

Wideband Amplifier MITEQ 121643-15-17

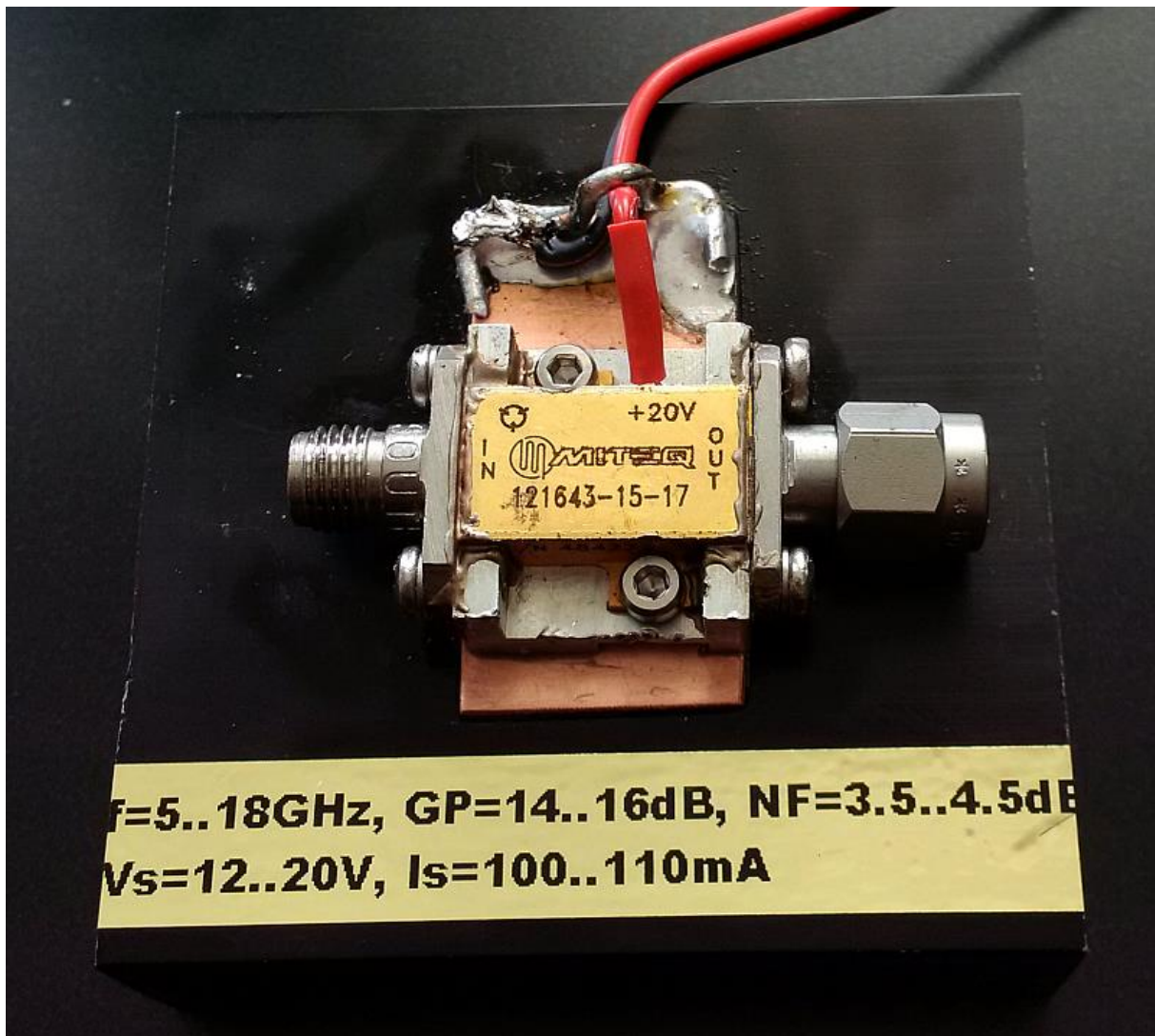
Matthias, DD1US, May 22nd 2019

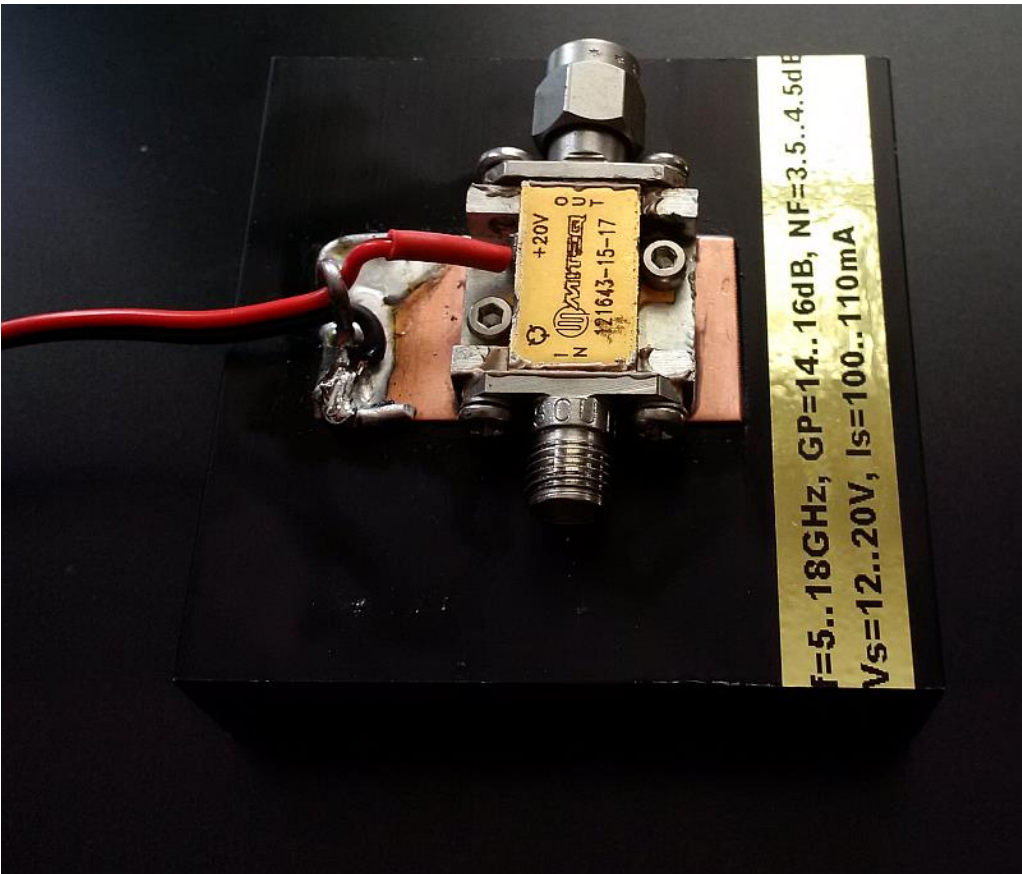
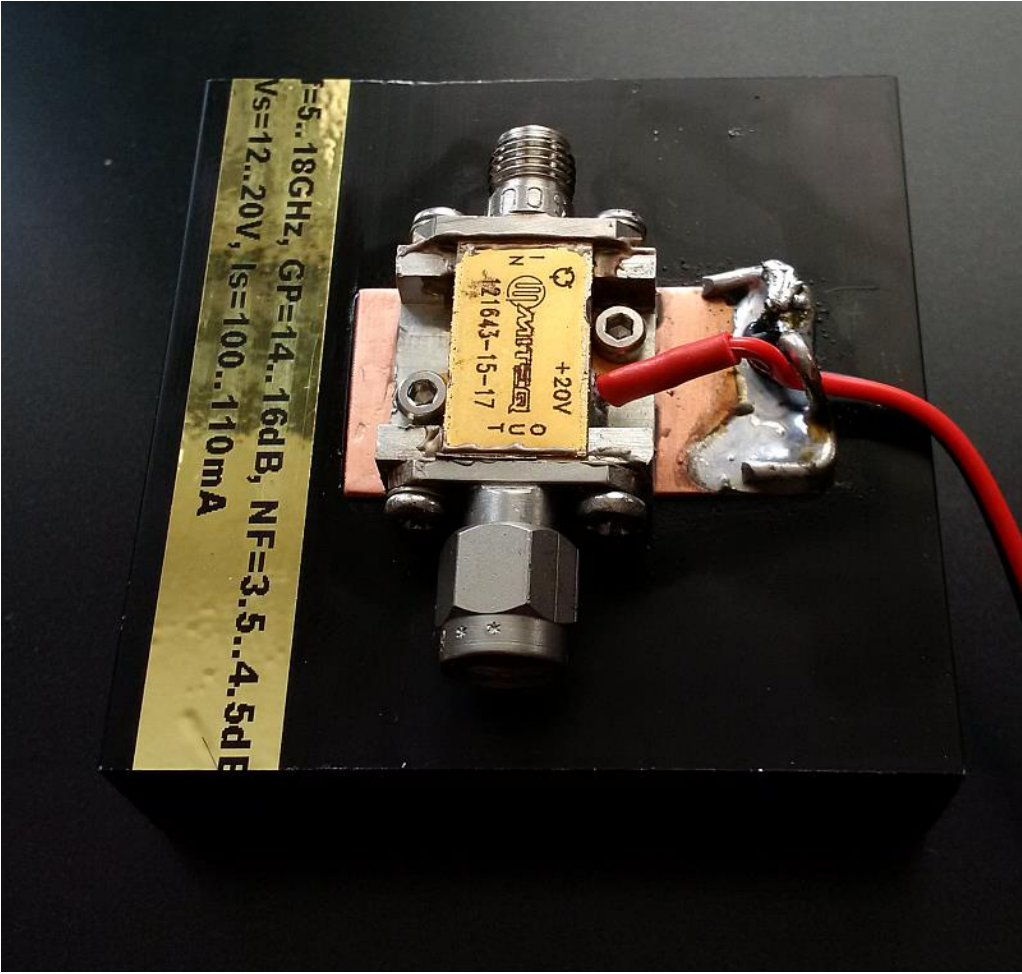
I just got another wide band amplifier from MITEQ. The data like frequency range, gain and noise figure was not known but I decided to give it a try.

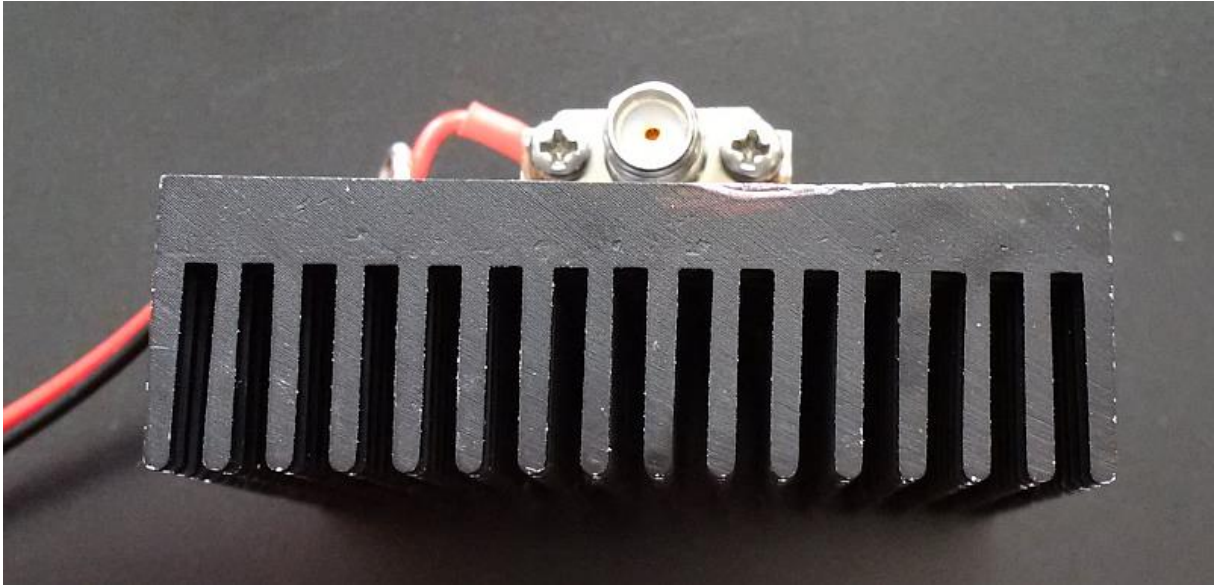
The amplifier is marked with 121643-15-17 and has the serial number S/N 484275. The single supply pin is marked with +20V.

I mounted the amplifier on a heat sink in order to avoid getting it too warm as this certainly degrades not only the lifetime but also performance. My device has a current consumption of 110mA at a supply voltage of 20V. At 12V the supply current is still 100mA. Reducing the supply voltage from 20V to 12V does not affect the gain noticeably but reduces the noise figure. Most likely the large signal capability degrades with lower supply voltage, which I did not yet measure. Below 12V the performance drops rather sharp.

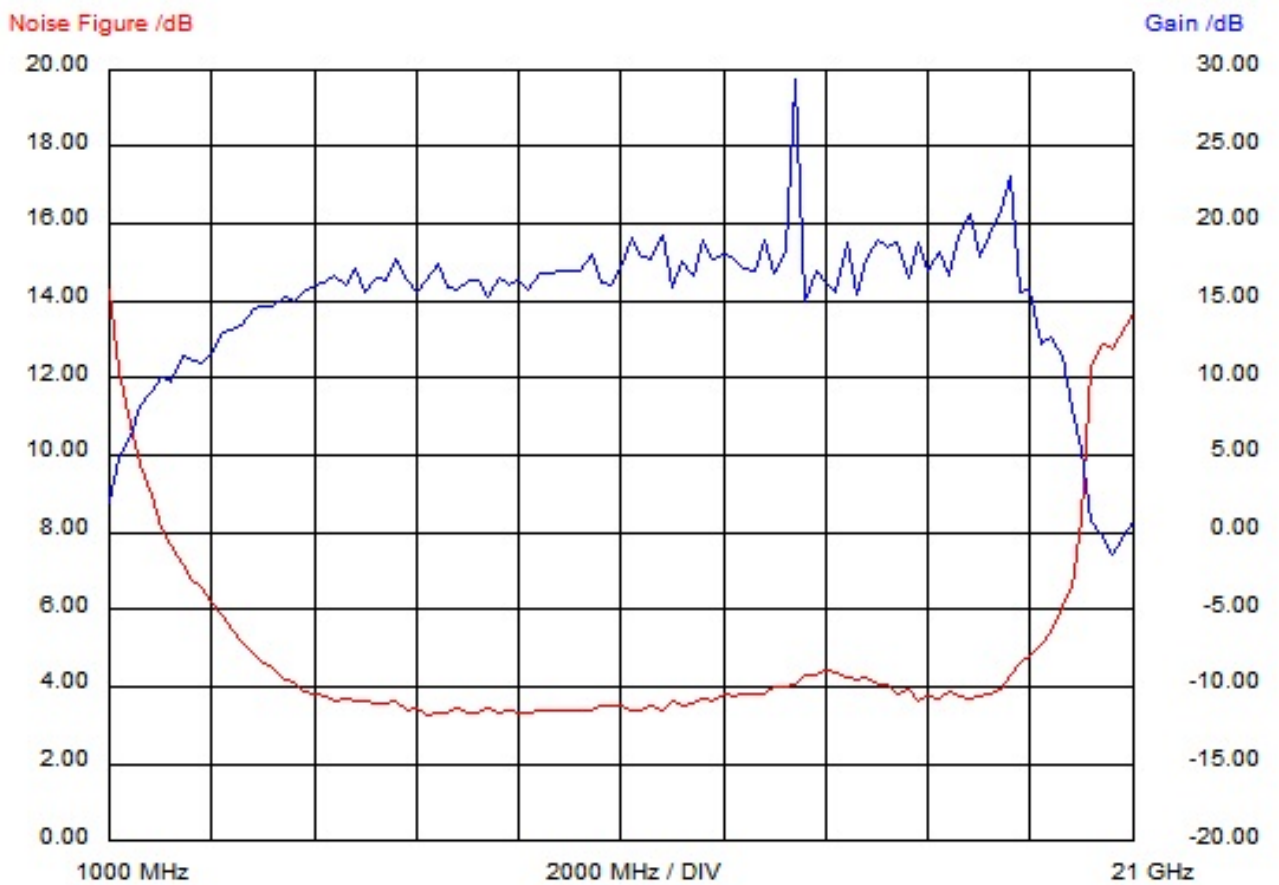
Here are some pictures of the device:





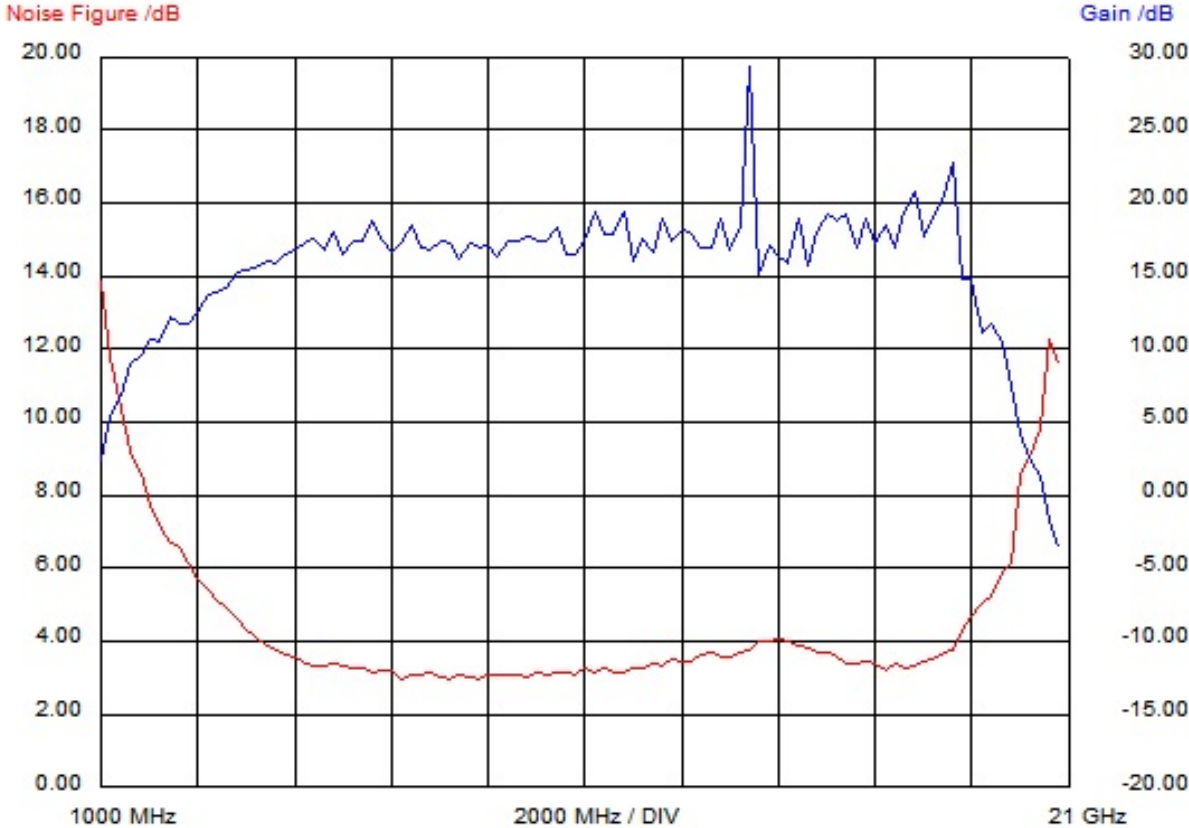


Next, I measured gain and noise figure versus frequency. The first measurement was done at the nominal supply voltage of 20V and a corresponding supply current of 110mA.



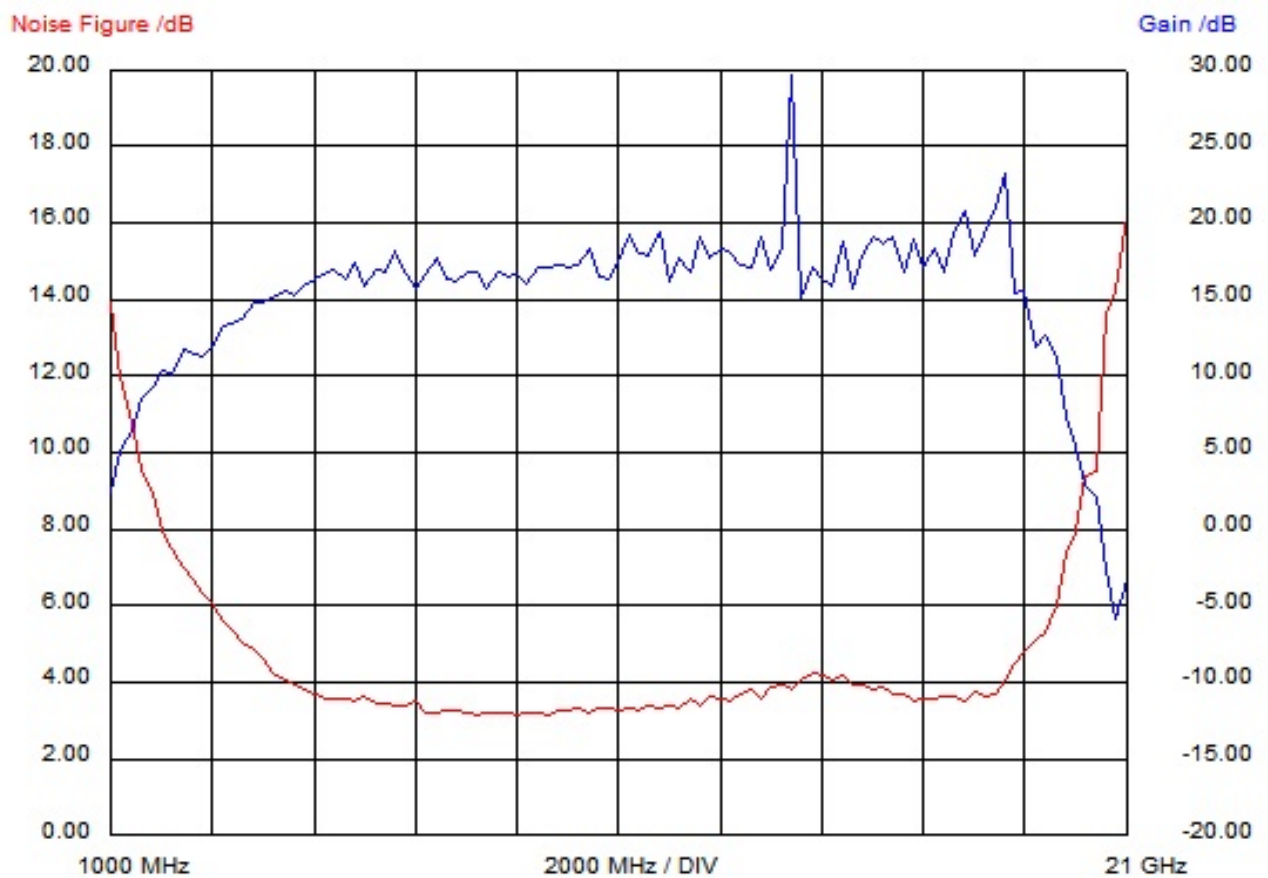
The frequency response is rather flat. In the frequency range 5 to 18 GHz the gain is between 14 and 16dB (besides 2 peaks) and the noise figure between 3.5 and 4.5dB.

Next, I repeated the same measurement with a supply voltage of 12V and a corresponding supply current of 100mA.



Between 5 and 18 GHz the gain is essentially the same (between 14 and 16dB besides the 2 peaks). The noise figure is lower (between 3.0 and 4.1 dB).

Finally, I checked at a supply voltage of 13.8V.



The results are almost identical to the 12V measurement. The noise figure is slightly higher.

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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