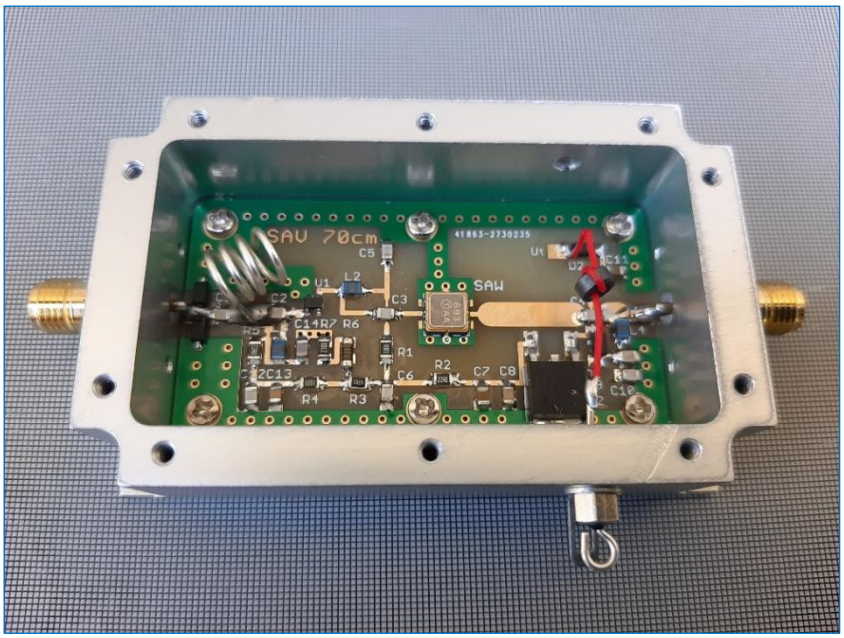
Mechanics & Electronics Inc.

EME Preamplifiers

ME-70 70cm EME Preamplifier

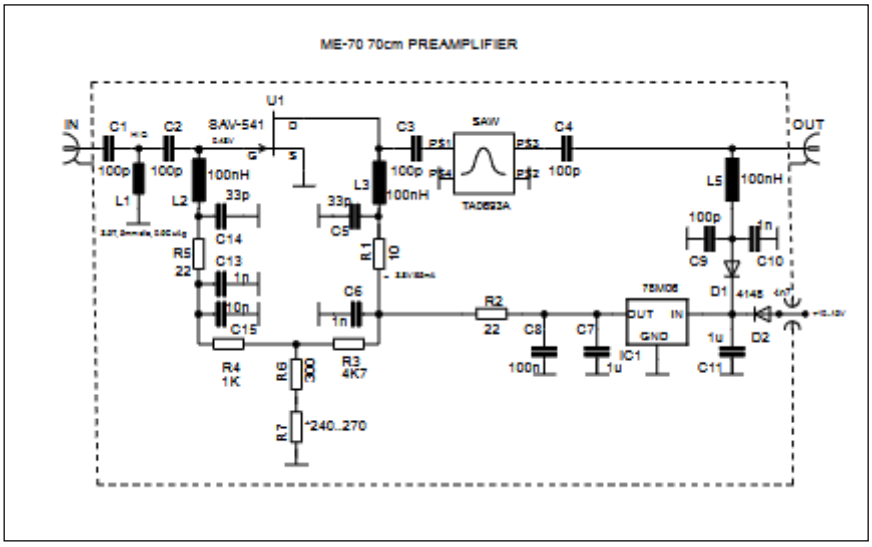


Introduction

The ME-70 70cm EME Preamplifier high dynamics, selective and very low-noise preamplifier for 432MHz.
We offer it for EME operation. The built in SAW filter gives clean signal and selectivity.

The preampllifier built in a stable ALU box furnised with SMA female connectors. The small dimension is optimal to use it near of your antennas in separate box.

Technical data	ME-70
Frequency range:	430-440MHz
Noise figure @ 22°C	**Typ < 0.13 dB**
Noise figure @ -18C	**Typ < 0.05 dB**
Gain S21, typ.:	23 dB
Input return loss	>+5.31 dB
Output return loss	>+7.8 dB
OIP3:	>+31dBm
IIP3:	typ. + 8dBm
Device:	SAV-541
Max. Input level:	+19dBm
Operating voltage:	+10…+15V
Power consumption:	70mA
Dimensions:	85x50x20mm (w.conn)
Weight:	75g
RF connectors:	2x SMA female



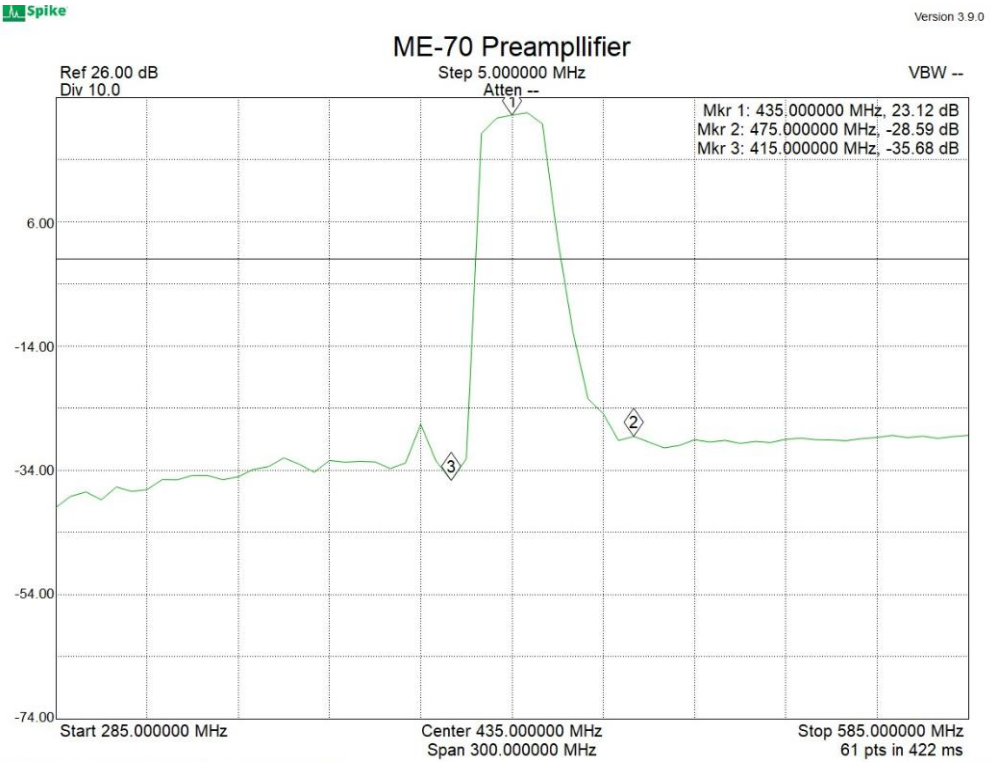
ME-70 Circuit Diagram.

Direct		NOISE & GAIN			CALIBRATED
RBW:	1 MHz	RF Atten.	0 dB	2nd Stage Corr.	On
Average:	1	Auto Ref Level	On	Image Rejection	...
		Current Value			
RF:	432 MHz	ENR	6.2 dB	NF.	0.12 dB
LO:	...	Loss In	0 dB	Noise Temp.	8.44 K
IF:	...	Loss Out	0 dB	Gain	22.81 dB

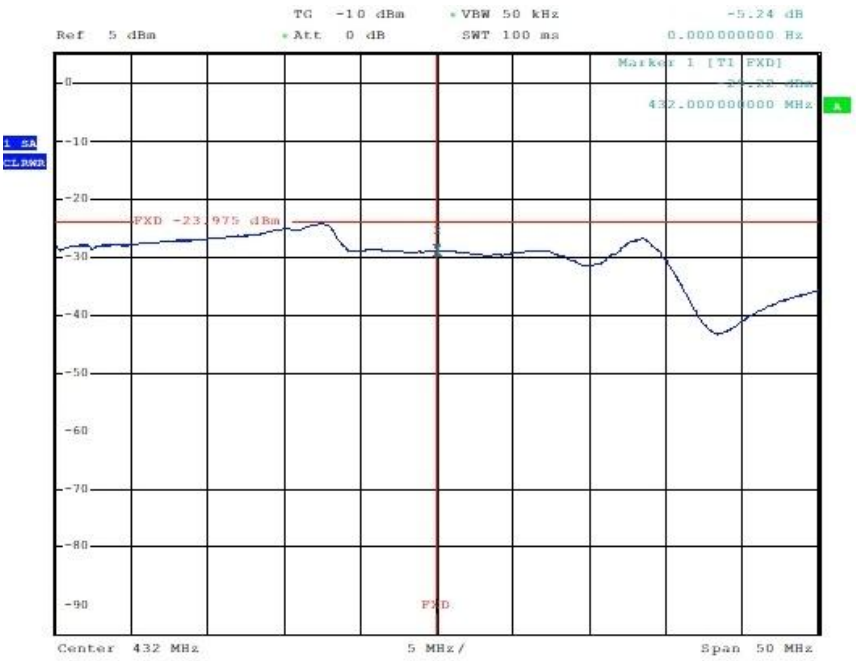
Frequency List Results

RF	NF	Noise Temp	Gain
430.00 MHz	0.14 dB	9.33 K	23.02 dB
431.00 MHz	0.12 dB	8.33 K	22.97 dB
432.00 MHz	0.12 dB	8.44 K	22.81 dB
433.00 MHz	0.11 dB	7.15 K	22.90 dB
434.00 MHz	0.15 dB	10.22 K	22.58 dB
435.00 MHz	0.14 dB	9.80 K	22.98 dB
436.00 MHz	0.15 dB	10.00 K	23.10 dB
437.00 MHz	0.14 dB	9.31 K	23.55 dB
438.00 MHz	0.12 dB	8.17 K	23.79 dB
439.00 MHz	0.13 dB	8.63 K	23.29 dB
440.00 MHz	0.10 dB	7.08 K	24.25 dB

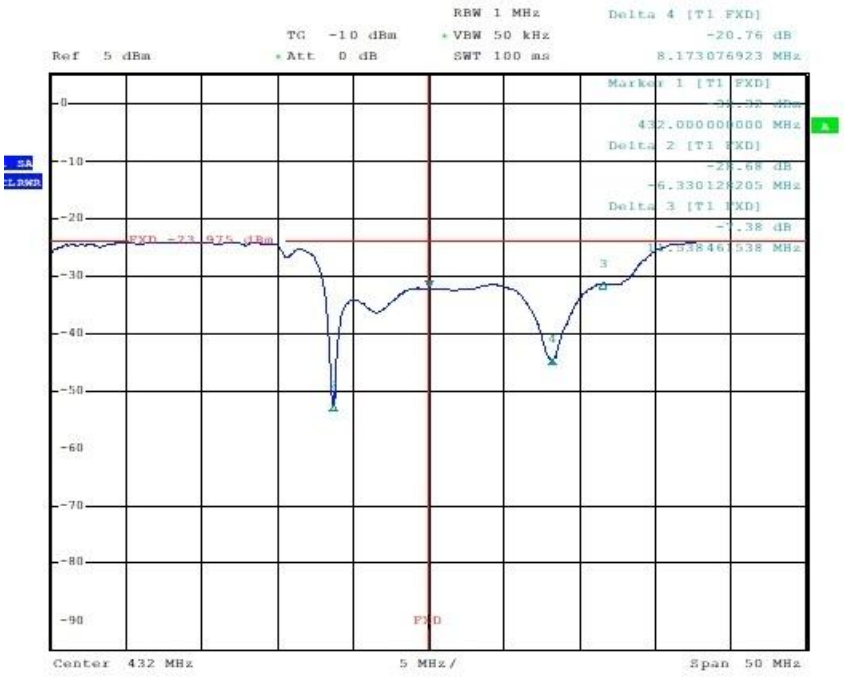
ME-70 NF Measurements @ 22^{O}C



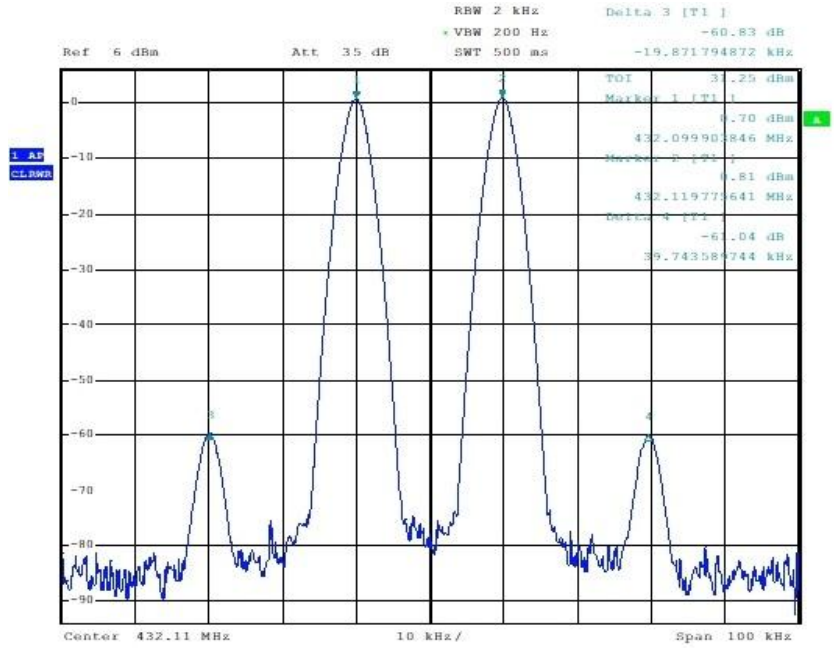
ME-70 Measured BW



ME-70 Input Return Loss.



ME-70 Output Return Loss.



OIP3 +30.1dBm

Direct	NOISE & GAIN				CALIBRATED
RBW:	1 MHz	RF Atten.	0 dB	2nd Stage Corr.	On
Average:	1	Auto Ref Level	On	Image Rejection	...
		Current Value			
RF:	439 MHz	ENR	6.2 dB	NF.	0.02 dB
LO:	...	Loss In	0 dB	Noise Temp.	1.45 K
IF:	...	Loss Out	0 dB	Gain	24.07 dB

Frequency List Results			
RF	NF	Noise Temp	Gain
430.00 MHz	0.01 dB	0.70 K	23.35 dB
431.00 MHz	0.03 dB	2.20 K	23.25 dB
432.00 MHz	0.02 dB	1.26 K	23.68 dB
433.00 MHz	0.04 dB	2.92 K	23.37 dB
434.00 MHz	0.06 dB	4.20 K	23.19 dB
435.00 MHz	0.03 dB	2.11 K	23.17 dB
436.00 MHz	0.03 dB	1.99 K	23.56 dB
437.00 MHz	0.03 dB	2.10 K	23.18 dB
438.00 MHz	0.05 dB	3.32 K	24.12 dB
439.00 MHz	0.02 dB	1.45 K	24.07 dB
440.00 MHz	0.01 dB	0.37 K	24.35 dB

NF measurements at -18°C