

HF2611

NB-IoT DTU User Manual

V 1.0



Overview of Characteristic

- ✧ Support Band3/Band5/Band8 NB-IoT
- ✧ Support RS232/RS485 to 2G/3G/4G Data Transmission, UART baud rate Up to 460800bps
- ✧ Supports Max 3 Channel TCP/UDP connections, Each Connection Supports 1400 Bytes of Data Cache
- ✧ Support Multiple Working Modes: Network Transparent Transmission Mode, HTTP Mode
- ✧ Support IOTService Tool, Remotely and Dynamically Modify Module Parameters
- ✧ Support SMS AT Command Configuration
- ✧ Supports Registration Packet, Heartbeat Packet Function, and Packet Supports Combination of ICCID, IMEI, IMSI, Software Version, GPRS Connection Status.

- ✧ Support NTP
- ✧ Support Modbus TCP to Modbus RTU
- ✧ Support IOTBridge for Remote Control and Config
- ✧ Support IOTBridge Working Time Setting, For Example, Only Works From 10:00 to 10:30 to Save the Data Traffic
- ✧ Support UART, Network OTA Upgrade Firmware
- ✧ Size: 95 x 65 x 25mm
- ✧ 9~36VDC Wide Power Supply

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HISTORY

V 1.0 06-14-2019. First Version

1. PRODUCT OVERVIEW

1.1. General Description

The HF2611 support NB-IoT Band3/Band5/Band8 network.

The HF2611 support TCPIP protocol, with its RS232/RS485 interface, it make traditional UART device easy connecting to IOT.

1.2. Device Parameters

Table1. HF2611 Technical Specifications

Item	Parameters
System Information	
Processor/Frequency	Cortex-M3/96MHz
Operating System	FreeRTOS
NB-IOT Interface	
Frequency	Band3: Transmit 1710~1785MHz, receive 1805~1880MHz Band5: Transmit 824~849MHz, receive 865~894MHz Band8: Transmit 880~915MHz, receive 925~960MHz
Transmit Power	Band3/Band5/Band8: <23dBm±2dBm
Receive Sensivity	Band3/Band5/Band8: -130dBm
LTE Cat NB1 Data Rate (kbps)	Single Tone: 15.625(UL)/21.25(DL) Multi Tone: 62.5(UL)/21.25(DL)
Serial Port	
Port Number	1
Interface Standard	RS232: DB9 RS485: 5.08mm connector Choose either RS232 or RS485.
Data Bits	7,8
Stop Bit	1,2
Check Bit	None,Even,Odd
Baud Rate	TTL: 1200 bps~460800 bps
Flow Control	No Flow control Half-Duplex(RS485) Hardware RTS/CTS、DSR/DTR(RS232)
Software	
Configuration	Serial AT Command IOTService Serial Port Configuration Software IOTService Network Configuration Software
Firmware Upgrade	UART or OTA Upgrade
Basic Parameter	
SIM Card	Standard SIM card(1.8V/3V)
Size	95mm x 65mm x 25mm
Operating Temp.	-40 ~ 85°C

Storage Temp.	-45 ~ 105°C, 5 ~ 95% RH (no condensation)
Input Voltage	9~36VDC
Working Current	~300mA@9V

1.3. Key Applications

The HF2611 module connects the serial device to the Internet and conforms to the TCP/IP protocol for transmitting serial data.

- Remote device monitoring
- Production asset tracking and monitoring
- Security field
- Industrial sensors and controllers
- Health medical equipment
- ATM equipment
- Data acquisition equipment
- UPS power management equipment
- Telecommunication equipment
- Data display device
- Hand-held device
- Attendance system and terminal equipment

2. HARDWARE INTRODUCTION

HF2611 is a 4G solution for serial device networking. Data transmission via 2G/3G/4G makes product integration very easy. This product meets EMC Class B security level and can pass relevant certification tests in various countries.

2.1. Appearance



Figure 1. HF2611 Appearance

2.2. HF2611 Interface



Figure 2. HF2611 Interface

Table2. HF2611 Interface Definition

Function	Name	Description
External Interface	DC	DCPower 9~36V Input
	RS485/RS232	RS485 A+ Connector RS485 B- Connector RS232 Rxd Connector RS232 Txd Connector Use either RS485 or RS232(Can not work both)
	SIM Card	Standard Sim Card Slot
	Earth	Connect to Protect GND
	Antenna	4G SMA Antenna
	RS232	9-PIN RS232
	NET	Network Status LED(Function is reserved) Off: No network connection 2s On -> 2s Off: Network connection is OK 100ms On -> 100ms Off: Network is in

Function	Name	Description
		transferring
	Active	UART Data Bi-Color LED Blue On: UART data output Green On: UART data input
	Power	3.3V Internal Power Supply LED
Button	Reload	Long press 3 seconds down and loose to restore parameters to factory setting
Switch	Protect	Parameter Protect (Function is Reserved)

2.3. RS232 Interface

Device serial port is male(needle), RS232 voltage level(can connect to PC directly), Pin Order is consistent with PC COM port. Use cross Cable connected with PC(2-3 cross, 7-8 cross, 5-5 direct), see the following table for pin definition.



Figure 3. RS232 Pin Definition(Male/Needle Type)

Table3. RS232 Interface

Pin Number	Name	Description
2	RXD	Receive Data
3	TXD	Send Data
5	GND	GND
7	RTS	Request to Send
8	CTS	Clear to Send

2.4. RS485 Interface

RS485 use two wire links, A(DATA+), B(DATA-). Connect A(+) to A(+), B(-) to B(-) for communication. Suggest to connect GND together when interference is very severe.

The RS485 interface support maximum 32 485 device, device. The cable maximum length is 1200 meters. Need to add 120Ohm terminal resistor for over 300 meters.

2.5. Mechanical Size

The dimensions of HF2611 are defined as following pictures(mm):

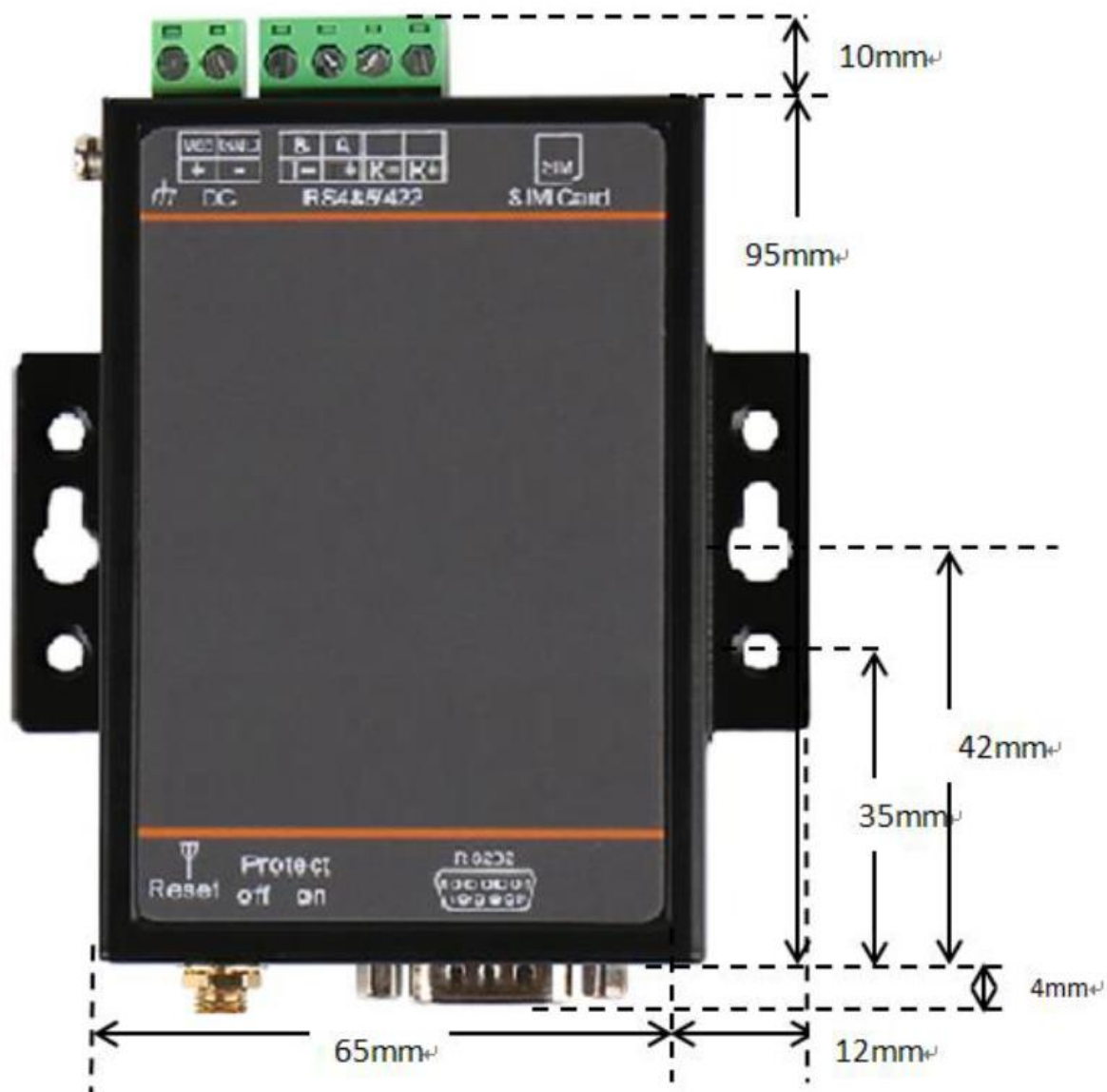


Figure 4. HF2611 Mechanical Size

APPENDIX A: CONTACT INFORMATION

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