

WizFi360 Datasheet

(Version 0.9)

Preliminary not approved



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Document Revision History

Version	Date	Revision Description
0.9	2019/07/26	Temporary Release

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1. Overview

WizFi360 is a low cost and low-power consumption industrial-grade WiFi module. It is compatible with IEEE802.11 b/g/n standard and supports SoftAP, Station and SoftAP+Station modes. The serial port baud rate can be up to 2Mbps, which can meet the requirement of various applications.

2. Features

- WiFi 2.4G, 802.11 b/g/n
- Support Station / SoftAP / SoftAP+Station operation modes
- Support “Data pass-through” and “AT command data transfer” mode
- Support serial AT command configuration
- Support TCP Server / TCP Client / UDP operating mode
- Support configuration of operating channel 0 ~ 13
- Support auto 20MHz / 40MHz bandwidth
- Support WPA_PSK / WPA2_PSK encryption
- Serial port baud rate up from 600bps to 2Mbps with 16 common values
- Support up to 5 TCP / UDP links
- Obtaining IP address automatically from the DHCP server (Station mode)
- DHCP service for Wireless LAN clients (AP mode)
- Support DNS for communication with servers by domain name
- Support “Keep-Alive” to monitor TCP connection
- Support “Ping” for monitoring network status
- Built-in SNTP client for receiving the network time
- Support built-in unique MAC address and user configurable
- Support firmware upgrade by UART Download / OTA (via WLAN)
- Industrial grade (operating temperature range: -40 ° C ~ 85 ° C)
- CE, FCC, KC certification

3. Parameters

Table 1 Parameters

Categories	Items	Values
Wireless	Wireless Standard	802.11 b/g/n
	Frequency Range	2.4GHz-2.5GHz (2400MHz~2483.5MHz)
Hardware	Serial Data Interface	3.3V TTL×1: TXD、RXD、CTS、RTS、GND
	Operating Voltage	3.0~3.6V (Typical 3.3V)
	Operating Temperature	-40℃ ~85℃
Software	WiFi Operation Modes	Station/SoftAP/SoftAP+Station
	Encryption Method	WPA_PSK/WPA2_PSK
	Operation Modes	TCP Server/TCP Client/UDP
	Configuration Mode	AT commend set
	Firmware Upgrade	UART Download / OTA (via WLAN) upgrade
Certification Report		CE, FCC, KC

Table 2 Receiver Sensitivity

Parameter	Typical value	Unit
Input Frequency	2400~2484	MHz
Output Power		
PA Output Power at 72.2Mbps	12	dBm
PA Output Power in 802.11b	19	dBm
Sensitivity		
DSSS,1 Mbps	-95	dBm
CCK,11 Mbps	-86	dBm
OFDM,6 Mbps	-89	dBm
OFDM,54 Mbps	-73	dBm
HT20,MCS0	-89	dBm
HT20,MCS7	-71	dBm
Adjacent-channel interference (ACI)		
OFDM,6 Mbps	32	dB
OFDM,54 Mbps	15	dB
HT20,MCS0	29	dB
HT20,MCS7	10	dB

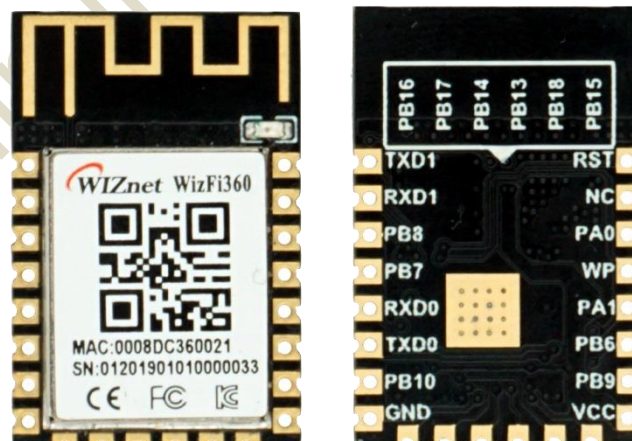
Table 3 Description on Power Consumption

Mode	Typical	Unit
Send IEEE802.11b,CCK 11Mbps,POUT = +19 dBm	230	mA
Send IEEE802.11g,OFDM 54Mbps,POUT = +13.5 dBm	210	mA
Send IEEE802.11n,OFDM MCS7,POUT = +12dBm	210	mA
Receive IEEE802.11 b/g/n	100-110	mA
Standby Mode	135	uA
Modem Sleep Mode	15	mA
Light Sleep Mode	13	mA

- Standby mode
 - MCU will shut down all the peripherals and CPU will be powered down too. CPU can be wake up by external WP(WAKEUP) PIN or internal Timer.
- Modem Sleep mode
 - All peripherals of the MCU will operate.
- Light Sleep mode
 - Shutdown peripheral except for UART, TIMER ,RFCFG GPSED

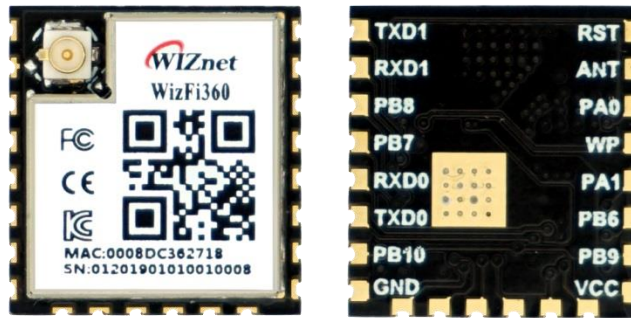
4. Package Information

WizFi360-PA



1. Onboard PCB antenna
2. Onboard LED light
3. Dimension: 24×16×3 (mm)

WizFi360-CON



1. Onboard IPEX connector for connecting antenna
2. ANT pin for external antenna
3. Dimension: 17 × 16 × 3 (mm)

5. Pin Definitions

Pin Name	Type	Pin Function	
RST	I	Module Reset Pin (Active Low)	
NC	-	WizFi360-PA	Reserved
ANT	O	WizFi360-CON	ANT pin for external antenna
PA0	I	BOOT Pin (Active low)	
WP	I	WAKEUP Pin (Active High)	
PA1	I	Pull down over 3s for taking effect. UART1's current parameter changes to default value (please refer to the AT+UART_CUR command in WizFi360 AT command manual).	
PB6	-	Reserved	
PB9	I	CTS Pin of UART1	
VCC	P	Power Pin (Typical Value 3.3V)	
PB15	-	Reserved	
PB18	-	Reserved	
PB13	-	Reserved	
PB14	-	Reserved	
PB17	-	Reserved	
PB16	-	Reserved	
GND	-	Ground Pin	
PB10	O	RTS Pin of UART1	
TXD0	O	TXD Pin of UART0	
RXD0	I	RXD Pin of UART0	
PB7	O	LED Light output (Active low). Go to Low while each TX/RX packet and then back to high. Note: It has been connected to onboard LED for WizFi360-PA	
PB8	-	Reserved	
RXD1	I	RXD Pin of UART1	
TXD1	O	TXD Pin of UART1	

*Note: UART1 is used for AT command and data communication. UART0 is used for debugging and firmware upgrade.

6. Physical Dimensions

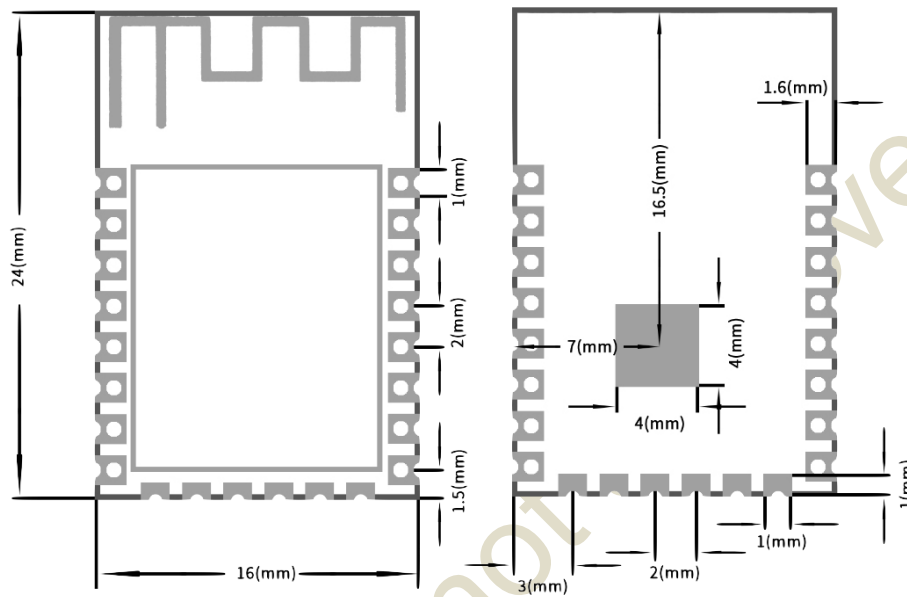


Figure 1 WizFi360-PA Physical Dimensions

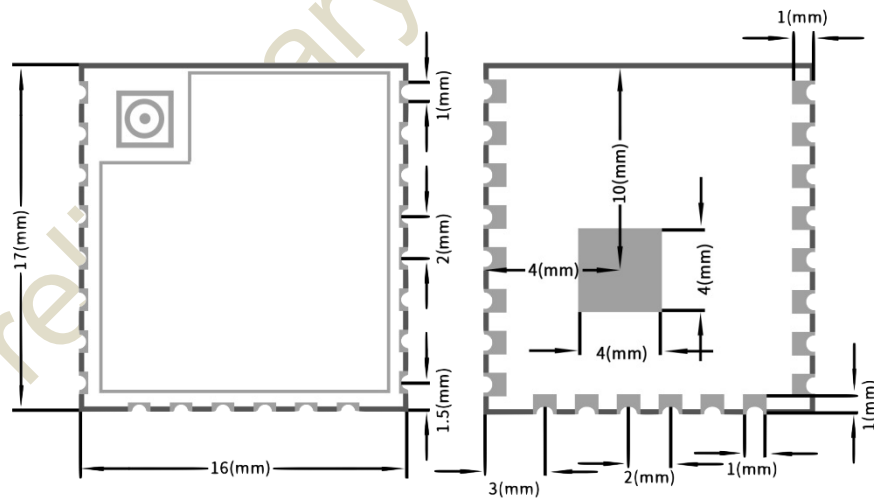


Figure 2 WizFi360-CON Physical Dimensions

7. Peripheral Circuit Reference Design

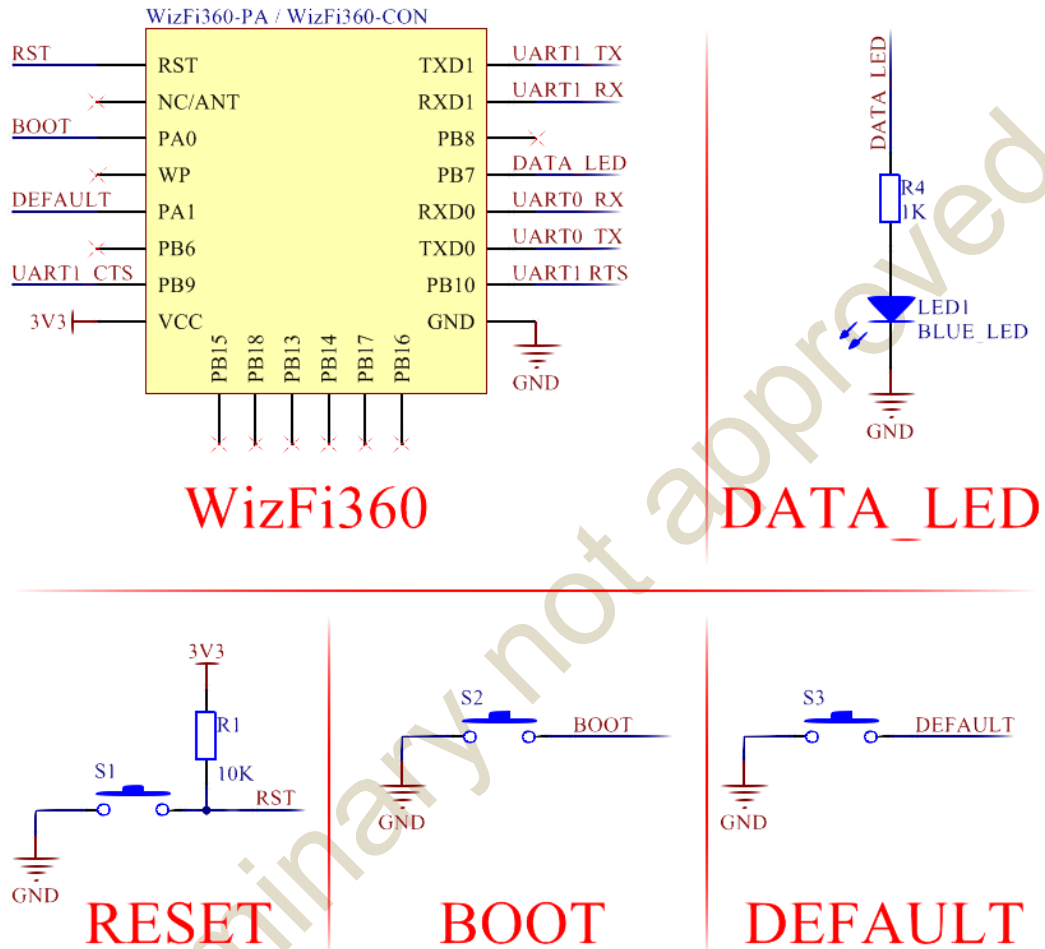


Figure 3 WizFi360 Peripheral Circuit Reference Design

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