

# RF Exposure Evaluation

Test report  
On Behalf of  
Zhejiang Xunshi Technology Co.,Ltd.  
For  
Pro Wash/Dry

Model List : SRP2003A, SRP2003A-1, SRP2003A-2

FCC ID: 2AUE5-SRP2003A

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## 1 General Description of EUT

Product Name:	Pro Wash/Dry
Model/Type reference:	SRP2003A
Serial Model:	SRP2003A-1, SRP2003A-2
Model difference:	The product has multiple models, but the electrical principles of PCB and circuit in all models are the same, only the name is different, so the test sample is: SRP2003A
Trade Mark	N/A
FCC ID	2AUE5-SRP2003A
Hardware Version:	V1.21
Software Version:	V1.8
Operation frequency	802.11b/g/n20: 2412~2462 MHz
Number of Channels	802.11b/g/n20: 11CH
Modulation Type	CCK/DSSS/OFDM
Antenna type:	Internal Antenna
Antenna gain:	1.8dBi
Power Source	AC 120V/60Hz

## 2 RF Exposure Compliance Requirement

### 2.2 Standard Requirement

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—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> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
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
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
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

F= Frequency in MHz Friis

Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$  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

Find the limit of MPE . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 3 EUT RF Exposure

#### Antenna Gain: 1.8Bi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data				
802.11b mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	12.68	12±1	13	19.953
Middle(2437MHz)	11.52	12±1	13	19.953
Highest(2462MHz)	11.87	12±1	13	19.953

802.11g mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	14.47	14±1	15	31.623
Middle(2437MHz)	14.21	14±1	15	31.623
Highest(2462MHz)	14.67	14±1	15	31.623

802.11n(HT20)mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	14.32	14±1	15	31.623
Middle(2437MHz)	14.09	14±1	15	31.623
Highest(2462MHz)	14.56	14±1	15	31.623

Maximum tune-up Power (mW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
31.623	1.8	0.00952	1	PASS

Remark: The Max Conducted Peak Output Power data refer to report Report No.: HK2010152900-E