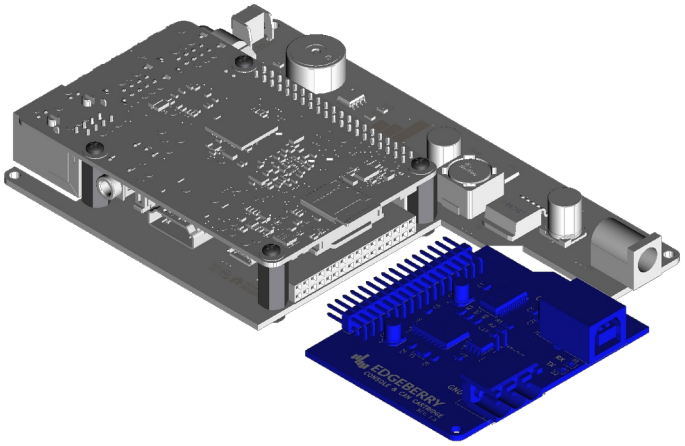
EDGEBERRY

Hardware Cartridge Design Guidelines

revision 1.0



Edgeberry Hardware Cartridge

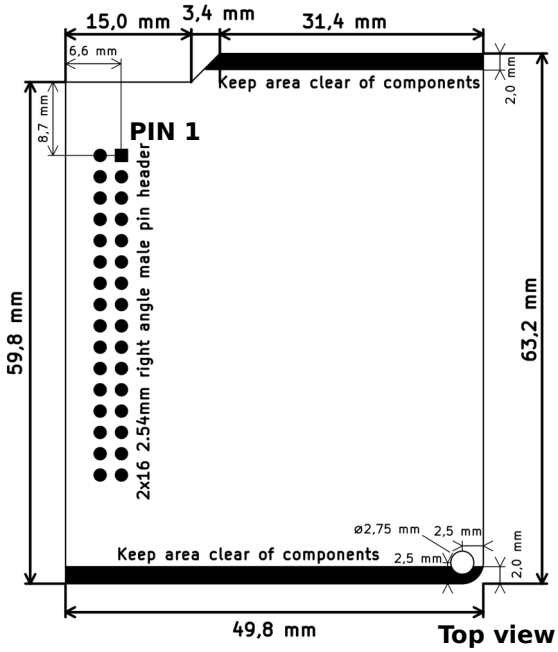
To create your own IoT Edge application using your Raspberry Pi with Edgeberry, you will most likely require application specific hardware. That is why Edgeberry is designed for expanding its capabilities with a Hardware Cartridge. This guide contains the information you need to successfully design your own.

Mechanical Specifications

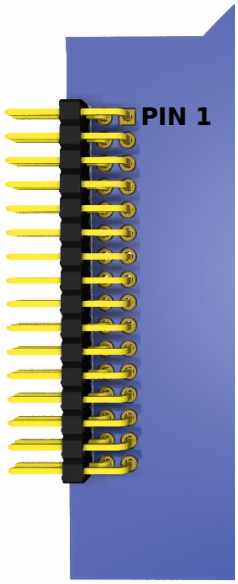
To seamlessly integrate your custom hardware into the Edgeberry project, your Hardware Cartridge should meet the mechanical specifications provided in this drawing. Components should not exceed a height of 15mm on the top side and 4.5mm on the bottom side. The recommended PCB board thickness is approximately 1.6mm.

⚠ IMPORTANT

Ensure careful alignment of the expansion connector. Note that the Cartridge header is the mirror image of the pins on the Edgeberry.



PIN	FUNCTION	PIN	FUNCTION
1	5V Power	2	5V Power
3	I²C SDA	4	GND
5	I²C SCL	6	UART Tx
7	GPIO 4	8	UART Rx
9	GND	10	GPIO 18
11	GPIO 17	12	GND
13	GPIO 27	14	GPIO 23
15	GPIO 22	16	GPIO 24
17	3,3V Power	18	GND
19	SPI MOSI	20	GPIO 25
21	SPI MISO	22	SPI CS0
23	SPI SCLK	24	SPI CS1
25	GND	26	GND
27	GPIO 13	28	GPIO 12
29	GPIO 20	30	GPIO 16
31	3,3V Power	32	GPIO 21



Electrical Specifications

The Edgeberry expansion connector for the Hardware Cartridge exposes the remaining unused pins of the Raspberry Pi, providing direct access to the UART, I2C, and SPI interfaces, as well as several GPIO pins. The 3.3V power is supplied by the Raspberry Pi, while the 5V power is directly connected to Edgeberry's robust power supply. When designing a circuit that draws current at 3.3V, it is recommended to use the 5V power in conjunction with your own voltage regulator.