

Report No.: E2/2018/B0021~23

Page: 1 of 2

## **MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

## Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range	Electric Field	Magnetic Field	Power Density	Averaging Time					
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(minute)					
Limits for General Population/Uncontrolled Exposure									
0.3-1.34	614	1.63	*(100)	30					
1.34-30	824/f	2.19/f	*(180/f²)	30					
30-300	27.5	0.073	0.2	30					
300-1500	1	1	f/1500	30					
1500-15000	/	/	1.0	30					

f = frequency in MHz

\* = Plane-wave equipment power density

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Report No.: E2/2018/B0021~23

Page: 2 of 2

## **Maximum Permissible Exposure (MPE) Evaluation**

Prediction of MPE limit at a given distance

 $S=PG/4\pi R^2$ 

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

## Worst case Max Power of each band

					Max.			
Operation	Evaluation	Operation	Max. output	Antenna	output	Power	Limit	Pass /
Mode	Frequency	Distance	Power	Gain	Power	Density	(mW/cm <sup>2</sup> )	
Iviode	(MHz)	(cm)	(dBm)	(dBi)	EIRP	(mW/cm <sup>2</sup> )	(IIIVV/CIII-)	Ган
					(mW)			
BLE	2442.00	20	0.29	3.37	2.32	0.000	1.000	Pass
WLAN	2462.00	20	1E 60	2.27	70.05	0.016	1 000	Dese
2.4G	2462.00 20	15.62	3.37	79.25	0.016	1.000	Pass	
WLAN	5000.00	00	14.00	7.07	474.70	0.004	1 000	Door
5G	5220.00 20	20	14.68	7.67	171.79	0.034	1.000	Pass

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