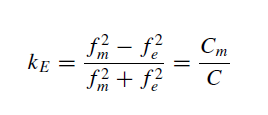
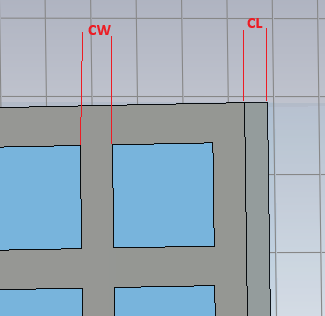
Pag 205 (221 pdf) Microstrip Filters for RF/Microwave Applications JIA-SHENG HONG



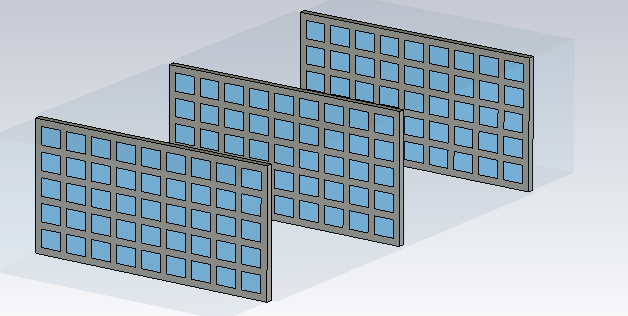
Coupling coefficient

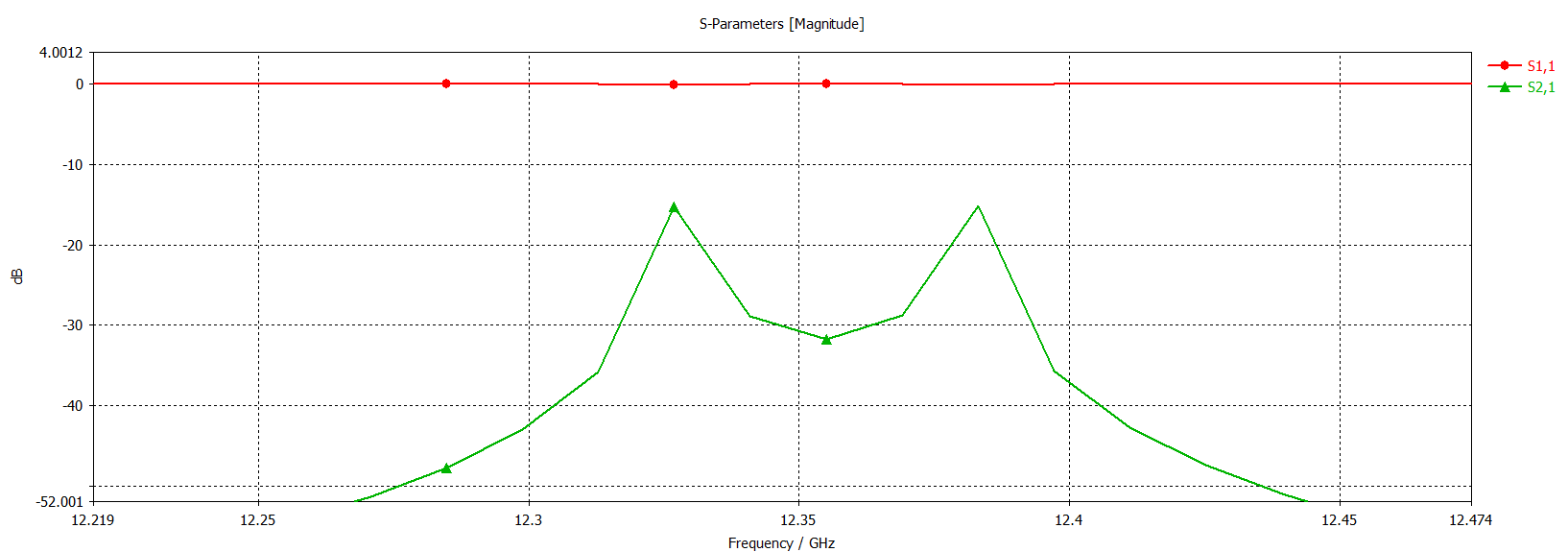
Análisis del máximo acoplamiento obtenido para los parámetros físicos del acoplador



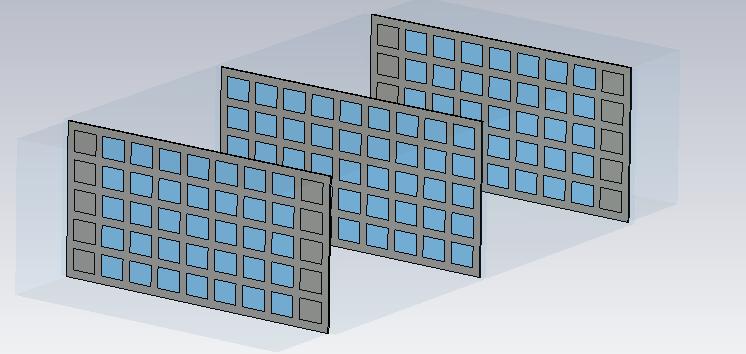
Máximo acoplamiento para los parámetros CW y CL:

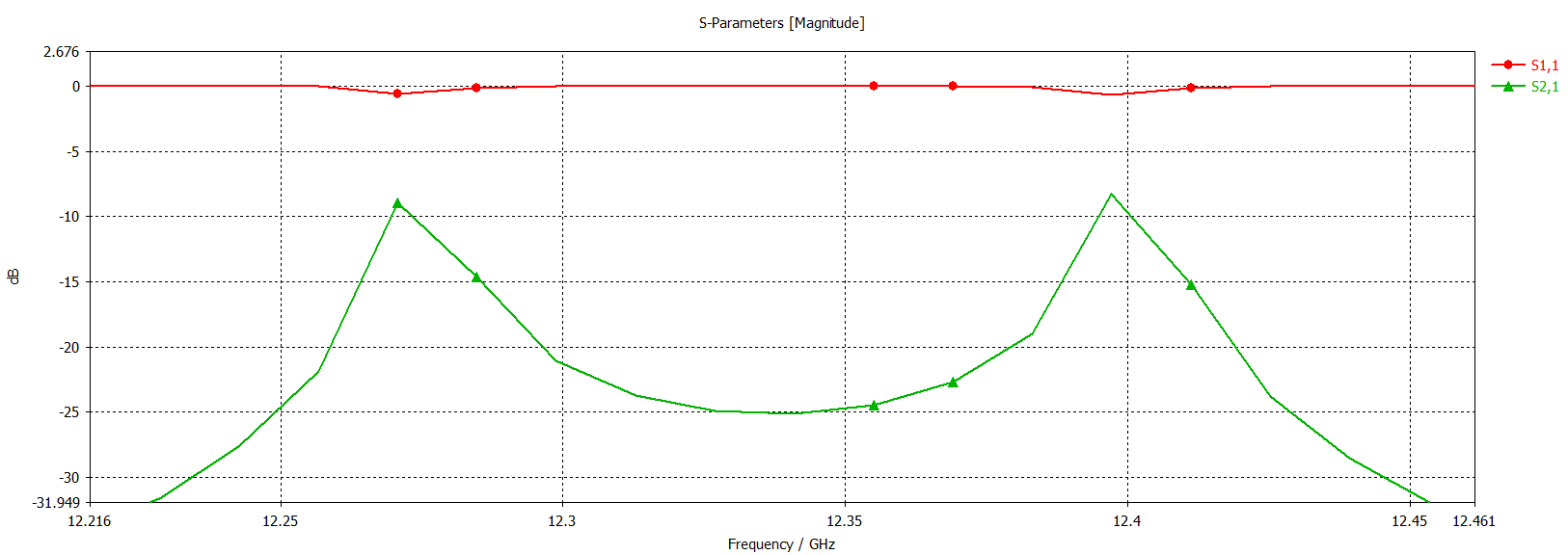
CW = 500µm, CL=500 µm, **Zmax=0.00453**, fmin=12.327GHz, fmax=12.383GHz



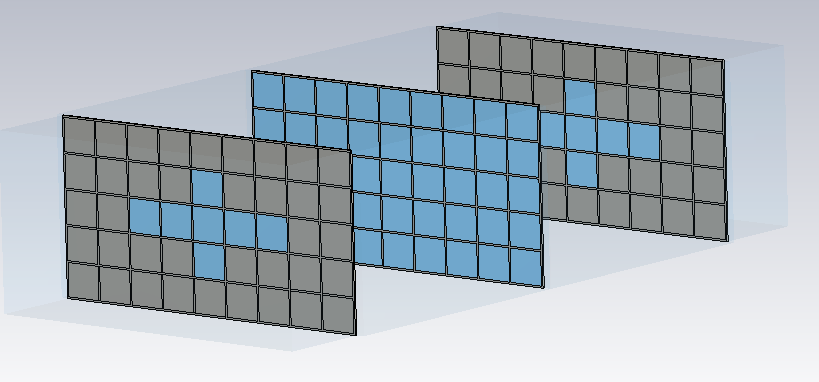


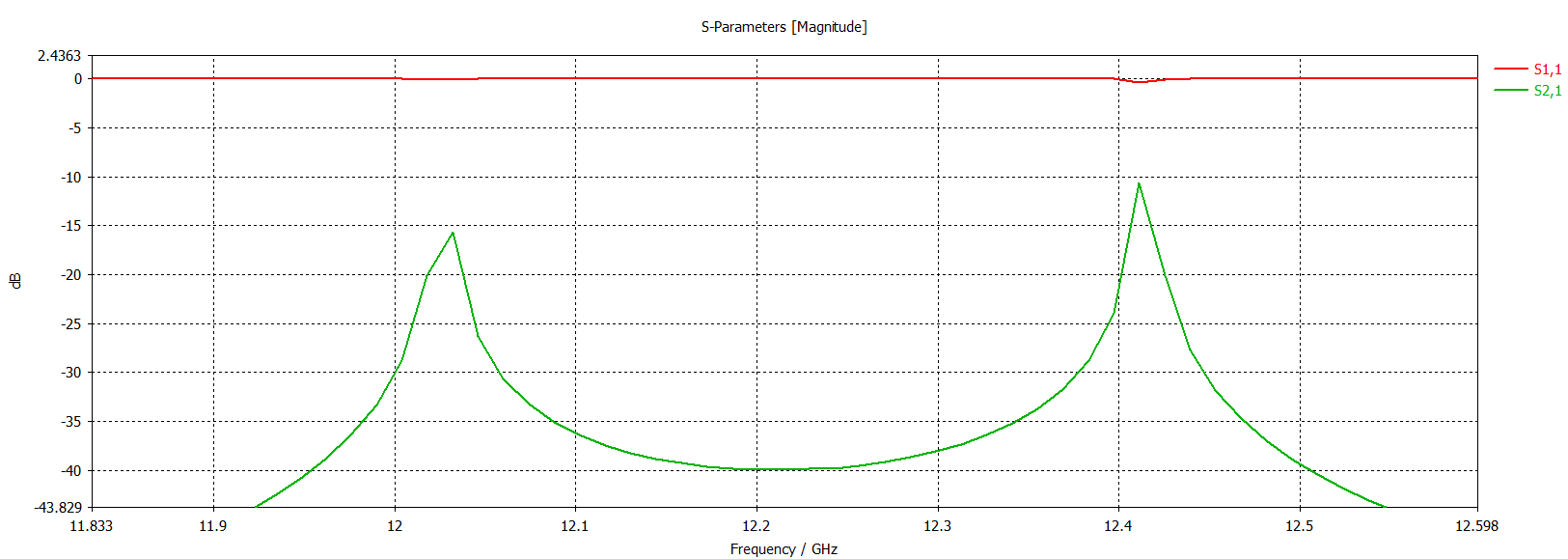
CW = 500µm, CL=100 µm, **Zmax=0.01**, fmin=12.27GHz, fmax=12.397GHz



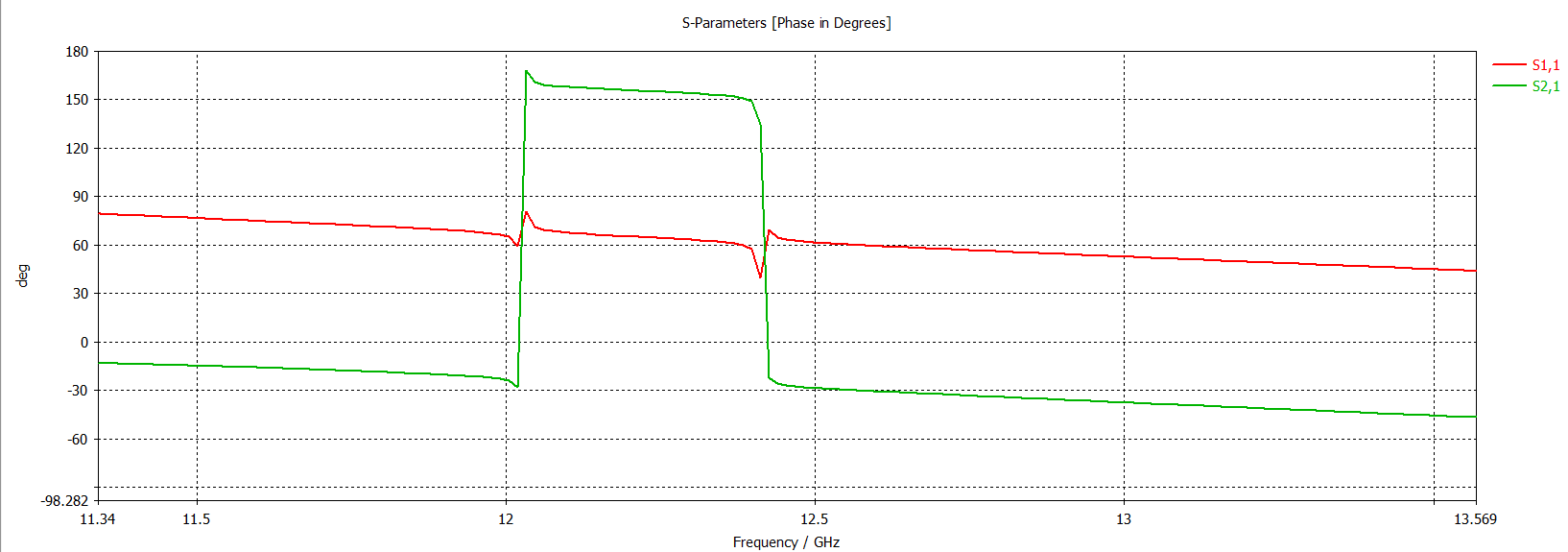


CW = 100µm, CL=100 µm, **Zmax=0.031**, fmin=12.03GHz, fmax=12.41GHz

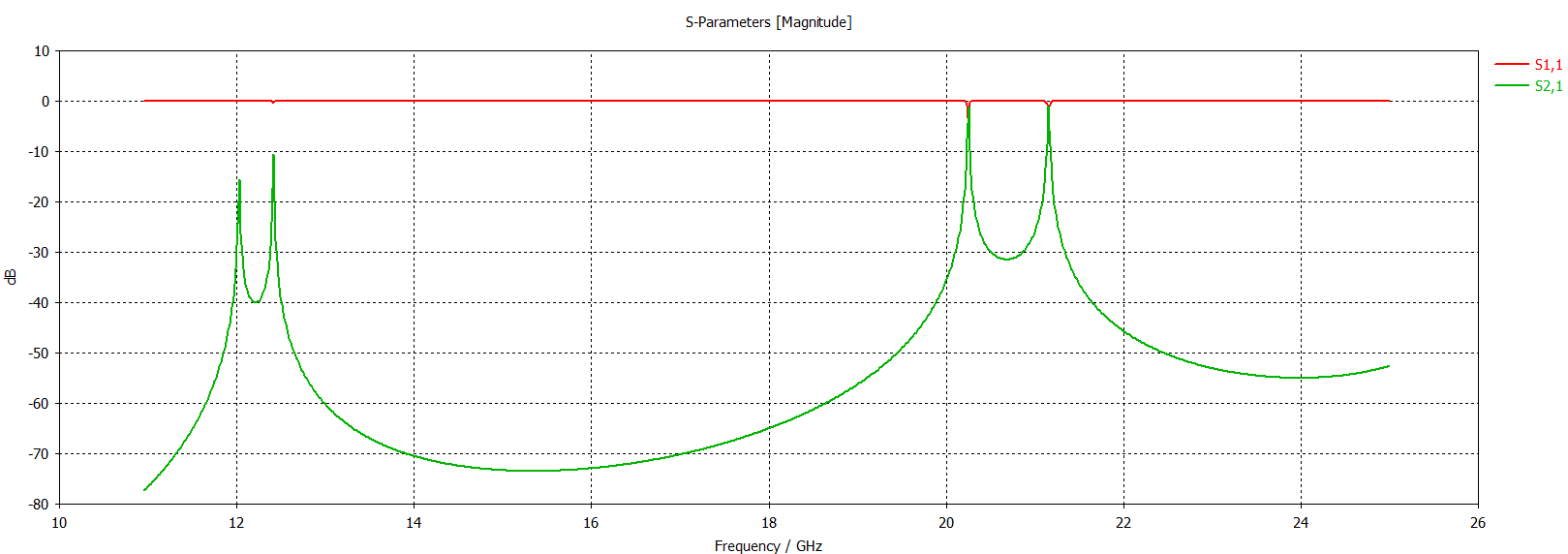




Acoplados magnéticamente



Rango completo de frecuencia



Acoplamiento para resonadores

H = 9.525 mm

W = 19.05 mm

f0 = 12.5 GHz

L = 15.45 mm

**Specification**

Passband: 12400.0 MHz ... 12600.0 MHz

Order: 4

**Normalized Matrix Elements**

m1, 1 = 0.0

m2, 2 = 0.0

m3, 3 = 0.0

m4, 4 = 0.0

mS, 1 = m1, S = 1.03515

m1, 2 = m2, 1 = 0.91058

m2, 3 = m3, 2 = 0.699925

m3, 4 = m4, 3 = 0.91058

m4, L = mL, 4 = 1.03515

**Resonance Frequencies**

f1 = 12499.59999 MHz

f2 = 12499.59999 MHz

f3 = 12499.59999 MHz

f4 = 12499.59999 MHz

**Coupling Bandwidth**

CBWS, 1 = 207.031 MHz

CBW1, 2 = 182.116 MHz

CBW2, 3 = 139.985 MHz

CBW3, 4 = 182.116 MHz

CBW4, L = 207.031 MHz

**External Q Factors**

QS, 1 = 58.3252 Iris width 7.8mm

Q4, L = 58.3252

Coeficiente K

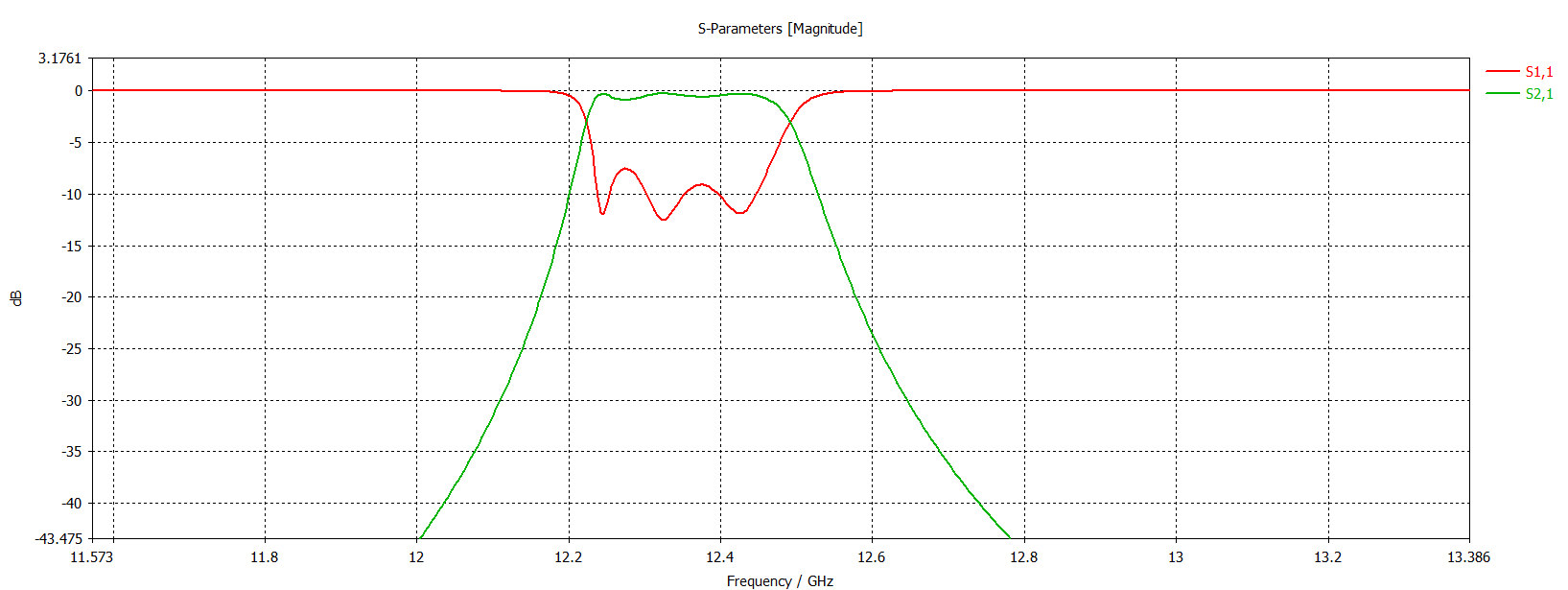
K12 = 0.015 W= 4.617 mm

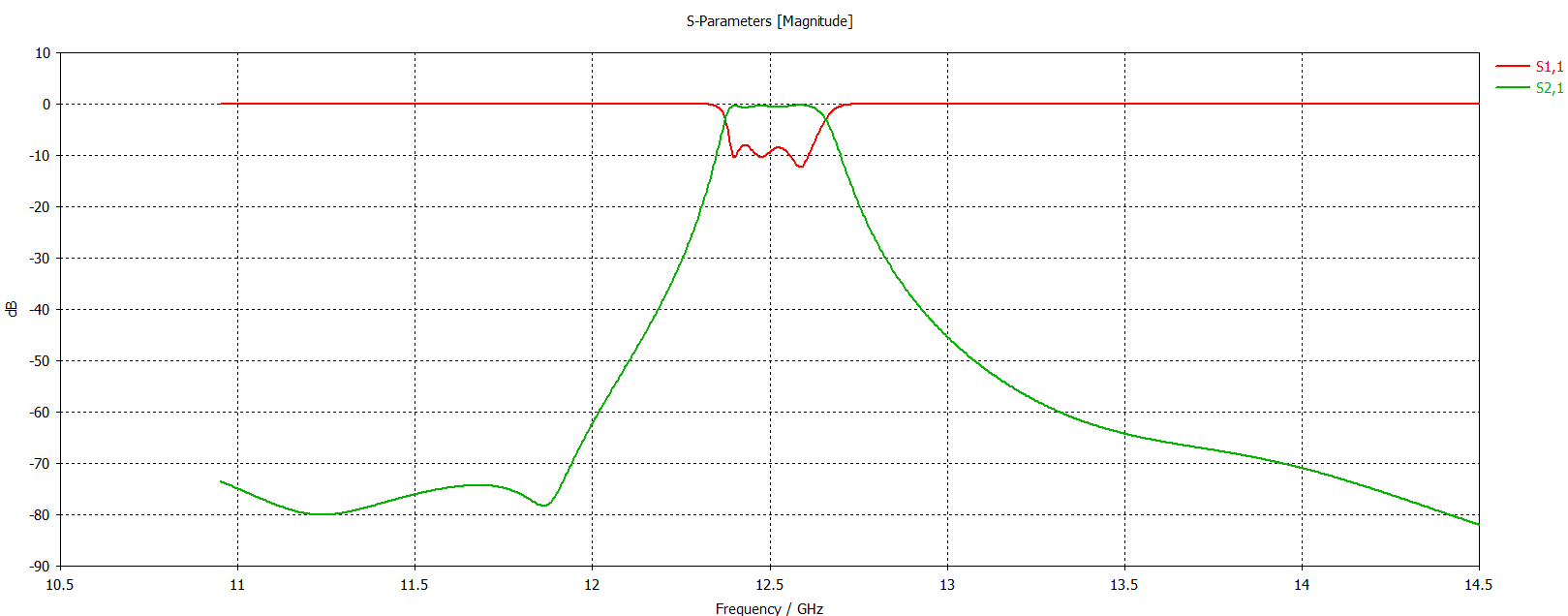
K23 = 0.0116 W = 4.243mm

L1=L4 = 15.45 -1.42812

L2 = L3 = 15.45 - 0.3364

K34 = 0.015 W= 4.617 mm





Diseño basado en curso filtro:

**Specification**

Passband: 3980.0 MHz ... 4020.0 MHz

Order: 6

**Normalized Matrix Elements**

m1, 1 = 0.0

m2, 2 = 0.0

m3, 3 = 0.0

m4, 4 = 0.0

m5, 5 = 0.0

m6, 6 = 0.0

mS, 1 = m1, S = 1.12376

m1, 2 = m2, 1 = 0.961883

m2, 3 = m3, 2 = 0.656448

m3, 4 = m4, 3 = 0.618422

m4, 5 = m5, 4 = 0.656448

m5, 6 = m6, 5 = 0.961883

m6, L = mL, 6 = 1.12376

**Resonance Frequencies**

f1 = 3999.95 MHz

f2 = 3999.95 MHz

f3 = 3999.95 MHz

f4 = 3999.95 MHz

f5 = 3999.95 MHz

f6 = 3999.95 MHz

**Coupling Bandwidth**

CBWS, 1 = 44.9502 MHz

CBW1, 2 = 38.4753 MHz

CBW2, 3 = 26.2579 MHz

CBW3, 4 = 24.7369 MHz

CBW4, 5 = 26.2579 MHz

CBW5, 6 = 38.4753 MHz

CBW6, L = 44.9502 MHz

**External Q Factors**

QS, 1 = 79.1864

Q6, L = 79.1864

Synthesized parameters (Band: 3.98-4.02 GHz, RL=26 dB, n=6)

f0=4 GHz, k12=k56=0.00962, k23=k45=0.00656, k34=0.00618, QE=79.18 (GD=12.6 ns)

Selected waveguide: a=50mm, b=25mm, L=56.605mm

Filtro 2

**External Q Factors**

QS, 1 = 58.3252 Iris width 3.7435mm

copling\_delay = 4.1

Q4, L = 58.3252

Coeficiente K

K12 = 0.015 W= 2.616 mm

K23 = 0.0116 W = 2.037 mm

copling\_delay = 2

L1=L4 = 15.45

L2 = L3 = 15.45

K34 = 0.015 W= 2.616 mm