Alto L-band Smart Amplifier Module

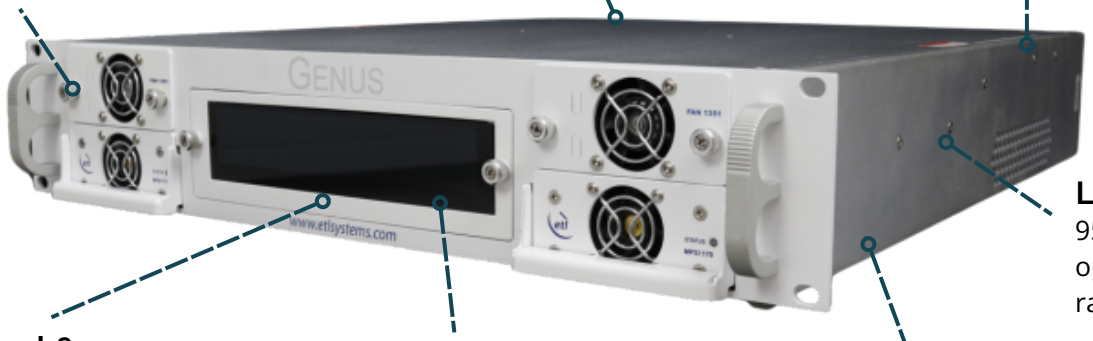
with low noise, high linearity, variable gain and slope control

L-band SMART amplifier module. Designed to be housed in Genus 2U 19" chassis. It operates over 950-2150 MHz. The module has low noise, high linearity, +24 to +0dB gain range with variable gain control. The chassis has the capacity for 16 amplifier modules. Positive slope compensation between +2dB and +9dB.

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

Hot swap & replaceable
RF amplifier modules. Up to 16 RF modules.

Remote control & monitoring
via RJ45 Ethernet port with SNMP & web browser interface



L-band
950-2150MHz operating frequency range

Local control & monitoring
via HMI high resolution touchscreen

Balance input signals
with variable gain or variable output level (AGC) modes & slope control

Compact
housed in a 2U chassis

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-L1-144-xxxx	
Frequency Range		950 - 2150 MHz	
Size		1 slot wide	
MTBF		>150,000 hours	
RF Connectors		75Ω BNC / 50Ω BNC	
Gain		24 ± 2.0 dB max. 0 ± 2.0 dB min.	@ 2 dB slope setting and 2150MHz
Gain Ripple @ 2dB slope setting. Removing linear content of frequency slope.	950 - 2150MHz	±1.0 dB	
	Any 36MHz	±0.3 dB	
Gain Steps		0.5 ± 0.25 dB in manual gain mode	
Slope Control Range		0 to 9 dB	Pivot point is at 2150MHz. Standing slope 2dB, controllable range 0-7dB in addition to this
Slope Control Steps		1 ± 0.5 dB	
Input Return Loss		15 dB typ. 10 dB min.	
Output Return Loss		15 dB typ. 10 dB min.	
Isolation	I/P - O/P	> 70 dB With amplifiers set at the same gain level. Worst case isolation is between adjacent amps, isolation degrades dB to dB for different gain levels.	
	I/P - I/P	> 80 dB	
	O/P - O/P	> 70 dB	
	L-band I/P - 10MHz I/P	> 70 dB	
Reverse Gain		< -60 dB typ.	
Noise Figure		< 9 dB @ 17 dB gain and 2 dB slope < 10 dB @ 17 dB gain and 9 dB slope < 7.5 dB @ max gain and 2 dB slope < 7.5 dB @ max gain and 9 dB slope	
1db GCP		> 15 dB @ 17 dB gain and 2 dB slope > 11 dB @ 17 dB gain and 9 dB slope > 15 dB @ max gain and 2 dB slope > 11 dB @ max gain and 9 dB slope	
OIP3		30 dBm typ. 25 dBm min.	At max. gain
OIP2		39 dBm typ. 35 dBm min.	At max. gain
In band, signal independent spurii		<-85 dBm max.	Very low level spurii from CPU clock, switch mode PSU and other control electronics inside the chassis.
Maximum Input Level		+20 dBm	For no damage. Non-operational.

Interface, Monitoring & Alarms		
Control Method	Local and remote as provided by selected chassis	
LNB Power	18V @ 500mA per channel (User selectable)	
10 MHz injection	Via Genus Chassis	
10 MHz insertion loss	0 dB ± 1.6 dB	
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.
*Measured values taken at room temperature