

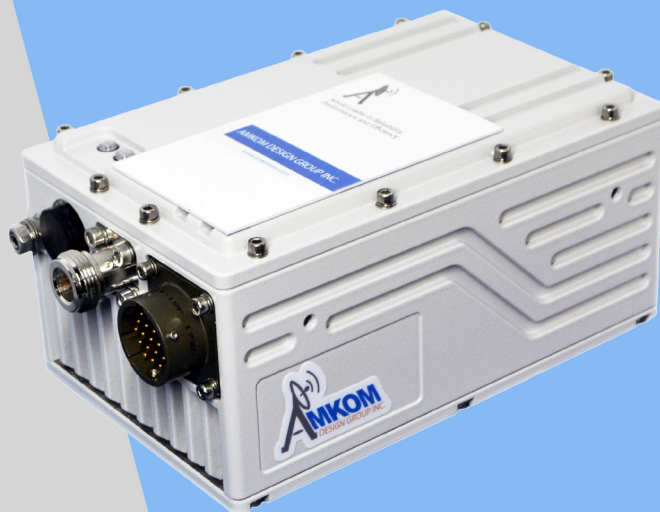
**THE WORLD'S SMALLEST OUTDOOR up to + 70°C 20W Low Ku-Band BUC**

**Features:**

- ◆ Hyper-Light Package Design Only 3.1lbs (1.4kg)
- ◆ Extreme Stability, Reliability and Performance
- ◆ Built-in HPA Overdrive Circuit Protection
- ◆ High Temperature Mode - up to + 70°C
- ◆ Built-in Optimized Linearization
- ◆ Built-in Ultra Receive Band Reject Filter
- ◆ Built-in Anti Vibration Technology
- ◆ Built-in DC Input Noise Suppression Filter
- ◆ Extreme GaN Linearity and Efficiency
- ◆ Exceeds ALL IESS-308/309 Phase Noise Standards
- ◆ Triple protection sealed waveguide output
- ◆ Field Replaceable IP69K Rated Fans
- ◆ Fully Assembled and Rigorously Tested in the USA
- ◆ 3 Year Warranty

**Design Overview:**

The "MINI BRICK" series (12.75 - 13.25GHz) Low Ku-Band BUCs are the next generation of the World's Smallest feed-horn & boom-arm mountable BUCs in the industry, weighing-in only at 3.1lbs (1.4kg) and handling output power of 20W (min) at the Low Ku-Band frequencies. We've picked the best of both worlds as we implemented the most mature, proven efficient and reliable GaAs + GaN High Power Amplifiers with internal overdrive protection. 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).

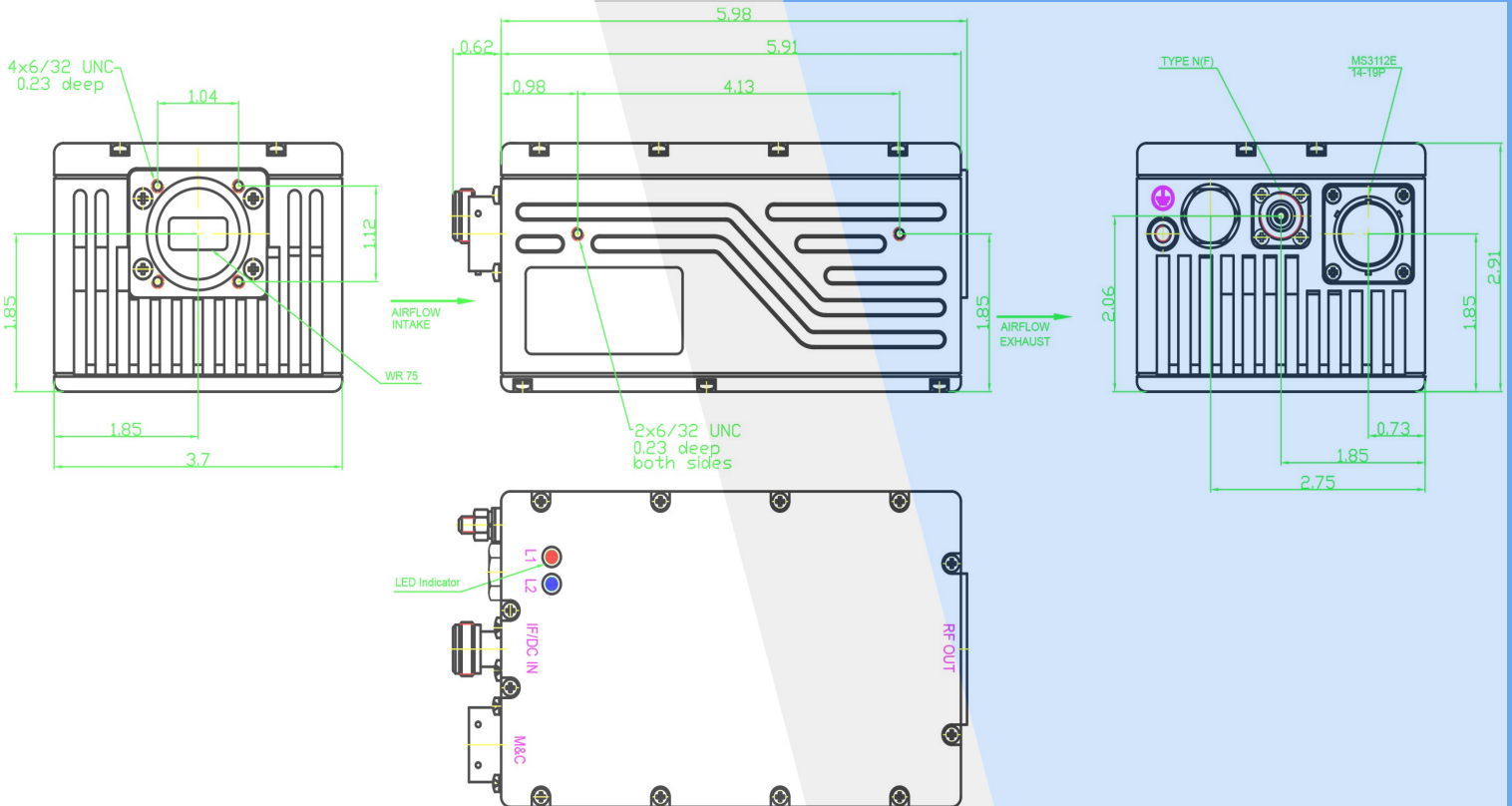


[Request A Quote](#)

## TECHNICAL SPECIFICATIONS

|  |   |
|--|---|
| Operating RF Frequency   | 12.75 - 13.25 GHz   |
| Operating IF frequency   | 950 to 1450 MHz   |
| Local Oscillator   | 11.80 GHz   |
| Rated Output Power   Linear Power SR @ -26dBc  | 20W 43 dBm PSAT (min)   16W 42.0 dBm PLIN (min)   |
| IF Connector   | N-type (50 Ohm)   F-type (75 Ohm)   |
| Prime Power via IF or MS Connector (Universal)   | + 16 - 55 VDC 115W PSAT & 95W @ P-LINEAR  |
| 10MHz External Ref.<br>(Internal High Stability Optional)  | 10MHz Reference Level: 0dBm +/- 5dBm  |
| Output Interface   | WR75 Grooved  |
| Gain (Temperature Compensated)   | 64dB(min) 68 dB(typ.)   |
| TX Gain variation 50MHz  | ± 0.5 dB  |
| TX Gain variation 500MHz   | ± 1.5 dB  |
| Built-in Receive Reject Filter   | Suppression by +60dB (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 Back Off  | -25 dBc max. 2 signal 5MHz apart at P-LINEAR  |
| In-Band/Out-band Spurious  | -60dBc max.   |
| Input VSWR   | 1.5:1   |
| Output VSWR  | 1.3:1   |
| Spectral Regrowth Linearized at P <sub>LINEAR</sub><br>1. (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset 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<br>-65 dBc/Hz @ 100 Hz   -135dBc/Hz<br>-75 dBc/Hz @ 1 kHz   -150dBc/Hz<br>-85 dBc/Hz @ 10 kHz   -155dBc/Hz<br>-95 dBc/Hz @ 100 kHz   -160dBc/Hz |
| Monitor & Control (Optional)   | Ethernet Web Page Based, RS232/485 (opt.)   |
| Environmental MIL-STD<br>Vibration MIL-STD   | Compliant with MIL-STD810E<br>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 69K, Field Interchangeable   |
| Humidity   | 100% Condensing, IP67 Rated   |
| Shock  | 20 g peak, 11 msec, 1/2 sine  |
| Altitude   | 21,500ft, 6,500m  |
| Dimensions   | 6" x 3.7" x 2.91" (152x94x74 mm)<br>Not including connectors  |
| Weight   | 3.1lbs (1.4kg)  |

## MECHANICAL DRAWING



## PART NUMBERING SYSTEM

**AM** - "MINI BRICK" MODEL SERIES

**KU** - Universal Ku-Band 13.75 - 14.50 GHz

**KS** - Standard Ku-Band 14.0 - 14.50 GHz

**KL** - Low Ku-Band 12.75 - 13.25 GHz

**16 | 20 | 25 | 30** - Rated PSAT Power in Watts

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

**M** - M&C Option - RS232/485 + Ethernet

**S** - Stealth Linear Mode

**E** - Ethernet Only

**R** - 10 MHz Ref. Auto Sense | Internal Reference

**C** - Custom option availability

**Example: AMKL20NMR**