PSB Singapore

2.2 Maximum Permissible Exposure (MPE)

2.2.1 Test Limits

The EUT shows compliance to the requirements of this section, which states the MPE limits for general population / uncontrolled exposure are as shown below:

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (min)
0.3 - 1.34	614	1.63	100 Note 2	30
1.34 - 30	824 / f	2.19 / f	$180 / f^2$ Note 2	30
30 - 300	27.5	0.073	0.2	30
300 - 1500	-	-	f / 1500	30
1500 - 100000	-	-	1.0	30
Notes				
1. f = frequency in MHz				
2. Plane wave equivalent power density				

Maximum Permissible Exposure Computation

The power density at 20cm distance was computed from the following formula:

$S = (30GP) / (377d^2)$

where S = Power density in W/m^2
P = 2.45mW
d = Test distance at 0.2m
G = Numerical isotropic gain, 1.58 (2.0dBi)

Substituting the relevant parameters into the formula:

$S = [(30GP) / 377d^2]$
$= 0.00770\ W/m^2$
$= 0.000770\ mW/cm^2$

∴ The power density of the EUT at 20cm distance is 00.000770 mW/cm^2 based on the above computation and found to be lower than the power density limit of 1.0mW/cm^2.