



DRAGON BT User's Guide (Specification)

DUALi Inc.

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We have our development center in South Korea to provide technical support. For any technical assistance can contact our technical support team as below;

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1 Introduction

1.1 Product Overview

DRAGON BT is compact hand held type NFC reader which sends out reading data from NFC tags to Host (Smart Phone/ Tablet PC). It is ideal for organizations where frequented, but intermittent, use of personal computers, tablet PCs and Smartphones.

1.2 Basic Specification

ITEM	Specification	Note
CPU	STM32F103TBT6 Cortex-M3(ARMv7),48MHz, 32bit RISC	
Program Memory	128KByte FLASH	
Data Memory	20KByte SRAM	
Card Interface	Contactless Smart Card (ISO 14443 A/B), MIFARE, FeliCa, NFC Tag type 1,2,3,4, ISO 15693	
DISPLAY	Power LED, Battery Status LED, RF LED, Bluetooth LED	
Communication	PC-BT, Phone-BT (USB for charging battery & Update F/W)	
BUZZER	Magnetic Buzzer	
Vibration motor	3.0V Rated Voltage	
Voltage	USB 5V(Micro USB) – Charging Battery 3.7V - Usage	
Current Spec	3.7V 110mA(RF running)	
Bluetooth	Bluetooth v.2.1 + EDR class 2 module Bluegiga's iWRAP Bluetooth stack	
Battery	DC3.7V, 580mAh, Li-Polymer	
Switch	1 switch, POWER and Activation Control	

1.3 Bluetooth Specification

ITEM	Specification	Note
specification	Bluetooth v.2.1 + EDR (Enhanced Data Rate)	
Class	Bluetooth class 2 radio	
Transmit Power	+3dBm	
Receiver Sensitivity	-86dBm	
Range	30 meters line-of-sight	
Antenna	Integrated chip antenna (ACX AT3216)	
Protocol	SPP, HID	



2 Components Confirmation

2.1 Hardware Specification

- Main Board(CPU + RF + Bluetooth)
- Loop Antenna



<DRAGON-BT : Front>



<DRAGON_BT : Back>



<LED>

2.2 Dimension

- 103mm * 65mm * 12mm

3 Power

3.1 Power Specification

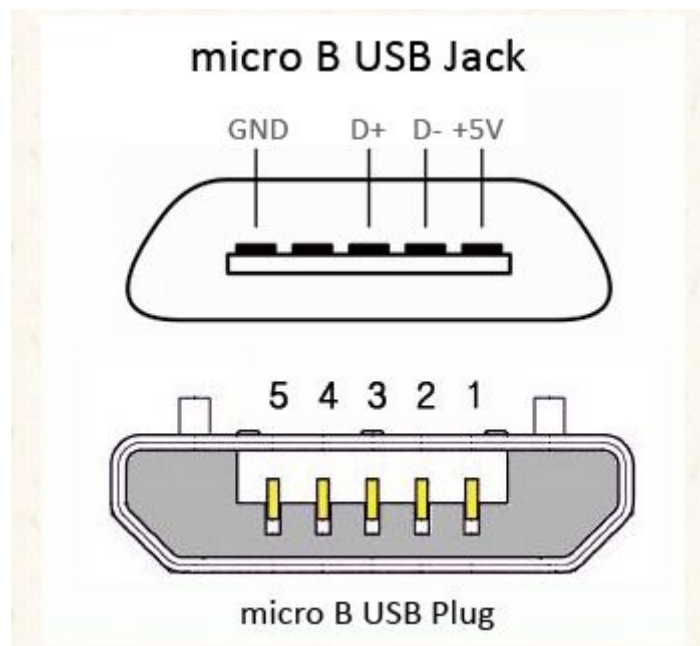
- Charging : 5V MICRO USB DC
- Board : 3.7V Battery DC

3.2 Current Consumption (3.7V Battery)

- Basic Current Consumption: 50mA
- Maximum Current Consumption: 110mA (During Vibration or BEEP)

3.3 Cable

- MICRO USB B TYPE cable



4 Function

4.1 BUZZER & Vibrator Sensor

- Sending status to user

4.2 LED

- Status of Power & Battery
- RED LED : When connected with USB (Charging)
- BLUE LED : When power ON
- GREEN LED : When RF is running

4.3 Battery

- Normally using USB power(5V) and once it's charged, using Battery power(3.7V)
- Battery : 3.7V, 580mAh

4.4 Bluetooth

- Sending DATA to HOST
- Basically supports SPP Communication but be able to change to HID mode via using CMD

5 Environment

5.1 Usage Environment

- Usage Temperature: -10 ~ 60 °C
- Usage Humidity: 30 ~ 90 % (Relative Humidity)

5.2 Storage Environment

- Storage Environment: -20 ~ 70 °C
- Storage Humidity: 30 ~ 90 % (Relative Humidity)

5.3 Warning

- It's not water-proof
- To maximize the reading distance, you need to get rid of metal around the reader. And if housing is open or antenna is not good condition of matching, reading distance will be shorter.

6 Certification

- DRAGON BT is wireless communication card reader based on 13.56MHz so CE, FCC, TELEC are needed
- It should conform to environment regulation and need to get RoHS as occasion demands

EU

This product is CE marked according to the provision of the R&TTE Directive (99/5/EC).

Here by DUALi Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.



FCC STATEMENT

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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. 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 or more 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.