RF EXPOSURE EVALUATION

EUT Specification

EUT	Bluetooth Digital Karaoke with Microphone & Party Lights
Model Number	ISF-22, XXX-22 (where XXX would be any combination of alphabets denotes different pattern)
FCC ID	EMO22
Antenna gain (Max)	0dBi
Operation Frequency	2402-2480MHz
Input Rating	DC 5V from adapter
Classification Per Stipulated Test Standard	§15.247(i), §2.1093
Kind of Device: Bluetooth Ver.4.2	
Modulation	BT:(GFSK, π/4-DQPSK,8DPSK)
Max. output power	BT: 2.44dBm(0.001754W)

Test Requirement:

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	**--**	**--**	**F/300**	**6**
1500-100000	**--**	**--**	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	**--**	**--**	**F/1500**	**6**
1500-100000	**--**	**--**	**1**	**30**

1 Friis transmission formula: Pd= (Pout*G)\ (4*pi*R^2)

Where

Pd= Power density in mW/cm^2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1416

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

Pd the limit of MPE, 1mW/cm^2. If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

2 Measurement Result

Antenna gain:0 dBi

BT DSS:

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/cm2)	Power density Limits (mW/cm2)
2.402	GFSK	-0.35	0±1	1	1.25893	0	1	0.000250455	1
2.441	GFSK	-1.25	-1±1	0	1	0	1	0.000198943	1
2.480	GFSK	-2.52	-2±1	-1	0.79433	0	1	0.000158026	1
2.402	Π/4-DQPSK	2.07	2±1	3	1.99526	0	1	0.000396944	1
2.441	Π/4-DQPSK	1.02	1±1	2	1.58489	0	1	0.000315304	1
2.480	Π/4-DQPSK	-0.37	0±1	1	1.25893	0	1	0.000250455	1
2.402	8DPSK	2.44	2±1	3	1.99526	0	1	0.000396944	1
2.441	8DPSK	1.39	1±1	2	1.58489	0	1	0.000315304	1
2.480	8DPSK	0.23	0±1	1	1.25893	0	1	0.000250455	1

Signature:

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Date: 2019-08-19