

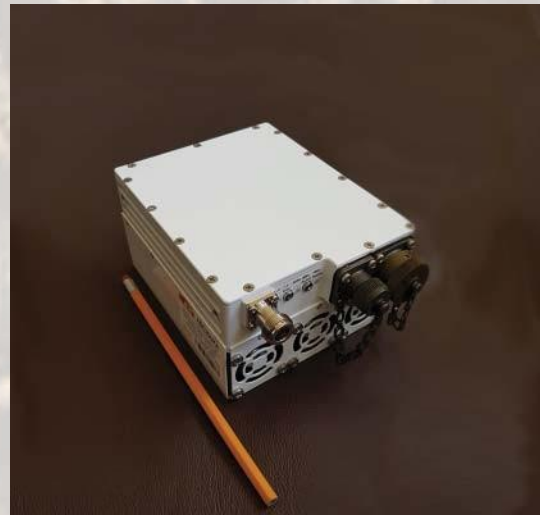


## 25W Universal Ka-Band (27.5-31.0 GHz) BUC

### KEY FEATURES

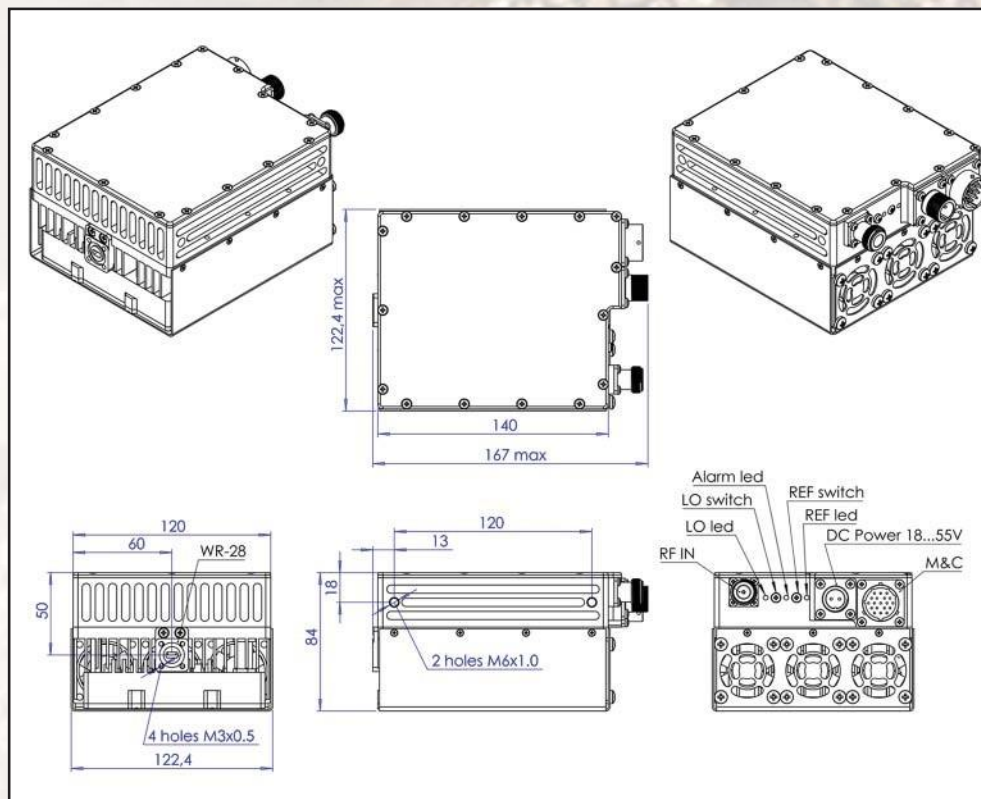
- ◆ Output frequency 27.5-31.0 GHz
- ◆ Based on GaN technology which enables high efficiency, low power consumption and high reliability.
- ◆ Quad- L.O. (electronically and manually switchable 26.55, 27.4, 28.05, and 29.05 GHz)
- ◆ Low power consumption (270W max)
- ◆ Advanced M&C interface - combined RS-232/485, Ethernet (HTTP and SNMP ver. 3) and optional FSK
- ◆ L.O. lock, amplifier and 10MHz LEDs
- ◆ Field-exchangeable (F/N) IF connector
- ◆ Internal 10MHz high stability reference autosensing and controllable (optional)
- ◆ Built-in redundancy option
- ◆ RoHS compliant

### ABC25UKA / ABC25UKAF



This unique first ever 25W L-To Full Ka-Band Block Up Converter covers the O3B (27.65-29.1 GHz), Commercial (29.0-30.0 GHz) and Military (30.0-31.0 GHz) frequency bands. M&C (FSK) capability enables trouble shooting, monitoring and controlling the BUC. Unit provides 10MHz reference autosensing feature.

### Mechanical Drawing





# 25W Universal Ka-Band (27.5-31.0 GHz) BUC

| TECHNICAL SPECIFICATIONS                                                                                           |                                                                   |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| RF frequency                                                                                                       | 27.5 - 31.0 GHz                                                   |
| Quad local oscillator                                                                                              | 26.55, 27.4, 28.05 and 29.05 GHz                                  |
| IF frequency                                                                                                       | 950 to 1,950 MHz                                                  |
| Output power                                                                                                       | 25W (+43.9 dBm min.), P-Linear 16.1W (+42.06 dBm min.)            |
| IF connector                                                                                                       | N-type or F-type (field-exchangeable)                             |
| Power supply : auto-ranging via MS connector                                                                       | +36 VDC ~ +60 VDC, 270W max.                                      |
| Output interface                                                                                                   | WR-28 G                                                           |
| Gain                                                                                                               | 65 dB typ. 60 dB min.                                             |
| IMD3 (two tones)                                                                                                   | -25 dBc max. 2 signal 5 MHz apart at P-LINEAR                     |
| 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                                                    | via IF cable<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                                           |
|                                                                                                                    | -65 dBc/Hz max. @ 100 Hz                                          |
|                                                                                                                    | -78 dBc/Hz max. @ 1 KHz                                           |
|                                                                                                                    | -85 dBc/Hz max. @ 10 KHz                                          |
|                                                                                                                    | -95 dBc/Hz max. @ 100 KHz                                         |
|                                                                                                                    | -115 dBc/Hz max @ 1 MHz                                           |
| Noise power density                                                                                                | Transmit<br>Receive                                               |
|                                                                                                                    | -66 dBm/Hz (max)<br>-157 dBm/Hz (max)                             |
| FSK                                                                                                                | Multiplexed on TX IFL, compatible with Compech and Paradigm       |
| M&C Interface                                                                                                      | RS-232 and RS-485 and Ethernet (HTTP and SNMP ver. 3)             |
| Noise figure                                                                                                       | 15 dB max                                                         |
| Input V.S.W.R.                                                                                                     | 1.5 : 1 max                                                       |
| Output V.S.W.R.                                                                                                    | 1.5 : 1 max.                                                      |
| Mute                                                                                                               | Shut off the HPA if L.O. unlocked                                 |
| Status LED                                                                                                         | RED                                                               |
| L.O.                                                                                                               | GREEN                                                             |
|                                                                                                                    | GREEN                                                             |
|                                                                                                                    | GREEN BLINKING                                                    |
|                                                                                                                    | YELLOW                                                            |
|                                                                                                                    | YELLOW BLINKING                                                   |
| Internal 10MHz Auto-Detect                                                                                         | GREEN                                                             |
|                                                                                                                    | GREEN BLINKING                                                    |
| SSPA Muted                                                                                                         | SSPA OK                                                           |
|                                                                                                                    | All OK L.O. 26.55 GHz                                             |
|                                                                                                                    | All OK L.O. 27.4 GHz                                              |
|                                                                                                                    | All OK L.O. 28.05 GHz                                             |
|                                                                                                                    | All OK L.O. 29.05 GHz                                             |
|                                                                                                                    | EXTERNAL DETECTED                                                 |
|                                                                                                                    | ENABLED                                                           |
| Temperature range (ambient)                                                                                        |                                                                   |
| operating                                                                                                          | -40 deg C to +60 deg C                                            |
| storage                                                                                                            | -55 deg C to +85 deg C                                            |
| Vibration and shock                                                                                                | Complies with MIL-STD-810E                                        |
| Dimensions & housing                                                                                               | 140 (L) x 122.4 (W) x 84 (H) mm<br>5.5" (L) x 4.8" (W) x 3.3" (H) |
| Weight                                                                                                             | 2.2 kg (4.85 lbs) max                                             |