

Microdyne 2100-2300 MHz Bandpassfilter

Matthias, DD1US, February 25th 2018

Hello,

Recently I was able to acquire a Tubular Bandpass Filter from Microdyne Corporation. The part number is 301-289. The filter is originally for 2250-2350 MHz but I was able to retune it to 2200-2300 MHz. It has male SMA connectors on both sides and is quite compact.

Here is how it looks like:



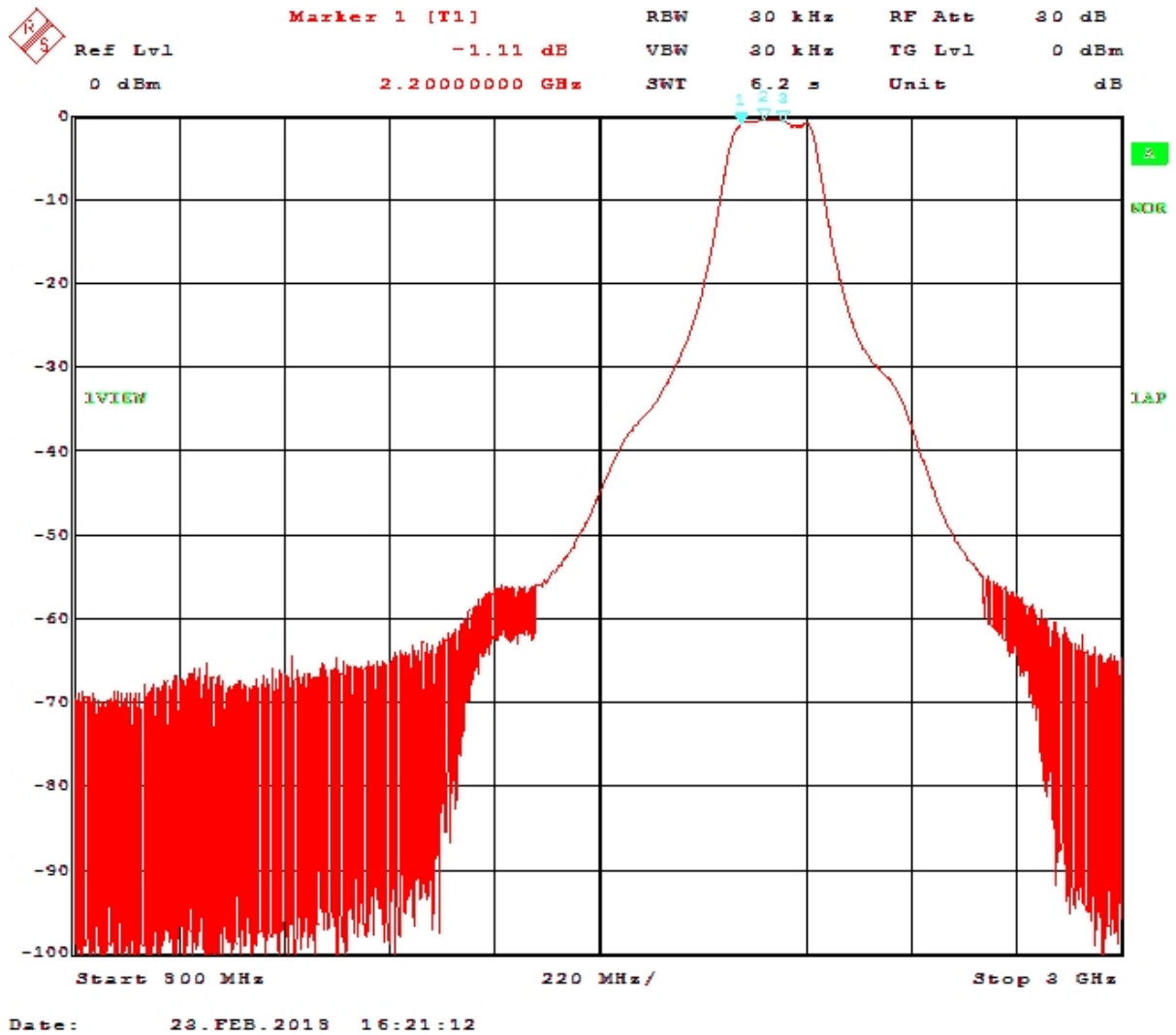
There are cavities in the tube which are covered with a self-adhesive copper tape.



After removing the tape the cavities are becoming visible and also the windings of the filter structure. By carefully moving the windings in the 5 cavities the filter can be retuned.

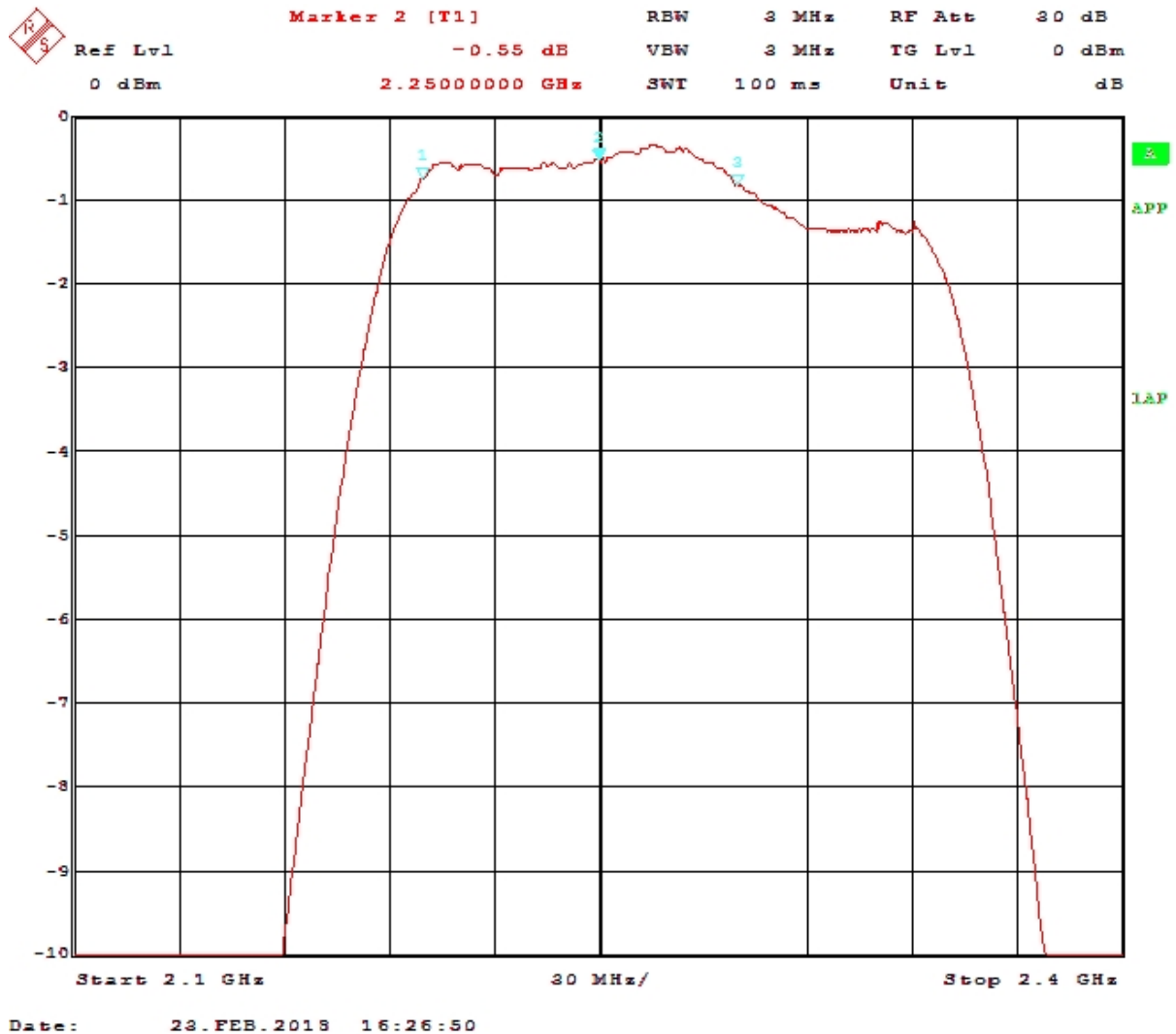


Here is the transfer characteristic after retuning the filter, measured from 800 MHz to 3000 MHz with a horizontal scaling of 220 MHz/div and a vertical scaling of 10dB/div:



The markers are at 2200MHz, 2250 MHz and 2300 MHz. The attenuation at 1.9 GHz is approx. 45dB, at 2.1 GHz approx. 25 dB, at 2.4 GHz approx. 27dB and at 2.6 GHz approx. 40dB.

Here is the transfer characteristic of the filter after retuning, measured from 2100 MHz to 2400 MHz with a horizontal scaling of 30 MHz/div and a vertical scaling of 1dB/div.:



The markers are at 2200MHz, 2250 MHz and 2300 MHz. The insertion loss between 2200 and 2300 MHz is between 0.5dB and 1.0dB.

This filter is not passing DC through nor are the input or output ports having a DC path to ground.

I always appreciate feedback. Many thanks in advance.

Best regards

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