

## IRT Super High Power Density 100W-1000W C-Band Rack Mount GaN/GaAs BUC/SSPA

The IRT Intelligent Power Block-Up Converter iPB™ Series is smaller, lighter and more powerful allowing significant high-power BUC / SSPA size and weight reduction while substantially improving thermal efficiency, which leads to higher reliability and longer MTBF. That's why IRT offers 3 years warranty for this product line!

The new IRT 100W-1000W BUC/SSPA iPB™ Series are very compact, light and extremely powerful. Using patent pending Z-combining method and advanced GaN technology, the new IRT 100W - 1000W Rack Mount BUC / SSPA has truly outstanding power density - up to 1000W Psat C-Band in 5RU light compact package.

The IRT Rack Mount BUC / SSPA 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 10 MHz Reference clock
- Autosense 10 MHz Reference clock
- Automated Level Control (ALC) Option
- SSPA option available



### Features

- Extremely high power density - up to 1000W PSAT C-Band in 19" Rackmount, 5RU
- Superior RF performance
- Superior Phase Noise: 5-8 dB better than IESS308/309 recommendation
- Highest Linearity at small back off
- Wide dynamic range of Gain Control
- RF Overdrive Protection
- Built In Output Isolator – full output VSWR Protection
- RF Sample port
- Redundancy ready with no need of external controller
- True RMS forward and reflected power monitors
- User friendly front panel display and control buttons
- SNMPv3
- Field upgradable SW
- Analogue Interface

| RF Parameters               |                    |                                                                                                 |
|-----------------------------|--------------------|-------------------------------------------------------------------------------------------------|
| RF Frequency Band, GHz      |                    | 5.85 - 6.425 GHz (other options available)                                                      |
| IF Frequency Range, MHz     |                    | 950 - 1525 MHz (other options available)                                                        |
| LO Frequency                |                    | 4.9GHz/12.8GHz                                                                                  |
| Conversion Gain, dB         |                    | 75dB min, 77dB typ                                                                              |
| Gain Flatness, dB           | Over full band     | +/-1 typical , +/-1.5 max                                                                       |
|                             | Over any 40MHz     | +/-0.5 max                                                                                      |
| Gain Stability, dB          |                    | +/-1.0dB over full temperature range                                                            |
| Gain Control, dB            |                    | 20dB minimal dynamic range                                                                      |
| Linearity at<br>Pout=Plin:  | 2 tone IMD         | -24dBc at P linear                                                                              |
|                             | Spectral Re-growth | -30dBc for QPSK at 1.5xsymbol rate at Plinear                                                   |
| Noise Power Density, dBm/Hz |                    | -68dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz<br>-95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz |
| Spurious Emission dBc       |                    | -60dBc / -65dBc                                                                                 |

| Power & Mechanical                        |                                         |
|-------------------------------------------|-----------------------------------------|
| AC Voltage Range                          | 90-265VAC 50-60 Hz Auto-Ranging; PFC    |
| Cooling                                   | Forced Air                              |
| Operating Temperature / Relative Humidity | 0 C .. +50 C / Up to 99% non-condensing |

| Interfaces                      |                                  |
|---------------------------------|----------------------------------|
| IF Input Connector              | N – type female                  |
| RF Output Connector             | CPR137/WR75 Grooved              |
| AC Power In                     | NEMA Connector rear panel        |
| M&C Interface-Serial – Ethernet | DSUB Connectors, RJ45 rear panel |

| Part Number        | Prated<br>(dBm/w) | Plinear<br>(dBm/W) | P Cons<br>at Prated | P Cons<br>at Plin | RU  |
|--------------------|-------------------|--------------------|---------------------|-------------------|-----|
| IPB*-CB00500-RMSX* | 50 / 100          | 47 / 50            | 400W                | 320W              | 2RU |
| IPB-CB00530-RMSX*  | 53 / 200          | 50 / 100           | 900W                | 700W              | 3RU |
| IPB-CB00540-RMSX*  | 54 / 250          | 51 / 125           | 1000W               | 750W              | 3RU |
| IPB-CB00560-RMSX*  | 56 / 400          | 53 / 200           | 2000W               | 1800W             | 4RU |
| IPB-CB00590-RMSX*  | 59 / 800          | 56 / 400           | 4000W               | 3500W             | 5RU |
| IPB-CB00600-RMSX*  | 60 / 1000         | 57 / 500           | 4200W               | 3600W             | 5RU |

Specifications are subject to change without notice