TECHNICAL PRODUCT DATA SHEET

L1FM-HR

L1 Filter, High Rejection

DESCRIPTION

Designed with the thin link margins of satellite navigation systems in mind, the L1FM-HR Passive Filter is a single input L1 High Rejection Band Passive Filter that passes only the L1 frequencies. The device features excellent side band rejection with an insertion loss of less than 4.0dB. The product may pass DC or can also be used as a DC block.

The L1FM Passive Filter comes with High Rejection standard.

FEATURES

- GPS L1 Band
- Excellent Out of Band Rejection
- Passes DC for Active Antennas

OPTIONS

The L1FM-HR can be custom configured. Please contact GPS Source for further information on product options and specifications.

1 L1FM-HR Electrical Specifications

Table 1-1. Electrical Specifications

Operating Temperature -40°C to 85°C

Parameter		Conditions			Min	Typ	Max	Units
Frequency Range		IN – OUT, IN/OUT 50Ω	1575.4MHz		1.56		1.59	GHz
In/Out Impedance		IN, OUT				50		Ω
Insertion Loss		IN – OUT, IN/OUT 50Ω	1575MHz		3	3.7	4.4	dB
Rejection		IN – OUT, IN/OUT 50Ω	1575MHz	± 75MHz	-35			dB
				± 100MHz	-35			
Input SWR		OUT Port 50Ω					2:1	—
Output SWR		IN Port 50Ω					2:1	—
DC IN	Pass DC	Non-Powered Configuration, DC Input on OUT port			3		16	VDC
	Powered	Powered, Military Connection or Quick Connect Option			3(1)		28(2)	
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on OUT port					250	mA
Max RF Input		Max RF Input Without Damage					30	dBm

Notes:
1. DC IN for powered option *must* be 2V greater than desired DC Voltage Out.
2. Maximum DC IN is 35V when 1275B powered option is included.
3. Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage according to the following: Iout ≤ 1.4 / ($V_{DC\ IN}$ – $V_{DC\ OUT}$) – 0.007A.
For powered option with a wall mount transformer: (Voltage Input = 110/220/240VAC), $V_{DC\ IN}$ is 9V.

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2 Performance Data

2.1 L1FM-HR

Figure 2-1. Gain vs. Frequency

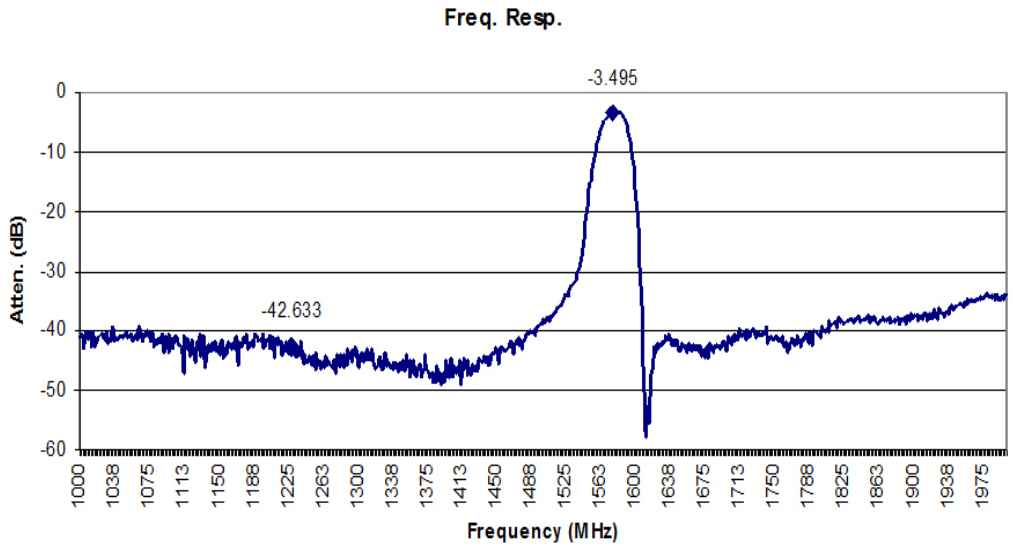
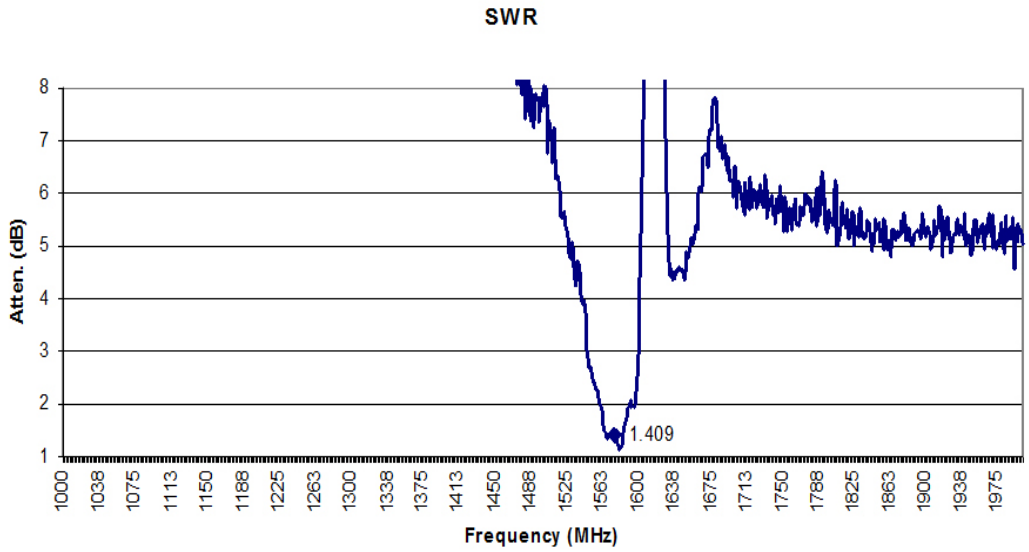


Figure 2-2. SWR vs. Frequency



3 Product Options

Table 3-1. L1FM-HR Available Options

Power Supply		
Source Voltage	**Voltage Input**	**Type**
	110VAC	Wall Mount Transformer
	220VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	DC 5VDC to 28VDC	Military Style Connector or Tinned Leads
Output Voltage [1]	**DC Voltage Out**[2]	
	3.3	
	5.0	
	7.5	
	9.0	
	12.0	
RF Connector		
Connector	**Connector Type**	**Limitations**
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC Female/Male)	N/A
Housing		
Housing	**Housing Type**	**Limitations**
	Mini	None
Port [1]		
Configuration	Pass DC[1]	IN Port Passes DC
	DC Blocked[1]	IN Port Blocks DC

Notes:
1. Powered Option: any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage.
2. Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage according to the following:

   Iout ≤ 1.4 / (VDC IN – VDC OUT) – 0.007 Amps (or 250mA max)

   For powered option with a wall mount transformer (Voltage Input = 110/220/240VAC), VDC IN is 9V.

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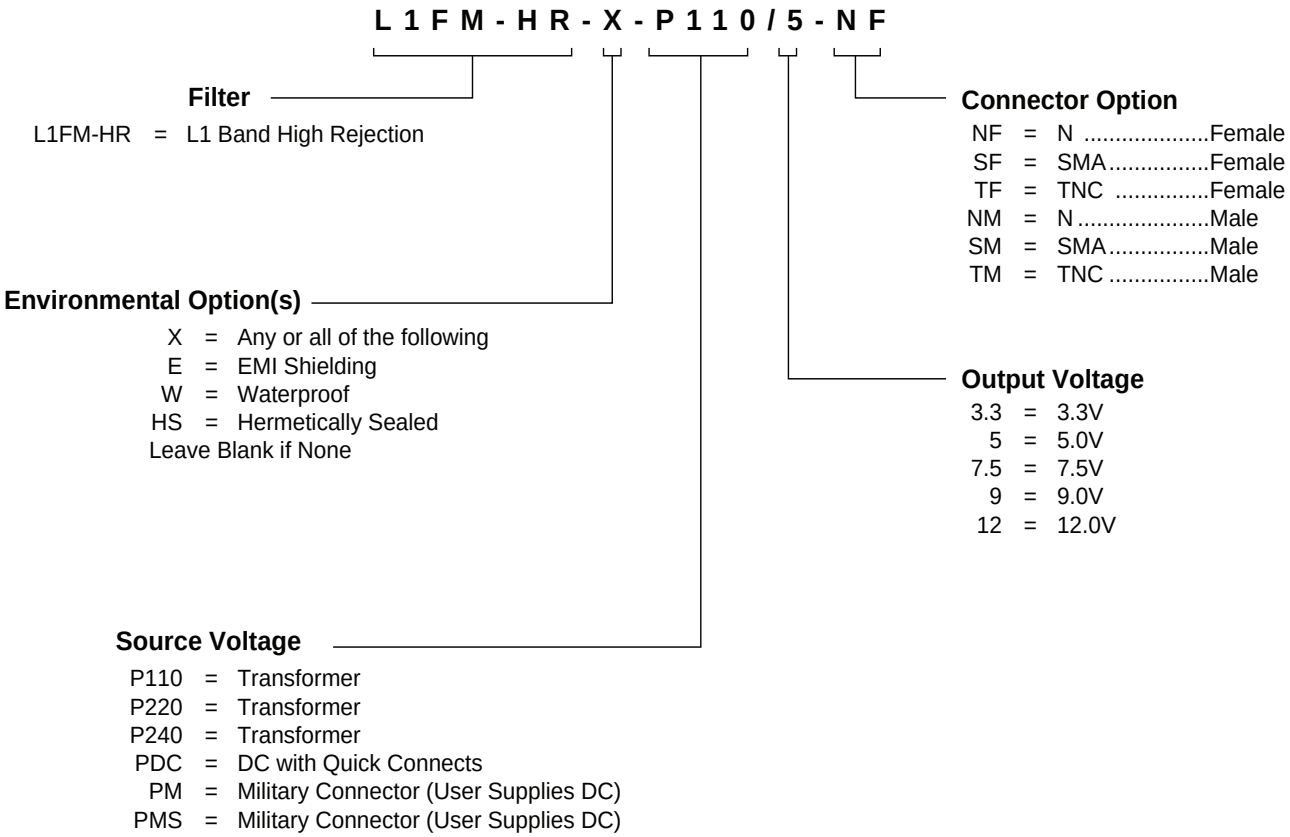
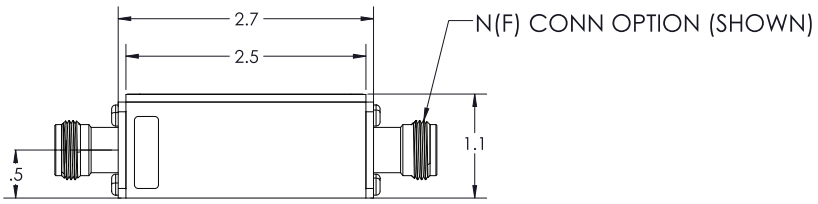
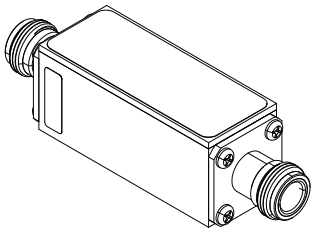
4 Product Code Decoder

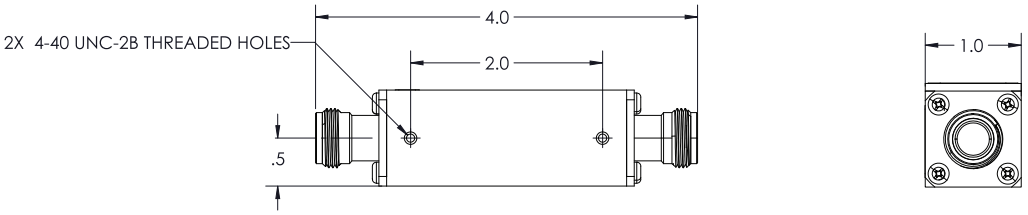


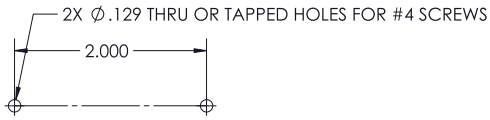
5 Mechanical Drawing





ISOMETRIC VIEW
FOR REFERENCE ONLY





RECOMMENDED MOUNTING PATTERN

Revision 002

GPS Source Part No.	Finish	Size	Mass	Tolerances	
FFL-AAA-AAX-AGZ	**N/A**	**C**		Linear	Angular
Description	Material	3rd Angle Projection			
L1 Mini Filter	**N/A**				

All materials and finishes shall comply with European Union RoHS and are lead free. Dimensions are in inches unless otherwise specified.

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