

**OEM-HF-M840-ET, OEM-HF-M845-ET  
13.56 MHz OEM RFID Module  
Installation Manual**

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## 1 Introduction

### 1.1 Overview

Embedded HF Modules M840 and M845 have been designed to support ISO14443A/B as well as ISO15693 and multiple MIFARE® high security tags.

For Power Supply you have the choice between a DC 5V external power Module (M840) and a POE Version (M845). Both Modules offer the possibility to connect an external antenna via U.FL connector. iDTRONIC offers a choice of different antenna sizes for your convenience.

A TCP/IP interface allows easy integration and implementing. The typical reading distance is up to 10cm for both versions. An Antenna 35 × 50mm with 2 pin connector and 10 cm cable are provided with each Module.

In combination with the useful SDK and testing software, the Embedded HF Modules M840 and M845 are the ideal choice for various RFID applications in a network environment.

### 1.2 Key Features

- Plug and play networking
- TTL to TCP/IP embedding network module (OEM-HF-M840-ET)
- TTL to TCP/IP POE embedding network module (OEM-HF-M845-ET)
- Support mode of TCP server, TCP client, UDP appointed, UDP normal , etc
- Compliant with ISO14443A/B, ISO15693 Standard(full or optional)
- Available with setup mode by IE Explorer, software and DLL, etc
- Lower power consumption, no heat cooler needed

### 1.3 Typical Application

- Identification
- Ticketing
- Payment
- Access Control

### 1.4 Available Standard Antennas

Antenna Size (PCB Size)	Reading Distance (depending on tag type)	Order Code
20 × 30 mm	Up to 4 cm	OEM-HF-M8-A910-UFL
20 × 40 mm	Up to 5 cm	OEM-HF-M8-A911-UFL
35 × 50 mm	Up to 6 cm	OEM-HF-M8-A912-UFL
49 × 55 mm	Up to 7 cm	OEM-HF-M8-A916-UFL
54 × 86 mm	Up to 10 cm	OEM-HF-M8-A915-UFL
60 × 80 mm	Up to 11 cm	OEM-HF-M8-A914-UFL
80 × 80 mm	Up to 11 cm	OEM-HF-M8-A913-UFL

These antennas have U.FL connection that fits to the antenna connector on the PCB.

## 2 Installation

### 2.1 Mechanical Installation

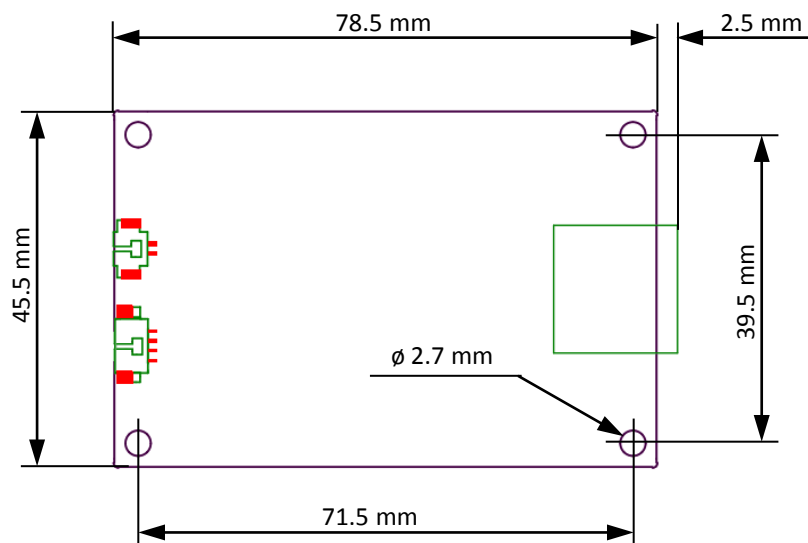


Figure 1 Dimensions of OEM-HF-840

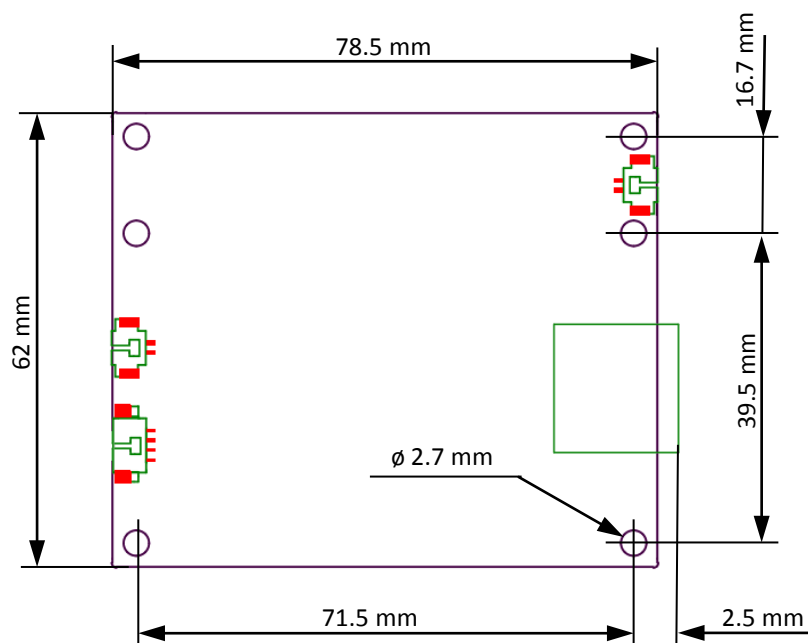


Figure 2 Dimensions of OEM-HF-845

## 2.2 Electrical Installation

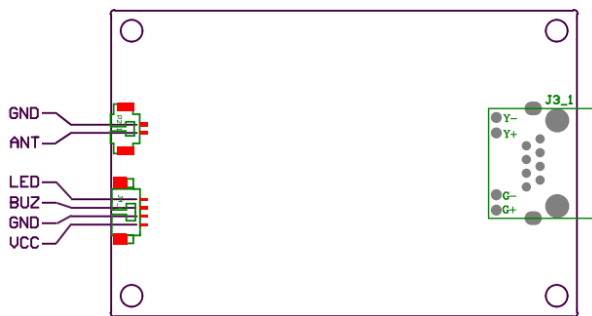


Figure 3 Pinout M840

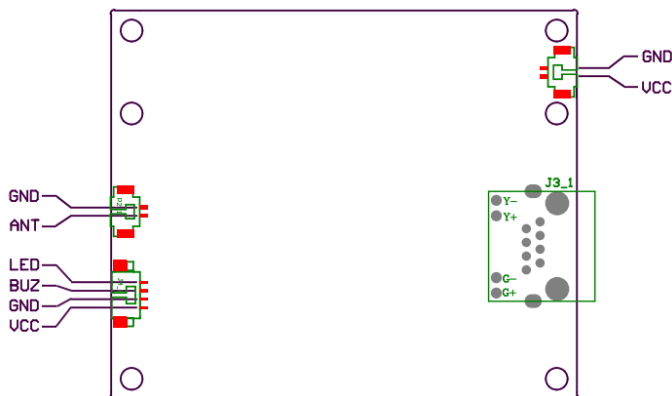
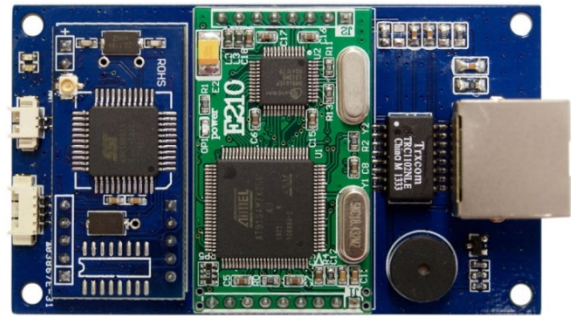
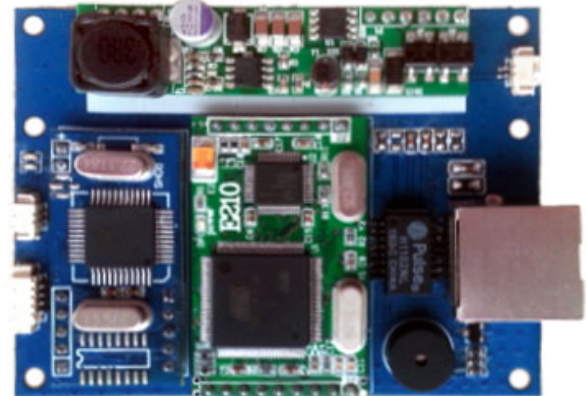


Figure 4 Pinout M845



### Connector J1

PIN	Name	Description
1	GND	Antenna-
2	ANT	Antenna+

### Connector J2

PIN	Name	Description
1	LED	$\mu$ C output, do not draw more than 15 mA from this pin, series resistors for LED needed
2	BUZ	$\mu$ C output, do not draw more than 15 mA from this pin, series resistors for LED needed
3	GND	Power Supply GND (Black)
4	+5 Vdc	Power Supply Vcc (Red), on M845: do not connect

### Connector J3 (M845 only)

PIN	Name	Description
1	+5 Vdc	External power supply if no PoE available
2	GND	Power Supply GND

**Factory default IP address is: 192.168.1.xxx**

Pls. use the [search] function in the test/demo software to find the device.

### Important Note

Do not connect any device to your network before it has been configured. Before connecting it your network, check that the desired IP address has been set. A device may have any factory-set IP address. A device with the wrong settings may impede the functioning of your network.

### 3 Technical Specifications

#### Mechanical Specifications

Dimensions:	80 × 45.5 × 17 mm (without cabling, OEM-HF-M840-ET)
	80 × 62 × 17 mm (without cabling, OEM-HF-M845-ET)
Mass	app. 30 g (OEM-HF-M840-ET)
	app. 40 g (OEM-HF-M845-ET)

#### Electrical Specifications

Power Supply:	5 Vdc ( $\pm 5$ % regulated, OEM-HF-M840-ET) or POE (OEM-HF-M845-ET)
Power Consumption:	< 100 mA
Antenna:	external, U.FL connectors
Interface:	Ethernet TCP/IP RJ45
Signals:	1 LED, 1 buzzer

#### Supported Standards / Tags

ISO 14443 A:	Mifare One S50, Mifare One Ultralight, Mifare One S70, Mifare DESFire, Mifare SmartMX
ISO 14443 B:	AT88RF020, 66CL160S, SR176, SR1X4K
ISO 15693:	NXP I-Code SLI, TI Tag-it HF-I, EM4135
ISO 18000-3	

#### Environmental Conditions

Operating Temperature:	−20 °C ... +70 °C
Storage Temperature:	−20 °C ... + 80 °C
Humidity:	5 % to 95 %

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