



## 100W Ext. 5.85-6.725 GHz C-Band BUC

### KEY FEATURES

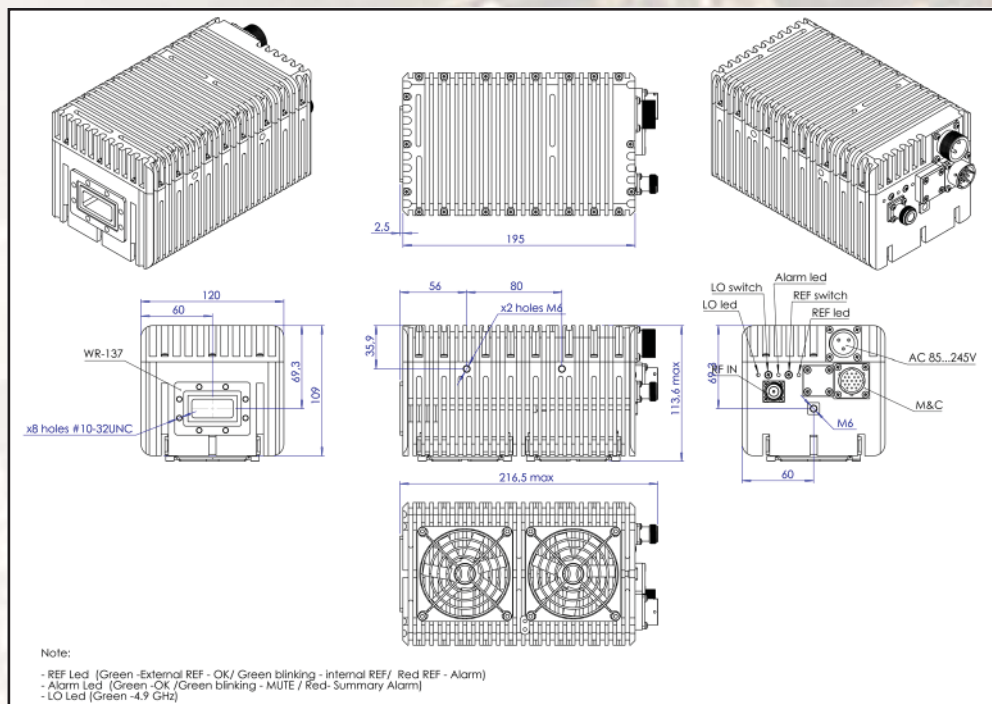
- ◆ Output frequency 5.850-6.725 GHz
- ◆ Based on GaN technology which enables high efficiency, low power consumption and high reliability.
- ◆ L.O. 4.9 GHz
- ◆ Incomparable low power consumption (397W max)
- ◆ Advanced M&C interface - combined RS-232/485, Ethernet (HTTP and SNMP ver. 3) and optional FSK
- ◆ Auto-ranging AC 85 - 245 VAC powering option
- ◆ Digital temperature compensation
- ◆ Power and lock status LED
- ◆ Field-exchangeable (F/N) IF connector
- ◆ Internal 10MHz high stability reference (optional)
- ◆ RoHS compliant

### ABD100DC / ABD100DCF



This smallest and lightest 100W L-To C-Band Block Up Converter is based on GaN technology. It is designed to be mounted on the feed horn. The unit covers C-Band sub-bands: Standard (5.850-6.425 GHz) and Palapa (6.365-6.725 GHz).

### Mechanical Drawing





## 100W Ext. 5.85-6.725 GHz C-Band BUC

### TECHNICAL SPECIFICATIONS

|                                                                                                                    |                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF frequency                                                                                                       | 5.850 to 6.725 GHz                                                                                                                                                |
| Local oscillator                                                                                                   | 4.90 GHz                                                                                                                                                          |
| IF frequency                                                                                                       | 950 to 1,825 MHz                                                                                                                                                  |
| Output power                                                                                                       | 100W (+50 dBm min.), P-Linear 52.6W (+47.2 dBm min.)                                                                                                              |
| IF connector                                                                                                       | N-type or F-type (field-exchangeable)                                                                                                                             |
| Power supply : auto-ranging via MS connector                                                                       | +85 ~ +245 VAC, 397W max.                                                                                                                                         |
| Output interface                                                                                                   | CPR-137 G                                                                                                                                                         |
| Gain                                                                                                               | 70 dB nominal                                                                                                                                                     |
| IMD3 (two tones)                                                                                                   | -26 dBc max. 2 signal 5 MHz apart at P-LINEAR                                                                                                                     |
| L.O. leakage                                                                                                       | -45 dBm max                                                                                                                                                       |
| Spurious                                                                                                           | -50 dBc max                                                                                                                                                       |
| Spectral regrowth<br>(QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated output power) | -30 dBc                                                                                                                                                           |
| Requirement for external reference:<br>frequency<br>input power                                                    | <b>via IF cable</b><br>10 MHz (sine-wave)<br>-5 to +5 dBm @ input port                                                                                            |
| TX Gain variation                                                                                                  | ± 0.5 dB over 40 MHz                                                                                                                                              |
| TX Gain stability over temperature range                                                                           | ± 1.8 dB over full band<br>± 1.5 dB typ., ± 1.8 dB max.                                                                                                           |
| Phase noise<br><br>(Exceeds Intelsat's standard IESS308/309)                                                       | -55 dBc/Hz max. @ 10 Hz<br>-65 dBc/Hz max. @ 100 Hz<br>-75 dBc/Hz max. @ 1 KHz<br>-85 dBc/Hz max. @ 10 KHz<br>-95 dBc/Hz max @ 100 KHz<br>-115 dBc/Hz max @ 1 MHz |
| Noise power density                                                                                                | Transmit<br>Receive                                                                                                                                               |
| FSK                                                                                                                | Multiplexed on TX IFL, compatible with Compech and Paradigm                                                                                                       |
| M&C Interface                                                                                                      | RS-232, RS-485 and Ethernet (HTTP and SNMP ver.3)                                                                                                                 |
| Noise figure                                                                                                       | 15 dB max                                                                                                                                                         |
| Input V.S.W.R.                                                                                                     | 2 : 1 max                                                                                                                                                         |
| Output V.S.W.R.                                                                                                    | 2 : 1 max.                                                                                                                                                        |
| Mute                                                                                                               | Shut off the HPA if L.O. unlocked                                                                                                                                 |
| Status LED<br>10MHz Reference LED                                                                                  | GREEN<br>GREEN blinking<br>RED                                                                                                                                    |
| Alarm LED                                                                                                          | GREEN<br>GREEN blinking<br>RED                                                                                                                                    |
| L.O. LED                                                                                                           | GREEN                                                                                                                                                             |
| Temperature range (ambient)                                                                                        |                                                                                                                                                                   |
| operating                                                                                                          | -40 deg C to +55 deg C                                                                                                                                            |
| storage                                                                                                            | -55 deg C to +85 deg C                                                                                                                                            |
| Vibration and shock                                                                                                | Complies with MIL-STD-810E                                                                                                                                        |
| Altitude                                                                                                           | Up to 23,000 feet                                                                                                                                                 |
| Dimensions & housing                                                                                               | 195 (L) x 120 (W) x 113.6 (H) mm<br>7.67" (L) x 4.72" (W) x 4.47" (H)                                                                                             |
| Weight                                                                                                             | 3.36 kg (7.40 lbs) max                                                                                                                                            |