**PAN-THER DESIGN GUIDE**

This document describes how PAN\_THER works as a PAN (PERSONAL AREA NETWORK) to Ethernet gateway.

The hardware supports of TI Launch pad and Sylabs thunder board base BLE/ZigBee/6Low PAN chipset that connect to W5100S-EVB-PICO over SPI and UART ( user programmable or selectable) 2 IO pins on both side or configured as interrupt pin and other connected to reset pin that allows the chip to be restarted remotely.

RP2040 Run intelligent algorism that pick wireless sensor data and provided to W5100S and vice versa. It act as a AI based port running models of U sensors on it. It also supports to store some amount of sensor data in its RAM.

This platform enable IoT hardware engineers to evaluate gateway designs that send sensor data from any PAN network to a WAN network over Ethernet. It shortens design life cycle and speeds up time to market cycle. Future variant of this platform will support on board PoE functionality.