



# Maximum Permissible Exposure

**Equipment** : IP Camera  
**Model No.** : ALLie Home  
**FCC ID** : 2AFCRAH720  
**Standard** : ANSI/IEEE C95.1  
**Applicant** : IC Real Tech  
3050 North Andrews Avenue  
Extension, Pompano Beach, Florida,  
United States 33064.  
**Manufacturer** : Hi-P Electronics Pte Ltd  
12 Ang Mo Kio Street 64, #03=02, UE  
BizHub Central Blk A, Singapore  
569088.

The product sample received on Aug. 18, 2015 and completely tested on Sep. 09, 2015. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/IEEE C95.1 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Kevin Liang / Assistant Manager



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## Revision History

[illegible]

# 1 Human Exposure Assessment

## 1.1 Maximum Permissible Exposure

### 1.1.1 Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6
Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30
Note 1: f = frequency in MHz ; *Plane-wave equivalent power density				
Note 2: For the applicable limit, see FCC 1.1310				

### 1.1.2 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

**E** = Electric field (V/m)

**G** = EUT Antenna numeric gain (numeric)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**P** = RF output power (W)

**d** = Separation distance between radiator and human body (m)

**1.1.3 Result of Maximum Permissible Exposure (2.4G)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
2400-2483.5	b	2412-2462	1-11 [11]	1	19.40
2400-2483.5	g	2412-2462	1-11 [11]	1	17.71
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	17.80
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.					

**1.1.4 Result of Maximum Permissible Exposure (Bluetooth)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
2400-2483.5	v4.0 LE	2402-2480	0-39 [40]	1	-0.06
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.					

**1.1.5 Result of Maximum Permissible Exposure (5.2G)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
5150-5250	a	5180-5240	36-48 [4]	1	19.36
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	17.37
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	17.80
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1	17.41
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1	17.79
5150-5250	ac (VHT80)	5210	48 [1]	1	13.20
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.					

**1.1.6 Result of Maximum Permissible Exposure (5.3G)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
5250-5350	a	5260-5320	52-64 [4]	1	17.62
5250-5350	n (HT20)	5260-5320	52-64 [4]	1	17.50
5250-5350	n (HT40)	5270-5310	54-62 [2]	1	17.83
5250-5350	ac (VHT20)	5260-5320	52-64 [4]	1	17.68
5250-5350	ac (VHT40)	5270-5310	54-62 [2]	1	17.82
5250-5350	ac (VHT80)	5290	58 [1]	1	13.49
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power..					

**1.1.7 Result of Maximum Permissible Exposure (5.6G)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
5470-5725	a	5500-5700	100-140 [8]	1	19.59
5470-5725	n (HT20)	5500-5700	100-140 [8]	1	19.64
5470-5725	n (HT40)	5510-5670	102-134 [3]	1	19.61
5470-5725	ac (VHT20)	5500-5700	100-140 [8]	1	19.88
5470-5725	ac (VHT40)	5510-5670	102-134 [3]	1	19.13
5470-5725	ac (VHT80)	5530	106 [1]	1	13.71
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power..					

**1.1.8 Result of Maximum Permissible Exposure (5.8G)**

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11 Protocol	Ch. Frequency (MHz)	Channel Number	Number of Transmit Chains (N <sub>TX</sub> )	RF Output Power (dBm)
5725-5850	a	5745-5825	149-165 [5]	1	18.49
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	19.14
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	17.31
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1	18.90
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1	18.10
5725-5850	ac (VHT80)	5775	155 [1]	1	12.63
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.					

Worst Maximum RF Output Power Result					
Exposure Environment		General Population / Uncontrolled Exposure			
Separation Distance (cm)		20			
Condition		RF Output Power (dBm)			
Modulation Mode	N <sub>TX</sub>	Power	Ant. (dBi)	EIRP Power	PD (S) (mW/cm <sup>2</sup> )
2.4GHz 11b	1	19.40	2.30	21.70	0.0294
2.4GHz Bluetooth	1	-0.06	2.30	2.24	0.0033
5GHz 11ac (VHT20)	1	19.88	1.50	21.38	0.0273
Maximum Permissible Exposure Limit (mW/cm <sup>2</sup> )					1
Note 1: N <sub>TX</sub> = Number of Transmit Chains					