

## 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: **2ACWISE32HY19C**

### EUT Specification

EUT	LED TV
<b>Frequency band (Operating)</b>	<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
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<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
<b>Max. output power</b>	21.43dBm for 802.11b 21.93dBm for 802.11g 21.79dBm for 802.11n(H20) 20.73dBm for 802.11n(H40)
<b>Antenna gain (Max)</b>	2dBi
<b>Evaluation applied</b>	<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 <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

## Friis transmission formula: $P_d = \frac{P_{out} * G}{4 * \pi * R^2}$

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

Operating Mode	Test Channel	Output Peak power (dBm)	Output Peak power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Power density at 20cm (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
802.11b	1	19.33	85.704	2	1.585	0.027025	1
	6	19.97	99.312	2	1.585	0.031315	1
	11	21.43	138.995	2	1.585	0.043829	1
802.11g	1	20.01	100.231	2	1.585	0.031605	1
	6	20.60	114.815	2	1.585	0.036204	1
	11	21.93	155.955	2	1.585	0.049177	1
802.11n (H20)	1	19.86	96.828	2	1.585	0.030532	1
	6	20.41	109.901	2	1.585	0.034654	1
	11	21.79	151.008	2	1.585	0.047617	1
802.11n (H40)	3	19.46	88.308	2	1.585	0.027846	1
	6	19.83	96.161	2	1.585	0.030322	1
	9	20.73	118.304	2	1.585	0.037304	1

Signature:



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