

## FCC 47 CFR PART 15 SUBPART B

# **TEST REPORT**

For

## WLAN Controller

Model: WHG301

**Trade Name: 4IPNET** 

Issued for

## 4IPNET, INC. 38129 Cambridge Court, Fremont, California 94536, USA

Issued by



Compliance Certification Services Inc. No. 81-1, Lane 210, Pa-De 2nd Rd., Luchu Hsiang, Taoyuan Shien, (338) Taiwan, R.O.C. TEL: 886-3-324-0332 FAX: 886-3-324-5235



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# **1 TEST RESULT CERTIFICATION**

Applicant:	<b>4IPNET, INC.</b> 38129 Cambridge Court, Fremont, California 94536, USA
Manufacturer:	<b>4IPNET, INC.</b> 38129 Cambridge Court, Fremont, California 94536, USA
Equipment Under Test:	WLAN Controller
Trade Name:	4IPNET
Model:	WHG301
Detailed EUT Description:	See Item 2 of this report
Date of Test:	December 25 ~ 26, 2006

Applicable Standard	Class / Limit	Test Result			
FCC Part 15 Subpart B, IC ICES-003	Class B	No non-compliance noted			
Deviation from Applicable Standard					
None					

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart B and the measurement procedures were according to ANSI C63.4. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

Approved by:

Miller Lee Deputy Manager of Linkou Laboratory Compliance Certification Services Inc.

Reviewed by:

de Dei

Julia Wei Senior Specialist of Linkou Laboratory Compliance Certification Services Inc.



# **2** EUT DESCRIPTION

Product	WLAN Controller			
Trade Name	4IPNET			
Model	WHG301			
Housing Type	Metal Case			
EUT Power Rating	VDC from Pov	wer Adapte	er	
Power Adapter Manufacturer	SPEC LIN	Model	SW12	01500-W01
Power Adapter Power Rating	I/P: 100-240VAC, 50-60Hz, 0.5A O/P: 12VDC, 1.5A			
DC Power Cable Type	Unshielded, 1.8m (Non-detachable) with a core			
CPU Manufacturer	Intel	Model	el IXP425	
Memory Capacity	Flash 32MB, SDRAM 128MB			
Main Board Manufacturer	LanReady Model APM3000/APM1000		000/APM1000	
Console Cable Type	Unshielded, 1.8m (Detachable) with a core			
I/O PORT OF EUT				
I/O PORT TYPE	Q	ΥΥ		<b>TESTED WITH</b>
1). LAN Port	8			8
2). WAN Port	2			2
3). Console Port	1			1



## **3 TEST METHODOLOGY**

### **3.1 EUT SYSTEM OPERATION**

- 1. EUT was connected between PC systems at local side and Notebook PC on remote side.
- 2. The LAN communication software was loaded and executed on PC systems and Notebook PC.
- 3. Data transmit between PC systems and Notebook PC via UTP cable.
- 4. Repeat item 3.

*Note: Test program is self-repeating throughout the test.* 

### **3.2 DECISION OF FINAL TEST MODE**

1. The following test mode was scanned during the preliminary test:

#### Mode 1

Data transmit

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Mode 1

Then, the EUT configuration and cable configuration of the above highest emission mode was chosen for all final test items.



## **4** SETUP OF EQUIPMENT UNDER TEST

#### <u>Setup Diagram</u>

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

#### Support Equipment

-							
No.	Equipment	Model No.	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
1	РС	Dimemsion 4600	3Q14B1S	FCC DoC	DELL	LAN Cable: Unshielded, 1.8m Signal Cable: Unshielded, 1.8m	Unshielded, 1.8m
2	Monitor	959NF	AQ19H2RT706121B	FCC DoC	SAMSUNG	Shielded, 1.8m with two cores	Unshielded, 1.8m
3	Printer	STYLUS C60	DR3K041737	FCC DoC	EPSON	Shielded, 1.8m	Unshielded, 1.8m
4	PS/2 Keyboard	Y-SP29	SYU30272826	FCC DoC	Logitech	Unshielded, 1.8m	N/A
5	PS/2 Mouse	M-SBF69	HCA45009243	FCC DoC	Logitech	Unshielded, 1.8m	N/A
6	Notebook PC (Remote)	COMPAQ NC 4010	CNU441F8LV	FCC DOC	HP	WAN Cable: Unshielded 10m	N/A

*Grounding:* Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

# **5** FACILITIES AND ACCREDITATIONS

## **5.1 FACILITIES**

All measurement facilities used to collect the measurement data are located at CCS Taiwan Linkou Lab at No. 81-1, Lane 210, Pa-De 2nd Rd., Luchu Hsiang, Taoyuan Shien, Taiwan.

The measurement facilities are constructed in conformance with the requirements of CISPR 16-1, ANSI C63.4 and other equivalent standards.



### 5.2 LABORATORY ACCREDITATIONS AND LISTINGS

The test facilities used to perform Electromagnetic compatibility tests are registered or accredited by the organizations listed in the following table which includes the recognized scope specifically. This accredited organization maintains A2LA accreditation to ISO/IEC 17025 for the specific test listed in A2LA Certificate # 0824-01.

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	EN 55011, EN 55014-1/2, CISPR 11, CISPR 14-1/2, EN 55022, EN 55015, CISPR 22, CISPR 15, AS/NZS 3548, VCCI V3 (2001), CFR 47, FCC Part 15/18, CNS 13783-1, CNS 13439, CNS 13438, CNS 13803, CNS 14115, EN 55024, IEC 801-2, IEC 801-3, IEC 801-4, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 50081-1/EN 61000-6-3, EN 50081-2/EN 61000-6-4, EN 50081-2/EN 61000-6-1: 2001	ACCREDITED No. 0824-01
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	<b>FC</b> 93105, 90471
Japan	VCCI	3/10 meter Open Area Test Sites and conducted test sites to perform radiated/conducted measurements	<b>VCCI</b> R-2541/2316/725/1868 C-402/747/912
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328-2, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2	ELA 124a ELA 124b ELA 124c
Taiwan	TAF	EN 300 328-1, EN 300 328-2, EN 300 220-1, EN 300 220-2, EN 300 220-3, 47 CFR FCC Part 15 Subpart C, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 14115, CNS 13438, AS/NZS CISPR 22, CNS 13022-1, IEC 61000-4-2/3/4/5/6/8/11, CNS 13022-2/3	Testing Laboratory 0363
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	SL2-IS-E-0014 / IN-E-0014 /A1-E-0014 /R1-E-0014 /R2-E-0014 /L1-E-0014
Canada	Industry Canada	RSS212, Issue 1	<b>Canada</b> IC 2324C-3 IC 2324C-5

*Note:* No part of this report may be used to claim or imply product endorsement by A2LA, TAF or other government agency.



# **6** INSTRUMENT AND CALIBRATION

### 6.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

## 6.2 TEST AND MEASUREMENT EQUIPMENT

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and other required standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective manual.

Conducted Emission Test Site # 3							
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due			
EMI Test Receiver	R&S	ESCS30	847793/012	02/12/2007			
Pulse Limiter	R&S	ESH3-Z2	100230	10/24/2007			
LISN	FCC	FCC-LISN-50/250-16-2-07	06013	10/08/2007			
LISN	R&S	ENV 4200	830326/016	03/28/2007			
Test S/W LabVIEW 6.1 (CCS Conduction Test SW Version 01)							

#### **Equipment Used for Emission Measurement**

*Note:* The measurement uncertainty is less than +/- 3.4509dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.



Open Area Test Site # 1						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due		
Spectrum Analyzer	ADVANTEST	R3261C	81720301	N.C.R		
EMI Test Receiver	R&S	ESVS20	838804/004	01/18/2007		
Pre-Amplifier	HP	8447D	2944A09173	03/22/2007		
Bilog Antenna	Sunol Sciences	JB1	A111203	03/24/2007		
Turn Table	EMCO	2081-1.21	N/A	N.C.R		
Antenna Tower	EMCO	2075-2	9707-2604	N.C.R		
Controller	EMCO	2090	N/A	N.C.R		
RF Switch	Anritsu	MP59B	M54367	N.C.R		
Site NSA	CCS	N/A	N/A	08/18/2007		
DECOUPLING NETWORK	FCC	F-201-DCN-1-18MM	12	03/19/2007		
Test S/W LabVIEW 6.1 (CCS OATS EMI SW V2.6)						

*Note:* The measurement uncertainty is less than +/- 4.5272dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

3 meter Chamber						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due		
Spectrum Analyzer	ADVANTEST	R3271A	85060321	10/23/2007		
Pre-Amplifier	HP	8449B	3008A00965	11/16/2007		
Horn Antenna	EMCO	3115	9602-4659	04/16/2007		
Turn Table	HD	HD320	N/A	N.C.R		
Antenna Tower	HD	MA 240	N/A	N.C.R		
Controller	HD	HD 100	N/A	N.C.R		



# 7 LINE CONDUCTED & RADIATED EMISSION TEST

### **7.1 LIMIT**

#### Maximum permissible level of Line Conducted Emission

Frequency	Class A	(dBuV)	Class B (dBuV)	
(MHZ)	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

*Note: The lower limit shall apply at the transition frequency.* 

#### Maximum permissible level of Radiated Emission measured at 10 meter

Frequency	Class A (dBuV/m)	Class B (dBuV/m)	
(MHZ)	Quasi-peak	Quasi-peak	
30 - 230	40	30	
230 - 1000	47	37	

*Note: The lower limit shall apply at the transition frequency.* 

#### Maximum permissible level of Radiated Emission measured at 3 meter

Frequency	Class A (	dBuV/m)	Class B (dBuV/m)	
(MHZ)	Average	Peak	Average	Peak
Above 960	59.5	79.5	54	74

*Note: The lower limit shall apply at the transition frequency.* 



## 7.2 TEST PROCEDURE OF LINE CONDUCTED EMISSION

#### **Procedure of Preliminary Test**

- The EUT was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test equipment EUT installed received AC power, 120VAC/60Hz, through a Line Impedance Stabilization Network (LISN), which supplied power source and was grounded to the ground plane.
- All support equipment received power from a second LISN.
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a EMI Test Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to the Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Receiver.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.2 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.2 producing the highest emission level.
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.



### Procedure of Final Test

- EUT and support equipment were set up on the test bench as per step 10 of the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the AV. limit in Q.P. mode, then the emission signal was re-checked using an AV. detector.
- The test data of the worst-case condition(s) was recorded.

#### **Data Sample:**

Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correctrion factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak. limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
X.XX	43.95	33	10.0	53.95	43	56.00	46.00	-2.05	-3	Pass

Frequency (MHz)= Emission frequency in MHzReading (dBuV)= Uncorrected Analyzer/Receiver reading + Insertion loss of LISN, if it > 0.5 dBCorrection Factor (dB)= Antenna factor + Cable loss - Amplifier gainResult (dBuV)= Raw reading converted to dBuV and CF addedLimit (dBuV)= Limit stated in standardMargin (dB)= Result (dBuV) - Limit (dBuV)



## 7.3 TEST PROCEDURE OF RADIATED EMISSION

#### **Procedure of Preliminary Test**

- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC power source, 120VAC/60Hz, from the outlet socket under the turntable. All support equipment received power from another socket under the turntable.
- The antenna was placed at 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 40GHz maximum, if any. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 3.2 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in Item 3.2 producing the highest emission level.
- The worst configuration of EUT and cable, antenna position, polarization and turntable position of the above highest emission level were recorded for the final test.



### **Procedure of Final Test**

- EUT and support equipment were set up on the turntable as per step 8 of the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 40GHz maximum, if any. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Q.P. reading is presented.
- The test data of the worst case condition(s) was recorded.

#### **Data Sample:**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
XX.XX	16.49	9.86	26.35	30.00	-3.65	116.00	101.00	QP

Frequency (MHz)	= Emission frequency in MHz
Reading (dBuV)	= Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m)	= Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m)	= Reading $(dBuV)$ + Corr. Factor $(dB/m)$
Limit (dBuV/m)	= Limit stated in standard
Margin (dB)	= Result (dBuV/m) – Limit (dBuV/m)
Q.P.	= Quasi-Peak



## 7.4 TEST RESULTS

### **Line Conducted Emission**



### **Linkou Conduction 4**

NO.	Frequency	Quasi Peak reading	Average reading	Correction factor	Quasi Peak result	Average result	Quasi Peak limit	Average limit	Quasi Peak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	(Pass/Fail)
1	0.17	47.45	36.32	0.20	47.65	36.52	64.96	54.96	-17.31	-18.44	Pass
2	0.68	37.85	25.01	0.10	37.95	25.11	56.00	46.00	-18.05	-20.89	Pass
3	1.20	36.83	23.14	0.12	36.95	23.26	56.00	46.00	-19.05	-22.74	Pass
4	2.33	35.85	19.07	0.22	36.07	19.29	56.00	46.00	-19.93	-26.71	Pass
5	5.63	41.55	40.52	0.45	42.00	40.97	60.00	50.00	-18.00	-9.03	Pass
6	9.09	38.79	21.75	0.78	39.57	22.53	60.00	50.00	-20.43	-27.47	Pass

L1 = Line One (Live Line)



## **Linkou Conduction 4**

Job No.:	80212002	Line:	L2
Standard:	CISPR 22 Class B		
Test Item:	Conduction Emission	Date:	2006/12/26
Temp.(°C)/Hum.(%RH):	21°C/56%RH	Time:	PM 05:35
Company:	4IPNET	Tested By:	Arno Hsieh
Model:	WHG301	Test Mode:	Mode 1



NO.	Frequency	Quasi Peak reading	Average reading	Correction factor	Quasi Peak result	Average result	Quasi Peak limit	Average limit	Quasi Peak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	(Pass/Fail)
1	0.17	47.90	38.46	0.20	48.10	38.66	64.96	54.96	-16.86	-16.30	Pass
2	0.69	38.66	28.90	0.10	38.76	29.00	56.00	46.00	-17.24	-17.00	Pass
3	1.21	37.86	24.46	0.12	37.98	24.58	56.00	46.00	-18.02	-21.42	Pass
4	2.08	36.88	16.91	0.20	37.08	17.11	56.00	46.00	-18.92	-28.89	Pass
5	2.33	36.95	18.71	0.20	37.15	18.91	56.00	46.00	-18.85	-27.09	Pass
6	4.69	36.60	18.06	0.29	36.89	18.35	56.00	46.00	-19.11	-27.65	Pass

L2 = Line Two (Neutral Line)



### **Radiated Emission (A)**

			CCS I	Radiated	l Test O	ATS 1				
Job N	0.:	8	0212002		Ant. Po	lar.:	Ver.			
Standa	ard:	C	SPR 22 Cla	ss B	B Tested Distance:			10m		
Test It	Test Item: Radiated Emiss			ssion	Date:		2000	2006/12/25		
Temp.	Temp.(°C)/Hum.(%RH): 26°C/55%RH				Time:		PM			
Comp	any:	4	IPNET		Tested I	By:	Arne			
Mode	:	v	VHG301	Test Mode:			Mode 1			
dBi	ıV/m		10m	EN 5502	2 Class B	Vertical				
70	).0 - <sub>[</sub>		10			, (ithour				
60	).0 -									
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20	).0			1 	1	<u> </u>				
10	).0 -									
(	).0-	I								
	30	50		100 Fi	200 requency(MHz)	300 )	400 50	10 600 700 (	300 1000	
No.	Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark	
1	133.00	7.70	9.91	17.61	30.00	-12.39	0.00	100.00	QP	
2	150.00	18.36	9.64	28.00	30.00	-2.00	0.00	100.00	QP	
3	225.00	14.30	13.27	27.57	30.00	-2.43	0.00	100.00	QP	
4	250.00	15.40	14.32	29.72	37.00	-7.28	0.00	100.00	QP	
5	392.00	7.00	17.99	24.99	37.00	-12.01	0.00	100.00	QP	
6	500.00	8.90	20.10	29.00	37.00	-8.00	0.00	100.00	QP	



### **Radiated Emission (B)**

	CCS Radiated Test OATS 1									
Job N	0.:	8	0212002		Ant. Pola	ar.:	Hor.			
Standa	ard:	С	ISPR 22 Cla	ss B	<b>Tested Distance:</b>			10m		
Test It	em:	R	adiated Emis	ssion	Date:		2006/12/25			
Temp.	<b>Temp.(°C)/Hum.(%RH):</b> 26°C/55%RH				Time:		PM	PM 04:03		
Comp	any:	4	IPNET		Tested By:			Arno Hsieh		
Mode	:	W	/HG301		Test Mod	le:	Mod	le 1		
dBu	ıV/m		10m	EN 5502	2 Class B	Horizont	al			
70	).0 - [									
60	).0 -									
50	).0 -									
9 40	).0 -				0 2 5		6			
dfu 3(	).0 -			1	× × 1			ζ		
20	).0 -			Ť	T X					
10	).0 -									
(	30 30	50		100 Fi	200 requency(MHz)	300	400 50	0 600 700 8	300 1000	
			Correction							
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark	
1	133.00	8.10	9.91	18.01	30.00	-11.99	0.00	100.00	QP	
2	150.00	16.00	9.64	25.64	30.00	-4.36	0.00	100.00	QP	
3	168.00	15.60	10.49	26.09	30.00	-3.91	0.00	100.00	QP	
4	188.00	10.20	11.62	21.82	30.00	-8.18	0.00	100.00	QP	
5	216.00	15.00	12.92	27.92	30.00	-2.08	0.00	100.00	QP	
6	500.00	13.00	20.10	33.10	37.00	-3.90	0.00	100.00	QP	



#### Radiated Emission – Above 1GHz (A)

Model: WHG301	Test Mode: Mode 1
<b>Temperature:</b> 26°C	Humidity: 55% RH
<b>Detector Function:</b> Pk/ A.V.	Antenna: Vertical at 3m
Tested by: Abol Tsai	Test Results: Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Reading (dBuV)	Corr. Factor (dB/m)	Emiss. Level (Pk) (dBuV/m)	Limit 3m (Pk) (dBuV/m)	Margin (dB)
1580.00	47.25	-9.81	37.44	74.00	-36.56
1928.57	44.75	-7.86	36.89	74.00	-37.11
2022.86	46.00	-7.42	38.58	74.00	-35.42
2074.29	46.00	-7.34	38.66	74.00	-35.34
2257.14	45.25	-7.08	38.17	74.00	-35.83
2737.14	45.50	-5.75	39.75	74.00	-34.25

*Note:* In case of peak reading complied with the limit at least 22dB margin, no measurement with A.V. detector required.



#### Radiated Emission – Above 1GHz (B)

Model: WHG301	Test Mode: Mode 1
Temperature: 26°C	Humidity: 55% RH
<b>Detector Function:</b> Pk/ A.V.	Antenna: Horizontal at 3m
Tested by: Abol Tsai	Test Results: Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Reading (dBuV)	Corr. Factor (dB/m)	Emiss. Level (Pk) (dBuV/m)	Limit 3m (Pk) (dBuV/m)	Margin (dB)
1045.71	49.25	-12.53	36.72	74.00	-37.28
1060.00	48.75	-12.45	36.30	74.00	-37.70
1591.43	46.25	-9.77	36.48	74.00	-37.52
1788.57	45.50	-8.65	36.85	74.00	-37.15
2060.00	45.00	-7.36	37.64	74.00	-36.36
2345.71	45.50	-6.96	38.54	74.00	-35.46

*Note:* In case of peak reading complied with the limit at least 22dB margin, no measurement with A.V. detector required.