

RCT03CC2502

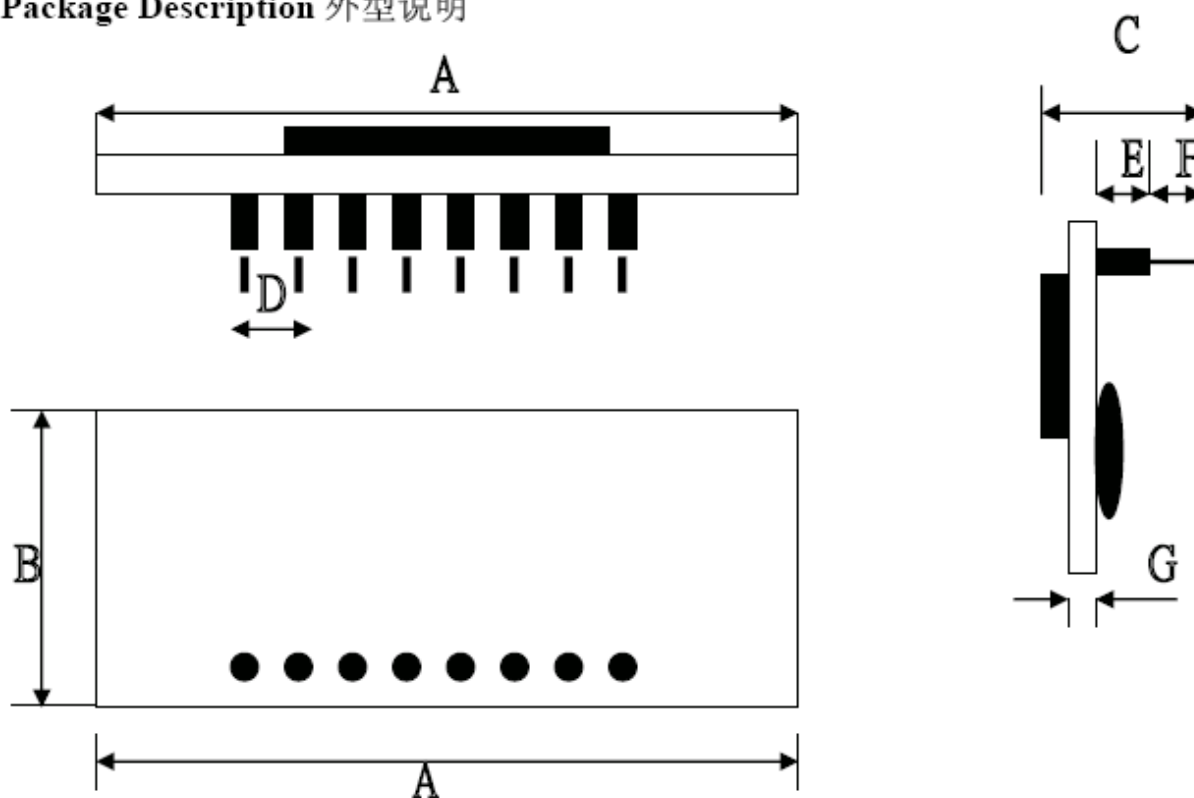
2.4GHz FSK/MSK/ASK/OOK 收发模块

Absolute Maximum Ratings 极限参数

Parameter (参数)	Rating (额定值)	Units (单位)
Supply Voltage (工作电压)	2-3.6	V DC
Operating Temperature (工作温度)	-40 to +85	°C

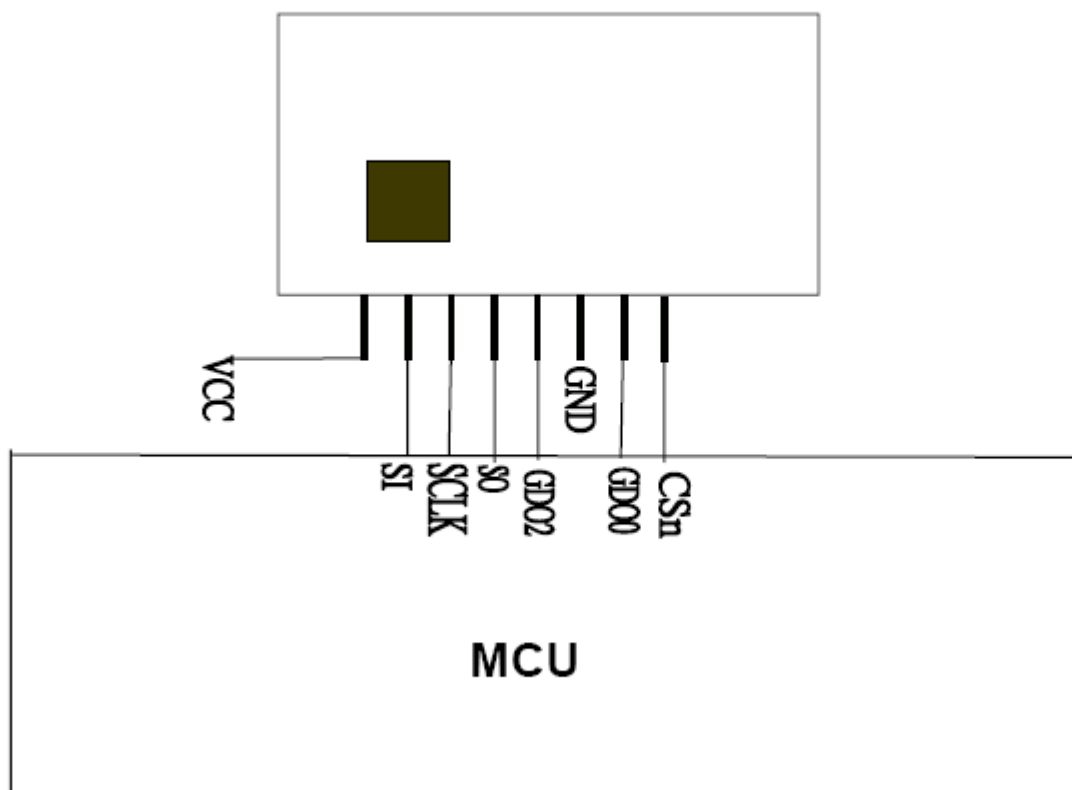
Package Description 外型说明

Package Description 外型说明



Name 名称	Dimension 尺寸	Name 名称	Dimension 尺寸
A	24mm±0.5mm	E	2.17mm
B	19mm±0.5mm	F	3.6mm±0.2mm
C	8.8mm (Max)	G	1.0mm
D	2.0mm		

Application Circuit 典型应用电路



Module Program 模块编程

1. Configuration Software 配置软件

CC2500 can be configured using the SmartRF® Studio software, available for download from <http://www.chipcon.com>. The SmartRF® Studio software is highly recommended for obtaining optimum register settings, and for evaluating performance and functionality.

可以利用 SmartRF® Studio 软件对 CC2500 进行配置，该软件可以从网站 <http://www.chipcon.com> 下载。SmartRF® Studio 是被高度推荐用来获得最合适的寄存器配置，和用来评估模块性能和功能的软件。

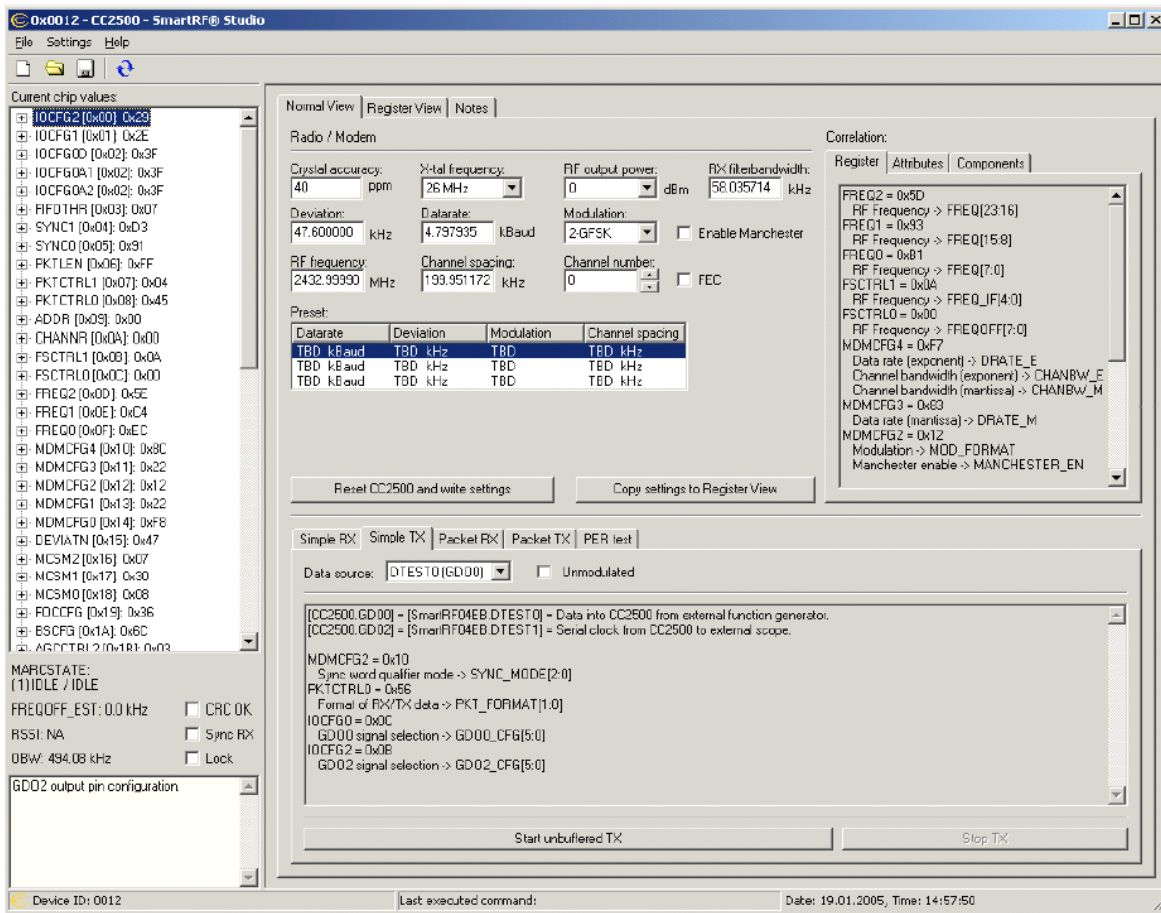


Figure 5: SmartRF® Studio user interface

2. 4-wire Serial Configuration and Data Interface

CC2500 is configured via a simple 4-wire SPI compatible interface (SI, SO, SCLK and CSn) where CC2500 is the slave. This interface is also used to read and write buffered data. All address and data transfer on the SPI interface is done most significant bit first

CC2500 是通过一个简单的 4 线 SPI 兼容接口 (SI, SO, SCLK, CSn) 来配置, 这时 CC2500 工作于 slave 模式。该接口也用于读写缓冲器的数据。所有的地址和数据在 SPI 口的传送 都是从最高位开始的。

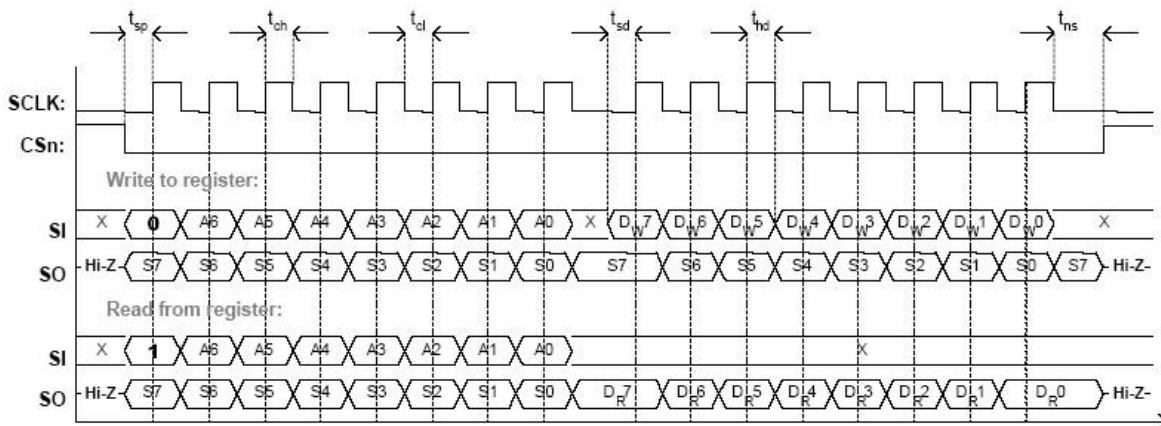


Figure 6: Configuration registers write and read operations

Register access types 寄存器访问类型如下图:

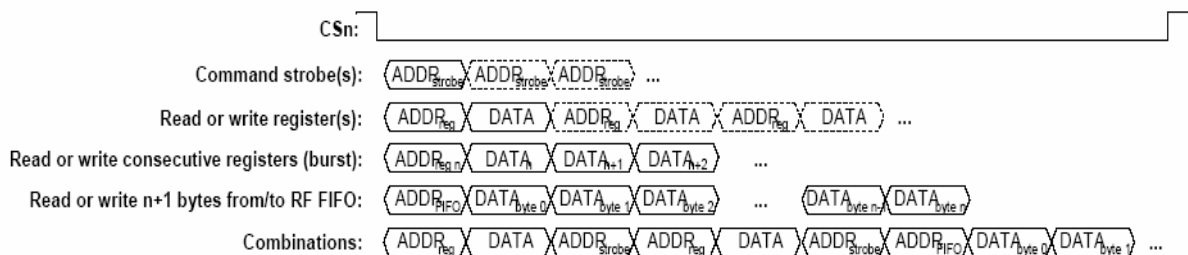


Figure 7: Register access types

3. Packet Format 数据包格式

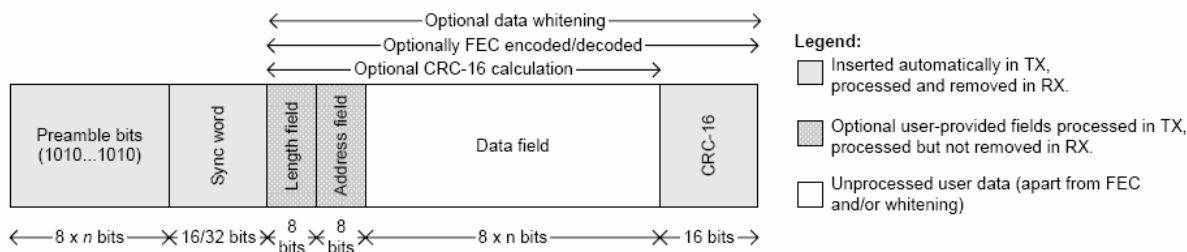


Figure 8: Packet Format

4. Power on start-up sequence 上电启动顺序

The power-up sequence is as follows (see Figure 11):

- Set SCLK=1 and SI=0, to avoid potential problems with pin control mode .
- Strobe CSn low / high.
- Hold CSn high for at least 40μs.
- Pull CSn low and wait for SO to go low (CHIP_RDYn).
- Issue the SRES strobe.
- When SO goes low again, reset is complete and the chip is in the IDLE state.

power-up 的操作顺序如下:

- .设置 SCLK=1 和 SI=0，以避免 PIN 脚控制模式造成的潜在问题。
- .设置 CSn 为低然后再拉高。
- .保持 CSn 为高至少 40us。
- .将 CSn 拉低等待 SO 变低 (CHIP_RDYn) .
- .发送 SRES 命令。
- .当 SO 再次变低后,复位工作就完成了,IC 处于 IDLE 状态。

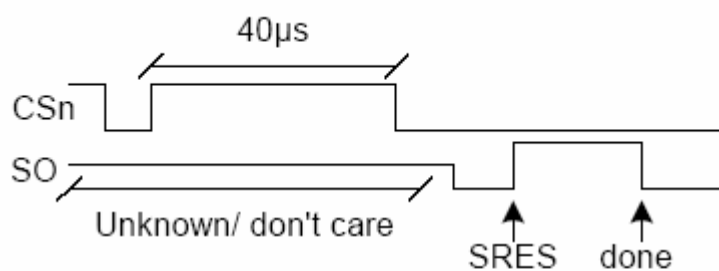


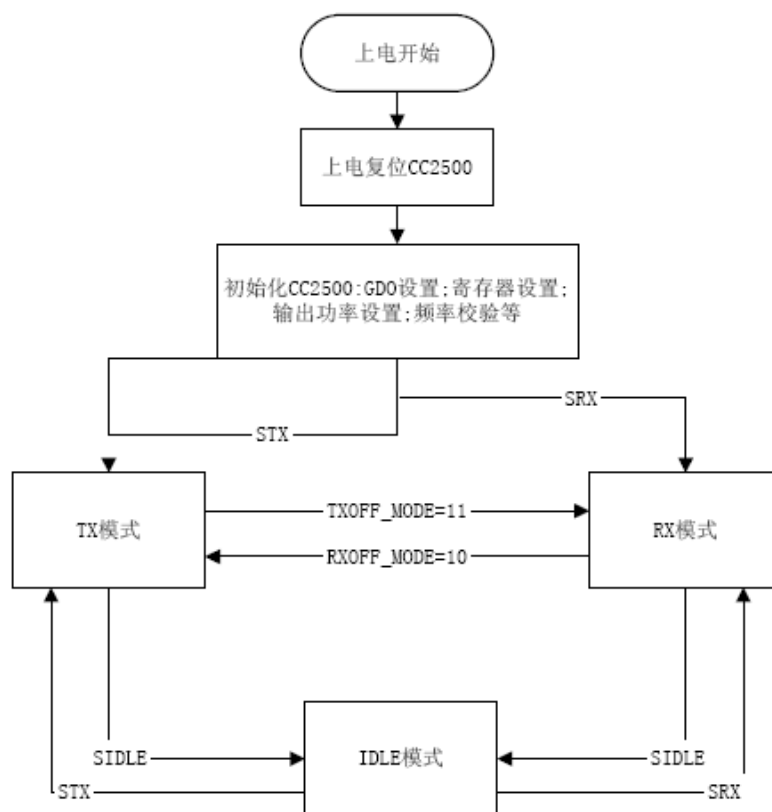
Figure 11: Power-up with SRES

5. Output power levels 输出功率表:

Output power [dBm]	Setting	Current consumption, typ. [mA]
(-55 or less)	0x00	8.9
-30	0x44	10.1
-28	0x41	10.0
-26	0x4C	11.7
-24	0x53	11.1
-22	0x83	10.9
-20	0x46	10.5
-18	0x4A	11.7
-16	0x86	11.0
-14	0x66	12.9
-12	0xC6	11.5
-10	0x69	14.1
-8	0x99	13.6
-6	0x7F	15.4
-4	0xAA	16.7
-2	0xBF	18.5
0	0xFB	21.6
1	0xFF	21.9

Table 22: Optimum PATABLE settings for various output power levels (subject to changes)

6. Reference flow chart 参考流程图:



流程图