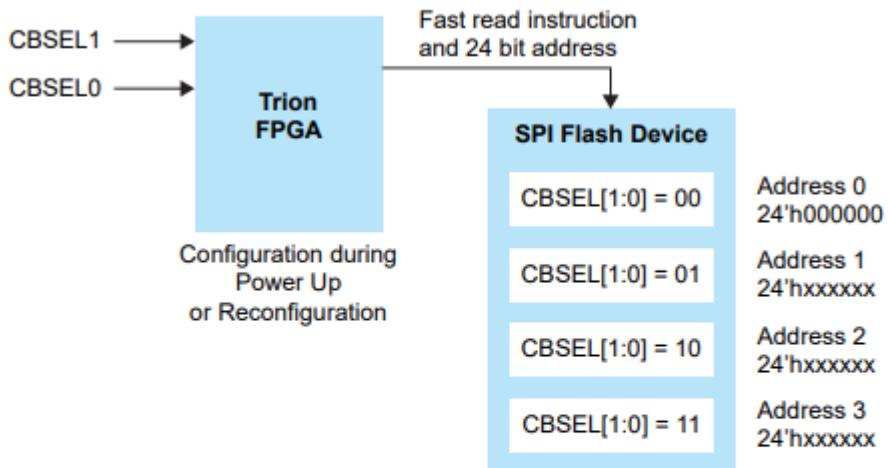


Figure 20: Configuration Setup for Multiple Images



Connect CBSEL [1:0] for the image you want to use:

- 00 for image 1
- 01 for image 2
- 10 for image 3
- 11 for image 4

You use the Efinity Programmer to combine multiple images into a single hex file.

**Note:** If the flash device does not have a valid image in the location the FPGA expects based on the CBSEL[1:0] setting, the FPGA looks at the image locations in ascending order until it finds a valid image. For example, if CBSEL[1:0] is 11 and the flash device has images for 00 and 01, the FPGA loads the image at 00.