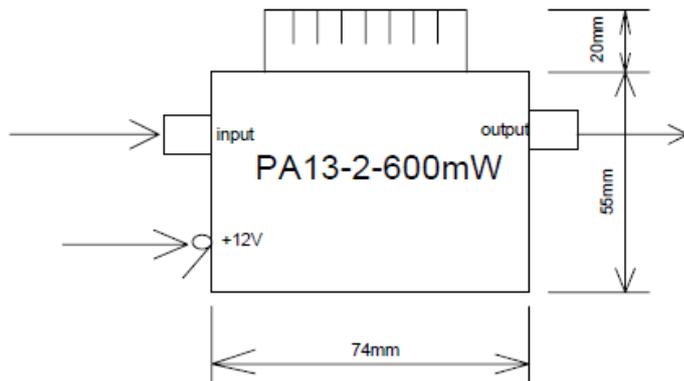


2.4 GHz medium power amplifier DG0VE

Matthias, DD1US, January 24th 2020

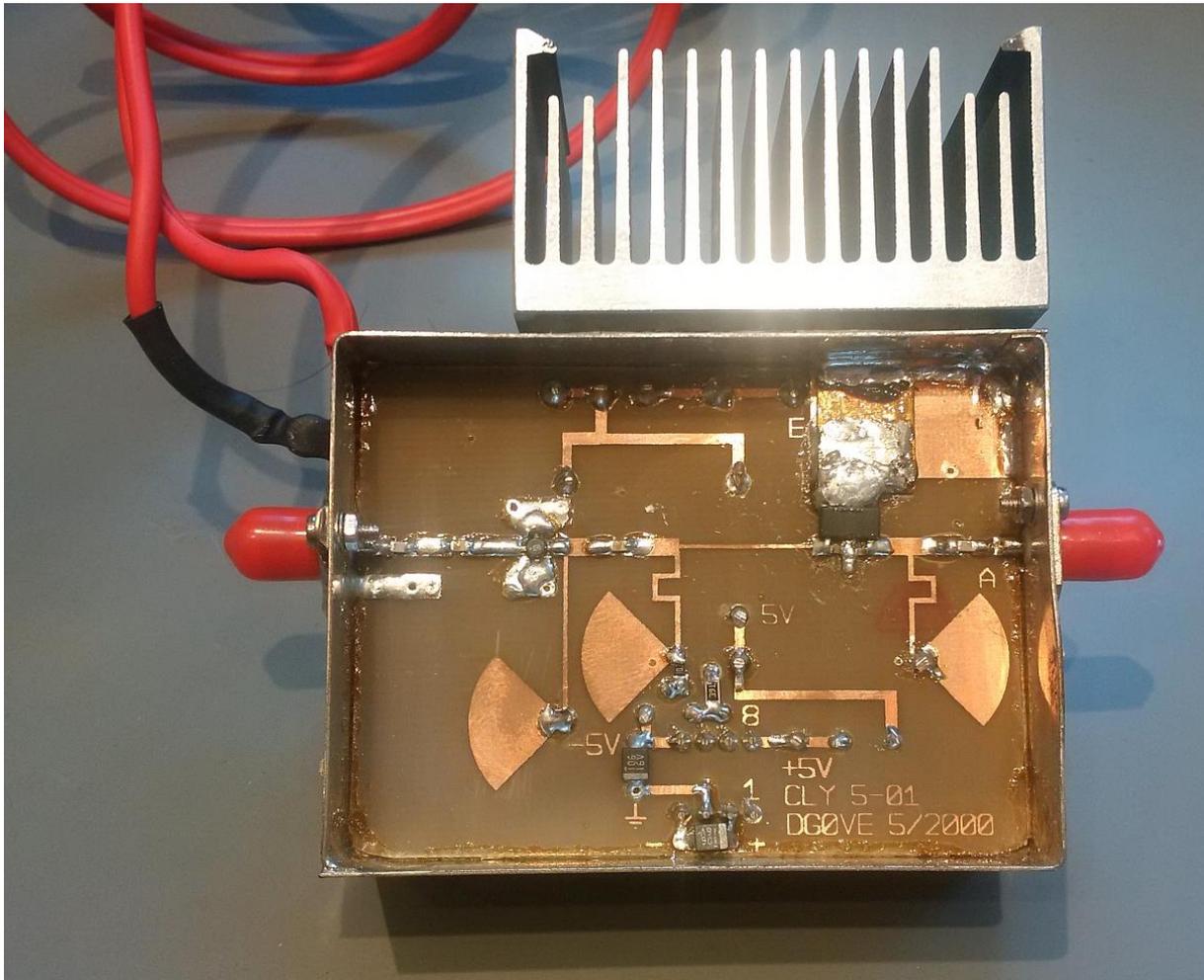
I am presently building some power amplifiers for the 13cm Ham Radio band. As my signal generator is limited to an output power of +16dBm which is not sufficient to drive the PAs I refurbished an old PA module which I had used long time ago for 13cm ATV. The module is from DG0VE. The original label was missing so I am not 100% sure but assume that the unit is a PA13-2-600mW model. I put a new label on it. It summarizes the data which I measured at my module. You will find the details later in this description.

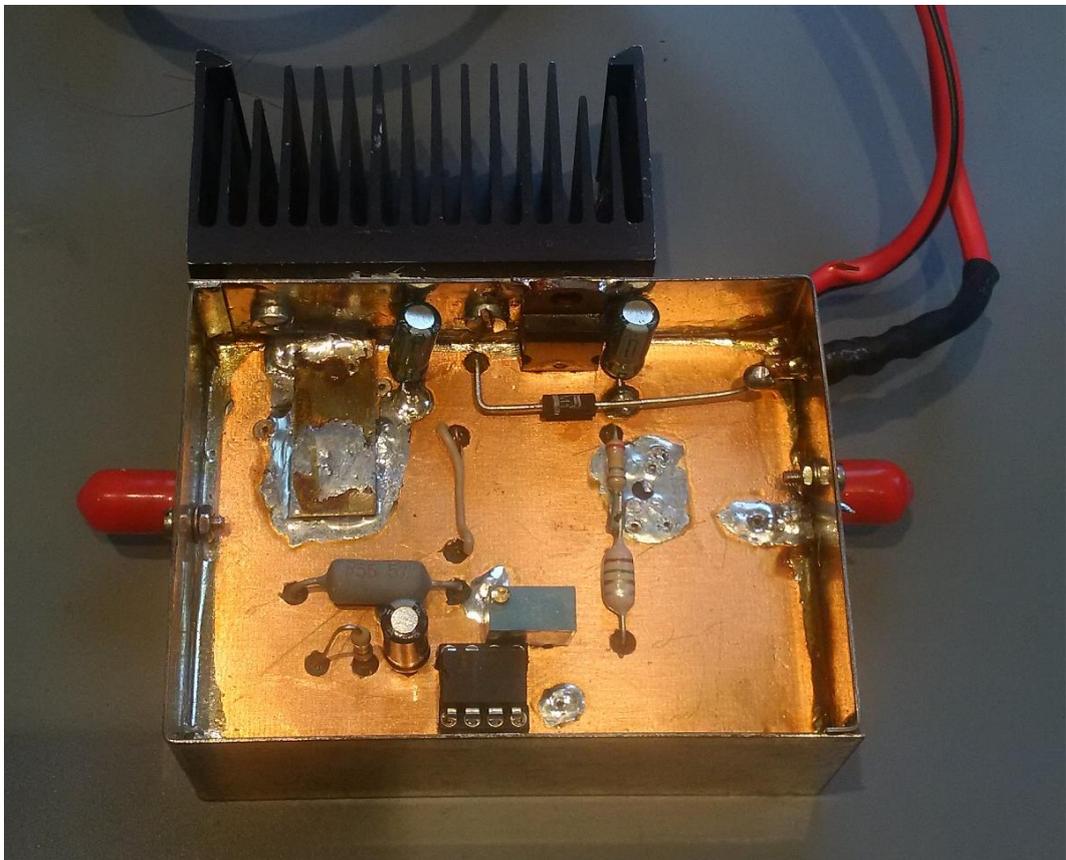
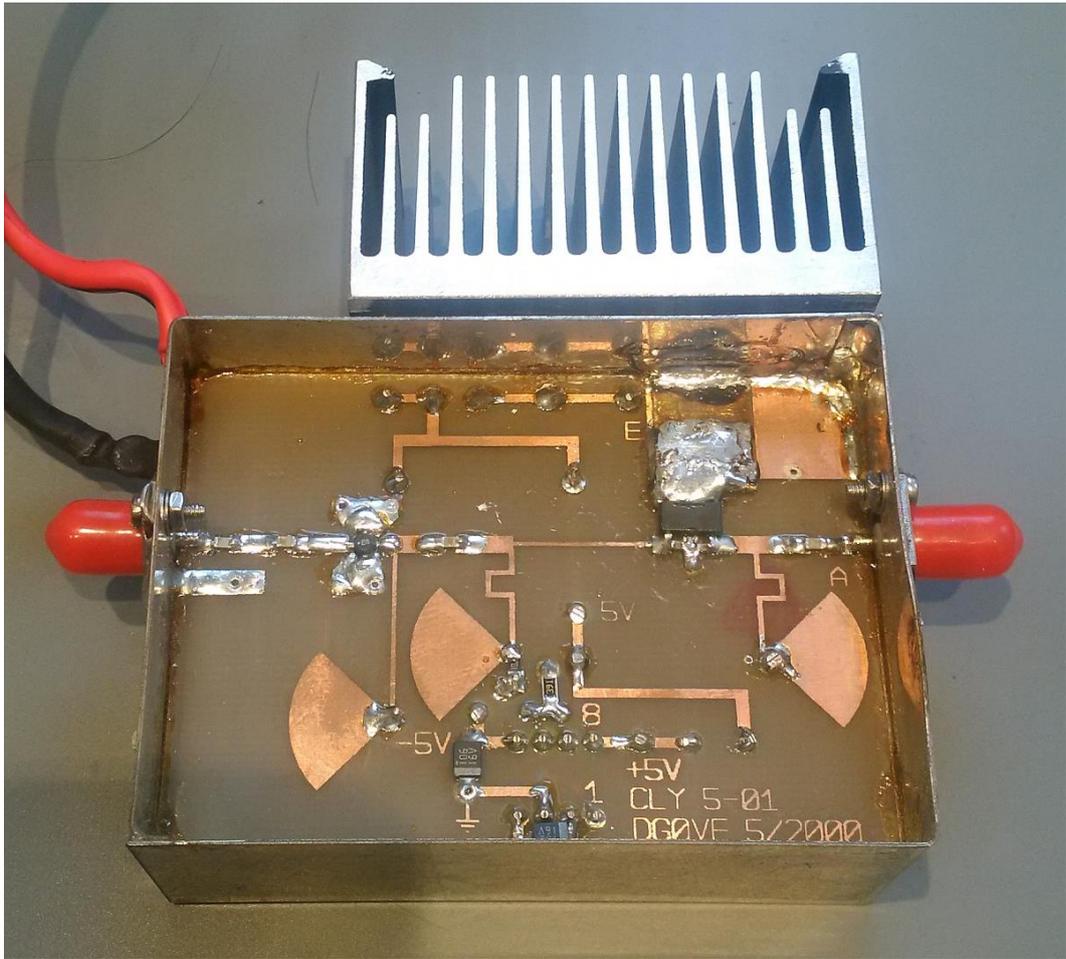


$V_s=12V, I_s=400mA$

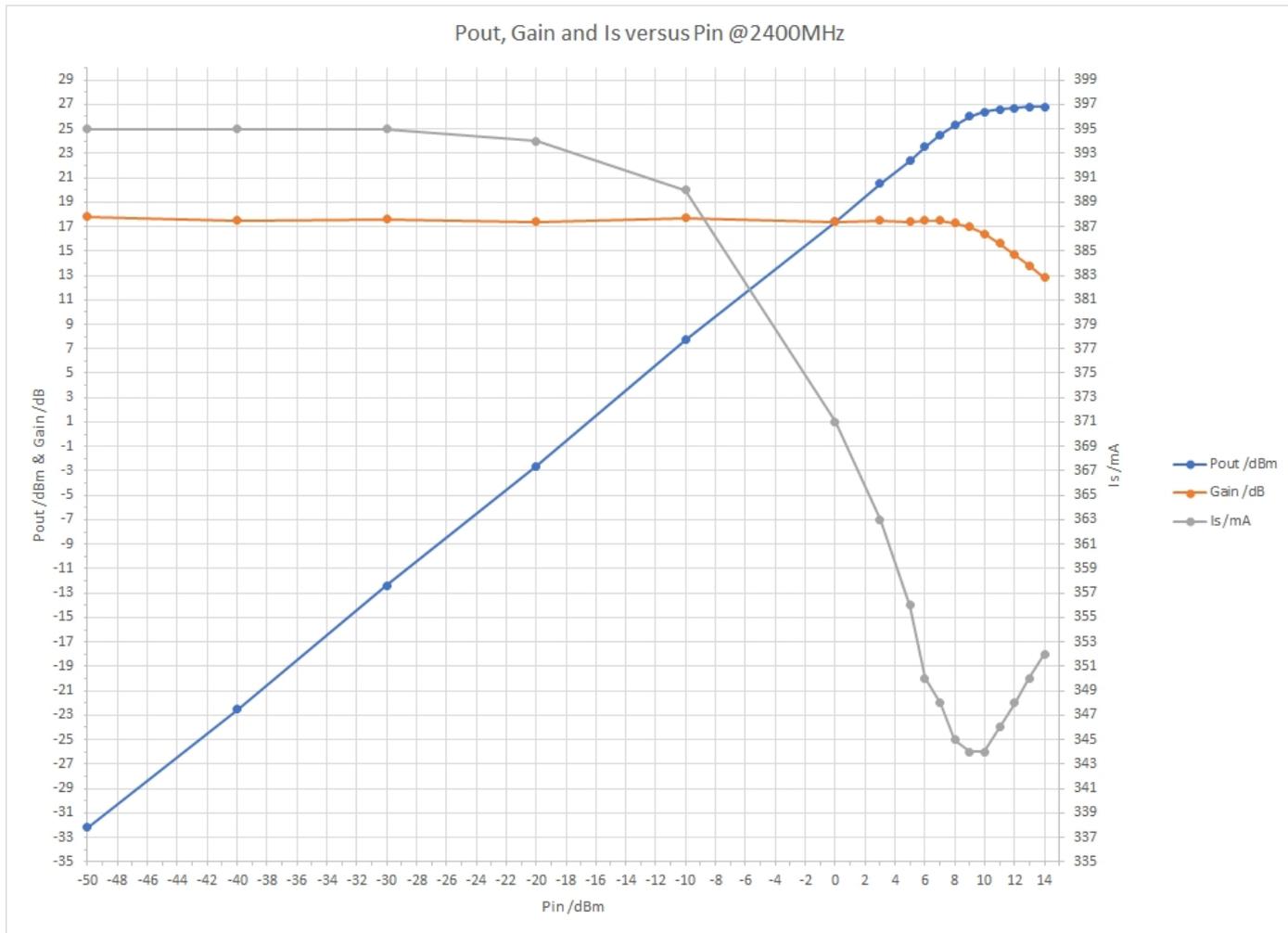
| | | |
|-----------------------|--------------|--|
| RF-Input max. 15mW | $G_p=17.5dB$ | RF-Output P1dB=400mW P _{sat} =600mW |
|-----------------------|--------------|--|

Here are some pictures of the inside of this medium power amplifier:





I measured the output power, gain and current consumption as a function of the input power at 2.4 GHz:



The gain is about 17.5dB and the P1dB is +26dBm respectively 400mW.

The maximum output power is approximately +27dBm respectively 500mW.

The quiescent current of this medium power amplifier is 400mA and thus rather high. Interestingly the current consumption drops with increasing drive power. Only at higher output power levels it starts to increase again.

I am always grateful to get feedback and will be happy to answer questions.

Please direct them to the Email address which you will find below.

Best regards

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