YIG Filters & Oscillators

**Standard Band YIG Tuned Band-Stop Filters**
- Frequency coverage of 0.5 to 18 GHz
- Excellent tuning linearity
- Low loss and high stop
- Wide operating temperature range
- Digital or analog continuous tuning control

**High Sweeping YIG Tuned Bandpass Filters**
- Broad frequency coverage
- High tuning speed up to 80μs / GHz
- Excellent tuning linearity;
- High sideband rejection;
- Wide operating temperature range;
- Digital or analog continuous tuning control

**Miniature YIG Tuned Bandpass Filters**
- Broad frequency coverage of 1 to 8 GHz;
- Compact and low energy-consuming;
- Excellent tuning linearity;
- High out-of-band rejection;
- Wide operating temperature range;
- Digital or analog continuous tuning control

**Ultrabroad Band YIG Tuned Oscillators**
- Frequency coverage of 2 to 20 GHz;
- Linearity up to ±0.1% to ±0.25%;
- Excellent frequency spectrum;
- Wide operating temperature range

**Advanced YIG FILTERS**
- 0.5–1 GHz, 1–2 GHz, 2–4GHz, 2.6GHz, 4–8 GHz, 8–12 GHz, 12–18 GHz, 18–26 GHz, and 26.5–40GHz
- Band Pass, or Band stop available
- Ultra wideband available, e.g. 200MHz min at 2GHz!
- (Everyone else struggles to meet 100MHz at 2 GHz!!!!!!)
- Special, custom models in reasonable volume
- Analog voltage driver available
- Digital driver available

**Advanced Ultra broad-band YIG Oscillators**
- 2 to 8GHz, 2 to 10 GHz, 4 to 18 GHz,
- 2 to 18 GHz, and 2 to 20 GHz…
- Single and dual out puts (~18GHz)
- 10dBm typical outputs (<18GHz)
- Custom models in reasonable volume
- Analog voltage driver available
- Digital driver available

**Low Harmonic YIG Tuned Oscillators**
- Excellent frequency spectrum;
- Integrated YTF frequency selective low harmonic output
- YTO/YTF
- Wide operating temperature range

**Ultrabroad Band YIG Tuned Oscillators**
- Frequency coverage of 2 to 20 GHz;
- Linearity up to ±0.1% to ±0.25%;
- Excellent frequency spectrum;
- Wide operating temperature range

**YIG Tuned Bandpass Tracking Filters**
- Broad frequency coverage;
- Linear continuous tracking of main channel and tracking channel;
- Excellent tuning linearity;
- High sideband rejection;
- Wide operating temperature range;
- Digital or analog continuous tuning control
### SPECIFICATIONS

- Superheterodyne conversion (Rx)
- SiGe BiCMOS Technology
- Frequency band 57-64GHz
- Integrated image reject filter
- Integrated 9GHz IF filter
- Integrated Frequency Synthesizer with single external reference crystal
- Low noise amplifier <6dB NF
- Programmable IF gain blocks
- Universal I/Q interface
- Integrated FM & AM detectors
- Three-wire serial digital interface

Raditek Baseband Group will quote to design your base band, FPGA design solution using this revolutionary chip set. This is a high volume, commercial device; it requires special design techniques that Raditek will quote on demand, as well as the volume complete module. Applications include: HD video, High speed data (>1Gbps) and other high data rate applications. Contact RADITEK for more information.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Typical RxIC Performance</th>
<th>Typical Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain</td>
<td>0-70*</td>
<td>dB</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>5-6.7**</td>
<td>dB</td>
</tr>
<tr>
<td>S11, RF in</td>
<td>-15</td>
<td>dB</td>
</tr>
<tr>
<td>Image Rejection</td>
<td>&gt;30</td>
<td>dB</td>
</tr>
<tr>
<td>P1dB (in)</td>
<td>-37**</td>
<td>dBm</td>
</tr>
<tr>
<td>IIP3</td>
<td>-30**</td>
<td>dBm</td>
</tr>
<tr>
<td>Phase Noise (10MHz)</td>
<td>-113 to -115</td>
<td>dBc/Hz</td>
</tr>
<tr>
<td>Tripled</td>
<td>-115</td>
<td>dBc/Hz</td>
</tr>
<tr>
<td>Phase Noise Floor</td>
<td>-130</td>
<td>dBc/Hz</td>
</tr>
<tr>
<td>I/Q Balance-Phase</td>
<td>0 to 4</td>
<td>degrees</td>
</tr>
<tr>
<td>I/Q Balance-Amplitude</td>
<td>&lt;1</td>
<td>dB</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>195 (2.7V)</td>
<td>mA</td>
</tr>
<tr>
<td></td>
<td>6 (1.2V)</td>
<td></td>
</tr>
</tbody>
</table>

*Adjustable in 1-dB steps.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Typical TxIC Performance</th>
<th>Typical Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain</td>
<td>26-30*</td>
<td>dB</td>
</tr>
<tr>
<td>P1dB</td>
<td>9-12</td>
<td>dBm</td>
</tr>
<tr>
<td>Psat</td>
<td>12-16</td>
<td>dBm</td>
</tr>
<tr>
<td>Image Rejection</td>
<td>20-30</td>
<td>dB</td>
</tr>
<tr>
<td>PAE of PA</td>
<td>6-10</td>
<td>%</td>
</tr>
<tr>
<td>Carrier Suppression</td>
<td>21-25</td>
<td>dB</td>
</tr>
<tr>
<td>3xLO Spur</td>
<td>-25 to -20</td>
<td>dBm</td>
</tr>
<tr>
<td>Phase Noise (10MHz)</td>
<td>-113 to -115</td>
<td>dBc/Hz</td>
</tr>
<tr>
<td>Tripled</td>
<td>-115</td>
<td>dBc/Hz</td>
</tr>
<tr>
<td>I/Q Balance-Phase</td>
<td>+/-2</td>
<td>degrees</td>
</tr>
<tr>
<td>I/Q Balance-Amplitude</td>
<td>+/-0.5</td>
<td>dB</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>190 (2.7V)</td>
<td>mA</td>
</tr>
<tr>
<td></td>
<td>70 (4.0V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 (1.2V)</td>
<td></td>
</tr>
</tbody>
</table>

*At maximum IFVGA gain.