

## 7. 1 Test Equipment

Please refer to Section 10 this report.

## 7. 2 Limit

According to FCC 15.247(i), Systems operating under provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commissions guidelines. FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b)(1) of this chapter.

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

\* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

## 7. 3 Test Result

Product	: 5port wifi-N VDSL2/ADSL2+ Gateway	Test Mode	: IEEE 802.11b/g/ Draftn
	W/USB		
Test Item	: RF Exposure	Temperature	: 25 °C
Test Voltage	: DC 12V (Power by DC Power Supply)	Humidity	: 56%RH
Test Result	: <b>PASS</b>		

<b>Evaluation of RF Exposure Compliance Requirements</b>	
<b>MPE Prediction of MPE according to equation from page 19 of OET Bulletin 65, Edition 97-01</b>	
<b>RF Exposure Requirements</b>	<b>Compliance with FCC Rules</b>
S=PG/4πR <sup>2</sup>  Where: S=Power density P=Power input to antenna G=Power gain of the antenna relative to an isotropic radiator R=Distance to the center of radiation of the antenna	Maximum output power at antenna input terminal: 24.26 dBm =266.69 mW (802.11b/g, 2412MHz) 26.07dBm = 404.51 mW (Draft n, 2412MHz,20MHz) 25.61dBm = 364.03 mW (Draft n, 2437MHz,40MHz) Prediction distance: 20 cm Antenna gain : 802.11b/g(5.0 dBi); 802.11n(8.01 dBi) MPE limit for uncontrolled exposure at prediction frequency: 10 W/m <sup>2</sup>  Power density at 20 cm:  802.11b/g: 0.1678 mW/cm <sup>2</sup> Draft n(20MHz) : 0.5090 mW/cm <sup>2</sup> Draft n(40MHz) : 0.4579 mW/cm <sup>2</sup>