

PRODUCT BRIEF

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 still camera module for 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

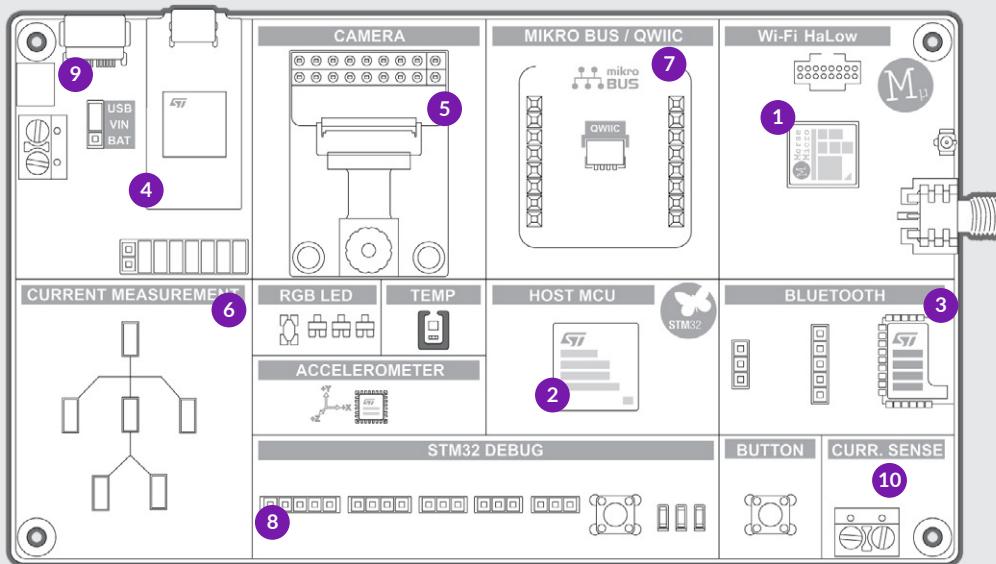
Kit Contents

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

Applications:

✓ Home security cameras	✓ Industrial, agricultural & commercial management
✓ Consumer garages	✓ Industrial automation controls
✓ Consumer locks	✓ Smart city networks
✓ Building access control & security	✓ Public safety monitoring
✓ Low power sensors	✓ Logistics & tracking
✓ Utility smart meter & intelligent grids	✓ Connected healthcare & wearables
✓ Cloud connectivity	✓ Smart home automation & connected appliances
✓ Machine performance monitors & sensors	





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 (I2C, SPI, USB, etc)
9. Power Input Selection. USB, Battey, or External Supply
10. 4-20mA Interface

Plus

- Accel / Temp / Humidity / 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



Powerful low-power MCU designed for IoT



Bluetooth module for communications and provisioning



On-board programmer and debugger



On-board still camera module for 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	0.17 / -109	—	—	—
0	0.33 / -106	0.72 / -103	1.5 / -102	3.3 / -97
1	0.67 / -105	1.4 / -102	3.0 / -99	6.5 / -94
2	1.0 / -102	2.2 / -99	4.5 / -96	9.8 / -92
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 / -91	6.5 / -88	14 / -85	29 / -80
7	3.3 / -89	7.2 / -86	15 / -83	33 / -79
8	4.0 / -85	8.7 / -82	18 / -79	39 / -75
9	4.4 / -83	—	20 / -77	43 / -73

For more product information: www.morsemicro.com

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