Eqn Rc=0.35   Eqn k=1.38e-23   Eqn nT=200   <- This is just a guess but the result barely changes
Eqn y1=stoy(S)   Eqn q=1.6e-19   Eqn lg=1e-1

TASK_2

Eqn y2=y1-{{2i*pi*freq*(Cpg+Cpgd), -2i*pi*Cpgd},{-2i*freq*Cpgd, 2i*pi*freq*(Cpd+Cpgd)}}

Eqn z2=ytoz(y2)

Eqn z3=z2-{{Rg+Rs+2i*pi*freq*(Lg+Ls), Rs+2i*pi*Ls},{Rs+2i*freq*Ls, Rg+Rs+2i*freq*(Lg+Ls)}}

Eqn y3=ztoy(z3)

freq	y3(1,1)	y3(1,2)	y3(2,1)	y3(2,2)
VDS=1.000, VGS=1.000 3.000 GHz	0.001 / -86.574	5.937E-5 / 172.2...	5.071E-4 / 97.750	0.004 / -91.066

Eqn Ld=-2.649267790E-8   Eqn Rgd=-imag(1/y3(1,2))
Eqn Lg=-2.249832141E-8
Eqn Ls=-1.947627751E-8   Eqn Cgd=1/(omega*imag(1/y3(1,2)))

Eqn Rd=1.153768700E1   Eqn Ri=real(1/(y3(1,1)+y3(1,2)))
Eqn Rg=-7.619322441E-1
Eqn Rs=9.189406369E0   Eqn Cgs=-1/(omega*imag(1/(y3(1,1)+y3(1,2))))

Eqn Cpd=1.377837503E-12   Eqn Rds=1/real(y3(1,2)+y3(2,2))
Eqn Cpg=1.665135520E-12
Eqn Cpgd=1.240228378E-12   Eqn Cds=imag(y3(1,2)+y3(2,2))/omega

Eqn gm=abs((y3(1,2)-y3(2,1))*(y3(1,1)+y3(2,2))/imag(y3(1,1)+y3(1,2)))

Eqn omega=2*pi*freq   Eqn tau=(pi/2-phase(y3(1,2)-y3(2,1))*pi/180+phase(y3(1,1)-y3(1,2))*pi/180)/omega

freq	Rgd	Ri	Rds	gm
VDS=1.000 , VGS=1.000 3.000 GHz	2.279 k	5.378	-7.577 k	2.300 m

freq	Cgd	Cgs	Cds	tau
VDS=1.000 , VGS=1.000 3.000 GHz	-23.28 f	-57.26 f	-208.1 f	88.28 p