120MHz high pass filter K&L 6LH41-120-2000-0-0

Matthias, DD1US, November 18th 2019

Hello,

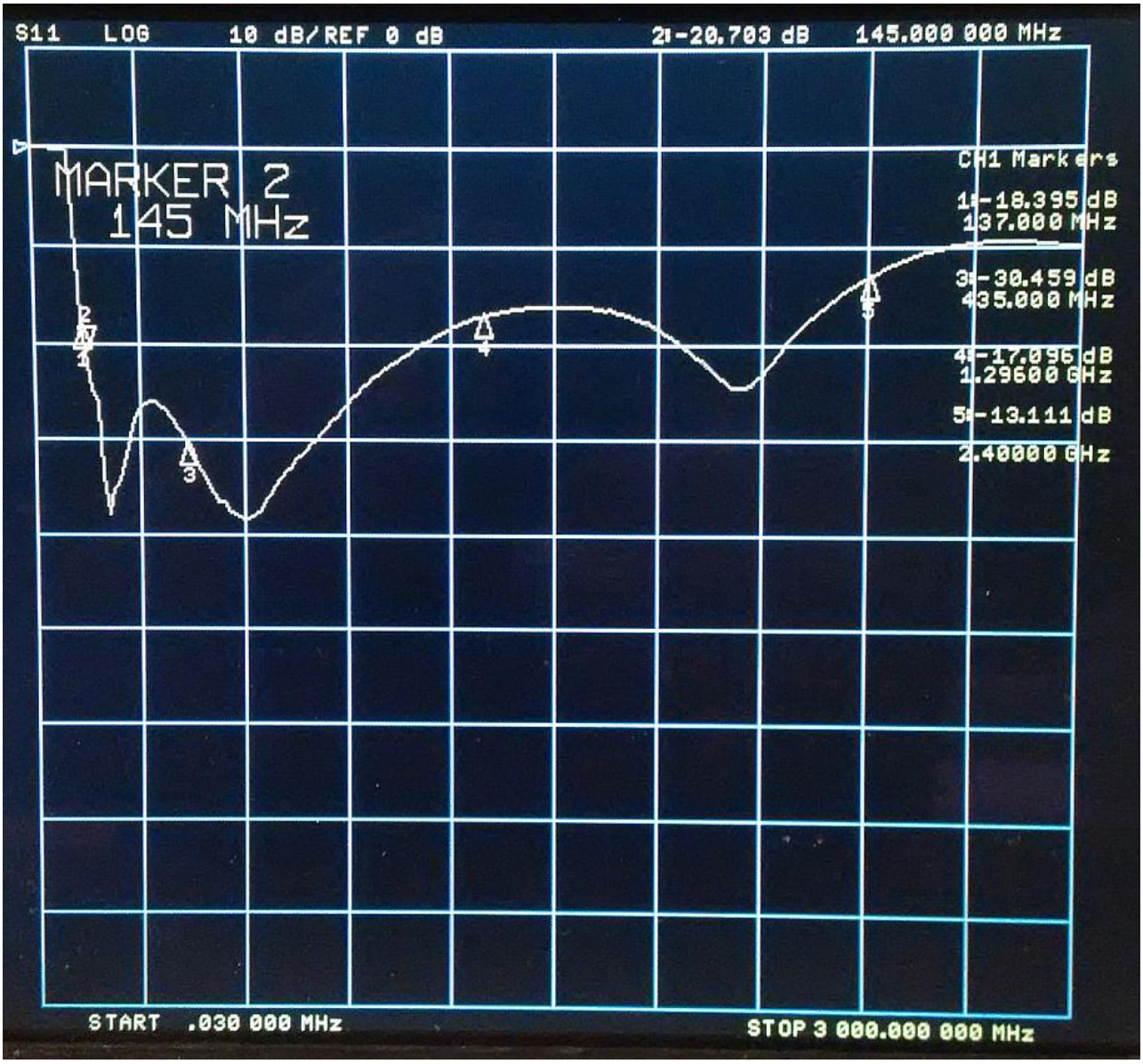
some weeks ago, I spotted two high pass filters from K&L. The nomenclature 6LH41-120-2000-0-0 suggested that they are 120MHz high pass filters. I have been searching for such filters to suppress strong broadcast radio signals (88-108 MHz) in my VHF/UHF receiver setups and thus I gave them a try.

Unfortunately, I could not find a datasheet for these filters. They are in a milled aluminum encasing and have female SMA connectors at the input and output ports.

Here is a picture of the filters:

Below you will find some measurement results of these filters made with my vector network analyzer.

S11 input and S22 output matching (return loss in the passband)

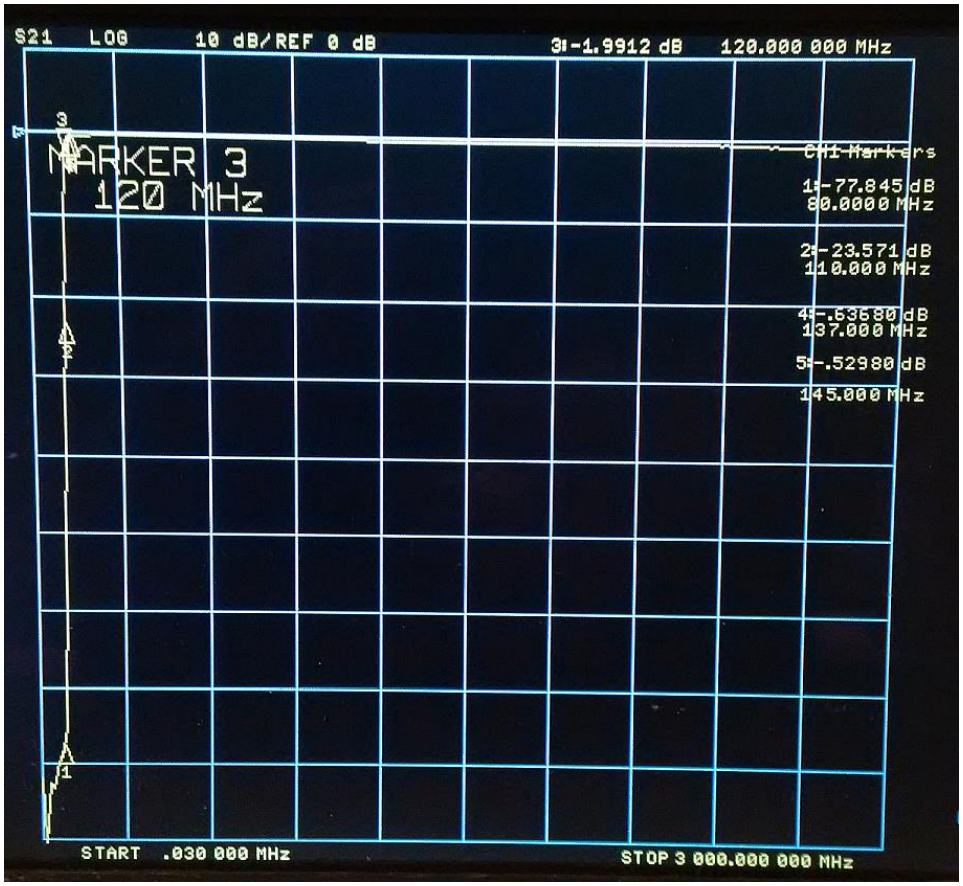


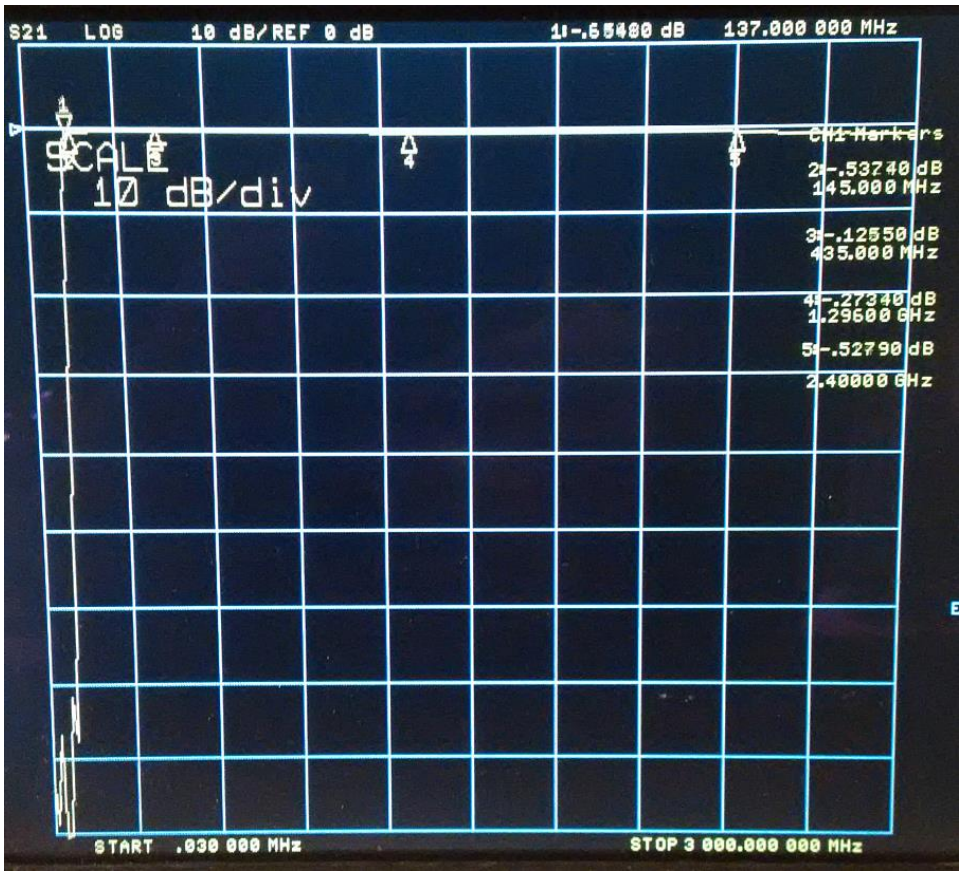
The input return loss is:

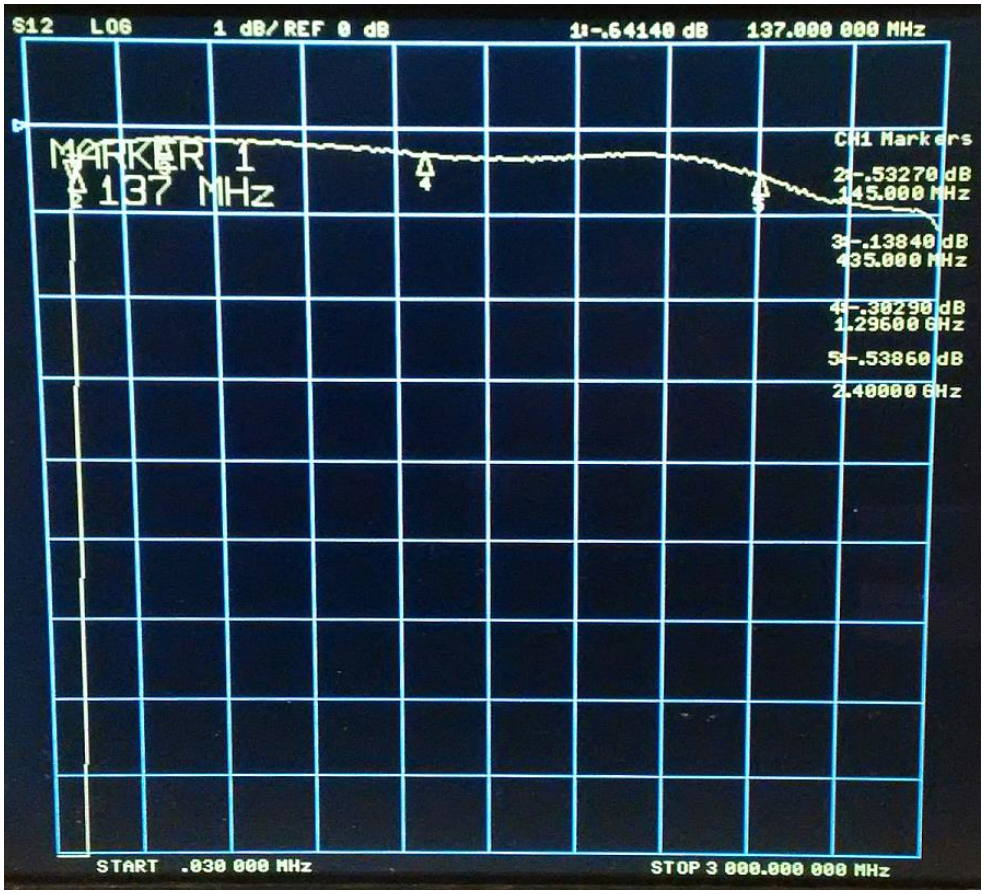
Frequency / MHz	return loss / dB
120	18
137	18
145	21
435	30
1296	18
2400	13

The filter is symmetrical, thus input and output return loss are basically identical.

S21 forward transmission and S12 reverse transmission (passband insertion loss and stopband rejection)







As the filter is symmetrical S21 and S12 are almost identical.

Here are some of the measured values:

Frequency / MHz	insertion loss / dB
80	-77.8
110	-23.6
120	-1.99
137	-0.64
145	-0.54
435	-0.13
1296	-0.30
2400	-0.53

These filters have a very steep transition from stopband to passband which is nice. The -3dB corner frequency is approx. 119 MHz. Insertion loss in the passband is quite low and thus this filter can be used effectively from the 137 MHz WX-Sat band up to the 13cm ham radio and WLAN band.

If you have a datasheet of this filter, I appreciate getting an electronic copy.

I will be happy to answer questions and always appreciate feedback. Many thanks in advance.

Best regards

Matthias DD1US

Email: DD1US@AMSAT.ORG
Homepage: http://www.dd1us.de