RXQ5-XXX
Sub 1GHz Multichannel FSK Radio Transceiver

General description

The RXQ5-XXX is a low-cost sub 1GHz radio transceiver FSK designed for very low-power wireless applications, based on the MRF49XA device (Microchip).

The circuit is mainly intended for the ISM (Industrial, Scientific and Medical) and SRD (Short Range device) frequency bands at 433, 868, and 915 MHz.

The RXQ5 is an ideal choice for low-cost, high-volume, low data rate (<256 kbps), two-way, wireless short range applications.

The tranceiver can be interfaced with many popular microcontroller via a 4-wire SPI, interrupt (IRQ) and Reset, to minimize the system cost, the RXQ5 can provide a clock signal for the microcontroller, avoiding the need of two crystals on the circuit board.

The RXQ5 is integrated with different Sleep modes and a internal wake-up timer to reduce the overall current consumption, and to extend the battery life. The device small size with low-power consumption make it ideal various for short range radio applications.

XXX: custom-specified working frequency
(433.92, 868 - 915 MHz)
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**Electrical Characteristics (ref. to MRF49XA Data Sheet for more informations)**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>V&lt;sub&gt;cc&lt;/sub&gt; (Supply Voltage)</td>
<td>2.2</td>
<td>3</td>
<td>3.8</td>
<td>VDC</td>
</tr>
<tr>
<td>I&lt;sub&gt;s&lt;/sub&gt; (Supply Current (RX mode / TX mode))</td>
<td>11 / 15</td>
<td>mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I&lt;sub&gt;s&lt;/sub&gt; (Supply Current (Power Down mode))</td>
<td>0.3</td>
<td>uA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P&lt;sub&gt;o&lt;/sub&gt; (RF Output Power into 50Ω)</td>
<td>7</td>
<td>dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RF Sensitivity (1.2 Kb/sec Data Rate)</td>
<td>-112</td>
<td>dBm</td>
<td></td>
<td></td>
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<tr>
<td>Max Data Rate</td>
<td>256</td>
<td>Kbit/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>StartUp Time (Sleep to RX/TX mode)</td>
<td>250</td>
<td>usec</td>
<td></td>
<td></td>
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<tr>
<td>RSSI Range</td>
<td>46</td>
<td>dBm</td>
<td></td>
<td></td>
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<tr>
<td>RSSI Error</td>
<td>6</td>
<td>dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T&lt;sub&gt;op&lt;/sub&gt; (Operating Temperature Range)</td>
<td>-25</td>
<td>+80°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pin Description**

1. GND (Ground)
2. ANT (Antenna)
3. GND (Ground)
4. VCC (Supply Voltage)
5. nINT/DIO (Interrupt/Digital I/O)
6. RSSIO (Received Signal Strenght Indicator Output)
7. nRESET (Reset Active-low)
8. RCLKOUT/FCAP/FINT (Recovery Clock Output)
9. FSK/DATA/FSEL (Frequency Shift Keying)
10. nIRQ (Interrupt Request Output)
11. nCS (Serial Interface chip select(SPI))
12. SCK (Serial clock interface (SPI))
13. SDI (Serial data input interface (SPI))
14. SDO (Serial data output interface (SPI))
15. CLKOUT (Clock Output)
16. GND (Ground)

**Mechanical Dimensions**

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