RF EXPOSURE EVALUATION

EUT Specification

EUT	LED COB
Model Number	E.Show T, E.Show D
FCC ID	2A2LS-ESHOWT
Antenna gain (Max)	3.2 dBi
Operation Frequency	2.4G: 2408MHz-2480MHz
Input Rating	AC 120V 60Hz
Classification Per Stipulated Test Standard	§15.247(i), §2.1091
Modulation	2.4G:GFSK
Max. output power	18.64 dBm(0.07311W)
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

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: 3.2 dBi

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
GFSK	0	2402	17.65	30	PASS
	39	2441	18.56	30	PASS
	78	2480	18.64	30	PASS

Operating Mode	Test Channel	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/ cm2)	Power density Limits (mW/ cm2)
GFSK	0	18±1	19	79.433	3.2	2.089	0.033016	1
	39	18±1	19	79.433	3.2	2.089	0.033016	1
	78	18±1	19	79.433	3.2	2.089	0.033016	1

Signature:

Sam Lv
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