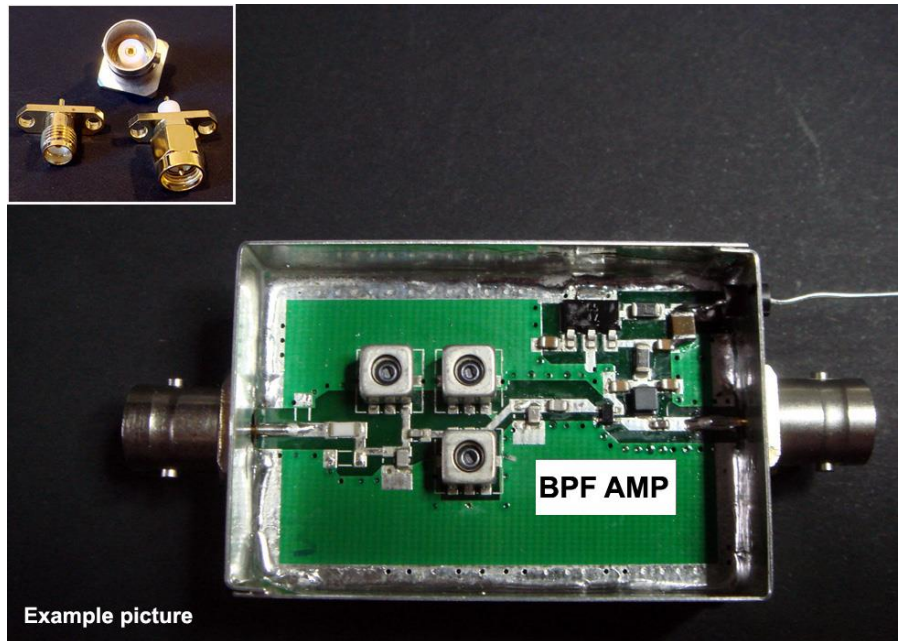


This compact 4M preamplifier is designed for use in amateur radio receiver systems to amplify Aerial signals or compensate cable loss.

To be sure that only the wanted signals are amplified, there is an on board band pass filter that filters out unwanted signals.

For a preamplifier it is very important to have as less added noise as possible. We use an SPF5043Z low noise gain block from RFMD for best result.

Although this circuit is designed for receiver systems, it can also be used to amplify small signals like oscillator signals.



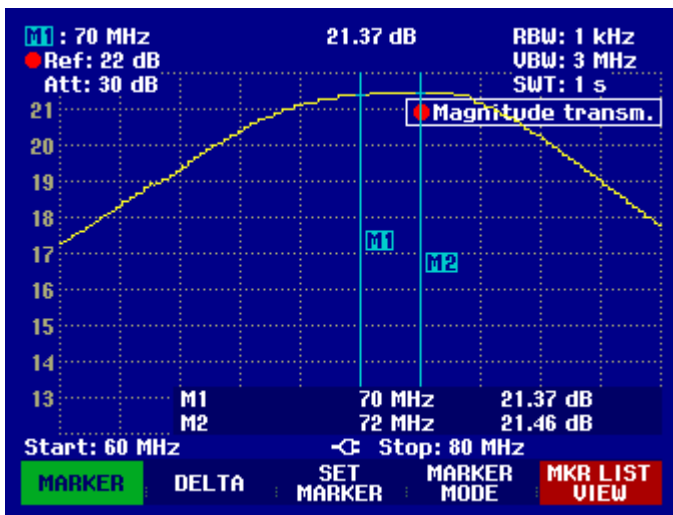
Example picture

BNC connector version, also available with SMA connectors

ELECTRICAL SPECIFICATIONS 50Ω loaded, Vdd = + 8..15 V dc)				
Characteristics	Min	Typ	Max	
Operating Frequency Range	65		75	Mhz
Power Output			18	dbm
Power Input			10	dbm
Power Gain	20	21		dB
-3 db bandwidth			17	Mhz
Input Impedance		50		Ohm
SPF5043Z noise figure		0.8		dB
Band pass filter noise figure		1.5		dB
Power Gain Variation (Unit to Unit)		+/- 1		dB
F*2 single carrier @ 142 MHz		-36		dB
F*3 single carrier @ 213 MHz		-63		dB

ABSOLUTE MAXIMUM RATING (T case = 70 °C.)			
Symbol	Parameter	Value	Unit
V _s	Supply	18	V dc
I _s	Supply Current	0.2	A dc
VSWR	Load Mismatch	10:1	
T _{stg}	Storage Temperature Range	-20 / +70	°C
T _c	Operating Temperature	65	°C

Spectrum measurements

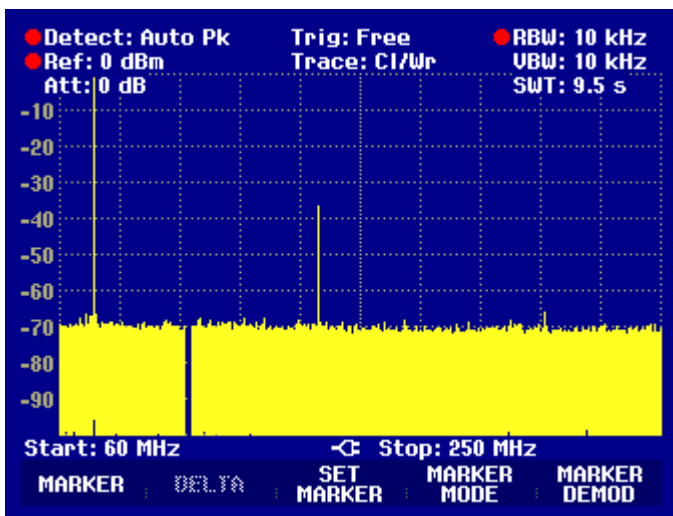


Screenshot from R&S FSH3.23 spectrum / tracking analyser with vector option enabled.

Gain measurement from 58 – 80 MHz from 0dB reference.

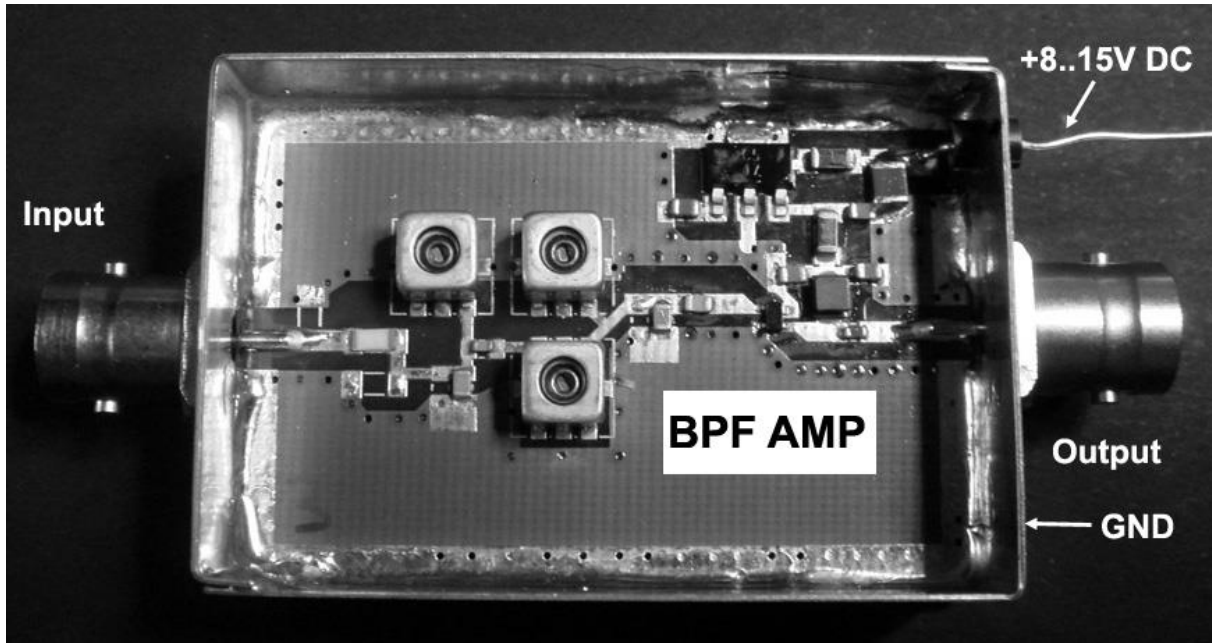
-3dB bandwidth compared to max gain = 17 MHz

All measurements with frequency cut cables.



Harmonic measurement of pre amplifier Input 71MHz -20dmb from HP RF generator.

Connections



Input: RF input of the band pass filter / amplifier
Output: RF output of the band pass filter / amplifier
+8 – 15V DC: Connect your DC power source to this point.
Amplifier case = GND

Options

- 1) Choose input and output connector, female SMA, Female BNC or Male SMA.
- 2) DC via coax

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