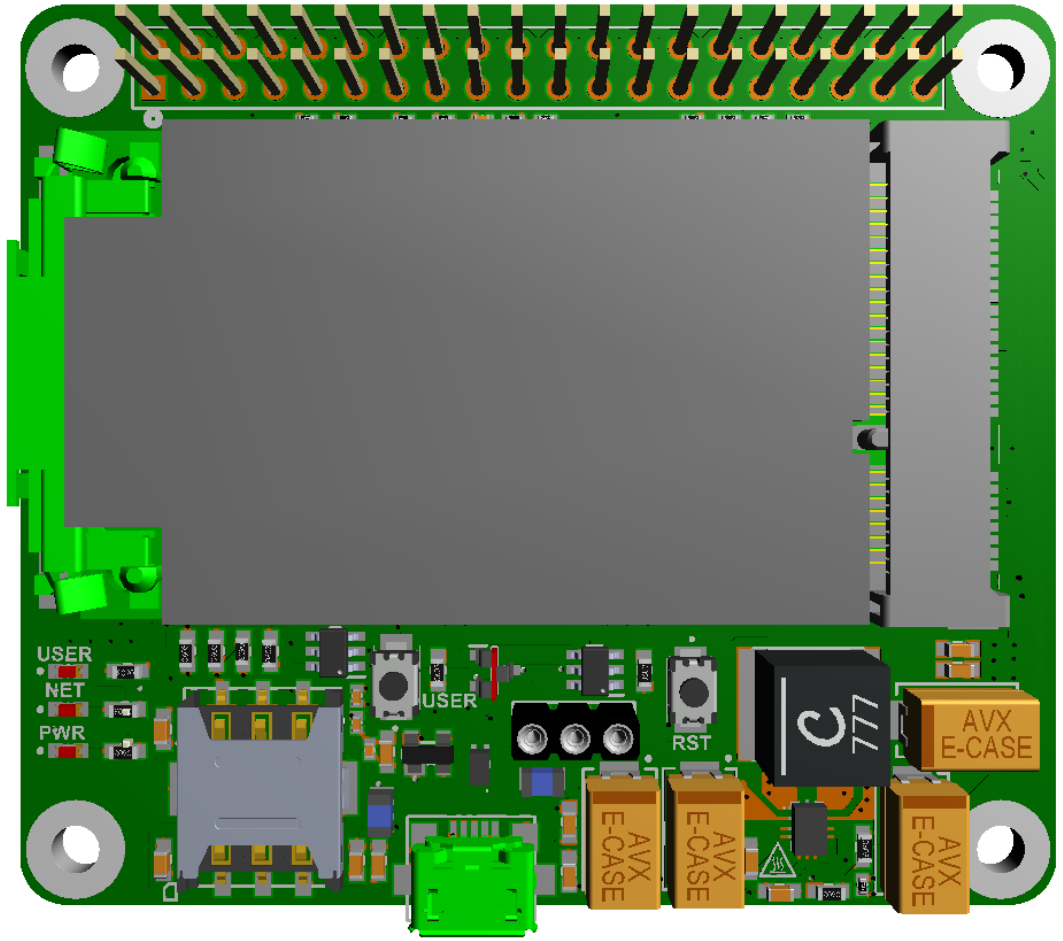
EVE 4G HAT



SPECIFICATION :

Dimensions : 65 x 56 x 16 mm
Power : Operates at RPI 5V, Micro USB socket 5V1, External supply 4.2V – 30V

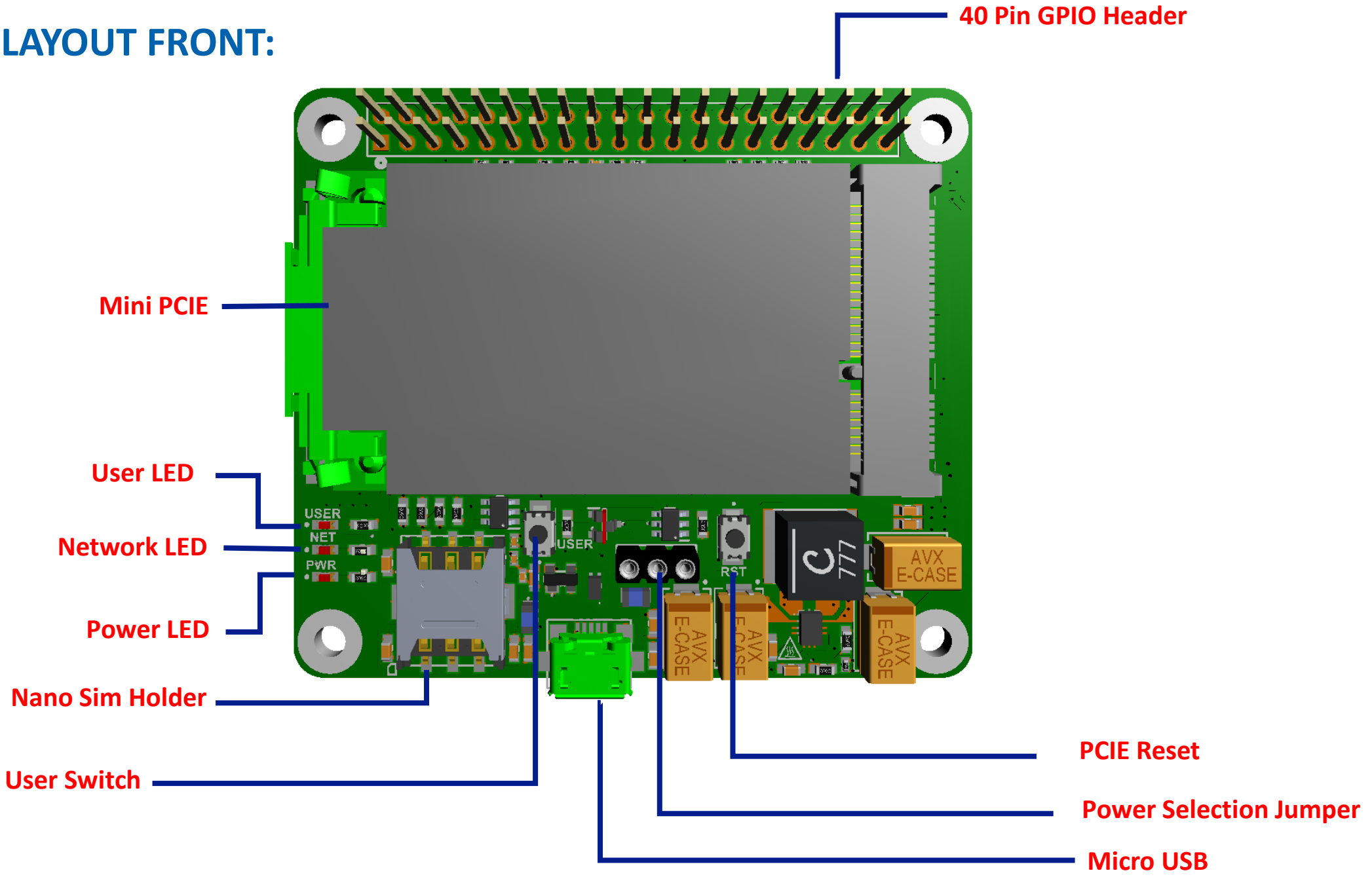
CONNECTORS :

Micro USB	**:**	**Micro USB**
Sim Card	**:**	**Nano Sim**
GPIO Connector	**:**	**40-pin 2.54 mm (100 mil) expansion header: 2x20 strip**
External Power Connector	**:**	**2-pin 2mm pitch JST Connector**
GPS & Antenna Connector	**:**	**Depends on PCIE Card (Normally it is UFL)**

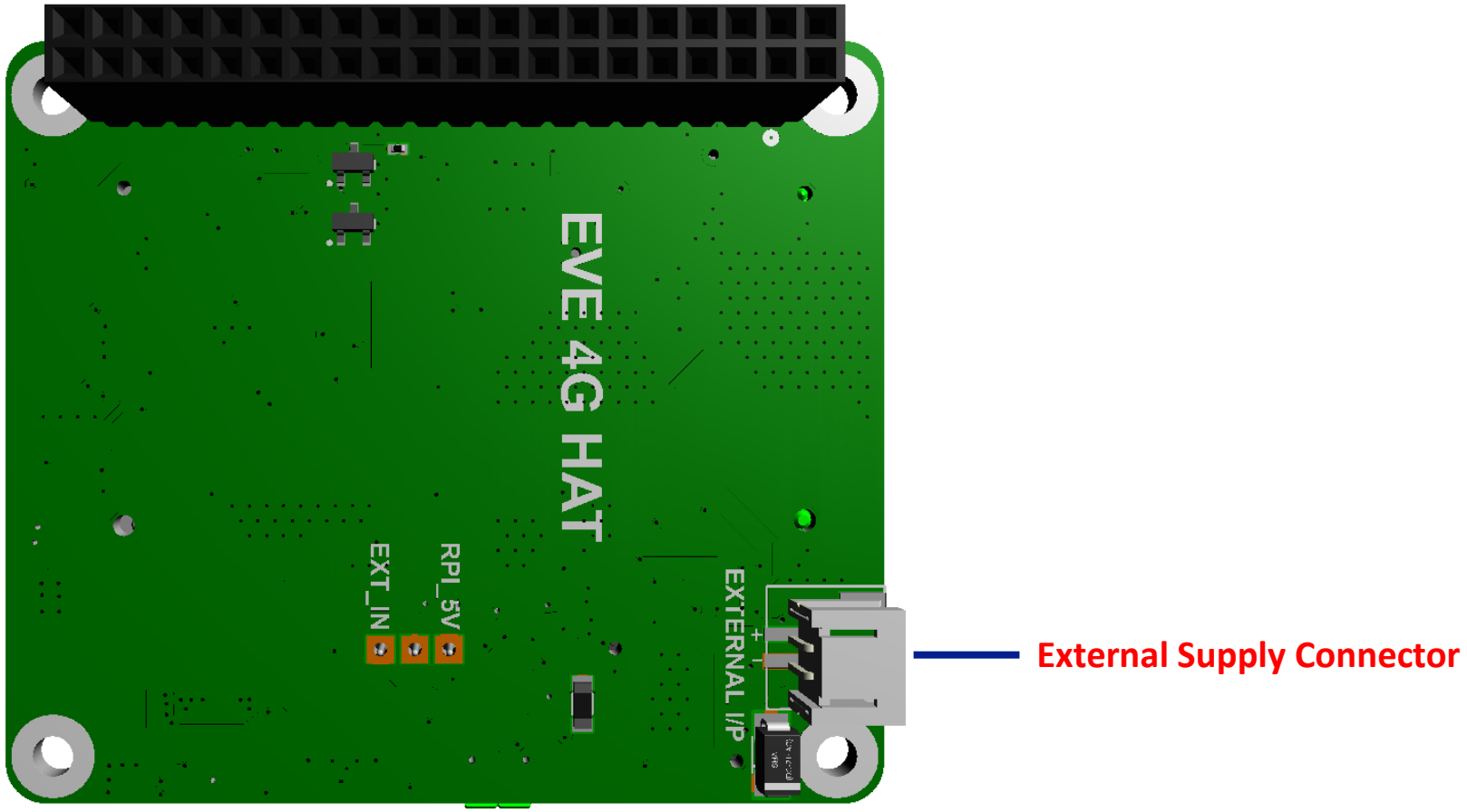
HAT KEY FEATURES :

- **Fully compatible with Raspberry Pi models that have the 40-pin GPIO header (4, 3, 2, B+, A+, Zero).**
- **Supports any Nano sim.**
- **High-efficiency power regulation.**
- **Clip-in Mini PCIe socket compatible with worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage with regional or global modules which work with different frequencies & carriers.**
- **With the 4G/LTE Module(e.g Quectel EC25) you can reach 150Mbps downlink and 50Mbps uplink data rates. And the 3G Module(e.g Quectel UC20) delivers the maximum data rate of 14.4Mbps downlink and 5.76Mbps uplink.**
- **Can be used standalone with PC/Laptop over micro USB, without stacking with Raspberry Pi.**
- **Optional Send/Receive AT commands over Raspberry Pi UART port is available**
- **Taking the module into the Airplane Mode, resetting module or RI and DTR functions can be accessible over GPIO pins.**
- **The power of the whole board electronics can be disabled for low-power consumption use cases**
- **The modules(EC25&UC20) have built-in GNSS(GPS/GLONASS) receiver for your location-based applications.**
- **Working temperature range: -40°C ~ 80°C.**

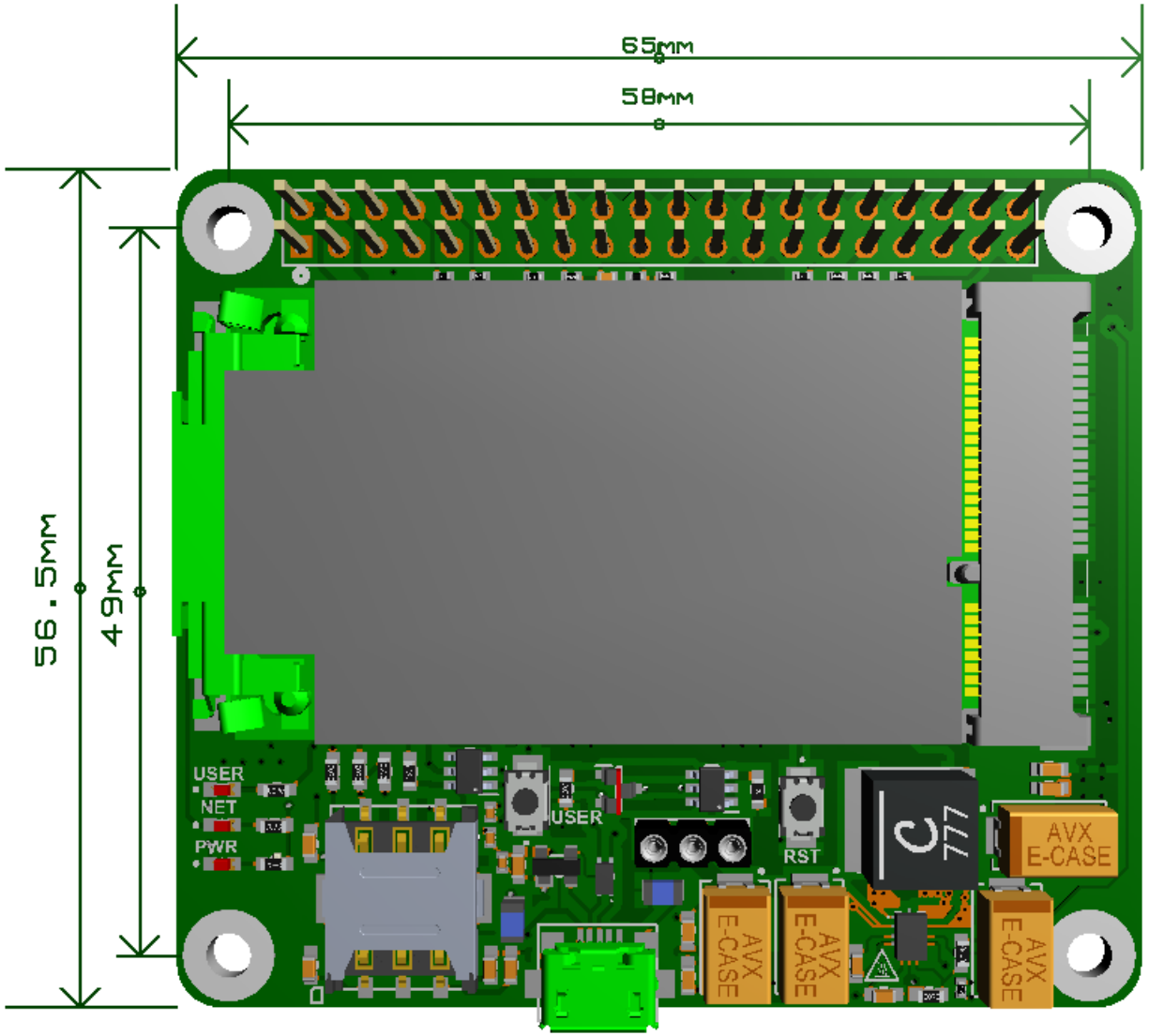
BOARD LAYOUT FRONT:



BOARD LAYOUT BACK :



DIMENSIONS:


65mm
58mm
56.5mm
49mm
USER
NET
PWR
USER
RST
AVX
E-CASE
AVX
E-CASE
AVX
E-CASE
AVX
E-CASE

INTERFACE APPLICATION:

Power Supply-

- **The micro USB is used for power EVE 4G HAT. The voltage input should be 5v with a minimum of 2A current for the EVE 4G HAT. If the Raspberry Pi is powered via the EVE 4G HAT, the input current should be at least 2.5A.**
- **EVE 4G HAT can be powered by external 4.2V to 30V supply.**

Micro USB(Modem)-

Micro USB is used to connect the modem, it transmits data through the cable to the Raspberry Pi or a Windows system. This USB interface gives you access to a few different ports on the modem-

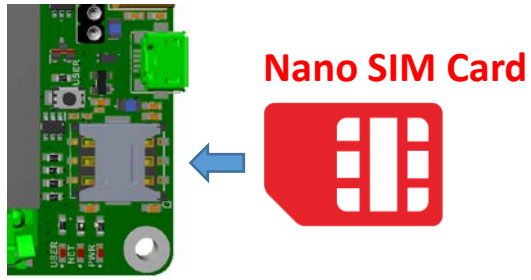
- **Diagnostics port for output developing messages**
- **NMEA port - outputs GPS information**
- **AT command port - for sending and receiving AT commands**
- **Modem port for PPP protocol**

Sim card -

The SIM card port connects with the Mini PCIE module.
The Mini PCIE module uses the SIM card with the different functions: SMS, Phone Calls & Internet.

INTERFACE APPLICATION:

Sim card orientation:



UART –

A UART is a communication channel between the Raspberry Pi and the Mini PCIE to access different functions:

- **Power Management**
- **AT communication**

UART Pins :

Raspberry Pi	Mini PCIE Module
GPIO 14 (TX)	TX
GPIO 15 (RX)	RX

INTERFACE APPLICATION:

Buttons -

Raspberry Pi	EVE 4G HAT
GPIO 22	USER Button
GPIO 19	Mini PCIE Reset

LEDS –

EVE 4G HAT	Function
USER LED	Raspberry Pi GPIO 27
PWR LED	3.3V Power LED
NET LED	Network LED