

File Edit Select View Insert Delete Layout Simulate Window DesignGuide Help

Lumped-Components

**S-PARAMETERS**

S\_Param

TLIN  
 Z=122.47 Ohm  
 E=90  
 F=1 GHz

Start=.5 GHz  
 Stop=2 GHz  
 Step=.01 GHz

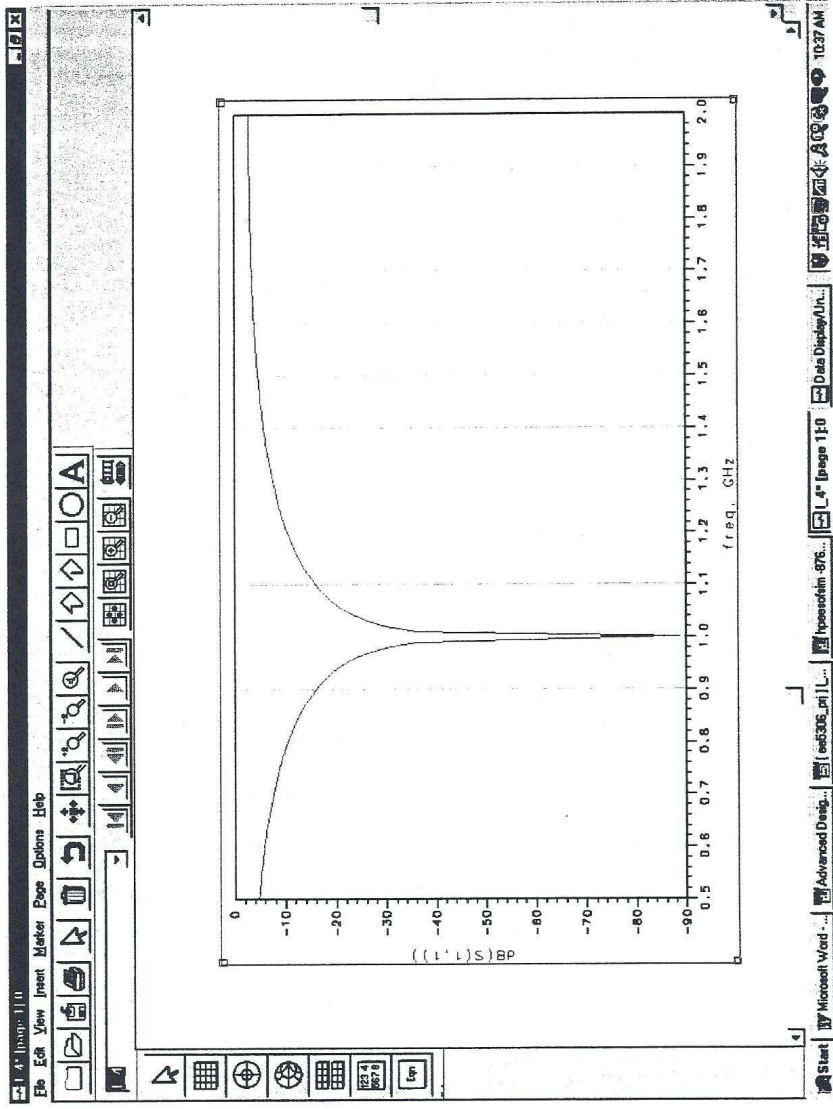
Term  
 Num=1  
 Z=50 Ohm

R  
 R=300 Ohm

Select: Enter the scaling point

0 Items Symbolic Eq. 3.564, 1.073 0.022, 0.611

Microsoft Word ... Advanced Desp... ee53166.dnt ... Date Display/Un... 10:37 AM



File Edit Select View Insert Options Tools Layout Simulate Window DesignGuids Help

Lumped-Components

Subst="MSub1"  
 W=14.5 mil  
 L=2024 mil  
 Wall11=  
 Wall12=  
 Temp=

Port  
 Num=1

Term  
 Num=1  
 Z=50 Ohm

R  
 R=300 Ohm

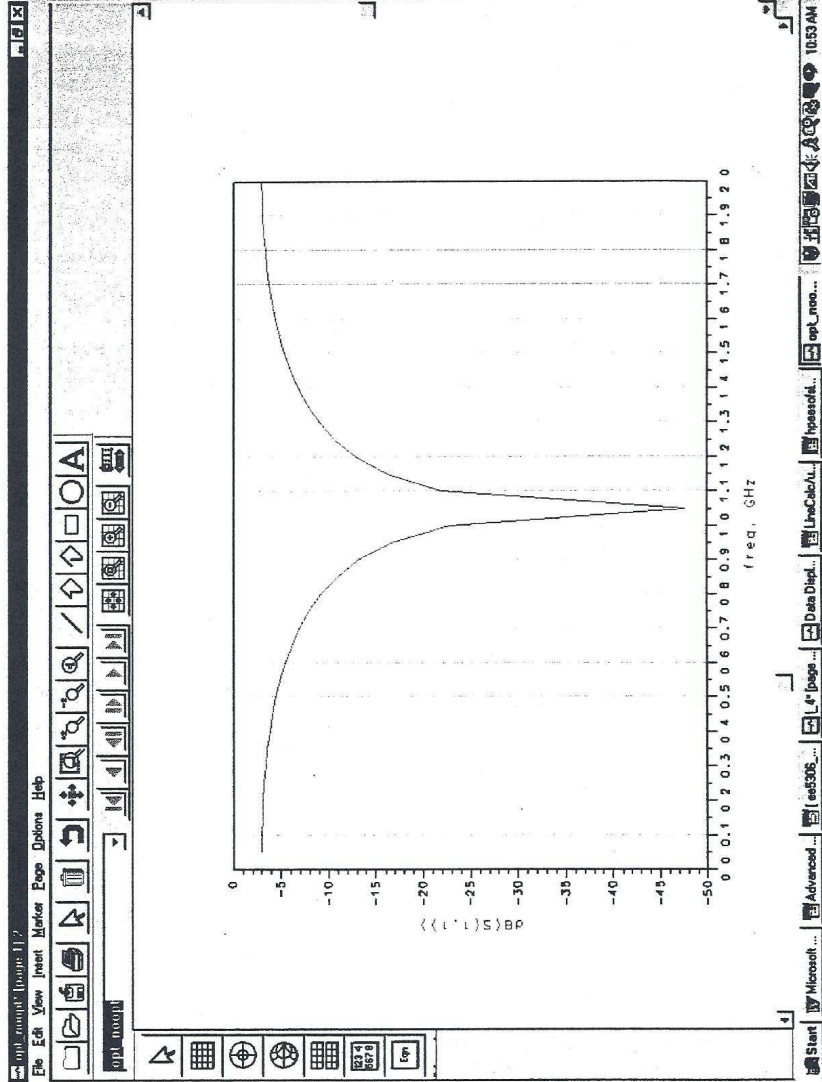
MSub  
 MSUB  
 H=31 mil  
 Er=2.55  
 Mur=1  
 Cand=5.8e7  
 Hu=3.9e+034 mil  
 T=0 mil  
 T=0=0  
 Rough=0 mil

S-PARAMETERS  
 S-Param  
 Start=.05 GHz  
 Stop=2 GHz  
 Step=.05 GHz

Select Enter the starting point

Symbol File 6.657,1815 10:210.01740 10:54 AM

Microsoft Word... Advanced Desig... ees3065\_ari... L4" page 110 vpsosolm-676... op\_noopt pag...





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File Edit Select View Draw Component Drivers Tools Layout Simulate Window Help

S\_Param Simulation Term

Libra Microstrip Lines:1

MLIN  
Instance Name  
TL1  
Select Parameter  
W=86 mil  
L=2024 mil  
Wall1=  
Wall2=  
Temp=  
W 86 mil

Add Cut Paste  
Optimization/Statistics Setup...  
 Display parameter on schematic  
Component Options...

OK Apply Cancel Reset Help

W: Line width 3.068, 0.190 0.000, 0.000

MLIN TL1

Optimization Statistics Enabled

Type Continuous  
Format min/max  
Nominal Value 86 mil  
Minimum Value 10 mil  
Maximum Value 120 mil

Post Production Tuning  
OK Cancel Help

Point  
Nump=1

File Edit Select View Draw Component Drivers Tools Layout Simulate Window Help

S\_Param Simulation Term

Libra Microstrip Lines:1

MLIN  
Instance Name  
TL1  
Select Parameter  
W=86 mil  
L=2024 mil  
Wall1=  
Wall2=  
Temp=  
W 86 mil

Add Cut Paste  
Optimization/Statistics Setup...  
 Display parameter on schematic  
Component Options...

OK Apply Cancel Reset Help

W: Line width 3.068, 0.190 0.000, 0.000

MLIN TL1

Optimization Statistics Enabled

Type Continuous  
Format min/max  
Nominal Value 86 mil  
Minimum Value 10 mil  
Maximum Value 120 mil

Post Production Tuning  
OK Cancel Help

Point  
Nump=1

File Edit Select View Draw Component Drivers Tools Layout Simulate Window Help

S\_Param Simulation Term

Libra Microstrip Lines:1

MLIN  
Instance Name  
TL1  
Select Parameter  
W=86 mil  
L=2024 mil  
Wall1=  
Wall2=  
Temp=  
W 86 mil

Add Cut Paste  
Optimization/Statistics Setup...  
 Display parameter on schematic  
Component Options...

OK Apply Cancel Reset Help

W: Line width 3.068, 0.190 0.000, 0.000

MLIN TL1

Optimization Statistics Enabled

Type Continuous  
Format min/max  
Nominal Value 86 mil  
Minimum Value 10 mil  
Maximum Value 120 mil

Post Production Tuning  
OK Cancel Help

Point  
Nump=1

File Edit Select View Draw Component Drivers Tools Layout Simulate Window Help

S\_Param Simulation Term

Libra Microstrip Lines:1

MLIN  
Instance Name  
TL1  
Select Parameter  
W=86 mil  
L=2024 mil  
Wall1=  
Wall2=  
Temp=  
W 86 mil

Add Cut Paste  
Optimization/Statistics Setup...  
 Display parameter on schematic  
Component Options...

OK Apply Cancel Reset Help

W: Line width 3.068, 0.190 0.000, 0.000

MLIN TL1

Optimization Statistics Enabled

Type Continuous  
Format min/max  
Nominal Value 86 mil  
Minimum Value 10 mil  
Maximum Value 120 mil

Post Production Tuning  
OK Cancel Help

Point  
Nump=1

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File Edit Select View Draw Component Options Tools Layout Spulate Window Help

Optim/Stat/Yield

MSUB

```

SUBST="MSUB1"
W=1.073317e+001 mil
L=2024 mil
Wg1=1
Wg2=1
Temp=

```

MSUB

```

MSUB1
H=31 mil
CF=2.55
Mur=1
Cond=5.1e7
Mu=3.9e+034 mil
T=0 mil
Tend=0
Rough=0 mil

```

PARAMETERS

```

SubParam
SP1
Start=.05 GHz
Stop=.7 GHz
Step=.05 GHz

```

GOAL

```

Goal
Optimize
Optimize=Random
ErrorForm=L2
MaxIter=500
P=
DesiredError=
StatDisplay=
SaveStat=yes
SaveOptimize=yes
SaveGoal=no
GoalName="Optimize"

```

NOMINAL OPTIMIZATION

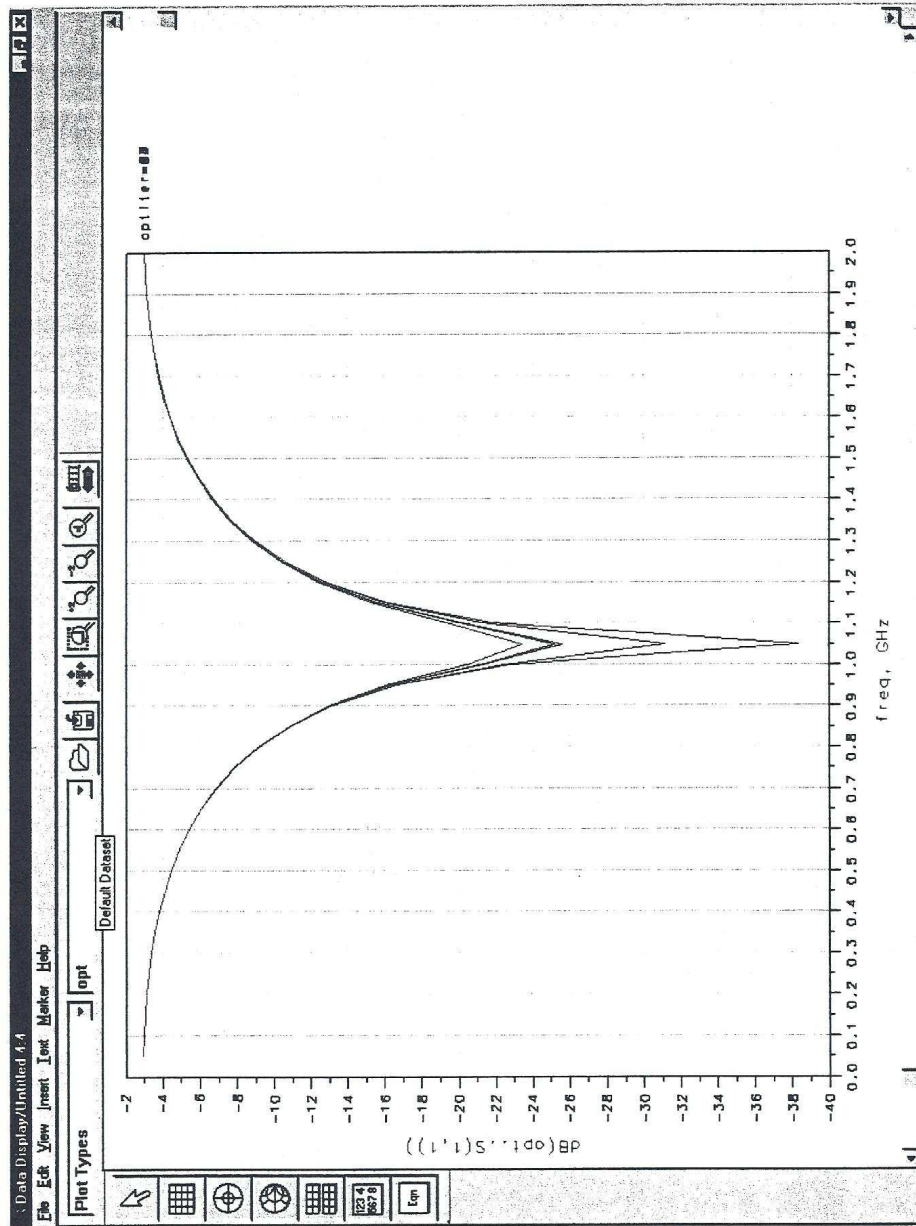
```

Goal
Optimize
Optimize=Random
ErrorForm=L2
MaxIter=500
P=
DesiredError=
StatDisplay=
SaveStat=yes
SaveOptimize=yes
SaveGoal=no
GoalName="Optimize"

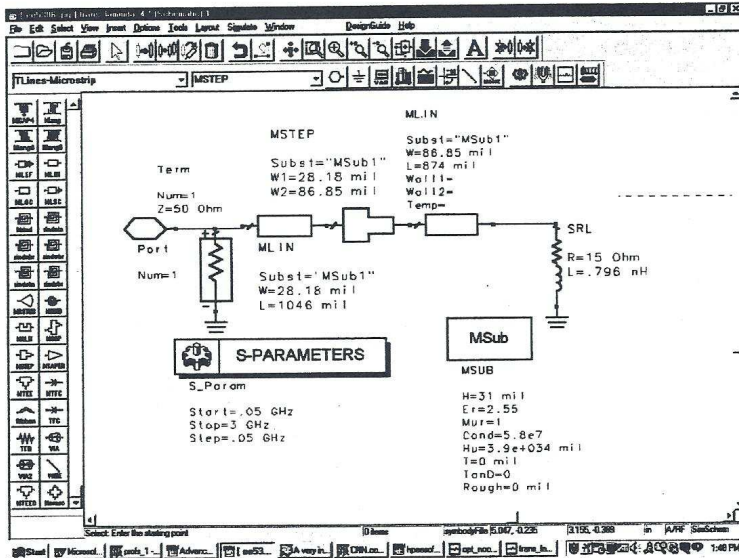
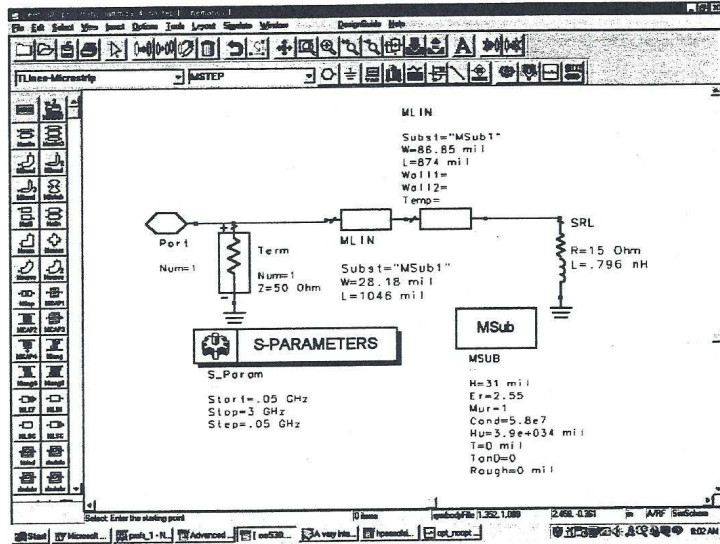
```

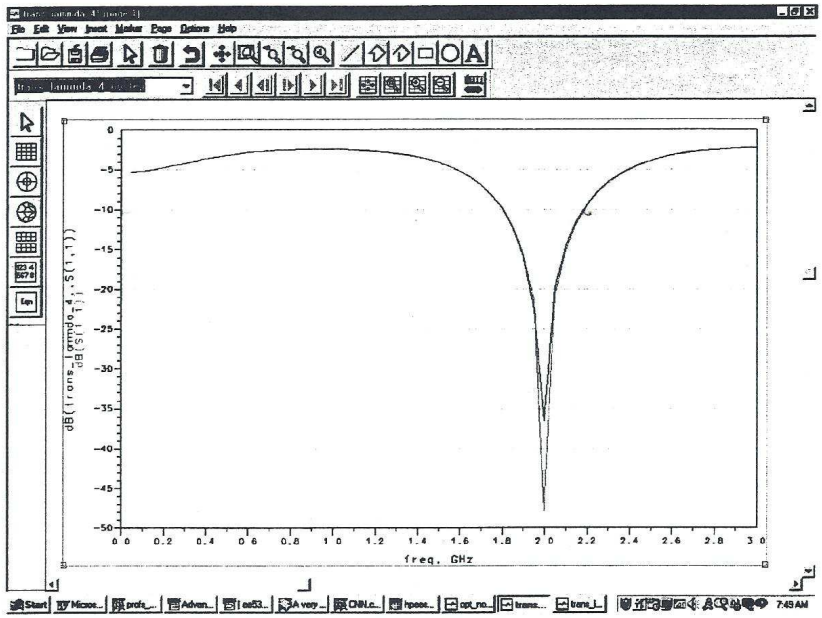
Select Enter the starting point

0 items | 1.651, 1.654 | 0.650, 0.701 | in WAF EMSchem









# The Complete Smith Chart

## Black Magic Design

2/4

0.216λ

