

Document Information

Version	Date	Author	Description
1.0	April 29, 2025	Hipnuc	Initial release
1.1	January 22, 2026	Hipnuc	Added new models, updated appearance, and revised pin definitions

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1 Overview

EVAL HI05 is a standard evaluation board designed for HI05 series modules, enabling quick interface connection, functional verification, and performance evaluation. EVAL HI05 is equipped with three Molex connectors, J1, J2, and J3, and can be connected to a host through the bundled USB-to-Molex cable or open-end cable assembly. For stable test results, it is recommended to securely mount EVAL HI05 to the user device or test fixture.

This evaluation board is intended for interface connection, functional verification, and performance evaluation of specified HI05 series module models. Different module variants may differ in interface functions and supported features. Refer to the corresponding data sheet for details.

2 Ordering Information

2.1 Model Information

Table 1: Model Information

Part Number	Name	Description
EVAL HI05R2-MI0	HI05R2-MI0 Evaluation Board	Evaluation board for HI05R2-MI0
EVAL HI05R2-MI1	HI05R2-MI1 Evaluation Board	Evaluation board for HI05R2-MI1
EVAL HI05R3-MI1	HI05R3-MI1 Evaluation Board	Evaluation board for HI05R3-MI1
EVAL HI05R4-MI0	HI05R4-MI0 Evaluation Board	Evaluation board for HI05R4-MI0
EVAL HI05N2-MI1	HI05N2-MI1 Evaluation Board	Evaluation board for HI05N2-MI1
EVAL HI05N3-MI1	HI05N3-MI1 Evaluation Board	Evaluation board for HI05N3-MI1
EVAL HI05N4-MI0	HI05N4-MI0 Evaluation Board	Evaluation board for HI05N4-MI0

2.2 Contact Information

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Website: www.hipnuc.com

3 Related Documents

1. HI05 Data Sheet
2. Command and Programming Manual
3. STEP File
4. GUI Software and Reference Examples

4 Specifications

Unless otherwise specified, absolute maximum ratings indicate only the stress limits that the device can withstand and are not recommended operating conditions. Prolonged operation at or beyond the absolute maximum ratings may result in degraded performance or permanent damage.

4.1 Absolute Maximum Ratings

Table 2: Absolute Maximum Ratings

Parameter	Limit	Description
Mechanical Shock	2000 g	Duration < 1 ms
Storage Temperature	-40 °C to 85 °C	
ESD (HBM)	15 kV	JEDEC/ESDA JS-001
Input Voltage (VDD)	6.0 V	
I/O Pin Voltage to GND	-0.3 V to 3.3 V	
CAN H or CAN L Voltage to GND	±36 V	

Note 1: Unless otherwise specified, digital interfaces such as UART, SPI, I2C, NRST, SYNC_IN, and SYNC_OUT use 3.3 V logic levels and are subject to the voltage limits of standard digital I/O pins.

4.2 Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit	Description
Input voltage	3.3	-	5	V	Evaluation board power input
Digital interface logic level	-	3.3	-	V	UART / SPI / I2C / GPIO

4.3 Mechanical Dimensions and Pin Definitions

All dimensions are in mm unless otherwise specified.

4.3.1 EVAL HI05 Dimensions

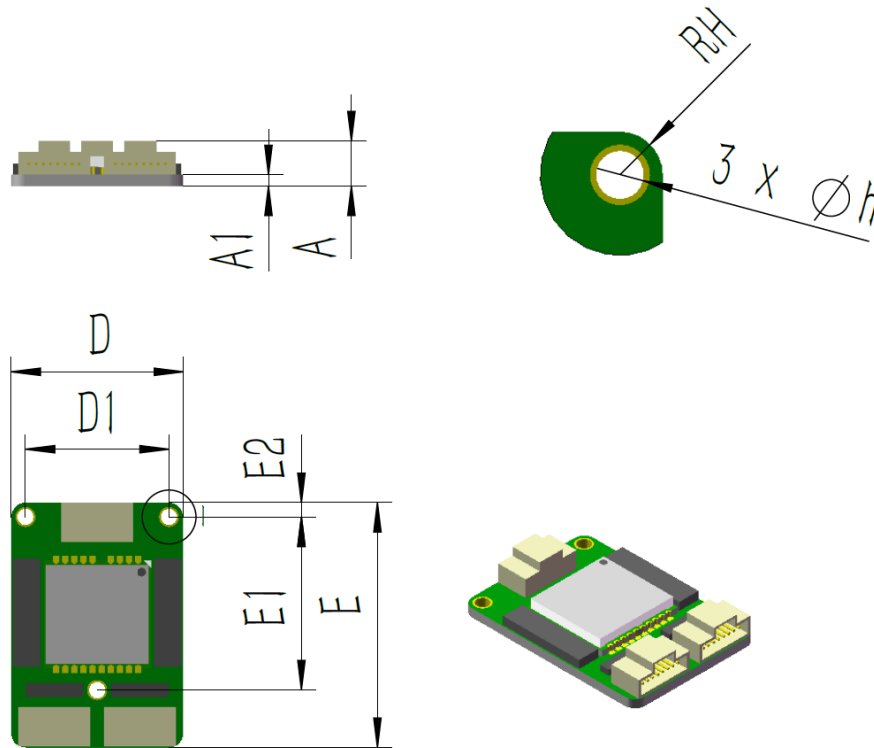


Figure 1: HI05 Evaluation Board Dimensions

Table 3: HI05 Evaluation Board Dimensions

Symbol	Min (mm)	Typ (mm)	Max (mm)
D	23.7	24	24.3
D1	19.9	20	20.1
E	33.7	34	34.3
E1	23.9	24	24.1
E2	1.8	2	2.2
A	6.1	6.3	6.5
A1	1.5	1.6	1.7
H	Φ1.9	Φ2	Φ2.1

4.3.2 EVAL HI05 Pin Definitions

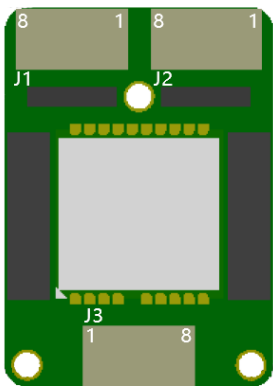


Table 4: J1 Pin Description

Pin Number	Pin Name	Description
1	UART1_TX	UART1 transmit
2	UART1_RX	UART1 receive
3	GND	Power ground
4	NRST	Hardware reset input, active low. It is recommended to connect this pin to a host GPIO for external reset control; if unused, it may be left floating.
5	IO1/SYNC_IN/PPS	Synchronization input. Can accept an external trigger signal, such as a GNSS PPS signal.
6	IO2/SYNC_OUT	Synchronization output. Can be used as a Data Ready signal.
7	GND	Power ground
8	VDD	Power input, 3.3 V to 5.0 V

Table 5: J2 Pin Description

Pin Number	Pin Name	Description
1	UART2_TX	UART2 transmit
2	UART2_RX	UART2 receive
3	CAN H	CAN high
4	CAN L	CAN low
5	UART3_RX/I2C_SDA	UART3 receive; can be connected to an external GNSS module / I2C data
6	UART3_TX/I2C_SCL	UART3 transmit; can be connected to an external GNSS module / I2C clock
7	GND	Power ground
8	VDD	Power input, 3.3 V to 5.0 V

Note 1: The CAN interface on the evaluation board does not include a built-in termination resistor by default. When performing CAN communication tests, configure an external termination resistor according to the actual network topology.

Table 6: J3 Pin Description

Pin Number	Pin Name	Description
1	UART4_TX	UART4 transmit
2	UART4_RX	UART4 receive
3	SPI_MOSI	Module SPI data input signal (slave)
4	SPI_MISO	Module SPI data output signal (slave)
5	SPI_SCK	Module SPI clock signal
6	SPI_CS	Module SPI chip select signal
7	GND	Power ground
8	VDD	Power input, 3.3 V to 5.0 V

Note 1: Refer to the HI05 Datasheet for pin definitions and usage.

Note 2: UART1 is used as the primary communication port.

Note 3: SPI signal definitions are described with the module operating as the slave device.

Note 4: The VDD pins on J1, J2, and J3 are connected to the same power net. Use only one power input path at a time, and do not power the evaluation board through multiple interfaces simultaneously.

5 Cable Assemblies

5.1 Molex A (501330-0800) to Dupont Cable

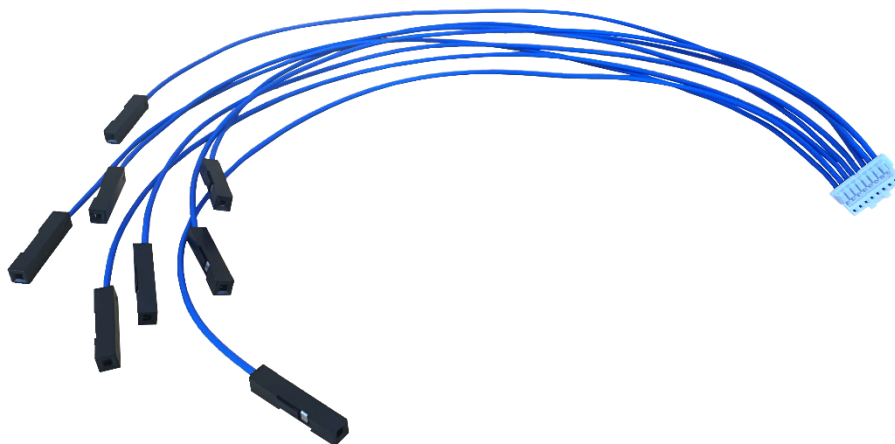


Figure 2: Molex A (501330-0800) to Dupont Cable

Note 1: Cable length: 30 cm

5.2 USB to Molex A (501330-0800) Cable Assembly



Figure 3: USB to Molex A (501330-0800) Cable Assembly

Note 2: This cable is intended for EVAL HI05 products. The cable length is 1 m and it integrates a USB-to-UART converter module (TTL level) for connection to a PC for evaluation and debugging. The default connection interface depends on the corresponding model description; unless otherwise specified, J1 (UART1) is recommended as the primary communication interface.

Note 3: Driver download: [CP210x USB to UART Bridge VCP Drivers](#)

6 Quick Start

1. Confirm that the evaluation board model matches the target module model.
2. Connect the evaluation board to the PC using the USB-to-Molex A (501330-0800) cable. Unless otherwise specified, J1 (UART1) is recommended as the primary communication interface.
3. When connecting to the PC for the first time, install the CP210x USB to UART VCP driver.
4. Open the GUI software or a serial debugging tool and select the corresponding COM port. The HI05 GUI software supports automatic detection of available serial ports.
5. Refer to the corresponding data sheet and the Command and Programming Manual to complete functional verification and parameter configuration.