

## 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:WUI-BT58189

### EUT Specification

<b>EUT</b>	RF Module of 4K Dash Cam		
<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>	802.11b: 14.2dBm 802.11g: 8.86dBm 802.11n(HT20): 8.84dBm 802.11n(HT40): 8.45dBm		
<b>Antenna gain (Max)</b>	6dBi		
<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: $P_d = \frac{P_{out} \cdot G}{4 \cdot \pi \cdot R^2}$

Where

$P_d$  = Power density in mW/cm<sup>2</sup>,  $P_{out}$  = 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<sup>2</sup>. 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

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
			Ant1		
802.11b	1	2412	12.65	30	PASS
	6	2437	13.83	30	PASS
	11	2462	14.2	30	PASS
802.11g	1	2412	6.92	30	PASS
	6	2437	8.42	30	PASS
	11	2462	8.86	30	PASS
802.11n (HT20)	1	2412	6.93	30	PASS
	6	2437	8.37	30	PASS
	11	2462	8.84	30	PASS
802.11n (HT20)	3	2422	7.36	30	PASS
	6	2437	8.35	30	PASS
	9	2452	8.45	30	PASS

Antenna 1

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 )
802.11b	1	13±1	14	25.119	6	3.981	0.019894	1
	6	14±1	15	31.623	6	3.981	0.025045	1
	11	14±1	15	31.623	6	3.981	0.025045	1
802.11g	1	7±1	8	6.310	6	3.981	0.004997	1
	6	8±1	9	7.943	6	3.981	0.006291	1
	11	9±1	10	10.000	6	3.981	0.007920	1
802.11n (HT20)	1	7±1	8	6.310	6	3.981	0.004997	1
	6	8±1	9	7.943	6	3.981	0.006291	1
	11	9±1	10	10.000	6	3.981	0.007920	1
802.11n (HT40)	3	7±1	8	6.310	6	3.981	0.004997	1
	6	8±1	9	7.943	6	3.981	0.006291	1
	9	8±1	9	7.943	6	3.981	0.006291	1

Signature:



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Title: Manager

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