

SYMBOLS & ABBREVIATIONS

MMICs	Microwave monolithic integrated circuits
C	Velocity of light in air
f_0	Center frequency
Z_0	Characteristics Impedance
λ	Wavelength
h	Height of substrate
t	Thickness of patch
W	Width of the patch
L	Length of the patch
ϵ_0	Permittivity of free space
ϵ_r	Relative permittivity of substrate
$\tan \delta$	Loss tangent of substrate