**FEATURES**

- True single chip GFSK transceiver in a small 24-pin package (QFN24 5x5mm)
- Data rate 0 to 1Mbps
- Only 2 external components
- Multi channel operation
  - 125 channels
  - Channel switching time <200µs.
- Support frequency hopping
- Data slicer / clock recovery of data
- Address and CRC computation
- DuoCeiver™ for simultaneous dual receiver topology
- ShockBurst™ mode for ultra-low power operation and relaxed MCU performance
- Power supply range: 1.9 to 3.6 V
- Low supply current (TX), typical 10.5mA peak @ -5dBm output power
- Low supply current (RX), typical 18mA peak in receive mode
- 100 % RF tested
- No need for external SAW filter
- World wide use

**APPLICATIONS**

- Wireless mouse, keyboard, joystick
- Keyless entry
- Wireless data communication
- Alarm and security systems
- Home automation
- Surveillance
- Automotive
- Telemetry
- Intelligent sports equipment
- Industrial sensors
- Toys

**GENERAL DESCRIPTION**

nRF2401 is a single-chip radio transceiver for the world wide 2.4 - 2.5 GHz ISM band. The transceiver consists of a fully integrated frequency synthesizer, a power amplifier, a crystal oscillator and a modulator. Output power and frequency channels are easily programmable by use of the 3-wire serial interface. Current consumption is very low, only 10.5mA at an output power of -5dBm and 18mA in receive mode. Built-in Power Down modes makes power saving easily realizable.

**QUICK REFERENCE DATA**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Minimum supply voltage</td>
<td>1.9</td>
<td>V</td>
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<tr>
<td>Maximum output power</td>
<td>0</td>
<td>dBm</td>
</tr>
<tr>
<td>Maximum data rate</td>
<td>1000</td>
<td>kbps</td>
</tr>
<tr>
<td>Supply current in transmit @ -5dBm output power</td>
<td>10.5</td>
<td>mA</td>
</tr>
<tr>
<td>Supply current in receive mode</td>
<td>18</td>
<td>mA</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-40 to +85</td>
<td>°C</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-90</td>
<td>dBm</td>
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<tr>
<td>Supply current in Power Down mode</td>
<td>400</td>
<td>nA</td>
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</table>

Table 1 nRF2401 quick reference data
<table>
<thead>
<tr>
<th>Type Number</th>
<th>Description</th>
<th>Version</th>
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</thead>
<tbody>
<tr>
<td>NRF2401 IC</td>
<td>24 pin QFN 5x5, saw</td>
<td>A</td>
</tr>
<tr>
<td>NRF2401G IC</td>
<td>24 pin QFN 5x5, punch, lead free</td>
<td>A</td>
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<tr>
<td>NRF2401-EVKIT</td>
<td>Evaluation kit (2 test PCB, 2 configuration PCB, SW)</td>
<td>1.0</td>
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</table>

Table 2 nRF2401 ordering information

**BLOCK DIAGRAM**

![Block Diagram of nRF2401 with external components.](Image)

Figure 1 nRF2401 with external components.