



S-POWER ELECTRONICS LTD.

...iSmarter wireless connectivity

## BG309 2.4GHz RF Module

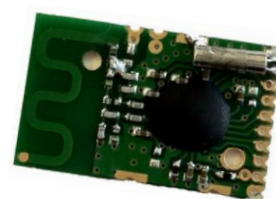
BG309 RF Module is a low-cost 2.4GHz transceiver designed for very low-power wireless application.

The circuit is intended for the 2400-2483.5 MHz ISM (Industrial, Scientific and Medical) and SRD (Short Range Device) frequency band. The RF transceiver is integrated with highly configurable baseband modem. The modem supports various modulation formats and has a configurable data rate up to 500kbaud.

The main operating parameters and the 64-byte transmit / receive FIFOs of BG309 can be controlled via an SPI interface. In a typical system, the BG309 will be used together with a microcontroller and a few additional passive components.

### KEY FEATURES

- ◆ RF Chip: CC2500(TI)
- ◆ Small Size: 21\*13mm(with PCB Antenna)
- ◆ High sensitivity (-102dBm at 2.4 kbaud,1% packet error rate)
- ◆ Low current consumption (13.3mA in RX,250kbaud, input well above sensitivity limit)
- ◆ Programmable output power up to +1 dBm Excellent receiver selectivity and blocking performance
- ◆ Programmable data rate from 1.2 to 500kbaud



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<b>Module Operating Conditions</b>	
Supply Voltage (Vcc)	2.0 V to 3.6 V
Current Consumption, RX / TX Mode CW-mode(peak current)	17 mA / 22 mA
Supply current in standby mode	2uA
Input Frequency range	2400 to 2483 MHz
Temperature ambient	Max 50°C
<b>Transmitter Part</b>	
MAX Output Power(PTX)	-1 to +1 dBm
TX Data Rate	2 to 500 Kbit/s
Modulation	FSK,GFSK,OOK,MSK
<b>Receiver Part</b>	
Sensitivity BER<10-3 at 2.4KBits/s BER<10-3 at 250Kbit/s	-100 to -98 dBm -85 to -83 dBm
Maximum input power	-10 dBm
Spurious Emission 30Mhz ~ 1GHz 1GHz ~ 12GHz	-50 dBm -40 dBm
<b>Module Size</b>	21 x 13 x 3 mm



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