



ITD-8761BUV

Bluetooth v5.0 Dual-mode USB Dongle
Datasheet

(Preliminary)

2021.1.27

Revision History

Date	Revision Content	Revised By	Version
2019/12/05	- Initial released (Preliminary)	Issac Chen	0.1
2019/12/15	- Correcting some typo	Issac Chen	0.2
2021/01/27	- Correcting performance index	Issac Chen	0.21

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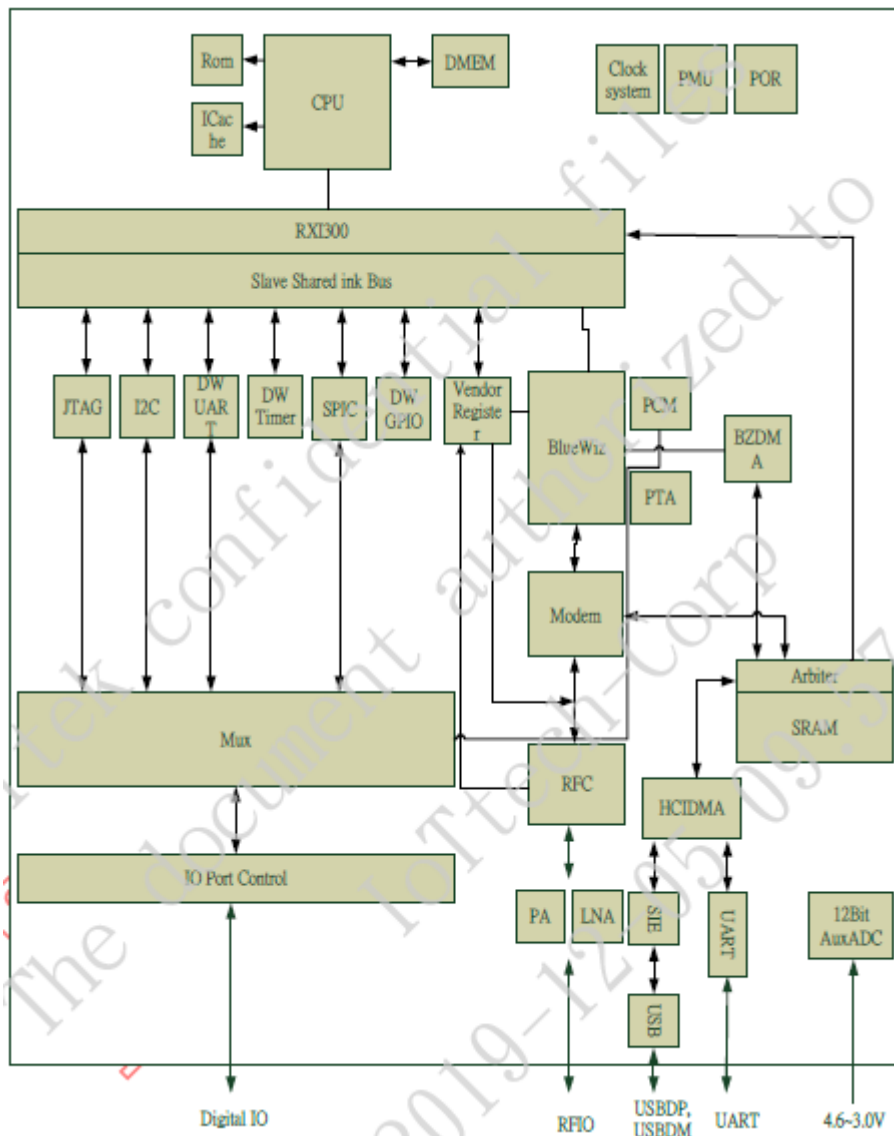
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1. General Description

ITD-8761BUV is a Bluetooth USB dongle using Realtek RTL8761BUV-CG chipset, which integrates Bluetooth 5 controller and USB host interface.

RTL8761BUV controller complies with Bluetooth core specification v5 and supports dual mode (BR/EDR + Low-Energy Controller). It is compatible with previous versions, including v2.1+LE. For BR/EDR, it allows multiple active links in either slave mode or master mode. For Low-Energy, it supports multiples states and allows multiple active links in slave mode. A BR/EDR link and an LE link can be active at the same time.

The block diagram for RTL8761BUV-CG is shown as below.



2. Features

- Bluetooth 5 specification compliant
- Single-end RF radio output with high performance 10dBm of BR transmission power and -94.5dBm 2M EDR receiving sensitivity
- Support Bluetooth classic (BDR/EDR)
- Support Bluetooth Low Energy (BLE)
- Comply with USB 1.1 full-speed mode
- Compatible with Bluetooth v2.1 systems
- Integrate MCU to execute Bluetooth protocol stack
- Support all packet types in basic rate and enhanced data rate
- Support Secure Simple Pairing
- Enhanced BT/Wi-Fi Coexistence Control to improve transmission quality in different profiles
- Support multiple Low Energy states
- Fast AGC to improve receiving dynamic range
- Integrated 32KHz oscillator for power management
- Support +10dBm maximum output power for Bluetooth BR/BLE
- Support +7.5dBm maximum output power for Bluetooth EDR
- Receiving Sensitivity
 - i. -94dBm: 2Mbps EDR Minimum
 - ii. -98dBm: BLE Minimum
 - iii. -106dBm: 125Kbps BLE long range Minimum
- 0°C to +70°C temperature operating

3. Application

- Set-top box
- Desk-Top PC
- Note-book
- TV/IPTV
- Blue-ray Disk
- Tablet PC
- IPC

4. General Specification

4.1 Voltages

4.1.1 Absolute Maximum Ratings

Symbol	Description	Min.	Max.	Unit
VDD5V	USB 5V Power Supply Voltage	-0.3	5.5	V

4.1.2 Recommended Operating Ratings

Test conditions: At room temperature				
Symbol	Min.	Typ.	Max.	Unit
VDD5V	4.5	5.0	5.5	V

Test conditions: At operating temperature 0°C ~70°C				
Symbol	Min.	Typ.	Max.	Unit
VDD5V	4.5	5.0	5.5	V

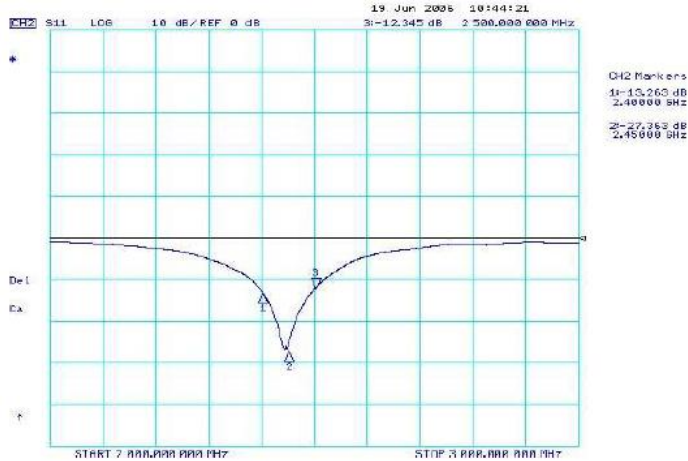
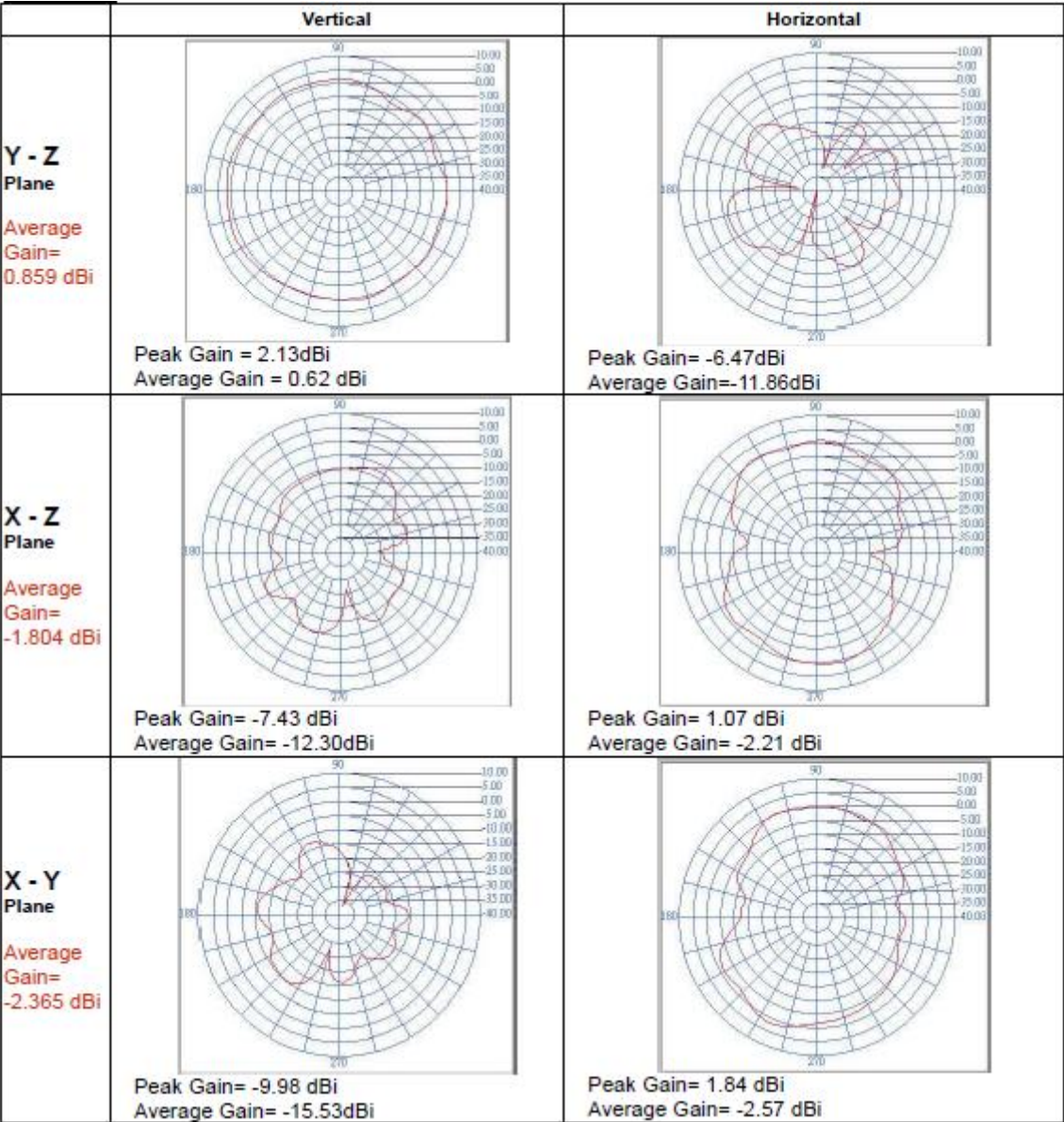
4.2 RF Specification

Frequency Band	2402MHz ~ 2480MHz
Max. Data Speed	3Mbps (BR/EDR)
	2Mbps (BLE)
Max. Output Power	+9.0 dBm (BR/BLE)
	+7.0 dBm (EDR)
Receive Sensitivity	-94 dBm (2Mbps EDR)
	-98 dBm (BLE)
	-106.5 dBm (125Kbps BLE long-range Minimum)

4.3 Power Consumption

Power down / Suspend	< 1mA
Continuous TX @0dBm	52 mA
Continuous TX @4dBm	60 mA
Continuous RX	28 mA

4.4 Antenna Radiation Pattern



5. Dimension

(Unit: mm)

18.5mmX14.5mmX6.0mm(LxWxH)



6. Packing Information

