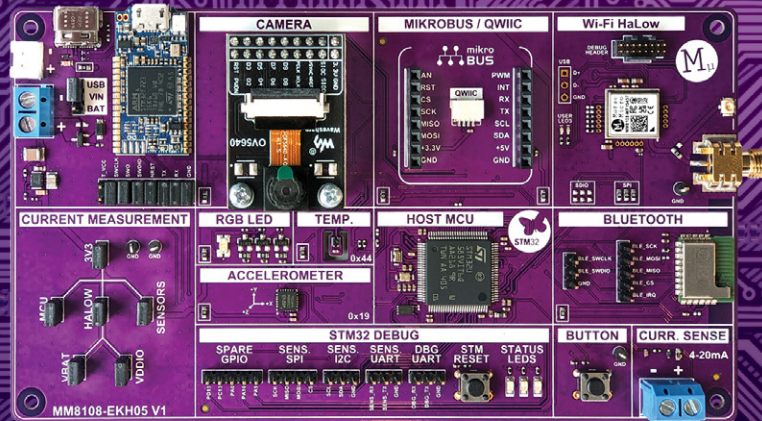Morse Micro
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MM8108-EKH05-01 IoT Evaluation Kit

Overview

The MM8108-EKH05-01 evaluation kit is a fully integrated Wi-Fi HaLow development platform, designed for a wide range of IoT applications – from smart home devices to industrial automation systems. Featuring the Morse Micro MM8108-MF15457 Wi-Fi HaLow low-power SoC module, alongside the STM32U585 low-power microcontroller (MCU) and the BlueNRG-M2 Bluetooth® SoC, the kit offers robust wireless connectivity, low power consumption, and an extensive range of programmable interfaces and sensors. When used with a Morse Micro based Access Point, it enables developers to create almost any Wi-Fi HaLow client project, making it an ideal platform for developers to move quickly from concept to proof of concept in developing low power IoT solutions.

The MM8108-EKH05-01 supports all major operating systems (Windows, Linux and macOS) giving developers unprecedented access to the Wi-Fi HaLow technology.

The key features of the MM8108-EKH05-01 Wi-Fi HaLow evaluation kit include:

- Wi-Fi HaLow support for long-range, low power wireless connectivity
- Low power host microcontroller
- Bluetooth capabilities for communications and provisioning
- SDK with example applications for rapid development

- Full software debugging with on-board STLINKV3 programmer
- Comprehensive suite of sensors for diverse IoT applications
- On-board camera module for still imaging capabilities
- Versatile expansion headers for extensibility
- Current measurement tree for simplified power consumption analysis
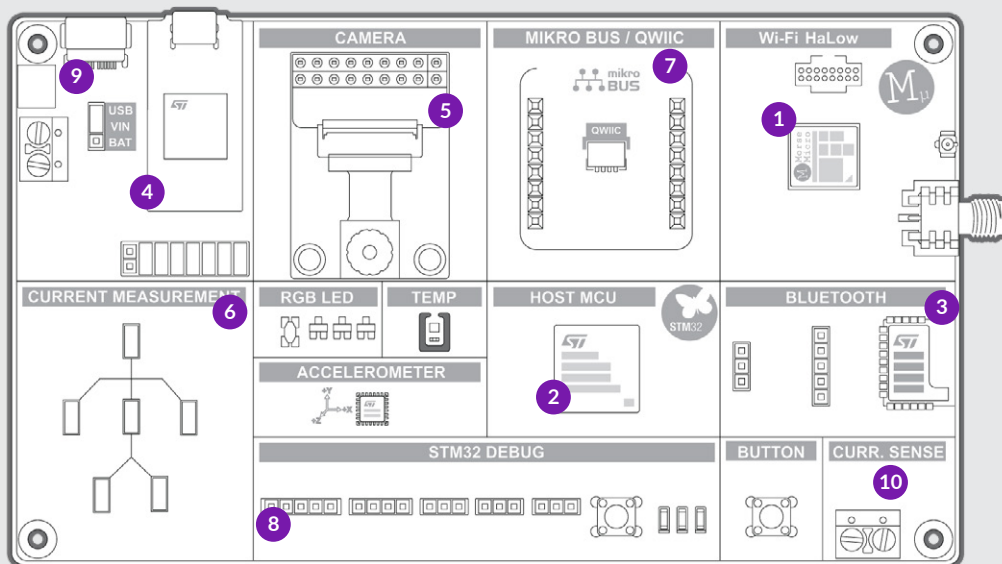- Multiple power source options including USB, battery or external supply

Kit Contents

1x	MM8108-EKH05-01
1x	USB-A to micro-USB cable
1x	Wi-Fi HaLow SMA Antenna

Applications:

- Home security cameras
- Consumer garages
- Consumer locks
- Building access control & security
- Low power sensors
- Utility smart meter & intelligent grids
- Cloud connectivity
- Machine performance monitors & sensors

- Industrial, agricultural & commercial management
- Industrial automation controls
- Smart city networks
- Public safety monitoring
- Logistics & tracking
- Connected healthcare & wearables
- Smart home automation & connected appliances

→

The Morse Micro
MM8108-EKH05-01 includes:

1. Wi-Fi HaLow Module
2. Host Microcontroller
3. Bluetooth Module
4. STLINK Programmer and Debugger
5. Camera Module
6. Current Measurement Tree
7. Expansion Interfaces
8. Access to Host Microcontroller Peripherals (IC2, SPI, USB, etc)
9. Power Input Selection. USB, Battey, or External Supply
10. 4-20mA Interface

Plus
- Accelerometer / Temperature Sensor / Humidity Sensor / RGB LED / Buttons / Indicator LEDs

Key Features

Single-chip IEEE802.11ah Wi-Fi HaLow® transceiver for low-power, long-reach IoT

Designed for low-power consumption with versatile measurement options

IoT Powerful low-power MCU designed for IoT

BLE Bluetooth module for communications and provisioning

On-board programmer and debugger

On-board camera module for still imaging capabilities

Comprehensive suite of sensors for diverse IoT applications

Current measurement tree for simplified power consumption analysis

Wi-Fi HaLow® Modulation and Coding Scheme

MCS index	PHY data rate (Mbps) / Minimum receive sensitivity (dBm)			
	1 MHz	2 MHz	4 MHz	8 MHz
10	0.1 / -107	—	—	—
0	0.3 / -106	0.7 / -103	1.5 / -102	3.3 / -97
1	0.7 / -104	1.4 / -101	3.0 / -99	6.5 / -95
2	1.0 / -102	2.2 / -99	4.5 / -97	9.8 / -93
3	1.3 / -99	2.9 / -96	6.0 / -94	13 / -90
4	2.0 / -96	4.3 / -93	9.0 / -90	20 / -87
5	2.7 / -92	5.8 / -89	12 / -86	26 / -83
6	3.0 / -90	6.5 / -87	14 / -85	29 / -81
7	3.3 / -89	7.2 / -86	15 / -83	33 / -80
8	4.0 / -85	8.9 / -82	18 / -79	39 / -76
9	4.4 / -83	—	20 / -78	43 / -74

For more product information: **www.morsemicro.com**

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