

## Maximum frequency range of the 50 Ohm 50 W dummy load RS96610-2 from Radiosystem Sweden

Matthias, DD1US, May 23<sup>rd</sup> 2020, rev 1.0

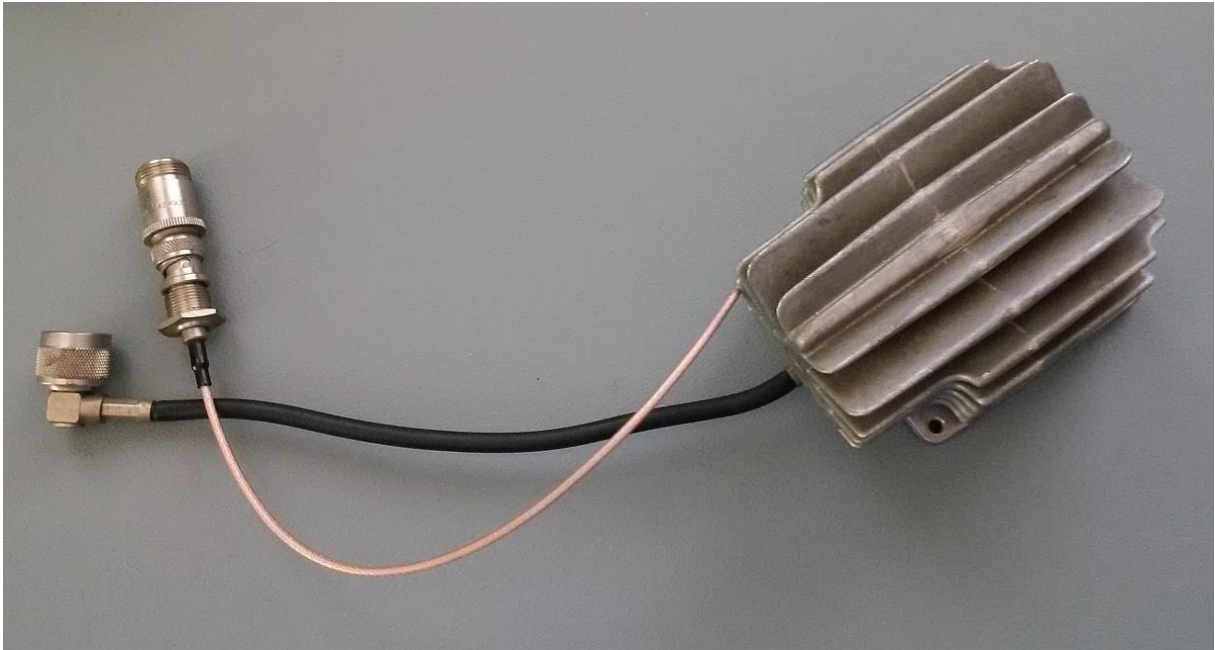
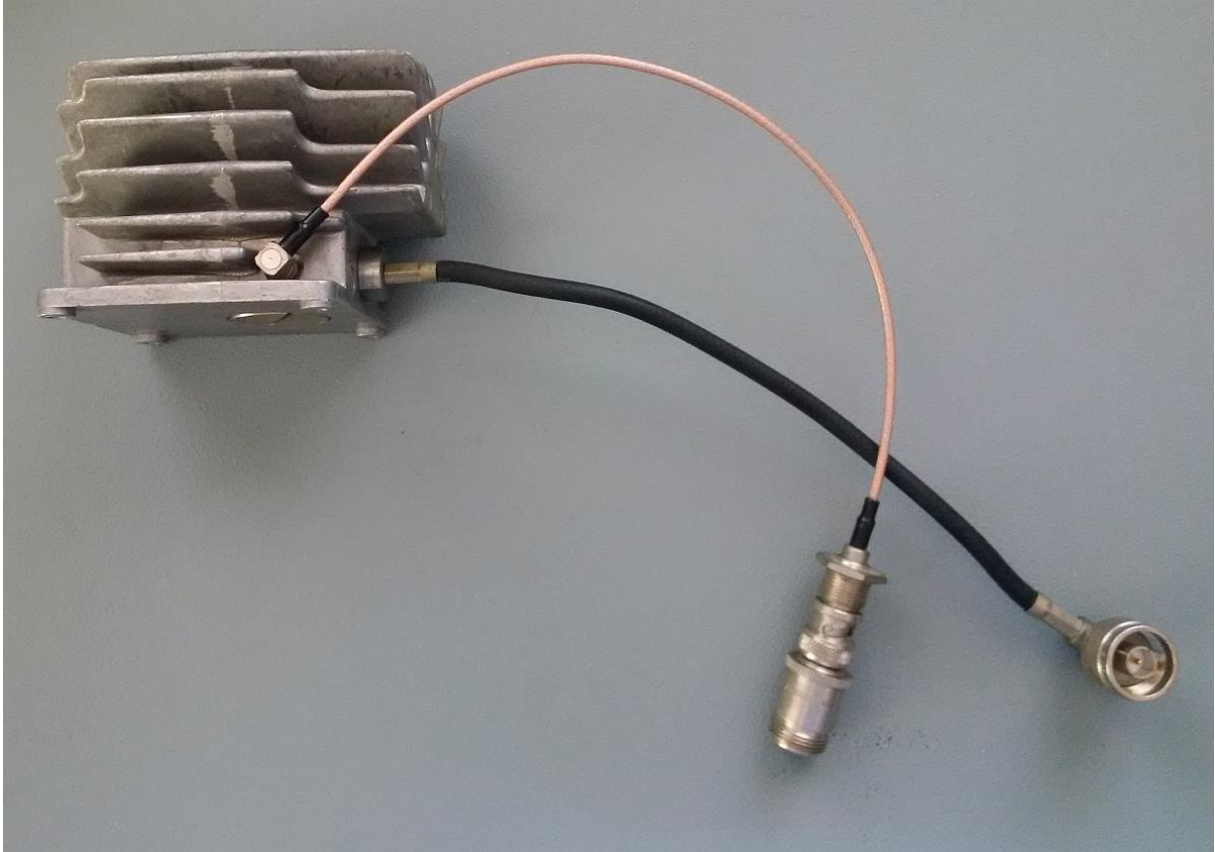
Hello,

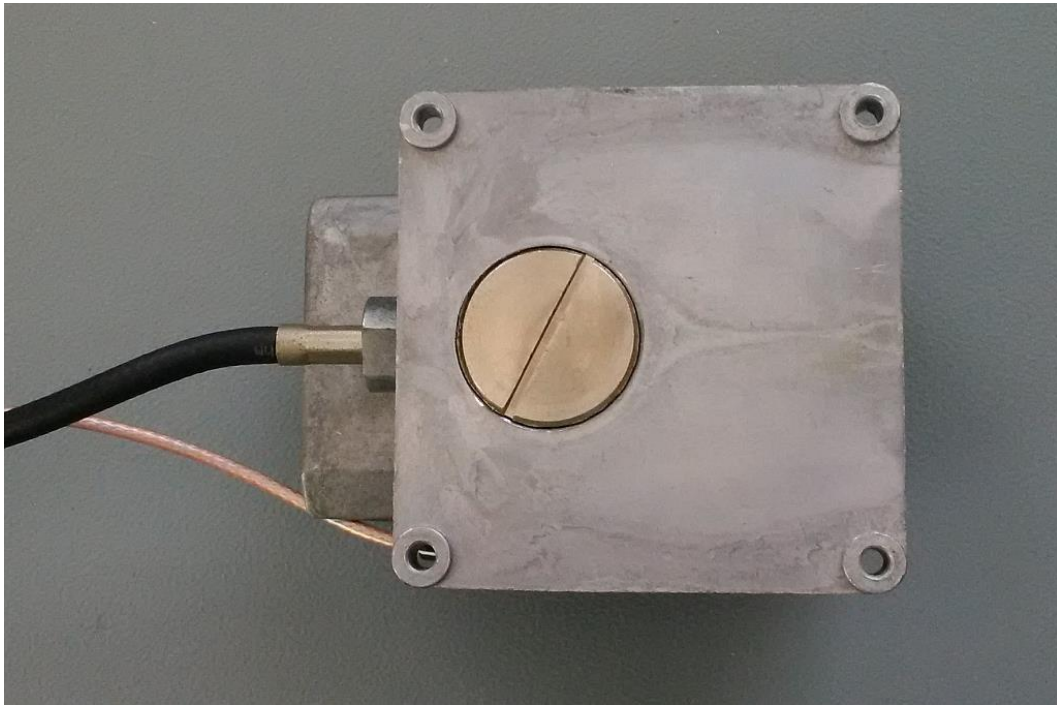
Recently a friend ask me to check the maximum frequency range of his dummy load RS96610-2 from Radiosystem Sweden. He wanted to use it as a dummy load to tune his 13cm PA.

As I did not find data for this PA I characterizes it. This PA has a pigtail with a N-plug as the input. It also features a measurement output with an attenuated signal.

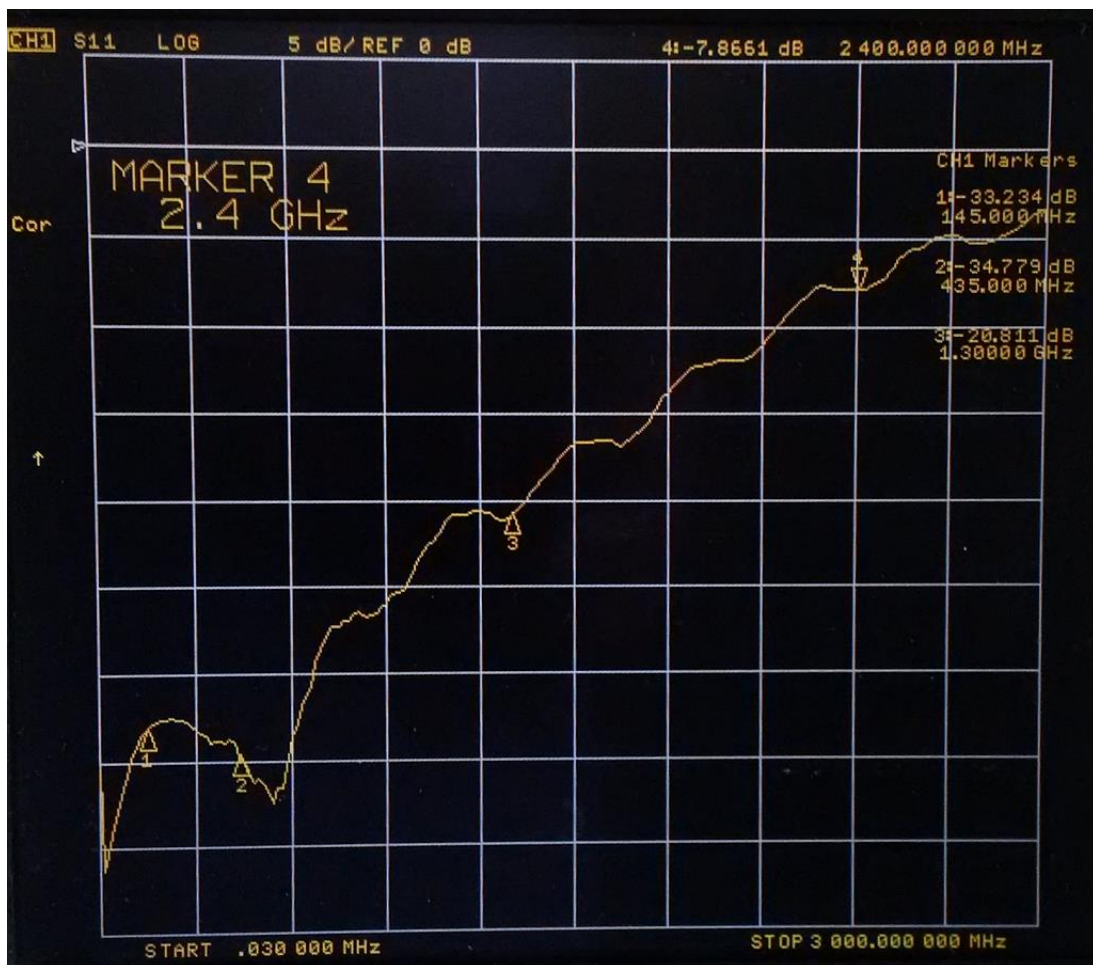
Here are some pictures of the dummy load:

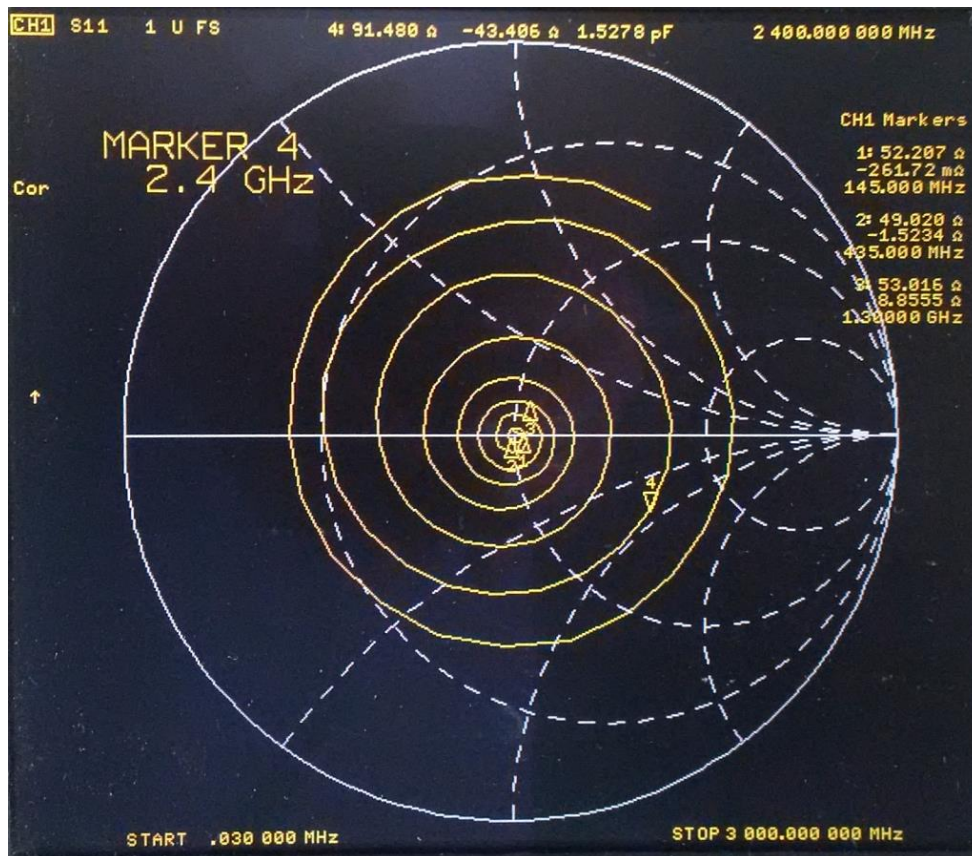




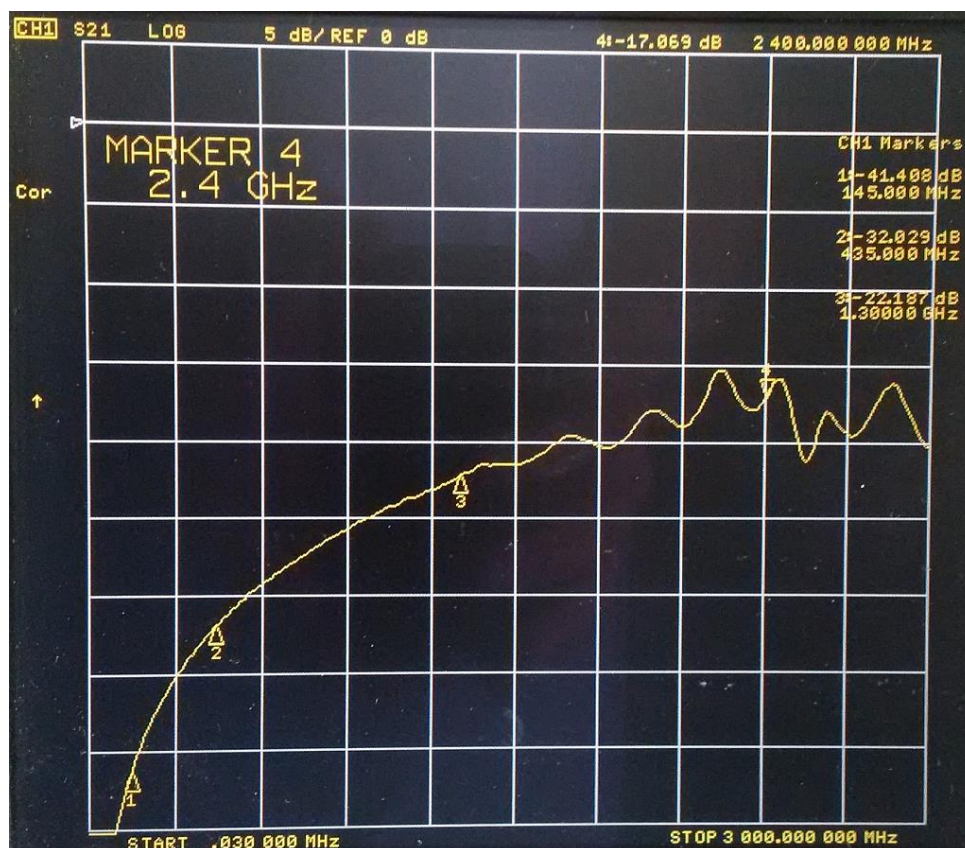


Here are the S11 measurement results of the device. The return loss is better than 30dB in the 2m and 70cm ham radio bands. In the 23cm band the return loss is still 20dB but in the 13cm band it drops to less than 8dB.

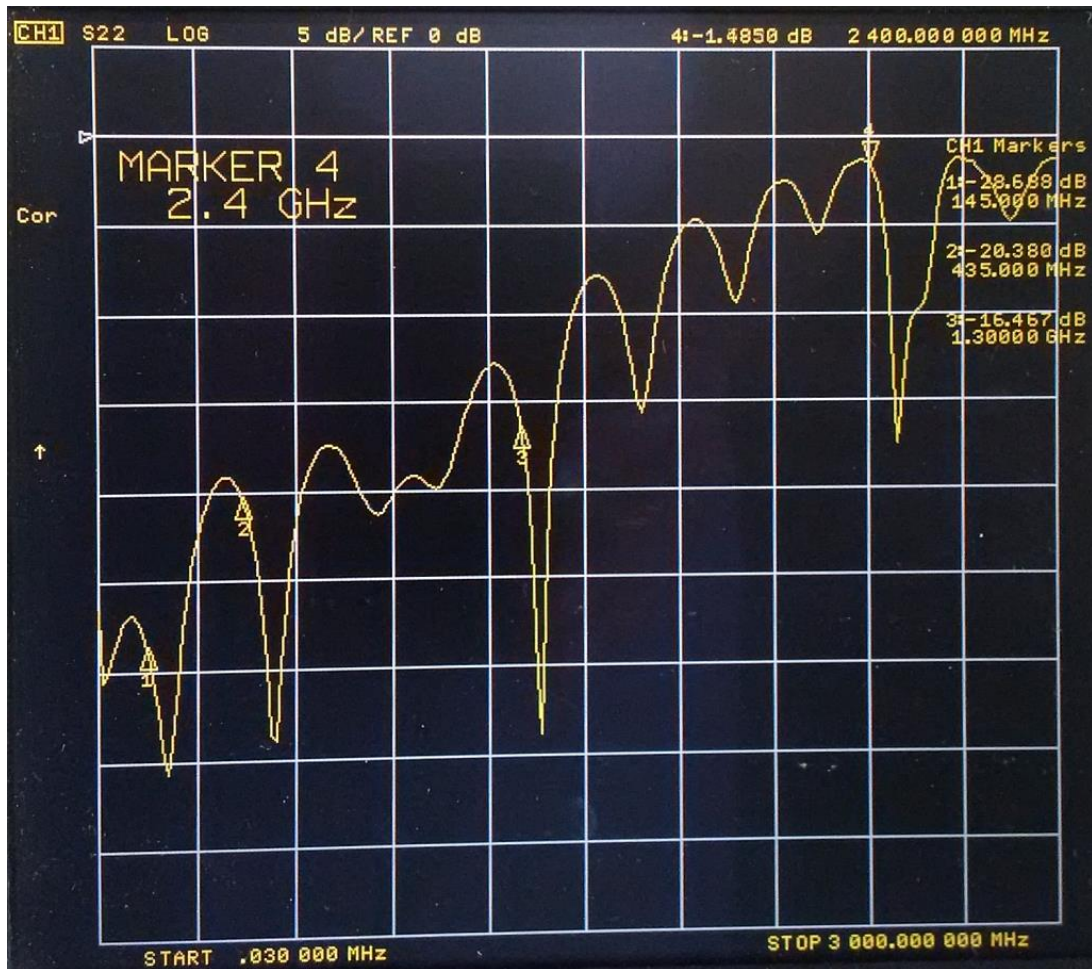




Next I measured the coupling factor S21 from the RF input to the measurement output. The unit seems to be based on capacitive coupling as S21 changes strongly as a function of the frequency: 41dB@145MHz, 32dB@435MHz, 22dB@1300MHz, 17dB@2400MHz



Finally, I checked the return loss of the coupled output S22. Return loss is very good at 145MHz with 28dB, still acceptable at 435 MHz with 20dB and at 1300MHz with 16dB. However at 2400 MHz the return loss is only 1.4dB!



Apparently, this dummy load is intended for the frequency range up to 500 MHz.

For 2400MHz it should not be used as the return loss is very poor.

I always appreciate feedback. Many thanks in advance.

Best regards

Matthias DD1US

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