

SAR EVALUATION
TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in 20cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

Test Procedure:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

MEASUREMENT RESULT
Test Model:

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Maximum tune-up Power (mW)	Antenna gain		Power Density (S) (mW /cm ²)	Limited of Power Density (S) (mW /cm ²)	Test Result
						(dBi)	(Linear)			
GFSK	2402	-3.973	0.400	0±1	1.25	2.77	1.89	0.0047	1	Complies
	2441	-3.698	0.426	0±1	1.25	2.77	1.89	0.0047	1	Complies
	2480	-3.729	0.423	0±1	1.25	2.77	1.89	0.0047	1	Complies
8DPSK	2402	-4.486	0.355	0±1	1.25	2.77	1.89	0.0047	1	Complies
	2441	-4.277	0.373	0±1	1.25	2.77	1.89	0.0047	1	Complies
	2480	-4.165	0.383	0±1	1.25	2.77	1.89	0.0047	1	Complies

The Maximum power is less than the limit, complies with the exemption requirements, SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: LP23080282C01-03

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