Unique Broadband Systems Ltd.

150-400 Watt, C-Band Outdoor BUC

Any Frequency Band

Any Power Level

Only The Best Performance

Unique Broadband Systems Ltd.

1 Watt

10 kW

30dB

Made in Canada
Product Features

- Solid State linear design
- Excellent output VSWR protection
- Local & Remote Gain Adjustment
- Temperature Gain Compensation
- RF Overdrive protection
- Redundancy Ready – No External Controller Required
- Integrated L-Band to C-Band up converter
- Status LED
- High Linearity

Frequency Band

5.85-6.425GHz (other frequency options available)

Product Description

Unique Broadband Systems’ is happy to offer you our newest C-band product line of Solid State Outdoor BUC (SSPB) built using GaN technology with power levels ranging from 150 to 400W. This ultra compact BUC includes a forced air cooling system and a built-in system controller, which provides you with an ability of serial interfacing using RS 485 and TCP/IP for remote monitoring and control.

An internal voltage variable attenuator allows 20 dB of continuous gain adjustment. A digital temperature compensation system regulates the RF signal level within a +/-1.0 dB window over the entire operating temperature range. Every GaN output transistor is fully protected against potentially harmful reflected power due to antenna mismatches.

This BUC is designed for rack mounting in protected environment. Excellent performance, high efficiency and long term MTBF are achieved through using superior mechanical and thermal designs. Our matured manufacturing process ensures the highest quality of all physical components and optimized performance to meet the most rigorous industry standards and clients’ demands. At the same time, our ISO 9001 Quality assurance program leads to the superior performance and reliability in the long-run.

(specifications are subject to change without notice)
# Product Specifications

## Output Power

<table>
<thead>
<tr>
<th>Power Level</th>
<th>Prated(dBm/W)</th>
<th>Plinear(dBm/W)</th>
<th>Prated Cons</th>
<th>Plinear Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>150W</td>
<td>52/150</td>
<td>49/80</td>
<td>85W</td>
<td>650W</td>
</tr>
<tr>
<td>200W</td>
<td>53/200</td>
<td>50/100</td>
<td>1000W</td>
<td>750W</td>
</tr>
<tr>
<td>250W</td>
<td>54/250</td>
<td>51/125</td>
<td>1600W</td>
<td>1350W</td>
</tr>
<tr>
<td>300W</td>
<td>55/300</td>
<td>52/150</td>
<td>1800W</td>
<td>1600W</td>
</tr>
<tr>
<td>400W</td>
<td>56/400</td>
<td>53/200</td>
<td>2000W</td>
<td>1800W</td>
</tr>
</tbody>
</table>

## Electrical Specifications

- **Operating Frequency**: 5.85-6.425GHz (other frequency options available)
- **IF Frequency Range**: 950-1525MHz
- **LO Frequency**: 4.9 GHz
- **Conversion**: Single Conversion; non-inverting
- **Gain Parameters**: Full Band Flatness +/-1dB typ +/-1.5dB max over full band
  - Over 40 MHz: +/-0.5dB max over any 40MHz
  - Over Temperature (0°C to +55°C): ±1.5 dB typ
  - Over input power: 3dB typ 4dB max from 10dB back off to rated power
- **Gain Control**: 20dB min dynamic range
- **External Reference Frequency**: 10MHz multiplexed with IF In
- **External Reference Required Phase Noise**: -130dBc/Hz @ 100Hz ; -140dBc/Hz @ 1kHz; -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100 kHz
- **Up-Converter Phase Noise**: -68dBc/Hz@100Hz; -80dBc/Hz@1kHz; -90dBc/Hz @10kHz; -95dBc/Hz @100kHz; -115dBc/Hz @ 1MHz
- **Linearity: 2 tone IMD Spectral Re-growth @ rated P-Linear**: -25dBc max at PLinear; -30dBc for QPSK at 1.5 x symbol rate at Pout=PLinear+1dB
- **Noise Power Density**: Transmit Band -85dBm/Hz max
  - Receive Band -150dBm/Hz max
- **Output Spurious**: Non-signal related -60dBc
  - Signal related -55dBc

## Mechanical Parameters

<table>
<thead>
<tr>
<th>Power Level</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>150W</td>
<td>15.4&quot;x8.7&quot;x4.25&quot;</td>
<td>26lbs/12kg</td>
</tr>
<tr>
<td>200W</td>
<td>15.4&quot;x8.7&quot;x4.25&quot;</td>
<td>26lbs/12kg</td>
</tr>
<tr>
<td>250W</td>
<td>20.5&quot;x12.8&quot;x6.5&quot;</td>
<td>45lbs/20kg</td>
</tr>
<tr>
<td>300W</td>
<td>20.5&quot;x12&quot;x6.5&quot;</td>
<td>45lbs/20kg</td>
</tr>
<tr>
<td>400W</td>
<td>20.5&quot;x12&quot;x6.5&quot;</td>
<td>45lbs/20kg</td>
</tr>
</tbody>
</table>

## Power Requirements

- **48VDC Isolated optional**: 40-72VDC Isolated
- **AC Voltage Range**: 90-265VAC 50-60Hz auto-ranging PFC

## Environmental Specifications

- **Operating temperature**: -40°C to +55°C
- **Storage Temperature**: -40°C to +85°C
- **Cooling**: Built-in forced-air cooling
- **Altitude**: 3000M above sea level

(Specifications are subject to change without notice)
<table>
<thead>
<tr>
<th>Interfaces</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IF Input Connector</td>
<td>N-type female</td>
</tr>
<tr>
<td>RF Output Connector</td>
<td>CPR137 Grooved</td>
</tr>
<tr>
<td>RF Sample</td>
<td>N-type female</td>
</tr>
<tr>
<td>AC Power In</td>
<td>MS3112E12-3P</td>
</tr>
<tr>
<td>M&amp;C Interface-Serial, Analog and Ethernet</td>
<td>MS3112E14-19S</td>
</tr>
<tr>
<td>Redundant Interface</td>
<td>MS3112E14-19P</td>
</tr>
</tbody>
</table>

(Specifications are subject to change without notice)
### Part Number Configuration

#### Band
- YL – L-Band
- YS – S-Band
- YC – C-Band
- YX – X-Band
- KU – Ku-Band
- KA – Ka-Band

#### Output Power

<table>
<thead>
<tr>
<th>Band</th>
<th>L-Band</th>
<th>S-Band</th>
<th>C-Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ka-Band</td>
<td>TWTA, UP TO 1.5KW AVAILABLE PLEASE CALL FOR INQUIRY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sub Band

<table>
<thead>
<tr>
<th>Band</th>
<th></th>
</tr>
</thead>
</table>
| L-Band | A (1.0-2.0 GHz)  
B (1.5-3.0 GHz)  
C (1.0-2.5 GHz) |
| S-Band | A (2.02-2.12 GHz)  
B (2.20-2.30 GHz) |
| C-Band | A (5.850-6.425 GHz)  
B (5.750-6.475 GHz)  
C (5.750-6.670 GHz)  
D (5.850-6.725 GHz)  
E (6.425-6.725 GHz)  
F (6.725-7.025 GHz) |
| X-Band | A (7.70-8.40 GHz)  
B (7.90-8.40 GHz)  
C (7.50-8.50 GHz)  
D (9.50-10.50 GHz) |
| Ku-Band | A (14.00-14.50 GHz)  
B (13.75-14.50 GHz)  
C (12.75-13.25 GHz)  
D (13.00-14.50 GHz)  
E (13.25-13.75 GHz) |
| Ka-Band | A (27.5-31.0 GHz) |

#### Configuration/Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD</td>
<td>Standard</td>
</tr>
<tr>
<td>ISP</td>
<td>Input Sample Port</td>
</tr>
<tr>
<td>WGF*</td>
<td>90° Output W/G Flange</td>
</tr>
<tr>
<td>WSP *</td>
<td>90° Output W/G Flange with Input Sample Port</td>
</tr>
<tr>
<td>FPS**</td>
<td>Front Panel Power Switch</td>
</tr>
<tr>
<td>RPM</td>
<td>Reflected Power Monitor</td>
</tr>
<tr>
<td>FRM**</td>
<td>Front Panel Power Switch and Reflected Power Monitor</td>
</tr>
<tr>
<td>EPS</td>
<td>External, Redundant Power Supply, 1RU N+1</td>
</tr>
<tr>
<td>EPE</td>
<td>External Power Supply, 1RU N+1 and Rear Panel</td>
</tr>
</tbody>
</table>

* Available in all but S-Band-and L-Bands
** Not Available with External 1RU N+1 Redundant Power Supply

#### Block Up Converter
- B - BUC
- X – Not Available

#### Enclosure
- I - Indoor
- O - Outdoor

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