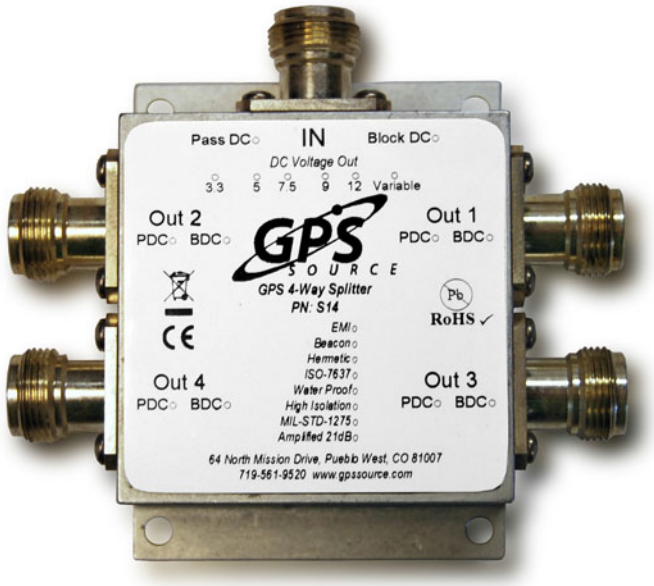
TECHNICAL PRODUCT DATA SHEET

S14 REGULAR HOUSING

1x4 GPS Splitter

DESCRIPTION

The S14 GPS Splitter is a one-input, four-output GPS splitter device. The typical application for this splitter allows an active GPS roof antenna input which is then split evenly between four receiving GPS units. The S14 can be configured to pass the DC from an RF output (OUT1) to the antenna input port in order to power an active GPS antenna on that port. The second, third, and fourth RF outputs (OUT2, OUT3, and OUT4) would feature a 200Ω DC load to simulate an antenna DC current draw for any receiver connected to those ports.



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, and Custom Gain
- Water Proofing, EMI Sheilding, Hermetically Sealed, Pass Beacon

The S14 GPS Splitter comes with many available options to meet specific needs. Please contact GPS Source via phone, email, or visit the website for further information on product options and specifications.

1. S14 Specifications

1.1 Electrical Specifications

Table 1-1. Operating Temperature -40°C to 85°C

Parameter			Conditions	Min	Typ	Max	Units
Frequency Range			Ant: Any Port, Unused Ports 50Ω	1.1		1.7	GHz
In/Out Impedance			Ant: OUT1, OUT2, OUT3, OUT4		50		Ω
Gain(1)(2)	Standard	Amplified	Ant: Any Port, Unused Ports 50Ω	20	21	22	dB
	Custom	Amplified	Identify (XXdB)	XX - 2	XX	XX + 2	
	As Specified	Amplified by port	OUT1 (J1), OUT2 (J2), OUT3 (J3), OUT4 (J4) XXdB (0 to 20dB) by port	XX - 2	XX	XX + 2	
Loss-Passive(2)			Ant: Any Port, Unused Ports 50Ω	6.5	8	9.5	dB
Input SWR(2)			All Ports 50Ω			2:1	—
Output SWR(2)			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(2)		Amplified	[L1 – L2] Ant: Any Port, Unused Ports 50Ω			2	dB
		Passive				1	
Amplified Balance			[OUT1 – OUT4] Ant: Any Port, Unused Ports 50Ω			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	

Notes: 1. Choose custom gain option for improved port-to-port isolation.
2. Performance guaranteed for N(F) connectors.

Table 1-2. Input Voltage

Parameter		Conditions	Min	Typ	Max	Units
External AC Power	110VAC	Wall Mount Transformer		110		VAC
	230/240 VAC	Wall Mount Transformer (Various international plug opt.)		230		
External DC Power	PDC	Tinned Leads	8		28	VDC
	PM	Two-pin Mil DC connector and mate				
	PMS	Two-pin Mil DC connector and mate				
	PMS38999	Three-pin Mil DC connector, no mate				
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				

Notes: 1. All DC Blocked outputs include 200 Ohm resistive load to ground standard.

2. Performance Data

2.1 S14 Active — Standard

Figure 2-1. Active: Gain vs. Frequency

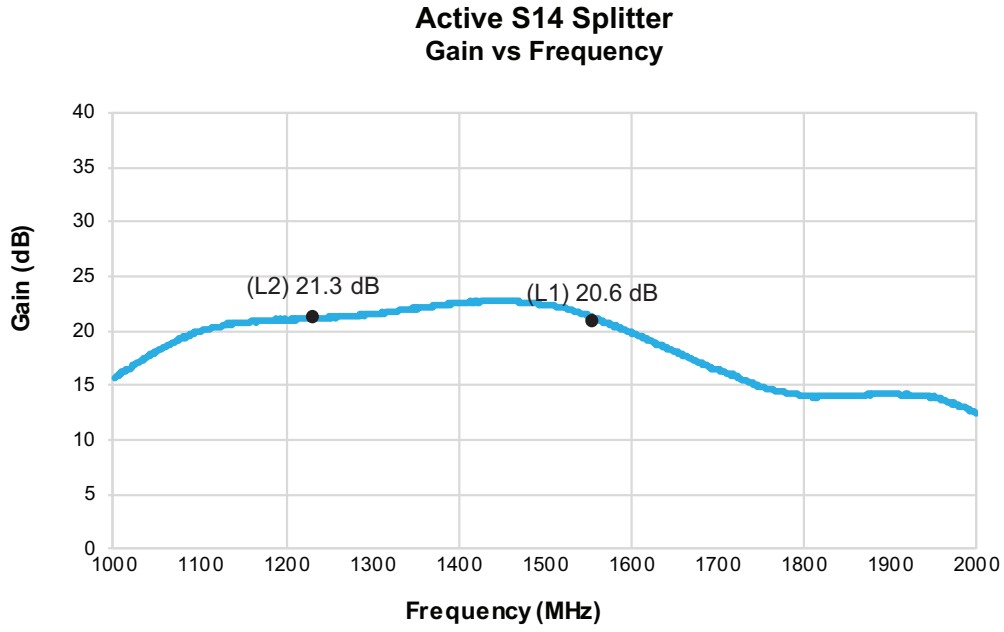
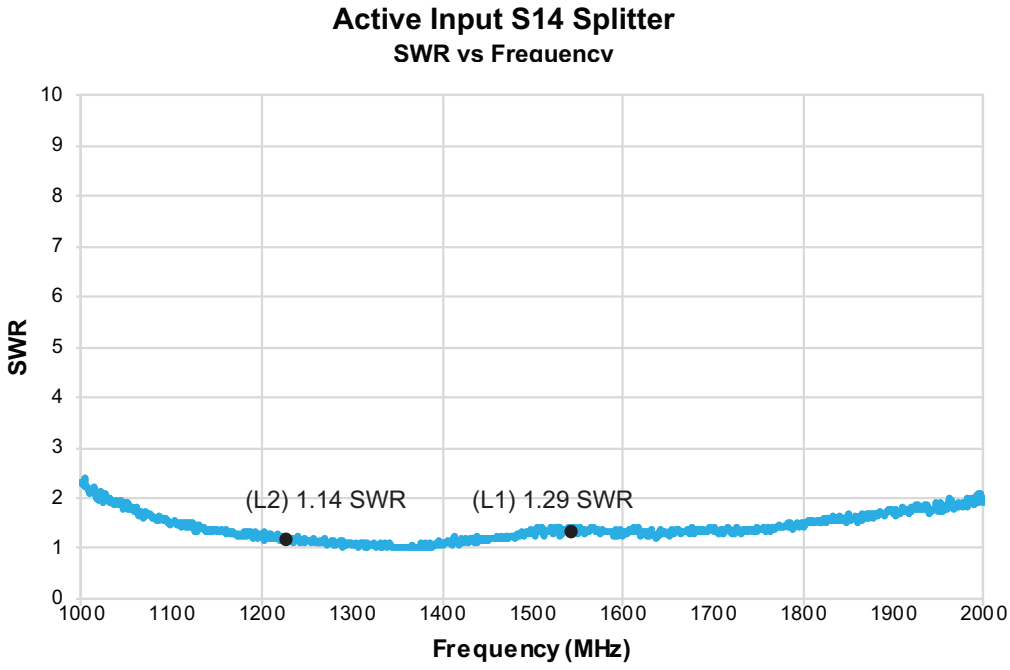


Figure 2-2. Active Input: SWR vs. Frequency



2.2 S14 Passive

Figure 2-3. Amplified 0dB (High Isolation): Gain vs. Frequency

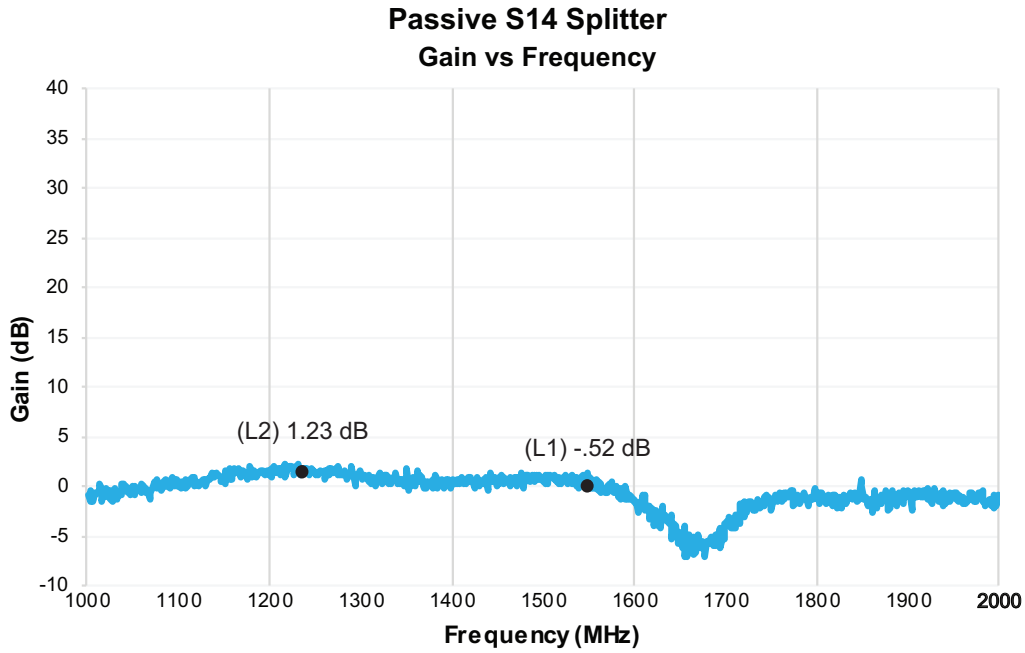
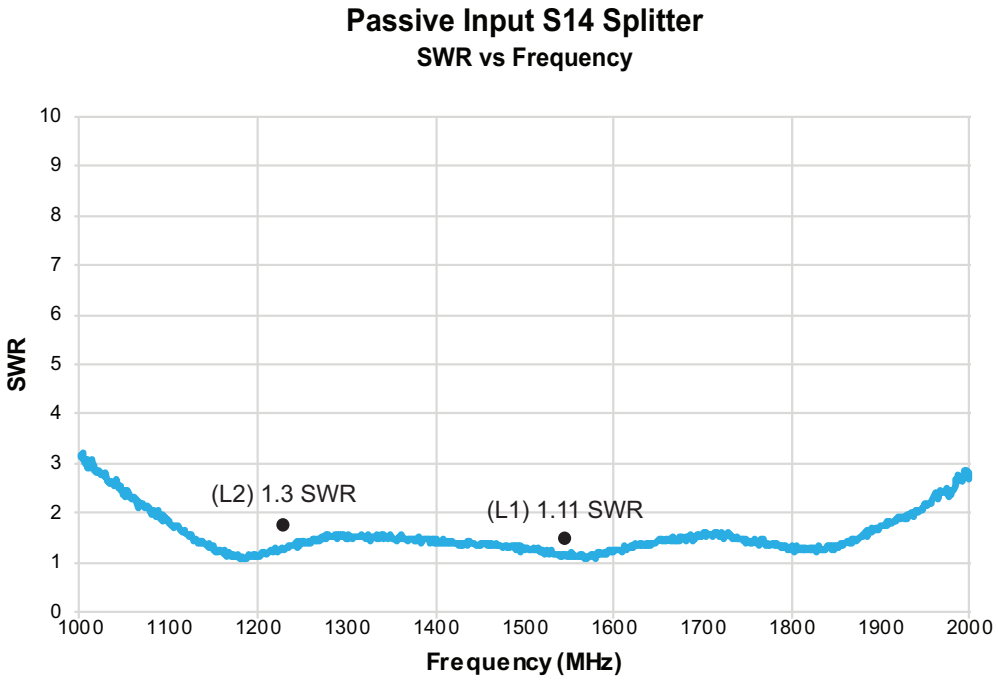
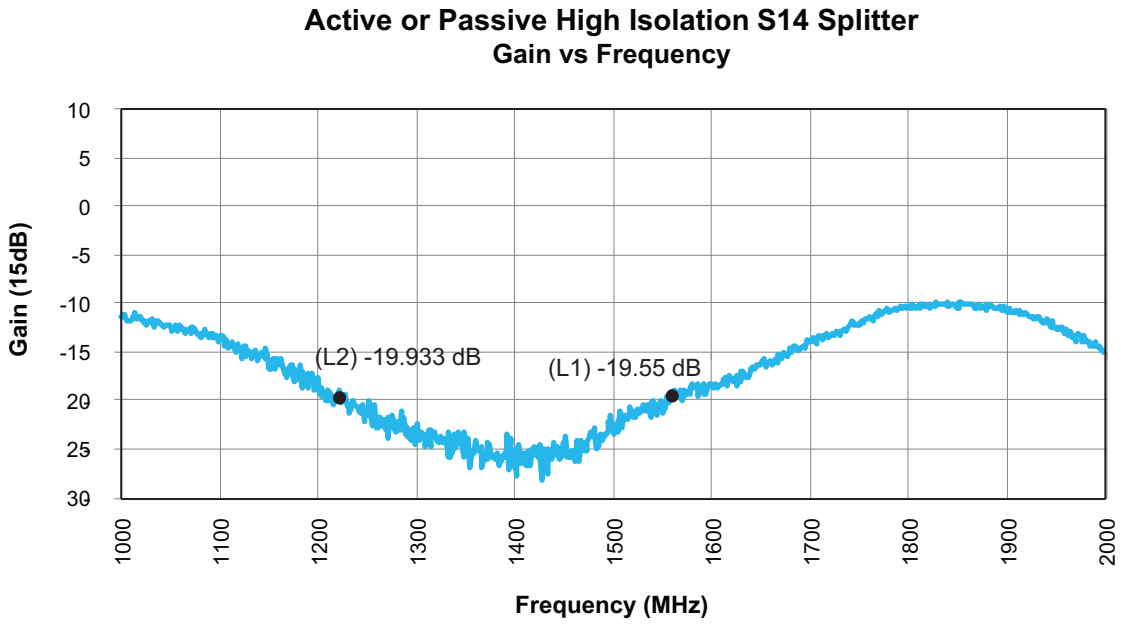


Figure 2-4. Amplified 0dB (High Isolation): SWR vs. Frequency



2.3 S14 Active or Passive — High Isolation

Figure 2-5. Active or Passive: SWR vs. Frequency

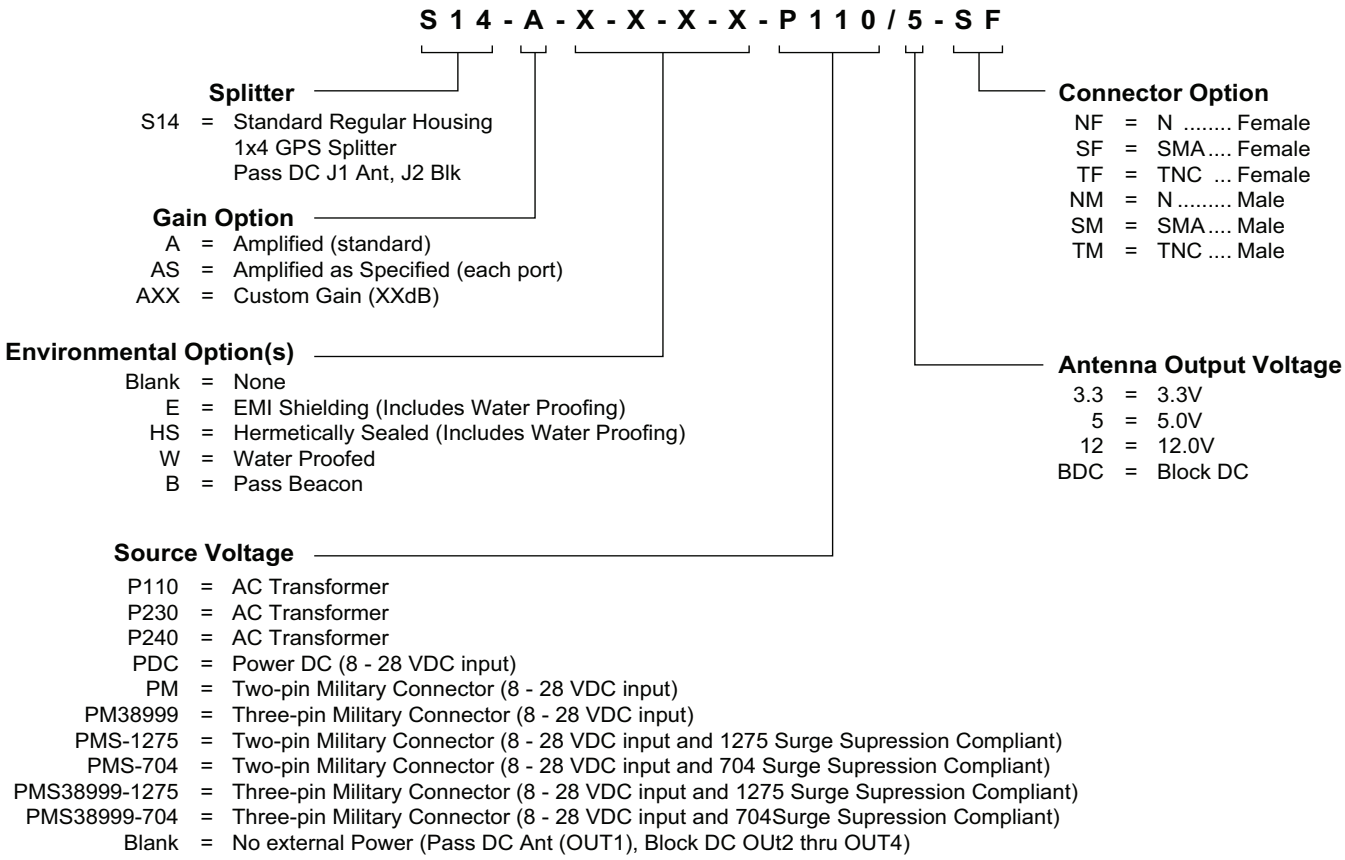


3. Product Options

Table 3-1. S14 Available Options

Power Supply		
Source Voltage Options	**Voltage Input**	**Type**
	110VAC	Wall Mount Transformer
	230VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	DC 5VDC to 28VDC	Military Style or tinned leads
Output Voltage	**DC Voltage Out**	
	3.3	
	5.0	
	12.0	
	BDC (Block DC)	
RF Connector		
Connector	**Connector Type**	**Limitations**
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC (Female/Male)	N/A
Housing		
Housings	**Housing Type**	**Limitations**
	Standard	None
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	

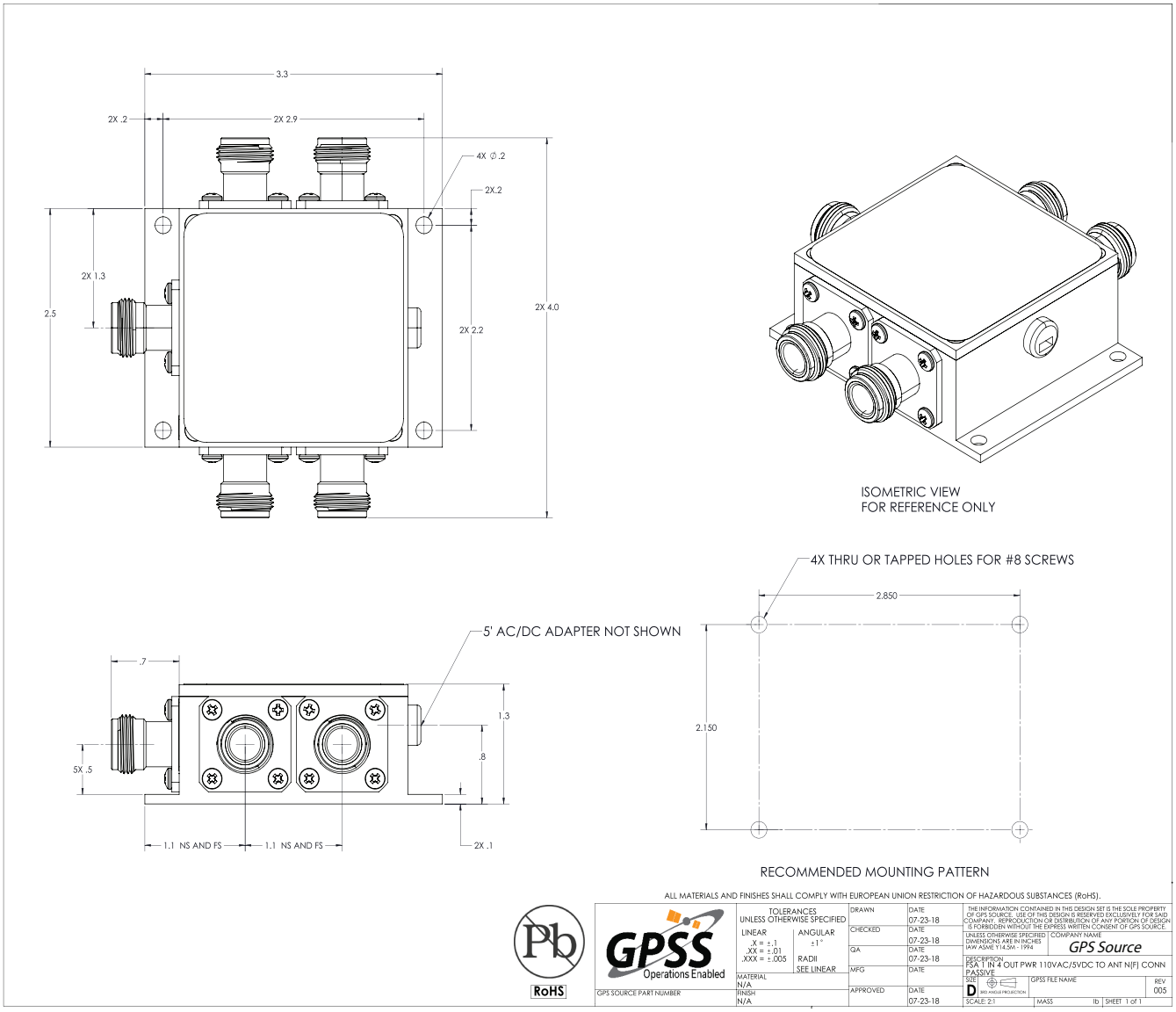
4. Product Code Decoder



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.

5. Mechanical Drawing

S14 Regular Housing — FSA-AFA-AAX-BBZ



AS9100 and ISO 9001 Compliant Company