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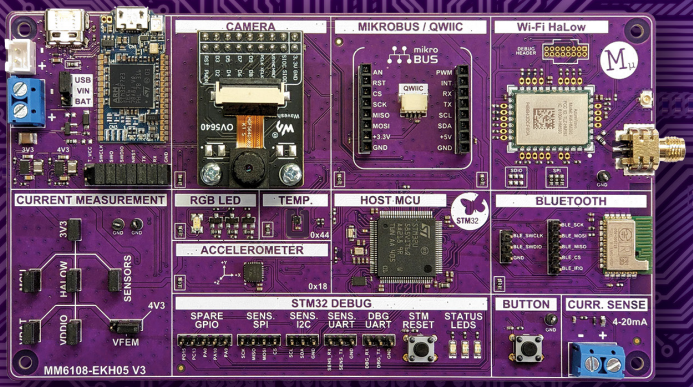
PRODUCT BRIEF

MM6108-EKH05 Evaluation Kit



IEEE 802.11ah Sub-1 GHz 1/2/4/8 MHz BW MAC/PHY/Radio Wi-Fi HaLow SoC

Overview

The MM6108-EKH05 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. Leveraging Morse Micro's MM6108 (Wi-Fi HaLow low energy SoC), the BlueNRG-M2 (Bluetooth® SoC) and the STM32U585 low-power microcontroller (MCU), the board provides robust wireless connectivity, low power consumption, and an extensive range of programmable interfaces and sensors. This comprehensive platform is ideal for software engineers developing energy-efficient IoT solutions.

What sets the MM6108-EKH05 apart is its energy-efficient design and ability to effortlessly validate power consumption. The standout feature is the Host MCU, which supports easy integration with the included camera module, a variety of IoT sensors, in circuit debugger (STLinkV3), and the mikroBUS™ socket—making it an essential tool for IoT developers seeking seamless connectivity.

The MM6108-EKH05 enables software developers to create almost any Wi-Fi HaLow client project when purchased alongside a Morse Micro based Access Point. This includes industrial IoT development thanks to the 4-20mA Current Sensor Screw Terminal alongside the 16MBit SPI Flash which allows for additional memory for user applications.

The MM6108-EKH05 supports all major operating systems (Windows, Linux and macOS) giving developers unprecedented access to the Wi-Fi HaLow technology.

The key features of the MM6108-EKH05 Wi-Fi HaLow evaluation kit include:

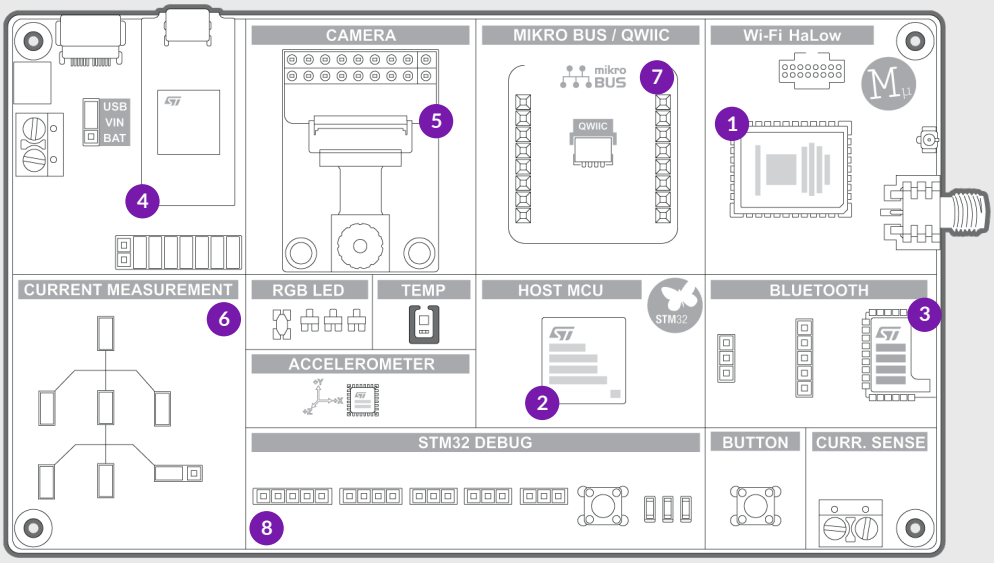
- Wi-Fi HaLow support for long-range, low-power wireless connectivity
- STM32U585 microcontroller with energy-efficient architecture
- Built in STLinkv3 programmer
- Integrated sensors for enhanced IoT applications
- Multiple power input sources, including USB, battery or external source

Kit Contents

1x	MM6108-EKH05
1x	USB-A to micro-USB cable
1x	Wi-Fi HaLow Antenna

Applications:

- Home security cameras
- Consumer garages
- Consumer locks
- Building access control & security
- 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 MM6108-EKH05 includes:

1. Wi-Fi HaLow Module
2. STM32U585 Host Microcontroller
3. ST BLE Module – BLUENRG-M2SP
4. STLINK-V3MODS
5. Camera Module
6. Versatile Power Measurement
7. mikroBus & QWIIC Connectors
8. Full Access to STM32 peripherals (I2C, SPI, etc)

plus

- Accel / Temp / Humidity / RGB LED / Buttons / Indicator LEDs
- Battery or USB power Selection
- 4-20mA Interface

Key Features

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

Powerful ultra-low-power MCU designed for IoT

Designed for low-power consumption with versatile measurement options

Full range of sensors inc. temperature, humidity, accelerometer and more

On-board debugger/ programmer

BLE module for provisioning devices

Flexible power-supply options inc. USB, battery or external source

Integrated SMA port or U.FL connector fit options

Wi-Fi HaLow® Modulation and Coding Scheme

MCS index	Modulation scheme	Coding rate	PHY rate (Mbps) per BW			
			1 MHz	2 MHz	4 MHz	8 MHz
10	BPSK	1/2 x 2	0.17	-	-	-
0	BPSK	1/2	0.33	0.72	1.5	3.25
1	QPSK	1/2	0.67	1.44	3.0	6.50
2	QPSK	3/4	1.0	2.17	4.5	9.75
3	16-QAM	1/2	1.33	2.89	6.0	13.0
4	16-QAM	3/4	2.0	4.33	9.0	19.5
5	64-QAM	2/3	2.67	5.78	12.0	26.0
6	64-QAM	3/4	3.0	6.5	13.5	29.3
7	64-QAM	5/6	3.34	7.22	15.0	32.5

For more product information: www.morsemicro.com

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