

50W-1000W Ku-Band Rack Mount GaN/GaAs BUC/SSPA

Super High Power Density

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.

The new IRT 50W-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 50W - 1000W Rack Mount BUC / SSPA has truly outstanding power density - up to 1000W Psat Ku-Band in 6RU 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 Ku-Band in 19" Rackmount, 6RU
- 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 | | 14 - 14.5GHz / 13.75 - 14.5GHz |
| IF Frequency Range, MHz | | 950 - 1700MHz |
| LO Frequency | | Single Conversion; non-inverting |
| 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 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 -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 | WR75 Grooved |
| AC Power In | NEMA Connector rear panel |
| M&C Interface-Serial – Ethernet | DSUB Connectors, RJ45 rear panel |

| Part Number | Prated (dBm/w) | Plinear (dBm/W) | P Cons at Prated | P Cons at Plin | RU |
|-------------------|----------------|-----------------|------------------|----------------|-----|
| IPB-KXB0470-RMSX* | 47 / 50 | 44 / 25 | 300W | 260W | 2RU |
| IPB-KXB0500-RMSX* | 50 / 100 | 47 / 50 | 600W | 520W | 3RU |
| IPB-KXB0530-RMSX* | 53 / 200 | 50 / 100 | 1100W | 800W | 4RU |
| IPB-KXB0540-RMSX* | 54 / 250 | 51 / 125 | 1500W | 1200W | 5RU |
| IPB-KXB0540-RMSX* | 55 / 300 | 52 / 150 | 2000W | 1700W | 5RU |
| IPB-KXB0560-RMSX* | 56 / 400 | 53 / 200 | 2300W | 2000W | 5RU |
| IPB-KXB0570-RMSX* | 57 / 500 | 54 / 250 | 2500W | 2200W | 5RU |
| IPB-KXB0590-RMSX* | 59 / 800 | 56 / 400 | 4500W | 4000W | 6RU |
| IPB-KXB0600-RMSX* | 60 / 1000 | 57 / 500 | 4800W | 4200W | 6RU |

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
 Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.