

利尔达科技集团股份有限公司

LSD SCIENCE & TECHNOLOGY CO., LTD.

物联网无线收发器产品规格书 Operation Manual



产品名称：大华2.4G语音通话遥控器

产品型号：LSD4RF379-02D0

文档版本：V1.1

文件修改记录台帐

| 项目名称 | 大华 2.4G 语音通话遥控器 | 项目型号 | LSD4RF379-02D0 | | |
|------|-----------------|-------|----------------|-----|----------------------|
| 编制人 | 梁立宸 | 编制日期 | 20140528 | | |
| 审核人 | 孙香涛 | 审核日期 | 20140528 | | |
| 序号 | 修改日志 | 文件版本号 | 修改人 | 审核人 | 修改日期 (XXXX-XX-XX) |
| 1 | 创建文档 | V1.0 | 孙香涛 | | 2014-05-28 |
| 2 | 增加 PCB 天线方向图 | V1.1 | 孙香涛 | | 2014-06-26 |
| 3 | 修改待机电流值 | V1.2 | 孙香涛 | | 2014-07-25 |



目 录

| | |
|------------------------------|-------|
| Chap1: characteristics..... | - 4 - |
| Chap2: Parameter | - 5 - |
| Chap4: Hardware layout | - 8 - |
| Warning: | - 8 - |



Chap1: characteristics

LSD4RF379-02D0 is dedicated to voice communication and control

The module functions as below

- Keyboard: 10 keys, function respectively, voice standby switch key, the upper and lower, left, right, confirmation, menu, home, return;
- Distance: above 7m no orientation;
- Indicator: pair, talk, low battery, indication of charging
- Power supply: 3.7V lithium, 330mAh, MINI USB
- Voice communication: 16BIT、16Kbps Sample rate, Voice picking distance 15cm~1.5m, NO conflict with WIFI

LSD4RF379-02D0 can be applied to these occasions

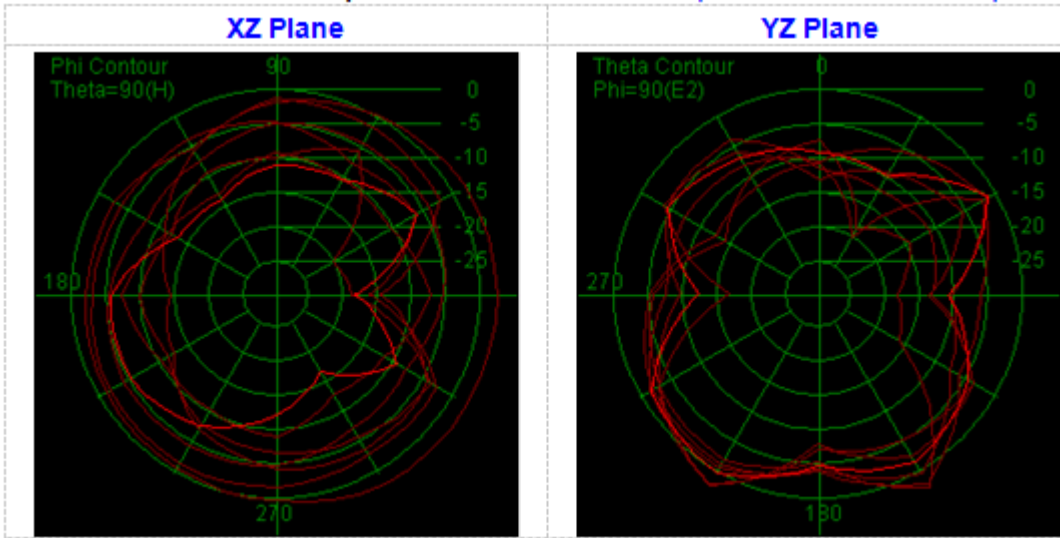
TV

Remote controller

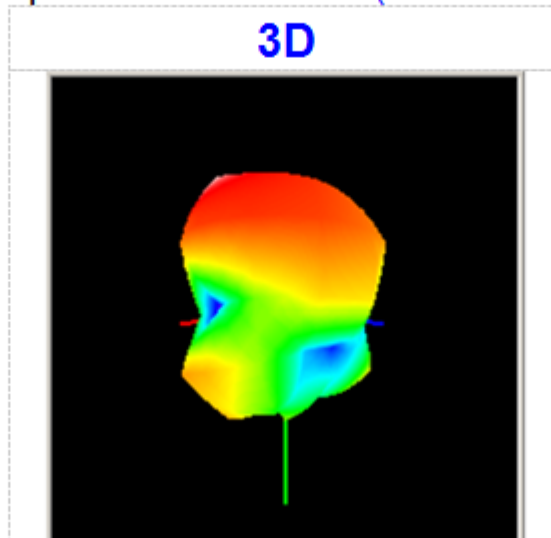
Chap2: Parameter

| | |
|--------------------------|-----------------|
| Part number | LSD4RF379-02D0 |
| Temperature | -20°C ~ 50°C |
| Voltage | 3.7V |
| Frequency | 2433MHz-2483MHz |
| Carrier frequency offset | ±40KHz |
| Modulation | GFSK |
| Crystal frequency | 32MHz |
| Emission power | ≤4dBm |
| Accuracy | defined |
| Dimension | Refer to chap 3 |

PCB antenna as below



3D Radiation patterns test results (Passive Antenna)



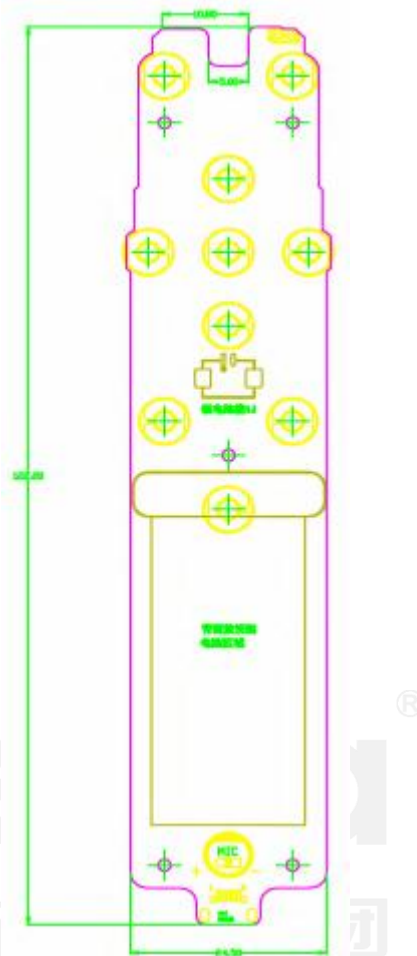
PCB TESTING DATA:

| Test Point ID | Freq. (MHz) | TRP (dBm) | Gain (dBi) | Directivity (dBi) | Efficiency (%) | Efficiency (dBi) | Max (dBm) | Theta of Max | Phi of Max | Min (dBm) | Theta of Min | Phi of Min | AVG (dBm) | Max/Min (dBi) | Max/AVG (dBi) | Min/AVG (dBi) |
|---------------|-------------|-----------|------------|-------------------|----------------|------------------|-----------|--------------|------------|-----------|--------------|------------|-----------|---------------|---------------|---------------|
| 1 | 2412.0 | 25.40 | 2.37 | 6.97 | 34.7% | -4.60 | 2.37 | 150 | 0 | -20.48 | 30 | 30 | -4.39 | 22.85 | 6.75 | -16.09 |
| 2 | 2417.0 | 25.61 | 2.89 | 7.27 | 36.4% | -4.39 | 2.89 | 150 | 330 | -20.76 | 90 | 0 | -4.21 | 23.65 | 7.10 | -16.55 |
| 3 | 2422.0 | 25.56 | 3.14 | 7.58 | 36.0% | -4.44 | 3.14 | 150 | 330 | -20.91 | 90 | 0 | -4.23 | 24.05 | 7.36 | -16.69 |
| 4 | 2427.0 | 25.53 | 2.96 | 7.42 | 35.7% | -4.47 | 2.96 | 150 | 0 | -20.16 | 60 | 0 | -4.22 | 23.12 | 7.17 | -15.94 |
| 5 | 2432.0 | 25.47 | 2.76 | 7.29 | 35.2% | -4.53 | 2.76 | 150 | 330 | -21.75 | 90 | 0 | -4.24 | 24.51 | 7.00 | -17.51 |
| 6 | 2437.0 | 25.66 | 3.50 | 7.85 | 36.8% | -4.35 | 3.50 | 150 | 330 | -21.87 | 60 | 180 | -4.16 | 25.37 | 7.66 | -17.71 |
| 7 | 2442.0 | 25.52 | 2.75 | 7.23 | 35.6% | -4.48 | 2.75 | 150 | 330 | -20.43 | 60 | 0 | -4.32 | 23.18 | 7.08 | -16.11 |
| 8 | 2447.0 | 25.64 | 2.77 | 7.13 | 36.6% | -4.36 | 2.77 | 150 | 330 | -22.29 | 90 | 0 | -4.19 | 25.06 | 6.96 | -18.10 |
| 9 | 2452.0 | 25.63 | 2.70 | 7.07 | 36.5% | -4.37 | 2.70 | 150 | 330 | -22.04 | 30 | 30 | -4.24 | 24.74 | 6.94 | -17.80 |
| 10 | 2457.0 | 25.40 | 2.51 | 7.11 | 34.7% | -4.60 | 2.51 | 150 | 330 | -27.96 | 30 | 0 | -4.44 | 30.46 | 6.95 | -23.52 |
| 11 | 2462.0 | 25.23 | 2.70 | 7.48 | 33.3% | -4.77 | 2.70 | 150 | 330 | -18.13 | 30 | 0 | -4.54 | 20.84 | 7.24 | -13.59 |
| 12 | 2467.0 | 25.54 | 2.31 | 6.77 | 35.6% | -4.46 | 2.31 | 150 | 330 | -18.12 | 90 | 0 | -4.28 | 20.43 | 6.59 | -13.84 |
| 13 | 2472.0 | 25.56 | 2.57 | 7.02 | 35.9% | -4.44 | 2.57 | 150 | 330 | -21.03 | 30 | 0 | -4.28 | 23.61 | 6.86 | -16.75 |
| 14 | 2484.0 | 25.86 | 2.52 | 6.66 | 38.6% | -4.14 | 2.52 | 150 | 0 | -19.13 | 30 | 0 | -3.96 | 21.65 | 6.48 | -15.17 |

Chap3: Functionality

- 1、 WITH the host transceiver distance in about 0m~2m, and press the menu button, return, pairing
 - 2、 .Paring need within 5s, over time 10s
- 2) 、 Power management
- 1、 Neither voice function nor paring, no press key, then switch to lower power consumption standby mode in 20s
 - 2、 Remote controller open voice function, but no voice input nor transmission, then shut down voice function in 5 minutes and switch to lower power consumption standby mode
 - 3、 In standby, press any key to awake device, the responded time required to be less than 300ms
 - 4、 Usually in standby mode, press key to awake device, voice function kept and step to sleep mode once communication is finalized
- 3)、 Power consumption
- 1、 Standby: Current <20uA。
 - 2、 Voice communication: <30mA。
 - 3、 Press key or paing: <20mA。
- 4
- 1.Central frequency 2433MHz \pm 40k;
 2. Emission power more than 0 dbm;
 3. Emission current less than45mA;
 4. Receiving current less than 30mA;

Chap4: Hardware layout



Warning:

2、Thanks for choosing Lierda products. Please read through this Manual before using the products. By using the products, you have understood and accept the terms and instructions in this Manual.

3、Wireless communicating module has some instability, there may lose frame or reframe, users can adopt some security arrangement to ensure the stability.

3. Lierda Science & Technology Group Co., LTD reserves all legal rights to revise and explain the terms and information provided, without prior notices.

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