

Lyle's balun



Figure 1



Figure 2

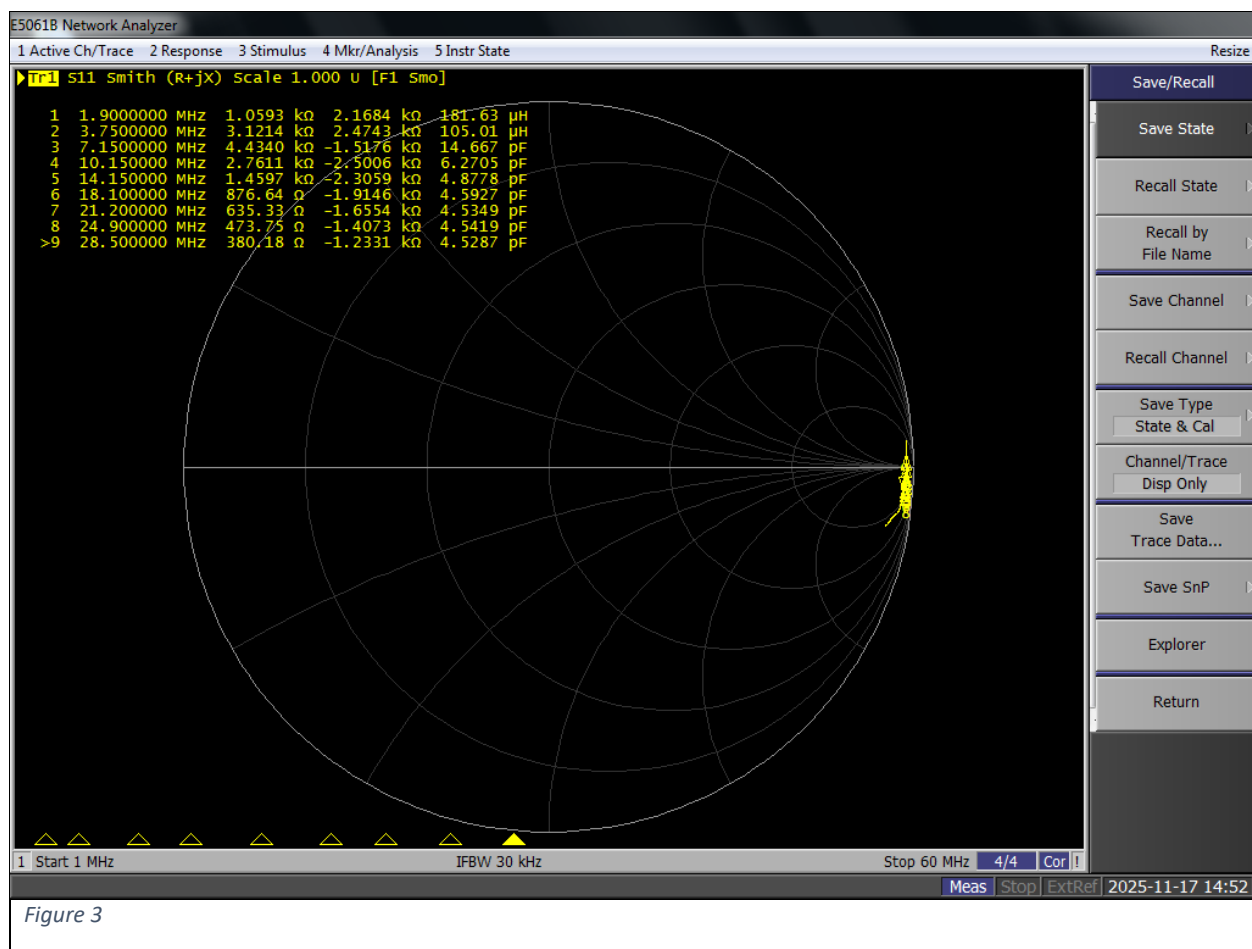


Figure 3

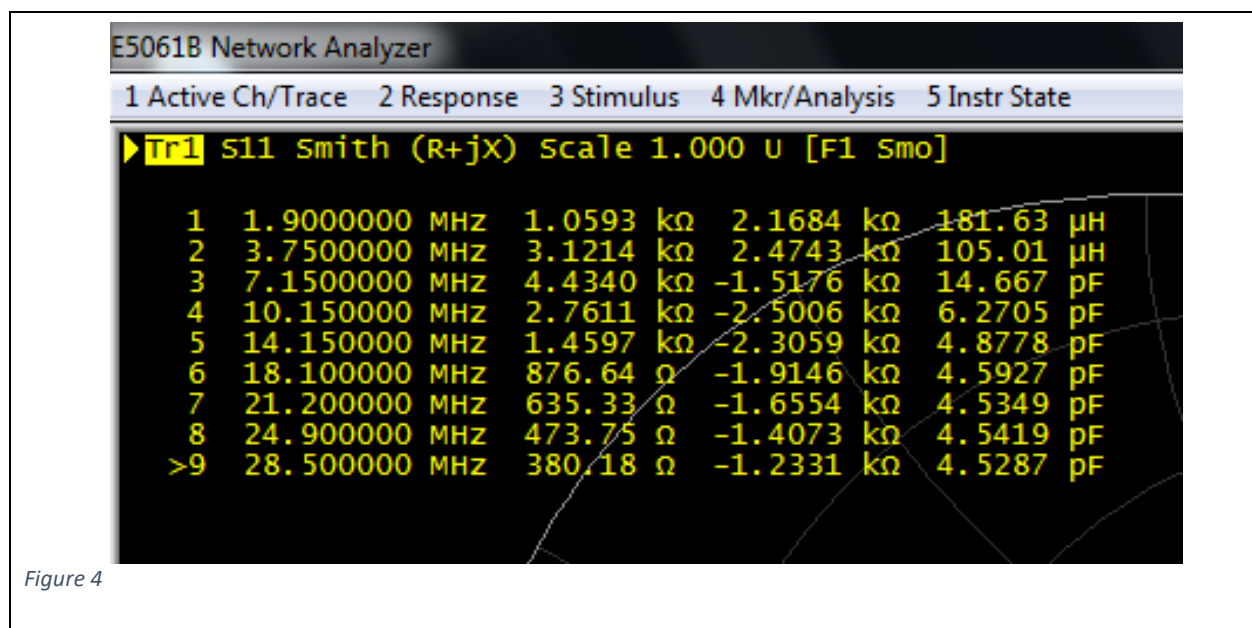


Figure 4



Figure 5

E5061B Network Analyzer				
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State				
▶ Tr1 s11 Smith (R+jX) Scale 1.000 U [F1 Smo]				
1	1.9000000 MHz	1.1230 k Ω	2.2196 k Ω	185.93 μ H
2	3.7500000 MHz	3.2308 k Ω	2.4599 k Ω	104.40 μ H
3	7.1500000 MHz	4.4729 k Ω	-1.6181 k Ω	13.757 pF
4	10.150000 MHz	2.7095 k Ω	-2.6200 k Ω	5.9849 pF
5	14.150000 MHz	1.3545 k Ω	-2.3584 k Ω	4.7692 pF
6	18.100000 MHz	776.40 Ω	-1.9216 k Ω	4.5760 pF
7	21.200000 MHz	545.96 Ω	-1.6408 k Ω	4.5754 pF
8	24.900000 MHz	406.59 Ω	-1.3841 k Ω	4.6180 pF
>9	28.500000 MHz	318.89 Ω	-1.2132 k Ω	4.6029 pF

10tu not crossed (nearly never done) better line 1-4, about same elsewhere

E5061B Network Analyzer				
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State				
▶ Tr1 s11 Smith (R+jX) Scale 1.000 U [F1 Smo]				
1	1.9000000 MHz	1.0593 k Ω	2.1684 k Ω	181.63 μ H
2	3.7500000 MHz	3.1214 k Ω	2.4743 k Ω	105.01 μ H
3	7.1500000 MHz	4.4340 k Ω	-1.5176 k Ω	14.667 pF
4	10.150000 MHz	2.7611 k Ω	-2.5006 k Ω	6.2705 pF
5	14.150000 MHz	1.4597 k Ω	-2.3059 k Ω	4.8778 pF
6	18.100000 MHz	876.64 Ω	-1.9146 k Ω	4.5927 pF
7	21.200000 MHz	635.33 Ω	-1.6554 k Ω	4.5349 pF
8	24.900000 MHz	473.75 Ω	-1.4073 k Ω	4.5419 pF
>9	28.500000 MHz	380.18 Ω	-1.2331 k Ω	4.5287 pF

10 tu crossed (almost everyone does this)

Figure 6 crossing winding really does not do that much



Figure 7 another way

E5061B Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

▶ **Tr1** s11 Smith (R+jX) scale 1.000 U [F1 Smo]

1	1.9000000	MHZ	330.02 Ω	710.21 Ω	59.491 μH
2	3.7500000	MHZ	871.61 Ω	881.45 Ω	37.410 μH
3	7.1500000	MHZ	1.8332 $\text{k}\Omega$	-15.140 Ω	1.4703 nF
4	10.150000	MHZ	1.5320 $\text{k}\Omega$	-801.12 Ω	19.573 pF
5	14.150000	MHZ	862.99 Ω	-1.0326 $\text{k}\Omega$	10.893 pF
6	18.100000	MHZ	485.76 Ω	-910.84 Ω	9.6538 pF
7	21.200000	MHZ	330.12 Ω	-790.72 Ω	9.4943 pF
8	24.900000	MHZ	233.59 Ω	-668.56 Ω	9.5606 pF
>9	28.500000	MHZ	176.89 Ω	-584.50 Ω	9.5541 pF

Figure 8 still plenty good!

