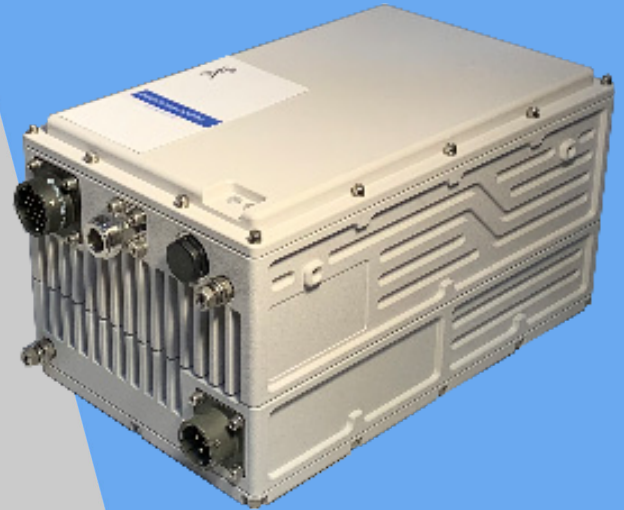


THE SMALLEST OUTDOOR 80W Multicarrier Ku-Band BUC

Features:

- ◆ Robust, Light Package Design Only 9.2lbs (4.2kg)
- ◆ Extreme Stability, Reliability and Performance
- ◆ Built-in HPA Overdrive Circuit Protection
- ◆ High Temperature Mode - up to + 70°C
- ◆ Built-in Optimized Linearization
- ◆ Wide-band MultiCarrier Amplifiers
- ◆ Built-in Anti Vibration Technology
- ◆ Extreme GaN Linearity and Efficiency
- ◆ Exceeds ALL IESS-308/309 Phase Noise Standards
- ◆ Triple protection sealed waveguide output
- ◆ Field Replaceable IP68 150,000 hr Rated Fans
- ◆ Assembled and Rigorously Tested in California
- ◆ 3 Year Warranty



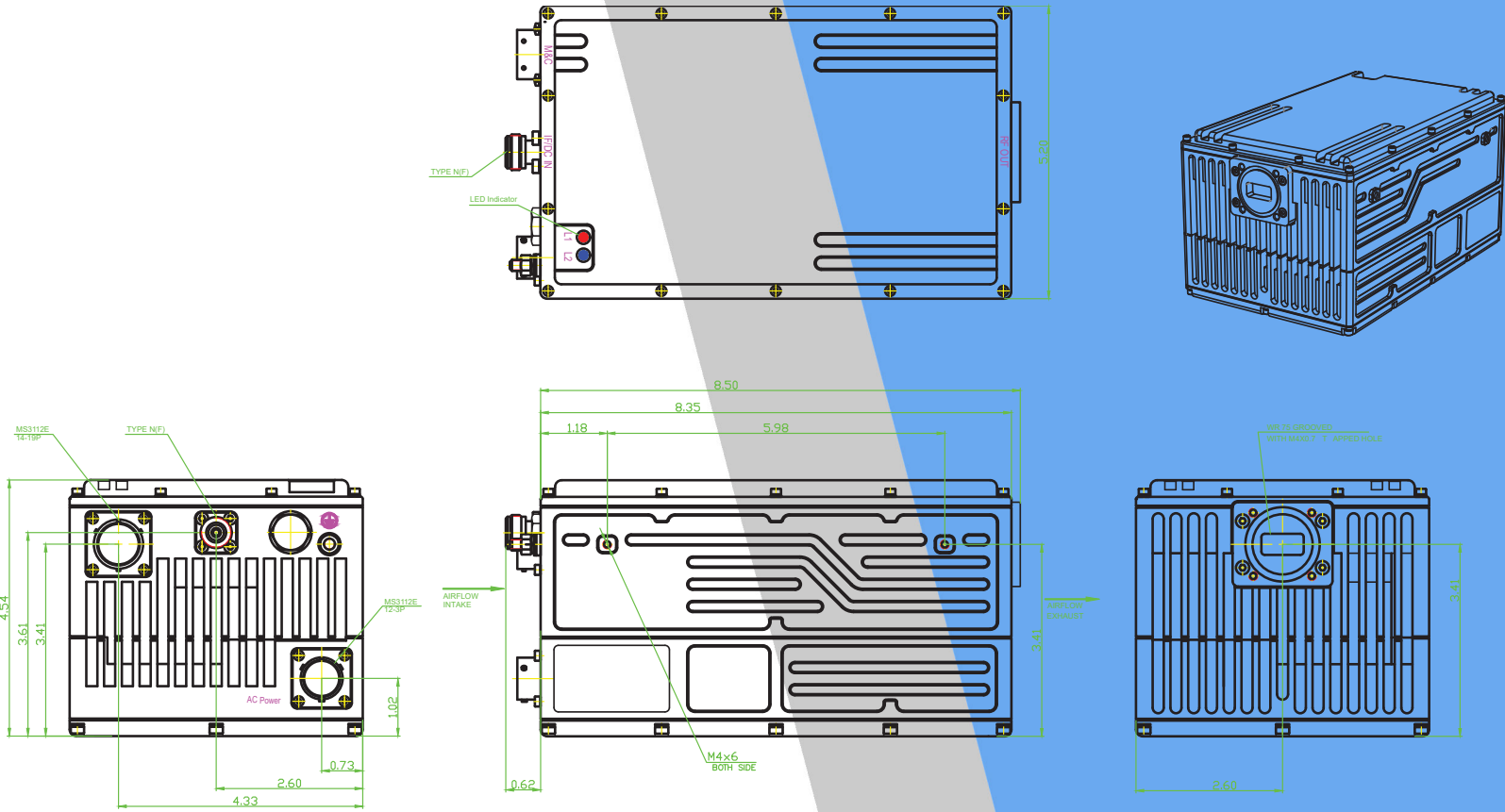
Design Overview:

The P for "PHANTOM" series Extended (13.75 - 14.5GHz) and Standard (14.0 - 14.5GHz) Ku-Band BUCs are the next generation of the World's Smallest feed-horn & boom-arm mountable BUCs in the industry, weighing only 9.2lbs (4.2kg) and handling output power of 80W (min) at the Ku-Band frequencies. We've picked the best of both worlds as we implemented the most mature, proven efficient and reliable GaAs + Multi-Carrier capable GaN High Power Amplifiers with internal overdrive protection and precise linearization technique. We've chosen an absolute and "No Corner Cutting" concept in our design. Its weatherproof and robust Hyper-Light package is constructed with the most advanced mechanical precision engineering in mind. We've taken absolutely no compromises during each of the design stages using only the toughest aerospace grade aluminum based metal with the most efficient heat disposal properties. Each unit is vigorously tested at our California facility according to our ATP (acceptance testing procedure).

TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Operating RF Frequency | 13.75-14.50 GHz 14.0-14.5 GHz |
| Operating IF frequency | 950 to 1700 MHz 950 - 1450 MHz |
| Local Oscillator (Fixed) | 12.80 GHz 13.05 GHz |
| Rated Output Power Linear Power SR @ -26dBc | 80W 49.0 dBm PSAT (min) 60W 47.8 dBm PLIN (typ) |
| IF Connector | N-type (50 Ohm) F-type (75 Ohm) |
| Prime Power via MS Connector | + 85-260VAC 370W PSAT & 290W @ P-LINEAR SR |
| 10MHz External Ref. (Internal High Stability Optional) | 10MHz Reference Level: 0dBm +/- 5dBm |
| Output Interface | WR75 Sealed & Grooved |
| Gain (Temperature Compensated) | 72dB(min) 78 dB(typ.) |
| TX Gain variation 50MHz | ± 0.5 dB |
| TX Gain variation 500MHz | ± 1.5 dB |
| Built-in Receive Reject Filter | Suppression by +20 dB (min.) |
| Stealth Linear operation mode (optional) | LED Shut-Off Silenced fans |
| TX Gain Flatness | ± 0.75 dB max. over 40 MHz |
| IMD3 (two tones) 3dB off rated power (typical) | -25 dBc max. 2 signal 5MHz apart at P-LINEAR |
| In-Band/Out-band Spurious | -60dBc max. |
| Input VSWR | 1.5:1 |
| Output VSWR | 1.5:1 |
| Spectral Regrowth at P _{LINEAR} (QPSK at 1.5x and OQPSK at 1.0x symbol rate off-set with 2dB back-off from rated power) | -30 dBc |
| Group Delay | Ripple 1 nsec point to point max. |
| AM/PM Conversion | 1.0°/dB max. at 3 dB output backoff |
| Noise Power Density (TX) | -85dBm/Hz |
| Noise Power Density (RX) | -155dBm/Hz (10.95 - 12.75 GHz) |
| Phase Noise (Up Converter) (Ext. Ref.) | -55 dBc/Hz @ 10 Hz -115dBc/Hz -65 dBc/Hz @ 100 Hz -135dBc/Hz -75 dBc/Hz @ 1 kHz -150dBc/Hz -85 dBc/Hz @ 10 kHz -155dBc/Hz -95 dBc/Hz @ 100 kHz -160dBc/Hz |
| Monitor & Control | Ethernet Web Page Based, RS232/485 (opt.) |
| Environmental MIL-STD Vibration MIL-STD | Compliant with MIL-STD810E MIL-STD810F, Method 514.5 C-2 Transport |
| Operating Temperature Range | - 40° C to + 70°C |
| Storage Temperature Range | - 60°C to + 85°C |
| Fan Rating / Field Replaceable | IP 68, Field Interchangeable |
| Humidity | 100% Condensing, IP67 Rated |
| Shock | 20 g peak, 11 msec, 1/2 sine |
| Altitude | 21,500ft, 6,500m |
| Dimensions | 8.5" x 5.2" x 4.5" (215x132x114 mm) Measurements without connectors |
| Weight | 9.2lbs (4.2kg) |

MECHANICAL DRAWING



*** Mechanical Drawing can change slightly when unit reaches production**

PART NUMBERING SYSTEM

AP - "PHANTOM" MODEL SERIES

KU - Universal Ku-Band 13.75 - 14.50 GHz

KS - Standard Ku-Band 14.0 - 14.50 GHz

80M | 100M - Rated Power in Watts, Multi-Carrier Wideband Amplifier Selection

N - 50 Ohm IF Input Connector Type | **F** - 75 Ohm IF Input Connector Type

R - 10 MHz Ref. Auto Sense | Internal Reference

C - Custom option availability

Example: APKU80MN