

Falcon Series Frequency Converter Module

L-Band to K-Band Block Upconverter

L-Band to K-Band block upconverter module with variable gain and slope.

The 1U chassis has the capacity for up to four hot-swap frequency converter modules. These can be all upconverters, all downconverters or a mix of both.

Frequency Converter Module



Frequency Converter Module

Compact form factor allowing multiple modules to be housed in the Genus chassis. Each module occupies 4 slots in the chassis.

Redundancy Configurations

Field-replaceable 2+1 or 1+1 redundant configuration

Hot Swap & Replaceable

RF Frequency Converter modules

Variable Gain & Slope

For balancing input signals.

Frequency Conversion

Up conversion from L-Band to K-Band.

Chassis Options

Local control & monitoring

via HMI high resolution touchscreen

Resilience

from dual redundant hot-swap power supplies & field replaceable CPU & HMI

Compact indoor & outdoor

chassis options, which can be part populated

Secure protocols

with SNMPv3 and HTTPS

Flexible Module Configurations

choose from a mixture of up and down converters with different operating frequencies.

Remote control & monitoring

via RJ45 Ethernet port with SNMP & web browser interface

Field replaceable Internal reference source

and external reference inject port with auto detection



Indoor Chassis



Outdoor Unit



Frequency Upconverter Module - RF Parameters			
Model Number		FN-U-KXL1-24458AC-S5S5	
Size		4 slots wide	
Redundancy		Standalone module	
Input Frequency Range		950-2050 MHz	
Output Frequency Range		17300 – 21200 MHz	
Instantaneous Bandwidth		1100 MHz	
Mean Conversion Gain		Max. 35 ± dB Min. 0 ± 2 dB	
Gain Steps		0.25 ± 0.15 dB	
Gain Flatness (50 Ohm)		Full Instantaneous Band: ±1.75 dB Any 40MHz: ±0.3 dB	
Input Return Loss		Typ. -20 dB / Min. -18 dB	
Output Return Loss		Typ. -18 dB / Min. -14 dB	
Noise Figure		Typ. 12 dB / Min. 14 dB	
Maximum Operational Input Level		-35 dBm	
OP1dB		Typ +8 dBm, Min 5 dBm	
OIP3		Typ +18 dBm, Min +15 dBm	
Internal Reference Stability		± 5 x 10 ⁻⁸ over 0 to 50°C	
Phase Noise (Typical values, measured with internal 100MHz reference)		Typical	Maximum
	@10 Hz offset	-70 dBc / Hz	-60 dBc / Hz
	@100 Hz offset	-80 dBc / Hz	-70 dBc / Hz
	@1 KHz offset	-90 dBc / Hz	-80 dBc / Hz
	@10 KHz offset	-98 dBc / Hz	-88 dBc / Hz
	@100 KHz offset	-101 dBc / Hz	-91 dBc / Hz
	@1 MHz offset	-107 dBc / Hz	-97 dBc / Hz
	@10 MHz offset	-130 dBc / Hz	-120 dBc / Hz
Integrated Phase Jitter (fs)		77.8 (RMS Typical, between 10kHz-10MHz at 21.2GHz)	
Spurs In-band (@ -15 dBm output)	Non-carrier related	-60 dBm typ., -70 dBm max.	
	Carrier related (>1MHz Offset)	-60 dBc typ., -55 dBc max.	
Spurs Out-of- band (@ -15 dBm output)	Carrier Related	-60 dBc typ., -55 dBc max.	
	Non-carrier related	-60 dBm typ., -70 dBm max.	
LO Breakthrough		< -70 dBm	
Image Rejection		> 60 dB typ.	
External Reference Input Frequency		10MHz or 100MHz (auto detection)	
External Reference Input Level		0dBm ± 10dB	
Mute		60 dB	
Number of conversion stages		Dual	
Spectral Inversion		Non-inverting	
IF Monitor		Yes. Internal RF detector monitored	
Spec version		0.2	

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

Note 3: All specs are for 50 Ohm connectors unless detailed otherwise.