

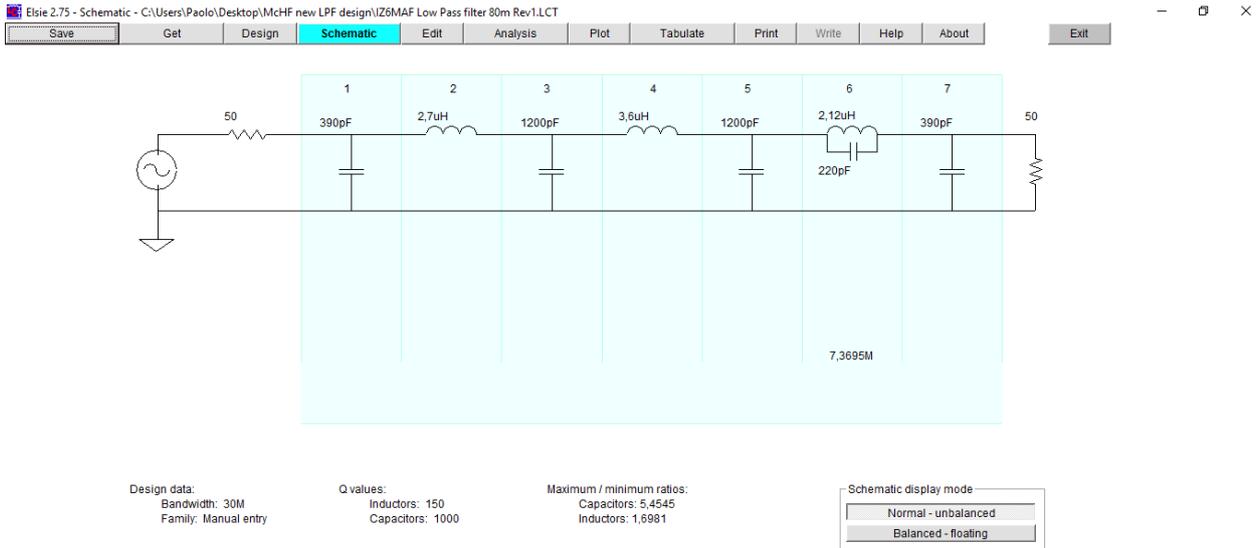
mcHF new low pass filters

Thanks to the information published on the Mchf Yahoo Group by MM0GYX and NB6M, it was possible to design, with Elsie software, the new and most effective low pass filters.

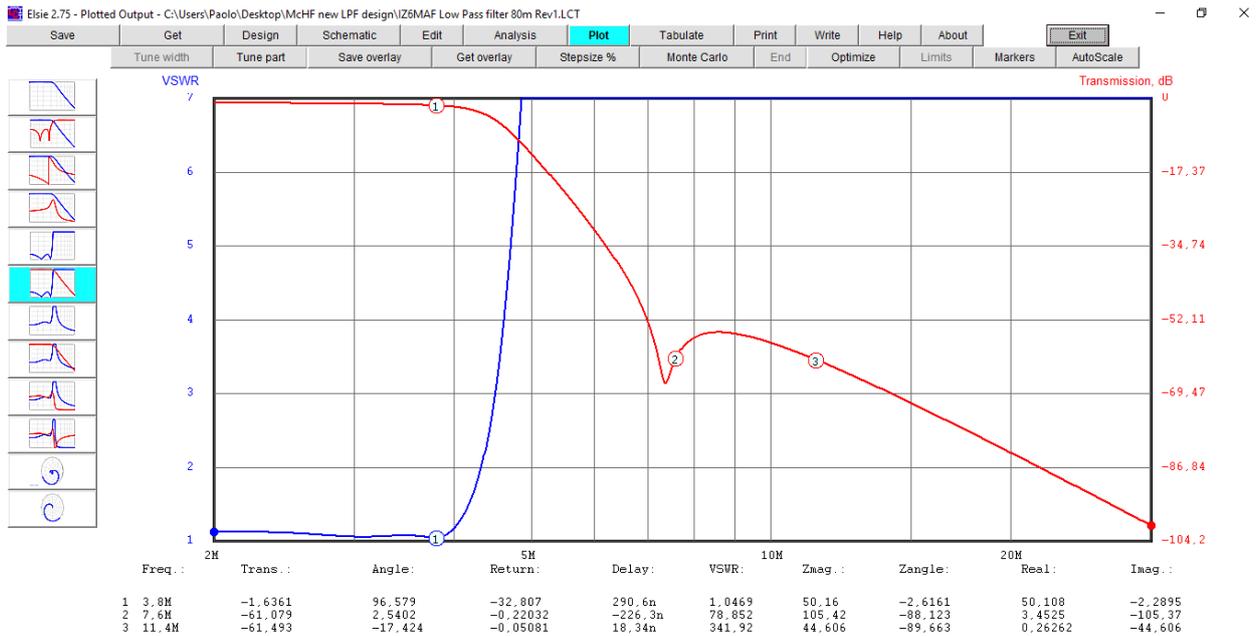
Filters were calculated using the T37-2 and T37-6 toroidal inductance standard values that can be obtained from <http://toroids.info/>

You must be careful that each toroid, even of the same type, has a mix different from one another, so all inductances made must be measured with a LCR and adapted by spacing the turns before being installed.

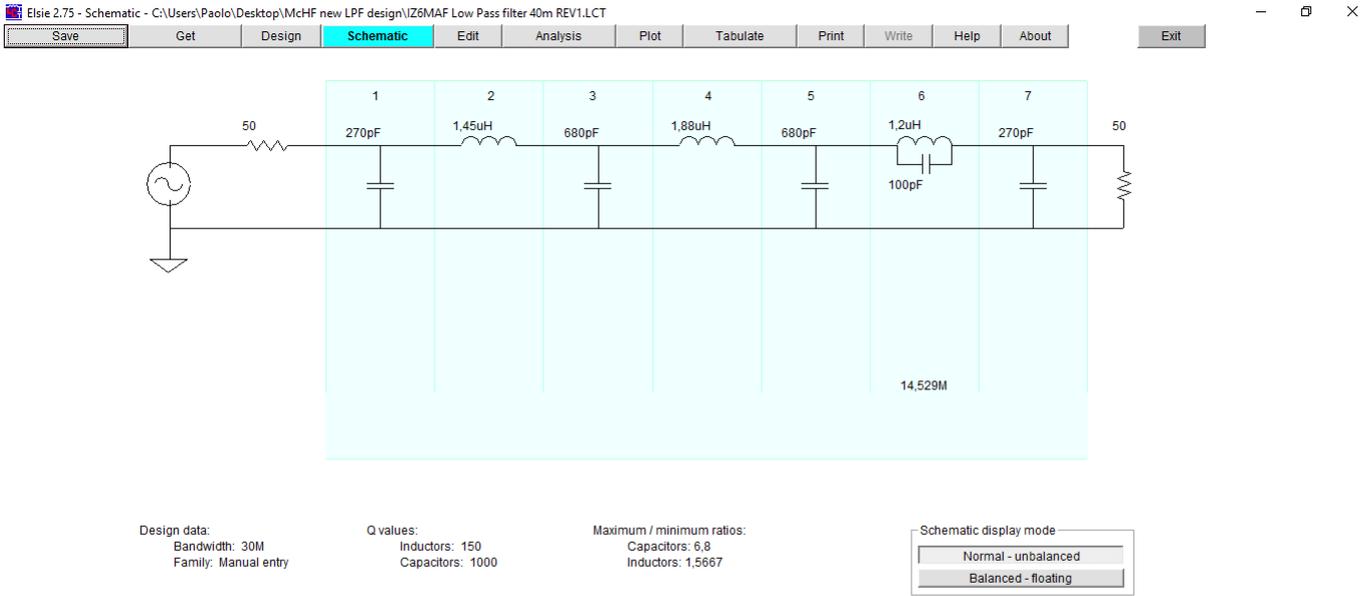
80 m Low Pass schematic



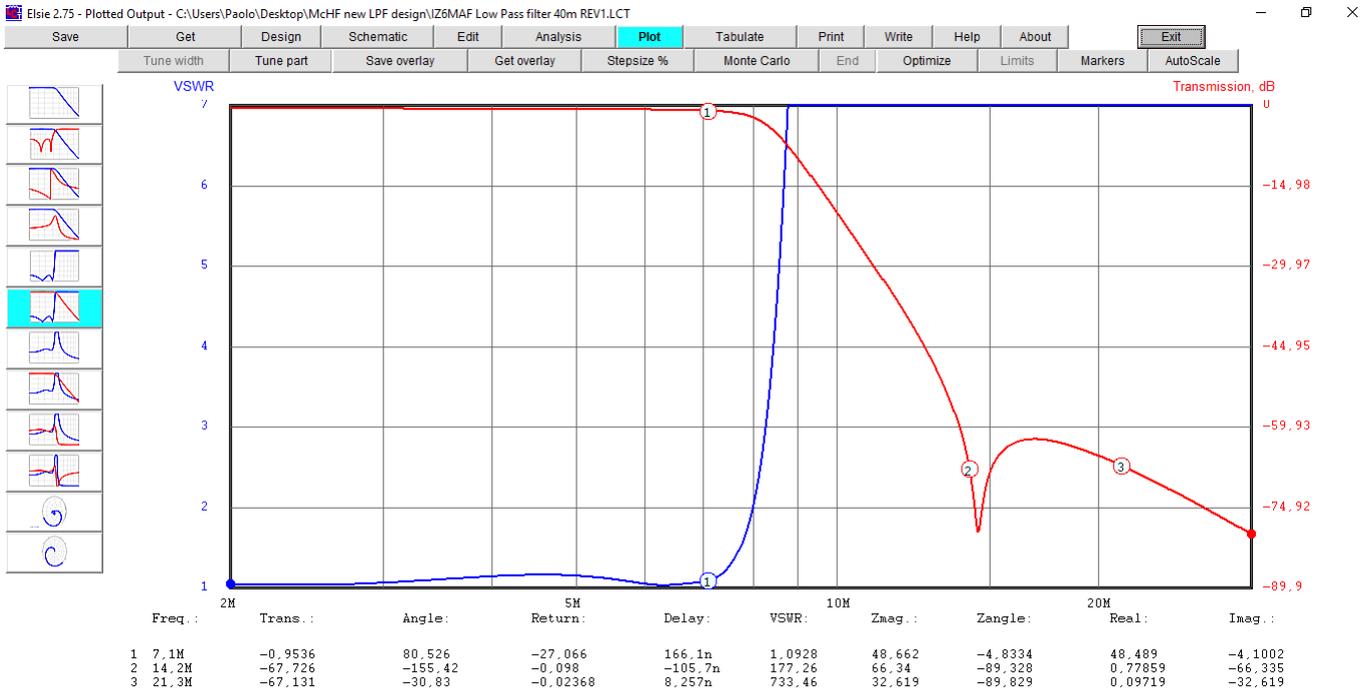
80 m Low Pass diagram



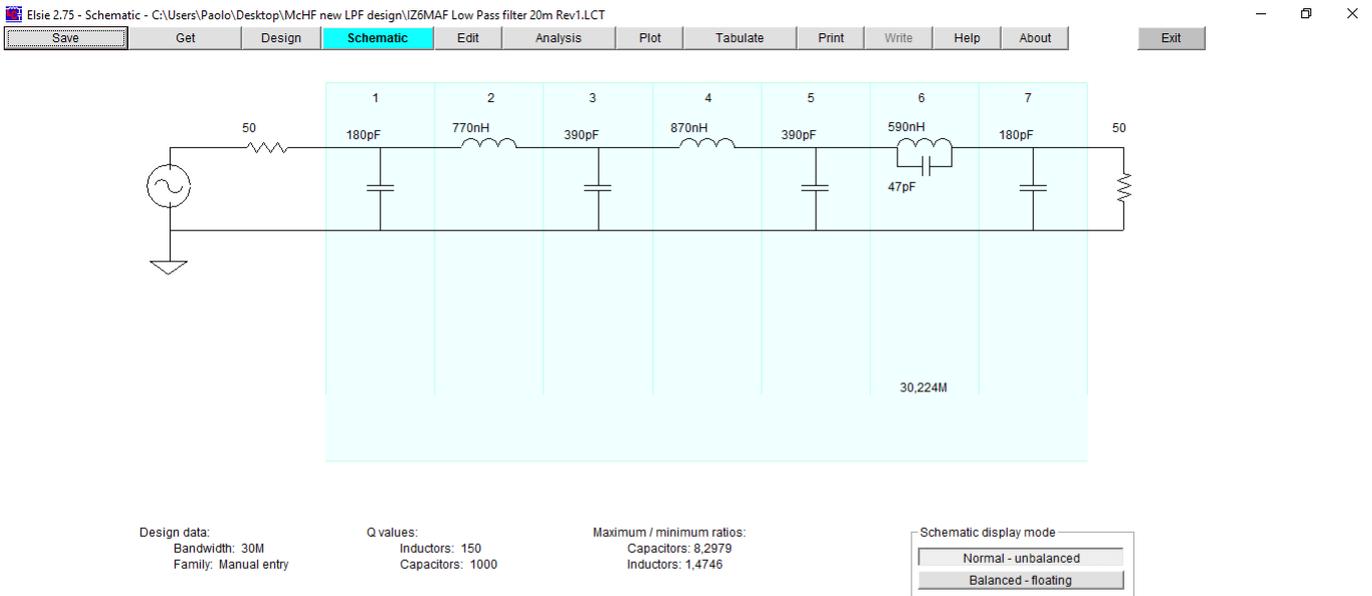
40 m Low Pass schematic



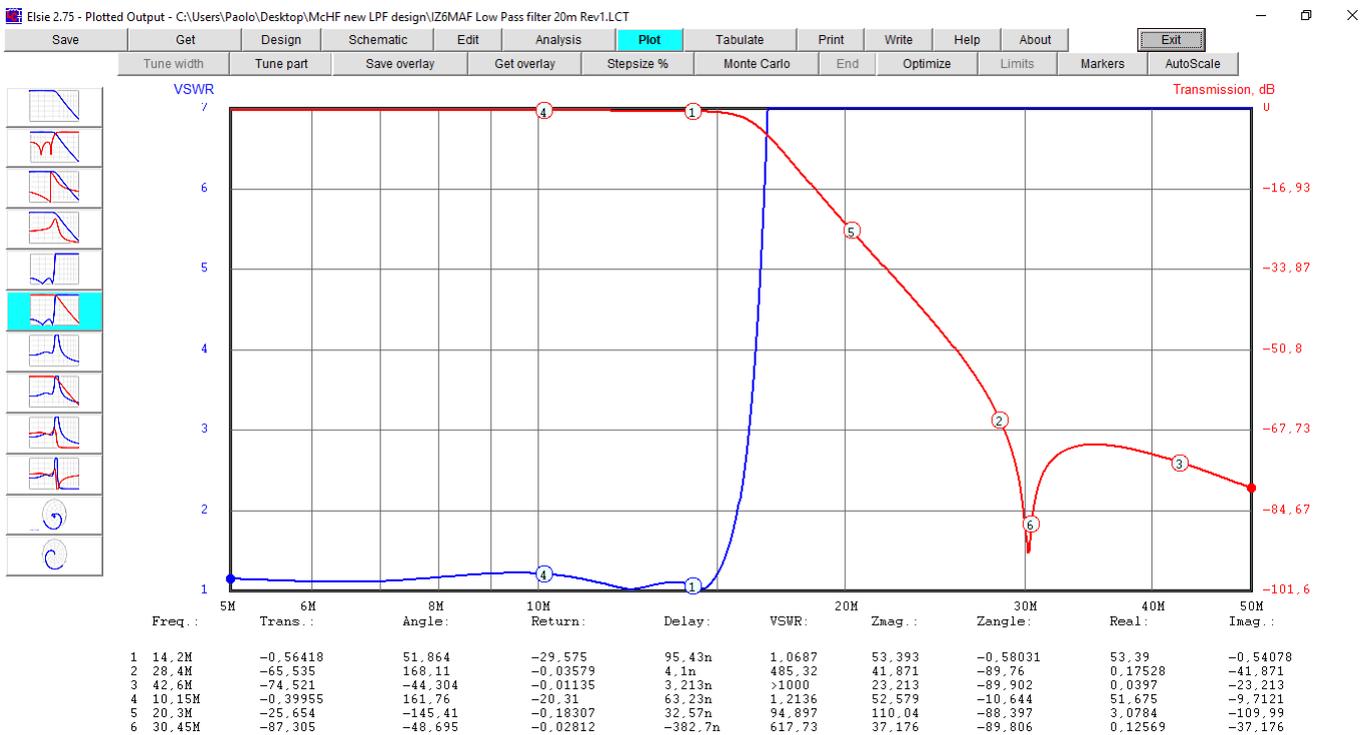
40 m Low Pass diagram



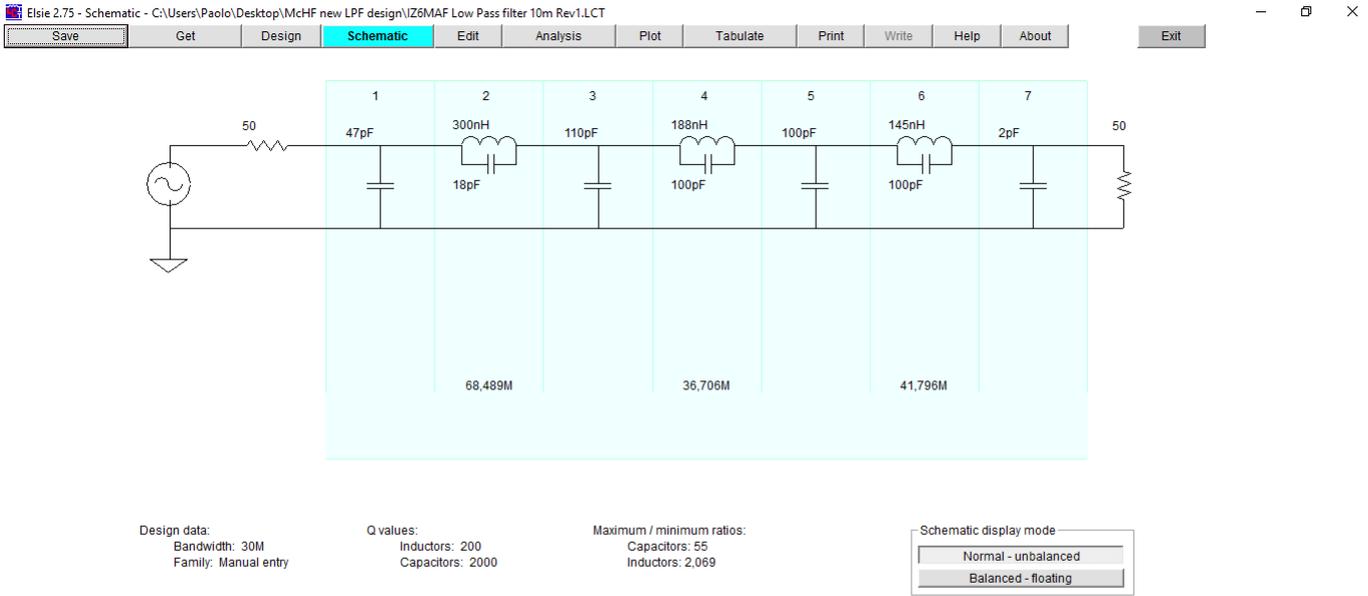
20/30 m Low Pass schematic



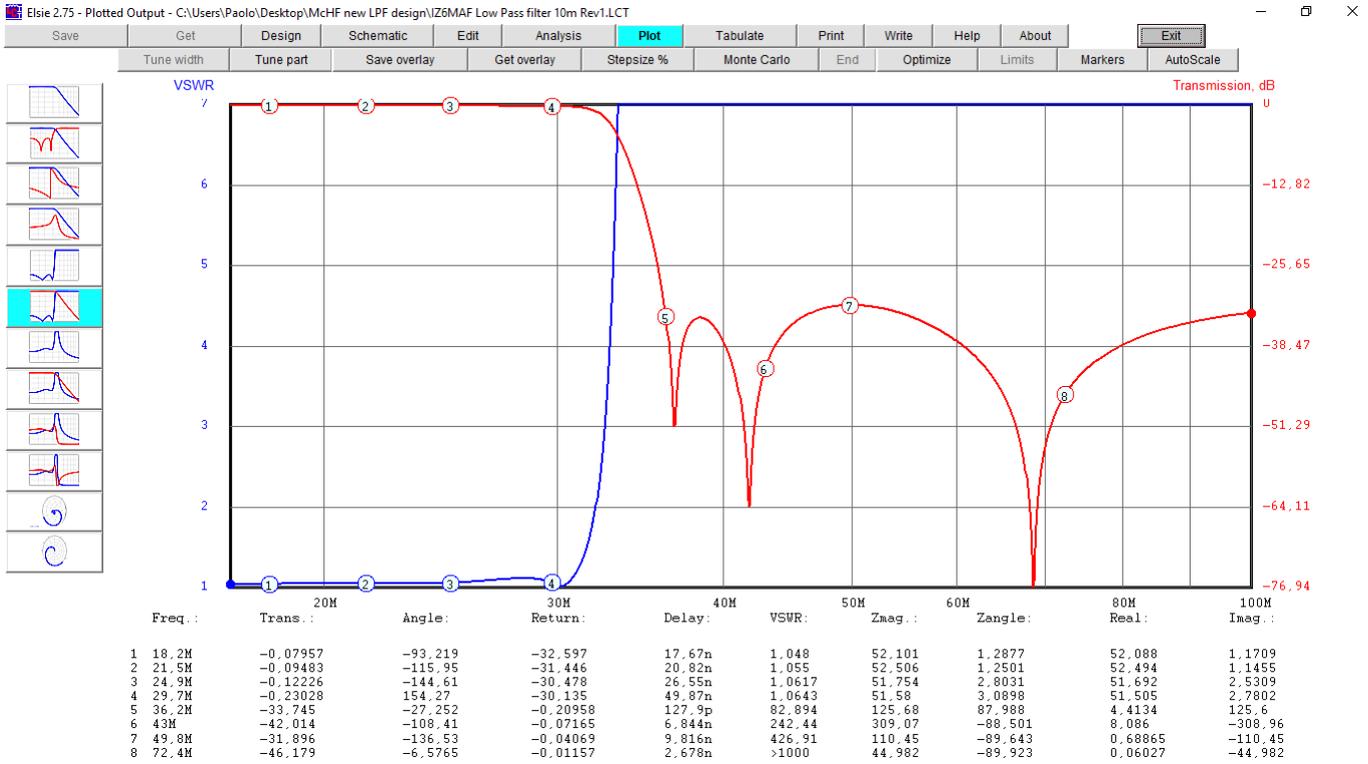
20/30 m Low Pass diagram



10-12-15-17 m Low Pass schematic



10-12-15-17 m Low Pass diagram



Unfortunately, multiband band filters (20/30 m and 10-12-15-17m) have too high harmonic levels, while for mono band filters the result is very good.,

Better than that with only four low pass filters it will be difficult to do, probably it's time to modify the project and switch to 6 low pass filters (80m 40m 30m 20m 17-15m and 12-10m) since U14 allows us to switch up 8 filters through A0 A1 A2 input.

Toroids Impedance function of the turns
(calculation made by <http://toroids.info/>)

Toroids T37-6		Toroids T37-2	
Turns	uH	Turns	uH
6	0,11		
7	0,15	6	0,14
8	0,19	7	0,2
9	0,24	8	0,26
10	0,30	9	0,32
11	0,36	10	0,40
12	0,43		
13	0,51	11	0,48
14	0,59	12	0,58
15	0,68	13	0,68
16	0,77	14	0,78
17	0,87	15	0,90
18	0,97	16	1,02
19	1,08		
20	1,20	17	1,16
21	1,32	18	1,30
22	1,45	19	1,40
23	1,59	20	1,60
24	1,73	21	1,70
25	1,88	22	1,94
26	2,03		
27	2,19	23	2,12
28	2,35	24	2,30
29	2,52	25	2,50
30	2,70	26	2,70
31	2,88	27	2,92
		28	3,14
		29	3,36
		30	3,60

