

**3** YEAR WARRANTY

# BLUETOOTH 4.2+ AC65MBPS

Nano USB Adapter

## Key Features

- Operating Frequencies: 2.4~2.4835GHz and 5.15~5.85GHz
- Host Interface is USB2.0
- IEEE Standards: IEEE 802.11 a/b/g/n/ac
- Wireless data rate can reach up to 433Mbps
- Bluetooth 3.1/3.0/4.1/4.2LE
- Internal steel PIFA antenna
- Power Supply: VDD5 5V±0.3V main power supply



Dual Band



3x Speed Than Bt 4.2



Wave 2 Mu-mimo



Play & Plug



Ultra-Fast Speed



Nano-Sized Design



Reliability



Board Operation Range



# GENERAL SPECIFICATION

Dongle Name	BL-WN650BT , WiFi + BT Combo Dongle
Chipset	RTL8821CU-CG
WiFi Standards	IEEE802.11a/b/g/n/ac , 1T1R SISO , 2.4G/5GHz , 433Mbps(Max)
Bluetooth Standards	Bluetooth v2.1+EDR , Bluetooth4.2LE , 3Mbps(Max)
Host Interface	USB2.0 for WiFi and Bluetooth
Antenna	Internal steel PIFA antenna
Dimension	20.4*14.6*6.28mm (L*W*H) , Tolerance: +/-0.2mm
Power Supply	DC 5V±0.3V @ 350 mA (Max)
Operation Temperature	-0°C to +40°C
Operation Humidity	10% to 95% RH (Non-Condensing)

## 2.4G WIFI RF SPECIFICATION

Conditions : VDD5=5V ; Ta:25°C

Features	Description
WLAN Standard	IEEE 802.11b/g/n CSMA/CA
Frequency Range	2.4~2.4835GHz (2.4GHz ISM Band)
Channels	Ch1~Ch13 (For 20MHz Channels)
Modulation	802.11b (DSSS) : DBPSK , DQPSK , CCK ; 802.11g (OFDM) : BPSK , QPSK , 16QAM , 64QAM ; 802.11n (OFDM) : BPSK , QPSK , 16QAM , 64QAM ;
Date Rate	802.11b : 1 , 2 , 5.5 , 11Mbps ; 802.11g : 6 , 9 , 12 , 18 , 24 , 36 , 48 , 54Mbps ; 802.11n (HT20) : MCS0~MCS7(1T1R_SISO) 6.5~72.2Mbps ; 802.11n (HT40) : MCS0~MCS7(1T1R_SISO) 13.5~150Mbps ;
Frequency Tolerance	≤ ±15ppm

## 5G WIFI RF SPECIFICATION

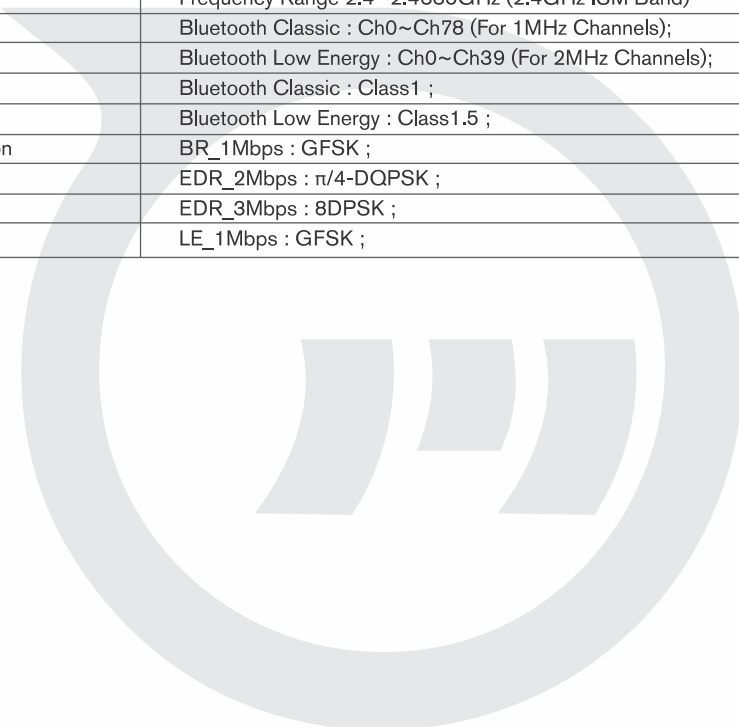
Conditions : VDD5=5V ; Ta:25°C

Features	Description
WLAN Standard	IEEE 802.11a/n/ac CSMA/CA
Frequency Range	5.15~5.25GHz ; 5.25~5.35GHz ; 5.47~5.73GHz ; 5.735~5.835GHz (5GHz ISM Band);
Channels	Ch36 , Ch40 , Ch44 , Ch48 ; Ch52~Ch64 ; Ch100~Ch140 ; Ch149~Ch165 (For 20MHz Channels)
Modulation	802.11a (OFDM) : BPSK , QPSK , 16QAM , 64QAM ; 802.11n (OFDM) : BPSK , QPSK , 16QAM , 64QAM ; 802.11ac (OFDM) : BPSK , QPSK , 16QAM , 64QAM , 256QAM ;
Date Rate	802.11a : 6 , 9 , 12 , 18 , 24 , 36 , 48 , 54Mbps ; 802.11n (HT20) : MCS0~MCS7(1T1R_SISO) 6.5~72.2Mbps ; 802.11n (HT40) : MCS0~MCS7(1T1R_SISO) 13.5~150Mbps ; 802.11ac (VHT20) : MCS0~MCS8(1T1R_SISO) 6.5~86.7Mbps ; 802.11ac (VHT40) : MCS0~MCS9(1T1R_SISO)13.5~200Mbps ; 802.11ac (VHT80) : MCS0~MCS9(1T1R_SISO)29.3~433.3Mbps ;
Frequency Tolerance	≤ ±15ppm

### BLUETOOTH RF SPECIFICATIONS

Conditions : VDD5=5V ; Ta:25°C

Features	Description
Bluetooth Specification	Bluetooth v2.1+EDR/3.0+HS (Bluetooth Classic _ BT BR/EDR) , Bluetooth 4.2(Bluetooth Low Energy _ BT_LE) FHSS
Channels	Frequency Range 2.4~2.4835GHz (2.4GHz ISM Band) Bluetooth Classic : Ch0~Ch78 (For 1MHz Channels); Bluetooth Low Energy : Ch0~Ch39 (For 2MHz Channels);
Power Classes	Bluetooth Classic : Class1 ; Bluetooth Low Energy : Class1.5 ;
Date Rate & Modulation	BR_1Mbps : GFSK ; EDR_2Mbps : π/4-DQPSK ; EDR_3Mbps : 8DPSK ; LE_1Mbps : GFSK ;



Mode 1: Wireless Receiver



Mode 2: WiFi Transmitting

