Go toxicomtech.com to see our full X-, Ku- and Ka-band line of Puma products for solutions across the spectrum.

Puma 400X

400W X-band GaN Solid-State Amplifier (SSPA) / Block Upconverter (BUC)

**POWERFUL:** 200W linear power

**EFFICIENT:** 1300W AC power draw at linear power

**COMPACT:** 50 lbs in 8.6 x 14.0 x 19.0 inch package

**RUGGED:** -40C to +60C, MIL-STD-810 environment

**SILENT:** Low leakage for multi-carrier low PIM

The most powerful, rugged X-band SSPA/Block Upconverter to provide 200W 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 – you need a Puma™

Go to xicomtech.com to see our full X-, Ku- and Ka-band line of Puma products for solutions across the spectrum.
# Puma 400X

**400W X-band GaN SSPA / BUC**

## Frequency and Input Levels
- **RF Output Frequency**: 7.9 to 8.4 GHz
- **Input Level, No Damage**: +10 dBm max
- **IF/Ref Input Impedance**: 50 ohms
  
  **With optional BUC**
  - **IF Input Frequency**: 950 to 1450 MHz
  - **LO Reference Frequency**: External 10 MHz
  - **LO Reference Level**: 0 dBm ± 5 dB

## Output RF Power and Linearity
- **Eq. Saturated Power, \( P_{SAT} \)**: 400W (56 dBm)
- **Maximum CW Power, \( P_{MAX} \)**: 300W (54.8 dBm)
- **Linear Power, \( P_{LIN} \) (min)**: 200W (53 dBm)
  
  **Linearity @ \( P_{LIN} \)**
  - **Spectral Regrowth @ \( P_{LIN} \)**: -30 dBc max
  - **Intermodulation Products** (wrt sum of 2 equal carriers): -25 dBc max
  - **AM to PM Conversion**: 2.0°/dB max

## GAIN
- **Small Signal (typical)**: 70 dB ±5 dB with optional BUC
  
  **Gain Variation (over 40 MHz)**: 1.0 dB p-p max
  
  **Gain Variation (over full band)**: 3.0 dB p-p max with optional BUC
  
  **Gain Stability, over 24 hours**: 0.5 dB p-p max
  
  **Gain Variation over Temp**: 4.0 dB p-p max

## Noise and Spurious
- **Noise Power Transmit Band**: -75 dBW/4 kHz
- **Noise Power Receive Band**: -80 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

## 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

## Phase Linearity and VSWR
- **Transmit Phase Linearity up to \( P_{LIN} \)**
  - **over any 2 MHz**: ±0.2 radian
  - **over any 36 MHz**: ±0.4 radian
  - **over any 72 MHz**: ±0.5 radian
  - **over any 90 MHz**: ±0.6 radian
  - **over any 120 MHz**: ±0.7 radian
  
  **Input VSWR**: 1.5:1
  
  **Output VSWR**: 1.3:1

## Prime Power/Environment/Interfaces
- **90-264 VAC Prime Power**: 1300 @ \( P_{LIN} \)
  
  **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 (SNMP with v3 option)

## Weight and Dimensions
- **Weight**: 50 lb (22.7 kg)
- **Dimensions**: 8.6” x 14.0” x 19.0” (21.8cm x 36.6cm x 48.3cm)

For additional information visit: [www.xicomtech.com](http://www.xicomtech.com)

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