RF Exposure Evaluation

For

Model	**:**	**TSME24 BLK, EM-1071FT**
Equipment Type	**:**	**MULTIMEDIA SPEAKER**
Report Number	**:**	**FCC15080104**
FCC ID	**:**	**2AD38TSME24BLK**
Standards	**:**	**FCC Part 15**
		OET Bulletin 65, Supplement C (01-01)
		IEEE C95.1

RF Exposure

1 Maximum Permissible exposure (MPE)

For human exposure in controlled environment to electromagnetic energy at radio frequencies from 3 kHz to 300 GHz, the MPE, in terms of rms electric (E) and magnetic (H) field strengths, the equivalent planewave free-space power densities (S) and the induced currents (I) in the body that can be associated with exposure to such fields or contact with objects exposure to such fields, is given in Table 1 as a function of frequency. Exposure associated with a controlled environment includes exposure that may be incurred by persons who are aware of the potential for exposure sa a concomitant of employment, exposure of other cognizant individuals, or exposure that is the incidental result of passage through areas where analysis shows the exposure levels may be above those shown in Table 2, but do not exceed those in Table1.

Table 1—Maximum permissible exposure for controlled environments*

Part A: Electromagnetic fields†				
Frequency range (MHz) 1	Electric field strength (E) (V/m) 2	Magnetic field strength (H) (A/m) 3	Power density (S) E-field, H-field (mW/cm^2) 4	Averaging time $\|E\|^2$, $\|H\|^2$ or S (min) 5
0.003–0.1	614	163	(100, 1 000 000)‡	6
0.1–3.0	614	$16.3/f$	(100, $10\,000/f^2$)‡	6
3–30	$1842/f$	$16.3/f$	($900/f^2$, $10\,000/f^2$)	6
30–100	61.4	$16.3/f$	(1.0, $10\,000/f^2$)	6
100–300	61.4	0.163	1.0	6
300–3000	—	—	$f/300$	6
3000–15 000	—	—	10	6
15 000–300 000	—	—	10	$616\,000/f^{1.2}$
Note—f is the frequency in MHz.				

Table 2—Maximum permissible exposure for uncontrolled environments*

Part A: Electromagnetic Fields†					
Frequency range (MHz) 1	Electric field strength (E) (V/m) 2	Magnetic field strength (*H*) (A/m) 3	Power density (*S*) E-field, H-field (mW/cm^2) 4	Averaging time $|E|^2$, *S* or $|H|^2$ (min) 5	
0.003–0.1	614	163	(100, 1 000 000)‡	6	6
0.1–1.34	614	$16.3/f$	$(100, 10\,000/f^2)$‡	6	6
1.34–3.0	$823.8/f$	$16.3/f$	$(180/f^2, 10\,000/f^2)$	$f^2/0.3$	6
3.0–30	$823.8/f$	$16.3/f$	$(180/f^2, 10\,000/f^2)$	30	6
30–100	27.5	$158.3/f^{1.668}$	$(0.2, 940\,000/f^{3.336}$	30	$0.0636\,f^{1.337}$
100–300	27.5	0.0729	0.2	30	30
300–3000	—	—	$f/1500$	30	
3000–15 000	—	—	$f/1500$	$90\,000/f$	
15 000–300 000			10	$616\,000/f^{1.2}$	
NOTE—*f* is the frequency in MHz.					

2 Equations for Predicting RF Fields

Calculations can be made to predict RF field strength and power density levels around typical RF sources. The Formula is as below:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm^2)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

3 Calculation Result of Maximum conducted Power

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user

Item	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
BT	2402~2480	0.45	1.00	20	0.00022	1.6

Due to the max power density is less than limit, therefore, there is not required for SAR evaluation. More details refer to the test report.

——END OF REPORT——