

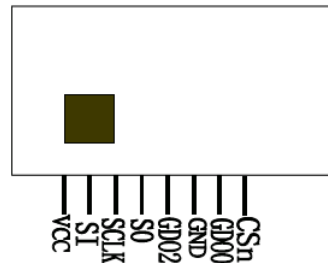
RCT03CC2502

2.4GHz FSK/MSK/ASK/OOK Transceiver module

Description

RCT03CC2502 is a FSK/ASK/OOK/MSK Transceiver module. It provides extensive hardware support for packet handling, data buffering, burst transmissions, clear channel assessment, link quality indication and wake on radio. Its data stream can be Manchester coded by the modulator and decoded by the demodulator. It has a high performance and is easy to design your product. It can be used in 2400-2483.5MHz ISM/SRD band systems, Consumer Electronics, Wireless game controllers, Wireless audio and other wireless systems.

We support the frequency have 2400-2483.5MHz ISM Band modules now.



Features

- Low current consumption.
- Easy for application.
- Efficient SPI interface
- Operating temperature range
- Operating voltage
- Available frequency at
- Programmable output power and hi sensitivity

Applications

- 2400-2483.5MHz ISM/SRD band systems
- Consumer Electronics
- Wireless game controllers
- Wireless audio
- Wireless keyboard and mouse

Pin Descriptions

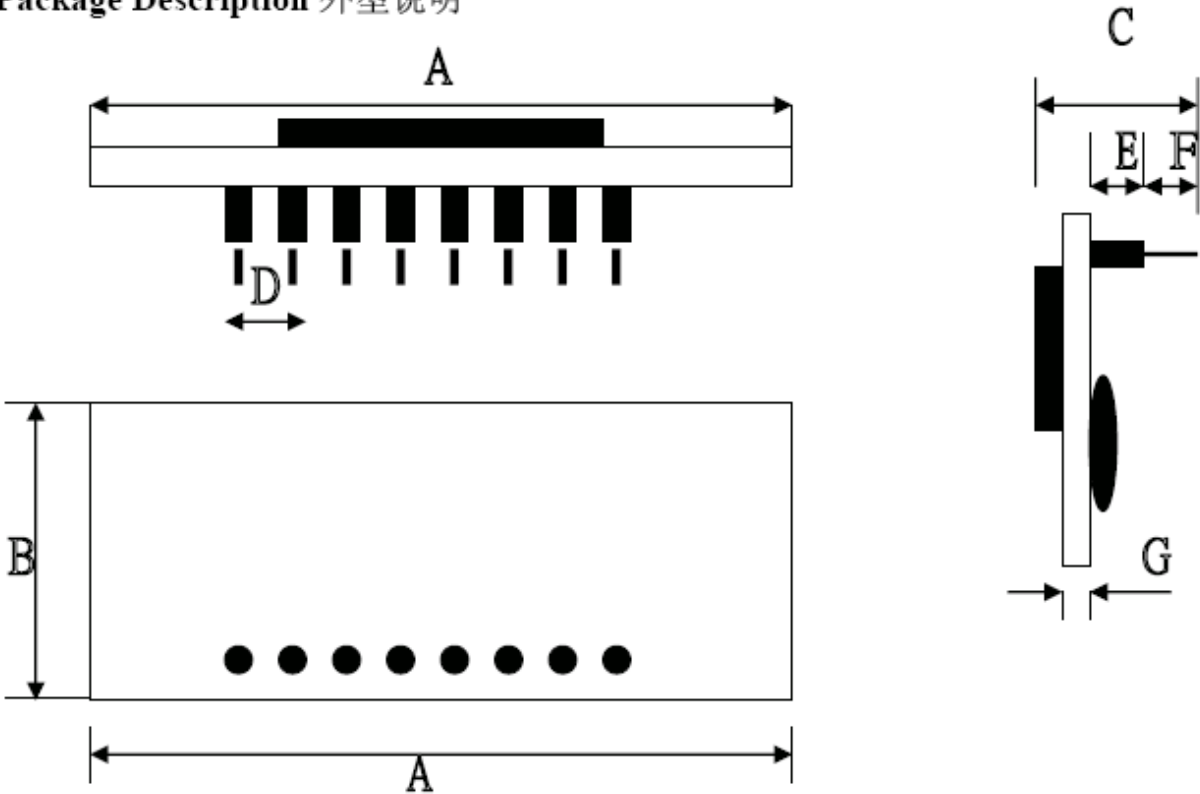
Pin No	Pin Name	Pin Type	Description
1	VCC	Power	1.8V-3.6V power
2	SI	Digital Input	Serial configuration interface, data input
3	SCLK	Digital Input	Serial configuration interface, clock input
4	SO	Digital Output	Serial configuration interface, data output. Optional general output pin when CSn is high
5	GDO2	Digital Output	Digital output pin for general use: <ul style="list-style-type: none"> • Test signals • FIFO status signals • Clear Channel Indicator • Clock output, down-divided from XOSC • Serial output RX data
6	GND	Ground	GND
7	GDO0	Digital I/O	Digital output pin for general use: <ul style="list-style-type: none"> • Test signals • FIFO status signals • Clear Channel Indicator • Clock output, down-divided from XOSC • Serial output RX data • Serial input TX data
8	CSn	Digital Input	Serial configuration interface, chip select

Absolute Maximum Ratings

Parameter	Rating	Units
Supply Voltage	2-3.6	V DC
Operating Temperature	-40 to +85	°C

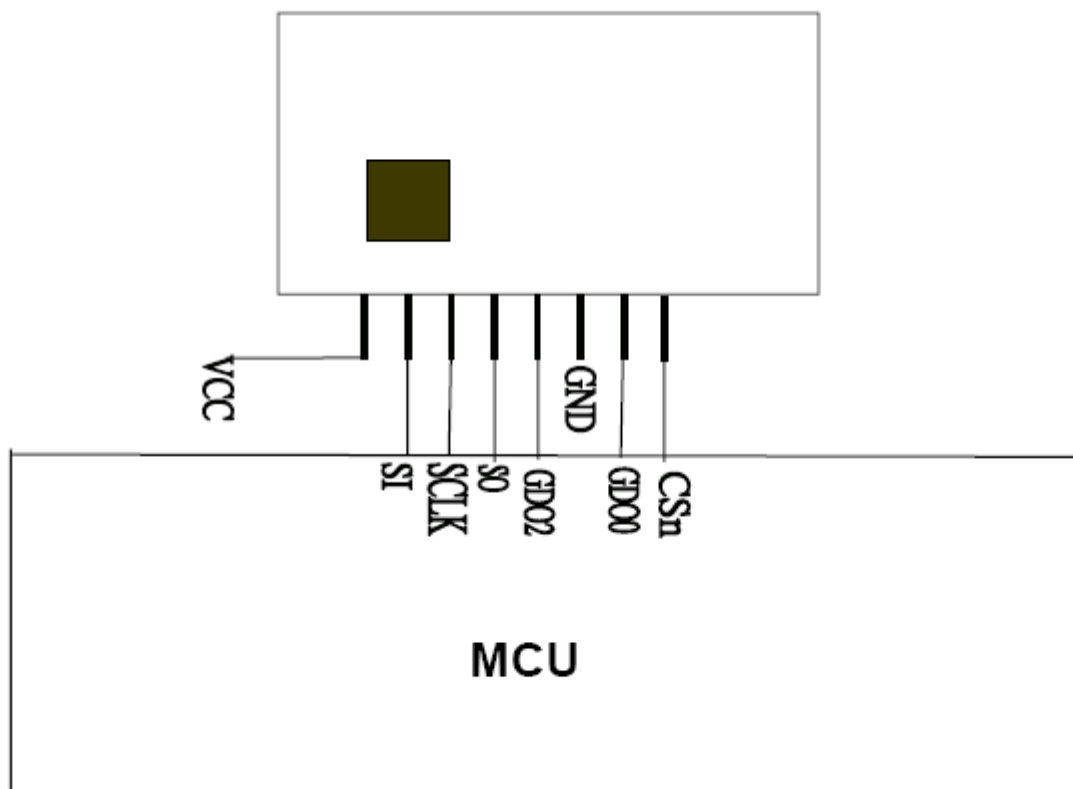
Package Description

Package Description 外型说明



Name	Dimension	Name	Dimension
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



Module Program

1. Configuration Software

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.

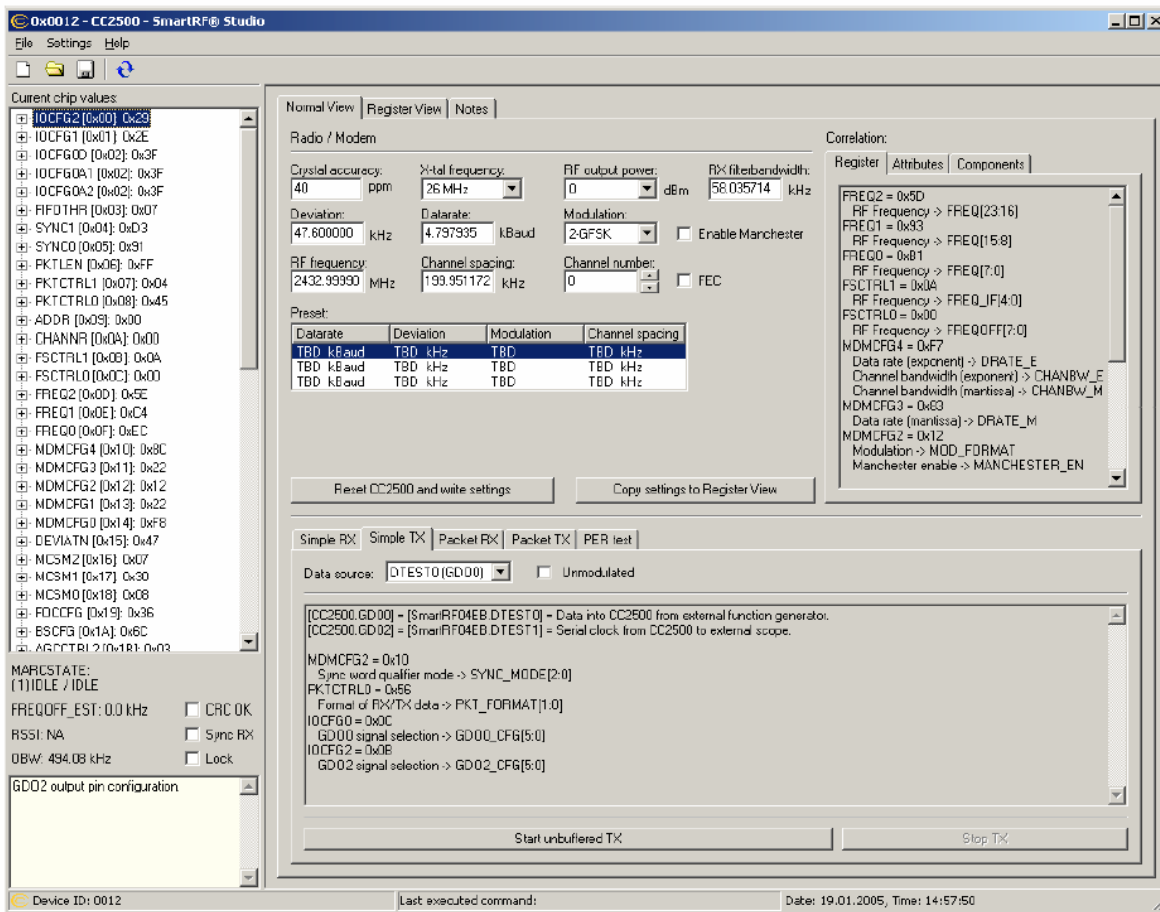


Figure 5: SmartRF® Studio user interface

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

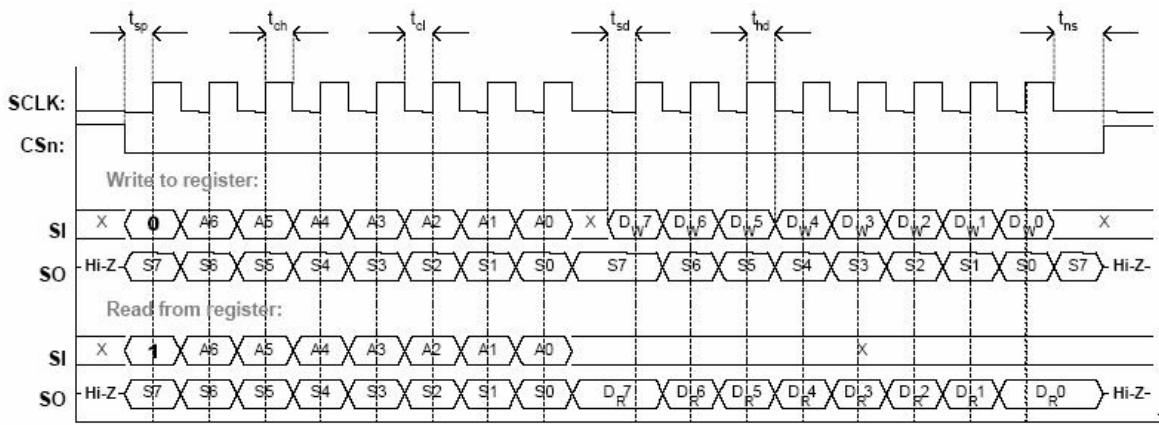


Figure 6: Configuration registers write and read operations

Register access types

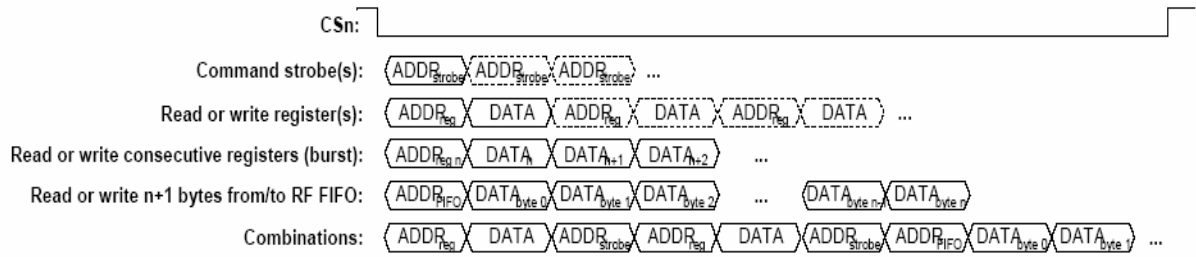


Figure 7: Register access types

3. Packet Format

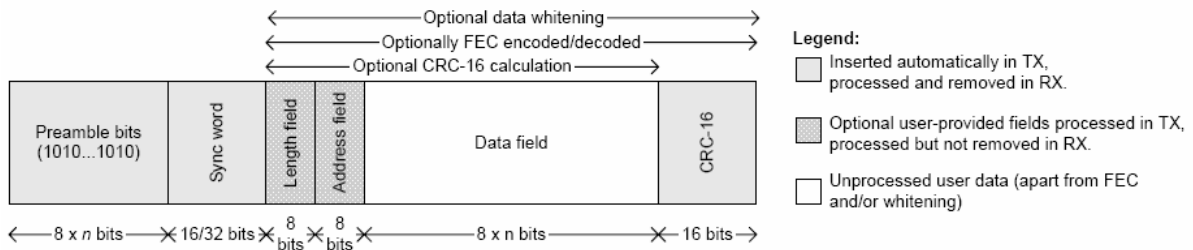


Figure 8: Packet Format

4. Power on start-up sequence

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.

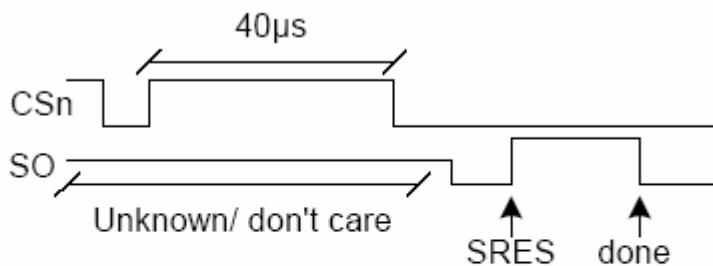


Figure 11: Power-up with SRES

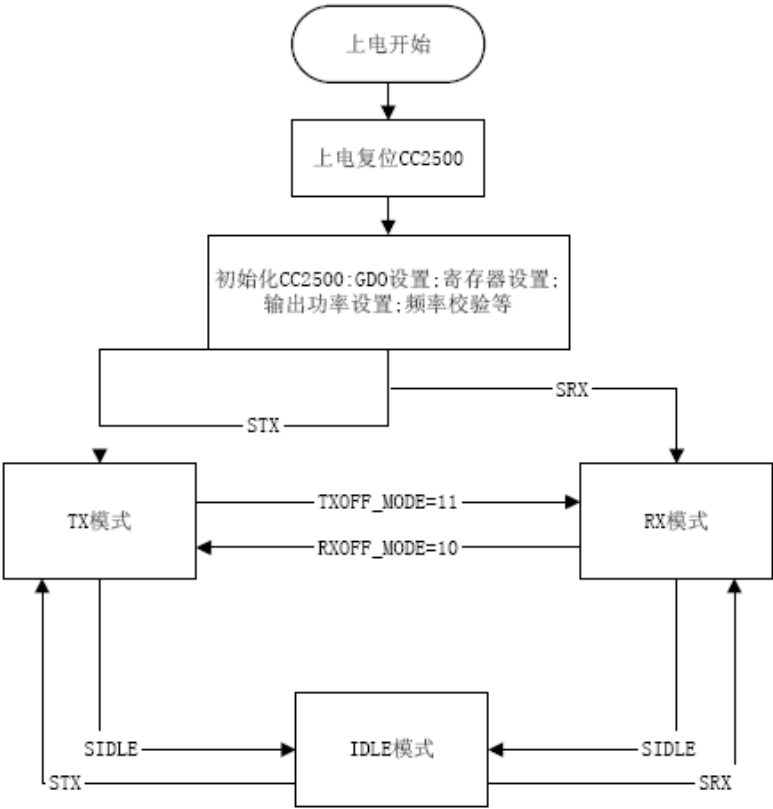
5. Output power levels

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 2

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6. Reference fl



流程图