

58536A

GPS L1 4:1 Active Splitter



Key Features

- 4 ports
- High isolation
- Waterproof
- Base station applications

Key Benefits

- Can be conveniently cascaded without adding separate amplifiers and bias-tees between splitters
- Delivers precise GPS signals over a wide temperature range and in harsh environmental conditions
- Eliminates feedback and interaction between any GPS systems connected to it

The Microsemi Active Splitter allows multiple GPS receivers to share a single antenna. Designed for both manufacturing and position/timing redundancy applications, the GPS L1 Active Splitter provides dependable signals for four GPS receivers.

For large manufacturing facilities, the Microsemi Active Splitter can provide as many GPS L1 (1575.42 MHz) signals as your manufacturing floor requires. With built-in amplification to overcome splitter losses, the Active Splitters can be conveniently cascaded without adding separate amplifiers and bias-tees between splitters.

High Isolation Eliminates Receiver Interactions

The Microsemi GPS Active Splitter has the essential port-to-port isolation required to eliminate interaction between multiple GPS receivers. Without such isolation, local oscillator (LO) leakage from one GPS receiver can prevent other receivers from acquiring time and position signals and maintaining lock. In wireless base station applications, poor isolation can disable cell sites.

In GPS manufacturing tests, poor isolation causes repeatability problems which can reduce yields and cause false rework. The Microsemi Active Splitter has a minimum of 40 dB isolation at common GPS LO frequencies between every combination of output ports. Extensive field testing by GPS and cellular base station manufacturers has demonstrated suitability for use and the long-term dependability of the Microsemi GPS L1 Active Splitter.

Convenient DC Power Simplifies Your Installation

Power is conveniently obtained from the GPS receiver(s) connected to the amplifier. This eliminates the need for a separate DC power supply and wiring. DC power applied to the splitter is also passed on for use by an active antenna, further simplifying your installation. The 58536A splitter obtains power from a GPS receiver connected to any port. It can be used with mounting hardware kit 093-58536-10.

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58536A

Specifications

Number of Output Ports: 4

Electrical Specification

- Input/output impedance: 50 Ω
- VSWR (typical): Input & output 1.6 at L1
- Bandwidth (-3 dB): L1 (1575.42 MHz) \pm 20 MHz
- Gain (antenna input to any output at L1): 0 dB \pm 3 dB
- Noise figure: 5 dB typical, at 25°C
- Port-to-port isolation L1 +/-40 MHz: 50 dB typical
- AC input level
 - Maximum input level: -25 dBm
 - Damage threshold: +17 dBm
- DC power (Operating voltage): +4.5 to +13 V DC
- Damage threshold: 18 V DC either polarity
- Operating current: 23 to 48 mA depending on voltage
- Passthrough current: 450 mA
- Group delay: 40 ns typical

Physical Specification

- RF connectors: Female N-type
- Dimensions (including RF connectors) 95 mm W x 130 mm L x 35 mm H (3.75 in. x 5.12 in. x 1.38 in.)
- Weight: 0.5 kg

Environmental

- Standard: ETSI 300 019-2-4 Spec. T4.1 and 4.1.E

Temperature

- Non-Operating*: -65°C to +85°C
- Operating: -40°C to +80°C

Humidity

- Operating: 95% RH @ +40°C
- Non-Operating*: 90% RH @ +65°C

Altitude

- Operating: 15 Kft @ -40/+80°C

ASTM B117 Salt Fog Test Safety:

- IEC 1010-1: 1990 + A1 / EN 61-610-1: 1993

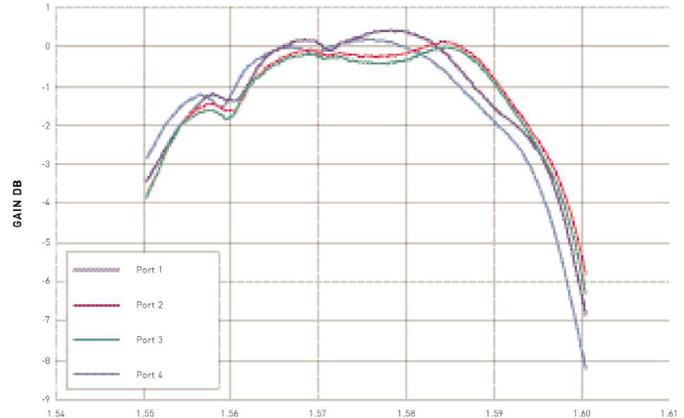


Figure 1. 58536A. The Pass Band Gain Performance of the four ports of a typical splitter at L1 (1575.42MHz) + 10 MHz.

EMC:

- CISPR 22 1993 / EN 55022: 1994 Class B
 - IEC 801-2 1991 / EN 50082-1: 1992 4 RV CD, 8 kV AD
 - IEC 801-3 1984 / EN 50082-1: 1992 3 V/m, 1 kHz 80% AM, 26 1000 MHz
 - IEC 801-4 1988 / EN 50082-1: 1992 0.5 kV Signal Lines and DC Power Port
 - IEC 1000-3-2 1995 / EN 61000 3-2: 1995 Harmonics
 - IEC 1000-3-3 1994 / EN 61000 3-3: 1995 Flicker
- This product model complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE marking accordingly.
 *Storage and transit

Ordering Information

(Contact Microsemi for pricing and availability)
 p/n 58536A GPS L1 1:4 Active Splitter
 p/n 093-58536-10 mounting bracket for GPS L1 1:4 Active Splitter



Microsemi

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