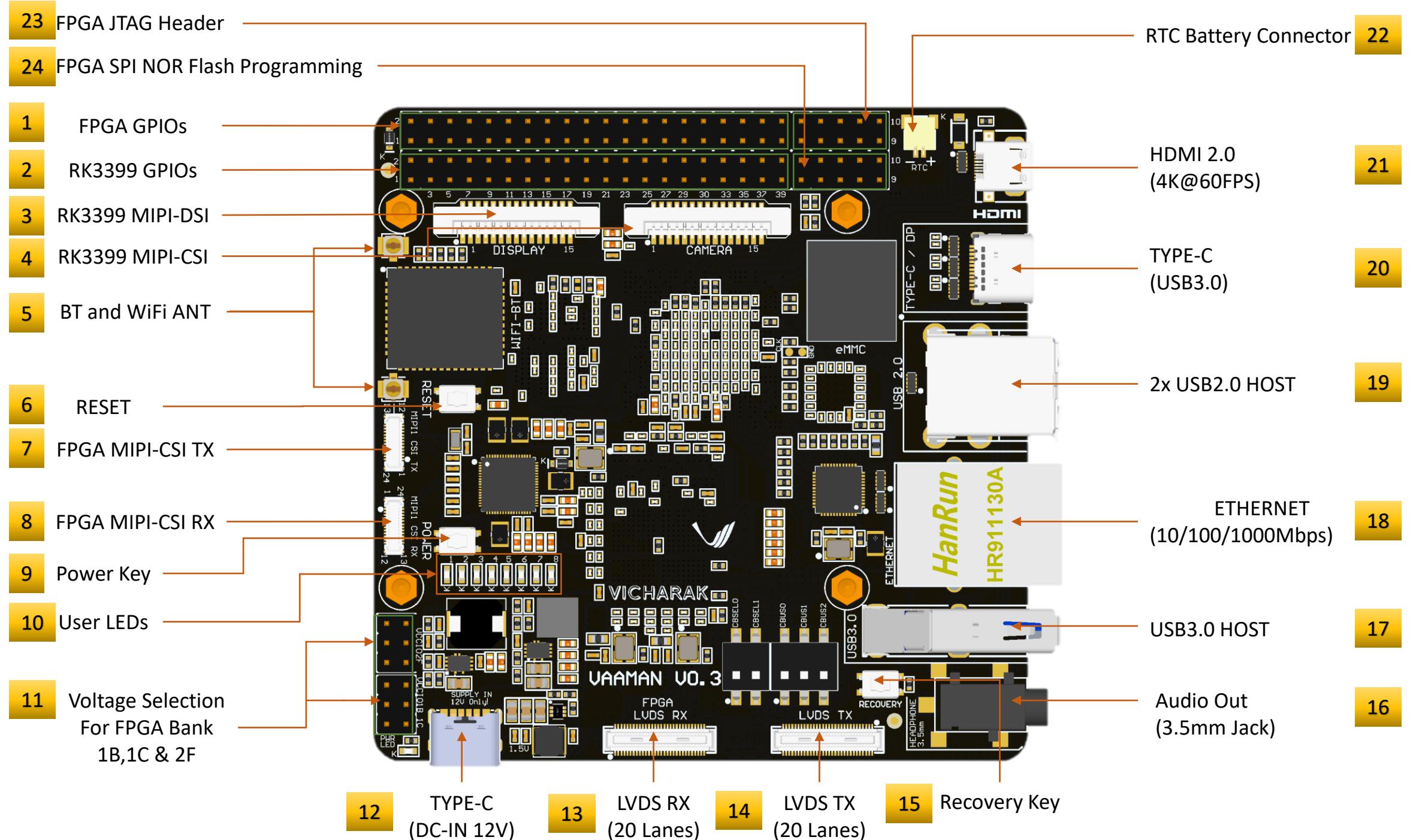
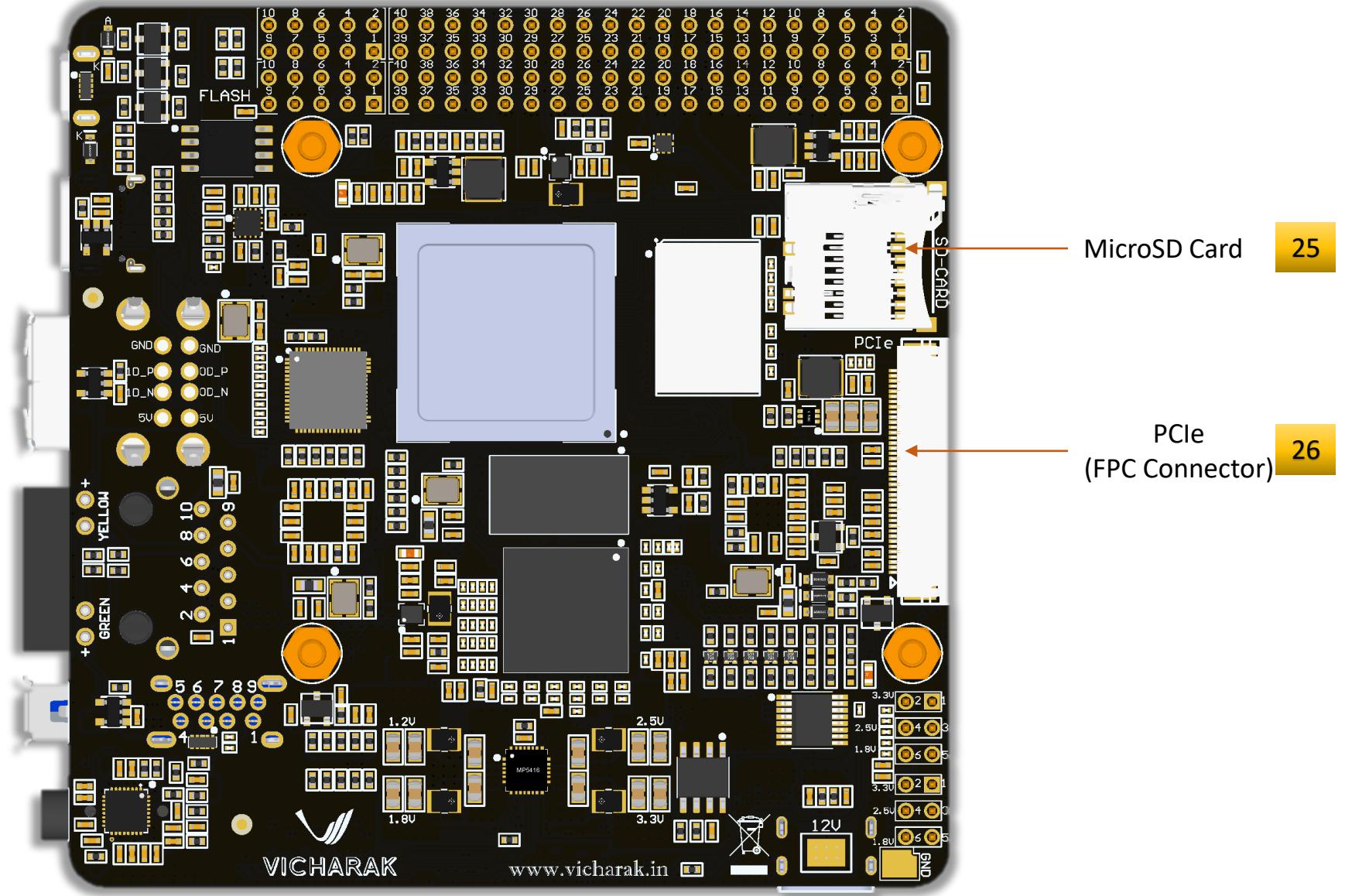


# Revision History

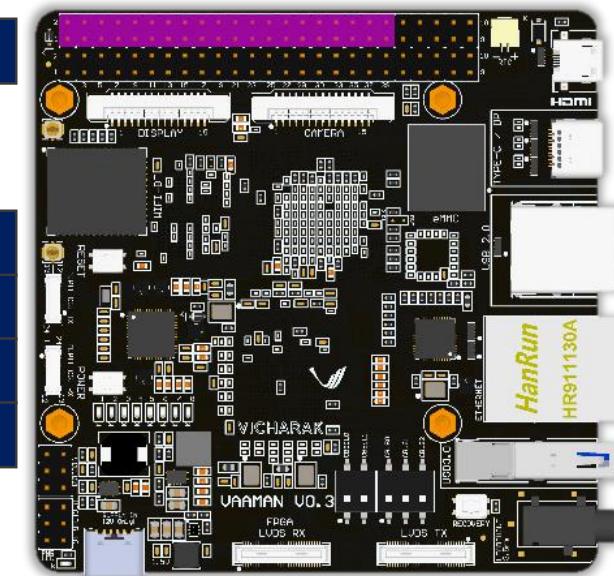
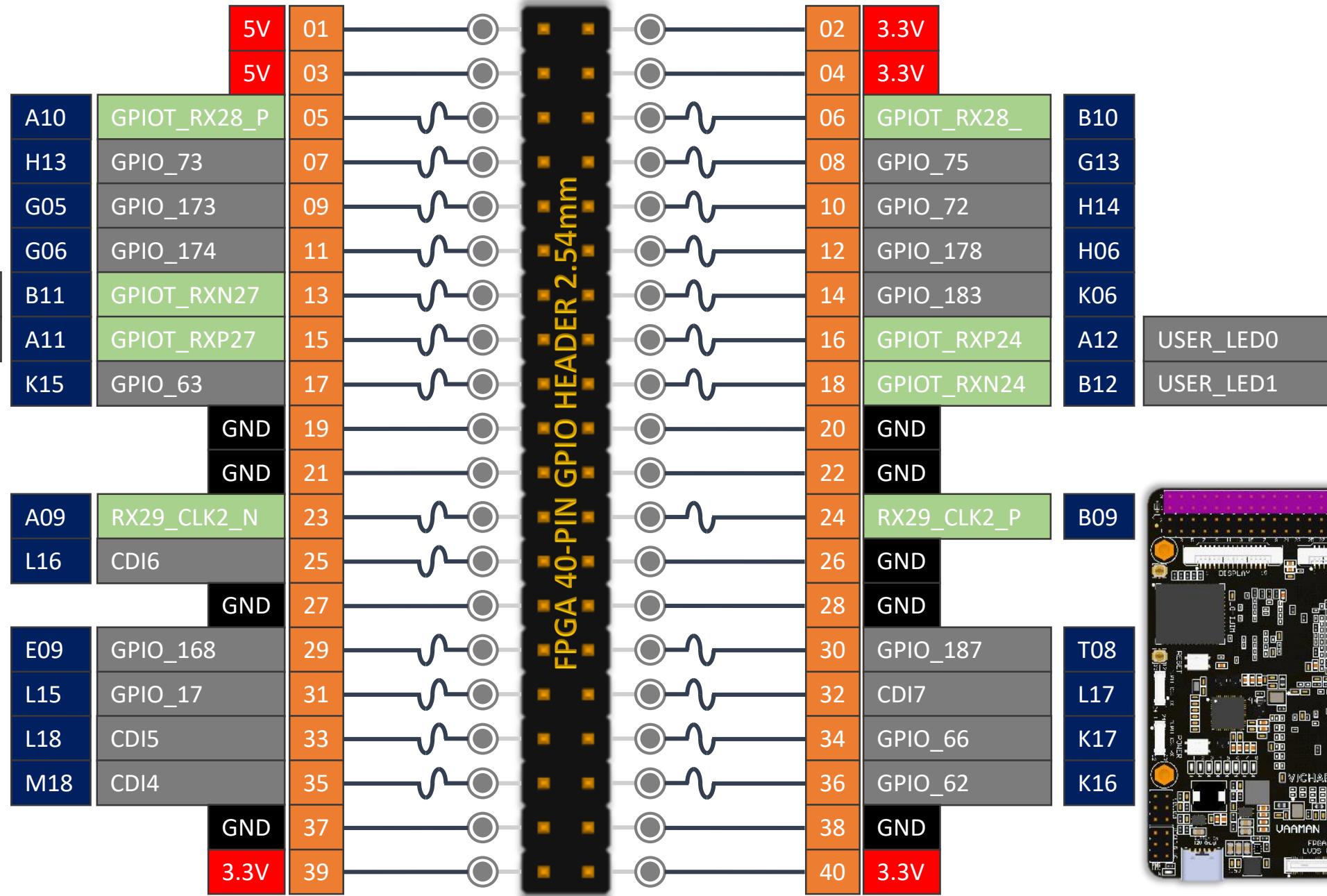
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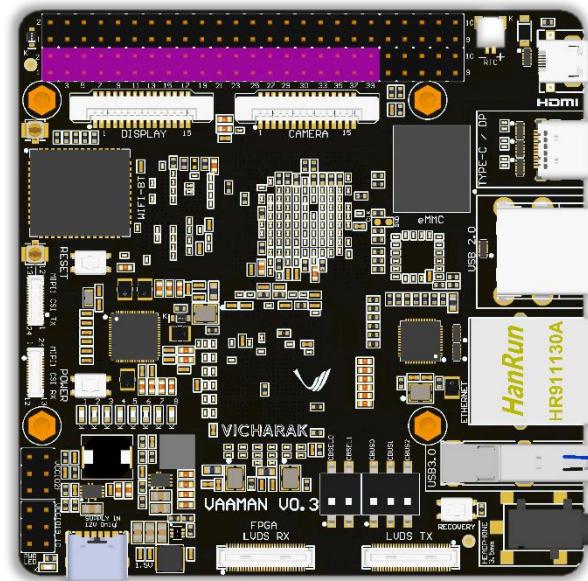
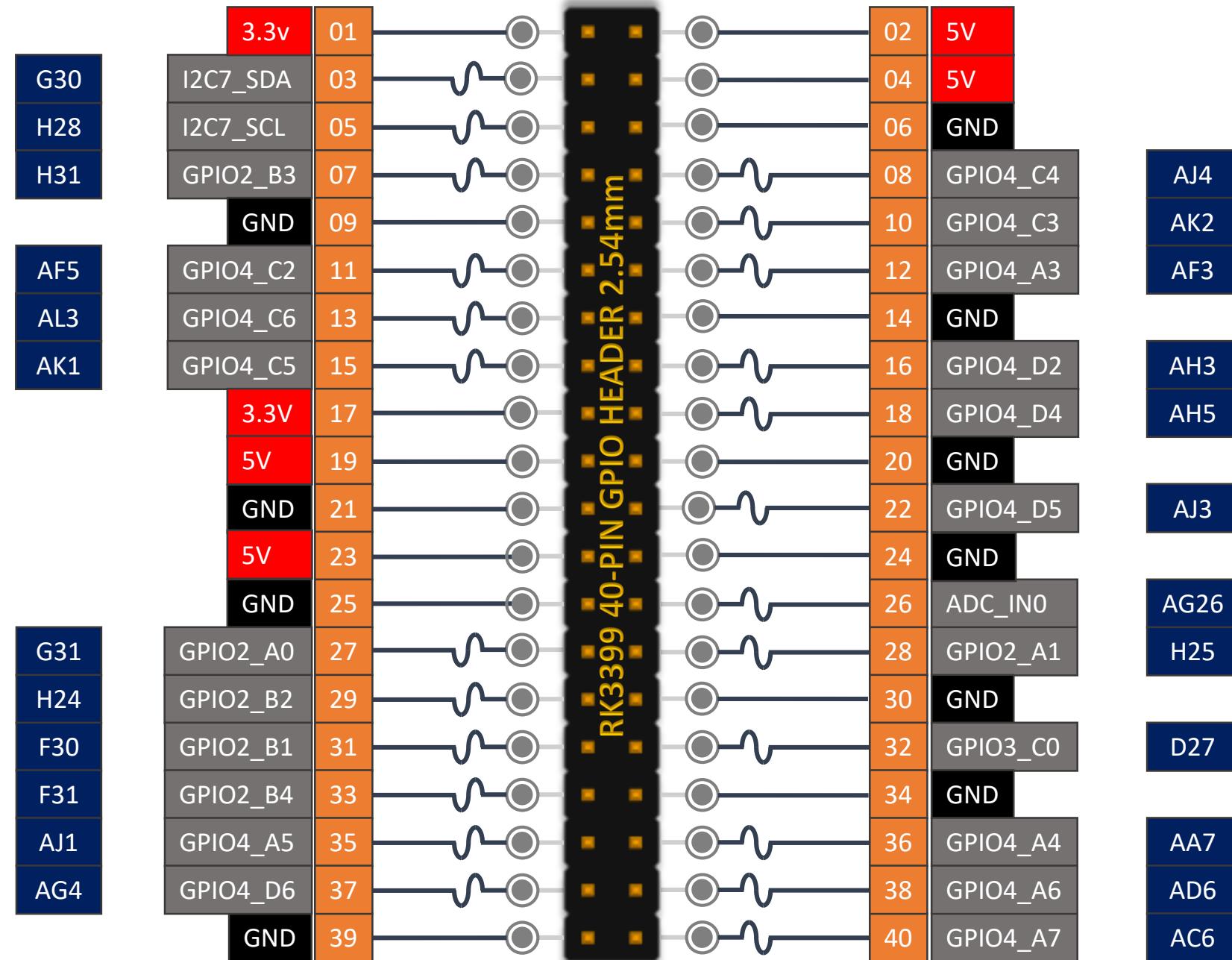
Document Number	Revision Number	Description	Revision Date
	001	Initial Release	May 2023
	002	Updated RK3399 GPIOs Header pins	July 2023

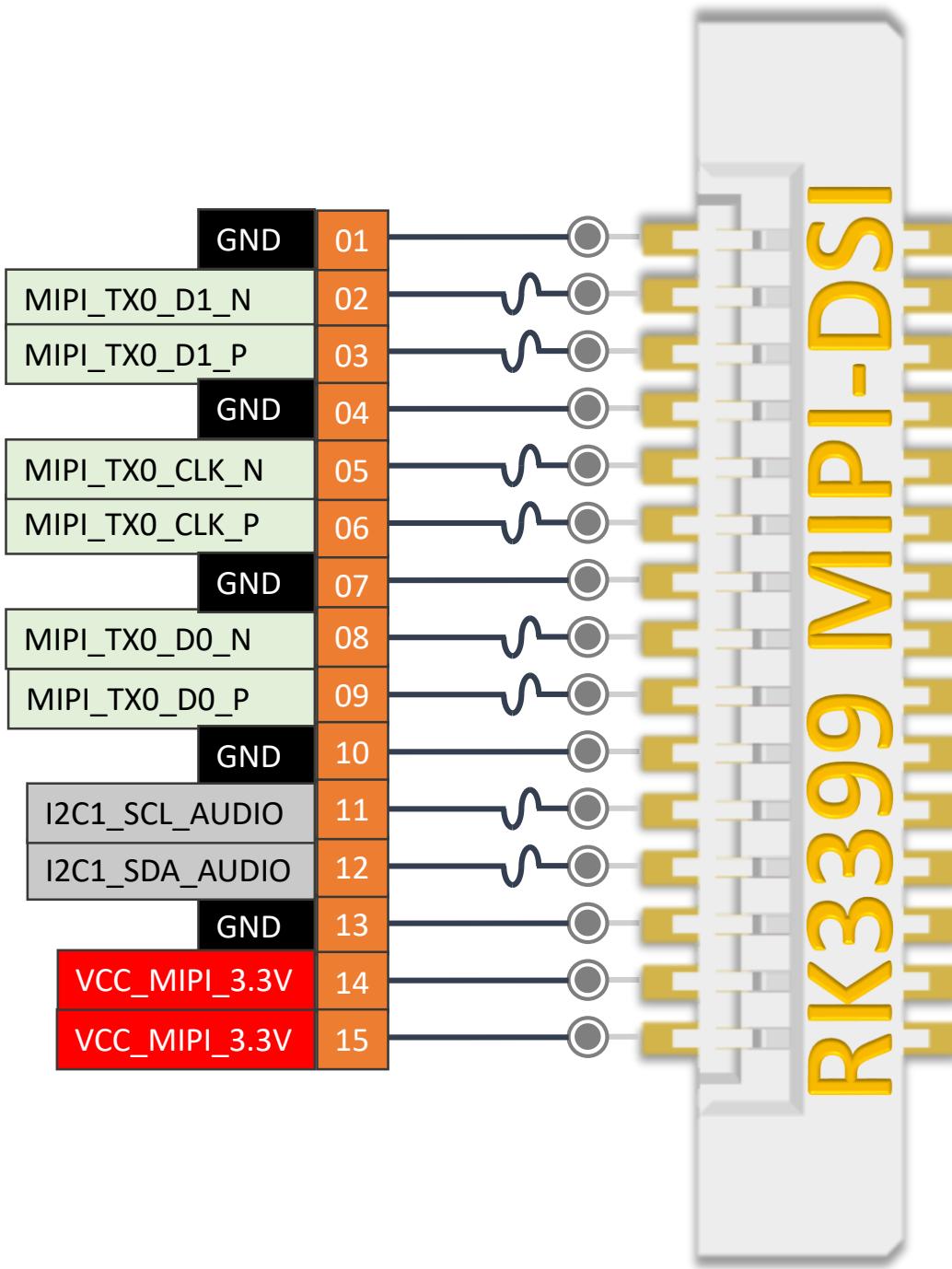


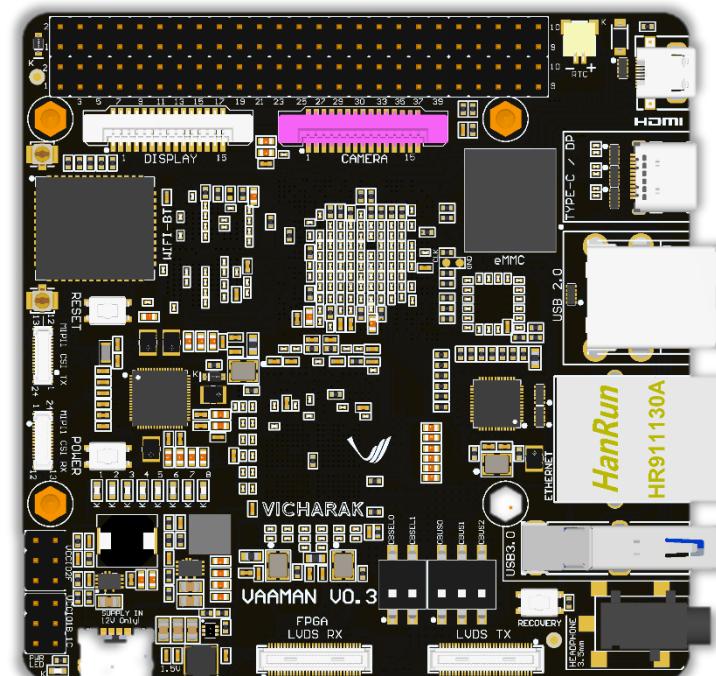
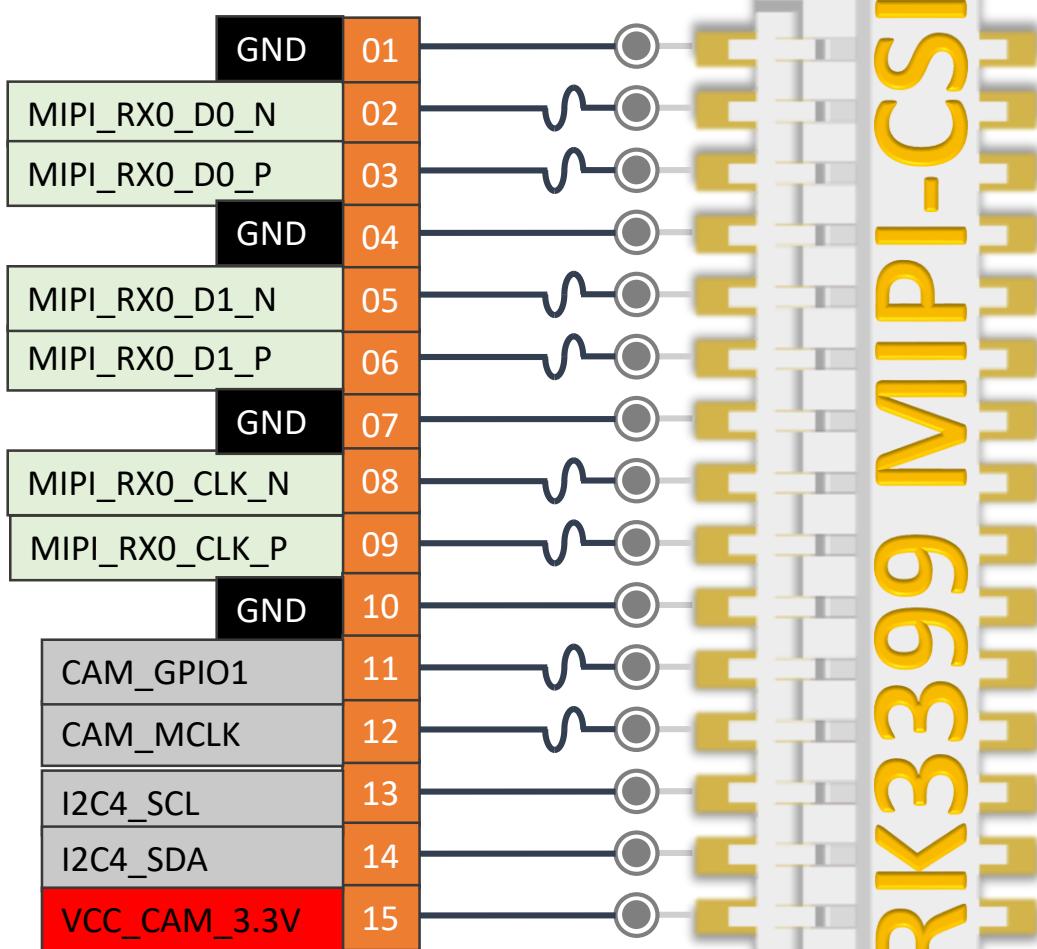


## 1 FPGA GPIOs



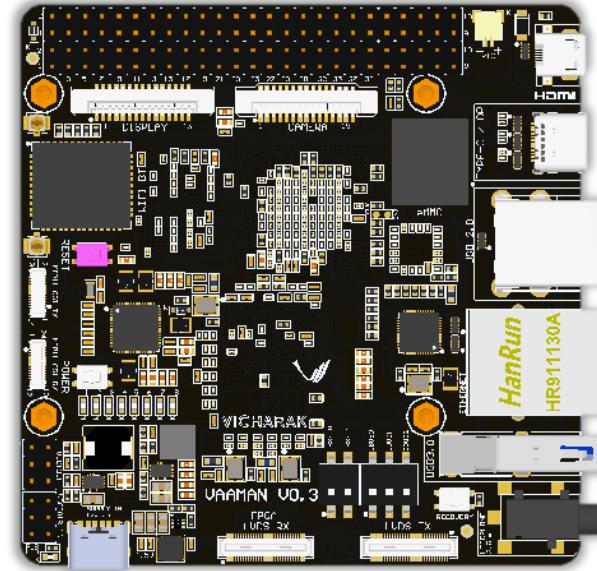


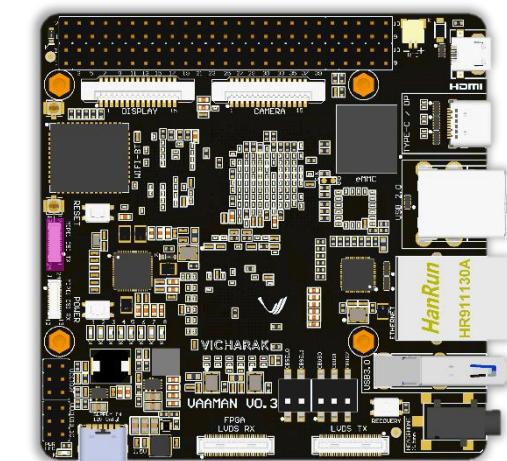
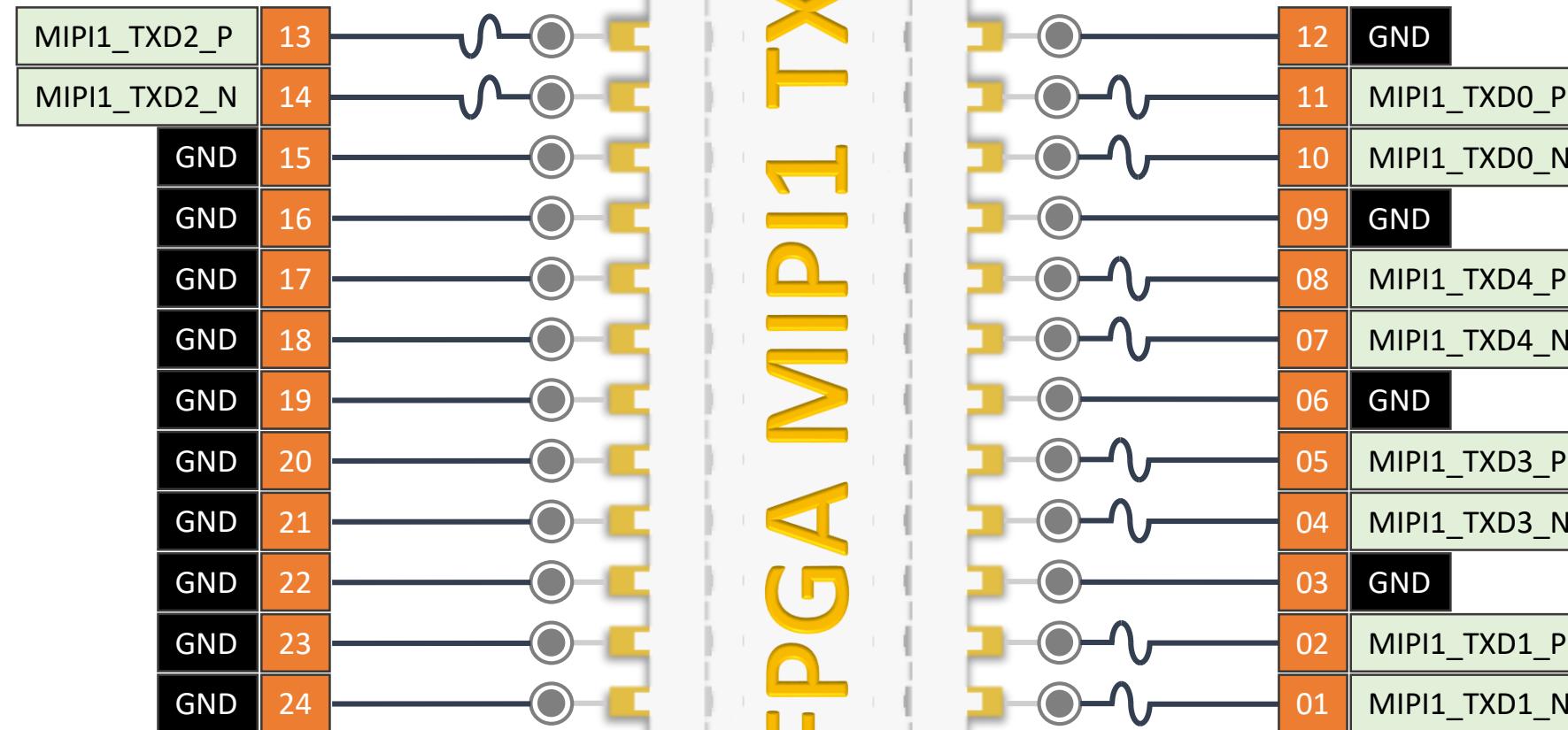




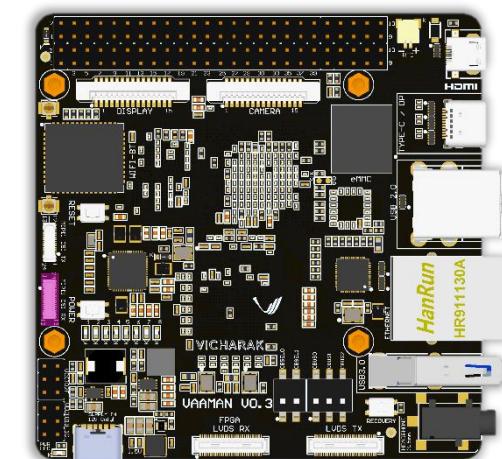
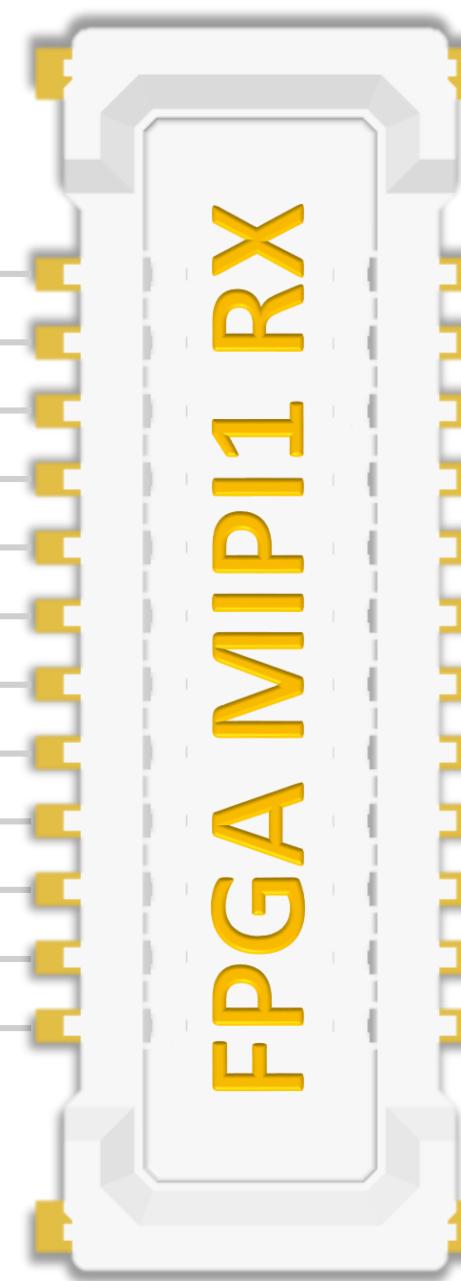


Board **Reset** Push-Button

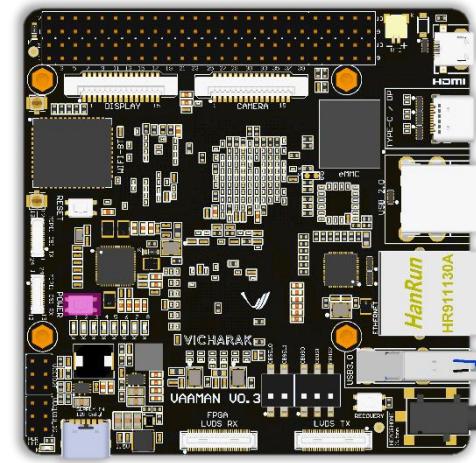


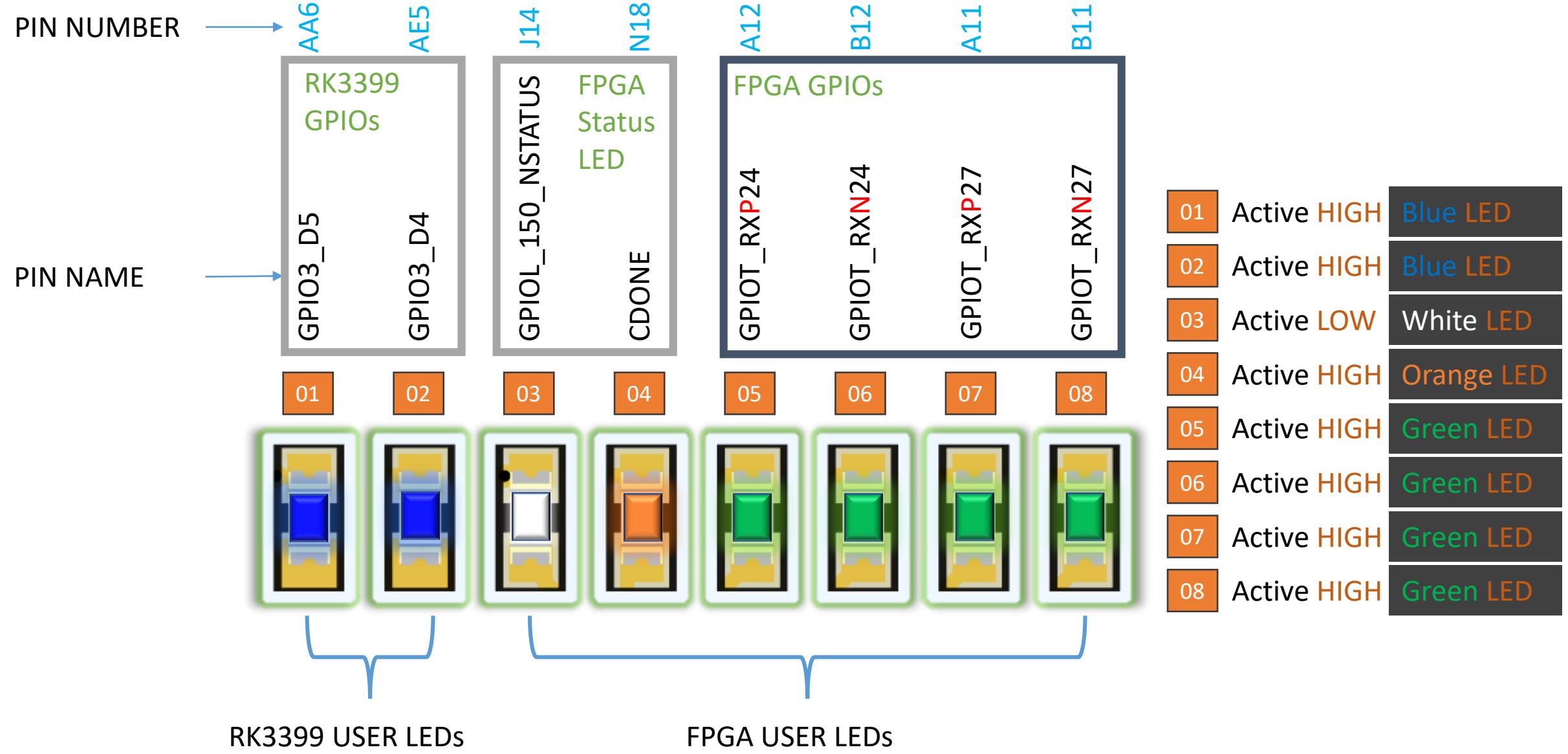


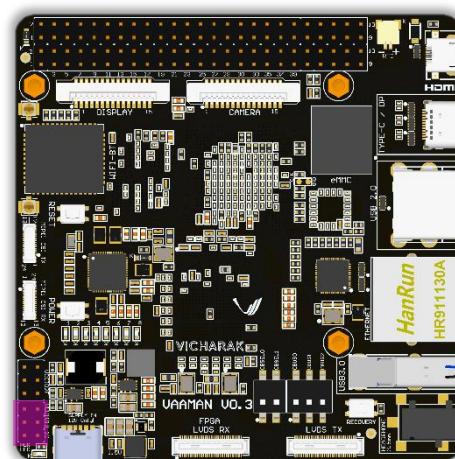
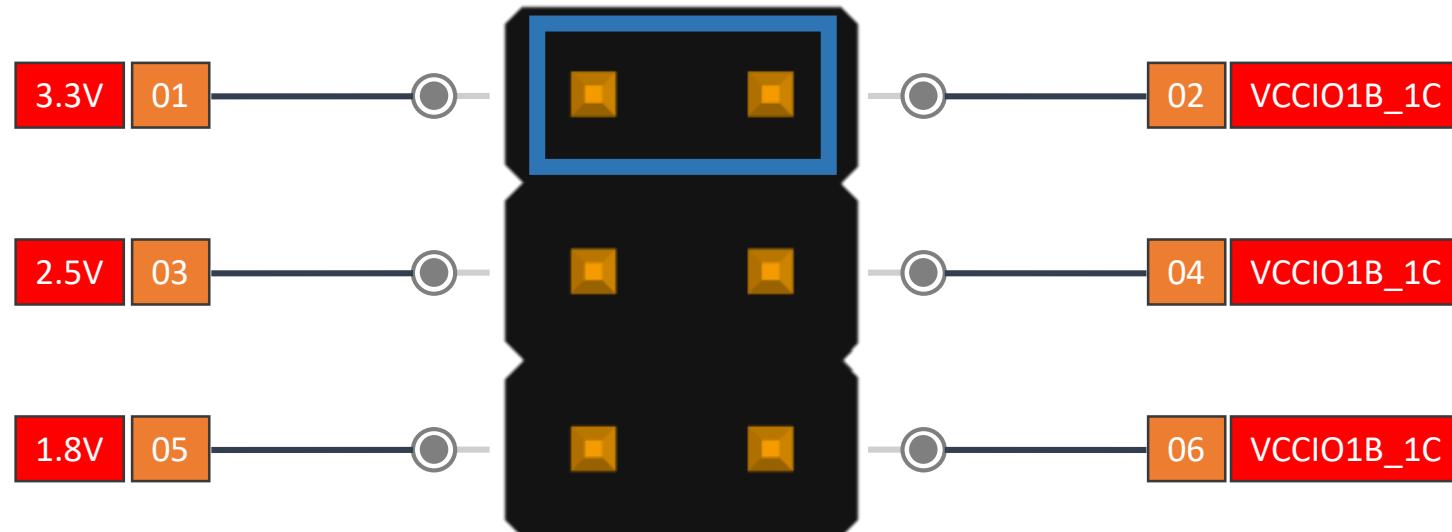
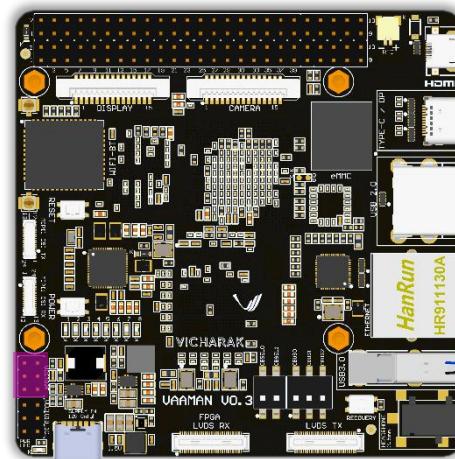
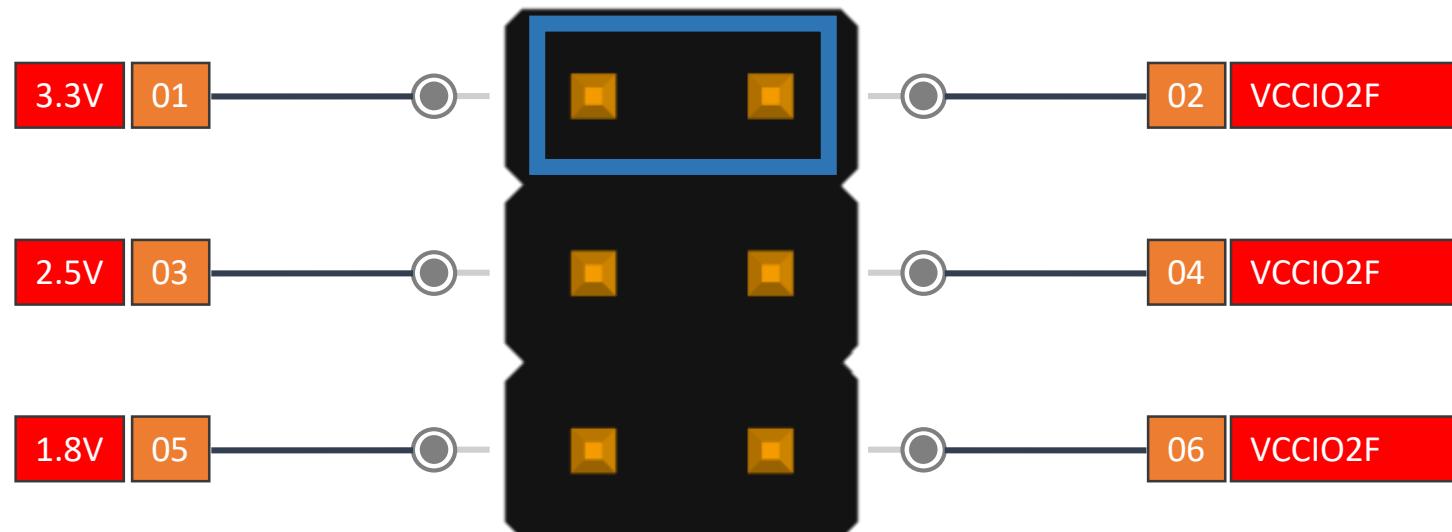
MIPI1_RXD2_P	01			
MIPI1_RXD2_N	02			
CAM_VSYNC(NC)	03			
CAM_CLK(NC)	04			
GND	05			
GND	06			
FPGA_3.3V	07			
FPGA_3.3V	08			
CAM_I2C_SCL	09			
CAM_PWDNB	10			
CAM_RESETB	11			
CAM_I2C_SDA	12			
	24			
	23			
	22			
	21			
	20			
	19			
	18			
	17			
	16			
	15			
	14			
	13			



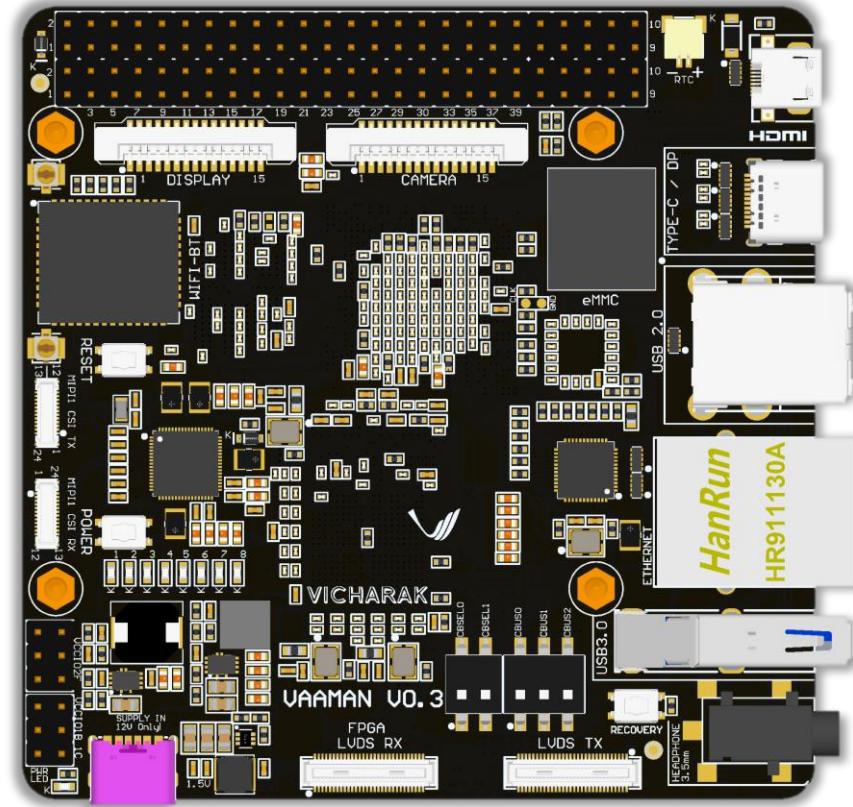
## 9 Power Key







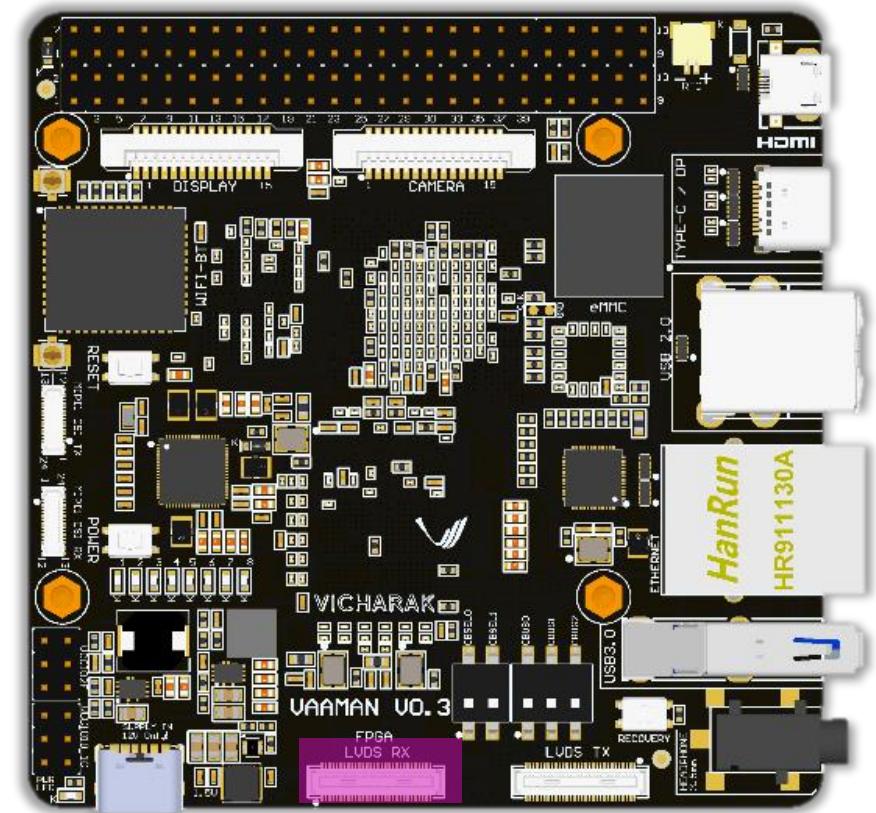
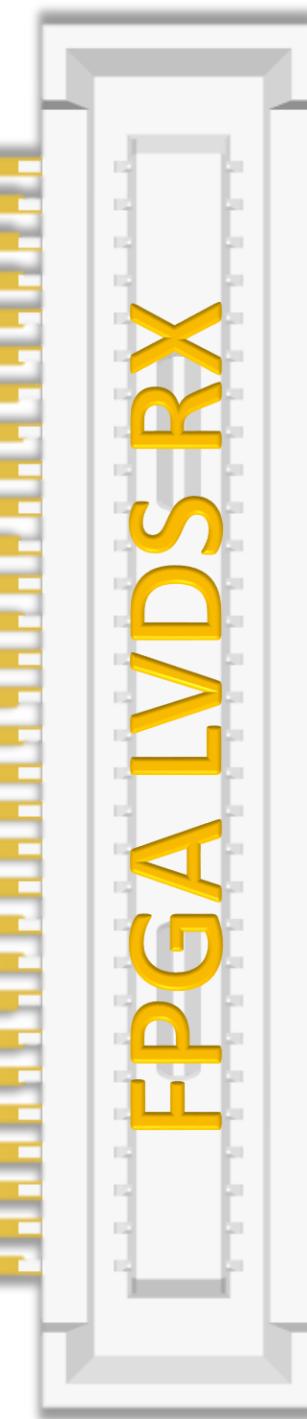
Jumper	VCCIO1B_1C (J2)	VCCIO2F (J3)
Connect pins 1 and 2	3.3 V (default)	3.3 V (default)
Connect pins 3 and 4	2.5 V	2.5 V
Connect pins 5 and 6	1.8 V	1.8 V



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

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

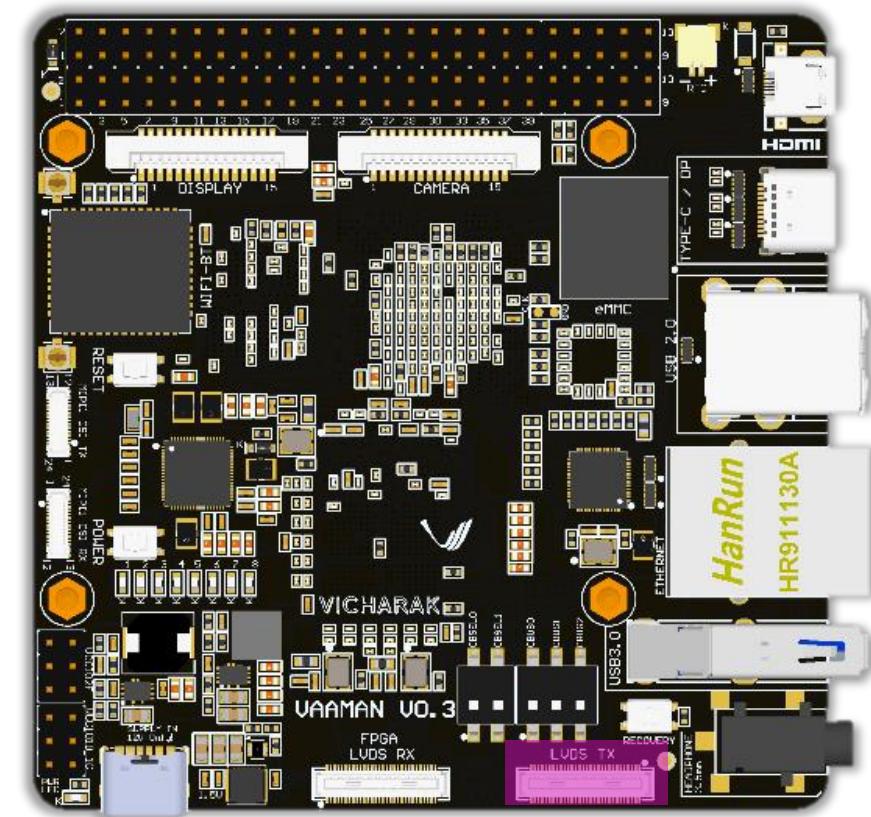
GPIOT_RX14_N	31		30	GND
GPIOT_RX14_P	32		29	GPIOT_RX13_N
GND	33		28	GPIOT_RX13_P
GPIOT_RX12_N	34		27	GND
GPIOT_RX12_P	35		26	GPIOT_RX11_N
GND	36		25	GPIOT_RX11_P
GPIOT_RX17_P	37		24	GND
GPIOT_RX17_N	38		23	GPIOT_RX07_N
GND	39		22	GPIOT_RX07_P
GPIOT_RX09_CLK0_N	40		21	GND
GPIOT_RX09_CLK0_P	41		20	GPIOT_RX04_N
GND	42		19	GPIOT_RX04_P
GPIOT_RX16_N	43		18	GND
GPIOT_RX16_P	44		17	GPIOT_RX02_N
GND	45		16	GPIOT_RX02_P
GPIOT_RX15_N	46		15	GND
GPIOT_RX15_P	47		14	GPIOT_RX19_CLK1_N
GND	48		13	GPIOT_RX19_CLK1_P
GPIOT_RX20_P	49		12	GND
GPIOT_RX20_N	50		11	GPIOT_RX18_N
GND	51		10	GPIOT_RX18_P
GPIOT_RX05_N	52		09	GND
GPIOT_RX05_P	53		08	GPIOT_RX_21_P
GND	54		07	GPIOT_RX_21_N
GPIOT_RX01_P	55		06	GND
GPIOT_RX01_N	56		05	GPIOT_RX08_N
GND	57		04	GPIOT_RX08_P
GPIOT_RX06_N	58		03	GND
GPIOT_RX06_P	59		02	GPIOT_RX03_N
GND	60		01	GPIOT_RX03_P

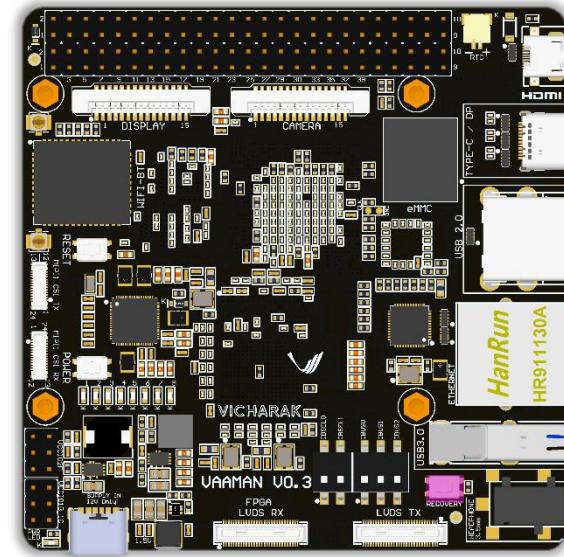


GPIOB_TX13_N	31		
GPIOB_TX13_P	32		
GND	33		
GPIOB_TX02_N	34		
GPIOB_TX02_P	35		
GND	36		
GPIOB_TX00_N	37		
GPIOB_TX00_P	38		
GND	39		
GPIOB_TX01_N	40		
GPIOB_TX01_P	41		
GND	42		
GPIOB_TX08_N	43		
GPIOB_TX08_P	44		
GND	45		
GPIOB_TX07_P	46		
GPIOB_TX07_N	47		
GND	48		
GPIOB_TX11_N	49		
GPIOB_TX11_P	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		

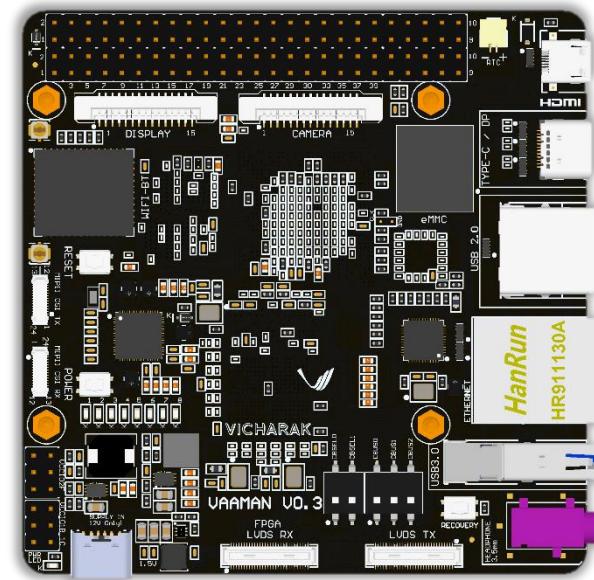
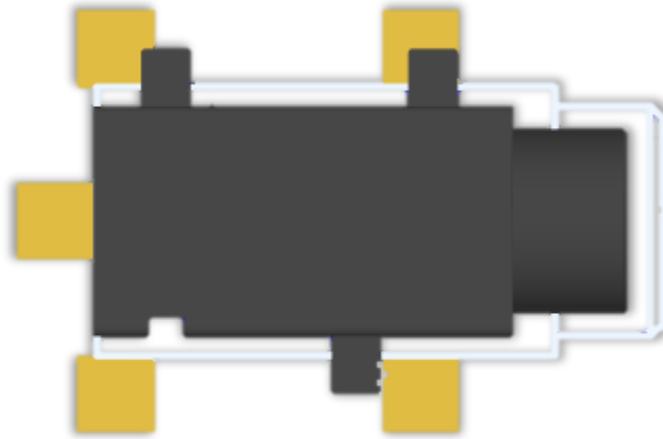


		30	GND
		29	GPIOB_TX05_N
		28	GPIOB_TX05_P
		27	GND
		26	GPIOB_TX03_N
		25	GPIOB_TX03_P
		24	GND
		23	GPIOB_TX04_P
		22	GPIOB_TX04_N
		21	GND
		20	GPIOB_TX06_N
		19	GPIOB_TX06_P
		18	GND
		17	GPIOB_TX09_P
		16	GPIOB_TX09_N
		15	GND
		14	GPIOB_TX10_N
		13	GPIOB_TX10_P
		12	GND
		11	GPIOB_TX18_N
		10	GPIOB_TX18_P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

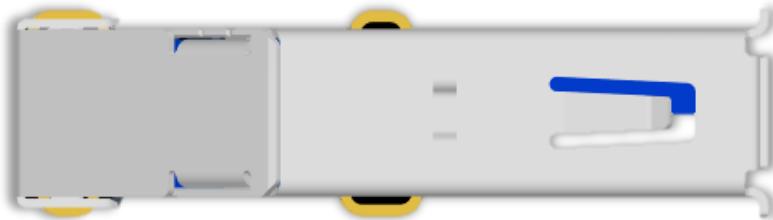




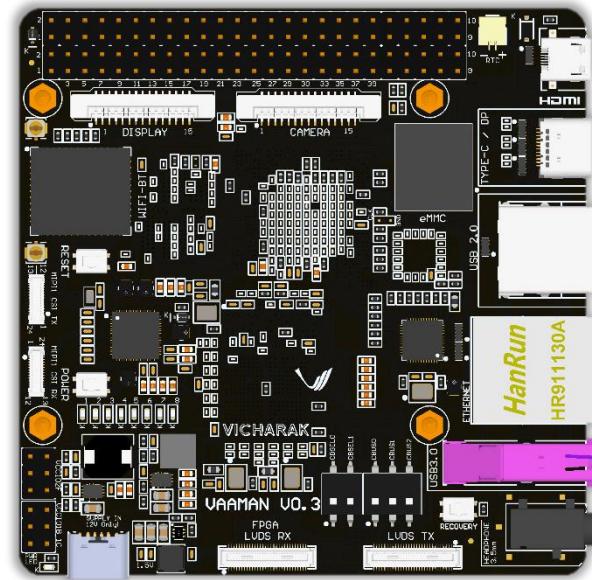
RECOVERY push button to allow user to easily flash over USB the on-board eMMC storage.



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

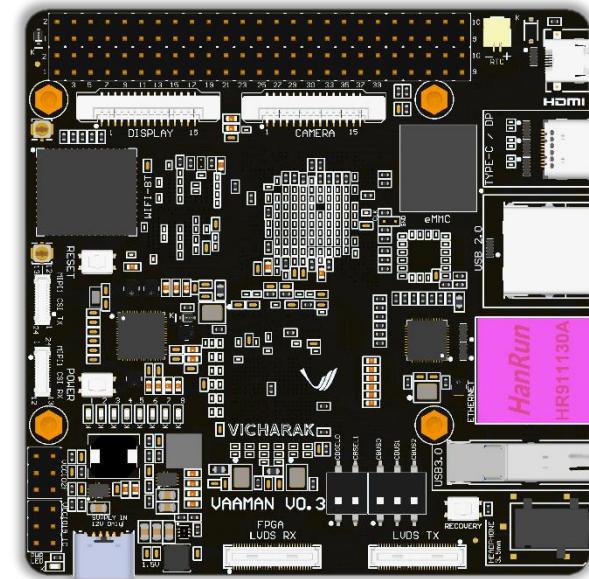


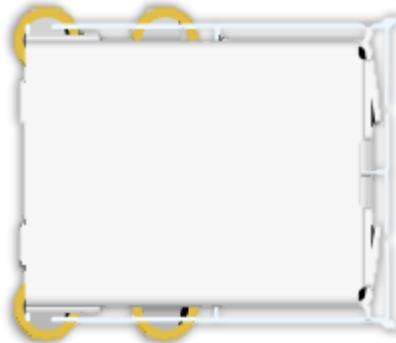
USB3.0 HOST



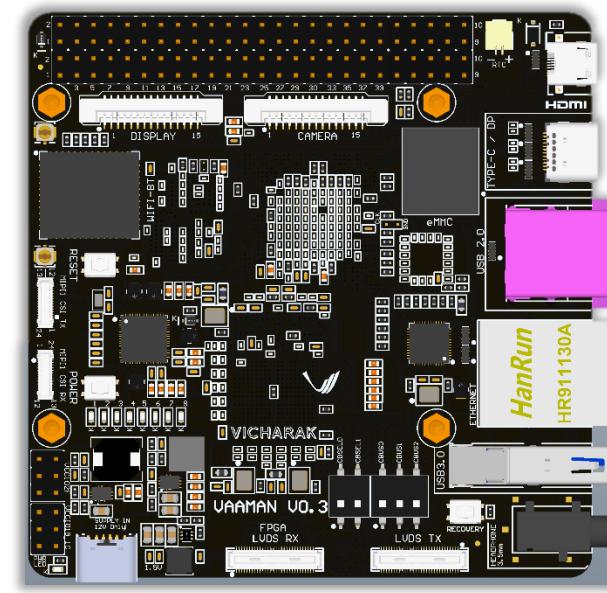


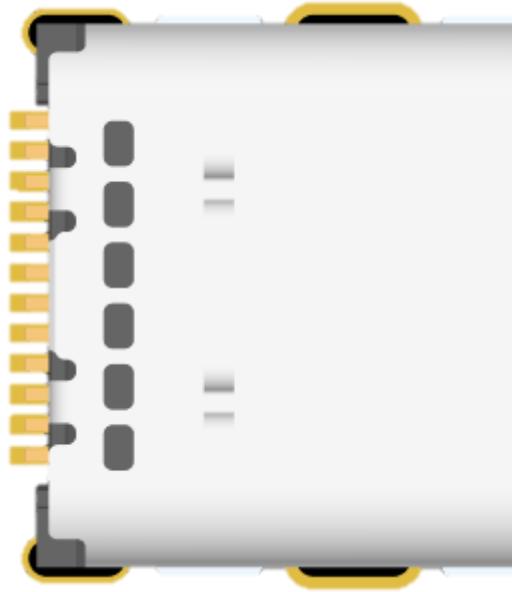
ETHERNET (10/100/1000Mbps)



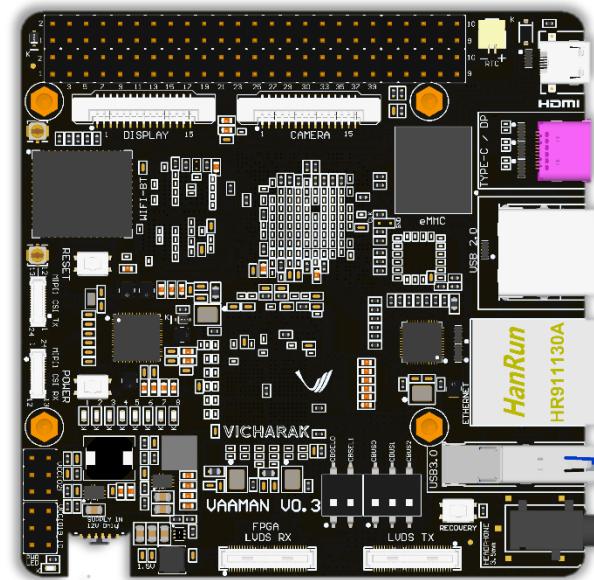


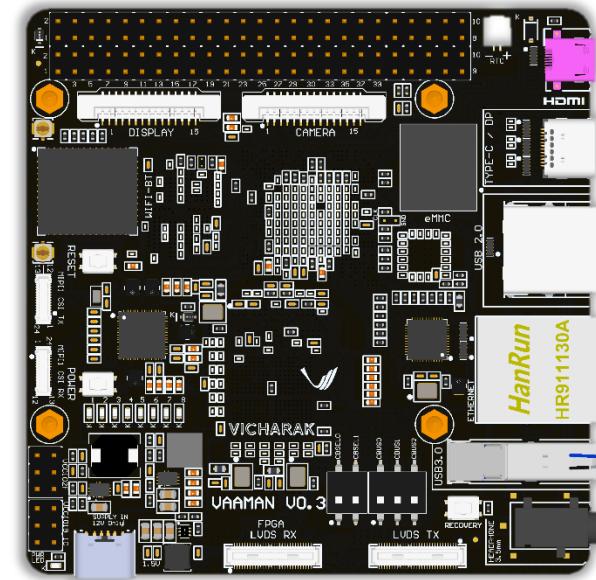
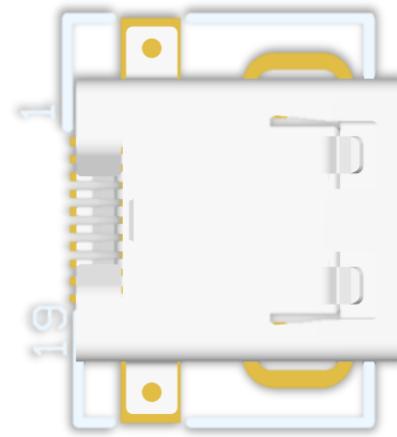
2x USB2.0 HOST

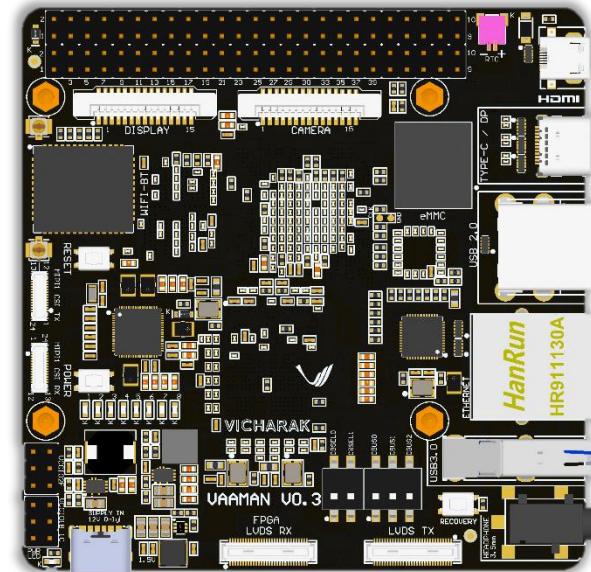
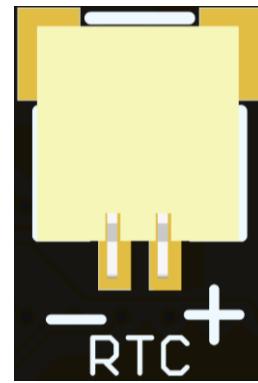


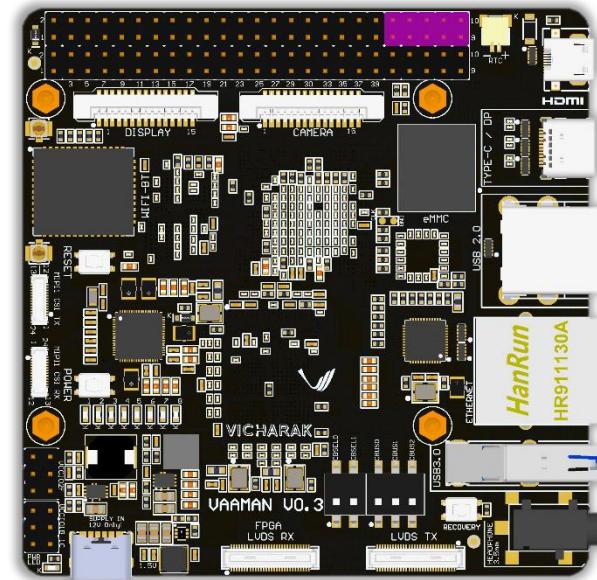
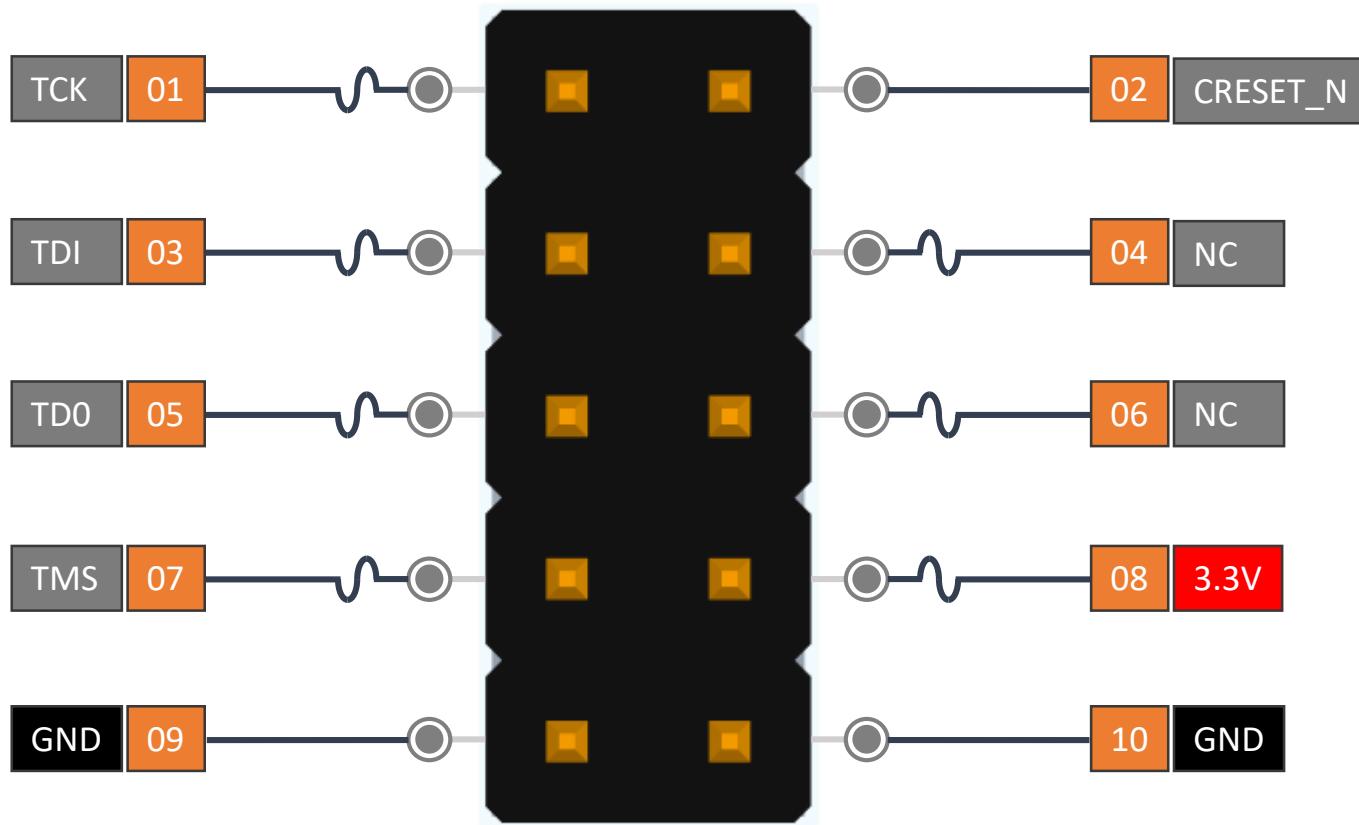


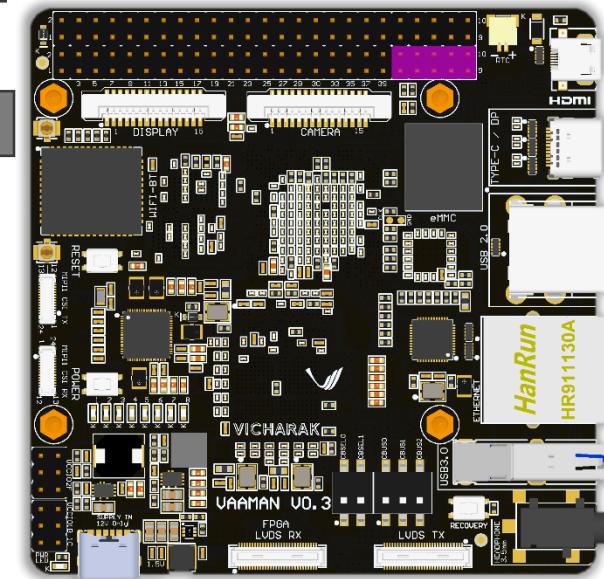
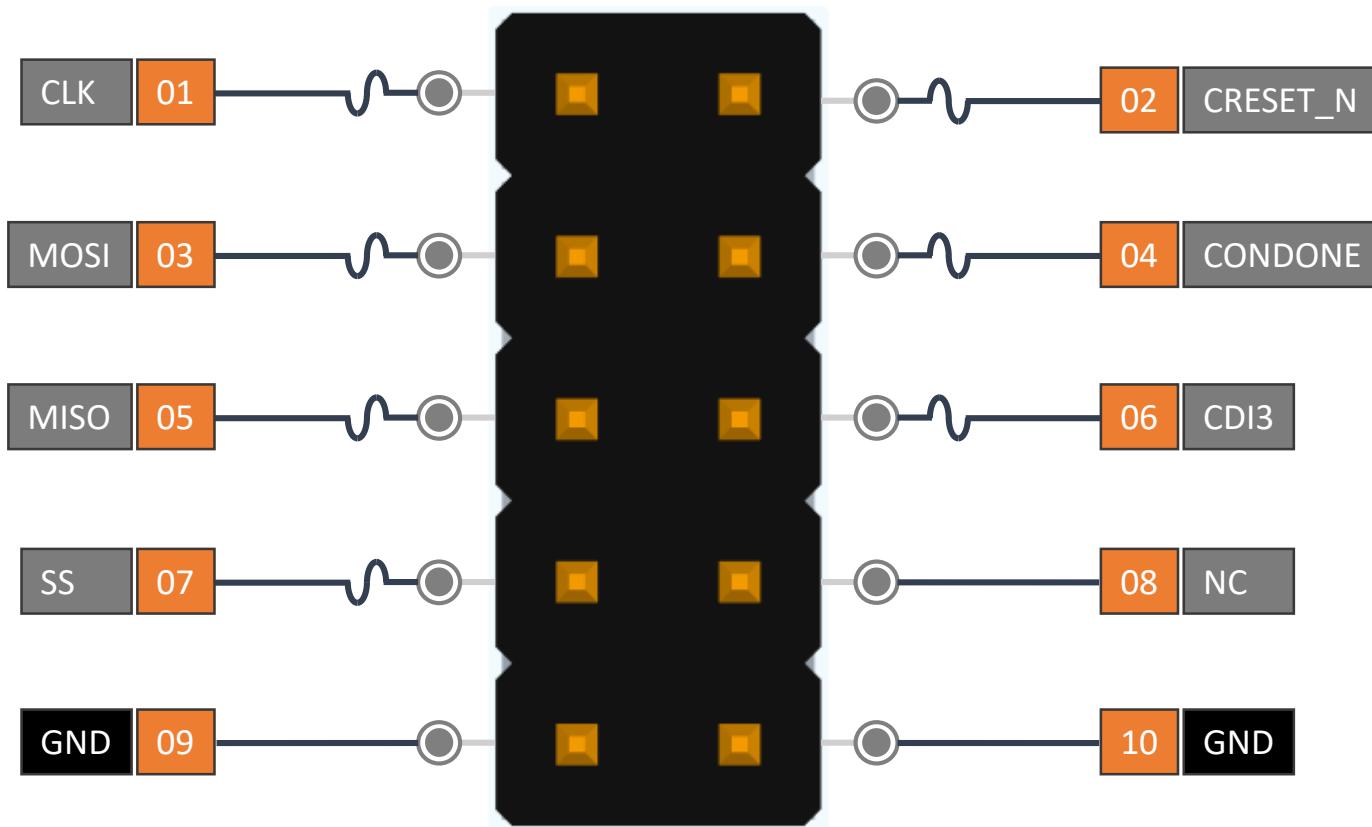
TYPE-C(USB3.0) / DisplayPort

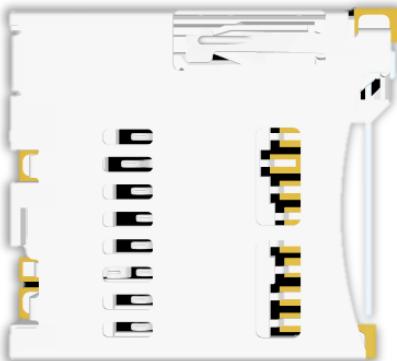




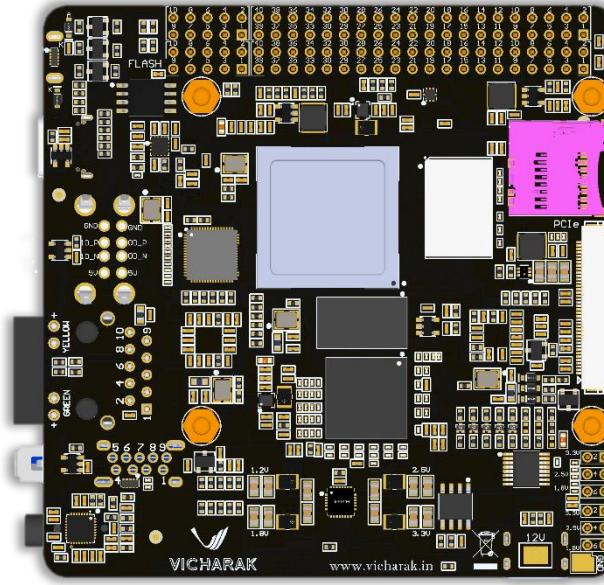


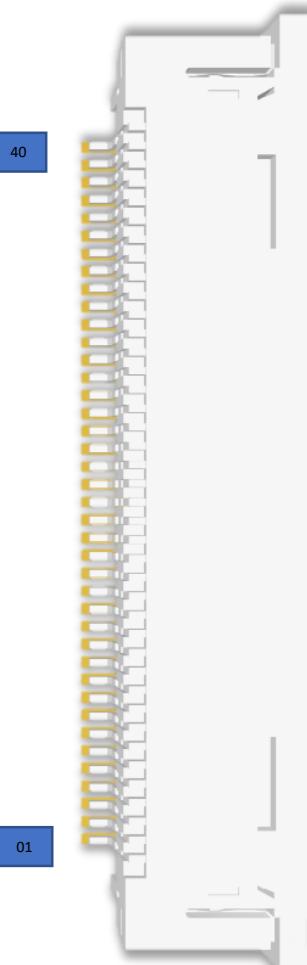




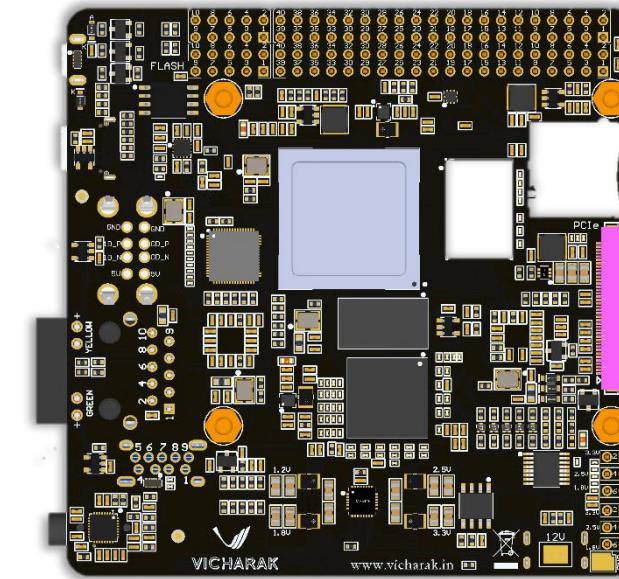


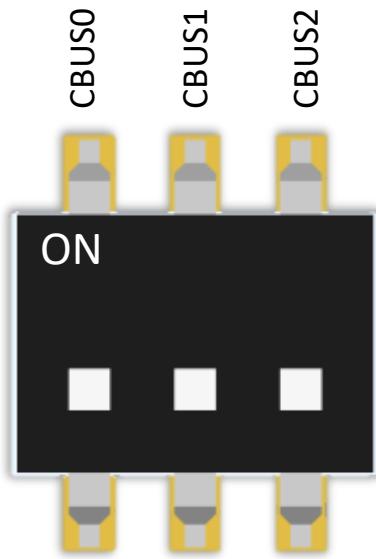
MicroSD Card





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

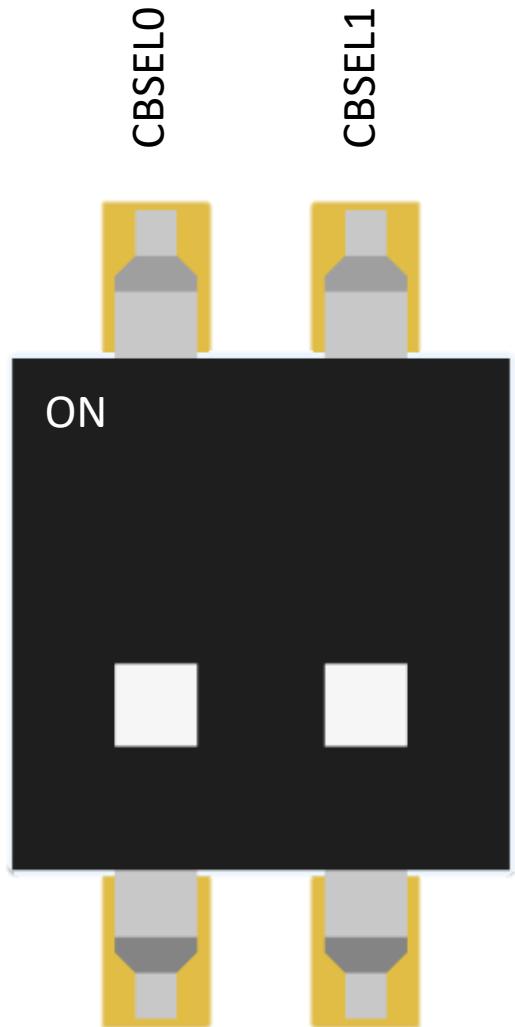
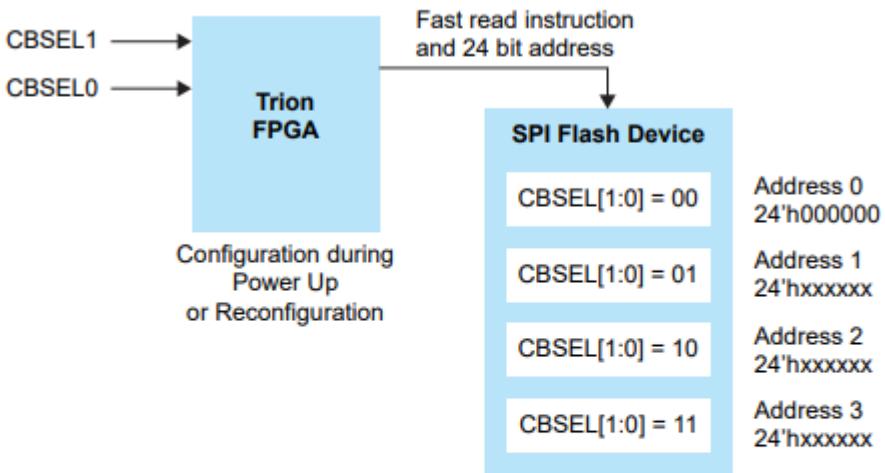


Figure 20: Configuration Setup for Multiple Images



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.