

Maximum Permissible Exposure

Equipment : WatchGuard® AP
Brand Name : WatchGuard®
Model No. : AP300
FCC ID : Q6G-AP300
Standard : ANSI/IEEE C95.1
Applicant : WatchGuard® Technologies, Inc.
505 Fifth Avenue South, Suite 500 Seattle
Washington 98104 United States
Manufacturer : Senao Networks, Inc.
No. 500 & 528, Fusing 3rd., Hwa-Ya Technical Park,
Kuei-Shan Dist., Taoyuan City, Taiwan, R.O.C.

The product sample received on Oct. 16, 2015 and completely tested on Nov. 12, 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:

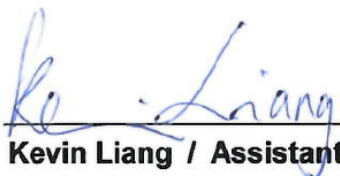

Kevin Liang / Assistant Manager



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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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f ²)*	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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	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 _{TX})	RF Output Power (dBm)
2400-2483.5	b	2412-2462	1-11 [11]	3	24.10
2400-2483.5	g	2412-2462	1-11 [11]	3	22.08
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	3	21.97
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	3	20.47

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

1.1.4 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 _{TX})	RF Output Power (dBm)
5250-5350	a	5260-5320	52-64 [4]	3	18.55
5250-5350	n (HT20)	5260-5320	52-64 [4]	3	18.47
5250-5350	n (HT40)	5270-5310	54-62 [2]	3	21.62
5250-5350	ac (VHT20)	5260-5320	52-64 [4]	3	18.95
5250-5350	ac (VHT40)	5270-5310	54-62 [2]	3	21.73
5250-5350	ac (VHT80)	5290	58 [1]	3	17.03

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power..

1.1.5 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 _{TX})	RF Output Power (dBm)
5470-5725	a	5500-5700	100-140 [8]	3	18.50
5470-5725	n (HT20)	5500-5700	100-140 [8]	3	18.81
5470-5725	n (HT40)	5510-5670	102-134 [3]	3	21.84
5470-5725	ac (VHT20)	5500-5700	100-140 [8]	3	18.85
5470-5725	ac (VHT40)	5510-5670	102-134 [3]	3	21.62
5470-5725	ac (VHT80)	5530	106 [1]	3	23.79

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_{TX}	Chain-Port 1	Chain-Port 2	Chain-Port 3	Sum Chain	DG (dBi)	EIRP Power	PD (S) (mW/cm²)
11b	3	19.42	19.10	19.45	24.10	8.72	32.82	0.31476
ac (VHT80)	3	18.92	18.81	19.31	23.79	4.85	28.63	0.14522
Co-location Total								0.45998
Maximum Permissible Exposure Limit (mW/cm²)								1
Note 1: N _{TX} = Number of Transmit Chains								