

high LINEARITY that just won't quit



HIGH POWER HUB MOUNT SOLID-STATE POWER AMPLIFIERS FROM MITEC

Mitec, a global provider of RF components and systems to telecom and satcom markets, is cranking up the power.

Choose one of our high power hub mount solid-state power amplifiers for C Band or Ku Band and you'll receive a value priced solution, when you need it, where you need it, with everything you need. The fact is Mitec has been building and supporting carrier-grade solutions since 1973. Fast delivery, full documentation, immediate product support, engineered solutions—that's Mitec.

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High power hub mount solid-state power amplifiers (SSPAs)

Ku Band SSPA 20W-250W

C Band SSPA 100W-250W

Mitec's products have more than a quarter century of proven field experience, demonstrating their unmatched dependability and reliability day after day. This level of dependability can be found in our line of high power hub mount solid-state power amplifiers (SSPAs). Uniquely designed to be a high quality, but cost effective solution for the satellite communications market, this line of high power hub mount SSPAs sets the standard for the satellite industry.

The Mitec series of high power SSPAs are designed for use primarily in satellite communications applications. The operating frequency band of Ku Band SSPA is in the standard 14.0GHz to 14.5GHz, and 5.85GHz to 6.42GHz in the standard C Band. Other frequency ranges are also available to customer specification.

These units are characterized by high linearity and high power efficiency, as well as excellent thermal efficiency and dependability over the full operating temperature range.



KU Band SSPA 20W-250W :

The operating frequency band of KU Band SSPA is in standard Ku Band from 14.0 to 14.5 GHz (13.75 - 14.5 GHz available)



C Band SSPA 100W-250W :

The operating frequency band of C Band SSPA is in standard C Band from 5.85 to 6.42 GHz (6.4 - 6.7 GHz and 6.7 - 7.0 GHz available)



Key features

- Operating temperature range of -40°C to +55°C
- Redundancy ready
- Light weight and compact – highest power density on the market
- High thermal dissipation efficiency resulting in “Best in Class” Mean Time Before Failure
- RF monitor Output power
- Over temperature shutdown
- High Mean Time Before Failure (MTBF 60 - 120 K hours)
- Monitor & Control Interface
 - Serial and Analog M&C interfaces
 - Alarms: Voltage/Current/Temperature/Summary
 - Control: Mute/Gain
 - Monitoring: Forward
 - RF power detection
 - Local Status Indicators – LED
 - Transmit/Fault/Standby
 - Power On
 - RF Sample Port



Mechanical Features

- Fans are environmentally protected (IP54 compliant)
- Fans are field replaceable
- External shroud helps reduce thermal heat from direct sun
- Light weight
- Smallest size

Options

- Frequency range options available
- Serial Remote Interfaces (RS422/RS232)
- Remote Control Unit
- 1:1 to 1:N Redundancy System
- 1:1 Compact Redundancy Combining Assembly
- Extended Warranty
- RF Monitor for input power
- Monitoring of RF forward & reflected power
- Constant Power
- External Fuse

Electrical Characteristics
Specifications (typical)

	KU Band SSPA 20W-250W	C Band SSPA 100W-250W
Frequency range	14.0 – 14.5 GHz (13.75 – 14.5 GHz available)	5.850 – 6.425 GHz (other options available)
Gain	70dB nominal	
Max. input power without damage	+ 10 dBm	
Gain Flatness over full band	± 1.0 dB max.	
Gain slope	± 0.3 dB/40 MHz max.	
Gain variation	± 1.0 dB over operating temperature range	
Gain Adjustment Range	20 dB typical with 0.1 dB step size	
Input and Output Return Loss	18 dB min.	
Noise Figure at maximum gain	10 dB nominal	
Spurious at P1dB	- 65 dBc max.	
Harmonics at P1dB – 3dB	- 50 dBc max.	
AM/PM conversion	2.0 degrees/dB max (@ P1dB)	
Third order IMD (2 equal tones 5MHz apart)	- 25 dBc max. @P1dB – 3 dB	
Prime Power Voltage	90 – 265 VAC (high power models 190 – 265)	
Prime Power Frequency	47 – 63 Hz	

Mechanical Characteristics
Interfaces

RF input	Type N (Female)	
RF output	WR75 Cover Grooved (other options available)	CPR 137 Cover Grooved (other options available)
RF output sample	Type N (Female)	
RF input sample	Type N (Female)	
M&C—RS485 and Analogue	Military Specification Weatherized Connector	
Power	Military Specification Weatherized Connector	

KU Band SSPA 20W-250W

Output Power @ PSAT Nom (Watts/dBm)	Output Power @ P1dB min (Watts/dBm)	Weight (KG/LBS)	Dimensions L, W, H (inches)	Power Consumption For Booster (Watts)	Model #
20W/43	16W/42	19/42	17 x 8 x 12	250	WPA-14014542-60-ES-00
25W/44	20W/43	19/42	17 x 8 x 12	300	WPA-14014543-60-ES-00
30W/45	25W/44	19/42	17 x 8 x 12	350	WPA-14014544-60-ES-00
40W/46	30W/45	19/42	17 x 8 x 12	400	WPA-14014545-60-ES-00
50W/47	40W/46	19/42	17 x 8 x 12	600	WPA-14014546-60-ES-00
60W/48	50W/47	19/42	17 x 8 x 12	700	WPA-14014547-60-ES-00
100W/50 - 220 VAC only	80W/49	33/72	21 x 15 x 10	1200	WPA-14014549-70-ES-00
125W/51 - 220 VAC only	100W/50	33/72	21 x 15 x 10	1300	WPA-14014550-70-ES-00
150W/52 - 220 VAC only	125W/50.7	33/72	21 x 15 x 10	1400	WPA-14014551-70-ES-00
200W/53 - 220 VAC only	150W/52	50/110	21 x 15 x 14	2000	WPA-14014552-70-ES-00
250W/54 - 220 VAC only	200W/53	50/110	21 x 15 x 14	2300	WPA-14014553-70-ES-00

C Band SSPA 100W-250W

Output Power @ PSAT Nom (Watts/dBm)	Output Power @ P1dB min (Watts/dBm)	Weight (KG/LBS)	Dimensions L, W, H (inches)	Power Consumption For Booster (Watts)	Model #
100W/50	80/49	15/33	22 x 10 x 12	600W	WPA-596449-70-ES-00
125W/51	100/50	15/33	22 x 10 x 12	800W	WPA-596450-70-ES-00
150W/52	125/51	15/33	22 x 10 x 12	900W	WPA-596451-70-ES-00
200W/53	150/52	15/33	22 x 10 x 12	1000W	WPA-596452-70-ES-00
250W/54	200/53	15/33	22 x 10 x 12	1100W	WPA-596453-70-ES-00