

# ***iPA™ SERIES SUPER HIGH POWER DENSITY 250W / 300W / 350W / 400W KU-BAND RACK MOUNT GAN POWERED SSPA***

The IRT Technologies Intelligent Power Amplifier *iPA™* Series is Smaller, lighter and more powerful 250W / 300W / 350W / 400W Ku-Band Rack Mount SSPA *iPA™* Series allows significant high power SSPA size and weight reduction and at the same time substantially improves 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 Technologies powered by GaN technology 250W / 300W / 350W / 400W Ku-Band SSPA *iPA™* Series are very compact, light and extremely powerful. Using patent pending Z-combining method and advanced GaN technology new IRT 250W / 300W / 350W / 400W Ku-Band Rack Mount SSPA has truly outstanding power density - up to 400W Psat in 5RU light compact package. IRT 250W / 300W / 350W / 400W Ku-Band Rack Mount 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.

## **KEY FEATURES**

- Extremely high power density - up to 400W Psat in 19" Rackmount, 5RU only!
- Superior RF performance:
  - ✓ High Linearity
  - ✓ Psat up to 56 dBm
  - ✓ Spurious below -65dBc
  - ✓ Wide dynamic range of Gain Control
- RF Overdrive Protection
- Available in both standard and Extended Ku-Band
- Field upgradable software
- Full VSWR protection
- Redundant Hot Swappable Power Supply
- Input and Output RF Sample port
- 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
- Automated Level Control (ALC) Option
- Redundant Ready - No External Redundancy Controller Required.
- Built-in Power Metering

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## iPA™ SERIES 250W / 300W / 350W / 400W Ku-Band Rack Mount SSPA Specification

Parameter	250W	300W	350W	400W
<b>RF Performance</b>				
RF Frequency Range-Available	14-14.5GHz/13.75-14.5GHz			
Rated Power	54dBm/250W typ	55dBm/300W typ	55.5dBm/350W typ	56dBm/400W typ
Saturated Power	54dBm/250W typ	55dBm/300W typ	55.5dBm/350W typ	56dBm/400W typ
Linear power	51dBm min	52dBm min	52.5dBm min	53dBm min
Conversion Gain	72dB min, 75dB typ			
Gain Flatness	+/-1dB typ +/-1.5dB max over full band; +/-0.5dB max over any 40MHz			
Gain Stability over temperature	+/-1dB 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			
Noise Figure	6dB max			
AM/PM Conversion	1.5 deg/dB max up to rated power			
Group Delay	Linear: 0.02 nsec/MHz max; Parabolic: 0.003 nsec/MHz**2 max; Ripple: 1nsec p-p max			
Input Return Loss	16dB min			
Output Return Loss	20dB min			
Linearity: 2 tone IMD Spectral Re-growth	-24dBc at P linear -30dBc for QPSK at 1.5xsymbol rate at Plin			
Output Spurious:	-65dBc			
<b>Power</b>				
AC Voltage Range	190-265VAC 50-60Hz auto-ranging PFC			
Power Consumption at rated power	1500W	1750W	2000W	2100W
Power Consumption at 3 dB back off	1200W	1400W	1700W	1800W
<b>Mechanical</b>				
Size	5RU			
Weight	65lbs			
Cooling	Forced Air			
Operating temperature	0°C to +55°C			
Relative Humidity	Up to 99% non-condensing			
<b>Interfaces</b>				
RF 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 and Ethernet	DSUB Connectors, RJ45 rear panel			
Redundant Interface	HD15 Connector rear panel			
<b>Part Numbering Information</b>				
	250W	300W	350W	400W
IRT Part Number	IPA-KXB0540-RMS0	IPA-KXB0550-RMS0	IPA-KXB0555-RMS0	IPA-KXB0560-RMS0

Specifications are subject to change without notice

Rev.03

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