

Falcon Series Frequency Converter Module

S-Band to S-Band Agile Frequency Converter

S-Band to S-Band agile Frequency Converter module with variable gain. Can be used as an upconverter or downconverter.

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

For balancing input signals.

Frequency Conversion

Bi-Directional

from S-Band to S-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 Converter Module - RF Parameters		
Model Numbers	FN-B-S6S6-24429AA-XXXX	
Size	4 slots wide	
Redundancy	Supported (Based on chassis configuration)	
Input Frequency Range	850-3000 MHz (selectable in 1 KHz steps)	
Output Frequency Range	850-3000 MHz (selectable in 1 KHz steps)	
Instantaneous Bandwidth	Mode 1: 200 MHz Mode 2: 400 MHz	
Mean Conversion Gain	Max. 30 ± 2 dB / Min. 0 ± 2 dB	
Gain steps	0.25 ± 0.15 dB	
Gain Flatness (dB)	Full Instantaneous Band : ± 1 dB Any 40 MHz : ± 0.35 dB	
Input Return Loss (50Ohm)	Typ. -18 dB / Min. -14 dB	
Output Return Loss (50Ohm)	Typ. -18 dB / Min. -14 dB	
Noise Figure At max. gain	Typ. 10 dB / Max 12 dB	
Maximum Operational Input level	- 30 dBm	
OP1dB At max. gain	Typ. +13 dBm / Min. +10 dBm	
OIP3 At max. gain	Typ. +25 dBm / Min. +22 dBm	
Internal Reference Stability	± 5 x 10 ⁻⁸ over 0 to 50°C	
Phase Noise (Typical values, measured with internal 100MHz reference)	@10 Hz offset	-70 dBc / Hz
	@100 Hz offset	-84 dBc / Hz
	@1 KHz offset	-98 dBc / Hz
	@10 KHz offset	-104 dBc / Hz
	@100 KHz offset	-107 dBc / Hz
	@1 MHz offset	-112 dBc / Hz
Spurs In-band @ -5 dBm output	Carrier Related >1MHz Offset	-60 dBc
	Harmonic	-50 dBc
	Non-carrier related	-70 dBm @ max. gain
Spurs Out-of-band @ -5 dBm output	Carrier Related	-60 dBc
	Harmonic	-50 dBc
	Non-carrier related	-70 dBm
LO Breakthrough	-60 dBm	
Image Rejection	60 dB typical	
External Reference Input Frequency	10 MHz or 100 MHz	
External Reference Input Level	0 dBm ± 10 dB	
Mute	60 dB	
Number of conversion stages	Dual	
Spectral Inversion	Non-inverting	
Spec version	0.4	

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.