

VDU1501R规格书datasheet

文档信息/Document Information

标题/Title	VDU1501R 规格书 Datasheet	
文档类型/Document Type	规格书 Datasheet	
文档编号/Document No.	WN-21070051	
版本日期/Version & Date	V1.01	15-June-2021
秘密等级/Classification	公开 Open	

历史版本/Reversion History

版本号/Version	更新内容/Remark	制作人/Maker	日期
V1.01	初始版本/Initial version	Sherman	2021.06.15

设备清单/Product List

名称/Item	型号/Model Number	数量/Number	备注/Remark
超宽带双向测距基站 UWB TWR ranging anchor	VDU1501R	1 pcs	
5V1A 电源适配器 5V 1A DC Power Adapter	A906-050100W-CN1	1pcs	

95Power 保留本文档及本文档所包含的信息的所有权利。95Power 拥有本文档所述的产品、名称、标识和设计的全部知识产权。严禁没有征得 95Power 的许可的情况下复制、使用、修改或向第三方披露本文档的全部或部分内容。

95Power 对本文档所包含的信息的使用不承担任何责任。没有明示或暗示的保证，包括但不限于关于信息的准确性、正确性、可靠性和适用性。95PowerB 可以随时修订这个文档。可以访问 www.95power.com.cn 获得最新的文件。

Copyright © 2020, 深圳市微能信息科技有限公司。

95Power® 是深圳市微能信息科技有限公司在中国的注册商标。

95Power reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights. Reproduction, use, modification or disclosure to third parties of this document or any part thereof without the express permission of 95Power is strictly prohibited.

The information contained herein is provided “as is” and 95Power assumes no liability for the use of the information. No warranty, either express or implied, is given, including but not limited, with respect to the accuracy, correctness, reliability and fitness for a particular purpose of the information. This document may be revised by 95Power at any time. For most recent documents, visit www.95power.com.cn.

Copyright © 2020, 95Power95Power Information Technology Co., Ltd.

95Power® is a registered trademark of 95Power Information Technology Co., Ltd. in China

目录

1 产品介绍/Product Induction.....	4
2 基本参数/Basic Parameter.....	5
3 产品使用 User manual.....	6
3.1 开机 Power on.....	6
3.2 SOS.....	6
3.3 关机 Power off.....	7
3.4 充电 Charging.....	7
4 联系方式/Contact.....	7

1 产品介绍/Product Induction

VDU1501R 内置高增益的 PA 和 LNA，是一款收发增强型的测距/定位工卡标签。其主控芯片采用 NRF52832 实现低功耗的待机、定位包的收发控制，射频芯片采用 DW1000 来发送或者接收 UWB 的 TDOA/TWR 数据包，进而在基站的解析下实现佩戴人员的高精度测距或者定位。

VDU1501R is an UWB ranging/positioning card tag with enhanced RF transceiver which integrates high-gain PA and LNA. The MCU uses Nordic nRF52832 to achieve low power standby, and positioning packet sending and receiving control. The RF chip uses Decawave DW1000 to send or receive UWB TDOA / TWR data packets, so as to achieve high-precision ranging or positioning of the user with the help of the UWB anchors.

工卡内置加速速度传感器，智能切换人员运动和静止时的定位频率，实现更低的功耗。

The built-in accelerometer of the card tag can intelligently switch the positioning frequency when people are moving or still, so as to achieve lower power consumption.

工卡带有 SOS 按键紧急求救功能，可用于安全监护场合如敬老院、公检法等场所的人员定位和监护。另外工卡内置马达，可以配合基站端的电子围栏，实现靠近/进入特定区域的安全告警功能或者人员社交距离告警功能，也可用于接收紧急撤离信息，从而实现智慧工厂、工地的工人位置安全监控等。

The card has SOS button for emergency call function, which can be used for personnel positioning and monitoring in security monitoring occasions such as the beadhouse, public security organs and other places. In addition, the built-in motor of the card tag can cooperate with the electronic fence that is built in the anchor side, to realize the security alarm function of approaching / entering a specific area , also to keep the social distance. It can also be used to receive emergency evacuation information, so as to realize the safety monitoring of workers' positions in smart factories and construction sites.

工卡外壳使用白色圆角设计，采用超声压合技术，按键采用 FPC 按键 3M 胶贴方式，完美实现 IP67 级别的防水设计。并且配备一条白色挂带，方便人员佩戴。

The white shell of the card tag which is designed with rounded corner, and with ultrasonic pressing technology, and with 3M adhesive button and LED FPC, can perfectly realizes the waterproof design of IP67 level. And it is equipped with a white hanging belt, which is convenient for people to wear.



Figure 1.1 VDU1501R

2 基本参数/Basic Parameter

基本工作参数/Basic parameter	
运动刷新频率 Refreshing frequency when moving	1Hz
静止刷新频率 Refreshing frequency when still	0.33Hz
功耗/Power consumption	Standby: 20uA TX standard power: 150mA RX: 50mA
精度/Precision	CEP90: 30cm
一次充电使用时间 General using time when fully charged	2 weeks@1Hz (Gain=0x4a @25°C)
定位距离/Positioning distance	>300m(Max TX power)
电池容量/Battery capacity	550mAh
温度/ Temperature	Operational: -20~80°C Charging: 0~45°C Storage: -20~40°C(<3month)
产品尺寸/Dimension	85mm*54mm*7.5mm(±1mm)
UWB 参数/UWB Parameter	
频率范围/Frequency	Default 3.9936±0.25GHz(with PA/LNA) support all channels ch1-5(Without PA)
协议标准/Protocol	IEEE 802.15.4-2011 UW
BLE 参数/BLE Parameter	
	默认开机只打开 30s Default off after 30 seconds.

存储/RAM and ROM	512 KB flash/64 KB RAM 256 KB flash/32 KB RAM
协议/Protocol	Support BLE5.0 (No Longrange)
频率/Frequency	2400MHz---2483.5MHz
充电适配器参数/Power adapter parameter	
输入/Input	AC 100~240V 50/60Hz 0.35A
输出/Output	DC 5V /1A

Table 2.1 产品参数 Product Parameter

3 产品使用 User manual

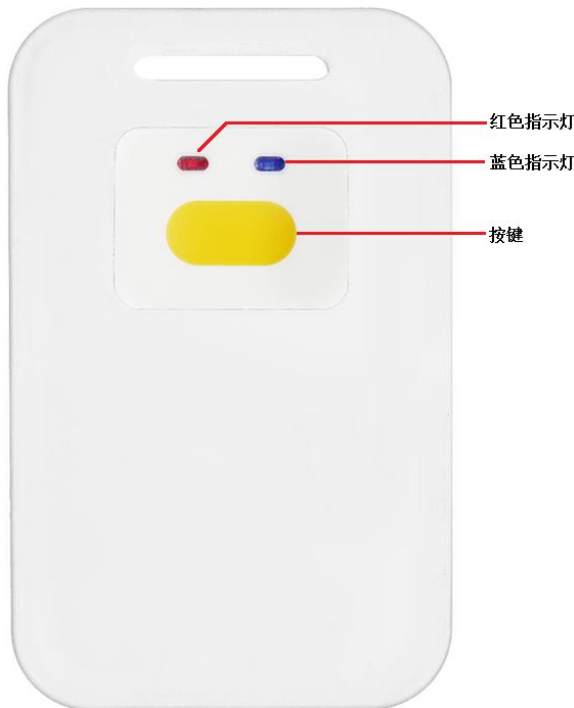


Figure 3-1 VDU1501R Top side



Figure3-2 VDU1501R bottom side

3.1 开机 Power on

长按按键，直到红色灯亮起或者马达振动，松开按键，红灯会持续亮 3s 后熄灭，表示开机成功，红色指示灯进入呼吸灯模式，每 8s 闪一次。充电时工卡会重启并处于开机状态。

Long press the button until the red light is on or the motor vibrates. Then release the button, the red light will be on for 3 seconds and then go out, indicating that the power on is successful. The red indicator will enter the breathing light mode and flash once every 8 seconds. When charging, the card will restart and be in the power on state.

3.2 SOS

工卡开机成功后，长按按键 3s 就会触发一次紧急呼救，此时蓝色灯亮起，代表 SOS 触发成功。

After the card is turned on successfully, pressing the key for 3 seconds will trigger an emergency call for help. The blue light will be on indicating SOS is triggered successfully.

3.3 关机 Power off

开机后，连续按 4 下按键，每次间隔在 1s 以内，最后一下长按 3s 以上再松开，红灯常亮后灭掉表示关机成功。

After power on, press the key four times continuously, with an interval of less than 1 s, and at the last time, release the key after pressing more than 3 s. Then the red light will be on for a while and go out, it means that the power off is successful.

3.4 充电 Charging

将配套 5V 直流充电适配器接入市电 100~240V 交流电，另外一端通过磁力对准充电接口座吸住。红灯开始闪烁，当充满时候红灯长亮。移除充电器后，红灯熄灭，工卡会处于关机状态。

Connect the matching 5V DC charging adapter to the 100 ~ 240V AC power supply, and the other end is attracted by the magnetic force to the charging interface. The red light starts to flash. When it is fully charged, the red light will be on for a long time. After the charger is removed, the red light will go out and the card tag will be in the off state.

4 联系方式/Contact

95Power Information Technology Co., Ltd

深圳市微能信息科技有限公司

Address: 6 Floor, Building 9, Lijincheng Scientific & Technical Park, Gongye East Road, Longhua District, Shenzhen

地址: 深圳市龙华区龙华街道工业东路利金城科技工业园9栋6楼

Tel/电话: 86-755 23779409

Fax/传真: 86-755 23779409

E-mail/邮箱: sales@95power.com.cn

Website/网页: www.95power.com.cn