

Denali-Line

Ku, C, X-Band GaN SSPA BUC

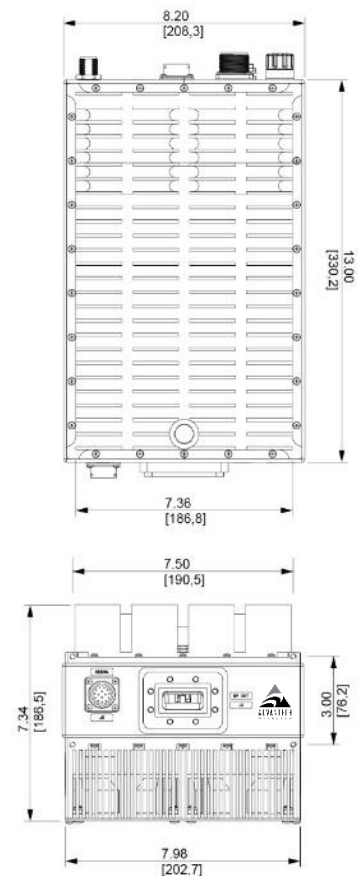
Overview

An ideal solution for both mobile and fixed Communication terminals. The Denali-Line SSPAs / BUCs are designed for high efficiency resulting in an optimal compact form factor with high performance and reliability. With the advanced customer interface and HTTP embedded web page, the operator is able to monitor and control the BUC and the System Redundancy.

- Ku-Band: 80W / 100W / 125W
- C-Band: 150W / 200W / 250W
- X-Band: 150W / 200W / 250W

Features

- Compact size
- Available in AC
- Up to 250W of RF Output Power
- Up to 125W of Linear power
- Built-in monitoring of critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- IP55 rated housing and fan (weather proof construction)
- M&C Interfaces included: RS485, RS232, Ethernet and dry-contacts
- WEB interface and SNMP monitoring
- Redundant Ready
- 1:1 and 1:2 built into the BUC eliminating external controller
- Ku-Band: Optional Dual LO (Switchable). covers both regular and ext. Ku-Band
- Other frequency ranges available
- Internal 10MHz reference
- Optional output sample port
- Optional Remote control unit





Denali-Line GaN SSPA BUC

Technical Specifications

| Ku-Band | | | |
|------------------------------|---|--------------------------------|--------------------------------|
| Electrical Characteristics | 80W | 100W | 125W |
| RF Output at P Sat | 49 dBm | 50 dBm | 51 dBm |
| RF Output at P Lin | 46 dBm | 47 dBm | 48 dBm |
| Output Frequency Range | Low Ku Band: 12.75 – 13.25 GHz | Standard Ku: 14.00 – 14.50 GHz | Extended Ku: 13.75 – 14.50 GHz |
| Input Frequency Range | Low Ku Band: 950 – 1450 MHz | Standard Ku: 950 – 1450 MHz | Extended Ku: 950 – 1700 MHz |
| Local Oscillator Frequency | Low Ku Band: 11.80 GHz | Standard Ku: 13.05 GHz | Extended Ku: 12.80 GHz |
| Gain Stability Over Temp. | Low Ku Band: ± 1.5 dB nominal; ± 2.25 dB max Standard Band: ± 1.5 dB nominal; ± 2.0 dB max Extended Band: ± 1.5 dB nominal; ± 2.25 dB max | | |
| Gain Variation at fixed temp | Low Ku Band: ± 0.75 dB over max over 40 MHz; ± 2.25 dB over full band Standard Band: ± 0.5 dB over max over 40 MHz; ± 2.0 dB over full band Extended Band: ± 0.75 dB over max over 40 MHz; ± 2.25 dB over full band | | |
| Linear Gain | 70 dB min. | | |
| User Adjustable Gain | 20 dB nominal in 0.5 dB steps | | |

| C-Band | | | | |
|-------------------------------------|---|------------------------------|------------------------------|----------------------------|
| Electrical Characteristics | 150W | 200W | 250W | |
| RF Output at P Sat | 52 dBm | 53 dBm | 54 dBm | |
| RF Output at P Lin | 49 dBm | 50 dBm | 50.5 dBm | |
| Output Frequency Range | Lower C: 5.725 – 6.425 GHz | Standard C: 5.85 – 6.425 GHz | Extended C: 5.85 – 6.725 GHz | Insat C: 6.725 – 7.025 GHz |
| Input Frequency Range | Lower C: 975 – 1675 MHz | Standard C: 950 – 1525 MHz | Extended C: 950 – 1825 MHz | Insat C: 1275 – 1575 MHz |
| Local Oscillator Frequency | Lower C: 4.75 GHz | Standard C: 4.9 GHz | Extended C: 4.9 GHz | Insat C: 5.45 GHz |
| Gain Stability Over Temperature | ± 1.5 dB nominal | | | |
| Gain Variation at fixed temperature | ± 0.5 dB over max over 36 MHz; ± 2.0 dB over full band | | | |
| Linear Gain | 70 dB min. | | | |
| User Adjustable Gain | 20 dB in 0.5 dB steps | | | |

| X-Band | | | |
|-------------------------------------|---|--------|--------|
| Electrical Characteristics | 150W | 200W | 250W |
| RF Output at P Sat | 52 dBm | 53 dBm | 54 dBm |
| RF Output at P Lin | 49 dBm | 50 dBm | 51 dBm |
| Output Frequency Range | 7.9 – 8.4 GHz | | |
| Input Frequency Range | 950 – 1450 MHz | | |
| Local Oscillator Frequency | 6.95 GHz | | |
| Gain Stability Over Temperature | ± 1.5 dB nominal | | |
| Gain Variation at fixed temperature | ± 0.5 dB over max over 40 MHz; ± 2.0 dB over full band | | |
| Linear Gain | 70 dB min. | | |
| User Adjustable Gain | 20 dB in 0.5 dB steps | | |

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Denali-Line GaN SSPA BUC

Technical Specifications

Ku, C, X Band

| | | | | | |
|--|--|-----------------|-----------------|------------------|-----------------|
| Spectral Re-growth | -30dBc @PLinear | | | | |
| Third order IMD (2 equal tones 5MHz apart) | -25 dBc, with 2 equal carriers at 3dB total power back off from rated power (P Sat -3dB) | | | | |
| 10MHz Reference | 0dBm ± 5.0 dB - External via IF / (Internal 10MHz reference optional) | | | | |
| | @ 100 Hz | @ 1 KHz | @ 10 KHz | @ 100 KHz | @ 1 MHz |
| Ref Phase Noise Requirement | | -140 dBc/Hz max | -150 dBc/Hz max | -155 dBc/Hz max | |
| Local Oscillator Phase Noise | -63 dBc/Hz max | -73 dBc/Hz max | -83 dBc/Hz max | -93 dBc/Hz max | -103 dBc/Hz max |
| Output Spurious | -55dBc max @PLinear | | | | |
| Harmonics | -50dBc max @PLinear | | | | |
| VSWR | Input (1:50:1) Output (1.30:1) | | | | |

Power consumption

| | Ku-Band | 100W | 125W |
|---------------------------|----------------|-------------|-------------|
| Power consumption (Watts) | 80W | 780W | 800W |
| | C-Band | 200W | 250W |
| Power consumption (Watts) | 150W | 880W | 900W |
| | X-Band | 200W | 250W |
| Power consumption (Watts) | 150W | 900W | 1000W |
| | 900W | 1000W | 1100W |

Power requirement Ku-Band: 110-220 VAC C, X-Band: 220 VAC

Interface

| | | | |
|------------------|---|--------------------|--------------------------------------|
| Output Interface | Ku-Band: Waveguide, WR75G (Grooved) C-Band: Waveguide, CPR 137G (Grooved) X-Band: Waveguide, CPR 112G (Grooved) | | |
| Input Interface | N-Type Female, 50 Ohms, F-Type Female, 75 Ohms (optional) | | |
| Connectors | AC Connector: MS3102R16-10P | M&C: MS3112E14-19P | Redundancy: MS3112E14-15P (Optional) |

Mechanical

| | |
|------------------------|---|
| Cooling | Forced Air |
| Dimensions (L x W x H) | Ku-Band: 12.8 x 8.2 x 7.1 / 32.5 x 20.8 x 18.0 C-Band, X-Band: 13 x 8.2 x 6.3 / 33.02 x 20.83 x 16 |
| Weight | 27.8 / 12.5 |

Environmental

| | Temperature Range (ambient) | Humidity | Altitude |
|--|--|------------------------|---------------|
| | -40°C to + 55°C (operating) -40°C to + 75°C (storage) | 0 to 100% (condensing) | 10,000 ft ASL |

Ref.: PB-AWT-DLG-19073

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