

MO-CC2550-F2400M

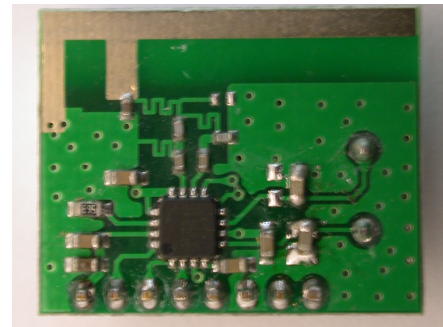
2.4GHz FSK/MSK/ASK/OOK TRANSMITTER MODULE

2.4GHz FSK/ASK/OOK/MSK TRANSMITTER

Description

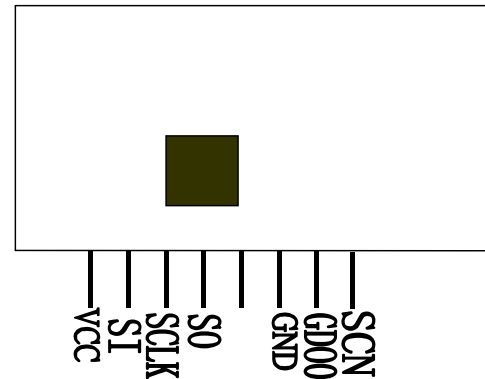
CC2550 is a FSK/ASK/OOK/MSK Transmitter module. It provides extensive hardware support for packet handling ,data buffering ,burst transmissions . It 's data stream can be manchester coded by the modulator .It has a high performance and easily to design your product. .It can be used in 2400-2483.5MHz ISM/SRD band systems, Consumer Electronics, Wireless game controllers, Wireless audio

we supports the frequency have 2400-2483.5MHz ISM Band modules now,



Features

- Low current consumption.
- Easy for application.
- Efficient SPI interface
- Operating temperature range : - 40°C ~ +85°C
- Operating voltage :1.8~ 3.6 Volts.
- Available frequency at : 2.4-2.483GHz
- Programmable output power



Applications

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

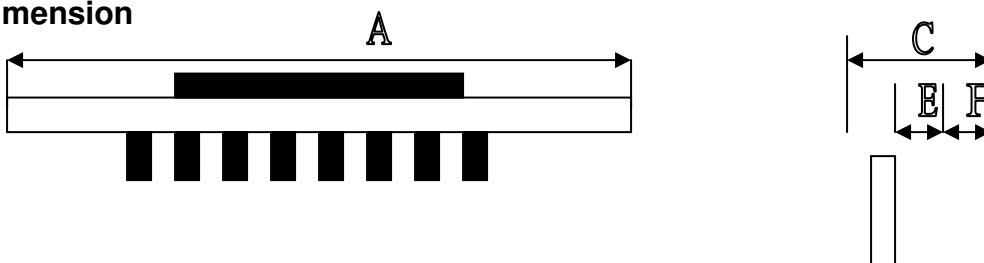
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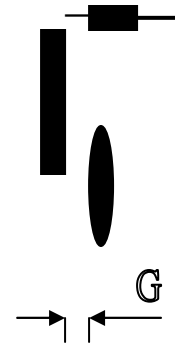
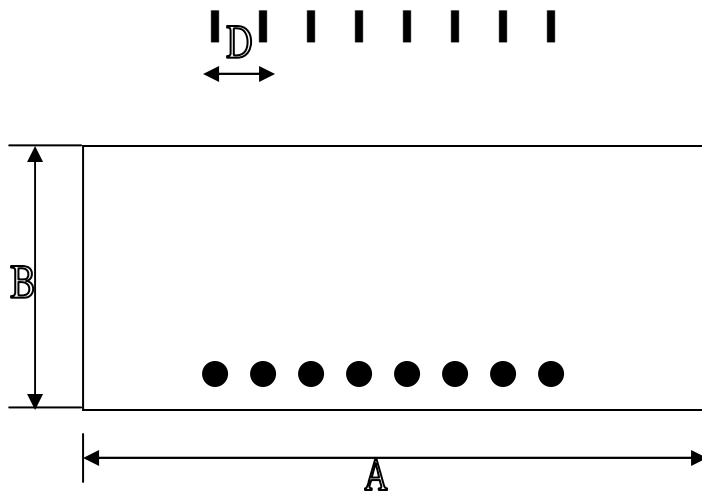
Pin Descriptions

Pin No	Pin Name	Pin Type	Description
1	VCC	Power	1.8V-3.6V digital power supply for digital I/O's and for the digital core voltage regulator
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	NC		No connection
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 XOOSC • Serial output RX data • Serial input TX data Also used as analog test I/O for prototype/production testing
8	CSn	Digital Input	Serial configuration interface, chip select

MO-CC2550-F2400M

Pin Dimension



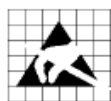


Name	Dimension	Name	Dimension
A	24mm±0.5mm	E	2.17mm
B	19mm±0.5mm	F	3.6mm±0.2mm
C	8.8mm (Max)	G	1.0mm
D	2.0mm		

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2 Absolute Maximum Ratings

Under no circumstances must the absolute maximum ratings given in Table 1 be violated. Stress exceeding one or more of the limiting values may cause permanent damage to the device.



Caution! ESD sensitive device. Precaution should be used when handling the device in order to prevent permanent damage.

Parameter	Min	Max	Units	Condition
Supply voltage	-0.3	3.6	V	All supply pins must have the same voltage
Voltage on any digital pin	-0.3	VDD+0.3, max 3.6	V	
Voltage on the pins RF_P, RF_N and DCOUPL	-0.3	2.0	V	
Input RF level		TBD	dBm	
Storage temperature range	-50	150	°C	
Solder reflow temperature		260	°C	T = 10 s
ESD		2	kV	All pads (excluding RF) have 2kV HBM ESD protection

Table 1: Absolute Maximum Ratings

3 Operating Conditions

The operating conditions for **CC2550** are listed Table 2 in below.

Parameter	Min	Max	Unit	Condition
Operating temperature	-40	85	°C	
Operating supply voltage	1.8	3.6	V	All supply pins must have the same voltage

Table 2: Operating Conditions

4 Electrical Specifications

T_c = 25°C, VDD = 3.0V if nothing else stated. Measured on Chipcon's **CC2550** EM reference design.

Parameter	Min	Typ	Max	Unit	Condition
Current consumption		1.2		mA	Only voltage regulator to digital part and crystal oscillator running (IDLE state)
		6.8		mA	Only the frequency synthesizer running (after going from IDLE until reaching TX state, and frequency calibration states)
		12.8		mA	Transmit mode, -12dBm output power (TX state)
		16.4		mA	Transmit mode, -6dBm output power (TX state)
		22.8		mA	Transmit mode, 0dBm output power (TX state)
Current consumption in power down modes		180		µA	Voltage regulator to digital part on, all other modules in power down (XOFF state)
		200		nA	Voltage regulator to digital part off (SLEEP state)

Table 3: Electrical Specifications

5 General Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Frequency range	2400		2483.5	MHz	
Data rate	1.2		500	kbps	Modulation formats supported: (Shaped) MSK (differential offset QPSK, up to 500kbps) 2-FSK (up to 250kbps) OOK/ASK (up to 250kbps) Optional Manchester encoding (halves the data rate).

Table 4: General Characteristics

6 RF Transmit Section

T_c = 25°C, VDD = 3.0V if nothing else stated. Measured on Chipcon's **CC2550** EM reference design.

Parameter	Min	Typ	Max	Unit	Condition/Note
Differential load impedance		200		Ω	Optimised for matching to both 50Ω single-ended load and PCB antennas with higher impedance.
Output power, highest setting		1		dBm	Output power is programmable. Delivered to 50Ω single-ended load via Chipcon reference RF matching network.
Output power, lowest setting		-30		dBm	Output power is programmable. Delivered to 50Ω single-ended load via Chipcon reference RF matching network.
Adjacent channel power		-26		dBc	The given values are for 1MHz channel spacing (±1MHz from carrier) and 500kbps MSK.
Alternate channel power		-46		dBc	The given values are for 1MHz channel spacing (±2MHz from carrier) and 500kbps MSK.
Spurious emissions			-36	dBm	25MHz – 1GHz
			-54	dBm	47-74, 87.5-118, 174-230,470-862MHz
			-47	dBm	1800MHz-1900MHz (restricted band in Europe)
			-41	dBm	At 2-RF and 3-RF (restricted bands in USA)
			-30	dBm	Otherwise above 1GHz

Table 5: RF Transmit Parameters

Mark:

1. About Detail Specifications , Pls see CC2550 Data sheet .

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Application Circuit

