CREATE OUTPUT MATCHING NETWORK: Step 1
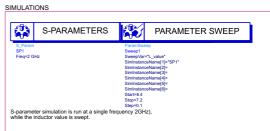
With the input matching network in place, the output of the amplifier is matched to 50Ohms.

1) The reflection coefficient of the complete amplifier (input matching network, device, stabilizing network) is measured, with a shunt inductor at the output.

2) The inductor is swept until the real part of the amplifier's output impedance is 50 Ohms (see OutputMatch.dds).

SIMULATIONS

S-PARAMETERS	PARAMETER SWEEP

S_Param
SP1
Freq=2 GHz

ParamSweep
Sweep1
SweepVar="L_value"
SimInstanceName[1]="SP1"
SimInstanceName[2]=
SimInstanceName[3]=
SimInstanceName[4]=
SimInstanceName[5]=
SimInstanceName[6]=
Start=6.4
Stop=7.2
Step=0.1

S-parameter simulation is run at a single frequency 2GHz), while the inductor value is swept.

VARIABLES

VAR
VAR1
L_value=0

"L_value" is defined here and set to 0. The actual values used in simulation are set in the ParamSweep component.

C
Cin
C=2.8 pF

R
R2
R=50 Ohm

Lin
L=3.2 nH
R=

SP

sp_hp_AT-60570_1_19921201
SNP1
Bias="Bjt: Vce=8V Ic=2mA"
Frequency="{0.10 - 6.00} GHz"
Noise Frequency="{1.00 - 4.00} GHz"

R
Rstab
R=30 Ohm

L
Lstab
L=10 nH
R=

L
Lout
L=L_value nH
R=

Term
Term1
Num=1
Z=50 Ohm

INPUT MATCH
(see Match1.dsn and Match2.dsn)

STABILIZING CIRCUIT
(Stability.dsn)