

Falcon Series Frequency Converter Module

C-Band to L-Band Block Downconverter

C-Band to L-Band block downconverter 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.

Hot Swap & Replaceable

RF Frequency Converter modules

Variable Gain

For balancing input signals.

Redundancy Configurations

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

Frequency Conversion from C-Band to L-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 Downconverter Module – RF Parameters		Redundancy – RF Parameters	
Model Numbers	FN-D-C1L1-24426AA-XXXX	SWF-G1S-CX-111A-xxxx	SWF-G1S-CX-117-xxxx
Size	4 slots wide	4 slots wide	4 slots wide
Redundancy	Standalone module	1+1 (Note: This column denotes specs for 24426 in 1+1 configuration)	2+1 (Note: This column denotes specs for 24426 in 2+1 configuration)
Input Frequency Range (user selectable)	Mode 1: 3400 - 4400 MHz / Mode 2: 3600 - 4600 MHz / Mode 3: 3800 - 4800 MHz		
Output Frequency Range	1150 - 2150 MHz		
Mean Conversion Gain	Max. 35 ± 1.5 dB / Min. 0 ± 1.5 dB	Max. 33.9 ± 2.2 dB / Min. 3.9 ± 2.2 dB	Max. 34 ± 2.5 dB / Min. 4 ± 2.5 dB
Gain steps	0.25 ± 0.15 dB		
Gain Flatness (50Ohm)	Full L-Band ±1.5 dB Any 40MHz ±0.3 dB	Full L-Band ±1.7 dB	Full L-Band ± 2.0 dB
Slope Compensation / Control Steps	0-6 dB (pivot point at 2150MHz) / 1 dB		
Input Return Loss (50Ohm)	Typ. -18 dB / Min. -15 dB	Typ. -13 dB / Min. -9 dB	Typ. -13 dB / Min. -9 dB
Output Return Loss (50Ohm)	Typ. -18 dB / Min. -15 dB	Typ. -13 dB / Min. -10 dB	Typ. -13 dB / Min. -10 dB
Noise Figure At max. gain	Typ. 12 dB / Max 14 dB	Typ. 14.5 dB / Max 16.5 dB	Typ. 15 dB / Max 17 dB
Maximum Operational Input level	-30 dBm At max gain		
OPI1dB At max. gain	Typ. +18 dBm / Min. +15 dBm	Typ. +15.5 dBm / Min. +12.5 dBm	Typ. +15 dBm / Min. +12 dBm
OIP3 At max. gain	Typ. +28 dBm / Min. +25 dBm	Typ. +26 dBm / Min. +23 dBm	Typ. +25.5 dBm / Min. +22.5 dBm
Group Delay pk-pk	Typ. 1 ns / Max. 2 ns (Full instantaneous band)		
Internal Reference Stability	± 5 x 10 ⁻⁸ over 0 to 50°C		
Phase Noise (Typical values, measured with internal 100MHz reference)	@10 Hz offset	-68 dBc / Hz	
	@100 Hz offset	-80 dBc / Hz	
	@1 KHz offset	-90 dBc / Hz	
	@10 KHz offset	-102 dBc / Hz	
	@100 KHz offset	-103 dBc / Hz	
	@1 MHz offset	-112 dBc / Hz	
Spurs In-band	Non-carrier related	< -75 dBm (At -5dBm Output. Non-Harmonic)	
	Harmonic	< -50 dBc	
	Carrier related (>1MHz Offset)	< -60 dBc (At -5dBm Output. Non-Harmonic)	
Spurs Out-of-band	Carrier Related	< -60 dBc (At -5dBm Output)	
	Harmonic	< -50 dBc	
	Non-carrier related	< -75 dBm (At -5dBm Output)	
LO Breakthrough	< -75 dBm		
Image Rejection	Typ. 80 dB		
Conversion stages	Dual		
External Reference Input Frequency / Level	10MHz or 100MHz (auto detection) / 0dBm ± 10dB		
Mute / Spectral Inversion	60 dB / Non-inverting		
Spec version	1.0	1.0	0.1

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.