The LBUC series is intended to directly drive High Power Amplifiers (TWTAs, KPAs, SSPAs) from an L or X-Band Signal Source

- > 40 dB Gain
- > 35 dB Adj. Gain Attenuator
- Compact Design
- Wide Dynamic Range
- For Digital, Analog & Mixed Signals
- Analog/Digital Control
- External or Internal Reference
- *Currently available at Q-Band

LBUC-Outline Specifications

Predistortion Linearizers Can Give an Effective 4X Power Increase with Multicarrier Traffic
## LBUC Performance Summary

**1. Band (Option)**

<table>
<thead>
<tr>
<th>Band Type</th>
<th>Frequency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Band (8001)</td>
<td>950 to 1450 MHz to 7,900 to 8,400 MHz</td>
</tr>
<tr>
<td>Ku Band (14001)</td>
<td>950 to 1700 MHz to 13,750 to 14,500 MHz</td>
</tr>
<tr>
<td>Ka Band (28010)</td>
<td>1000 to 2000 MHz to 30,000 to 31,000 MHz</td>
</tr>
<tr>
<td>Q Band (40010)</td>
<td>7100 to 9100 MHz to 43,500 to 45,500 MHz</td>
</tr>
</tbody>
</table>

**2. IF Level In for HPA Rated Power**

adjustable, -30 dBm nominal

**3. RF Level Out for HPA Rated Power**

adjustable, settable ranges +2 to +12 dBm or +8 to +18 dBm

**4. Output Backoff**

(From Single Carrier Rated Power)

<table>
<thead>
<tr>
<th>Output Backoff</th>
<th>Intermodulation Ratio with HPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 dB</td>
<td>≥25 dB</td>
</tr>
<tr>
<td>4 dB</td>
<td>≥30 dB</td>
</tr>
</tbody>
</table>

**5. Gain Flatness**

< ± 0.5 dB Over Any 500 MHz

**6. Gain Slope**

< 0.02 dB/MHz

**7. Gain Stability Over Temperature**

< ± 1.5 dB, -10 to +50°C (optional< 0.5 dB)

**8. Static Phase Shift**

< ± 5 degrees to Rate Power (with HPA)

**9. Group Delay**

< 1 ns/60 MHz

**10. AM/PM Conversion**

< 2 deg/dB to Rated Power (with HPA) (< 1 deg/dB typical)

**11. Spurious /Noise**

< -135 dBw/4 KHz at Max Gain

**12. Input/Output VSWR**

< 1.35:1

**13. Power**

+12 Volts dc, < 1.2A

**14. RF Interface**

SMA or 2.92 mm “K”

**15. Frequency stability; Int Ref (optional)**

1PPM/Thermal Range

**16. Phase lock Alarm (option)**

("High" is unlocked, "Low" is locked)

**17. LO Leakage**

< 65 dBm

**18. Image rejection**

> 60 dBc

**19. SSB Phase Noise**

<table>
<thead>
<tr>
<th>Offset</th>
<th>X, Ku, Ka</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Hz</td>
<td>-36 dBc/Hz</td>
</tr>
<tr>
<td>100 Hz</td>
<td>-66</td>
</tr>
<tr>
<td>1 kHz</td>
<td>-76</td>
</tr>
<tr>
<td>10 kHz</td>
<td>-86</td>
</tr>
<tr>
<td>100 kHz</td>
<td>-96</td>
</tr>
<tr>
<td>1 MHz</td>
<td>-106</td>
</tr>
<tr>
<td>10 MHz</td>
<td>-116</td>
</tr>
</tbody>
</table>