

ELECTRICAL CHARACTERISTICS

ABSOLUTE MAXIMUM RATINGS

Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

| | |
|---|----------------|
| VCCA, VDD | 5.5 V |
| Junction Temperature | 150°C |
| Storage Temperature Range..... | -65°C to 150°C |
| Lead Temperature (Soldering, 10s) | 260°C |

OPERATING CONDITIONS

| | |
|---|---------------|
| Normal Temperature Range..... | -10°C to 60°C |
| VCCA Range..... | 2.7V to 4.5V |
| VDD Range | 2.7V to 3.3V |
| Thermal Resistance (θ_{JA})..... | 70°C/W |

Unless otherwise specified, VCCA=VDD=3.3V, T_A =25°C, f_{REF} =6.144MHz, Data Rate=1.536Mbps, 13KHz Loop Filter as shown in **Figure 1**.

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNITS |
|--------------------------|---|--|-----|---------------------|-------------------|-------------------------------|
| POWER CONSUMPTION | | | | | | |
| VCCA | Analog supply (VCCA) | | 2.7 | 3.3 | 3.8 | V |
| VDD | Digital Supply voltage | VDD pin (VCCA \geq VDD always) | 2.7 | | VCCA | V |
| V _{BG} | Bandgap Voltage | VBG pin 26, I _O =0 μ A | | 1.23 | | V |
| I _{STBY} | Supply current, STANDBY mode | DC supply connected, XCEN low | | 10 | 120 | μ A |
| I _{RX} | Supply current, RECEIVE mode | RX chain active, data being received | | 55 | 76 | mA |
| I _{TX} | Supply current, TRANSMIT mode | P _{OUT} =3dBm | | 50 | 76 | mA |
| SYNTHESIZER | | | | | | |
| f _C | Carrier frequency range | | 2.4 | | 2.485 | GHz |
| δf | Channel Spacing | | | 2048 | | kHz |
| I _P | Charge Pump sink/source current | | | +/-5.5 | | mA |
| Φ_N | Phase noise at TXO 1.2MHz 3MHz >7MHz | Closed loop, loop filter bandwidth 13KHz (See Figure 1) | | -95 -115 -125 | | dBc/Hz |
| t _{FH} | Lock time for channel switch | From EN asserted to RX valid data(RX), or PAON high (TX) 1 Channel 5 Channels Full Range | | 110 185 250 | 125 220 300 | μ S μ S μ S |
| t _{TX2RX} | Lock time for TX/RX | RXON High to Valid RX data | | 70 | 120 | μ S |
| t _{RX2TX} | Lock time for RX/TX | RXON Low to PAON high | | 63 | 75 | μ S |
| t _{WAKE} | Lock up time from standby | XCEN high to Valid RX data, XCEN low period >120 seconds | | 240 | 325 | μ S |