

Puma 120Ka

120W Ka-band GaN Solid-State Amplifier (SSPA)/ Block Upconverter (BUC)

- **Powerful:** 60W linear power
- **Efficient:** 800W AC power draw at linear power
- **Compact:** 34 lbs in 7.0 x 10.31 x 18 inch package
- **Rugged:** -40C to +60C, MIL-STD-810 environment
- **Flexible:** Single-, Dual-, Tri- or Quad-band internal BUC options within the 27.5 to 31 GHz band
- OpenBMIP over Ethernet option



The most powerful, rugged Ka-band SSPA/Block Upconverter to provide 60W of linear power for satcom uplinks. High efficiency GaN solid-state design enables big power with high efficiency, while handling the toughest environments. If you need a sleek, powerful SSPA or BUC to speed up your transportable terminal a Comtech Puma™. Go to xicomtech.com to see our full X-, Ku- and Ka-band line of Puma products for solutions across the spectrum.

Puma 120Ka

120W Ka-band GaN SSPA / BUC

Frequency and Input Levels

RF Output Frequency (Other frequencies available in 27.5 to 31 GHz band)	27.5 to 30 GHz
Input Level, No Damage	+10 dBm max
IF/Ref Input Impedance	50 ohms
With optional BUC	
IF Input Frequency	950 to 3450 MHz
LO Reference Frequency	External 10 MHz
LO Reference Level	0 dBm \pm 5 dB

Phase Noise with Optional BUC

Phase Noise (max)	
100 Hz	-63 dBc/Hz
1 kHz	-73 dBc/Hz
10 kHz	-83 dBc/Hz
100 kHz	-93 dBc/Hz
1 MHz	-103 dBc/Hz
Reference Phase Noise (max)	
10 Hz	-125 dBc/Hz
100 Hz	-155 dBc/Hz
1 kHz	-165 dBc/Hz

Output RF Power and Linearity

Eq. Saturated Power, P_{SAT}	120W (51 dBm)
Maximum CW Power, P_{MAX}	100W (50 dBm)
Linear Power, P_{LIN} (min)	60W (47.8 dBm)
Linearity @ P_{LIN}	
Noise Power Ratio	-19 dBc max
Spectral Regrowth @ P_{LIN} (QPSK, OQPSK @ 1SR offset)	-30 dBc max
Intermodulation Products wrt sum of 2 equal carriers	-25 dBc max
AM to PM Conversion	2.0°/dB max

Phase Linearity and VSWR

Transmit Phase Linearity up to P_{LIN}	
over any 2 MHz	\pm 0.2 radian
over any 36 MHz	\pm 0.4 radian
over any 72 MHz	\pm 0.5 radian
over any 90 MHz	\pm 0.6 radian
over any 120 MHz	\pm 0.7 radian
Input VSWR	1.5:1
Output VSWR	1.3:1

Gain

Small Signal (typical)	70 dB \pm 5 dB
Gain Attenuation Range	25 dB, 0.1 dB steps
Gain Variation (over any 1 GHz)	3.0 dB p-p max
Gain Variation (over full band)	5.0 dB p-p max
Gain Slope (max)	0.04 dB/MHz
Gain Stability, over 24 hours	1.0 dB p-p max
Gain Variation over Temp	2.0 dB p-p max

Prime Power/Environment/Interfaces

90-264 VAC Prime Power	800 @ P_{LIN}
Operating Temp Range	-40° to +60°C
Non-Operating Temp Range	-50° to +70°C
Altitude (max)	12,000 ft. MSL
Humidity	100% condensing
Shock/Vibration	Normal transportation
M&C Interface	Ethernet/RS-422/RS-485 and Serial RS-232 (Optional SNMP)

Noise and Spurious

Noise Power Transmit Band	-75 dBW/4 kHz
Noise Power Receive Band	-150 dBW/4 kHz
AC Line Spurious	
sum of all spurs	-30 dBc
single sideband sum	-36 dBc
Harmonics	-60 dBc
Output Spurious @ P_{LIN} (excludes 1 MHz band)	-60 dBc

Weight and Dimensions

Weight	34 lb typical (15.42 kg)
Dimensions	7.0" x 10.31" x 18.0" (17.78cm x 26.18cm x 45.72cm)

About Us

Comtech Telecommunications Corp. is a leading global technology company providing terrestrial and wireless network solutions, next-generation 9-1-1 emergency services, satellite and space communications technologies, and cloud native solutions to commercial and government customers around the world. Our unique culture of innovation and employee empowerment unleashes a relentless passion for customer success. With multiple facilities located in technology corridors throughout the United States and the world, Comtech leverages its global presence, technology leadership and decades of experience to create the world's most innovative communications solutions.

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