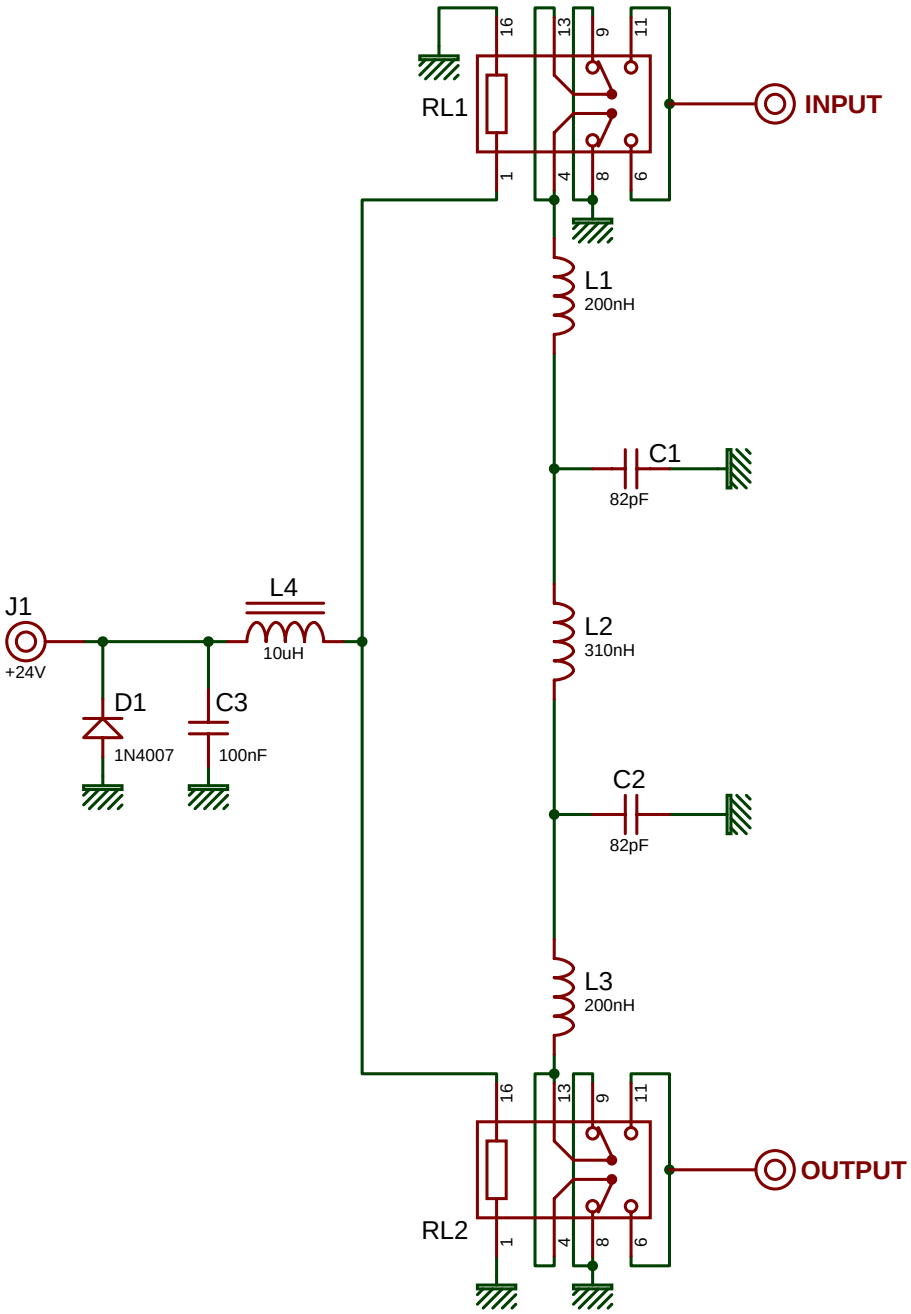
FILTERS FOR 1.2 KW HF SSPA 50 MHz LOW PASS	DOC N°: AMATEUR RADIO BY: F1FRV@SFR.FR DATE: 02/02/15 REV: 0 PAGE: 1/1



WITH A VNA, ADJUST COILS LENGTHS TO OBTAIN THE DESIRED CURVE (MANDATORY).

FOR INFO: 1200 W @ 50 OHMS = ~350 V PEAK & ~7 AMPS PEAK

INSIDE FILTER CAPACITORS, MAX CURRENTS ~15 A PEAK & MAX VOLTAGES ~400 V PEAK
RF CAPACITORS: ATC 100-B EXTENDED VOLTAGE (1500 VOLTS)

INSIDE FILTER COILS, MAX CURRENTS ~7 A PEAK & MAX VOLTAGES ~400 V PEAK
COILS WIRES: OPTIMUM DIA. 20/10 mm (3.14 SQ.mm) ENAMELED, TINED, OR SILVER PLATED

RELAYS: SPDT MADE FOR 16 AMPS AC
OMRON G2RL-1-E, G2R-1-E, FINDER 40-61, OR EQUIVALENT.
USE PREFERABLY LOW PROFILE RELAYS TO MINIMIZE INDUCTANCES (BETTER SWR).
COIL 24 V DC (SAME AS OTHER SSPA BOARDS & ANTENNA RELAYS)
OR FOR 24 V SUPPLY & 12 V RELAYS, USE A SERIAL RESISTOR (USE OHM's LAW, IF YOU HEARD ABOUT IT)

FILTERS FOR 1.2 KW HF SSPA
50 MHz LOW PASS

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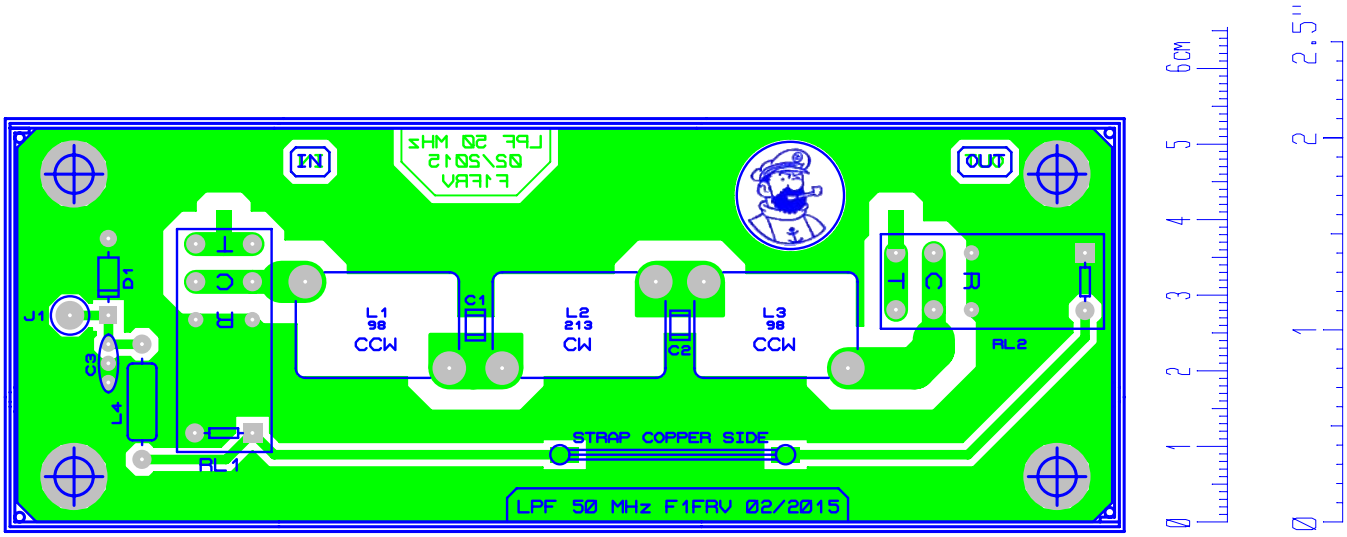
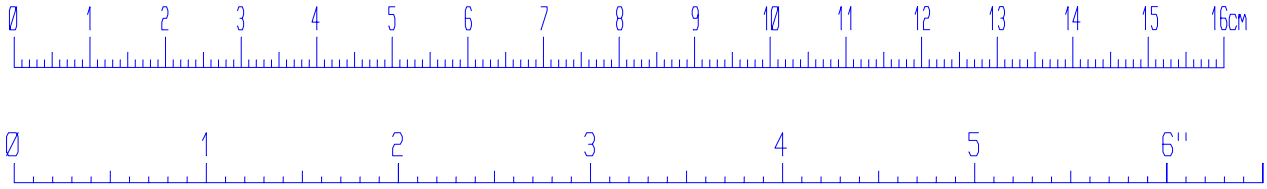
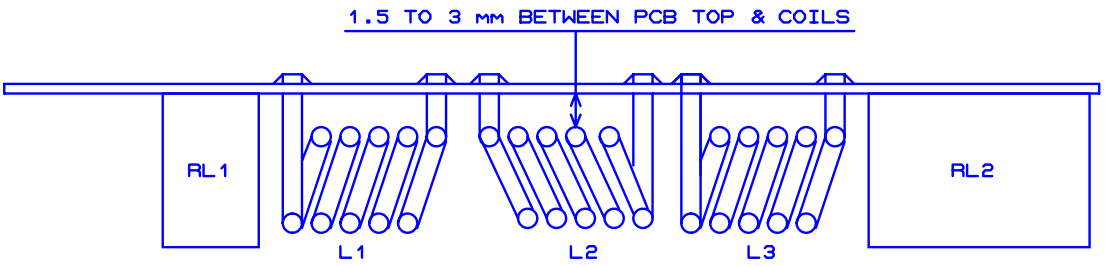
SINGLE SIDE PCB DIMENSIONS: 144.8 x 52.1 mm (5.7 x 2.05")
34 HOLES FIXATION: 4 x M4 SCREWS, AXYS 40 x 130 mm
PCB CAN BE PLACED INTO SCHUBERT TINY BOX 55 x 148 x 50 mm

NOTA: DUE TO VERY HIGH RF CURRENTS (~16 AMPS) INSIDE FILTER,
WHEN SOLDERING, PLACE MAXIMUM POSSIBLE SOLDER THICKNESS ON TRACKS



NOTA: BEFORE WINDING COILS, BE CAREFUL WITH WINDINGS DIRECTIONS

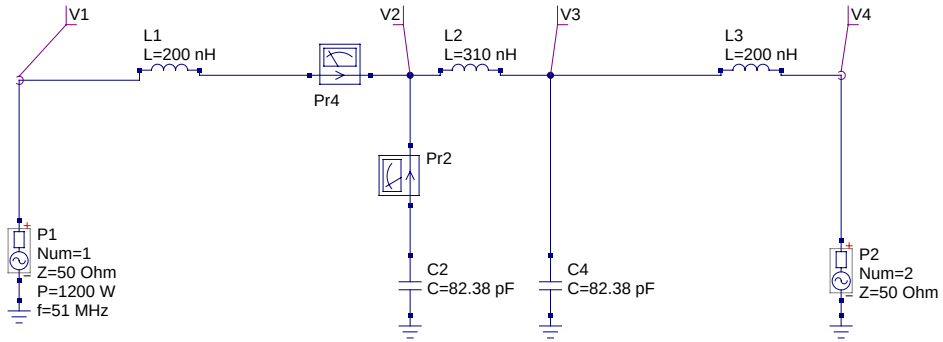




IN
LPF 50 MHz
02/2015
F1FRV
OUT

simulation en régime transitoire

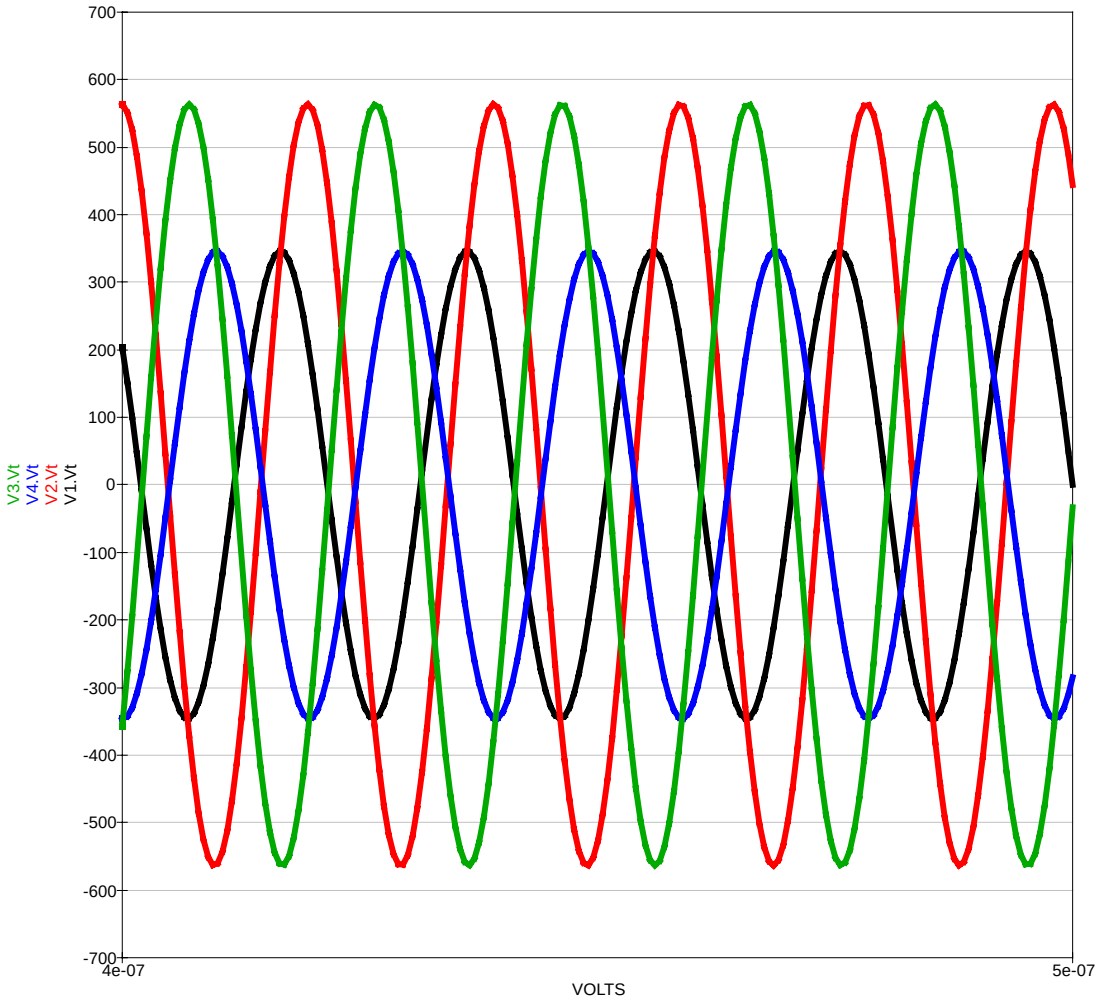
TR1
Type=lin
Start=0
Stop=5 us

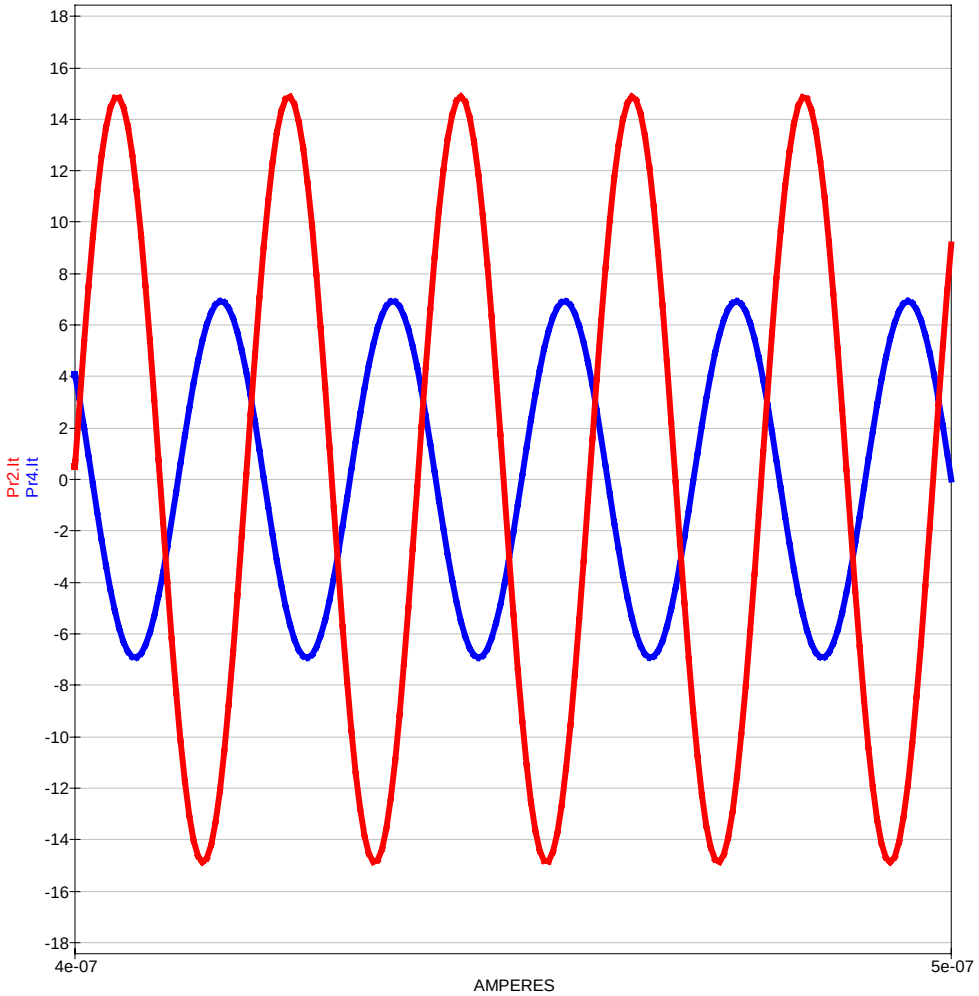


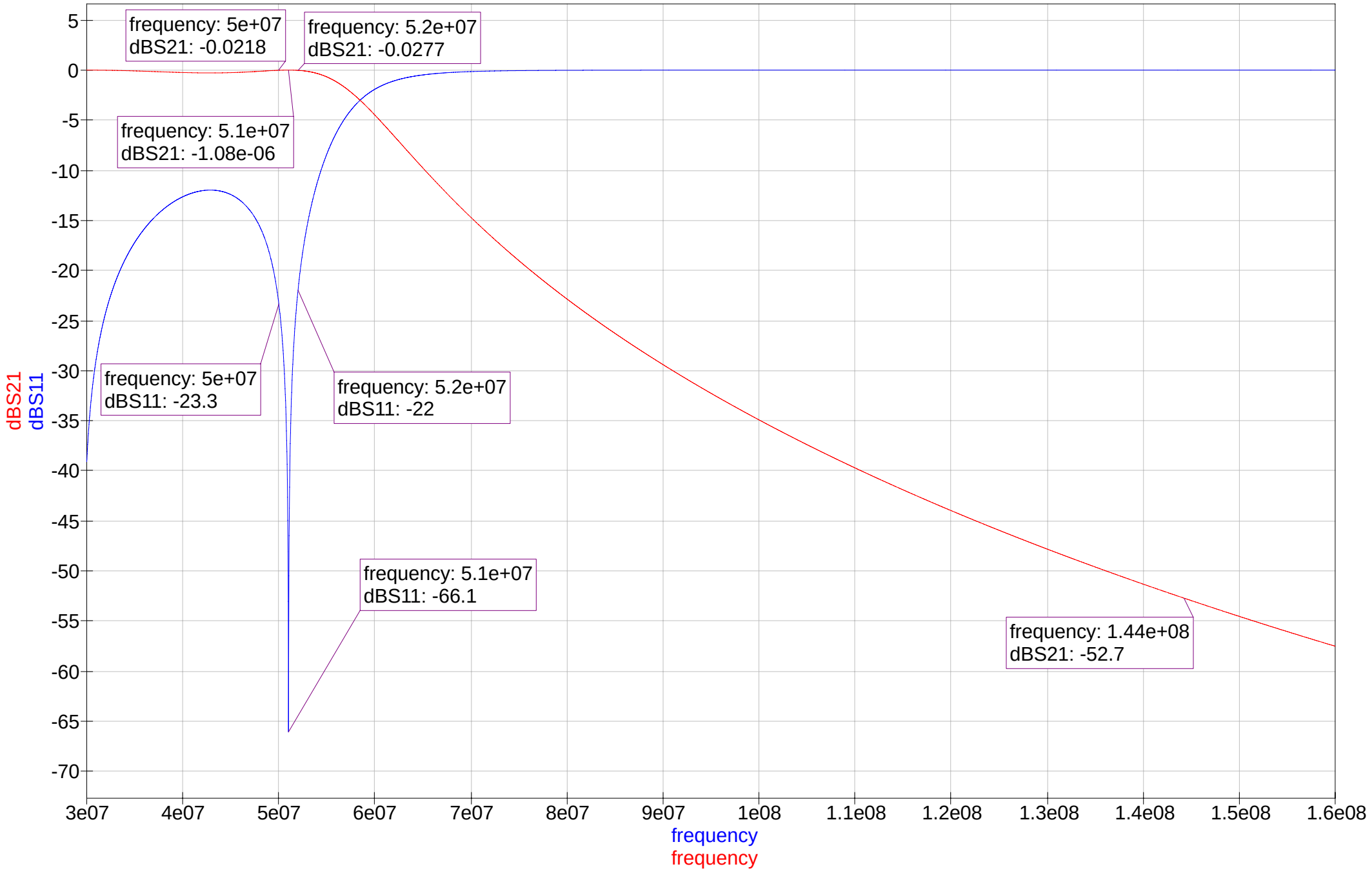
calcul des paramètres s

SP1
Type=log
Start=30MHz
Stop=160MHz

Équation
Eqn1
dBS21=dB(S[2,1])
dBS11=dB(S[1,1])






frequency: 5e+07
dBS21: -0.0218
frequency: 5.2e+07
dBS21: -0.0277
frequency: 5.1e+07
dBS21: -1.08e-06
frequency: 5e+07
dBS11: -23.3
frequency: 5.2e+07
dBS11: -22
frequency: 5.1e+07
dBS11: -66.1
frequency: 1.44e+08
dBS21: -52.7
dBS21
dBS11
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
-70
3e07
4e07
5e07
6e07
7e07
8e07
9e07
1e08
1.1e08
1.2e08
1.3e08
1.4e08
1.5e08
1.6e08
frequency
frequency