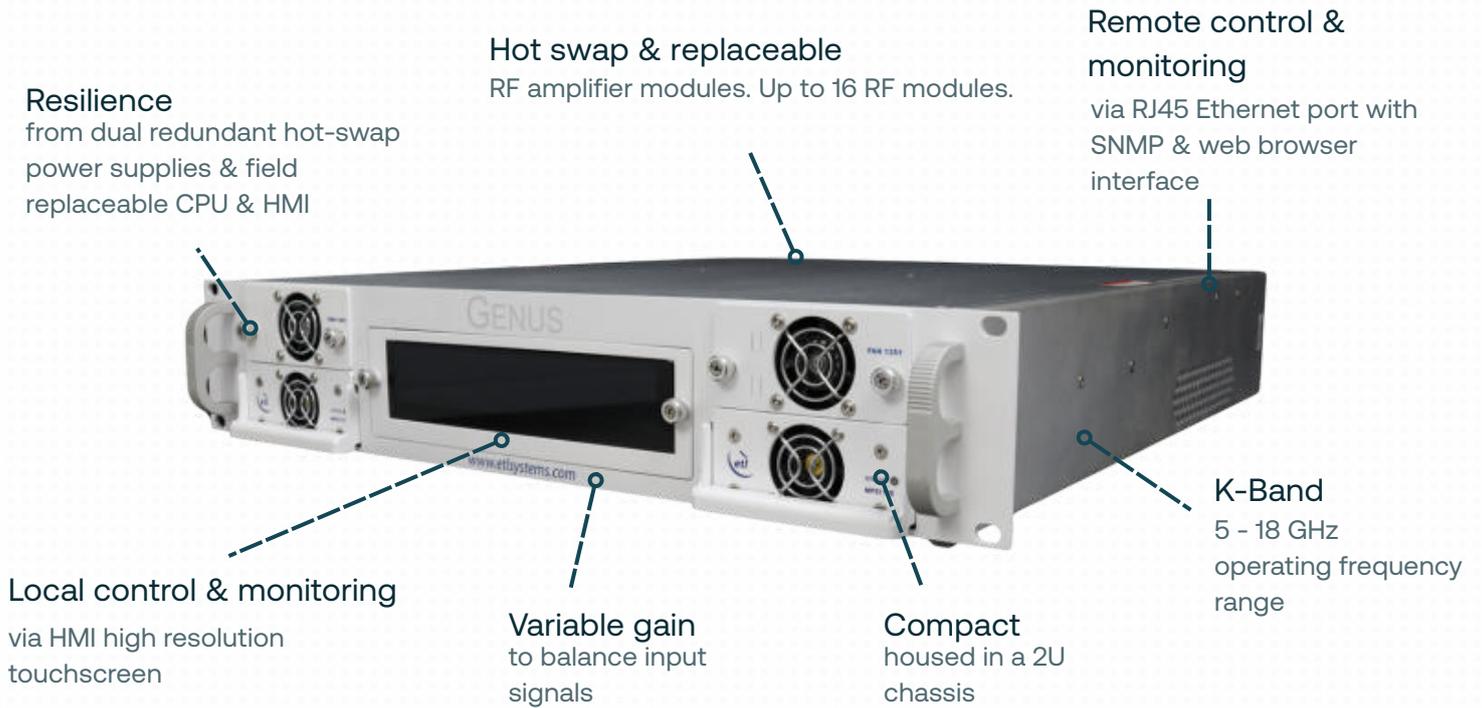


# Alto K-Band Smart Amplifier Module

wideband, low noise, high linearity and variable gain

K-band wide band SMART low noise amplifier module. Designed to be housed in Genus 2U 19" chassis. It operates over 5-18 GHz with a variable gain from 0 to 26dB. The module is hot-swappable and can be used in redundant configurations using external cabling.



Chassis Specification	
Dimensions/Weight/Colour	2U high x 550mm deep x 19" wide / <10kg / RAL9003 - white (semi-matte)
Capacity	17 module slots. Note: Actual modules may require >1 slot. Refer to required module spec table.
Temperature	Operating: 0°C to +45°C Storage: -20°C to +75°C
Location/Humidity/Altitude	Indoor use only / 20 to 90% non-condensing / 2,000m AMSL (Operational) 8,000m AMSL (Storage) Above Mean Sea Level
Control & Monitoring	Local: HMI, capacitive touch screen Remote: Ethernet via RJ45, 10BaseT/100 BaseTx. ETL TCP/IP, SNMPv2/3, HTTPS & built-in web server. HMI and CPU field replaceable.
MTTR	20 minutes (15 minutes to retrieve spare part and 5 mins to replace). Applies to LRUs only and assumed in-house stock.
AC Input/Consumption	85-264Vac 50/60Hz / 275W max. consumption at steady state
PSU Redundancy	Dual redundant and alarmed. Diode OR. Hot swappable.
Input & Output Ports	Dependant upon module fitted



### Smart Amplifier Module

Compact form factor allows multiple modules to be housed in the 2U GENUS chassis. Each module occupies 1 slot in the chassis.

RF Parameters		
Model Numbers	ALT-G2S-KX-147-K5K5	
Redundancy Configuration	Standalone Module	
Frequency Range	5 - 18 GHz	
Size	1 slot wide	
MTBF	>150,000 hours	
RF Connectors	50Ω K5 (2.92mm female)	
Gain	Max.	26 ± 2.0 dB
	Min.	0 ± 2.0 dB
Gain Flatness <small>When set to 0dB slope. In manual gain control mode, not AGC.</small>	Full Band	±2.0 dB
	Any 36 MHz	±0.2 dB
Gain Steps	1 ± 0.5 dB	
Input Return Loss	14 dB typ. 10 dB min.	
Output Return Loss	14 dB typ. 10 dB min.	
Isolation	60dB typ. 50dB min.	With amplifiers set at the same gain level. Worst case isolation is between adjacent amps, isolation degrades dB to dB for different gain levels.
Reverse Gain	< -60 dB typ.	
Noise Figure	3.5 dB typ. @ max gain setting 4.5 dB max. @ max gain setting	
1dB GCP	23 dBm typ. 18 dBm min.	Output power, over full gain range
OIP3	33 dBm typ. 28 dBm min.	@ max gain setting
In band, signal independent spuri	<-85 dBm max.	Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis.
Maximum Input Level	+15 dBm	For no damage. Non-operational.



# ALT-G2S-KX-147-K5K5 ■ & SWF-G2S-KX-131-XXXX



## Smart Amplifier Module

Compact form factor allows multiple modules to be housed in the 2U GENUS chassis. Each module occupies 1 slot in the chassis.

Smart Amplifier Module in 1+1 Redundant Configuration - RF Parameters

Model Numbers		ALT-G2S-KX-147-K5K5 & SWF-G2S-KX-131-S5S5	
Redundancy Configuration		1+1 Configuration	
Frequency Range		5 - 18 GHz	
Size		1 slot wide	
MTBF		>150,000 hours	
RF Connectors		50Ω SMA	
Gain	Max.	21 ± 2.0 dB	
	Min.	0 ± 2.0 dB	
Gain Flatness <small>When set to 0dB slope. In manual gain control mode, not AGC.</small>	Full Band	±2.5 dB	
	Any 36 MHz	±0.2 dB	
Gain Steps		1 ± 0.5 dB	
Input Return Loss		14 dB typ. 10 dB min.	
Output Return Loss		14 dB typ. 10 dB min.	
Isolation		60dB typ. 50dB min.	With amplifiers set at the same gain level. Worst case isolation is between adjacent amps, isolation degrades dB to dB for different gain levels.
Reverse Gain		< -60 dB typ.	
Noise Figure		5.5 dB typ. @ max gain setting 6.5 dB max. @ max gain setting	
1dB GCP		21 dBm typ. 16 dBm min.	Output power, over full gain range
OIP3		31 dBm typ. 26 dBm min.	@ max gain setting
In band, signal independent spuri		<-85 dBm max.	Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis.
Maximum Input Level		+15 dBm	For no damage. Non-operational.



Interface, Monitoring & Alarms		
Control Method	Local and remote as provided by selected chassis	
LNB Power	None	
Environmental		
Operating Temperature	-0°C to +50°C	Up to 8 modules in a chassis.
	-0°C to +45°C	Up to 16 modules in a chassis.
Storage Temperature	-20°C to +75°C	
Location	Indoor use only, within parent GENUS chassis	
Humidity	20 to 90% non-condensing, relative humidity	
Altitude	10,000ft / 3,000m above mean sea level	
Physical Dimensions & Parameters		
Weight	<0.35kg typ.	

The performance quoted above is for a standalone amplifier. For in-chassis performance, see relevant spec. tables.

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.