```matlab
clc

n0=1;               %refractive index of substrate
nt=1;               %refractive index of substrate
na=2.4;             %refractive index of Layer A
nb=1;               %refractive index of Layer B




%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
landa0=1550;                %%%% wavelength:nanometer
c=3e17;                     %%%% velocity of ligth :nanometer/s
W0=(2*pi*c)/landa0;

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%  Bragg reflector
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
La=landa0/(4*na);           %Lengh of Layer A
Lb=landa0/(4*nb);           %Lengh of Layer B




Ma0=zeros(2,2);
Mb0=zeros(2,2);
Mab=zeros(2,2);
Mba=zeros(2,2);
Na=zeros(2,2);
Na0=zeros(2,2);
Nb=zeros(2,2);
Nt=zeros(2,1);
H0=zeros(2,2);
H1=zeros(2,2);
H00=zeros(2,2);
H2=zeros(2,2);
W=[];
R=[];
T=[];


%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```matlab
Nt(1,1)=1;                    Nt(2,1)=nt;

Na0(1,1)=1;                   Na0(1,2)=1;
Na0(2,1)=na;                   Na0(2,2)=-na;

Na(1,1)=1/2;                  Na(1,2)=(1/(2*na));
Na(2,1)=1/2;                  Na(2,2)=-(1/(2*na));

Nb(1,1)=1/2;                  Nb(1,2)=(1/(2*nb));
Nb(2,1)=1/2;                  Nb(2,2)=-(1/(2*nb));


%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

step=0.5;first=800;final=3000;
num=(final-first)/step;

for d=1:num+1;

    landa=first+(step*(d-1));

    W(1,d)=((2*pi*c)/landa)/W0;

    k0=(2*pi)/landa;
    ka=k0*na;
    kb=k0*nb;


Mab(1,1)=(0.5*(1+na/nb)*exp(-1j*ka*La));
Mab(1,2)=(0.5*(1-na/nb)*exp(1j*ka*La));
Mab(2,1)=(0.5*(1-na/nb)*exp(-1j*ka*La));
Mab(2,2)=(0.5*(1+na/nb)*exp(1j*ka*La));



Mba(1,1)=(0.5*(1+nb/na)*exp(-1j*kb*Lb));
Mba(1,2)=(0.5*(1-nb/na)*exp(1j*kb*Lb));
Mba(2,1)=(0.5*(1-nb/na)*exp(-1j*kb*Lb));
Mba(2,2)=(0.5*(1+nb/na)*exp(1j*kb*Lb));
```

```matlab
Mb0(1,1)=(0.5*(1+nb/n0)*exp(-1j*kb*Lb));
Mb0(1,2)=(0.5*(1-nb/n0)*exp(1j*kb*Lb));
Mb0(2,1)=(0.5*(1-nb/n0)*exp(-1j*kb*Lb));
Mb0(2,2)=(0.5*(1+nb/n0)*exp(1j*kb*Lb));




Ma0(1,1)=(0.5*(1+na/n0)*exp(-1j*ka*La));
Ma0(1,2)=(0.5*(1-na/n0)*exp(1j*ka*La));
Ma0(2,1)=(0.5*(1-na/n0)*exp(-1j*ka*La));
Ma0(2,2)=(0.5*(1+na/n0)*exp(1j*ka*La));


  H1=(Mab*Mba);

  H2=Ma0*(H1^24)*Na;



  trans=(1/(H2(1,1)+(nt*H2(1,2))));
  ref=(H2(2,1)+H2(2,2)*nt)/(H2(1,1)+nt*H2(1,2));

  R(1,d)=abs(ref)^2;
  T(1,d)=abs(trans)^2;

end

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%


landa=first:step:final;

figure(204); plot(W,T)
hold on
```