5 and 10MHz Low Pass Notch Filter

For general purpose use and to clean unwanted harmonics of frequency standard source, Amplifiers or Distribution units, there is a need to use Low Pass Filters.
This paper presents two simple Filters designed for the two most commonly used frequency in a Frequency Standard Laboratory designed using the SVC Filter Designer software.
Reference 1) SVC Filter Designer 2.12 – www.TonneSoftware.com

The main characteristic are:
Low, in band, signal attenuation; close to 0.1 dB
Out of band min 40 dB of attenuation
Second and third harmonic more than 50 dB of attenuation

The SVC software is able to emulate several filter configurations and the operator can change the Fc in +/- 1% steps.
The graphic's response, show the transmission, return and VSWR path.

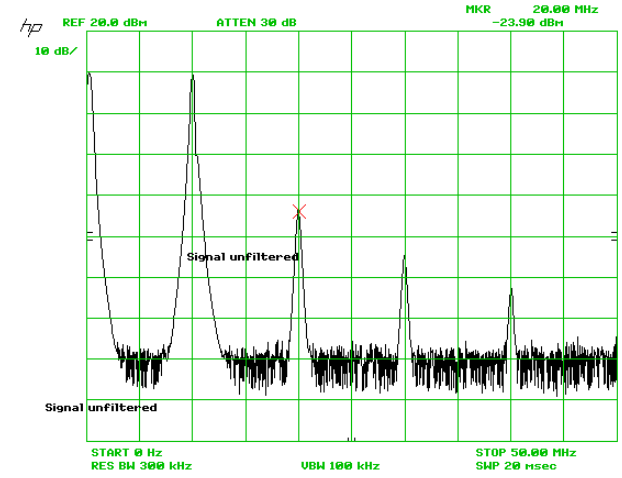


Fig.1 10 MHz test signal without the filter

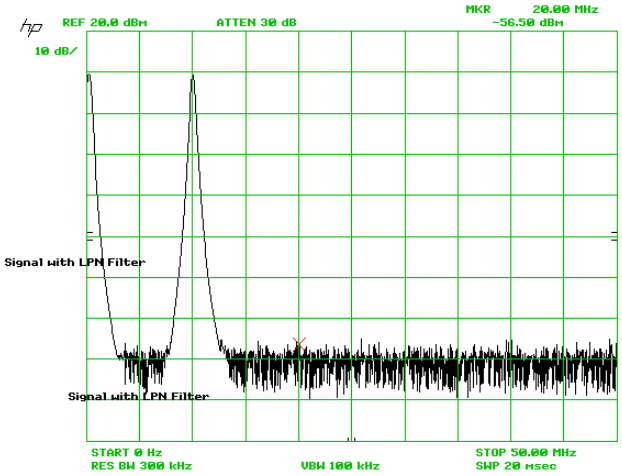


Fig.2 10 MHz test signal with the filter

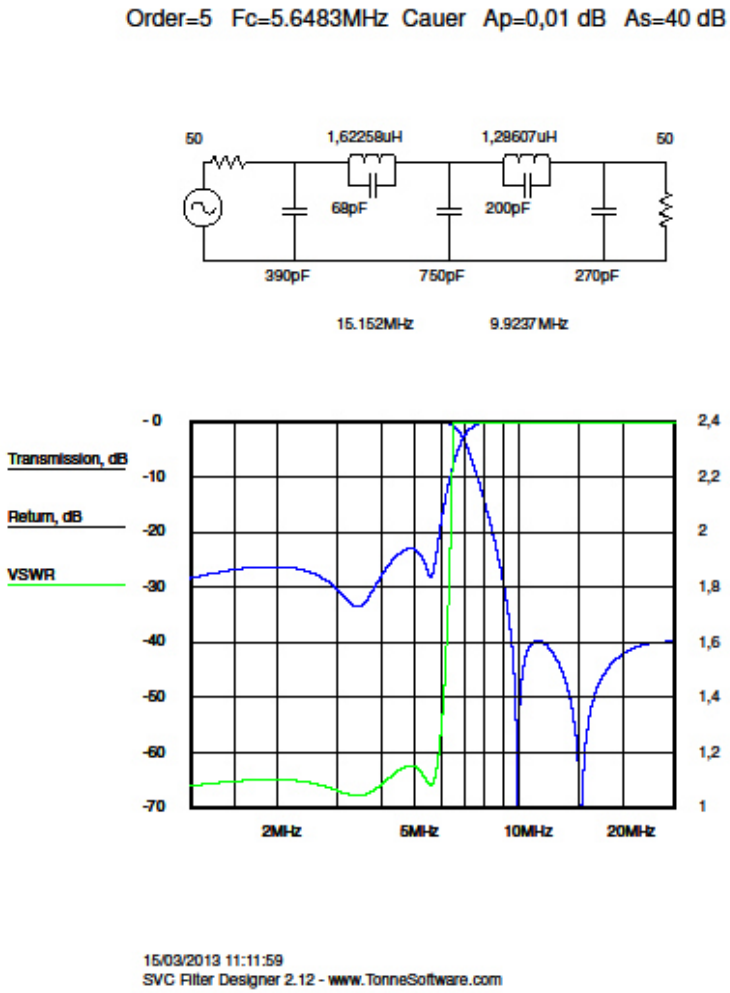
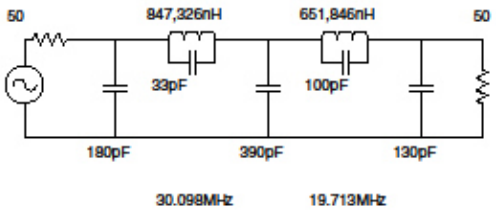
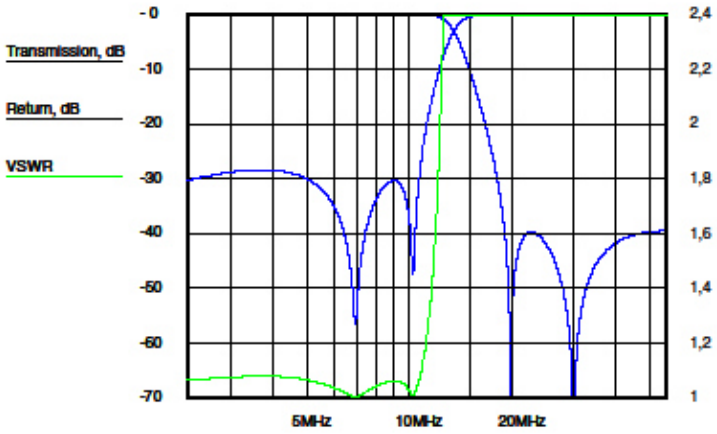


Fig. 1 5MHz LPF filter
Using the T37-2 core:
1,62 uH 20 turn 0.2 mm, 1.28 uH 18 turns 0.2mm

Order=5 Fc=11.22MHz Cauer Ap=0,01 dB As=40 dB





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SVC Filter Designer 2.12 - www.TonneSoftware.com

Fig.2 10MHz LPF filter
Using the T37-2 core:
847 nH 13 turn 0.2 mm, 651 nH 11 turns 0.2mm
www.timeok.it