**Description**

The NA00514 is a Multicarrer (4FA) WCDMA 30 W Power Amplifier covering 2150-2170 MHz band for a small base station and repeaters. Its operating temperature is –20 °C to +60 °C ambient.

There are built-in alarms, monitoring and automatic shutdown/recovery circuits:

- Over Power Alarm/ Auto Shutdown
- VSWR Alarm/ Auto Shutdown
- Temperature Alarm/ Auto Shutdown/Auto Recovery
- Output Power Monitoring
- Enable/Disable Power

Products are screened by a vibration test with frequency 10-150 Hz and acceleration of gravity 2.0 g. The MTBF (Mean Time between Failure) is over 100,000 Hours.

**Electrical Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2150</td>
<td>2170</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>WCDMA Average Output Power (4FA)</td>
<td>30</td>
<td></td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>Gain</td>
<td>52</td>
<td>54</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±0.5</td>
<td></td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Gain Variation Over Temperature</td>
<td>±1.0</td>
<td></td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>Adjacent Channel Leakage Ratio*</td>
<td>-10 MHz</td>
<td>-53</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-5 MHz</td>
<td>-48</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+5 MHz</td>
<td>-48</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+10 MHz</td>
<td>-53</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td>In/Out Return Loss</td>
<td>18</td>
<td></td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>DC supply voltage (Vcc)</td>
<td>+27</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>12.5</td>
<td></td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (Ambient)</td>
<td>-20</td>
<td>60</td>
<td>°C</td>
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</tr>
</tbody>
</table>

*Measured with HP ESG W-CDMA 4 Carriers and Pout 44.8 dBm over operating temperature. Per 3GPP TS-25.141

**Typical Test Results**

1. W-CDMA Signal Output (25 °C Ambient)

![Graph 1](image1)

2. W-CDMA Signal Output (-20 °C Ambient)

![Graph 2](image2)
3. W-CDMA Signal Output (70 °C Ambient)

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFIN</td>
<td>SMA-F</td>
<td>(I)</td>
<td>RF Input Signal</td>
</tr>
<tr>
<td>RFOUT</td>
<td>N-F</td>
<td>(O)</td>
<td>RF Output Signal</td>
</tr>
<tr>
<td>DC</td>
<td>D-SUB</td>
<td>A1</td>
<td>DC Input +27 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A2</td>
<td>Ground</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A3</td>
<td>NOT CONNECTED</td>
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</table>

4. Gain and Return Loss

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O</td>
<td>D-SUB</td>
<td>1</td>
<td>GROUND</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>(OH) OVER POWER ALARM</td>
</tr>
<tr>
<td></td>
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<td>3</td>
<td>Alarm at 39 ± 1 dBm of Reverse Power from Output.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>NOT CONNECTED.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>(OH) OVER TEMPERATURE ALARM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>Alarm set at 85 ± 5 °C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Recovered at 65 ± 5 °C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>(O) FORWARD POWER MONITOR</td>
</tr>
<tr>
<td></td>
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<td>9</td>
<td>NOT CONNECTED</td>
</tr>
</tbody>
</table>

Connector Description

(I: Input, O: Output, H: High Active, L: Low Active)