



Alto Extended 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 low noise amplifier module is designed to work in the Genus 1U chassis series, operating over 850-2450 MHz. The module has low noise, high linearity, +45 to -4 dB variable gain with variable slope control. The chassis has the capacity for up to 16 amplifier modules, or can house a mixture of other hot-swap module types.

Amplifier Module



Amplifier Module

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



Hot Swap & replaceable RF
Amplifier module



Variable Gain & Slope

For balancing input signals.



Extended L-Band
850-2450 MHz operating frequency range



Low Noise

For prime signal quality



High Linearity

Ensures overall RF gain signal performance is optimised

Chassis Options



Local control & monitoring via HMI high resolution touchscreen



Flexible Module Configurations choose from a mixture of amplifier modules with different operating frequencies.



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



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



Compact indoor & outdoor chassis options, which can be part populated



Field replaceable Internal 10MHz reference source and external reference inject port with auto detection (optional)



Secure protocols with SNMPv3 and HTTPS



Indoor Chassis



Outdoor Unit





| Smart Amplifier Module - RF Parameters | | |
|--|--|---|
| Model Numbers | ALT-G1S-S3-100A-xxxx | |
| Frequency Range | 850-2450 MHz | |
| RF Connectors | 50Ω SMA | |
| Gain (dB) | Max. | 45±2 |
| | Min. | -4±2 |
| Gain Flatness (dB) | 850 to 2450 MHz | ±0.6 |
| | Any 36 MHz | ±0.2 |
| Gain Steps (dB) | 0.25±0.15 | |
| Slope Control Range (dB) | 0 to 8. Pivot point at 2450 MHz | |
| Slope Control Steps (dB) | 1±0.25 | |
| Input Return Loss (dB) | 18 typ. 14 min | |
| Output Return Loss (dB) | 18 typ. 14 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. | 2.0 At max gain setting |
| | Max. | 3.0 At max gain setting |
| 1dB GCP (dBm) | Typ. | 23 At max gain setting |
| | Min. 850-2150MHz | 20 At max gain setting |
| | Min. >2150MHz | 19 At max gain setting |
| OIP3 (dBm) | Typ. | 35 At max gain setting |
| | Min. | 32 At max gain setting |
| OIP2 (dBm) | Typ. | 45 |
| | Min. | 41 |
| In band, signal independent spuri | <-85 dBm max. Very low level spuria from CPU clock, switch mode PSU and other control electronics inside the chassis | |
| Operating Temperature | 0 to 50°C and for indoor use only | |
| Humidity | 20 to 90% non-condensing RH | |
| MTBF | >150,000 hrs. MTBF of each amp module. These are hot-swap | |
| Maximum Input Level | +20 dBm. For no damage. None operational. | |
| Module Weight | 0.35 kg | |
| Spec Version | 1.2 | |

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.

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