

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)

FCC ID: **2ACWIWD50FBE10**

EUT Specification

| | |
|-----------------------------------|--|
| EUT | LED TV |
| Frequency band (Operating) | <input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5825GHz <input type="checkbox"/> Others |
| Device category | <input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____ |
| Exposure classification | <input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²) |
| Antenna diversity | <input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity |
| Max. output power | 13.96dBm for 802.11b; 9.92dBm for 802.11g; 9.06Bm for 802.11n(HT20); 6.12dBm for 802.11n(HT40); |
| Antenna gain (Max) | 2.0dBi (for per antenna port Max) |
| Evaluation applied | <input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> 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: $P_d = \frac{P_{out} \cdot G}{4 \cdot \pi \cdot R^2}$

Where

P_d = Power density in mW/cm^2 , P_{out} =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

P_d the limit of MPE, $1mW/cm^2$. 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

| Test Channel | Average Output Power (dBm) | | | |
|--------------|----------------------------|---------|---------------|---------------|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) |
| Lowest | 13.96 | 9.92 | 9.06 | 6.12 |
| Middle | 13.81 | 9.84 | 8.64 | 5.86 |
| Highest | 12.12 | 9.14 | 8.32 | 5.64 |

| 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/cm ²) | Power density Limits (mW/cm ²) |
|----------------|--------------|-------------------------|-----------------------------------|------------------------|-----------------|---------------------|---|--|
| 802.11b | 1 | 14+1 | 15 | 31.623 | 2 | 1.585 | 0.009971 | 1 |
| | 6 | 14+1 | 15 | 31.623 | 2 | 1.585 | 0.009971 | 1 |
| | 11 | 12+1 | 13 | 19.953 | 2 | 1.585 | 0.006291 | 1 |
| 802.11g | 1 | 10+1 | 11 | 12.589 | 2 | 1.585 | 0.003969 | 1 |
| | 6 | 10+1 | 11 | 12.589 | 2 | 1.585 | 0.003969 | 1 |
| | 11 | 9+1 | 10 | 10.000 | 2 | 1.585 | 0.003153 | 1 |
| 802.11n (HT20) | 1 | 9+1 | 10 | 10.000 | 2 | 1.585 | 0.003153 | 1 |
| | 6 | 8+1 | 9 | 7.943 | 2 | 1.585 | 0.002505 | 1 |
| | 11 | 8+1 | 9 | 7.943 | 2 | 1.585 | 0.002505 | 1 |
| 802.11n (HT40) | 3 | 6+1 | 7 | 5.012 | 2 | 1.585 | 0.001580 | 1 |
| | 6 | 6+1 | 7 | 5.012 | 2 | 1.585 | 0.001580 | 1 |
| | 9 | 5+1 | 6 | 3.981 | 2 | 1.585 | 0.001255 | 1 |

Signature:



Print: Sam Lv

Title: Manager

Date: 2017-05-19