

Falcon 100Ku

100W Ku-band GaN Airborne Cabin Internal Solid-State Amplifier

- POWERFUL:** 50W linear power
- EFFICIENT:** 420W AC power draw at linear power
- LIGHTWEIGHT:** 14.5 lbs (6.6 kg)
- COMPACT:** 9.0 x 14.0 x 2.95 inch ARINC package
- RELIABLE:** DO-160 Category A1

Lightweight, efficient reliable Ku-band SSPA and block upconverter that provides 50W of linear power for satcom uplinks.

High efficiency GaN solid-state design enables big power from a box while still handling the toughest environments.

If you need a sleek, powerful BUC to speed up your compact terminal - you need a Falcon™.



Go to xicomtech.com to see our full Falcon product line for solutions across the spectrum.

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100W Ku-band GaN Airborne SSA

Frequency and Input Levels

RF Output Frequency	13.75 to 14.5 GHz
IF Input Frequency	950 to 1700 MHz
Input Level, No Damage	+10 dBm max
LO Reference Frequency	External 10 MHz
LO Reference Level	0 dBm \pm 5 dB
IF/REF Input Impedance	50 ohms

Output RF Power and Linearity

Eq. Saturated Power, P_{SAT}	100W (50 dBm)
Maximum CW Power, P_{MAX}	63W (48 dBm)
Linear Power, P_{LIN} (min)	50W (47 dBm)
Spectral Regrowth @ P_{LIN} (QPSK, OQPSK, @ > 1SR offset)	26 dBc max @
Intermodulation Products wrt sum of 2 equal carriers	-25 dBc max
AM to PM Conversion @ P_{LIN}	2.0°/dB max

GAIN

Small Signal (typical)	70 dB
Gain Attenuation Range	25 dB in 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	2.0 dB p-p max

Noise and Spurious

Noise Power Transmit Band	-70 dBW/4 kHz
Noise Power Receive Band	-150 dBW/4 kHz
AC Line Spurious fundamental	-50 dBc
sum of all spurs	-45 dBc
Harmonics	-60 dBc
Output Spurious @ P_{LIN} (excludes 1 MHz band)	-60 dBc

Phase Noise

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

100-120 VAC, 400 Hz nominal	420W @ P_{LIN}
Operating/Non Operating Temp Range	Per DO-160G Category A1
Environmental	Per DO-160G Category A1
Shock	Per DO-160G Category B
Vibration	Per DO-160G Category S
M&C Interface	Ethernet SNMP/serial RS-485

Weight and Dimensions

Weight	14.5 lb (6.6 kg)
Dimensions	9.0" x 14.0" x 2.95" (22.9cm x 35.5cm x 7.5cm)

For additional information visit: www.xicomtech.com
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