

# Puma 200X

## 200W X-band GaN Solid-State Amplifier (SSPA) / Block Upconverter (BUC)

- POWERFUL:** 100W linear power
- EFFICIENT:** 725W AC power draw at linear power
- COMPACT:** 32 lbs in 6.8 x 10.5 x 17 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 100W 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](http://xicomtech.com)  
to see our full X-, Ku- and Ka-band line of  
Puma products for solutions across the spectrum.



# Puma 200X

## 200W 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 $\pm$ 5 dB |

### Output RF Power and Linearity

|                                |               |
|--------------------------------|---------------|
| Eq. Saturated Power, $P_{SAT}$ | 200W (53 dBm) |
| Maximum CW Power, $P_{MAX}$    | 160W (52 dBm) |
| Linear Power, $P_{LIN}$ (min)  | 100W (50 dBm) |

### Linearity @ $P_{LIN}$

|   |             |
|---|-------------|
| Spectral Regrowth @ $P_{LIN}$<br>(QPSK, OQPSK @ 1SR offset) | -30 dBc max |
| Intermodulation Products<br>wrt sum of 2 equal carriers     | -25 dBc max |
| AM to PM Conversion   | 2.0°/dB max |

### GAIN

|                                 |                     |
|---------------------------------|---------------------|
| Small Signal (typical)          | 70 dB $\pm$ 5 dB    |
| Gain Attenuation Range          | 25 dB, 0.1 dB steps |
| Gain Variation (over 40 MHz)    | 1.0 dB p-p max      |
| Gain Variation (over full band) | 3.0 dB p-p max      |
| Gain Slope (max)                | 0.04 dB/MHz         |
| 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                             | -75 dBW/4 kHz |
| AC Line Spurious<br>sum of all spurs                 | -30 dBc       |
| single sideband sum                                  | -36 dBc       |
| Harmonics  | -60 dBc       |
| Output Spurious @ $P_{LIN}$<br>(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                           | $\pm$ 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            |

### Prime Power/Environment/Interfaces

|                          |   |
|--------------------------|---|
| 90-264 VAC Prime Power   | 725 @ $P_{LIN}$                                 |
| 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/serial RS-232<br>(SNMP with v3 Option) |

### Weight and Dimensions

|            |  |
|------------|--|
| Weight     | 32 lb (14.5 kg)                                  |
| Dimensions | 6.8" x 10.5" x 17"<br>(17.3cm x 26.7cm x 43.2cm) |

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