ETL Systems

Excelling in RF Engineering

Model Number:
ALT-G1S-L1-104

Alto L-band Smart Amplifier Module with low noise, high linearity, variable gain and slope control

Typical applications:

- Teleports & Earth Stations
- Satellite Operations
- Government & Defence applications
- Telemetry, Tracking & Command
- High Resilience applications

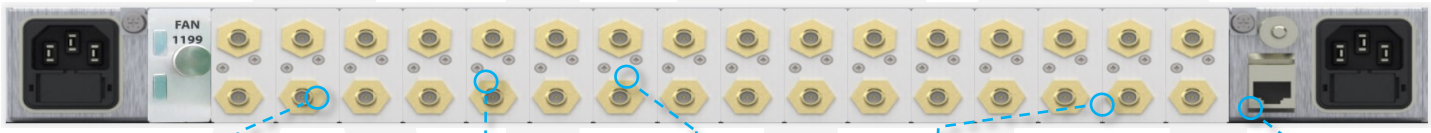
The extended L-band smart low noise amplifier module is designed to work in the Genus 1U chassis series, operating over 850-2150 MHz. The module has low noise, high linearity, +28 to 0dB gain range with variable gain and slope control. The chassis has the capacity 16 amplifier modules.

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

Local control & monitoring via HMI high

Compact housed in a 1U high chassis with capacity for up to 16 modules

L-band 850-2150 MHz operating frequency range



Hot Swap & replaceable RF Amplifier modules. Up to 16 RF modules housed in a 1U chassis

Low Noise For prime signal quality

High Linearity Ensures overall RF gain signal performance is optimised

Variable gain & slope control to balance input signals

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

Chassis - Specification	
Dimensions / Weight / Colour	1U high x 550mm deep x 19" wide / <10 kg / RAL9003—White (Semi-matte)
Capacity	Total of 17 module slots. Note that 1 slot may be used for fan (if required) and 1 slot may be used for 10 MHz EXT inject module (if required). 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 / 10,000 feet AMSL (Operational) 30,000 feet AMSL (Storage) *Above Mean Sea Level*
Control & Monitoring	Local: HMI touch screen Remote: Ethernet via RJ45, 10BaseT/100 BaseTx. TCP/IP, SNMP V3 & HTTPS & Web browser interface HMI and CPU field replaceable. Each module independently monitored and reported.
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 / 150W
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable
Input & Output ports	Dependant upon module fitted

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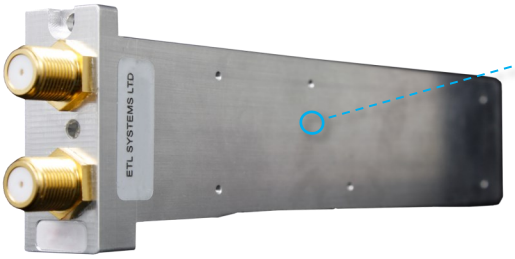

Smart Amplifier Module

Compact form factor allowing multiple modules to be housed in 1U chassis.
Each module uses 1 slot in the chassis.

Smart Amplifier Module - RF Parameters			
Model Numbers		ALT-G1S-L1-104	
Frequency Range		850-2150 MHz	
RF Connectors		50Ω SMA	50Ω N-type
Gain (dB)	Max.	28±2	
	Min.	0±2	
Gain Flatness (dB)	850 to 2150 MHz	±2.0	
	Any 36MHz	±0.2	
Gain Steps (dB)		0.25±0.15	
Slope Control Range (dB)		0 to 8. Pivot point at 2150 MHz	
Slope Control Steps (dB)		1±0.25	
Input Return Loss		18dB typ. 16 dB min	
Output Return Loss		16dB typ. 14 dB min	
Isolation (dB)	Typ.	60. With amplifiers set at the same gain level. Worst case isolation is between adjacent amps, isolation degrades dB-to-dB for different gain levels.	
	Min.	50 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 (dB)		< -60 Typical	
Noise Figure (dB)	Typ.	6 At max gain setting	
	Min.	8 At max gain setting	
1dB GCP (dBm)	Typ.	23 At max gain setting	
	Min.	20 At max gain setting	
OIP3 (dBm)	Typ.	33 At max gain setting	
	Min.	30 At max gain setting	
OIP2 (dBm	Typ.	44	
	Min.	40	
In band, signal independent spurii		<-85dBm max. Very low level spuria from CPU clock, switch mode PSU and other control electronics inside the chassis	
MTBF		>150,000 hrs. MTBF of each amp module. These are hot-swap	
Maximum Input Level		+20dBm. For no damage. None operational.	
Module Weight		0.35kg	
Spec Version		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.

ETL SYSTEMS LIMITED
Coldwell Radio Station
Madley
Hereford
England HR2 9NE

TELEPHONE
+44 (0)1981 259020

EMAIL
info@etlsystems.com

FACSIMILE
+44 (0)1981 259021

WEB
www.etlsystems.com

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Pb-Free
nqa ISO 9001 QUALITY MANAGEMENT
UKAS MANAGEMENT SYSTEMS 015