

Wideband Amplifier MITEQ AFS3-02000400-13-LN

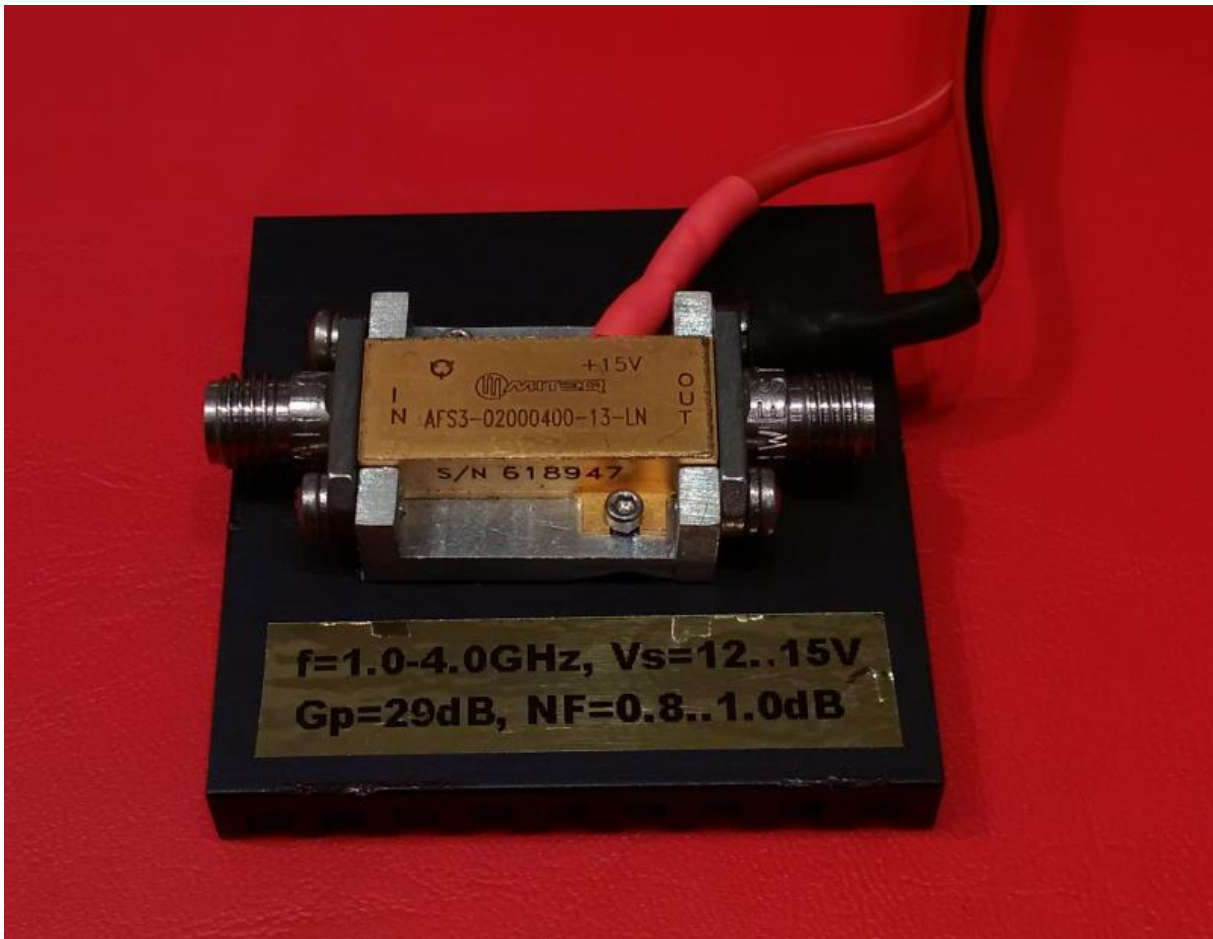
Matthias, DD1US, February 26th 2018

Last week I was able to acquire another wide band amplifier from Miteq. The part number is AFS3-04000200-13-LN.

On seller had sent me the following specification:

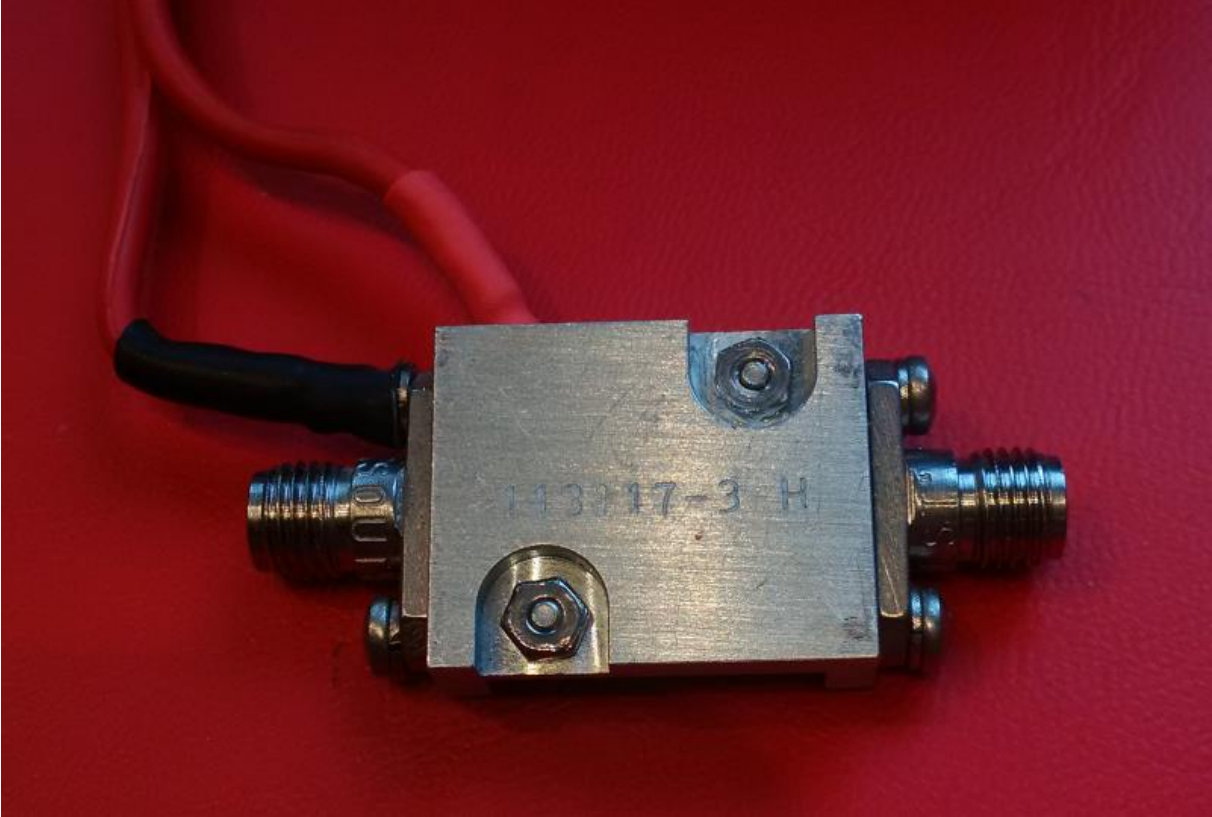
Model:	AFS3-04000200-13-LN
Description:	Wideband Amplifier
Frequency Range:	2-4 GHz
Gain:	28 dB (Min.)
Gain Variation:	±1 dB (Max.)
Noise Figure:	1.3 dB (Max.)
VSWR In/Out:	2:1 (Max.)
Output Power:	10 dBm (Min. @ 1 dB COMP)
Supply Voltage:	15 V nom.

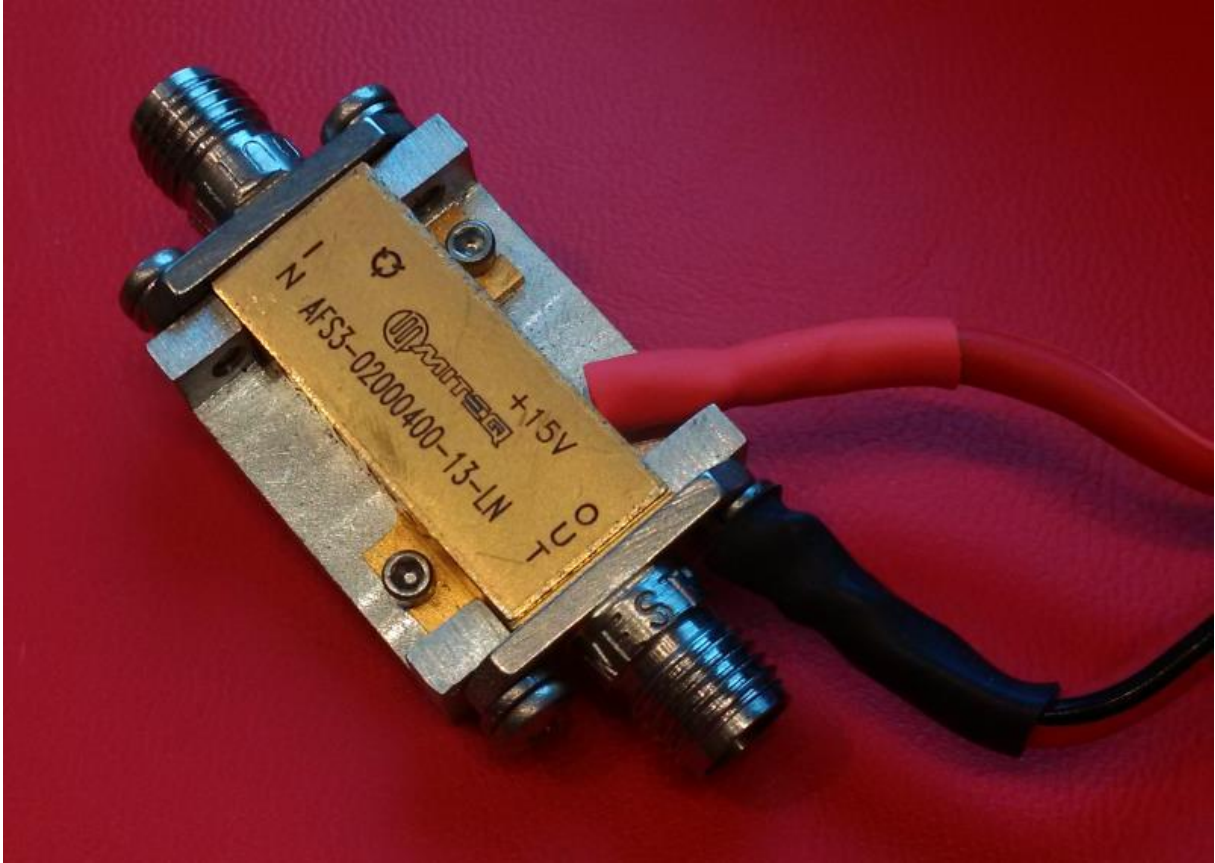
I mounted the amplifier on a small heat sink in order to avoid getting it too warm as this certainly degrades not only the lifetime but also performance, especially the noise figure.



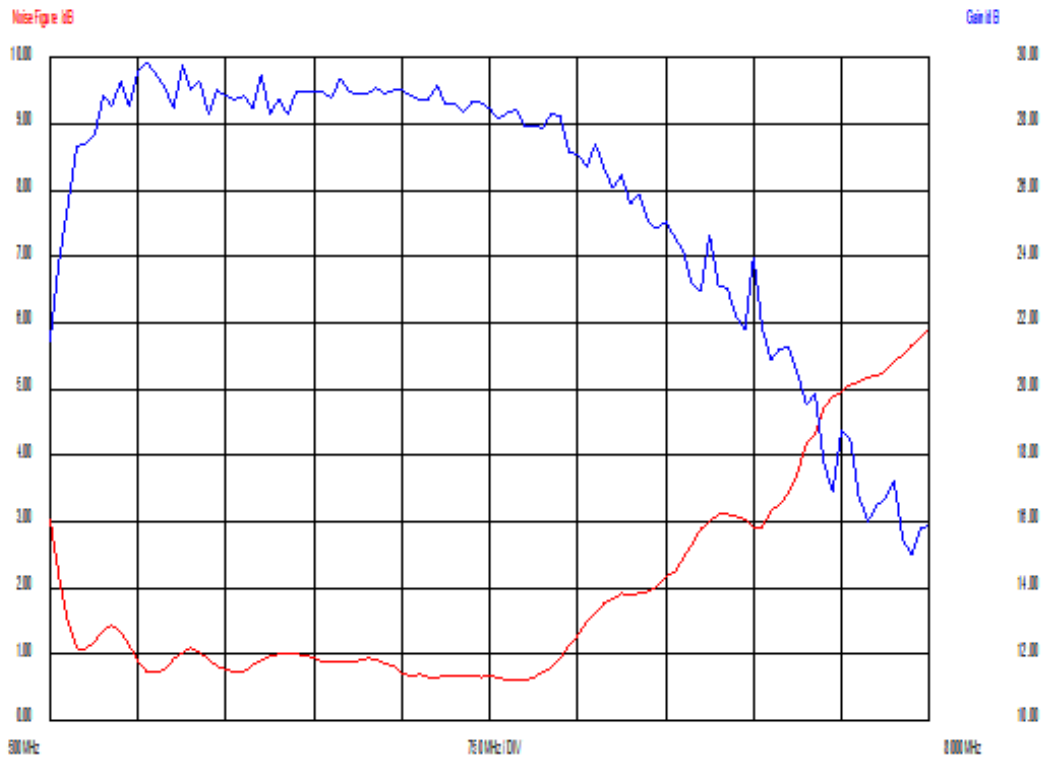
My device has a current consumption of 90mA at a supply voltage of 12V to 15V. Reducing the supply voltage to 12V did not degrade the gain and noise figure of the device. I have not yet measured the P1dB.

Here are some pictures of the device before I mounted it to the heatsink:

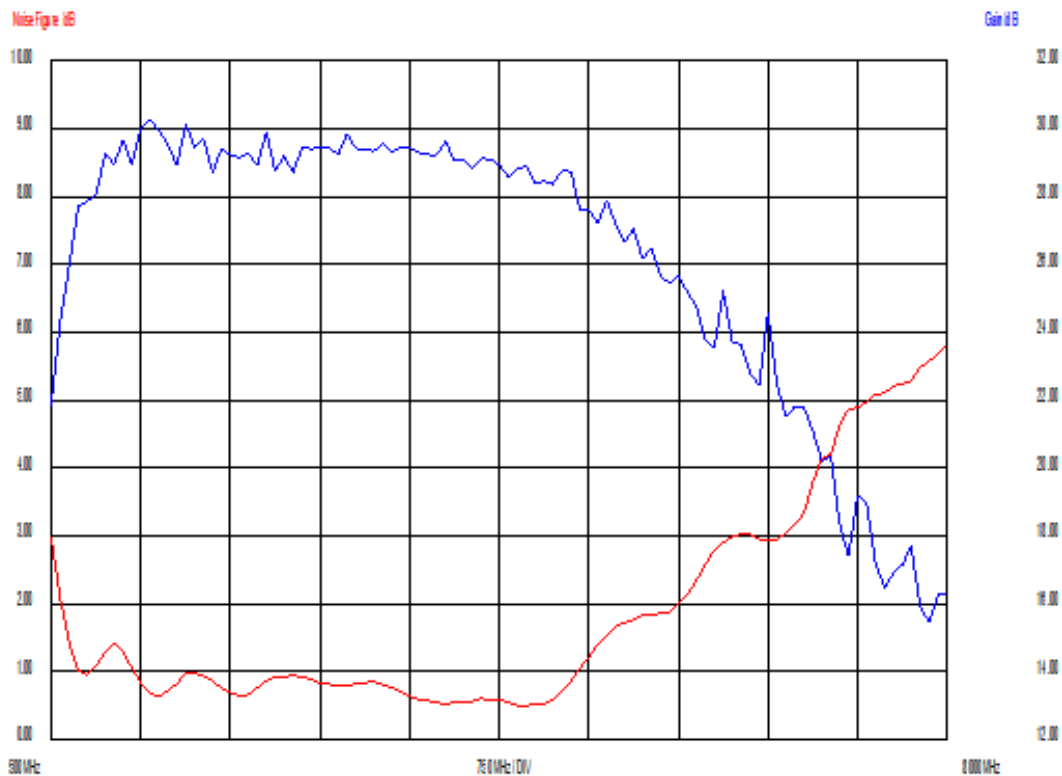




First, I measured gain (blue) and noise figure (red) of the device in the range from 500 MHz up to 8 GHz at a supply voltage of 15 V.



As can be seen the device has a flat gain of about 29 dB between approx. 1 GHz and 4 GHz. The noise figure in that frequency range is between 0.8 dB and 1.0 dB. At 5.8 GHz the gain is 25 dB and the noise figure 2.2 dB. I then repeated the measurement in the range from 500 MHz up to 8 GHz reducing the supply voltage to 12 V.



Gain and noise figure were almost exactly the same, actually at 12V slightly better than at 15V.

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

Matthias DD1US

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