

List of Symbols

Symbol	Description
ϵ	Medium permittivity
ϵ'	Real part of ϵ
ϵ''	Imaginary part of ϵ
μ	Medium permeability
μ'	Real part of μ
μ''	Imaginary part of μ
ϵ_0	Free space permittivity 8.85×10^{-12} F/m
μ_0	Free space permeability $4\pi \times 10^{-7}$ H/m
V	Volt
A	Ampere
Coul	Coulomb
Wb	Weber
H	Henry
F	Farad
m	Meter
E	Electric field intensity V/m
H	Magnetic field intensity A/m
H^*	Complex Conjugate of Magnetic field intensity
D	Electric flux density Coul/m ²
B	Magnetic flux density Wb/m ²
M	Fictitious magnetic current density Wb/m ²
J	Electric current density A/m ²
ρ	Electric charge density Coul/m ³
η	Impedance of the medium
η_0	Impedance of free space
v	Speed of electromagnetic waves
c	Speed of electromagnetic waves in free space (3×10^8 m/sec approximate)
f	Frequency of electromagnetic waves (Hertz)
λ	Wavelength of electromagnetic waves (m)
R	Radar range
P_r	Reflected power
P_t	Transmitted power
σ_{RCS}	Radar cross-section
G_t	Transmitted antenna gain
G_r	Reflected antenna gain
dB	Decibel
Γ	return loss
γ	Complex propagation constant
α	Attenuation constant
β	Phase constant
Z_0	Free space impedance
Z_L	Load impedance
$V(z)$	Voltage function of z
$I(z)$	Current function of z
ρ^*	Complex conjugate of reflection coefficient
R_s	Series Resistance (Ω)
Y	Admittance
G_{opt}	Optimum sheet conductance
$G_{opt\theta}$	Optimum sheet conductance for different incidence angle
G	Sheet conductance
f_c	Central frequency

Y_0	Admittance of free space
Y_{in}	Input admittance
d	Thickness of the substrate (mm)
a	Square patch dimension
p	Periodicity of the unit cell
l	Length of the Wire element
w	Width of the wire element
g	Gap
θ	Angle of incidence
Φ	Angle of Polarization