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Maximum Permissible Exposure Evaluation

FCC ID: 2AHVH586586A1

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)

EUT Specification

EUT	LED TV
Frequency band (Operating)	☒WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐WLAN: 5.745GHz ~ 5825GHz ☐Others
Device category	☐Portable (<20cm separation) ☐Mobile (>20cm separation) ☒fixed (>20cm separation) ☐Others ___
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☒General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	☐Single antenna ☒Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	Ant 1:17.42dBm Ant 2: 16.92dBm MIMO:15.32dBm
Antenna gain (Max)	1.21dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

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

Friis transmission formula: Pd=(Pout*G)\(4*pi*R2)
Where
Pd= Power density in mW/cm^2
Pout=output power to antenna in Mw
G= gain of antenna in linear scale
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

Ant No.	Operating Mode	Channel Frequency (MHz)	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm^2)	Power density Limits (mW/cm^2)
Ant 1	802.11b	2412	17.16	17.16±1	18.16	1.21	0.0655	1
	802.11g	2412	15.87	15.87±1	16.87	1.21	0.0486	1
	802.11n (HT20)	2412	14.61	14.61±1	15.61	1.21	0.0364	1
	802.11n (HT40)	2427	14.08	14.08±1	15.08	1.21	0.0322	1
Ant 2	802.11b	2437	17.66	17.66±1	18.66	1.21	0.0735	1
	802.11g	2412	15.81	15.81±1	16.81	1.21	0.0480	1
	802.11n (HT20)	2462	14.51	14.51±1	15.51	1.21	0.0356	1
	802.11n (HT40)	2437	14.44	14.44±1	15.44	1.21	0.0350	1
Ant 1+2	802.11n (HT20)	2412	16.11	16.11±1	17.11	4.21	0.0514	1
	802.11n (HT40)	2437	15.99	15.99±1	16.99	4.21	0.0500	1

Note

The transmitter signals are correlated:
Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi =1.21+10log2=4.21dBi

For a more detailed features description, please refer to the RF Test Report.

**************************THE END*************************