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

Table of Contents

Revision History

Report No.	Version	Description	Issued Date
FA582836-01	Rev. 02	Initial issue of report	Dec. 22, 2015

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/ cm²)**	**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/ cm²)**	**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 (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$

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

E = Electric field (V/m)
P = RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)

The formula can be changed to

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

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								