GENERAL DYNAMICS
Mission Systems

GPSS Operations Enabled

S14S SLIMLINE HOUSING

1x4 GPS Splitter

Description

The S14S is a one-input, four-output Slimline GPS splitter. The S14S allows the signal from a single GPS roof antenna to be evenly split to up to four devices connected to the splitter output ports simultaneously. The S14S can be configured to pass DC from any receiver or device connected to output 1 (OUT1). This bias voltage is passed through output 1 to also power the splitter's internal LNA and then passed to the input port (INPUT) to also power an active GPS antenna. The remaining RF outputs (OUT2 – OUT4) feature a 200Ω DC resistive load to ground to simulate a typical antenna current draw for any receiver connected to that output.

Features

Passes all GPS and GNSS frequencies

- Excellent Gain Flatness
- Gain | L1 - L2 | < 2 dB
- RoHS, REACH, and WEEE Compliant
- CE Certified

Options

- Amplified, Passive, or Custom Gain
- Hermetically Sealed, EMI Sheilding, and Water Proof

The S14S GPS Splitter comes with many available options to meet specific needs. Please contact GPS Source via e-mail, visit the website, or by phone for further information on product options and specifications.

1 MS14 Specifications

Table 1-1: Electrical Specifications

Operating temperature -40°C to 85°C

Parameter			Conditions	Min	Typ	Max	Units
Frequency Range			Ant: Any Port, Unused Ports 50 Ω	1.1		1.7	GHz
In/Out Impedance			Ant: OUT1, OUT2, OUT3, OUT4		50		Ω
Gain(1)	Standard	Amplified	Ant: Any Port, Unused Ports 50Ω	19	21	23	dB
	Custom	Amplified	Identify (XXdB) (0 - 20dB)	XX - 2	XX	XX + 2	
	As Specified	By Port	OUT1 (J1), OUT2 (J2), OUT3 (J3), OUT4 (J4) XXdB (0 to 20dB) by port	XX - 2	XX	XX + 2	
Loss-Passive(1)			Ant: Any Port, Unused Ports 50Ω	6.5	7.5	8.5	dB
Input SWR(1)			All Ports 50Ω			2:1	—
Output SWR(1)			All Ports 50Ω			2:1	—
1dB Comp. Pt		Amplified	All Ports 50Ω		-32		dBm
Input IP_3		Amplified	All Ports 50Ω		-24		dBm
Noise Figure		Amplified	Ant: Any Port, Unused Ports 50Ω			1.8	dB
Gain Flatness(1)		Amplified	[L1 – L2] Ant: Any Port, Unused Ports 50Ω			2	dB
		Passive			0.5	1	
Amp.			[OUT1 – OUT4] Ant: Any Port, Unused Ports 50Ω		0,5	1.0	dB
Phase Balance			Phase (OUT1 – OUT4 Ant: Any Port, Unused Ports 50Ω			1	Degree
Group Delay Flatness			$T_{d,max}$ - $T_{d,min}$; Ant: Any Port			1	ns
Isolation(1)	Standard	Amp/Pass	Adjacent Ports: Ant 50Ω	13			dB
			Opposite Ports: Ant 50Ω	21			
	Hi Isolation	Amplified	Adjacent Ports: Ant 50Ω	30			
			Opposite Ports: Ant 50Ω	40			
Current			Current Consumption of device (excludes Ant. Cur.)			16	mA
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm
		Passive				30	

Note: 1. Decreased gain to increase port-to-port isolation.

Table 1-2. Output Options (standard)

Parameter		Conditions	Min	Typ	Max	Units
Inline Voltage (Amplified/ Passive)	Pass DC	Non-Powered Configuration, Pass DC from OUT1 (J1) to Input	3		16	VDC
	Block DC(1)	OUT2 (J2), OUT3 (J3), OUT4 (J4)Block DC standard				

2 Performance Data

2.1 S14S Standard Amplified (21dB gain)

Figure 2-1. Active: Gain vs. Frequency

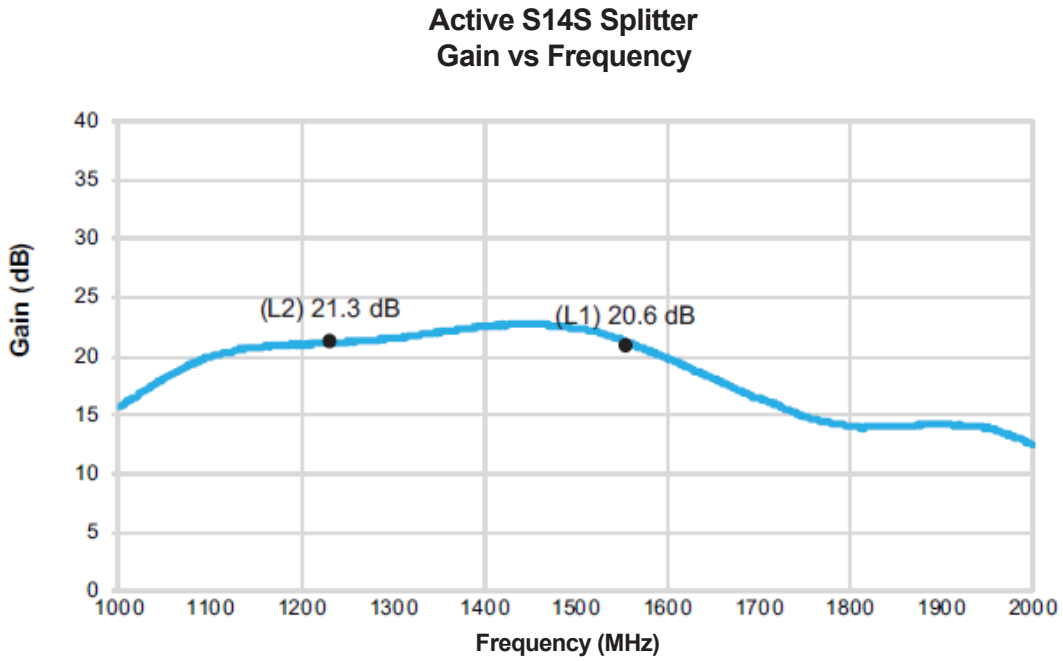
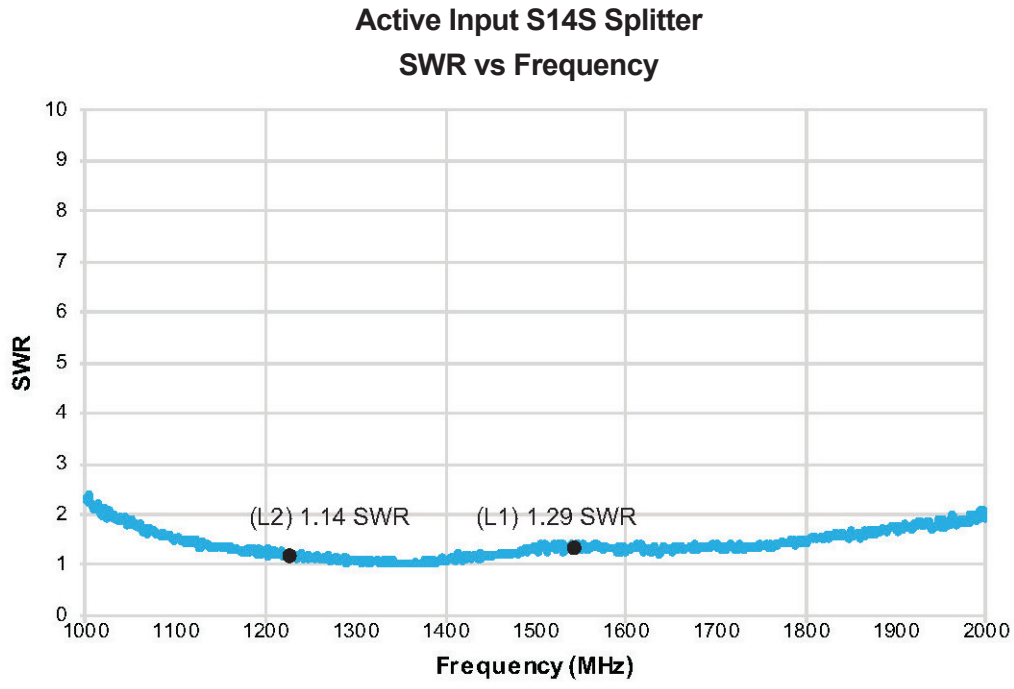


Figure 2-2. Active Input: SWR vs. Frequency



2.2 S14S Custom Amplified (00dB gain)

Figure 2.3 - Gain vs Frequency

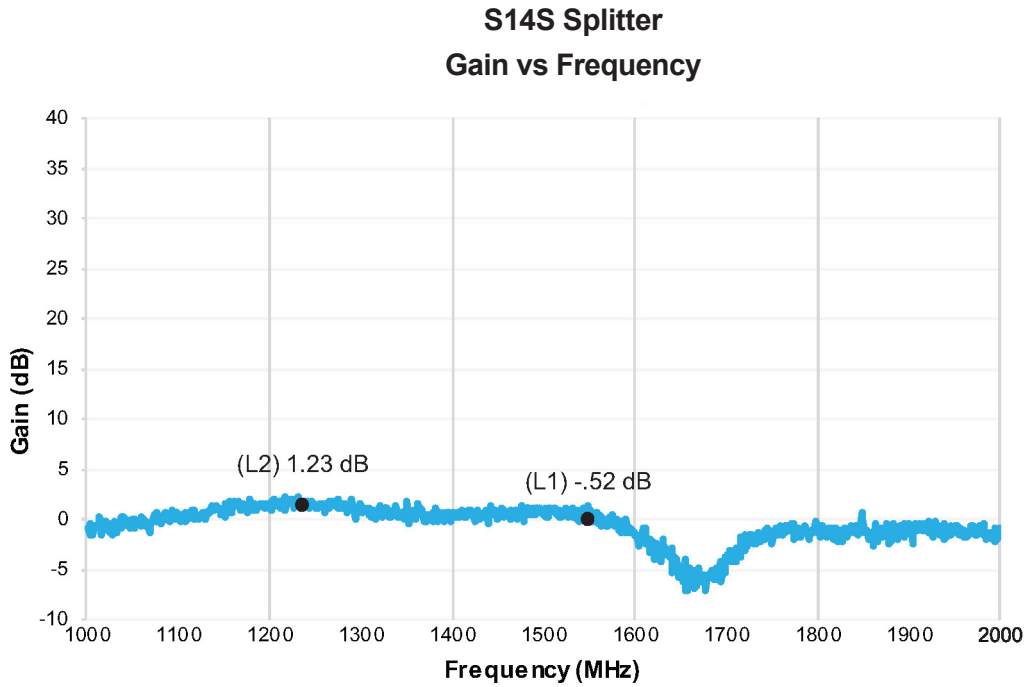
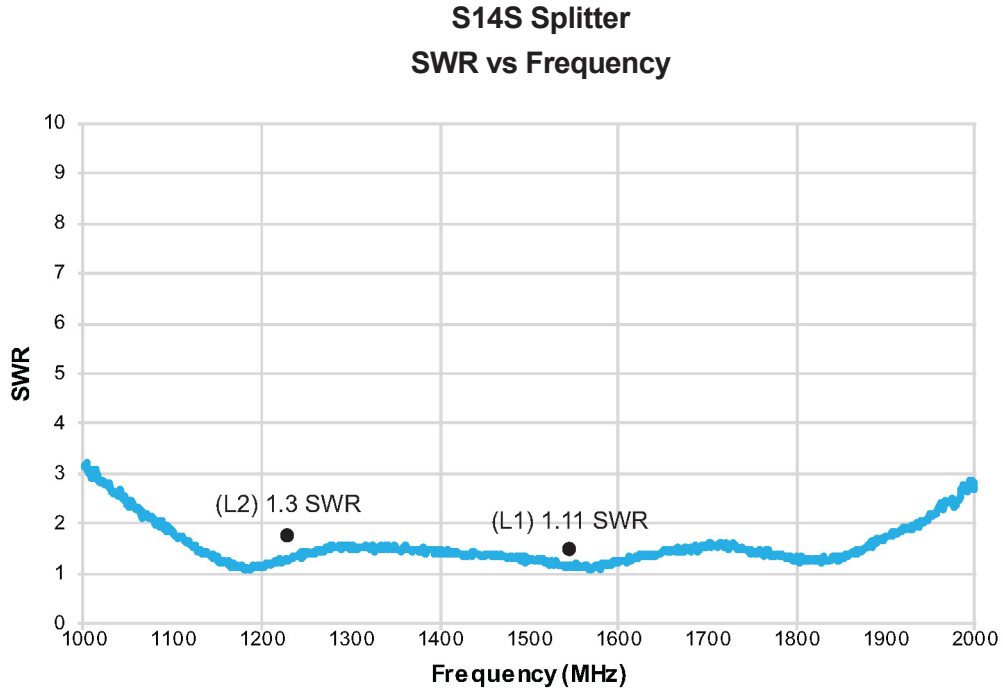


Figure 2-4 - SWR vs. Frequency



3. Product Options

Table 3-1. S14S Available Options

RF Connector		
Connector	**Connector Type**	**Limitations**
	SMA (Female/Male)	N/A
Housing		
Housings	**Housing Type**	**Limitations**
	Slimline	Powered Option Not Available SMA Only
Gain Options		
Gain	Amplified (-A)	Standard amplification is 21dB
	Custom Gain (-AXX)	Custom gain range is 0 - 20dB
	Amplified as Specified (-AS)	Provide gain for each port
	Passive	

S14S SLIMLINE HOUSING

4 Product Code Decoder

S 1 4 S - A - X - X - X - X - S F

Splitter

S14S = Slimline Housing
1x4 GPS Splitter

Gain Option

A = Amplified 21dB gain standard
AS = Amplified by Output Port (00dB to 20dB Custom gain range) gain
AXX = Custom Gain (XXdB) from (00dB to 20dB gain)
Custom gain excludes 21dB which is std (-A)

Environmental Option(s)

Blank = None
E = EMI Shielding (Includes Waterproof)
HS = Hermetically Sealed (Includes Waterproof)
W = Water Proofing
E-HS = EMI Shielding, Hermetically Sealed (includes Waterproof)

Connector Option

SF = SMA Female
SM = SMA Male

Note: To have product/part codes customized to meet exact needs, contact GPS Source at **GPSS-Sales@gd-ms.com** or visit the website at **www.gpssource.com**

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Mission Systems

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