

## IRT Rack Mount 2000W Ku-Band BUC / SSPA

The IRT Intelligent Power Block-Up Converter Series is smaller, lighter and more powerful 2kW Ku-Band Rack Mount BUC. This series allows significant size and weight reduction and at the same time substantially improves thermal efficiency, which leads to higher reliability and longer MTBF.

Using patent pending Z-combining method and advanced GaN technology, this series has truly outstanding power density - up to 2kW Psat in 8RU light compact package.

The IRT 2kW Ku-Band Rack Mount BUC features best in class RF characteristics, RF sample port, true RMS power measurements, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces. Redundant truly hot swappable power supply gives even higher overall reliability.

### Options

- Internal 10MHz reference (BUC)
- 10MHz reference auxiliary output option (BUC)
- Input and Output RF Sample port
- Automatic Level Control (ALC)



### Features

- Extremely high power density - up to 2kW PSAT in 19" Rackmount, 8RU only!
- Superior RF performance:
  - o Phase noise 5-8dB better than IESS308/309
  - o High Linearity
  - o PSAT up to 63 dBm
  - o Wide dynamic range of Gain Control
- Switchable LO - standard and Extended Ku-Band in one unit
- Redundant Hot Swappable Power Supply
- RF Overdrive Protection
- Configuration via RS-232 serial console, packet protocol RS-485 - User friendly HTTP based GUI and SNMP
- User friendly front panel with menu driven display
- Redundant Ready - No external redundancy controller required
- Built-in power metering
- Full VSWR protection

| RF Parameters                             |                    |                                                                                                |
|-------------------------------------------|--------------------|------------------------------------------------------------------------------------------------|
| RF Frequency Range-Available in/switched: |                    | 12.75-13.25GHz 14-14.5GHz 13.75-14.5GHz                                                        |
| IF Frequency Range                        |                    | 950-1450MHz 950-1450MHz 950-1700MHz                                                            |
| LO Frequency                              |                    | 11.8GHz 13.05GHz 12.8GHz                                                                       |
| Conversion                                |                    | Single Conversion; non-inverting                                                               |
| Saturated Power                           |                    | 63dBm/2KW typ                                                                                  |
| Linear Power                              |                    | 60dBm min/1KW                                                                                  |
| Conversion Gain                           |                    | 75dB min, 77dB typ                                                                             |
| Gain Flatness                             |                    | +/-1dB typ +/-1.5dB max over full band;<br>+/-0.5dB max over any 40MHz                         |
| Gain Stability over temperature           |                    | +/-1.5dB over full temperature range                                                           |
| Gain Stability over input power           |                    | 3dB typ 4dB max from 10dB back off to rated power                                              |
| Gain Control                              |                    | 20dB min dynamic range                                                                         |
| External Reference Frequency              |                    | 10MHz multiplexed with IF In                                                                   |
| External Reference Required Phase Noise   |                    | -130dBc/Hz @ 100Hz; -140dBc/Hz @ 1kHz; -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100 kHz                |
| Up-Converter Phase Noise                  |                    | -68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz<br>95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz |
| Linearity:                                | 2 tone IMD         | -25dBc at P linear                                                                             |
|                                           | Spectral Re-growth | -30dBc for QPSK at 1.5 x symbol rate at Plinear                                                |
| Noise Power Density                       | Transmit Band      | -85dBm/Hz max                                                                                  |
|                                           | Receive Band       | -148dBm/Hz max                                                                                 |
| Output Spurious:                          | Non-signal related | -60dBc                                                                                         |
|                                           | Signal related     | -55dBc                                                                                         |
| Power & Mechanical                        |                    |                                                                                                |
| AC Voltage Range                          |                    | 190-265VAC 50-60Hz Auto-Ranging PFC                                                            |
| Power Consumption                         |                    | 11.8KW (at rated power)   10.8KW (at 3 dB back off)                                            |
| Size                                      |                    | 6RU SSPA + 2RU PSU                                                                             |
| Weight                                    |                    | 90KG                                                                                           |
| Cooling                                   |                    | Forced Air                                                                                     |
| Operating Temperature / Relative Humidity |                    | 0°C to +50°C / Up to 99% non-condensing                                                        |
| Interfaces                                |                    |                                                                                                |
| IF Input Connector                        |                    | N-type female rear panel                                                                       |
| RF Output Connector                       |                    | WR75 grooved rear panel                                                                        |
| RF Sample                                 |                    | N-type female front panel                                                                      |
| AC Power In                               |                    | NEMA Connector rear panel                                                                      |
| M&C Interface-Serial, Analog, Ethernet    |                    | DSUB Connectors. RJ45 rear panel                                                               |
| Redundant Interface                       |                    | HD15 Connector rear panel                                                                      |

Specifications are subject to change without notice