

Wideband Amplifier MITEQ AFS3-00100300-25-23P-6S

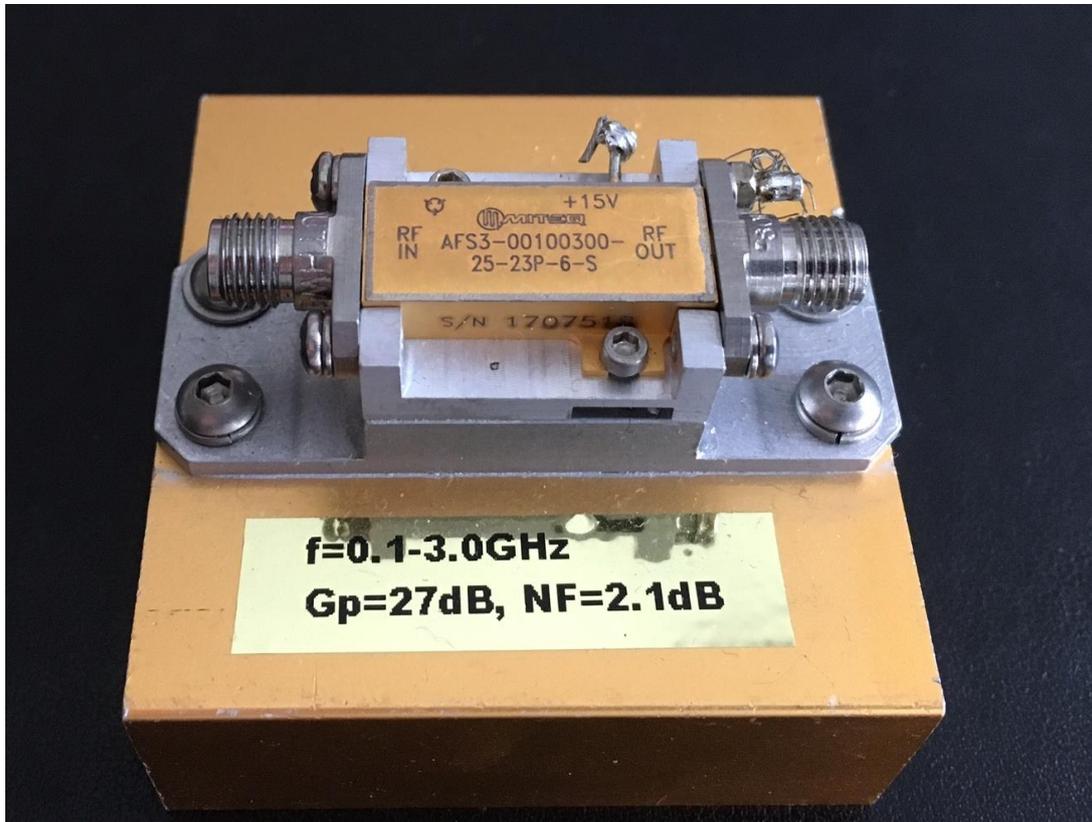
Matthias, DD1US, July 21st 2017

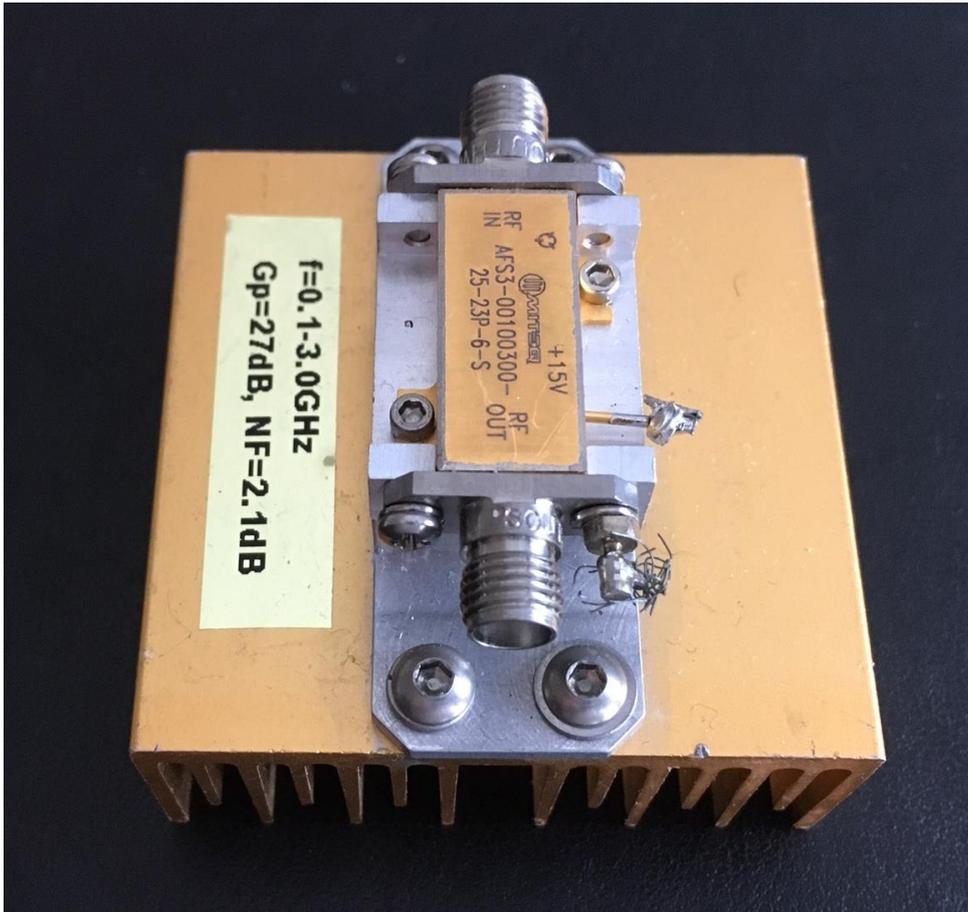
Some time ago I was able to acquire some wide band amplifiers and now found the time to characterize them. Here is the data I measured of the MITEQ AFS3-00100300-25-23P-6S device.

On the internet I found the following data:

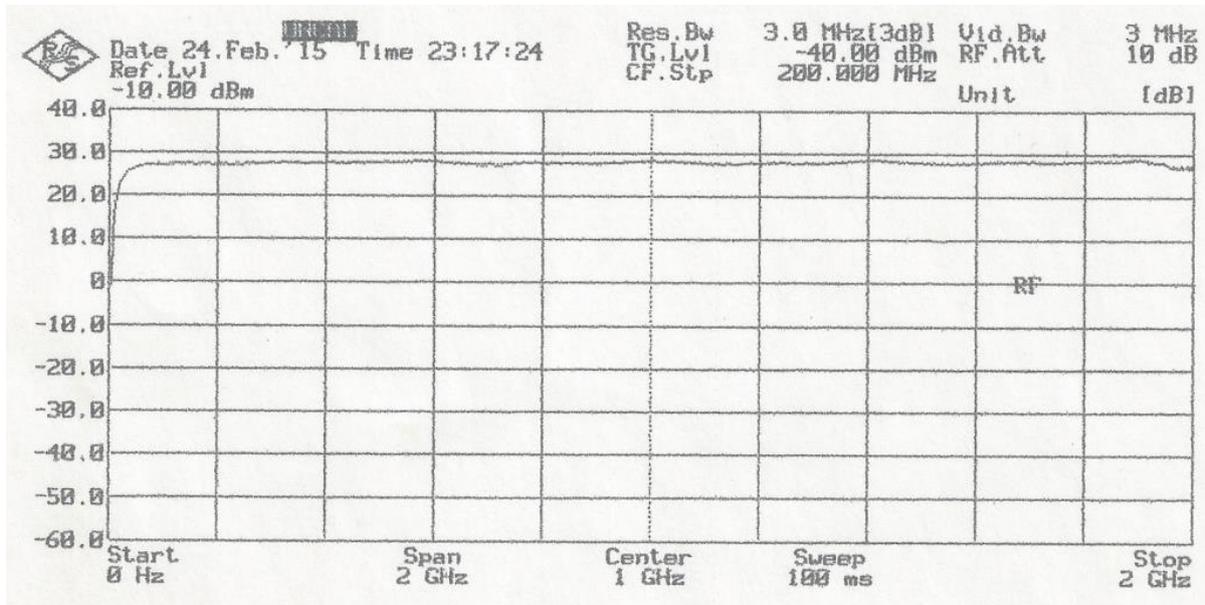
Model: AFS3-00100300-25-23P-6
Description: Amplifier
Specifications at 23 °C:
Frequency: 0.1 to 3 GHz
Gain: 28 dB min.
Gain Flatness: 1.5 dB+/- max.
Noise Figure: 2.5 dB max.
Noise Temperature: 225.7 K max.
VSWR In: 2:1 max.
VSWR Out: 2:1 max.
P1dB Out: 23 dBm min.
Output IP3 Typ: 33 dBm
Voltage: 15 V nom.
Current: 275 mA nom.
Outline Drawing: 113384-6
Operating Temp: -54 to 85 °C

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, especially the noise figure. My device has a current consumption of 230mA at a supply voltage of 15V. Reducing the supply voltage to 12V significantly degrades the performance of the device. Here are some pictures of the device:



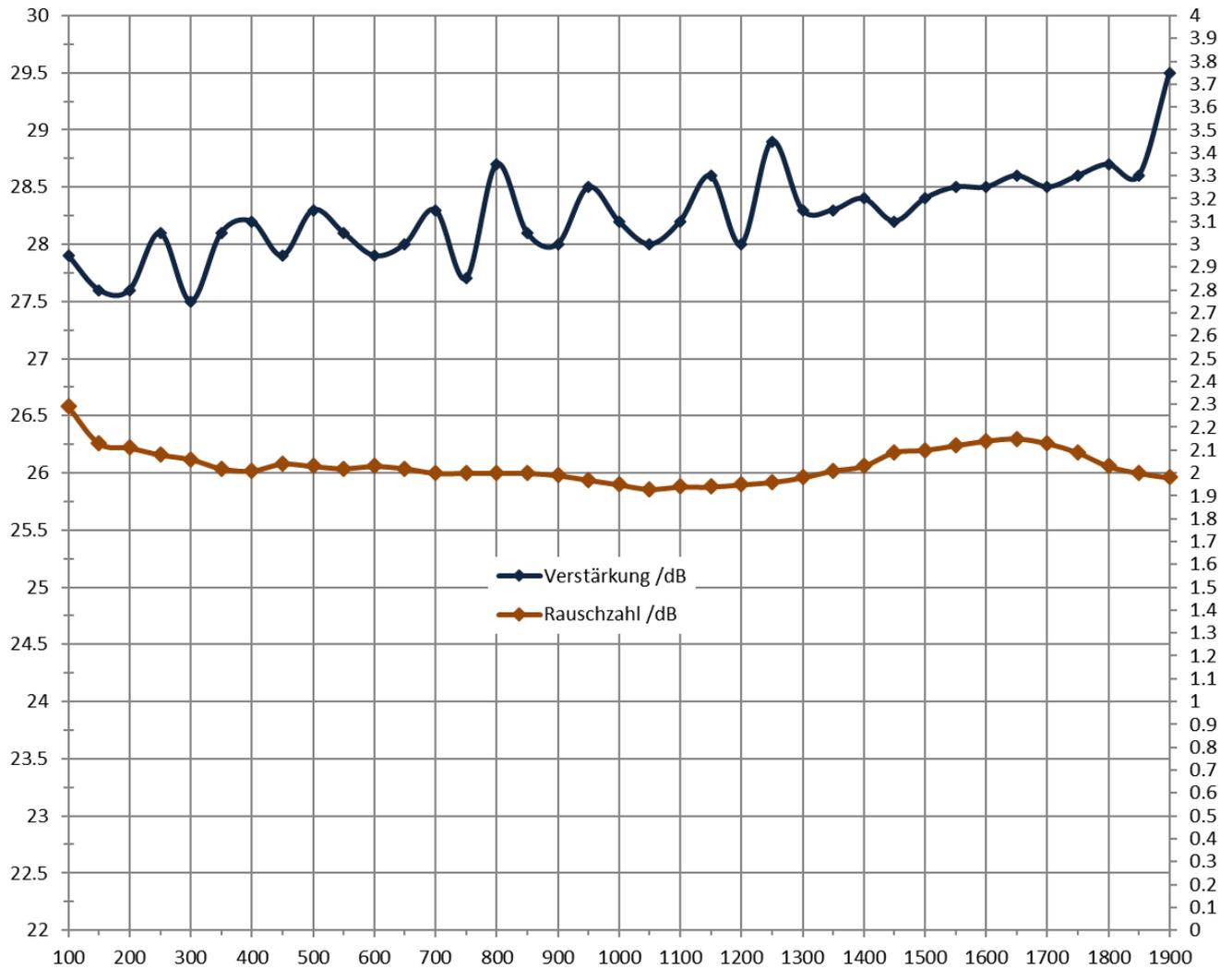


First I measured the device with spectrum analyzer with integrated tracking generator which covers the range up to 1900 MHz. Here are the results:



As can be seen the gain is very flat between 100 and 2000 MHz with approximately 28 dB.

Next I measured the device with my noise measurement setup which covers the range 100 MHz to 1900 MHz. Here are the results:



You can see that the gain (dark blue curve “Verstärkung” with the left scale) is quite constantly about 28dB in the range from 100 up to 1900 MHz and the noise figure (brown curve “Rauschzahl” with the right scale) at the same frequency range is about 2dB.

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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