

"OPEN CIRCUIT" → 1 solo puerto ✓

Simulote
o Simulote

Mate 2-3 manual

in/cw
new data display

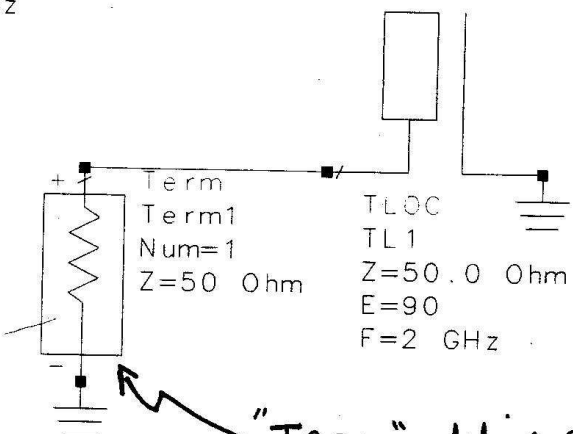
computer library

S PARAMETERS

S_Param
SP1
Start=.5 GHz
Stop=3 GHz
Step=.1 GHz

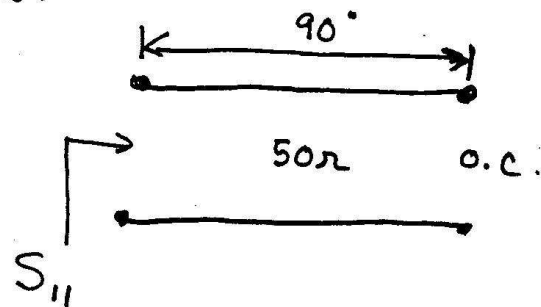
→ TLins - jacc!

Simulote
components



"Term" define puerto #1
Tiene q. colocarse
SIEMPRE

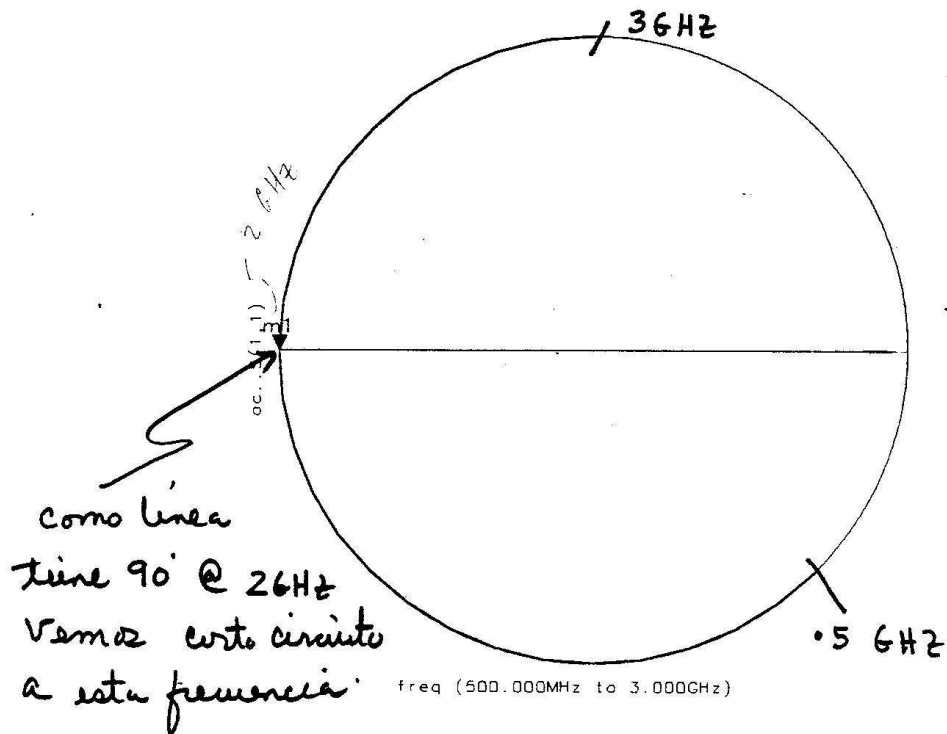
Equivalente:



```

m1
freq=2.000000GHz
oc..S(1,1)=-1.000000 - j1.224606E-16
impedance = Z0 * (0.0000000 - j1.12e-017)

```



Largo físico:

$$\frac{\pi}{2} = \beta l = \frac{2\pi}{\lambda} l$$

$$l = \frac{\pi}{2} \frac{\lambda}{2\pi} = \frac{\lambda}{4} @ 26\text{Hz}$$

$$l = \frac{3 \times 10^8}{4 \times 2 \times 10^8} = 37.5 \times 10^{-3} \text{ m}$$

$$\text{Si } f = .56\text{Hz}$$

$$\theta = \beta l = \frac{2\pi}{\lambda} \cdot l = \frac{2\pi}{c/f} (37.5 \times 10^{-3})$$

$$\theta = \frac{2\pi}{\frac{3 \times 10^8}{.5 \times 10^9}} (37.5 \times 10^{-3}) = 22.5^\circ$$

$$\text{Si } f = 36\text{Hz} \Rightarrow \theta = 135^\circ$$

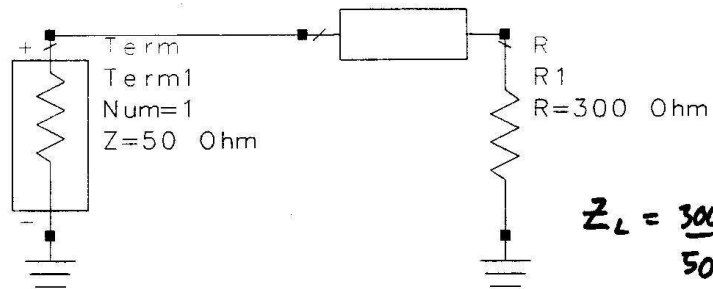
Línea de transmisión 1 puerto definido

3

S PARAMETERS

S_Param
SP1
Start=.5 GHz
Stop=3 GHz
Step=.1 GHz

TLIN
TL1
Z=50.0 Ohm
E=90
F=2 GHz

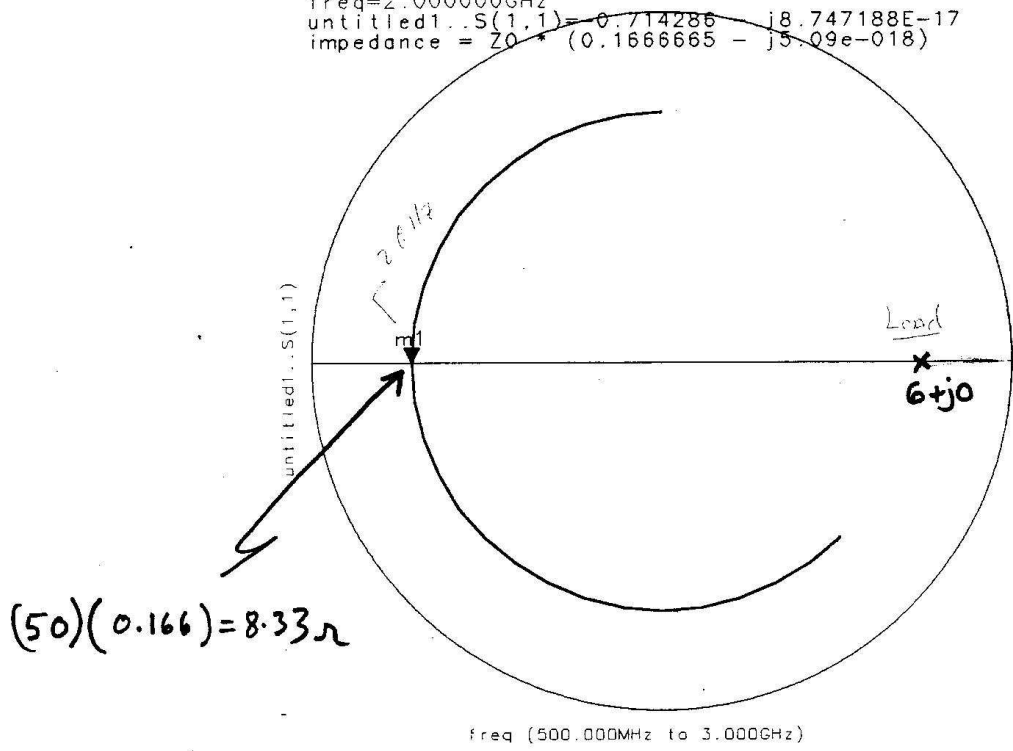


$$Z_L = \frac{300}{50} = 6$$

$$Z_{in} = \frac{Z_0^2}{Z_L} = \frac{(50)^2}{300} = 8.33$$

4

```
m1
freq=2.000000GHz
untitled1..S(1,1)=0.714286 -j8.747188E-17
impedance = Z0 * (0.1666665 - j5.09e-018)
```



Acoplador 300Ω a 50Ω

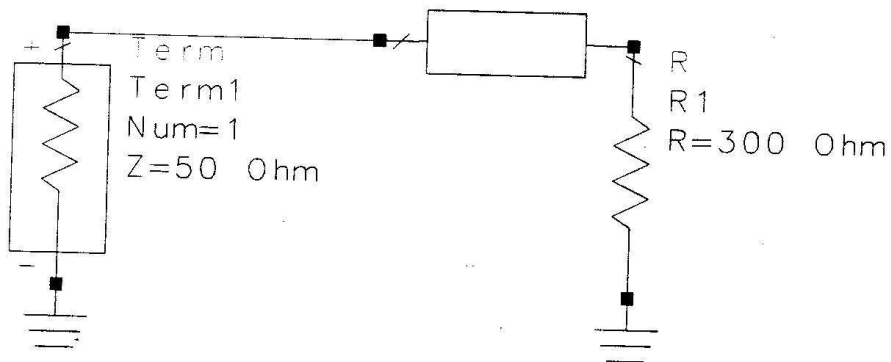
5

$$Z' = \sqrt{300(50)} = 122.47 \Omega$$

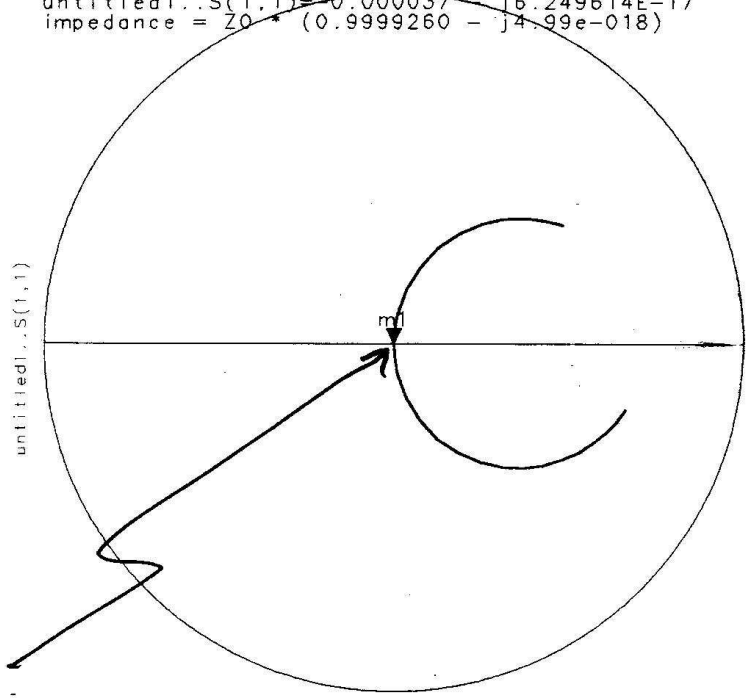
S PARAMETERS

S_Param
SP1
Start=.5 GHz
Stop=3 GHz
Step=.1 GHz

TLIN
TL1
Z=122.47 Ohm
E=90
F=2 GHz



```
m1  
freq=2.000000GHz  
untitled1..S(1,1)= 0.000037 - j6.249614E-17  
impedance = Z0 * (0.9999260 - j4.99e-018)
```



@ 26Hz
 $Z_{in} = 50\Omega$

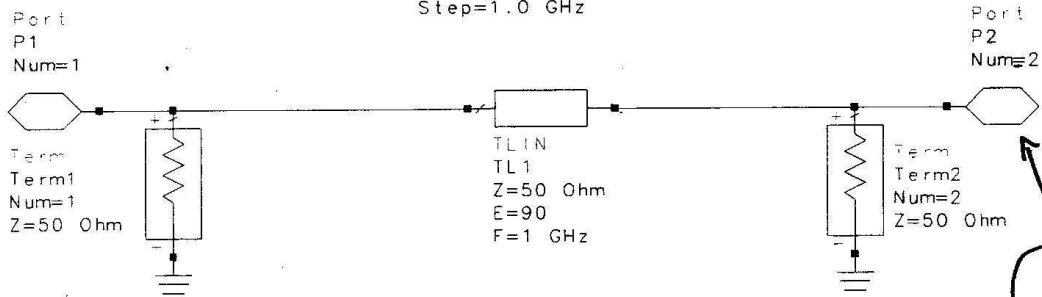
freq (500.000MHz to 3.000GHz)

Línea de Transmisión
con dos puertos definidos

7

S PARAMETERS

S_Param
SP1
Start=1.0 GHz
Stop=10.0 GHz
Step=1.0 GHz



No afecta
Simulación

6/

Parámetros S :

Magnitud (|S|) :

