Eqn S21_to_S23 = S21 / S23

Eqn S41_to_S43 = S41 / S43

Eqn coupling_coeff = 1

Eqn Yn_1 = 1 / sqrt(coupling_coeff + 1)

Eqn Yn_2 = sqrt(coupling_coeff / (coupling_coeff + 1))

Eqn S_theor = -j * {{0, Yn_1, 0, Yn_2}, {Yn_1, 0, Yn_2, 0}, {0, Yn_2, 0, -Yn_1}, {Yn_2, 0, -Yn_1, 0}}

S_theor(1, 1)	S_theor(2, 1)	S_theor(3, 1)	S_theor(4, 1)
<-infinity> / 0.000	-3.010 / -90.000	<-infinity> / 0.000	-3.010 / -90.000

S_theor(1, 3)	S_theor(2, 3)	S_theor(3, 3)	S_theor(4, 3)
<-infinity> / 0.000	-3.010 / -90.000	<-infinity> / 0.000	-3.010 / 90.000

Eqn Z0 = 50   **Eqn** Z1 = Z0 / Yn_1   **Eqn** Z2 = Z0 / Yn_2

Yn_1	Yn_2	Z1	Z2
0.707	0.707	70.711	70.711

m1
freq=7.000GHz
dB(S(1,1))=-47.780
dB(S(2,1))=-3.010
dB(S(3,1))=-333.327
dB(S(4,1))=-3.010

m2
freq=7.000GHz
dB(S(1,3))=-333.327
dB(S(2,3))=-3.010
dB(S(3,3))=-47.780
dB(S(4,3))=-3.010

m5
freq=7.000GHz
dB(S21_to_S23)=-0.000
dB(S41_to_S43)=0.000

m3
freq=7.000GHz
phase(S(1,1))=-0.000
phase(S(2,1))=-90.000
phase(S(3,1))=90.000
phase(S(4,1))=-90.000

m4
freq=7.000GHz
phase(S(1,3))=90.000
phase(S(2,3))=-90.000
phase(S(3,3))=0.000
phase(S(4,3))=90.000

m6
freq=7.000GHz
phase(S21_to_S23)=-0.000
unwrap(phase(S41_to_S43))=180.000