无锡威达智能电子股份有限公司

产 品 规 格 书

蓝牙遥控器产品规格书

BLE remote control product specification

客户单位： Client unit	亚旭电子科技(江苏)有限公司
客户料号： Customer Material Num.	04AD-00DU100
威达料号： WeiDa Material NO.	WH-[917_BLE
产品类型： Product Type	蓝牙+语音+IR
日　　期： Day period	2019-11-14
拟　　制： Proposed	Nick
批　　准： Batch registration	

承制方：无锡威达智能电子股份有限公司

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规格书变更履历表

Change of specification book resume

日期 Date	版本 Version	修改章节 Modify Chapter	描述 Describe	拟制 Proposed	备注 Note
2019-11-14	V1.0		创建	Nick	
2019-11-14	V1.1	第二三章	更改效果图及键值	Nick	
2019-12-03	V2.0	第二章	变更效果图google助手颜色	Nick	
2019-12-20	V3.0	第三章	变更BT Code	Nick	
2020-02-10	V3.1	第四章	更改指示灯显示	Nick	

遥控器版本信息表

	型号 Model	版本 Version	日期 Date	拟制 Proposed
软件 SW	WH- 5917_RC19A3_RC_F150_V0101_200211_BURN.bin	V0101	20-02-12	Nick
硬件 HW	WH-5069T_BLE	V1.0	19-05-15	Nick

目录

一、遥控器测试条件及参数

Remote Control test conditions and parameters

1、　硬件要求

Hardware requirements

序号 NO.	说明项目 Description Project	技术规格 Technical Specifications	备注 Note
1	按键数 Number of keys	15 键 15Keys	
2	遥控器尺寸 Remote control size	150*39*19mm	
3	按键自由高度 Button Free Height	≤2mm	
4	按键作用后高度 The height after the key action	≥0.15mm	
5	按键作用力 Key force	参照按键荷重分布图 Refer to keystroke load distribution map	
6	外壳塑胶材质 Shell Plastic Material	ABS 原料（无味、不掺回料），厚度 ≥2.0mm ABS raw material (tasteless, no blending), thickness ≥2.0mm	
7	外壳颜色 Shell Color	实色注塑黑色， Solid color injection black,	
8	丝印 Screen printing	耐酸耐醇耐磨 Acid-resistant and alcohol-resistant	
9	PCB 电路板材质 PCB Circuit	环氧玻铅板	

	board Material		
10	PCB 布线线宽及间距 PCB Cabling line width and spacing	≥0.3mm	
11	表面涂敷处理 Surface Coating Treatment	详细见遥控器《外观及工艺要求》 See the remote control 《appearance and process requirements》 in detail	
		表面应平整牢固，不允许有划痕、斑疵、流挂、脱落和破损 Surface should be flat and firm, not allowed to have scratches, spot defects, flow hanging, peeling and breakage	
12	电路板制作要求 Board Production requirements	所有印刷电路板均应防腐蚀 All printed circuit boards shall be corrosion resistant	
		不允许有飞线 No flying lines are allowed	
		焊点饱满，无虚焊、脱焊、连锡 Solder joints full, no virtual welding, off welding, Lianxi	
13	按键要求 Key requirements	按键胶边缘结构需增加"防水墙"，以达到按键装配后，用手指扣时不能脱出胶壳按键孔；按键面定位过孔采用硅胶包塑胶设计，使整个硅胶按键面没有破孔，以保证长时间使用板面整洁，硅胶按键需偏硬 Key adhesive edge structure should be added "waterproof wall", in	

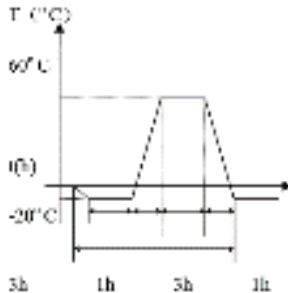|		order to achieve the key assembly, the finger buckle can not be out of the plastic shell button hole, key surface positioning through the hole using silicone rubber bag plastic design, so that the entire silicone button surface has no holes to ensure that the use of a long plate surface neat, silicone key need to be hard	
14	导电胶材质 Conductive adhesive Material	必须使用硅胶原料（不加粉），并 且没有刺激性气味 Must use silicone material (no powder) and no pungent odor	
15	Metal dome（锅 仔片） Metal Dome(pot slices)	遥控器所有按键采用 metal dome 按键，并且寿命必须≥50 万次，连续按压测试次数≥30 万次，可恢复到原荷重 Remote control all keys to use themetal Dome button, and the life must be ≥ 5million times, continuous press test number ≥3 million times, can restore to the original load	

2、 产品规格

Product Specifications

序号 NO.	项目 Project	规格参数 Specification parameter	备注] Note
1	工作温度 Operating temperature	0～50℃	
2	相对湿度 Relative humidity	≤95%	
3	大气压力 Atmospheric pressure	85～105Kpa	

4	环境照度 Ambient illumination	自然光或荧光灯 200±50LX Natural light or fluorescent lights 200± 50LX	
5	主控 MCU	WNF150	
6	外壳材料 Shell material	ABS	
7	样品颜色 Sample Color	参考客户需求规格 Reference Customer Requirements Specifications	
8	电池规格 Battery specification	AAA　1.5*2	
9	自由跌落试验 Free Drop test	从 0.8 米高度，六面依次自由跌落在不小于 3cm 厚木制地板，三个循环。 From a height of 0.8 m, the floor is free to fall in a wooden floor of not less than 3 cm in sequence, and three cycles.	
10	静电环境试验 Electrostatic environment test	±8KV	
11	高温储存试验 High Temperature Storage test	60℃	
12	低温储存试验 Low Temperature storage test	-20℃	
13	恒定湿热试验 Constant damp heat test	40℃相对湿度 90±2% 40℃ Relative Humidity 90± 2%	

14	温度循环变化试验 Temperature Cycle Change Test		
15	验收标准 Acceptance criteria MIL-STD-105E- LEVEL（Ⅱ）AQL	重缺陷（A 类）AQL=0.65 Heavy defects（AClass）aql=0.65 轻缺陷（C 类）AQL=1.5 Light defect（C Class）aql=1.5	
16	遥控器运输及储存条件 Remote control transport and storage conditions	运输途中应避免雨雪直接侵袭或者强烈冲击。 遥控器应储存在环境温度-20℃～+60℃，相对湿度不大于80%，周围没有强磁场、腐蚀物质和其它有害气体的库房中，储存期为一年。超过一年的产品经重新评估合格后，方可流入市场。 In transit should avoid direct attack of rain or snow or strong impact. The remote control should be stored at ambient temperature-20℃~+60℃, the relative humidity is not greater than the 80%, with no strong magnetic field, corrosive substances and other harmful gases in the storehouse, the storage period is one year. After the product has been	

		reassessed for more than one year, it can be brought into the market.	

3、 产品规格（蓝牙部分）

Product Specifications (BLE Part)

序号 No.	项目 Project	描述 Describe	备注 Note
1	使用电池 Use battery	碱性环保电池 Alkaline Environmental Protection Battery	
2	供电电压 Supply voltage	2.2-3.6V	
3	电流描述 Current description	≤3mA 待机功耗（与机顶盒链接） ≤3mA standby power （Link to box） ≤5mA 发射功耗（常规按键） ≤5mA emission power consumption (general key) ≤25mA 录音功能（语音功能） ≤25mA recording feature (voice function)	
4	音频输出 Audio output	单声道、16K 采样率、16bit 精度音频输出 Mono,16K sampling rate,16bit Precision Audio output	
5	传输距离 （蓝牙） Transmission Distance (Bluetooth)	≥12m（周围无遮挡物） ≥12m(no shelter around)	
6	蓝牙协议 （蓝牙）	蓝牙 4.2 协议 Bluetooth 4.2 Protocol	

	Bluetooth protocol (Bluetooth)		
7	信号要求（蓝牙） Signal requirements (Bluetooth)	满足通信传输距离要求，同时符合蓝牙 BQB 认证要求 Meet the communication transmission distance requirements, while complying with the Bluetooth BQBCertification Requirements	
8	语音要求（蓝牙） Voice requirements (Bluetooth)	语音软件识别率≥90%（句），有干扰情况下：语音识别率≥85%（句）（需要确认和机顶盒和软件正常状态） The speech software recognition rate ≥ 90%(sentence), has the interference case: the speech recognition rate ≥85%(needs to confirm and the set-top box and the software normal state)	
9	连接响应（蓝牙） Connection response (Bluetooth)	≤200ms，这里是指恢复连接速度，通过遥控器端测试开始广播到被连接上的时间间隔 ≤200ms, this refers to the speed at which the connection is restored, the time interval at which the test begins broadcasting to the connected	
10	其他通用蓝牙设备影响 Other common Bluetooth device impact	HOST 端适配的驱动，要不影响原有的蓝牙通用设备支持，如蓝牙耳机/音响（HSP/HFP，A2DP 等），蓝牙键盘，蓝牙鼠标，游戏手柄等。 HOST End Adapter driver, or affect the original Bluetooth universal device support, such as Bluetooth headset /Audio (HSP/HFP,A2DP , etc.), Bluetooth keyboard, Bluetooth mouse, game handles and so on.	

11	音频传输要求 Audio Transmission Requirements	音频传输无异常，无明显干扰、丢数据、截幅等现象 No abnormal audio transmission, no obvious interference, loss of data, cutting amplitude and other phenomena	
12	麦克风灵敏度 Microphone Sensitivity	灵敏度-42±3dB Sensitivity -42±3dB	
13	麦克风信噪比 Microphone Signal-to-noise ratio	不能低于58dB cannot be less than 58dB	

二、遥控器产品效果图

Effect picture of remote controller product

三、遥控器键值

Remote control key value

四、遥控器按键操作说明

Remote Control key action Description

1、 当连上机顶盒蓝牙，遥控器发蓝牙键值；

When you connect the set-top box Bluetooth, the remote control blue tooth key value,

2、 指示灯状态：遥控器上电后，指示灯常亮 1 秒，未连接状态下，指示灯连续闪烁 6 下；连接状态下，按键按一下指示灯闪烁一次，使用语音时，指示灯常亮，指示灯为红色。

Infrared State: When the remote controller is powered on, the indicator light is always on for 1 second, In the unconnected state, the light flashes continuously for 6 times; in the connected state, in addition to the voice function, the other keys do not turn on the light, press and hold down the key continuous emission code value, the light is red.

3、 配对功能：当同时按住 "OK" 和 "Vol-" 键并持续三秒，同时指示灯闪烁；

Pairing function: When the "OK" and " Vol- " keys are kept down for

three seconds, while the LED are blinking;

Connection interval＜12ms；

遥控器距离>10m；

Remote control distance >10m;

4、 支持蓝牙遥控器在线升级，盒子上电时自动检测遥控器版本，版本低于

服务器推送版本时自动升级；

Bluetooth remote control to support the online upgrade, box on the power automatically detect the version of the remote, version less than the server push version automatically upgrade;

5、 蓝牙设备名：Red Bull Remote。

Bluetooth device Name:Red Bull Remote.

6、　支持"OK"+"back"上传 bug report 功能

Support for "OK"back" upload bug report feature.

7、　支持"Down"+"back"上传 Accessory page 功能

Support for "Down"back" upload Accessory page feature.

8、　遥控器其他要求：

other remote control requirements:

1、配对功能要求：不得存在扫描不到蓝牙设备或配对不上（包括短时间内连续按配对键）的问题，请验证 50 次确保无问题；

The pairing feature requires that no Bluetooth devices be scanned or not paired up (including a continuous press pairing key for a short period of time), verify that ensure no problem;

2、BT 长连接：遥控器不主动断开蓝牙连接，断开连接后若回连超时则进入深度休眠模式，待下次按键唤醒回连；不得存在回连不上的问题，包括盒子断电回连，遥控器断电回连，静置 2 小时回连等，请验证 50 次确保无问题；

BT Long connection: The remote does not actively disconnect the Bluetooth connection, disconnect if the return timeout to enter the deep sleep mode, the Next button to wake up the connection, no return to the problem, including the box power back, remote control power back, static 2 hour back, please verify that times to ensure no problems;

3、抗干扰功能要求：不得存在非常影响主机 WIFI 吞吐量的问题，请确保连接遥控器时主机端 WIFI 吞吐量正常；

anti-jamming features require: there must be no problem with a very strong host WiFi throughput, make sure that the host side WiFithroughput is normal when the remote is connected;

4、性能要求：要求支持≤10m，不得存在语音通话卡顿，丢失以及遥控器按键卡顿、丢码或连键等问题；

Performance requirements: Require support ≤10m, there must be no voice calls Cotton, lost and the remote control button cotton, missing code or even key problems;

5、功耗要求：遥控器可持续使用至少 6 个月以上。

Power Requirements: Remote control can be used consistently for at least 6 months or more.

8、语音控制：

Speech Control：

1、 按语音键开始录音，遥控器收到语音引擎下发的停止录音指令后停止录音；

Press the Voice key to start recording, the remote control receives the voice engine issued stop recording instructions after stop recording;

2、 进入语音模式后，超过 30S 之后遥控器主动退出语音模式（此操作主要为了省电）。

After entering speech mode, the remote control actively quits speech mode after 30S (this is mainly to save power).

3、 语音协议：私有协议；
Voice protocol: private protocol.

9、 指示灯状态：

LEDs Status：
1、按键：
Keys：
红外按键：红灯，闪烁 6 次
IR keys: red light,six flashes;
蓝牙按键：红灯，亮 100ms，灭 100ms，长按闪烁一次；
BT keys: Red light, bright 100ms, out of 100ms, long press flash once；

2、配对状态：
Paring Status：
配对状态：红灯，亮 250ms，灭 250ms，蓝牙连接成功或失败结束,发现时间 30S。
Paring status: red light, bright 250ms, out of 250ms, BT connection successful or failed end, The discovery time was 30s.
配对成功：红灯，亮 3s 后熄灭；
Pairing successful: red light, turned on for 3s and extinguished;
配对失败：红灯，亮 500ms，灭 500ms，闪烁 3 次；
Paring fail: red light, bright 500ms, out of 500ms, flashing 3 times;

3、低电状态：
Low Power Status：

低电状态：红灯，亮 300ms，灭 300ms，闪烁 5 次，低电电压 2.4V；
Low power Status: red light, bright 300ms, out of 300ms, flashing 5 times, Low electrical voltage of 2.4 V.

4、语音：
Voice：
语音状态：红灯，语音过程中常亮；
Voice status: red light, always bright in the process of speech;

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.

Changes or modifications to this unit 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.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Radiation Exposure Statement
The device has been evaluated to meet general RF exposure requirement. in portable exposure condition without restriction.
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