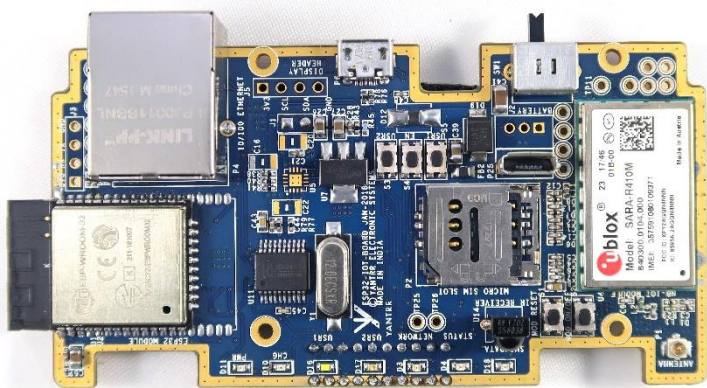
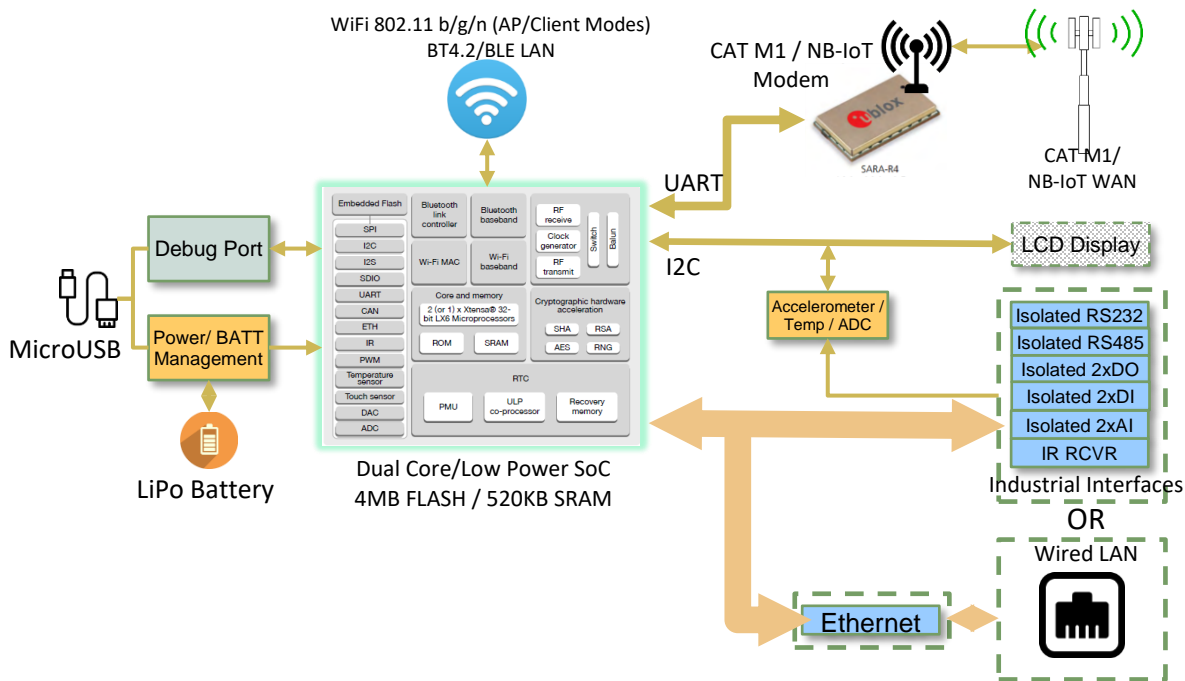


Yantrr OMNIY-M1 series is an ultra-low power IoT system equipped with the new LTE CAT-M1 standard modem targeted for autonomous low power use capable of running on battery power for long periods. With integrated Bluetooth BLE4.2 and WiFi 802.11 B/G/N wireless LAN interfaces, it targets wireless sensors requiring low bandwidth intermittent WAN connectivity. Running a firmware based on FreeRTOS, the system implements an efficient yet responsive runtime system that matches the low power requirements with real time processing needs of IoT system



**System Features**

- Dual core 240MHz Ultra Low Power CPU system
- Integrated 4MB FLASH, 520KB SRAM
- Less than 50mA CPU current consumption when operating normally, 150uA with main CPU in sleep and coprocessor CPU in standby
- Integrated BT4.2/WiFi 802.11 B/G/N
- Very low power LTE CAT-M1 IoT Modem
- Built-in Accelerometer, Ambient Temperature Sensor, ADC
- Optional Ethernet LAN
- Optional LiPo battery backup system
- Industrial Extension Option with Isolated RS232, RS485, DI, DO, 4-20ma loop
- Operates on DCIN 5V/1A Supply

## Bluetooth Multi-Sensor Application

In this application, multiple BLE devices with patient health monitoring capabilities are installed in the vicinity of the OMNY-M1 system device. The main components of this application are –

- The Bluetooth Device Manager: The data from Bluetooth sensors can be received at any time during the day by the user by activating the health monitoring sensor devices. This data is then queued in to a Microsoft Azure client implementation on the device for transmission to a Azure IoT Hub based platform.  
The Manager supports both GAP profile acting as central device (for registration and pairing) as well as GATT profile with multiple services (peripheral device dependent) as a client.
- Microsoft Azure Client: This client manages all communication to and from the Azure cloud by creating a connection to Azure IoT Hub through the TCP/IP stack.  
These functions include –
  - Flushing the Bluetooth sensor data queue to IoT Hub in the cloud
  - Listening and responding to any device administration messages from IoT Hub such as device configuration or FOTA (Firmware Over The Air) update events or device configuration changes.
- The PPP Connection Manager: This task manages CAT-M1 modem WAN connectivity on demand and monitors the modem signal quality and network connection status. This task runs on a separate core utilizing the full dual core capability of the system. It uses RTOS events to communicate its control and status information with rest of the system

