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## Maximum Permissible Exposure Evaluation

**FCC ID: 2A9UC-F1**

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

Product Name:	HD Wi-Fi Wireless Video Doorbell
Trade Mark:	/
Model/Type reference:	F1
Listed Model(s):	/
Frequency band (Operating)	WLAN: 2.412GHz ~ 2.462GHz BT:2402MHz~2480MHz
Device category	<input type="checkbox"/> Portable (<5mm separation) <input type="checkbox"/> Mobile (>20cm separation) <input checked="" type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others ____
Exposure classification	<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> )
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
Antenna gain (Max)	1.8dBi
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 <sup>2</sup> )	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:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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

*Only show the value of the worst antenna.*

*For 2.4G WIFI:*

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 802.11b	2462	1.8	16.77	17 ± 1	18	0.19	1.000
WLAN 802.11g	2462	1.8	17.75	17 ± 1	18	0.19	1.000
WLAN 802.11n(HT20)	2452	1.8	17.78	17 ± 1	18	0.19	1.000

*For BLE*

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
BLE	2402	1.8	3.352	3 ± 1	4	0.001	1.000
	2440	1.8	3.553	3 ± 1	4	0.001	1.000
	2480	1.8	3.564	3 ± 1	4	0.001	1.000

Note:

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

So the transmitter complies with the RF exposure requirements and the SAR is not required.

\*\*\*\*\*THE END\*\*\*\*\*