

RTLPF-520(E)-6 | Low Pass Filter

DC to 52MHz | 5th Order Chebyshev | 25W | 50Ω

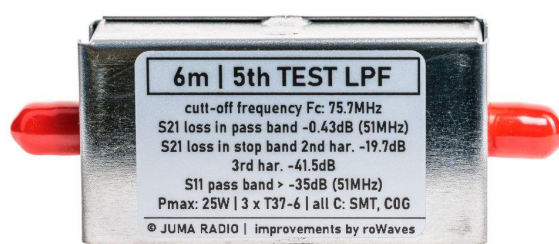
RTLPF-520-6 Low Pass Filter is designed for both engineering laboratory measurements or for RF general purpose applications, like in 50..52MHz amateur radio band (IARU 6m). Small-size, available as a complete enclosed unit or as a simple populated PCB (not enclosed). Both versions are equipped with SMA-F right-angled connectors. This series of 5th Order LPFs are ideal for laboratory measurements where plug-and-play and high reliability is needed. It can be purchased unit-by-unit or as a complete set (available in Q1/2025). RTLPF-520(E) is the connectorized enclosed version, in a compact case. The RTLPF-520 is the PCB populated connectorized version (not enclosed).

■ Features:

- low insertion loss
- ruggedly enclosed, completely shielded
- ultra lightweight
- low passband ripple

■ Typical Applications:

- laboratory test applications
- attenuation of high-frequency for out-of-band harmonics
- video equipment
- RF transmitters and amplifiers



■ Electrical Specifications:

@ TA = +25°C

Parameter	Testing conditions	Min.	Typ.	Max.	Units
Passband Frequency	-	D.C.	-	75.6	MHz
Usable Frequency Range	-	D.C.	52		MHz
Insertion Loss ¹	@ 51MHz	-	0.16	-	dB
Pass Band Ripple ¹²	D.C to 75.6MHz	-	0.65	0.67	dB
Passband VSWR ³	@ 51MHz	-	1.09	1.1	n/a
3dB Cutoff Frequency Fc	75.6MHz	-	75.6	-	MHz
Input Power Rating	CW @ Fc	-	20	-	W
In/Out Impedance	-	-	50	-	Ω
Passband Return Loss	@ 51MHz	-	-32	-	dB

¹ for RTLPF-520-6, this parameter tolerance is ± 1%

² for RTLPF-520-6, this parameter tolerance is ± 1%

³ for RTLPF-520-6, this parameter tolerance is ± 1%

Note 1: Electrical specifications and performance data contained herein are based on ROWAVES applicable test performance criteria and measurement methods. Note 2: This document and the information contained herein is provided for evaluation purposes only and is subject to change without notice.

■ Typical Performance

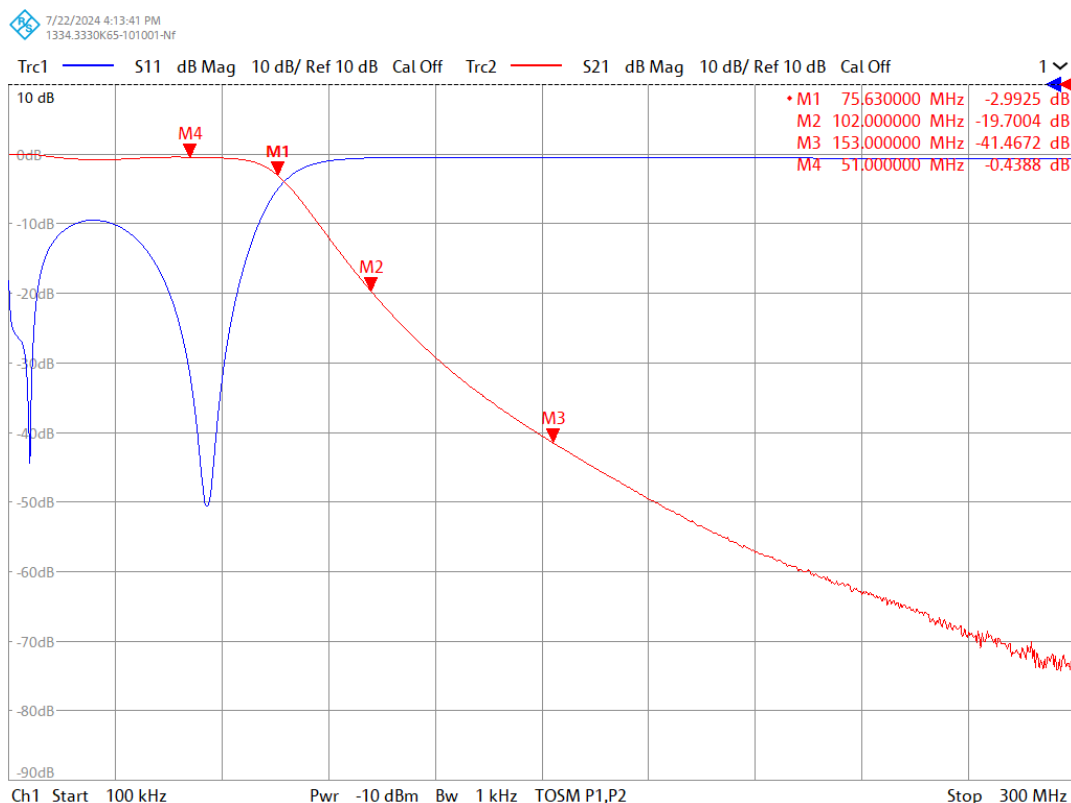
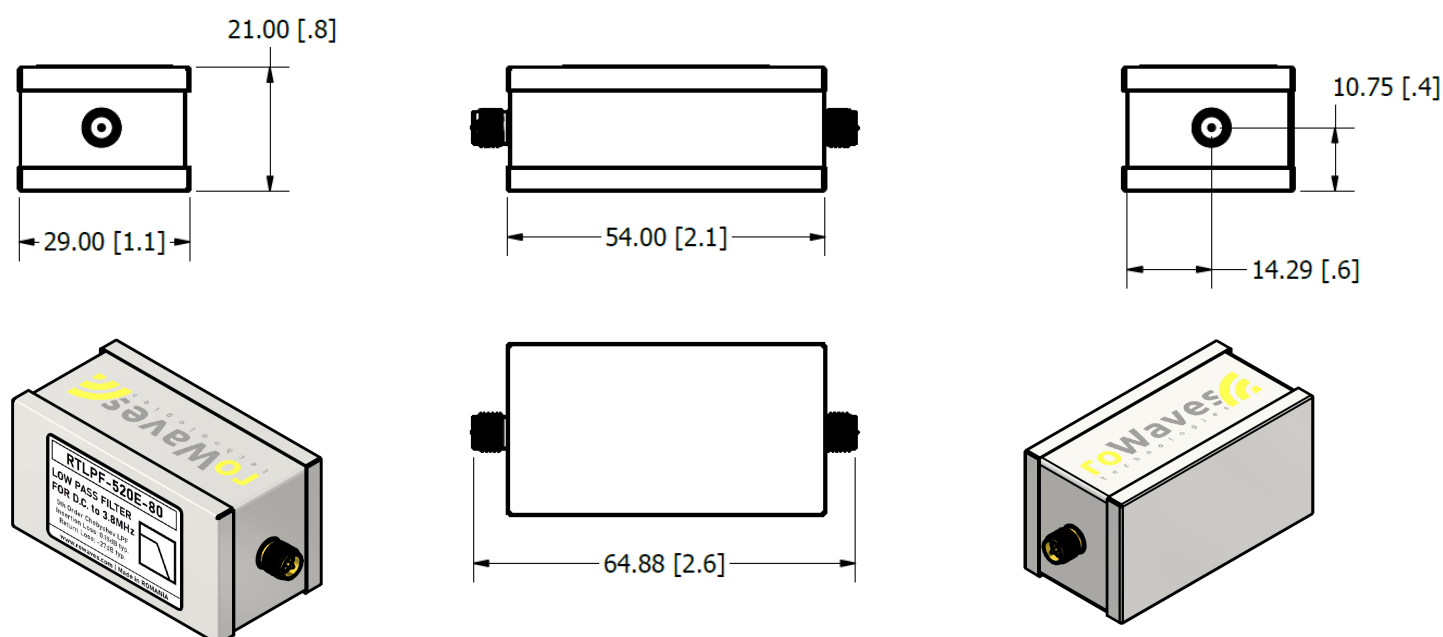


Fig.1 S21(insertion loss) and S11(return loss) for 6m band (50...52MHz)

■ Outline Drawing:



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■ Mechanical Specifications:

Parameter	Value	Unit	Comments
Length	54 / 2.2 ± 0.5 mm	mm / in	without SMA-F connectors
Width	29 / 1.15 ± 0.5 mm	mm / in	without SMA-F connectors
Height	21 / 0.83 ± 0.5 mm	mm / in	without SMA-F connectors
Weight	48 / 0.1	g / lbs	with connectors

■ Connectors

Description	Connector 1	Connector 2
Type	50Ω SMA-Female, right-angle on PCB	50Ω SMA-Female, straight, right-angle on PCB

■ Ordering Information

Model	Modification	Description
RTLPF-520-6	standard	populated PCB without enclosure, 50Ω SMA-Female, right-angle on PCB
RTLPF-520E-6	with case	populated PCB with metal enclosure, 50Ω SMA-Female

■ Change History | DS-03

date	change	comment
31 Oct 2024	initial release	1st revision available
8 Nov 2024	added mech. drawing changed aspect ratio etc.	rev. 1.1 released
10 May 2025	updated logo and rebranding new data, updated disclaimer	rev.1.2 available

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