



UHF RFID读卡模块 评估套件快速使用指南





RF100模块评估板是广州晓网电子出品的RF100系列900MHz UHF 超高频RFID读卡模块的测试开发评估板。它具备最大26dBm输出功率, 读卡距离可达10米(@12dbi天线),工作频段840MHz~928Mhz,支持 协议包括: ISO18000-6C/EPC Gen2。支持的区域包括中国区,欧洲区, 美洲区,韩国区等。

广州晓网电子为RF100模块评估板用户提供完整的PC端开发实例, 及通信指令手册及实例,电路设计应用实例,PCB布板应用实例等,方 便用户快速评估方案可行性及设计应用产品,缩短开发时间。

为方便客户评估RFID模块的各项功能:读写卡控制、读卡距离、蜂鸣器等,我们配套推出RF100系列评估板,接下来我们将来了解如何使用这套评估板。



软硬件一览表

在开始使用评估板之前,首先保证您拥有以下软硬件:



🜏 如果缺少某些软硬件,请联系销售或技术支持。



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操作流程

通过接下来的操作步骤演示,您将掌握:





Step1.安装USB驱动

- 1. 将产品光盘装入光驱,在"驱动及配置软件\USB Driver"目录下,运行驱动 程序CP2101_Drivers.exe;
- 2. 运行完之后,通过USB线将评估板插入电脑,电源开关拨至右边,PC弹出 "找到新的硬件向导"窗口,按照以下步骤操作;
- A)选择"否,暂时不";
- B)选择"从列表或指定位置安装";

| Sec. | 欢迎使用找到新硬件向导 |
|------|----------------------------------------------------------------------------------------|
| | Yindows 裕遵过在计算机、硬件安装 CD 或 Windows Update 网站(在您允许的情况下)上查找来搜索当前和更 新的软件。 词:就没怎定整 |
| | Windows 可以這接到 Windows Update 以搜索软件吗? |
| | ○是,仮这一次(注) ○是,(这一次(注) |
| | 《 苦·蜀时不宜) |
| | 单击"下一步"继续。 |







• C)选择路径C:\Cygnal\CP2101\WIN

| 我到新的硬件内导 | 夏 | 件安装 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 诸选择您的搜索和安装选项。 ● 在这些位置上搜索量佳聪动程序(空)。 使用下列的复数屈服和威尔·思默以继索,包括本机路径到的量佳聪动程序。 ● 搜索可称动媒体(软盘、CD-EOM)@) ● 在搜索中包括这个位置(0): C YOgenal/CP2101/WIM ● 不要搜索。我要自己选择要安装的振动程序(0)。 选择这个选项以便从列索中选择设备预动程序。#indee 助程序句您的硬件量匹配。 | ※和可移动媒体。会安装技 ※ 浏览 (2) ** 不能保证您所选择的報 | 正在为此硬件安装的软件: Cygnal USB Composite Device 没有通过 Windows 数标测试,无法验证它同 Windows XP 的相容性。(告诉我为什么这个测试很重要。) 经安装比软件会立即或在以后使系统变得不稳定。 计可容性和数据中止此安装,并同瞬件供应商 联系,以获得通过 Windows 数标测试的软件。 |
| (上一步 ①) | 下一步 00 〉 取消 | UNACE PERSON |

• D)选择"仍然继续",完成安装;







1. 打开电脑的"设备管理器",查看生成的串口:





生成的COM口不一定是COM16或COM17,各用户电脑各有不同。



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1. 把标签卡放到天线正面前方,运行PC端读卡软件 RFID_Reader_GUI_V2.1 (位 于"**驱动及配置软件**\Demo_GUI"目录下),选择好串口后,波特率115200, 点击Connect按钮;

| connec | tion & Read E | PC Read & Write Tag Memory T | est & Modern Setting | | | | |
|--------|---------------|------------------------------------|----------------------|----------|----------|-------------|-----------------------------------|
| PC Ta | ble | | Γ | 01 | | | SerialPort Connection |
| - | alaren 1 | | | Clear | | | Connect Port No. COM4 |
| N0. | PC | EPC | CRC | RSSI(dBr | n) CNI | PER(%) | Baud Rate 115200 |
| | | | | | | | General Setting |
| | | | | | | | Set Mode High Sensitivity 👻 |
| | | | | | | | Save Config I Config Enable Slee |
| | | | | | | | RF Channel Setting |
| | | | | | | | Set Region China2 - Get RFG |
| | | | | | | | Set RFCH 920.125MHz V FHSS C |
| | | | | | | | Insert RFCH Start 1 Stop 5 |
| | | | | | | | RF Power Setting |
| | | | | | | | Set PA Power 20dBm |
| eceive | e Data | | ſ | 1 | | - | Inventory |
| | | | | Clear | Autoclea | r 🔲 Visable | Read Single Q = 4 • CW ON |
| | | | | | | * | Read Multi 65535 0-65535 Stop Rea |
| | | | | | | | Continue 60 ms |
| | | | | | | | |
| | | | | | | | |
| Se | end BB | 00 39 00 09 00 00 00 00 03 00 00 0 | 00 02 47 7E | | | | |
| | | | | | | | |

2. 连接上之后,右下方的按钮变成绿色;





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3,读EPC信息,点击Read Single按钮;

| EPC Ta | able | | | | | | SerialPort Connecti | on | |
|--------|----------|------------------------------------|-----------|--------------------|-----------|------------|---------------------|------------------|-----------|
| | | | | Clear | | | Disconnect | Port No. | COM4 |
| No. | PC | EPC | CRC | RSSI(dBm) | CNT | PER(%) | Disconnect | Baud Rate | 15200 |
| | | | | | | | General Setting | | |
| | | | | | | | Set Mode | High Sensitivity | • |
| | | | | | | | Save Config | Config Enable | e Slee |
| | | | | | | | RF Channel Setting | | |
| | | | | | | | Set Region CI | nina2 👻 | Get RF |
| | | | | | | | Set RFCH 92 | 20.125MHz 🔻 | FHSS (|
| | | | | | | | Insert RFCH : | Start 1 Sto | op 5 |
| | | | | | | | RF Power Setting | _ | |
| | | | | | | | Set PA Power 2 | 0dBm ▼ | Get PA Po |
| Receiv | e Data | | | | - | | Inventory | | |
| | | | 4 | Clear | Autoclear | Visable | Read Single C | != [4 ▼] | CW OI |
| | | | | | | ^ | Read Multi 6 | 5535 0-65535 | Stop Re |
| | | | | | | | Continue | 60 ms | |
| | | | | | | | | - | |
| | | | | | | <i></i> | · · · · · | | |
| _ | | | 100200000 | | | | | | |
| S | end BB 0 | 0 39 00 09 00 00 00 00 03 00 00 02 | 47 7E | | | | | | |
| | ocot PV | 11740 TV 10117 E | | Jacob Jones Manada | - | 0.40-110.0 | | | |

4,读写到数据,数据取会显示数据,右下方的按钮变成绿色;



1. 写测试选择 Read & Write Tag Memory 页面, Target选择 S1(001);

| B- UHF RFID Reader App V2.1 | | UHF RFID Reader App V2.1 | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Connection & Read EPC Read & Write Tag Memory Test & Modern Setting | | Connection & Read EPC Read & Write Tag Memory Test & Modern Setting | | | | |
| EPC Table Clear | Ouery Parameter DR = 8 ~ M = 1 ~ TRext = UsePilot ~ Sel = ALL(00) ~ Session = 50 ~ | EPC Table Clear | Query Parameter DR = 8 ✓ M = 1 ▼ Trext = UsePilot → Sel = ALL(00) → Sel = ALL(00) → Session = S0 → | | | |
| NO. PC EPC EPC CRC CNT 01 34 00 E2 00 00 17 09 0A 02 79 14 40 88 6B 1A 0C 1 | Target = A 0 4 Get Query Set Query Select Parameter Target Action MemBank Pointer SetSelect St(001) 000 User 00 00 00 Solidori Salidori Mask Solidori Mask Solidori Mask Solidori Mask Solidori Mask Solidori Mask Get Select FLV(101) Mask Mask Solidori Mask Restruction Word Pointer Word Counter Access Password Mask User 00 00 00 00 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 | | Target A Q = 4 Get Query Set Query Select Parameter Target Action MemBank Pointer Set Select S1(001) 000 User 00 00 00 Length Mask 60 E2 00 00 17 09 0A02 79 14 40 88 6B E2 00 00 17 09 0A02 79 14 40 88 6B Get Select 60 E2 00 00 17 09 0A02 79 14 40 88 6B Read / Write Tag Memory MemBank Word Pointer Word Counter Access Password User 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 | | | |
| Read Single Select Impinj Monza Tag Commands OT Read Access Password 00 00 00 00 OT Read OT Write NXP Tag Commands Config-Word Access Password Change Config 00 00 00 Reset EAS.Aam Reset RX: 11557 TX: 17887 | Read Write (Max Length is 32 Words) Lock Access Password (HEX) 00 00 00 00 Lock Kill Pwd Open Access Pwd Open EPC Open F TID Open User Open Kill Kill Password (HEX) 00 00 00 RFU(3 bits) 000 Kill PC+EPC: 34 00 E2 00 00 17 09 0A 02 79 14 40 88 6B Status: Status: Status: | Read Single Select Impinj Monza Tag Commands OT Write OT_SR Access Password 00 00 00 00 OT Read OT Write OT_SR NXP Tag Commands Config-Word Access Password Change Config 00 00 Change EAS Set EAS 00 00 00 00 ReadProtect Reset EAS Alarm Reset RX 11780 TX: 18138 | Read Write (MaxLength is 32 Words) Lock Access Password (HEX) 00 00 00 00 Lock Kill Wod Open • Access Pwd Open • EPC Open • TO Open • Will • Kill Mill Possword (HEX) 00 00 00 00 Kill Kill Kill Password (HEX) 00 00 00 00 RFU(3 bits) 000 Kill PC-EPC: Status: Status: Status: MaxLength is 32 Words) | | | |

2. 按照上图红框,设置好参数;如果已经设好,可以不用改动;



1. 按照大红框输入参数, Data就是写入的数据,点击红框框住的 Write 按钮:

| Read / Write Tag Memory |
|------------------------------------------------------------------------------------------------|
| MemBank Word Pointer Word Counter Access Password User 00 00 00 02 00 00 00 00 00 00 00 00 00 |
| Data: 01 02 03 04 |
| Read Write (Max Length is 32 Words) |
| Lock |
| Access Password (HEX) 00 00 00 00 Lock |
| ■ Kill Pwd Open 		 Access Pwd Open 		 EPC Open |
| TID Open User Open |
| Kill Kill Password (HEX) 00 00 00 00 RFU(3 bits) 000 Kill |
| PC+EPC: 34 00 E2 00 00 17 09 0A 02 79 14 40 88 6B |
| Status: Write Memory Success |

2. 如果成功会出现图中下方红框的绿色文字 Write Menory Success;



- 1. 读取卡内容操作,点击Read按钮,成功则下方出现Read Menory Success
- 2. Data区会显示读到的数据:

| Read / Write Tag Memory |
|-----------------------------------------------------------------------------------------|
| MemBankWord PointerWord CounterAccess PasswordUser00000200 00 00 |
| Data: 01 02 03 04 |
| Read Write (Max Length is 32 Words) |
| Lock |
| Access Password (HEX) 00 00 00 Lock |
| 🔲 Kill Pwd Open 🔹 🗖 Access Pwd Open 🔹 🗖 EPC Open 🔹 |
| TID Open - User Open - |
| Kill Kill Password (HEX) 00 00 00 00 RFU(3 bits) 000 Kill |
| PC+EPC: 34 00 E2 00 00 17 09 0A 02 79 14 40 88 6B |
| Status: Read Memory Success |



Step4.串□指令读卡实例

如果通过串口指令读卡,则需要使用串口收发软件如串口调试助手等进行指



具体各指令的说明见各个模块的指令说明。



感谢使用晓网电子产品

恭喜您完成《RFID读卡模块评估套件快速使用》培训,如在使用过程 中出现任何问题,请通过以下方式联系我们:

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- 邮件: <u>ZigBee@cells-net.com</u>
- <u>Sales@cells-net.com</u>
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