

IoT Ethernet Kit Powered by AWS IoT

DM990004

Summary

To address Industrial Internet of Things (IIoT) projects, Ethernet connectivity becomes the most reliable and stable technology. The IoT Ethernet Kit powered by AWS IoT uses an Ethernet LAN8740A driven by a 32-bit microcontroller with 2 MB of Flash (PIC32MZ EF) that provides plenty of memory space for your application. On the sensor side, hundreds of different sensors can be plugged into the MikroElektronika mikroBUS™ footprint allowing for prototyping a large variety of IIoT proof-of-concepts.

This IIoT kit takes advantage of the AWS IoT service and provide a smooth user experience coming preloaded with the corresponding firmware. AWS IoT is a managed cloud platform that allows connected devices to interact easily and securely with cloud applications and other devices. Additionally, the firmware in the kit makes use of MPLAB® Harmony, FreeRTOS™, WolfMQTT and WolfSSL allowing you to quick-start your IIoT design.

Features

- Developed as a reference for industrial Ethernet environments
- Complete development kit that includes IIoT edge device and setup instructions for using AWS IoT
- Easy setup out of the box with your own AWS account
- JSON-based data payload
- MPLAB Harmony: integrated software framework
- Simple 32-bit MIPS microcontroller-based design
- Four input buttons, four output LEDs and one analog input potentiometer on edge device to show bidirectional control via AWS IoT
- mikroBUS header for extendability to build any IIoT use case using available or custom sensors

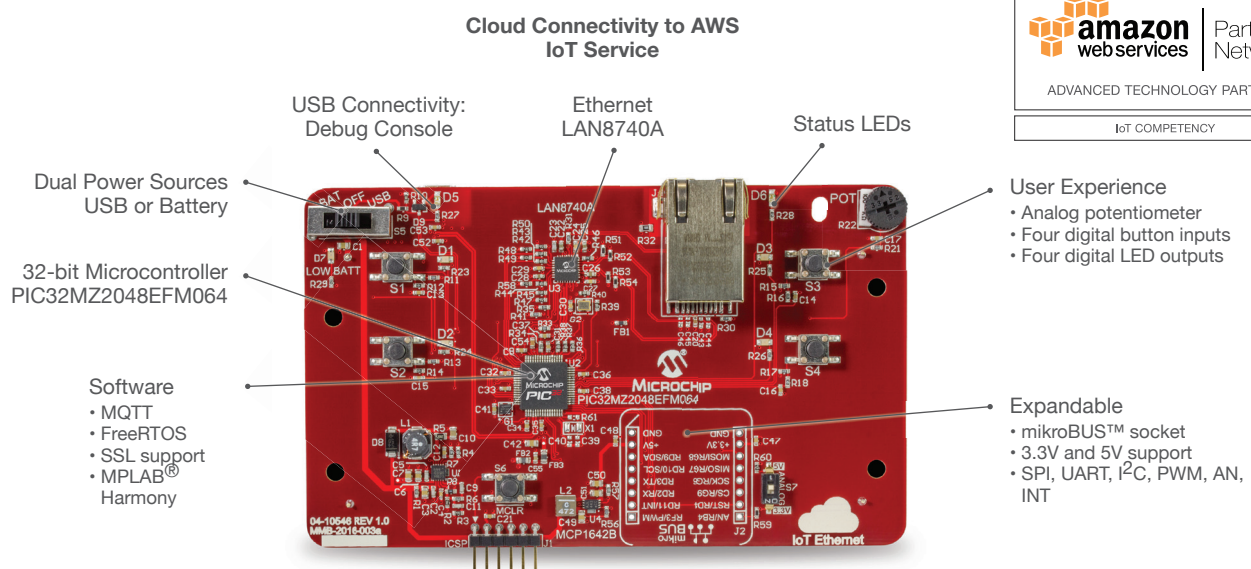
Bill of Materials

- LAN8740: Ethernet PHY
- PIC32MZ2048EFM064: 32-bit microcontroller
- MCP1642B: Boost Regulator

Available Reference Material on GitHub

github.com/MicrochipTech/aws-iiot-firmware-pic32mz

- Firmware
- Out-of-box guides
- Compile and programming guides
- Circuit schematics
- Insight on Things desktop application



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10/28/16

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