

# UniSled

## User Guide



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# 1 Product introduction

#### 1.1 Introduction

The UniSled, product of MBA5 family makes any mobile terminal in a smartphone shape a professional data collection device. It adapts to any smartphone running under Android or iOS.

Connect your device and the UniSled very easily in a Bluetooth connection. The UniSled has several features such as powerful UHF RFID reading/writing and 1D/2D barcodes scanning.

### 1.2 Precaution before using battery

Do not leave battery unused for long time, no matter it is in device or inventory. If battery has been used for 6 months already, it should be check for charging function or it should be disposed correctly.

The lifespan of Li-ion battery is around 2 to 3 years, it can be circularly charged for 300 to 500 times. (One full battery charge period means completely charged and completely discharged.)

When Li-ion battery is not in used, it will continue discharge slowly. Therefore, battery charging status should be checked frequently and take reference of the related battery charging information on the manuals.

Observe and record the information of a new unused and non-fully charged battery. On the basis of operating time of new battery and compare with a battery that has been used for long time. According to product configuration and application program, the operating time of battery would be different.

Check battery charging status at regular intervals.

When battery operating time drops below about 80%, charging time will be increased remarkably.

If a battery is stored or otherwise unused for an extended period, be sure to follow the storage instructions in this document. If you do not follow the instructions, and the battery has no charge remaining when you check it, consider it to be damaged. Do not attempt to recharge it or to use it. Replace it with a new battery.

Store the battery at temperatures between 5 °C and 20 °C (41 °F and 68 °F).

Be careful to check the direction of insertion of the battery: there is no coding.



#### 1.3 Charger

The charger type is GME10D-050200FGu, output voltage/current is 5V DC/2A. The plug considered as disconnect device of adapter.

#### 1.4 Notes

#### Note 1:

Using the incorrect type battery has danger of explosion. Please dispose the used battery according to instructions.

#### Note 2:

Due to the used enclosure material, the product shall only be connected to a USB Interface of version 2.0 or higher. The connection to so called power USB is prohibited.

#### Note 3:

The suitable temperature for the product and accessories is 0-10°C to 50°C.

#### Note 4:

CAUTION RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.



# 2 Installation instruction

### 2.1 Appearance



#### Indicating lamp instructions

Lamps		Description				
Indiacting	Power	Constant light up (battery available)/Flash (Low battery)				
Lamps	Bluetooth	Constant light up (Bluetooth connected)				
Lamps	Work	Flash when read UHF tags				

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#### 2.2 Battery charge

By using USB contact, the original adaptor should be used for charging the device. Make sure not to use other adaptors to charge the device.

## 2.3 Buttons and function area display

Unisled has 1 power button and 3 indicating lamps.



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# 3 Demo Test

## 3.1 Install demo-uhf-bt (1.0.8)

- 1. Copy demo-uhf-bt (1.0.8.) into internal storage of smartphone.
- 2. Click to install.
- 3. Click to open demo.

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### 3.2 Pairing device

- 1. Switch on Bluetooth function of smartphone or MBA5-P1x device.
- 2. Power on Unisled.
- 3. Click BLUETOOTH in the demo.
- 4. Click SEARCH to search for Nordic\_UART\_CW.
- 5. Click Nordic\_UART\_CW to connect.
- 1. Switch on Bluetooth function of smartphone.
- 2. Power on UniSled.
- 3. Click BLUETOOTH in the demo.
- 4. Click SEARCH to search Nordic\_

6. After connecting successfully, user could click 3 dots on top right to check UHF version, battery percentage and UHF module temperature.



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## 3.3 UHF Scan function

- 1. Click SINGLE or AUTO in demo or pull the trigger on UniSled, the UHF tags could be read.
- 2. Click STOP in demo to stop reading of UHF tags.
- 3. Click CLEAR to clean all EPC information.

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#### 3.4 UHF configuration

Click CONFIG in demo to adjust working mode and output power.

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demo-uhf-bt(1	.1.5)	)	:
DISCONNECT		SEAF	ксн
Nordic_UART_CW(FC	:1D:62:	01:7D:B8)-conn	ected
CONFIG		READ	WRITE
Working Mode: E	urope	Standard(865	ō~86 <b>▼</b>
FREQUENCYSET		READ FRE	EQUENCY
Output Power: 30	)		▼ dBm
POWERSET		READ F	POWER
Buzzer			
BUZZER OPEN		BUZZER	CLOSE

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demo-uhf-bt	:	de	mo-uhf-b	t(1.1.5	5)	:			
DISCONNEC	DISCONNECT SEARCH			DISCONNECT SE		SEARCH	4		
Nordic_UART_CW(	FC:1D:62	2:01:7D:B8)-connected		Nord	dic_UART_CW	(FC:1D:62	2:01:7D:B8)-connect	ed	
RY BARCODE S	SCAN	CONFIG	R	RY	BARCODE	SCAN	CONFIG		R
Working Mode:	China S	Standard1(840~845	MHz)	Work	king Mode:	Europe	e Standard(865~8	36	-
FREQUENCYS	China	Standard2(920~925	MHz)	F	REQUENCYS	SET	READ FREQ	UENCY	
Output Power:	Europe	e Standard(865~868	MHz)	Outp	out Power:	25		▼ dBr	m
POWERSET	USA(9)	02-928MHz)	ŕ		POWERSE	26		/ER	
Buzzer	Korool	017022MH <del>~</del> )		Buzze	r	20			
BUZZER OPE	Korea(	917~923WHZ)		E	BUZZER OP	27		OSE	
	Japan(	(952~953MHz)				28			
						29			
						30			
						30			

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#### 3.5 UHF Tag Reading and Writing

The storage of one tag has 4 zones: RESERVED, EPC, TID and USER. Normally, the default password is 00000000. And TID zone can only be read, other zones can be read and written.

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demo-uhf-bt(1.1.5)	:	demo-uhf-bt(1.1.5)					
DISCONNECT	SEARCH		DISC	ONNECT	SEARCH		
Nordic_UART_CW(FC:1D:62:	01:7D:B8)-connecte	d	Nordic_UA	RT_CW(FC:1D:62:01	7D:B8)-connected		
CONFIG	READ	WRITE	ONFIG	READ	WRITE		
filter			filter				
Enable			🗌 Enab	le			
Ptr: <u>32</u> (bit)	Len: 0	(bit)	Ptr: <u>32</u> (bit) Len: <u>0</u> (bit)				
Data:			Data:				
EPC TI	DUS	ER	EPC	TID	USER		
Bank: RESERVED		-	Bank: RE	SERVED	•		
Ptr: 0 (word)	Len: 4	(word)	Ptr:	0 (word) Le	en: <u>4</u> (word)		
Access Pwd: 0000000	)		Access Pw	d: 00000000			
Data:			Write Data:				
RE	AD			WRITE D4	ATA		

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## 3.6 UHF Tag Lock and Kill

## 3.6.1 Lock Function

For example. User could try to lock down EPC zone.

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demo-uhf-bt(1.1.5)								
DISCONNECT	SEAR	СН						
Nordic_UART_CW(FC	:1D:62:01:7D:B8)-conne	cted						
WRITE	LOCK	KILL						
filter								
Enable								
Ptr: <u>32</u> (	(bit) Len: <u>0</u>	(bit)						
Data:								
EPC	TID	USER						
Access Pwd: Can'	t use the default pass	word						
Lock Code:								
	LOCK							

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#### 3.6.2 Kill Function

Kill function can be used to kill the tag permanently. Input the correct access password and click kill.

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demo-uhf-bt(1.1.5)								
DISCONN	ECT	SEA	ARCH					
Nordic_UART_C	W(FC:1D:62:01	1:7D:B8)-con	nected					
WRITE	LOCK		KILL					
filter								
Enable								
Ptr: 32	(bit)	Len: 0		(bit)				
Data:								
EPC			USER					
Access Pwd:	Can't use the	e default pa	ssword					
KILL								

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## 3.7 Firmware Upgrade

- 1. Click CHOOSE FILE.
- 2. Click SELECT the file in the internal storage.
- 3. Click UPGRADE to upgrade firmware.

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demo-uhf-bt(1.1.5)									
DISCONNECT		SEARCH							
Nordic_UART_CW(FC:	1D:62:01:7D:B8)	-connected							
KILL	UPDATE	E BT REN/							
path		CHOOSE FILE							
O R2000	🖲 STM	32							
	UPDATE								
ST	M32 VERSION								

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#### 3.8 Barcode Scan Test

Select BARCODE SCAN in the demo and click SCAN button on the screen to scan barcodes. Click CLEAR to clean all information

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de	mo-uhf-bt(1.1.5	)	:	de	mo-uhf	-bt(1.1.5	<b>)</b>	:
	DISCONNECT	SEARCH			DISCON	IECT	SEARCH	
Nor	dic_UART_CW(FC:1D:62	:01:7D:B8)-connected		Nord	dic_UART_(	CW(FC:1D:62	:01:7D:B8)-connected	
RΥ	BARCODE SCAN	CONFIG	R	٦Y	BARCO	DE SCAN	CONFIG	R
						default		
						utf-8		
Encod	ing Format default		•	Encodi	ng Format	gb2312		•
	SCAN	CLEAR			SCAN	ı	CLEAR	

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# 4 Device characteristics

#### 4.1 Physical characteristics

Weight	445g
Color	Black
Appearance material	Plastic
Product material	Plastic
Battery specification	2600mAh/5200mAh
Indicator LED	Power, Work, Bluetooth
Buzzer	Support
Interfaces	IMicro-USB

#### 4.2 Performance

MCU	Cortex-M3/72 MHz
RAM+ROM	64M+4G

#### 4.3 User environment

Operating temperature	-20°C to 50°C
Storage Temperature	-40°C to 70°C
Humidity	5%RH - 95%RH non condensing

## 4.4 Data collection

4.4.1 Barcode scanner

2D Imager Scanner	SE2707
1D Symbologies	UPC/EAN, Code128, Code39, Code93, Code11, Interleaved 2 of 5, Discrete 2 of 5, Chinese 2 of 5, Codabar, MSI, RSS, etc.
2D Symbologies	PDF417, MicroPDF417, Composite, RSS, TLC- 39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.

#### 4.4.2 RFID UHF

	-
Antenna	Circular Polarized antenna (4dBi)
Frequency	920-925MHz/902-928MHz/865-868MHz
Protocol	EPC C1 GEN2 / ISO18000-6C
Module power	1W (30dBm, support +5~+30dBm adjustable)
R/W range	>28m(indoors);>12m(open outdoors)
Reading rate	200tags/s * Ranges and rates depend on tags and
	environment