

4-way S-Band Active Splitter

with variable gain & slope, internal amplifier redundancy,
RF detection & LNB powering - for 3U GENUS chassis

The GENUS is a new generation of equipment for the ground segment to meet today's and future ground segment V/HTS requirements. The GENUS Habitat accommodates up to 17 RF modules. These can be inserted whilst the shelf is in service giving excellent levels of flexibility and resilience.

Combiner Modules



850 - 3150 MHz
operating frequency range

RF detection
for monitoring output signal levels

Variable gain & slope
to balance input signals

1:1 redundant amplifiers
for added resilience

LNB Powering
13/18V & 22KHz tone



Compact & Flexible
3U chassis holding up to 17 RF modules,
which can be mixed.

Chassis



Resilience

from dual redundant hot-swap power supplies & field serviceable RF modules, HMI, CPU & Fans

Local control & monitoring

via front panel capacitive HMI touchscreen.



Remote control & monitoring

via RJ45 Ethernet via RJ45, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMPv3 & Web Browser Interface

Secure Communications

with SNMPv3, HTTPS



Splitter Module - Technical specifications and operating parameters

| | | | | | |
|---------------------------------|---|--|---------|---|---|
| Function | 4-way Active Splitter | | | | |
| Module Slots Used | 1 | | | | |
| Frequency Range | 850 - 3150 MHz (Extended L-Band) | | | | |
| Gain | Minimum | 0 ± 2 dB | | | |
| | Maximum | 28 ± 2 dB | | | |
| Gain Flatness | 850 to 2450 MHz | ± 1.0 dB | | | |
| | 850 to 3150 MHz | ± 2.0 dB | | | |
| | Any 36 MHz | ± 0.25 dB @ 50 Ohm, ± 0.32 dB @ 75 Ohm | | | |
| Gain Steps | 0.25 ± 0.15 dB Monotonic Gain Control | | | | |
| Slope Control Range | 0 to 10 dB Pivot Point at 3150 MHz | | | | |
| Slope Control Steps | 1 ± 0.25 dB | | | | |
| RF Connectors & Impedances | 50Ω SMA | 50Ω BNC | 75Ω BNC | 75Ω F-type | |
| Input Return Loss | Typical | 18 dB | 18 dB | 16 dB (850-2450 MHz) 12 dB (2450-3150 MHz) | 16 dB (850-2450 MHz) 12 dB (2450-3150 MHz) |
| | Minimum | 12 dB | 12 dB | 10 dB (850-2450 MHz) 8 dB (2450-3150 MHz) | 10 dB (850-2450 MHz) 8 dB (2450-3150 MHz) |
| Output Return Loss | Typical | 18 dB | 18 dB | 16 dB (850-2450 MHz) 12 dB (2450-3150 MHz) | 16 dB (850-2450 MHz) 12 dB (2450-3150 MHz) |
| | Minimum | 14 dB | 14 dB | 12 dB (850-2450 MHz) 8 dB (2450-3150 MHz) | 12 dB (850-2450 MHz) 8 dB (2450-3150 MHz) |
| Reverse Gain | < -60 dB typical | | | | |
| Noise Figure | 9 dB typ., 11 dB max. @ max gain & 0 dB slope setting | | | | |
| 1dB GCP | 7 dB typ., 5 dB min. @ max gain & 0 dB slope setting | | | | |
| OIP3 | 19 dB typ., 16 dB min. @ max gain & 0 dB slope setting | | | | |
| OIP2 | 29 dB typ., 26 dB min. @ max gain & 0 dB slope setting | | | | |
| Isolation | Out to Out: 23 dB min Card to Card: 50 dB min (Between cards set to the same gain within the parent chassis) | | | | |
| In band, signal dependent spuri | <-85 dBm max Very low level spuri from CPU clock, switch mode PSU and other control electronics inside the chassis. | | | | |
| Input RF Detection | 0 to -50 dBm | | | | |
| Redundancy | 1:1 Auto switch over from main to standby is based on current sensing. Standby amp chain is cold standby redundant. | | | | |
| Maximum Input Level | +20 dBm For no damage. None operational. | | | | |
| Control Method | Via Chassis Local and remote as provided by selected chassis | | | | |
| LNB Power & Control | 13/18 V DC with 22kHz on/off, 450 mA max per card Maximum allowed power per chassis shall NOT exceed 100 W | | | | |
| DC Coupling | All RF Input Ports DC blocked | | | | |
| Temperature | Operating: 0 to 50°C Storage: -20°C to +75°C (equipment not powered) | | | | |
| Location / Humidity / Altitude | Location: Indoor only Humidity: 20 to 90% non-condensing (relative) Altitude: 10,000ft/3000m AMSL (Above Mean Sea Level) | | | | |

Please see separate datasheet for full 3U Genus chassis specifications (Model GNS-103-3U).

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.