MegaByte

User Manual Rev. 4.0
Model: mDongle-D1

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FCC statement

FCC NOTICE:

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States.

The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

CE statement

CE NOTICE:

The CE Mark applies to products regulated by certain European health, safety and environmental protection legislation. The CE Mark is obligatory for products it applies to: the manufacturer affixes the marking in order to be allowed to sell his product in the European market.

Chapter 1 Introduction of mDongle D1

## 1.1 Overview of mDongle D1:

Mounted on stand   Mounted on smartphone

mDongle D1 is an UHF EPC C1G2 portable RFID reader. It designed for close proximity reading. mDongle is a compact NFC and RFID reader and OS independent with Bluetooth connectivity to any mobile devices. It serves as a handy checkpoint at different stages throughout the value chain, such as logistics operations, inventory management and POS system etc.

- The mDongle D1 Intelligent RFID Reader supports protocols, UHF CLASS 1 GEN2 EPC C1G2/ISO 18000-6C, (917-927 MHz RFID frequency band) in United States.
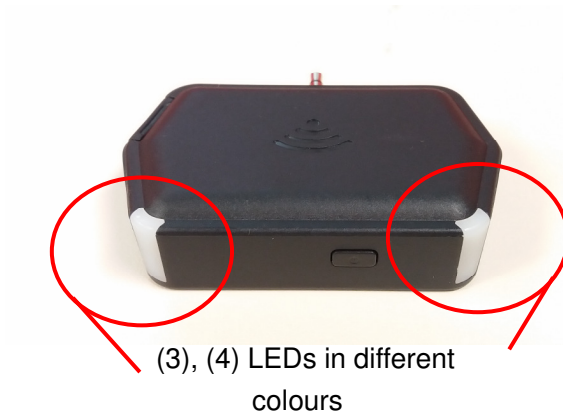
1.2 Ports Description

(1) Battery charging port
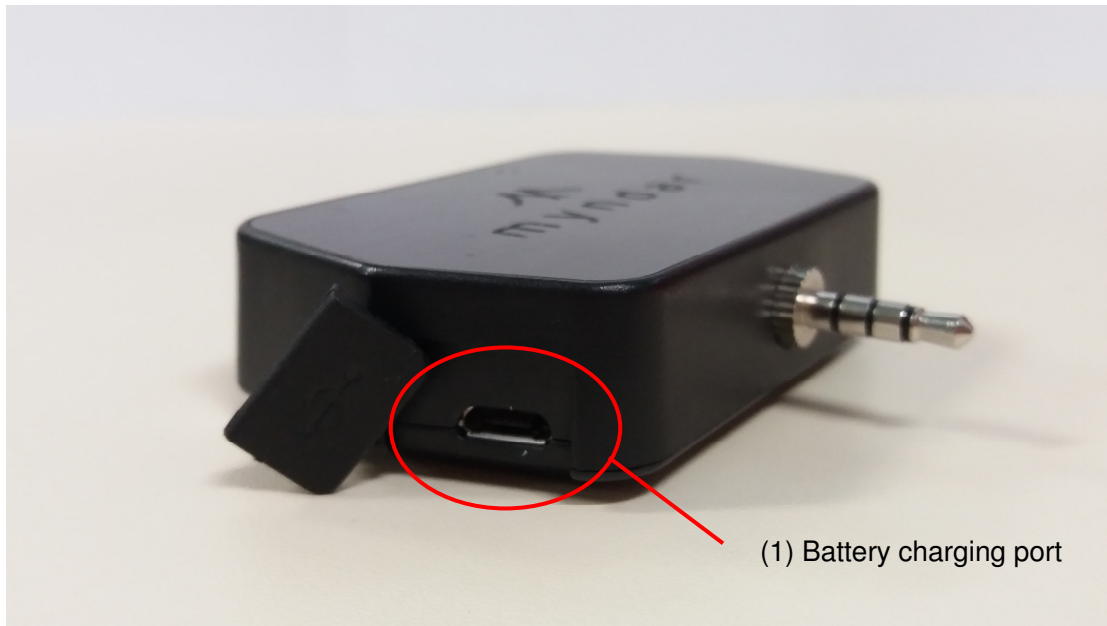
<u>Input port of the mDongle:</u>

Items no.	Name	Description
1	USB plug	USB charging port

1.3 Buttons in mDongle

(2) Power ON Button

Items no.	Name	Description
2	Power ON Button	Press to switch the device on

1.4 Indicators LEDs in mDongle

(3), (4) LEDs in different colours

Items no.	Name	Description
3 & 4	Red, Green, Blue and White LED (LED3)	Indicate different status which is listed below.

LEDs of the mDongle D1 indicate the following reader status.

	Paring Mode	SPP connected		OFF Mode
		both RFID & NFC Idle	RFID or NFC Reading	
No USB	R: OFF	R: OFF	R: OFF	R: OFF
	G: OFF	G: OFF	G: OFF	G: OFF
	B: OFF	B: ON	B: Flashing	B: OFF
	W: ON	W: OFF	W: OFF	W: OFF
USB (Charging)	R: OFF	R: Flashing	R: Flashing	R: Flashing
	G: OFF	G: Flashing	G: Flashing	G: Flashing
	B: OFF	B: ON	B: Flashing	B: OFF
	W: ON	W: OFF	W: OFF	W: OFF
USB (Charging full)	R: OFF	R: OFF	R: OFF	R: OFF
	G: OFF	G: ON	G: ON	G: ON
	B: OFF	B: ON	B: Flashing	B: OFF
	W: ON	W: OFF	W: OFF	W: OFF
No USB but Low Battery	R: OFF	R: ON	R: ON	R: OFF
	G: OFF	G: OFF	G: OFF	G: OFF
	B: OFF	B: ON	B: Flashing	B: OFF
	W: ON	W: OFF	W: OFF	W: OFF

*R: Red, G: Green, B: Blue, W: White

1.5 Specification:

| Item	Specification
Input	1 power ON button
LED indicator	Bi-color LED: Red / Green Bi-color LED: White / Blue
Connectivity	USB
Battery	500mAh standard battery
Charger	5V 2000mA ac to dc power adapter
Bluetooth	Bluetooth Classic, Bluetooth 4.0
RFID	EPC C1G2 / ISO18000-6C (UHF C1G2)
NFC	Yes Mifare Classic and Mifare Ultralight
Talk/ Standby time	1Hours continuous operation
Charging time	Charge completion <2 hours
Operation temp.	0 to +40 deg C
Storage temp.	-20 to +60 deg C
Operating Humidity	20% to 90%

Chapter 2 Installation of mDongle

2.1 Connect to Windows PC

2.1.1 BT connection
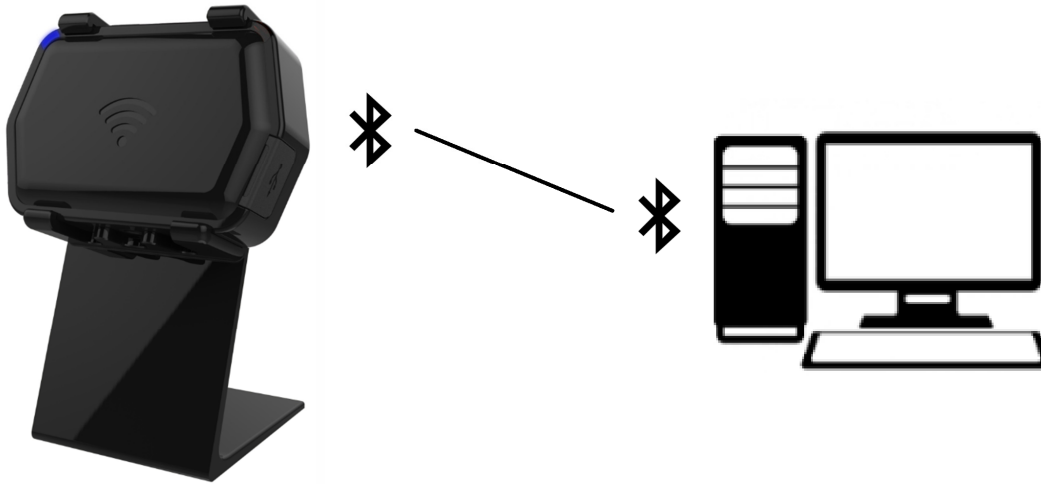
This section explains how to set-up mDongle D1 and connect the mDongle D1 to your computer:
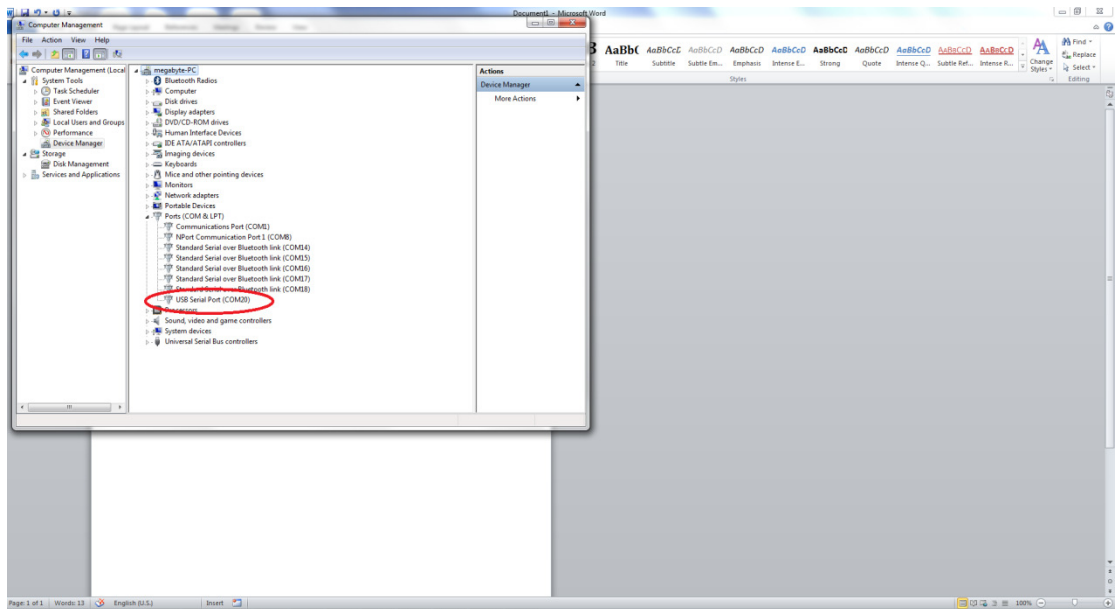
I. Power On the mDongle D1 by pressing the Power On button.

II. White LEDs on both sides light up, which indicates the Bluetooth is ready.

III. Search and Pair the Bluetooth with your computer:
- In startup manual, choose "Control Panel".
- In "Control Panel", choose "Devices and Printers"
- In "Devices and Printers", press the button "add a device", then select mDongle D1 BT address to pair. In general, the mDongle D1 BT name is called " mDongle- XXXX"
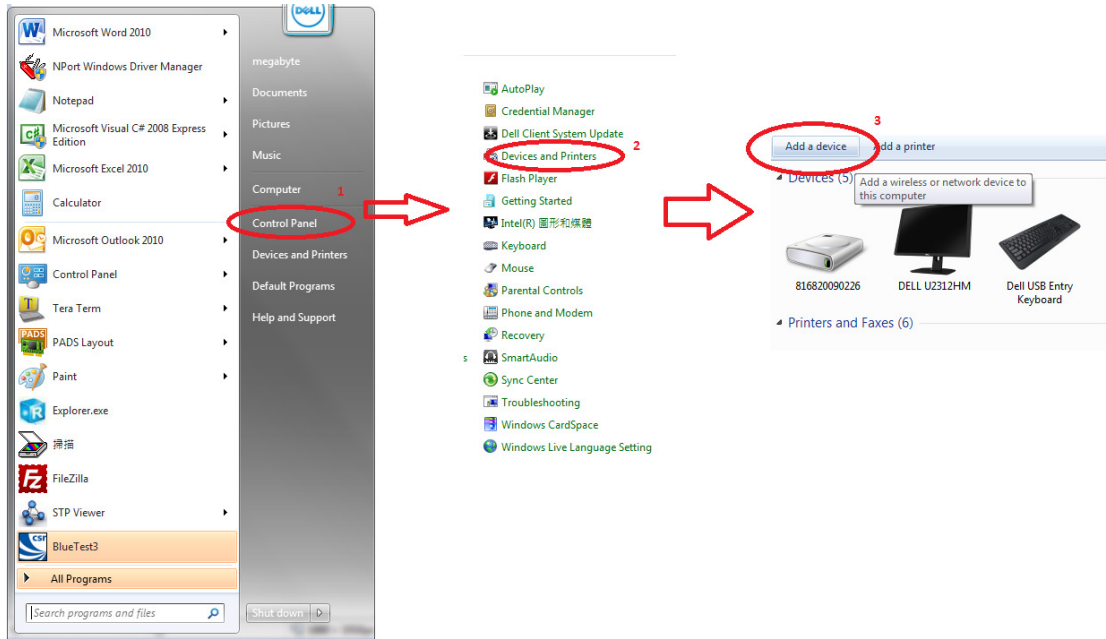
IV. When the Bluetooth is connected, LEDs turn blue.

V. After BT is connected, then run the test program in the computer to control the mDongle D1 operation.

VI. Set the "COM" number in the program which is generated after paired. The "COM" number can be found in the device manager in the computer.

VII. Run the web application program. Then set the parameter.

Basic Function		
Start ActiveX :	[Start ActiveX] [Get Versions]	
Connect via USB/Bluetooth: 40	[Connect USB] [Connect Bluetooth]	[Disconnect] [isConnected]
Power : 1 Dwell : 100	[Inventory]	[Get Tag] [Get Error]

NFC Function		
Read Card Type:	[Read NFC Card Type] [Read NFC UID]	
Allow Card Type :	Type: 0001 ⦿ Disable, ○ Allow [Set Type]	[Enable All Type] [Disable All Type]
Check UID: ☐ UID : 0		
Read Memory:	From : 5 To : 8	[Read NFC Memory]
Write Memory:	Block : 5 Value : 00000000	[Write NFC Memory]

Advanced Function		
Accumulate Mode : ⦿ Off, ○ On	[Set Accumulate]	[Get Tag] [Clear Accu Tag]
Validation Mode : ⦿ Off, ○ On	[Set Validation]	
Allow Version : 9 ⦿ Disable, ○ Allow	[Set Version]	[Get Item Code] [Get Accu Item Code]
Auto Loop Testing : 50	[Start] [Stop] [Clear]	

=========Message Begin==========

Connected via USB Successfully

========= Message End ==========

2.1.2 USB connection

Run the web application program. Then set the parameter.

Basic Function				
Start ActiveX :	Start ActiveX	Get Versions		
Connect via USB/Bluetooth: 40	Connect USB	Connect Bluetooth	Disconnect	isConnected
Power : 1 Dwell : 100	Inventory		Get Tag	Get Error

NFC Function			
Read Card Type:	Read NFC Card Type	Read NFC UID	
Allow Card Type :	Type: 0001 ● Disable, ○ Allow	Set Type	Enable All Type	Disable All Type
Check UID: ☐ UID : 0			
Read Memory:	From : 5	To : 8	Read NFC Memory
Write Memory:	Block : 5	Value : 00000000	Write NFC Memory

Advanced Function			
Accumulate Mode : ● Off, ○ On	Set Accumulate	Get Tag	Clear Accu Tag
Validation Mode : ● Off, ○ On	Set Validation		
Allow Version : 9 ● Disable, ○ Allow	Set Version	Get Item Code	Get Accu Item Code
Auto Loop Testing : 50	Start	Stop	Clear

=========Message Begin==========

Connected via USB Successfully

======== Message End =========

2.2 Connect to smartphone

2.2.1 BT connection

mDonlge mounted on smart phone.
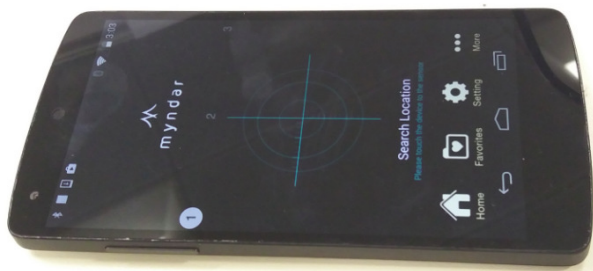
Android application to read the NFC and RFID tag.

Typical NFC read

Typical RFID read

2.3 Environmental Requirements

The next table includes environmental requirements for the mDongle D1. Choose a location that meets these requirements.

Description	Minimum	Maximum
Operating temperature	0ºC	40ºC
Storage temperature	-20ºC	60ºC
Humidity (non-condensing)	20%	90%

2.4 Caution

Danger of Electric Shock

- Disconnect the device from the electric supply before cleaning or performing maintenance on the machine.
- Keep this device dry.
- Turn off or unplug the machine when it is not in use.

Please read the information contained within this user manual prior to attempting installation and operation of the RFID Reader. Failure to install and operate the RFID Terminal (mDongle D1) in accordance with the information contained in this manual may result in unsatisfactory performance.

Chapter 3 Regulatory Information

3.1 Federal Communications Commission (FCC) Compliance

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.

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.

WARNING: DO NOT ATTEMPT TO SERVICE THE WIRELESS COMMUNICATION DEVICE YOURSELF. SUCH ACTION MAY VOID THE WARRANTY. THE MDONGLE D1 IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT MEGABYTE LTD. TECHNICAL SUPPORT FOR INFORMATION ABOUT SERVICING YOUR WIRELESS COMMUNICATION DEVICE.

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

3.2 CE Compliance

This device has been tested to and conforms to the regulatory requirements of the European Union and has attained CE Marking. The CE Mark is a conformity marking consisting of the letters "CE". The CE Mark applies to products regulated by certain European health, safety and environmental protection legislation. The CE Mark is obligatory for products it applies to: the manufacturer affixes the marking in order to be allowed to sell his product in the European market.

The CE Marking is not a quality-mark. Foremost, it refers to the safety rather than to the quality of a product. Secondly, CE Marking is mandatory for the product it applies to, whereas most quality markings are voluntary.

Chapter 4 Disclaimer Notice

Disclaimer Notice

The manufacturer shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material. This document contains proprietary information, which is protected by international patent applications and copyright. All rights reserved. No part of this document may be copied, reproduced or translated without prior written consent of the manufacturer. The manufacturer reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revisions or changes. The manufacturer also reserves the right to change the specifications without notice.

Chapter 5 Warranty

1. MegaByte Ltd warrants to the User that the Products sold to the User will comply with their published specifications and will be of satisfactory quality and that MegaByte Ltd is entitled to sell the Products to the User. MegaByte Ltd warrants that for a period of twelve (12) months from date of purchase ("the Warranty Period"), the products will be free from defects in materials and workmanship.

2. During the Warranty Period, MegaByte Ltd will repair, or if in MegaByte Ltd's opinion necessary replace, the defective product returned to MegaByte Ltd's head office in Hong Kong. The defective production must be returned in its original packaging and all shipping and handling charges shall be borne by the Users.

3. The Warranty Period shall not be extended by reason of any repair or replacement.

4. MegaByte Ltd shall have no liability to the User for any damage to or defects in any of the Products caused by fair wear and tear, improper use, negligent handling, failure to observe this User Manual and the instructions accompanying the Products or any alterations maintenance or repair to the Products by any person other than MegaByte Ltd, use of non-MegaByte Ltd parts, accessories or equipment, or third party software which would damage the Products.

5. Unless in the case of any damage to or defect in the Products which would have been apparent on reasonable visual inspection, the User notifies MegaByte Ltd of the same in writing within 7 days after the date of purchase thereof, or in the case of any damage to or defects in the Products which would not have been apparent on reasonable visual inspection the User notifies MegaByte Ltd of the same in writing 7 days after the defect becomes apparent to the User, the User shall not be entitled to reject the Products concerned.

6. The User shall be responsible for properly storing and making backup copies of all data which may be stored in the Products. MegaByte Ltd shall not be responsible for any lost of data as a result of any repair or replacement.

7. Except as expressly provided in this User Manual no warranty, condition, undertaking, or term, express or implied, statutory or otherwise, as to the condition, quality, performance, durability or fitness for purpose of the Products is given or assumed by MegaByte Ltd and all such warranties, conditions, undertakings and terms are hereby excluded to the fullest extent permitted by law.

Chapter 6 Support

Technical support/Sales Enquiry can be obtained from MegaByte Limited

Please email to: raymondli@myndar.com