



WF716401 User Manual

V1.0

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1 Overview

WF716401 is designed based on Soc of W600, It has 11 gold- PIN. And it is embedded PCB Antenna. It's easy to be developed. It's suitable for Smart device. This document defines the character of the module.

2 Specification

Table 2-1 Specification

| | Item | Parameter | Note |
|------------|------------------------|--|------|
| Wireless | Mode | 802.11b/802.11g/802.11n HT20/802.11n HT40. | |
| | Frequency | 2.4~2.4835 GHz | |
| Electrical | Communication | UART | |
| | Communication speed | 2Mbps@UART (Max) | |
| | Operation Voltage | 3.2V – 3.4V | |
| | Operation Current | Average 110mA (PS mode 35mA) | |
| | Operation humanity | 5%~90% | |
| | Storage temperature | -40~+125 °C | |
| | Operation temperature | -40~+85°C | |
| | Outline | 25.0mm×45.0mm | |
| | Internet Protocol | TCP/UDP/ARP/ICMP/DHCP/DNS/HTTP | |
| | Communication protocol | AT command | |

3 Communication signal

3.1 Mechanical parameter:

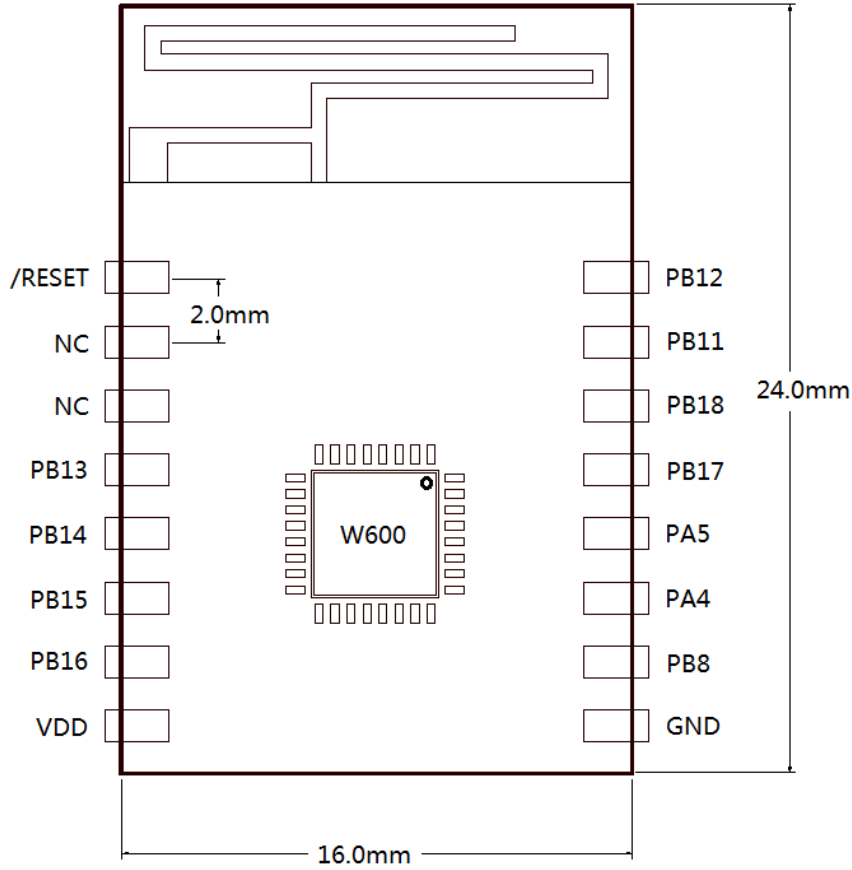


Figure 3-1 WF716401

3.2 Pin definition

Table 3-1 PIN definition

| PIN number | Name | Type | Function | Description and alterlate function | |
|------------|--------|------|-----------|---|--|
| 1 | /RESET | I | RESET | Active low | |
| 2 | NC | | | | |
| 3 | NC | | | | |
| 4 | PB_13 | I/O | PWM_2 | I ² C_SCL、SDIO_CMD、GPIOPB_13 | |
| 5 | PB_14 | I/O | H_SPI_INT | PWM_5、I ² C_DAT、I ² S_S_SDA、GPIOPB_14 | |
| 6 | PB_15 | I/O | H_SPI_CS | PWM_4、SPI(M/S)_CS、I ² S_S_SCL、GPIOPB_15 | |
| 7 | PB_16 | I/O | H_SPI_CK | PWM_3、SPI(M/S)_CK、I ² S_S_RL、GPIOPB_16 | |
| 8 | VDD | P | 3.3V 电源 | | |
| 9 | GND | P | GND | | |

| | | | | | |
|-----|-------|-----|----------|--|--------------------------------------|
| 10 | PB_8 | I/O | PWM_5 | H_SPI_CK、SDIO_CK、I ² S_M_SCL、GPIOPB_8 | |
| 411 | PA_4 | I/O | UART0_TX | PWM_5、SPI(M/S)_DO、I ² S_M_SCL、GPIOPA_4 | Debug port, baud rate 115200; |
| 12 | PA_5 | I/O | UART0_RX | PWM_1 、 SPI(M/S)_DI 、 I ² S_M_EXTCLK 、 GPIOPA_5 | |
| 13 | PB_17 | I/O | H_SPI_DI | PWM_2、SPI(M/S)_DI、UART1_RX、GPIOPB_17 | |
| 14 | PB_18 | I/O | H_SPI_DO | PWM_1、SPI(M/S)_DO、UART1_TX、GPIOPB_18 | |
| 15 | PB_11 | I/O | UART1_RX | H_SPI_DI、SDIO_DAT2、I ² C_SCL、GPIOPB_11 | Communication port, baud rate 115200 |
| 16 | PB_12 | I/O | UART1_TX | H_SPI_DO、SDIO_DAT3、I ² C_DAT、GPIOPB_12 | |

3.3 Reference Design

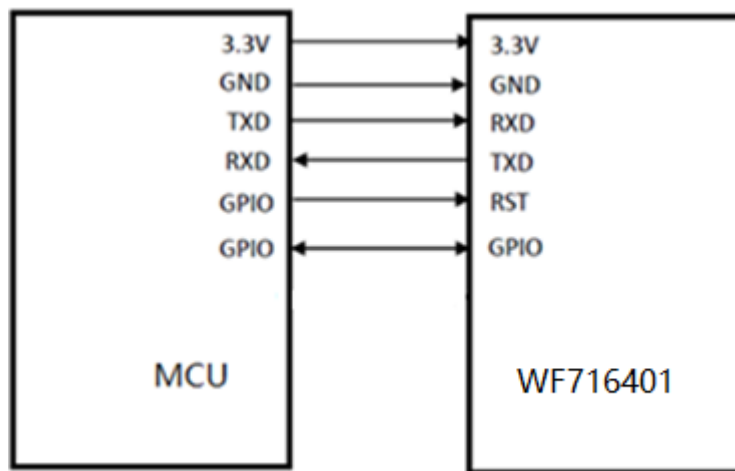


Figure 3-2 WF716401 reference design

Federal Communication Commission Statement

- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules see Ref. 4. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help
- OEM integrators instructions
 - The OEM integrators are responsible for ensuring that the end-user has no manual instructions to remove or install module
 - The module is limited to installation in mobile or fixed applications, according to CFR 47 Part 2.1091(b)
 - Separate approval is required for all other operating configurations, including portable configurations with respect to CFR 47 Part 2.1093 and different antenna configurations
- User guide mandatory statements
 - User's instructions of the host device must contain the following statements in addition to operation instructions:
 - * "This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation"
 - * "Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment"
- FCC RF Exposure requirements
 - User's instructions of the host device must contain the following instructions in addition to operation instructions:

Avoid direct contact to the antenna, or keep it to a 20 cm minimum distance while using this equipment. This device must not be collocated or operating in conjunction with another antenna or transmitter.

This module has been designed to operate with antennas having a maximum gain of 1 dBi. Antennas having a gain greater than 1 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

FCC end product labelling

The final 'end product' should be labelled in a visible area with the following:

Contains TX FCC ID: 2ATW6-WF716401 to reflect the version of the module being used inside the product.

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

Test mode: WIFI 2.4G 802.11 b,g,n20 and n40. Applicable FCC rules: 15.247