

Wideband Amplifier MITEQ AMF-3F-005010-10-20P-ITC

Matthias, DD1US, January 23rd 2022

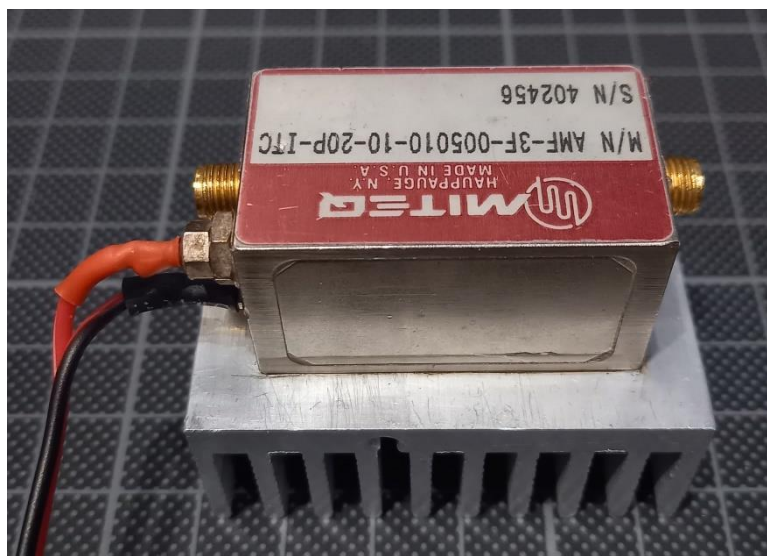
Last year I was able to acquire another wide band amplifier from MITEQ. The part number is AMF-3F-005010-10-20P-ITC.

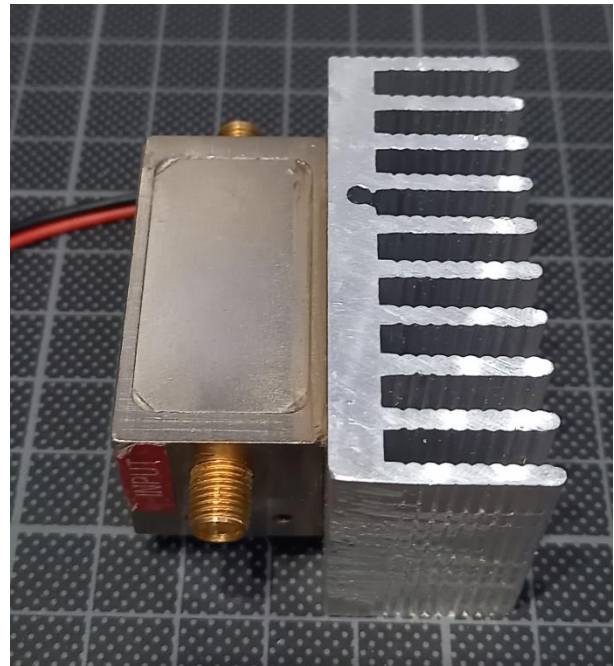
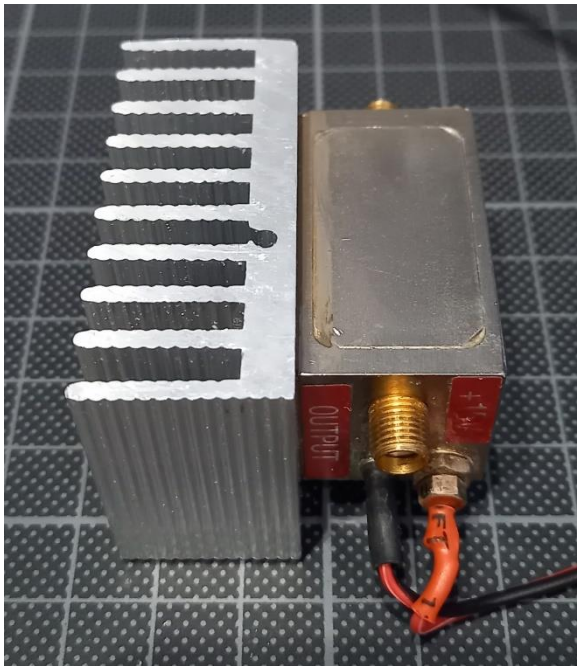
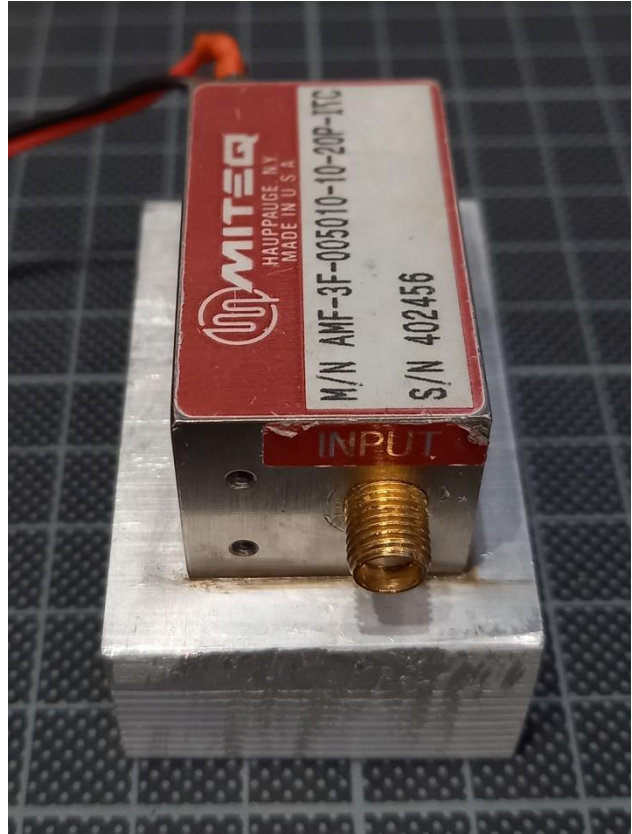
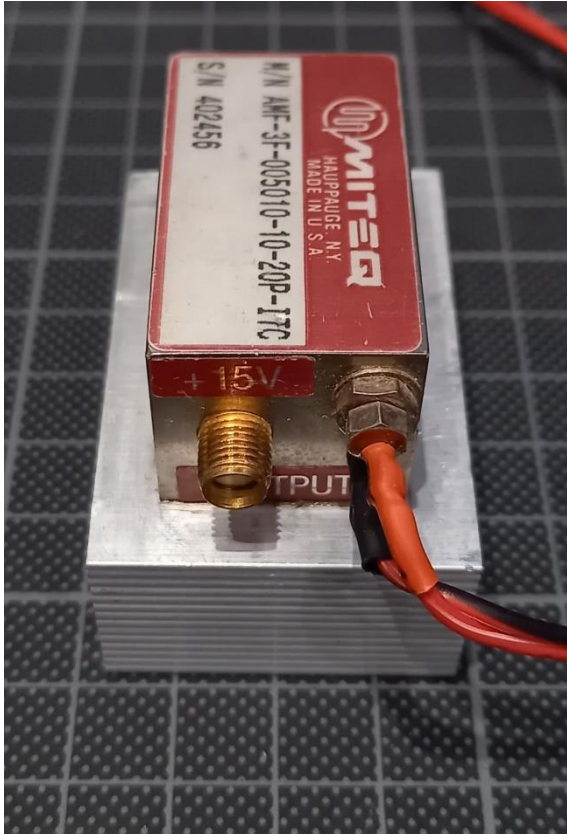
I did not find any specifications on the internet so I had to rely on the specification the seller gave me:

Model:	AMF-3F-005010-10-20P-ITC
Serial number:	402456
Description:	Wideband Amplifier
Frequency Range:	0.5–1 GHz
Gain:	40 dB
Noise Figure:	1.0 dB
Output Power:	20 dBm
Supply Voltage:	15 V

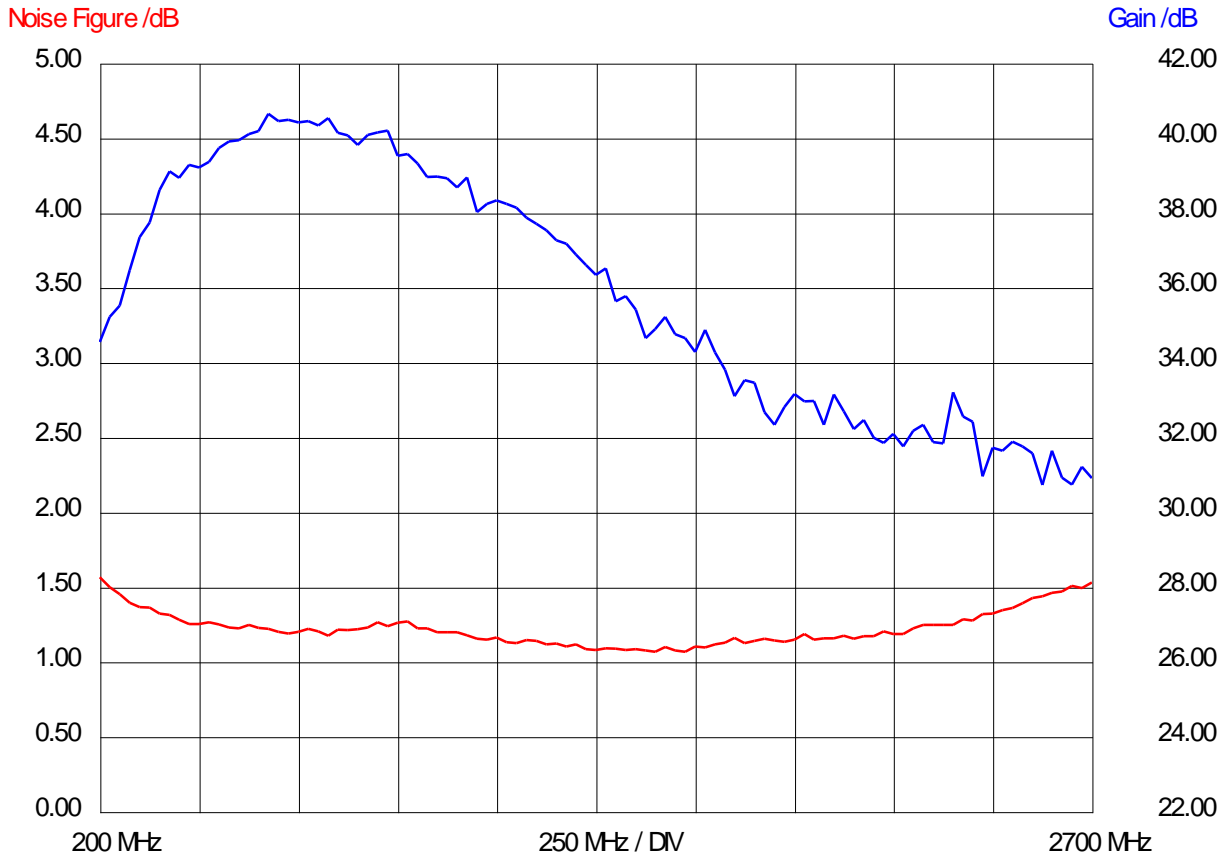
My device has a current consumption of 270mA at a supply voltage of 15V.

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. Here are some pictures:





I measured gain (blue) and noise figure (red) of the device in the range from 200 MHz up to 2700 MHz at a supply voltage of 15 V.



As can be seen the device has a maximum gain of more than 40.5 dB at around 650MHz and then drops continuously to about 32dB at 2200MHz and 31dB at 2700MHz. The noise figure between 400MHz and 2400MHz is below 1.3dB with a minimum of about 1.1dB at 1500MHz.

Below please find a table with the measurement values:

Frequency	Gain /dB	NF /dB	Frequency	Gain /dB	NF /dB
200 MHz	34.54	1.57	625 MHz	40.65	1.22
225 MHz	35.21	1.50	650 MHz	40.45	1.20
250 MHz	35.52	1.45	675 MHz	40.49	1.19
275 MHz	36.46	1.39	700 MHz	40.41	1.20
300 MHz	37.34	1.36	725 MHz	40.45	1.22
325 MHz	37.74	1.36	750 MHz	40.33	1.21
350 MHz	38.60	1.32	775 MHz	40.53	1.17
375 MHz	39.11	1.31	800 MHz	40.14	1.21
400 MHz	38.93	1.28	825 MHz	40.07	1.21
425 MHz	39.28	1.25	850 MHz	39.82	1.22
450 MHz	39.21	1.25	875 MHz	40.08	1.23
475 MHz	39.37	1.27	900 MHz	40.14	1.26
500 MHz	39.73	1.25	925 MHz	40.19	1.24
525 MHz	39.90	1.23	950 MHz	39.52	1.26
550 MHz	39.94	1.23	975 MHz	39.57	1.27
575 MHz	40.10	1.25	1000 MHz	39.31	1.22
600 MHz	40.19	1.23	1025 MHz	38.95	1.22

Frequency	Gain /dB	NF/dB	Frequency	Gain /dB	NF/dB
1050 MHz	38.97	1.20	1900 MHz	32.33	1.14
1075 MHz	38.92	1.20	1925 MHz	32.81	1.13
1100 MHz	38.67	1.20	1950 MHz	33.16	1.15
1125 MHz	38.94	1.18	1975 MHz	32.96	1.19
1150 MHz	38.02	1.16	2000 MHz	32.97	1.15
1175 MHz	38.24	1.15	2025 MHz	32.33	1.16
1200 MHz	38.33	1.16	2050 MHz	33.15	1.16
1225 MHz	38.24	1.13	2075 MHz	32.69	1.18
1250 MHz	38.14	1.13	2100 MHz	32.22	1.16
1275 MHz	37.86	1.15	2125 MHz	32.46	1.17
1300 MHz	37.71	1.14	2150 MHz	31.99	1.17
1325 MHz	37.54	1.12	2175 MHz	31.84	1.20
1350 MHz	37.27	1.12	2200 MHz	32.10	1.19
1375 MHz	37.18	1.10	2225 MHz	31.76	1.19
1400 MHz	36.89	1.12	2250 MHz	32.18	1.22
1425 MHz	36.61	1.09	2275 MHz	32.33	1.25
1450 MHz	36.34	1.08	2300 MHz	31.87	1.25
1475 MHz	36.51	1.09	2325 MHz	31.83	1.25
1500 MHz	35.64	1.09	2350 MHz	33.20	1.25
1525 MHz	35.77	1.08	2375 MHz	32.56	1.28
1550 MHz	35.41	1.08	2400 MHz	32.42	1.28
1575 MHz	34.65	1.08	2425 MHz	30.96	1.32
1600 MHz	34.90	1.07	2450 MHz	31.73	1.32
1625 MHz	35.21	1.10	2475 MHz	31.64	1.35
1650 MHz	34.75	1.08	2500 MHz	31.88	1.36
1675 MHz	34.66	1.07	2525 MHz	31.76	1.39
1700 MHz	34.28	1.10	2550 MHz	31.57	1.43
1725 MHz	34.87	1.10	2575 MHz	30.73	1.44
1750 MHz	34.26	1.12	2600 MHz	31.65	1.46
1775 MHz	33.81	1.13	2625 MHz	30.92	1.47
1800 MHz	33.10	1.16	2650 MHz	30.74	1.51
1825 MHz	33.52	1.13	2675 MHz	31.22	1.49
1850 MHz	33.46	1.14	2700 MHz	30.91	1.53
1875 MHz	32.67	1.15			

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

Email: DD1US@AMSAT.ORG

Homepage: <http://www.dd1us.de>