

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 \pm 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} (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 |

GAIN

| | |
|--|------------------|
| Small Signal (typical) with optional BUC | 70 dB \pm 5 dB |
| Gain Variation (over 40 MHz) | 1.0 dB p-p max |
| Gain Variation (over full band) with optional BUC | 3.0 dB p-p max |
| 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 | \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 | 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
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