



Test Report

Product Name : WIRELESS-G 28DBM NETWORK MINI PCI
ADAPTER WITH ESD

Model No. : IWAVEPORT WLM54GP28ESD

FCC ID : TK4-WLM54GP28ESD

Applicant : Compex Systems Pte Ltd

Address : 135 Joo Seng Road, #08-01 PM Industrial Building
Singapore 368363

Date of Receipt : 2009/01/07

Issued Date : 2009/01/14

Report No. : 091S046R-RF-US-P05V01

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

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Manufacturer : Compex Systems Pte Ltd

Address : 135 Joo Seng Road, #08-01 PM Industrial Building
Singapore 368363

Model No. : IWAVEPORT WLM54GP28ESD

FCC ID : TK4-WLM54GP28ESD


EUT Voltage : DC 3.3V

Trade Name : COMPEX


Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2007
ANSI C63.4: 2003

Test Result : Complied


Performed Location : SuZhou EMC laboratory
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Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
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1. General Information

1.1. EUT Description

Product Name	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Trade Name	COMPEX
Model No.	IWAVEPORT WLM54GP28ESD
FCC ID	TK4-WLM54GP28ESD
Working Voltage	DC 3.3V
Frequency Range	For 2.4GHz Band 802.11b/g: 2412 - 2462 MHz
Channel Number	For 2.4GHz Band 802.11b/g: 11
Type of Modulation	802.11b: DSSS 802.11g: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps
Channel Control	Auto
Antenna Type	Omni Antenna
Antenna Gain	Refer to the "Antenna List"

For 2.4GHz Band

802.11b/g Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A

802.11b/g Antenna List

Antenna	Manufacturer	Model No.	Peak Gain
Combined Antenna	Exceltek Electronics (Kunshan) Co.,Ltd	C0053-ANG0004	2.0 dBi

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g

Note:

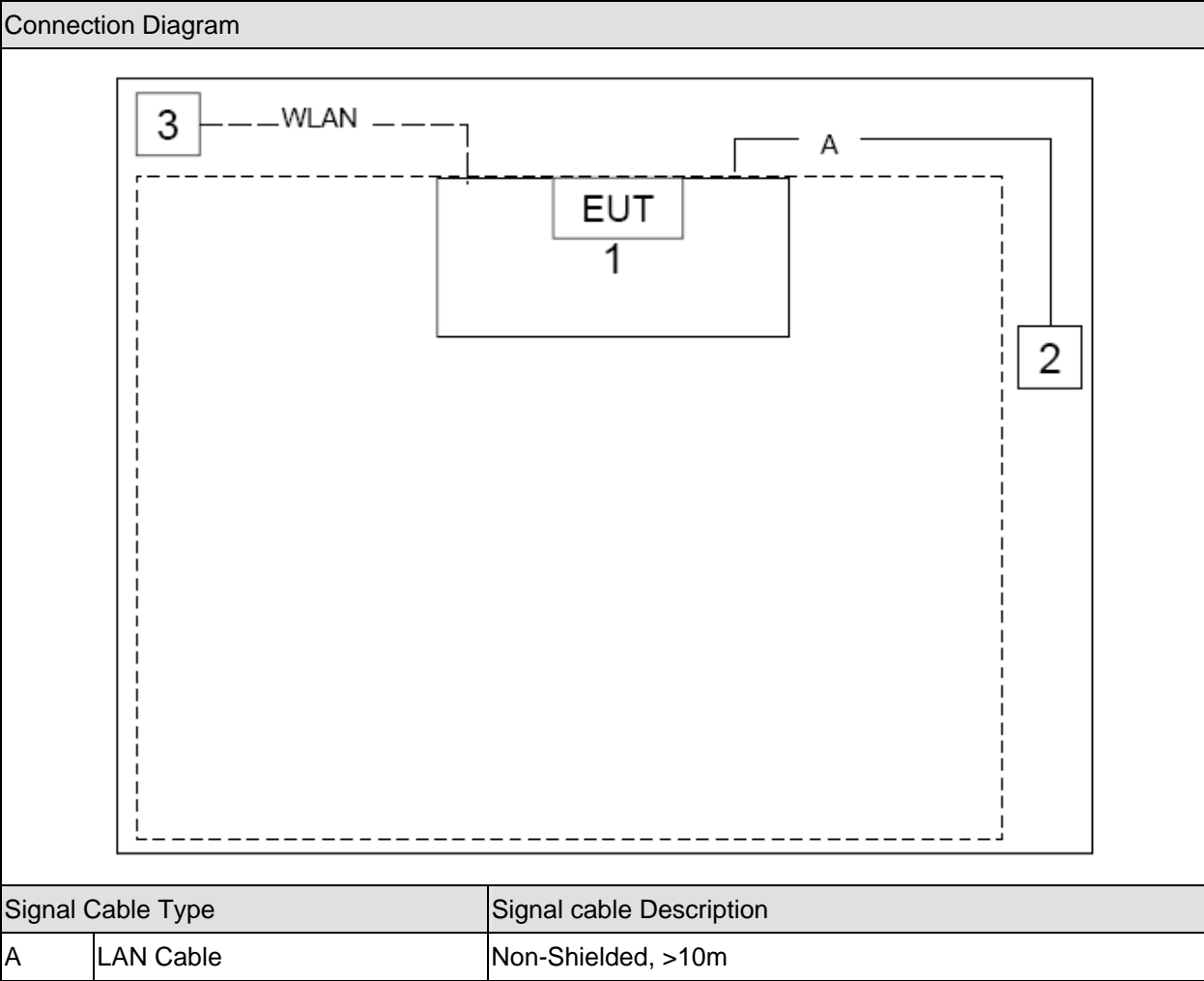
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Router Print	Compex	N/A	N/A	N/A
2 Notebook	DELL	N/A	N/A	N/A
3 MacBook	Apple	N/A	N/A	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Execute the "brinks" software, then select test mode and test channel, press OK to transmit data with another Notebook P.C. by wireless.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.209	Yes	No
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2007 15.247(d)	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2007 15.215(c)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(2)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(b)(3)	Yes	No
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(e)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

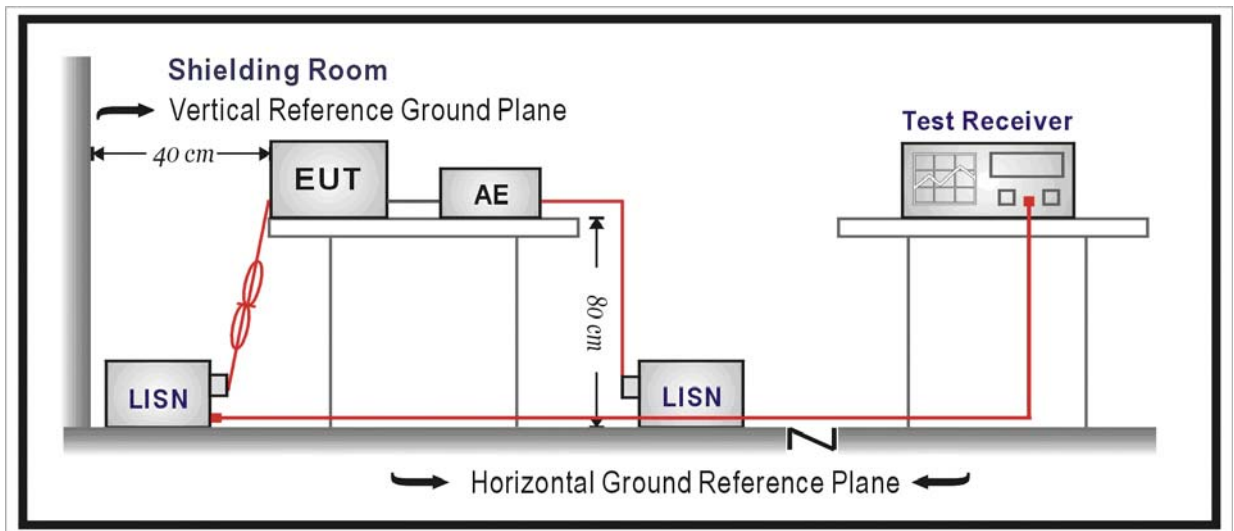
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2008/06/28
Two-Line V-Network	R&S	ENV216	100013	2008/06/28
Two-Line V-Network	R&S	ENV216	100014	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2008/11/24
50ohm Termination	SHX	TF2	07081401	2008/09/28
Coaxial Cable	Luthi	RG214	519358	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2008/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

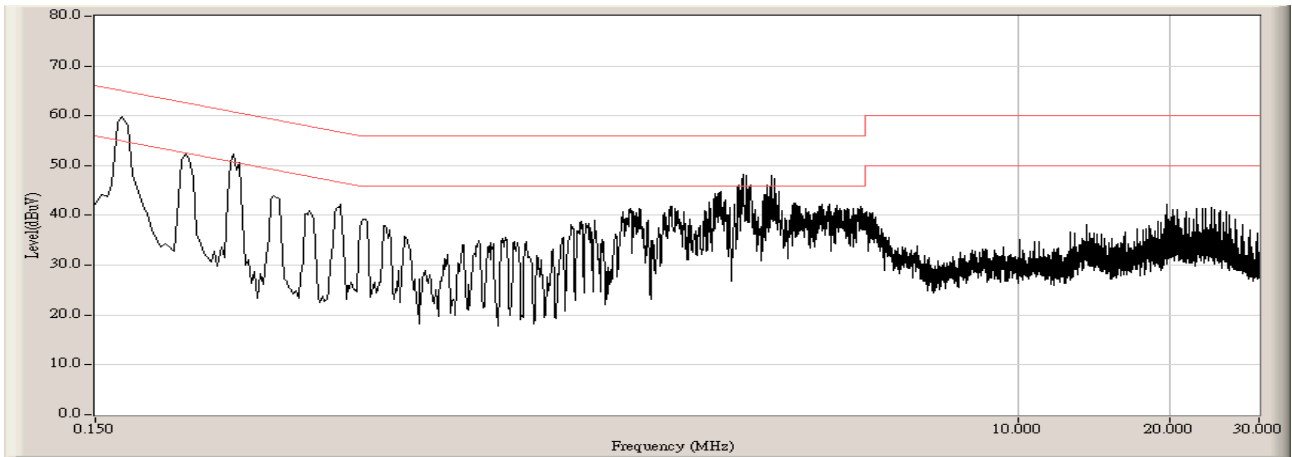
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

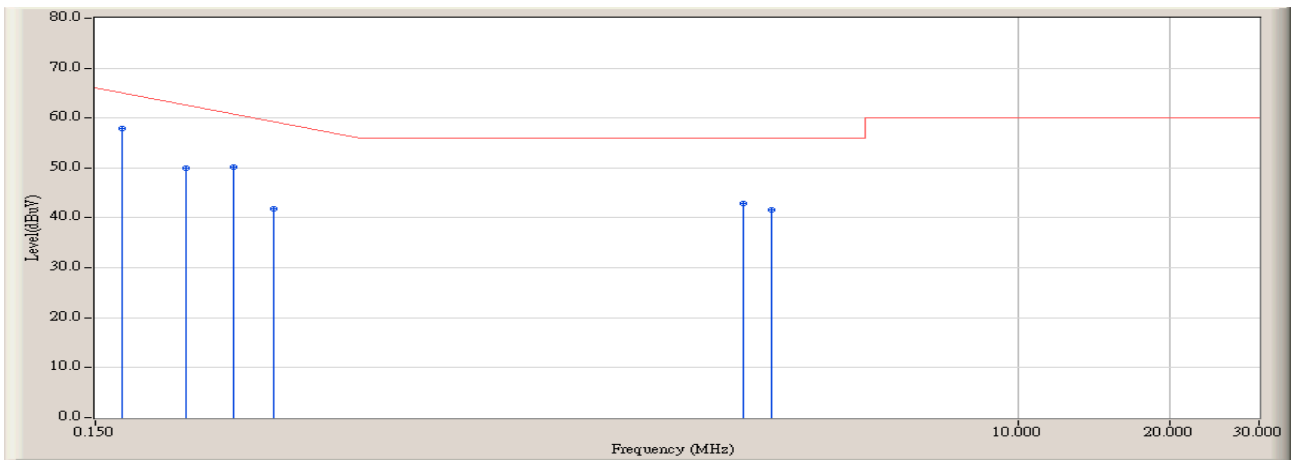
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:11
Limit : FCC_Part15.209_00M_QP	Margin : 10
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b



Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:13
Limit : FCC_Part15.209_00M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b

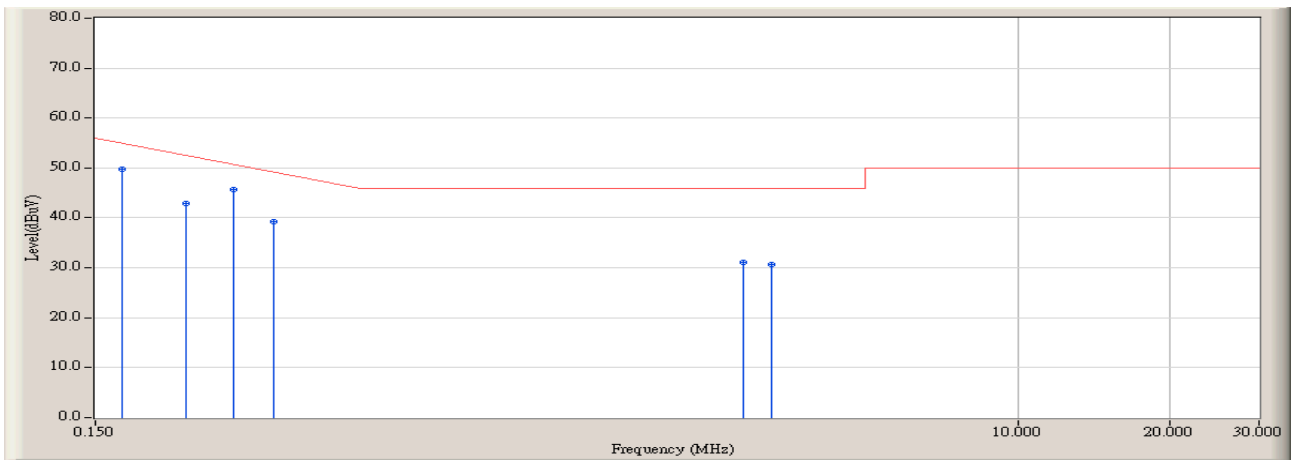


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.170	10.006	47.900	57.906	-7.523	65.429	QUASIPeAK
2		0.226	9.445	40.500	49.945	-13.884	63.829	QUASIPeAK
3		0.282	9.486	40.800	50.286	-11.943	62.229	QUASIPeAK
4		0.338	9.529	32.200	41.729	-18.900	60.629	QUASIPeAK
5		2.862	9.740	33.200	42.940	-13.060	56.000	QUASIPeAK
6		3.258	9.770	31.800	41.570	-14.430	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:13
Limit : FCC_Part15.209_00M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b

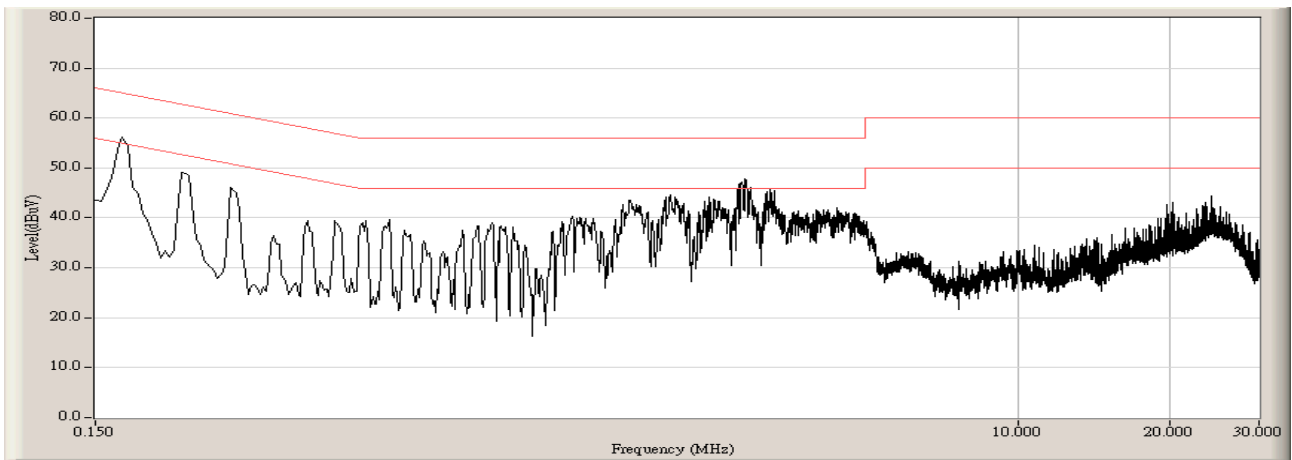


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.170	10.006	39.800	49.806	-5.623	55.429	AVERAGE
2		0.226	9.445	33.500	42.945	-10.884	53.829	AVERAGE
3		0.282	9.486	36.300	45.786	-6.443	52.229	AVERAGE
4		0.338	9.529	29.700	39.229	-11.400	50.629	AVERAGE
5		2.862	9.740	21.300	31.040	-14.960	46.000	AVERAGE
6		3.258	9.770	20.900	30.670	-15.330	46.000	AVERAGE

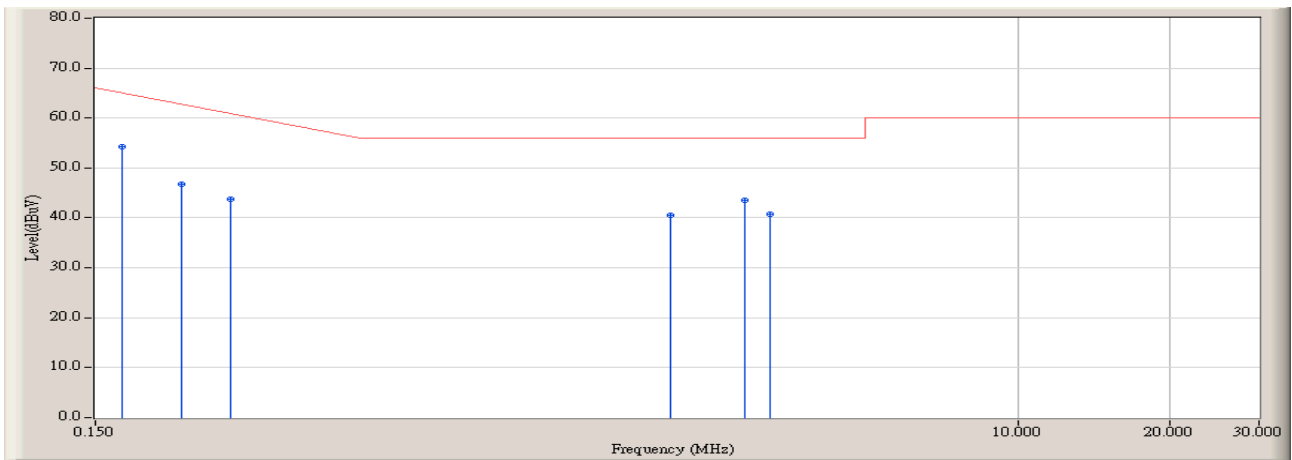
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:14
Limit : FCC_Part15.209_00M_QP	Margin : 10
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b



Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:16
Limit : FCC_Part15.209_00M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b

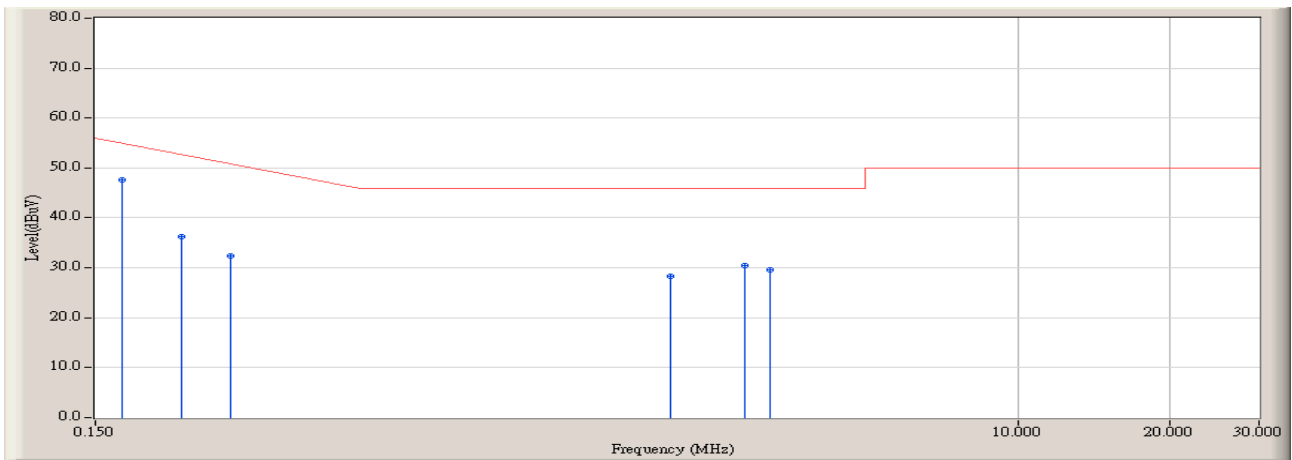


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.170	9.908	44.400	54.308	-11.121	65.429	QUASIPeAK
2		0.222	9.580	37.200	46.780	-17.163	63.943	QUASIPeAK
3		0.278	9.593	34.200	43.793	-18.550	62.343	QUASIPeAK
4		2.062	9.660	30.900	40.560	-15.440	56.000	QUASIPeAK
5		2.894	9.680	33.800	43.480	-12.520	56.000	QUASIPeAK
6		3.246	9.690	31.000	40.690	-15.310	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2009/01/09 - 11:16
Limit : FCC_Part15.209_00M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.170	9.908	37.800	47.708	-7.721	55.429	AVERAGE
2		0.222	9.580	26.600	36.180	-17.763	53.943	AVERAGE
3		0.278	9.593	22.800	32.393	-19.950	52.343	AVERAGE
4		2.062	9.660	18.600	28.260	-17.740	46.000	AVERAGE
5		2.894	9.680	20.700	30.380	-15.620	46.000	AVERAGE
6		3.246	9.690	20.000	29.690	-16.310	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/06/28
EMI Test Receiver	R&S	ESCI	100573	2008/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2008/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2008/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2008/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2008/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2008/03/31

Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2008/04/24
EMI Test Receiver	R&S	ESCI	100176	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112D	22254	2008/11/21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2008/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2008/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2008/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2008/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	05	2008/11/24

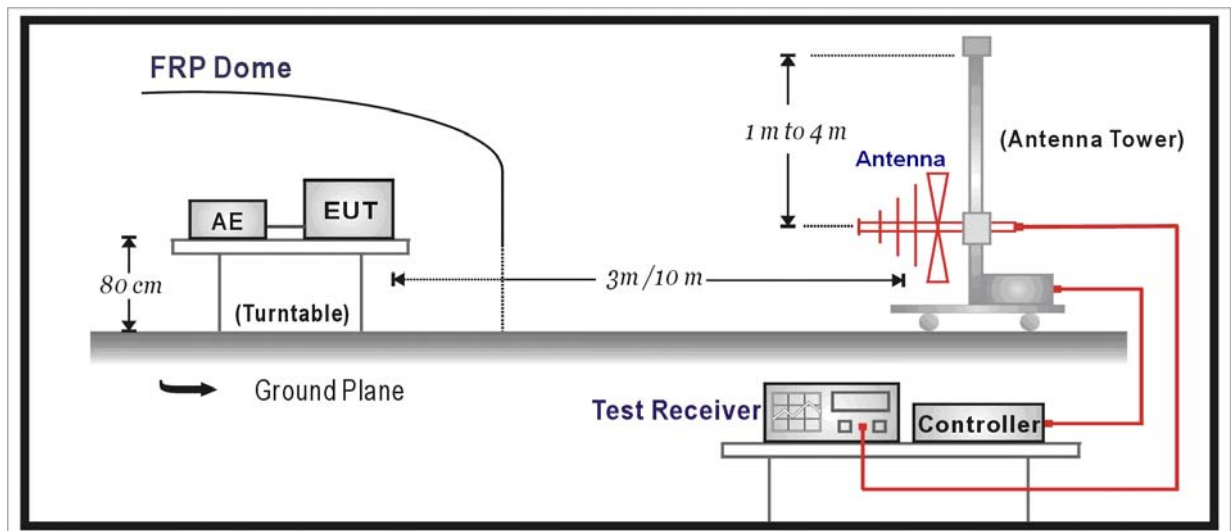
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2008/03/31
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Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

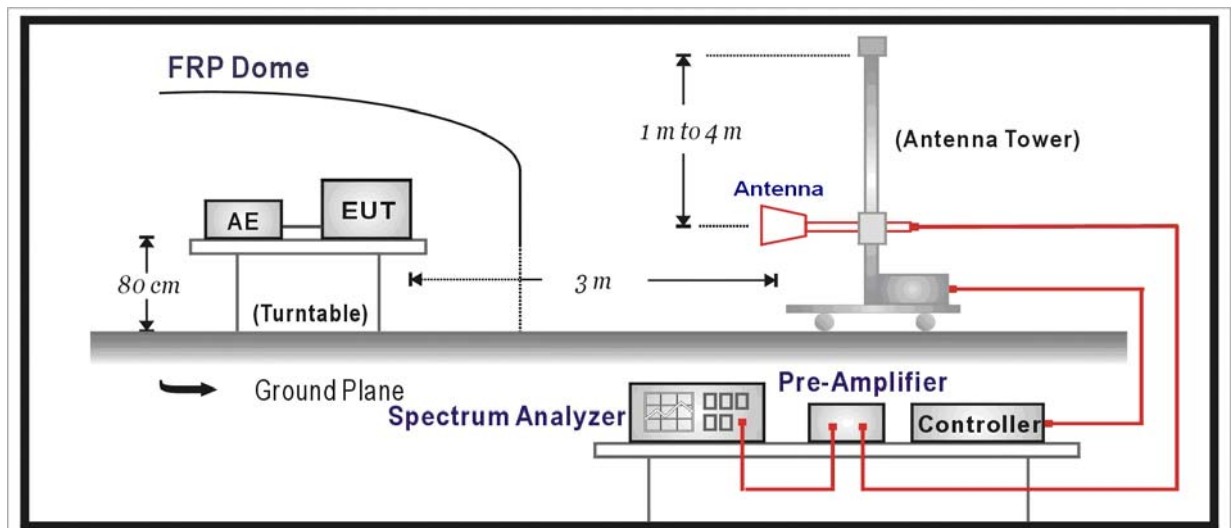
Note 2: The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

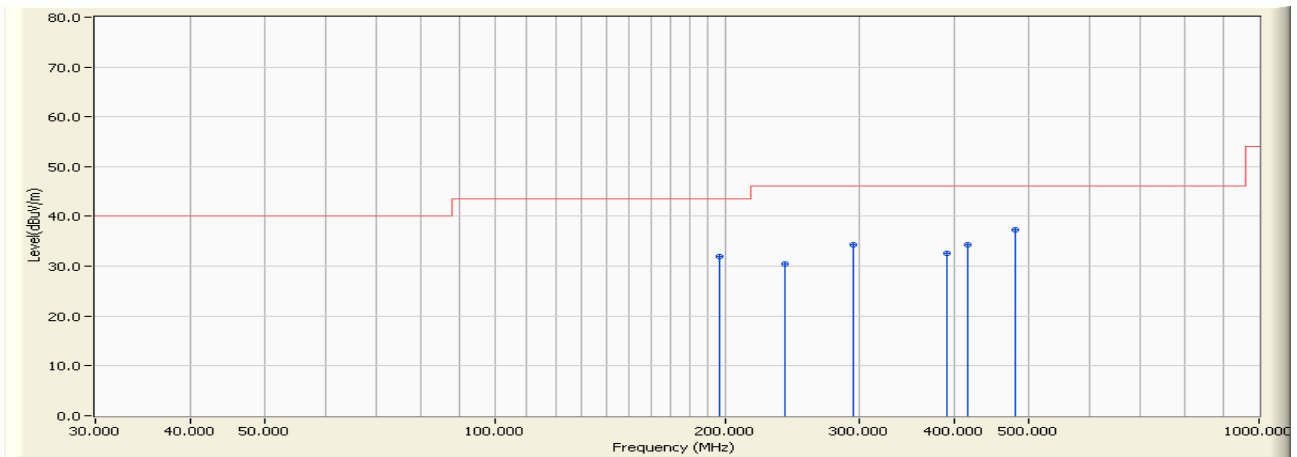
Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keep the antenna in the “cone of radiation” of EUT. The 3dB beamwidth for this horn antenna is 60 degrees for H-plane and 90 degrees for E-plane.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
 below 1G is defined as ± 3.8 dB

4.6. Test Result

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:40
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2412MHz

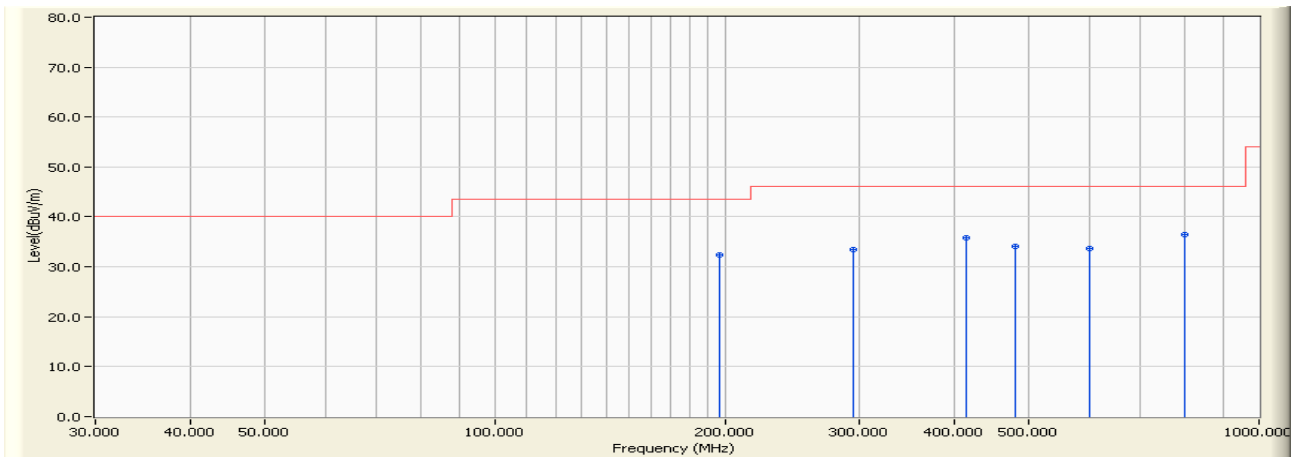


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	44.605	31.955	-11.565	43.520	QUASIPeAK	120.000	28.000
2	239.500	-10.652	41.148	30.496	-15.524	46.020	QUASIPeAK	140.000	20.000
3	294.800	-8.561	42.954	34.393	-11.627	46.020	QUASIPeAK	162.000	262.000
4	389.800	-5.646	38.228	32.582	-13.438	46.020	QUASIPeAK	124.000	164.000
5	416.000	-4.401	38.815	34.414	-11.606	46.020	QUASIPeAK	147.000	188.000
6	* 480.000	-3.411	40.757	37.346	-8.674	46.020	QUASIPeAK	150.000	206.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:40
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2412MHz

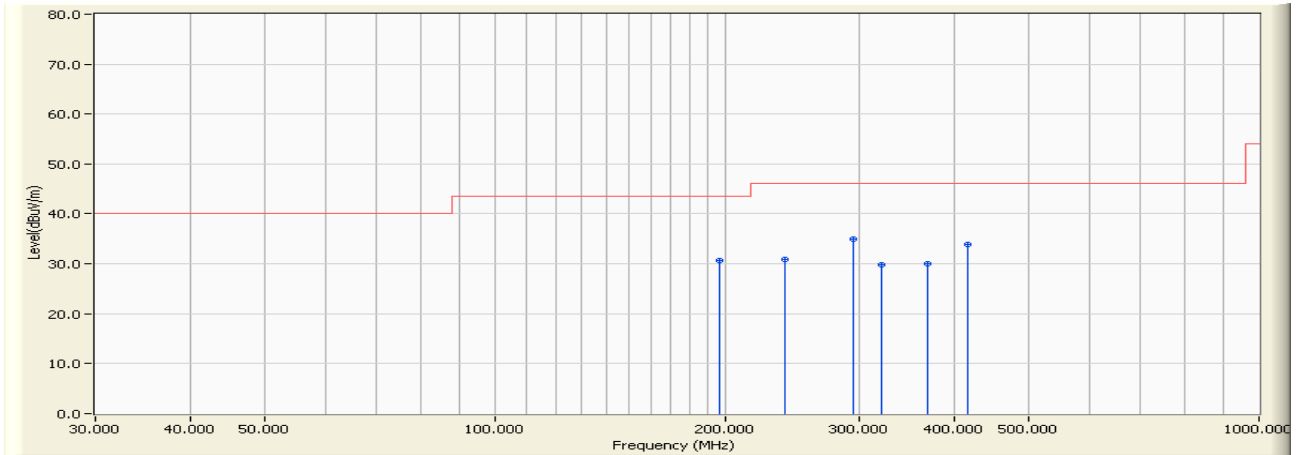


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	45.105	32.455	-11.065	43.520	QUASIPeAK	100.000	12.000
2	294.800	-8.561	41.977	33.416	-12.604	46.020	QUASIPeAK	104.000	42.000
3	414.100	-4.470	40.312	35.842	-10.178	46.020	QUASIPeAK	110.000	264.000
4	480.000	-3.411	37.594	34.183	-11.837	46.020	QUASIPeAK	100.000	128.000
5	600.300	-1.729	35.384	33.655	-12.365	46.020	QUASIPeAK	106.000	328.000
6	* 798.200	0.070	36.297	36.367	-9.653	46.020	QUASIPeAK	112.000	86.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2437MHz

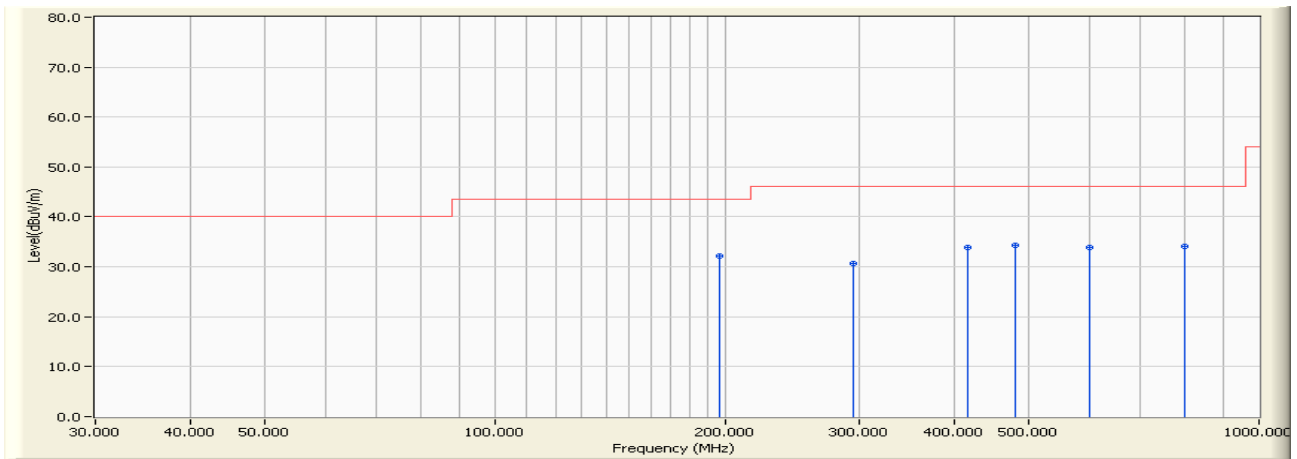


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	43.379	30.729	-12.791	43.520	QUASIPeAK	124.000	26.000
2	239.500	-10.652	41.604	30.952	-15.068	46.020	QUASIPeAK	144.000	22.000
3	* 294.800	-8.561	43.426	34.865	-11.155	46.020	QUASIPeAK	160.000	260.000
4	321.000	-7.561	37.421	29.860	-16.160	46.020	QUASIPeAK	125.000	164.000
5	367.500	-6.269	36.386	30.117	-15.903	46.020	QUASIPeAK	146.000	189.000
6	416.000	-4.401	38.377	33.976	-12.044	46.020	QUASIPeAK	150.000	204.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2437MHz

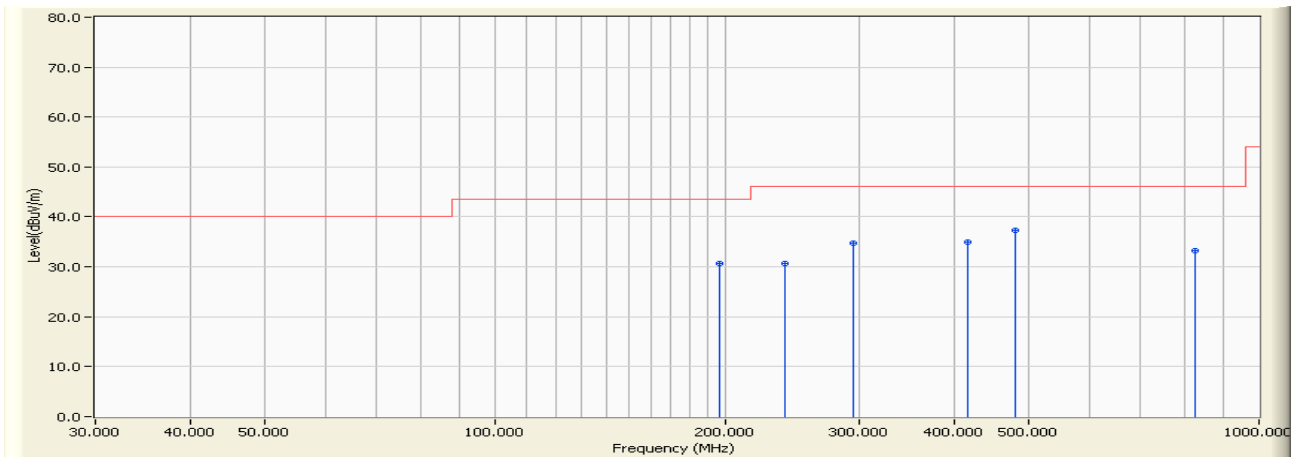


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	196.800	-12.650	44.912	32.262	-11.258	43.520	QUASIPeAK	100.000	12.000
2		294.800	-8.561	39.133	30.572	-15.448	46.020	QUASIPeAK	102.000	40.000
3		416.000	-4.401	38.250	33.849	-12.171	46.020	QUASIPeAK	112.000	260.000
4		480.000	-3.411	37.762	34.351	-11.669	46.020	QUASIPeAK	100.000	132.000
5		600.300	-1.729	35.614	33.885	-12.135	46.020	QUASIPeAK	105.000	330.000
6		800.100	-0.010	34.195	34.185	-11.835	46.020	QUASIPeAK	110.000	88.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2462MHz

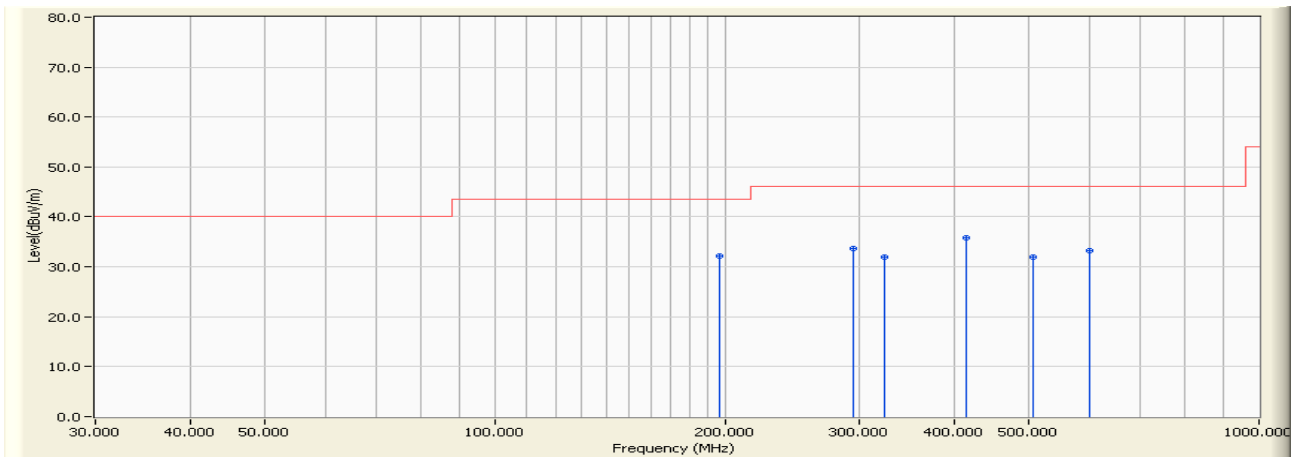


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	43.426	30.776	-12.744	43.520	QUASIPeAK	124.000	26.000
2	239.500	-10.652	41.336	30.684	-15.336	46.020	QUASIPeAK	142.000	22.000
3	294.800	-8.561	43.409	34.848	-11.172	46.020	QUASIPeAK	160.000	260.000
4	415.000	-4.436	39.311	34.875	-11.145	46.020	QUASIPeAK	125.000	164.000
5	* 480.000	-3.411	40.686	37.275	-8.745	46.020	QUASIPeAK	146.000	189.000
6	826.300	0.865	32.402	33.267	-12.753	46.020	QUASIPeAK	150.000	204.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b 2462MHz

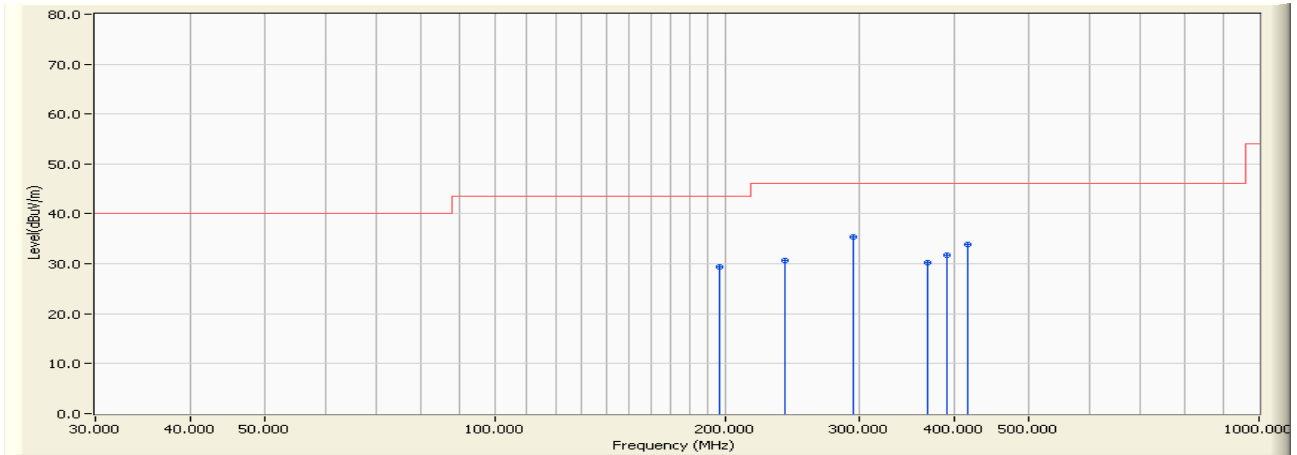


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	44.892	32.242	-11.278	43.520	QUASIPeAK	100.000	15.000
2	294.800	-8.561	42.140	33.579	-12.441	46.020	QUASIPeAK	102.000	40.000
3	322.900	-7.509	39.397	31.888	-14.132	46.020	QUASIPeAK	112.000	260.000
4	* 413.100	-4.525	40.417	35.892	-10.128	46.020	QUASIPeAK	100.000	133.000
5	507.200	-3.227	35.201	31.974	-14.046	46.020	QUASIPeAK	105.000	330.000
6	600.300	-1.729	34.963	33.234	-12.786	46.020	QUASIPeAK	110.000	88.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2412MHz

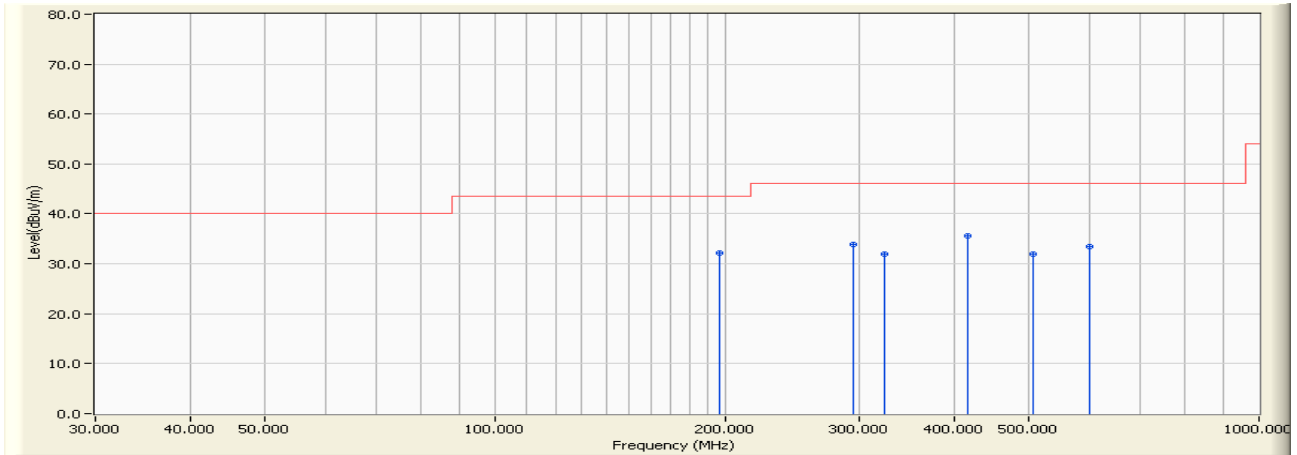


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	42.118	29.468	-14.052	43.520	QUASIPeAK	124.000	26.000
2	239.500	-10.652	41.414	30.762	-15.258	46.020	QUASIPeAK	141.000	22.000
3	* 294.800	-8.561	43.944	35.383	-10.637	46.020	QUASIPeAK	160.000	262.000
4	367.500	-6.269	36.555	30.286	-15.734	46.020	QUASIPeAK	125.000	164.000
5	389.800	-5.646	37.321	31.675	-14.345	46.020	QUASIPeAK	146.000	189.000
6	416.000	-4.401	38.372	33.971	-12.049	46.020	QUASIPeAK	150.000	204.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2412MHz

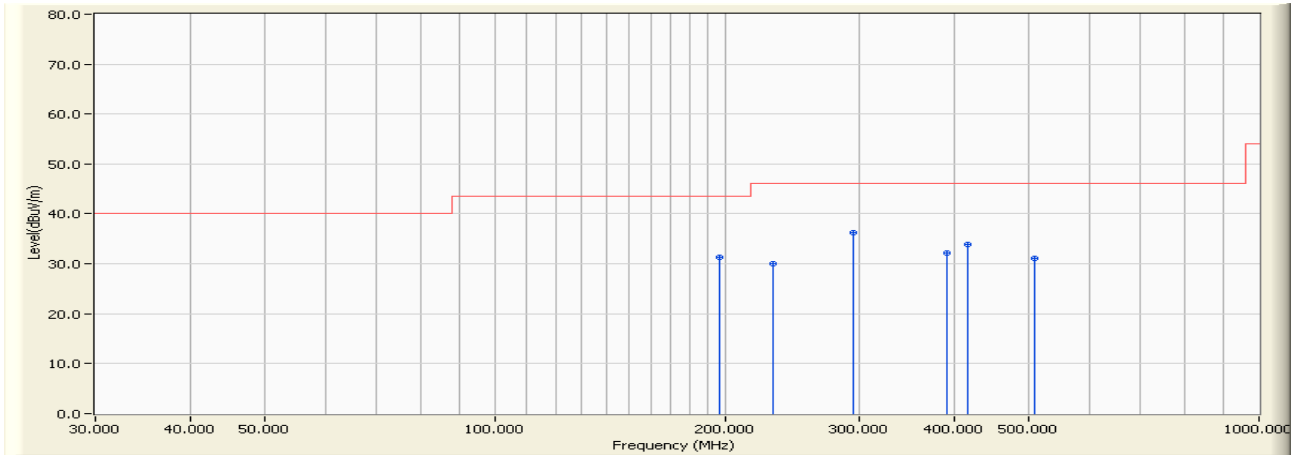


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	44.914	32.264	-11.256	43.520	QUASIPeAK	100.000	24.000
2	294.800	-8.561	42.456	33.895	-12.125	46.020	QUASIPeAK	102.000	40.000
3	322.900	-7.509	39.383	31.874	-14.146	46.020	QUASIPeAK	112.000	260.000
4	* 415.000	-4.436	40.090	35.654	-10.366	46.020	QUASIPeAK	100.000	133.000
5	506.200	-3.250	35.238	31.988	-14.032	46.020	QUASIPeAK	105.000	330.000
6	600.300	-1.729	35.275	33.546	-12.474	46.020	QUASIPeAK	110.000	88.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2437MHz

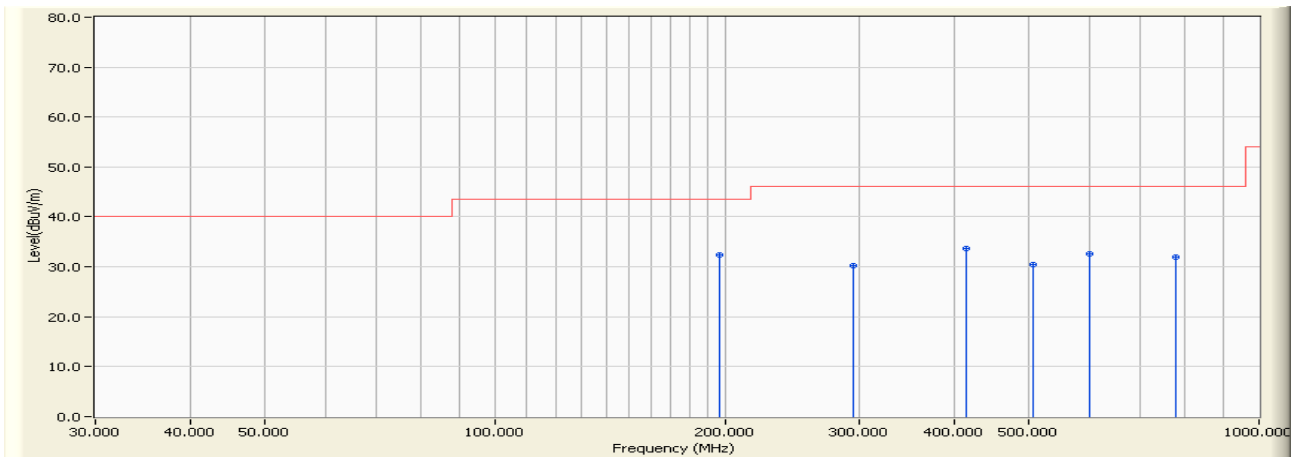


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	43.912	31.262	-12.258	43.520	QUASIPeAK	124.000	26.000
2	230.700	-11.701	41.657	29.956	-16.064	46.020	QUASIPeAK	141.000	22.000
3	* 294.800	-8.561	44.881	36.320	-9.700	46.020	QUASIPeAK	156.000	263.000
4	389.800	-5.646	37.743	32.097	-13.923	46.020	QUASIPeAK	125.000	164.000
5	416.000	-4.401	38.264	33.863	-12.157	46.020	QUASIPeAK	146.000	189.000
6	509.100	-3.208	34.274	31.066	-14.954	46.020	QUASIPeAK	150.000	204.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2437MHz

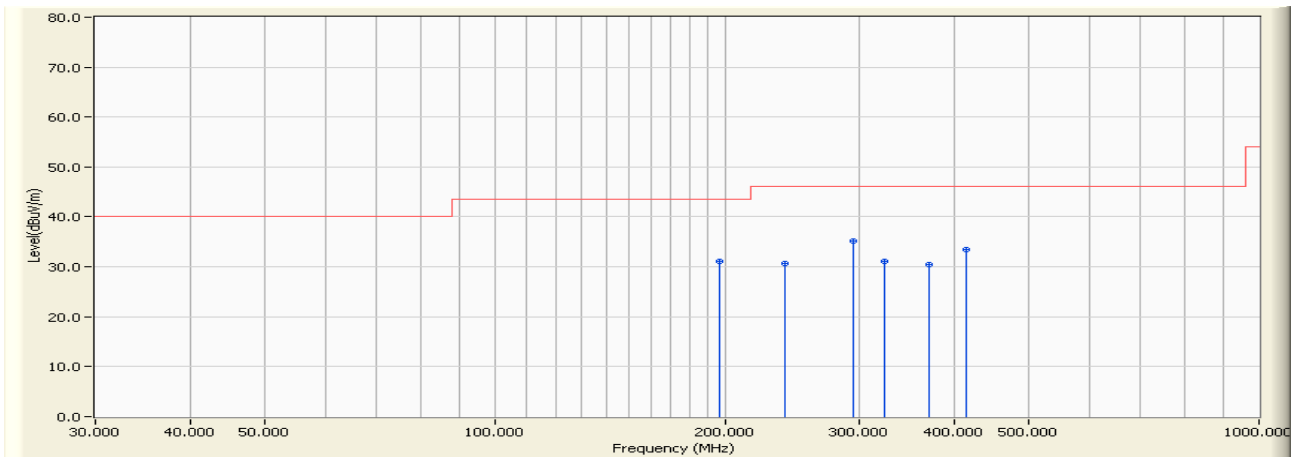


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	196.800	-12.650	44.961	32.311	-11.209	43.520	QUASPEAK	100.000	12.000
2		294.800	-8.561	38.756	30.195	-15.825	46.020	QUASPEAK	102.000	44.000
3		413.100	-4.525	38.232	33.707	-12.313	46.020	QUASPEAK	112.000	260.000
4		505.300	-3.280	33.794	30.514	-15.506	46.020	QUASPEAK	100.000	133.000
5		600.300	-1.729	34.302	32.573	-13.447	46.020	QUASPEAK	105.000	330.000
6		776.900	0.250	31.729	31.979	-14.041	46.020	QUASPEAK	110.000	88.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2462MHz

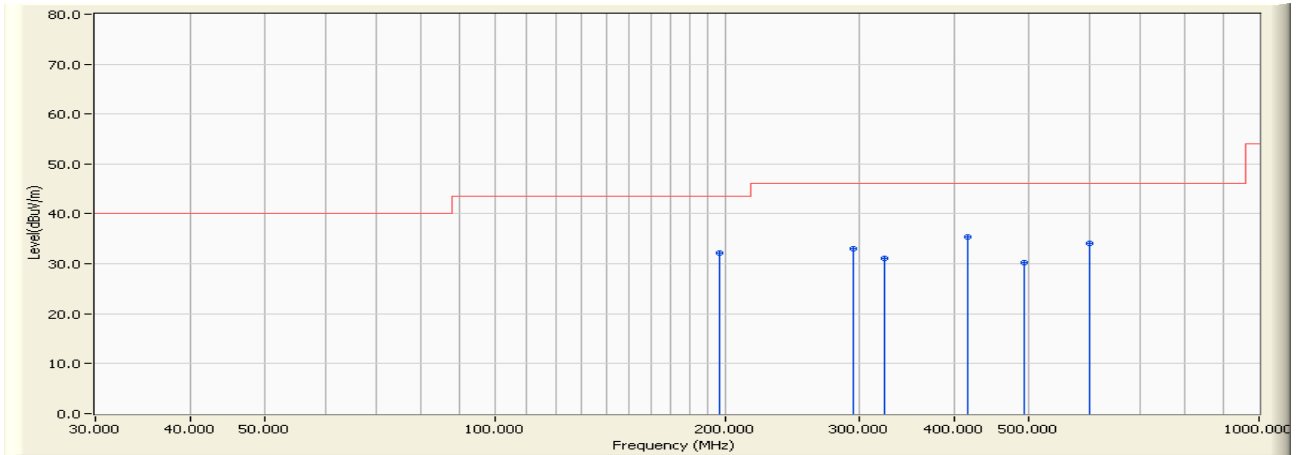


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	43.702	31.052	-12.468	43.520	QUASIPeAK	124.000	26.000
2	239.500	-10.652	41.276	30.624	-15.396	46.020	QUASIPeAK	141.000	22.000
3	* 294.800	-8.561	43.841	35.280	-10.740	46.020	QUASIPeAK	160.000	260.000
4	322.900	-7.509	38.515	31.006	-15.014	46.020	QUASIPeAK	125.000	164.000
5	369.500	-6.193	36.695	30.502	-15.518	46.020	QUASIPeAK	146.000	189.000
6	414.100	-4.470	37.992	33.522	-12.498	46.020	QUASIPeAK	150.000	204.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer :Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 16:41
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : CBL6112B_2932(30-2000MHz)- VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g 2462MHz

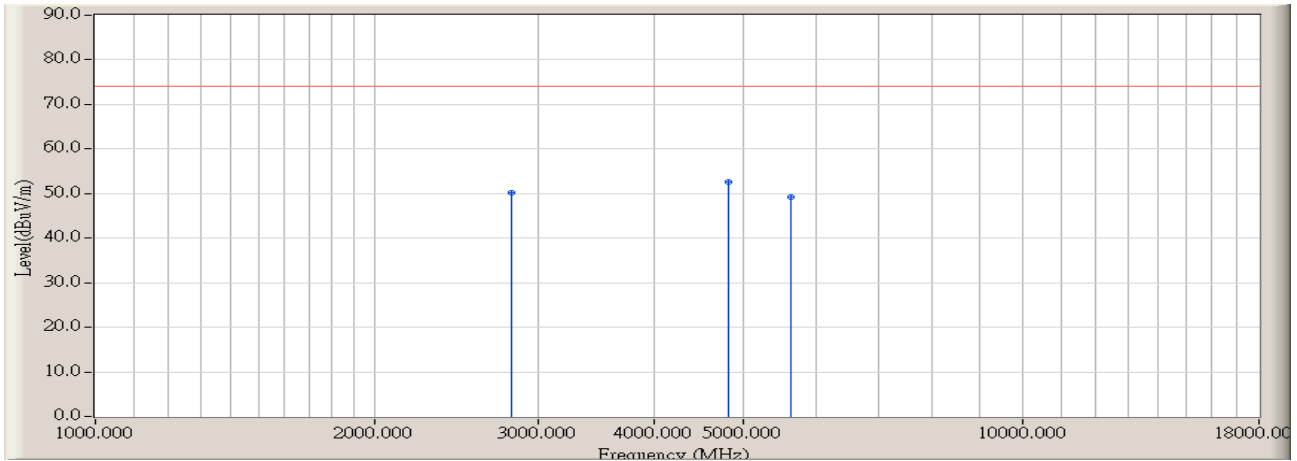


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	196.800	-12.650	44.795	32.145	-11.375	43.520	QUASIPeAK	100.000	14.000
2	294.800	-8.561	41.644	33.083	-12.937	46.020	QUASIPeAK	102.000	40.000
3	322.900	-7.509	38.656	31.147	-14.873	46.020	QUASIPeAK	112.000	260.000
4	* 416.000	-4.401	39.823	35.422	-10.598	46.020	QUASIPeAK	100.000	133.000
5	492.600	-3.271	33.610	30.339	-15.681	46.020	QUASIPeAK	105.000	330.000
6	600.300	-1.729	35.930	34.201	-11.819	46.020	QUASIPeAK	110.000	88.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

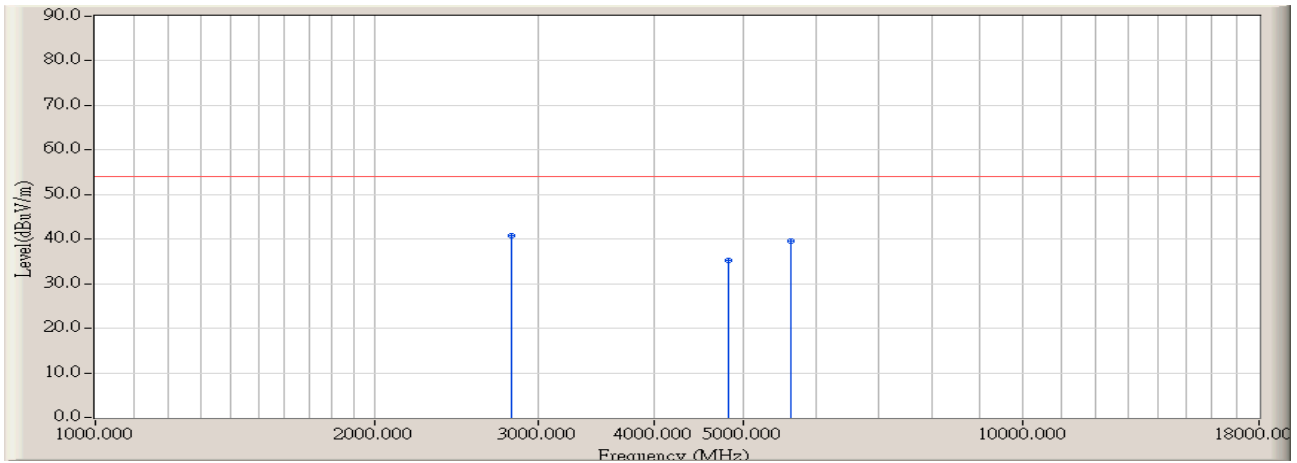


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	52.643	50.130	-23.840	73.970	PEAK	0.000	0.000
2	* 4825.000	3.610	48.913	52.523	-21.447	73.970	PEAK	0.000	0.000
3	5618.333	5.157	43.966	49.123	-24.847	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

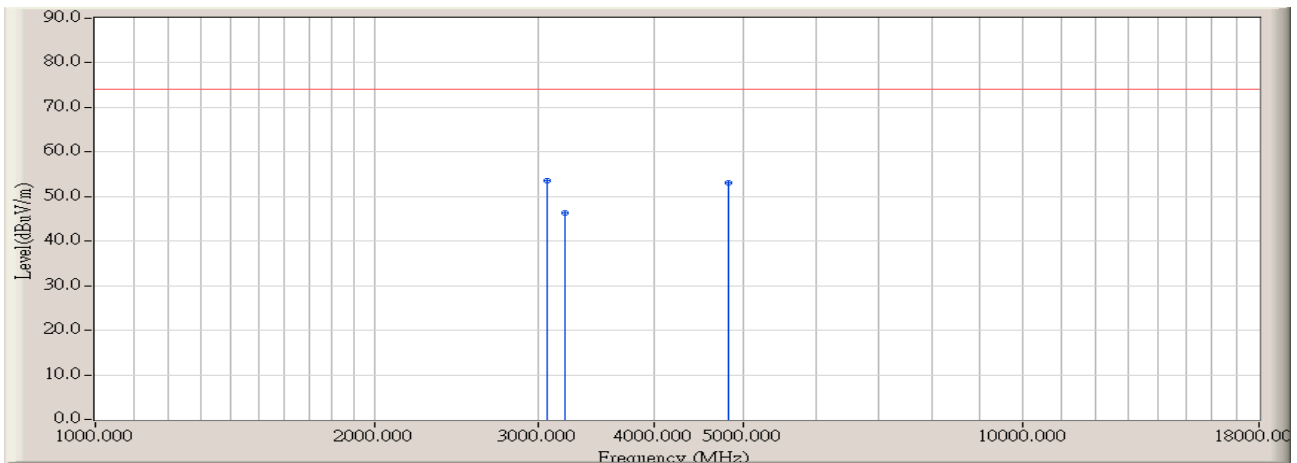


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	2813.300	-2.513	43.200	40.686	-13.284	53.970	AVERAGE	120.000	92.000
2		4825.000	3.610	31.600	35.210	-18.760	53.970	AVERAGE	124.000	104.000
3		5618.300	5.157	34.500	39.657	-14.313	53.970	AVERAGE	108.000	214.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:20
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

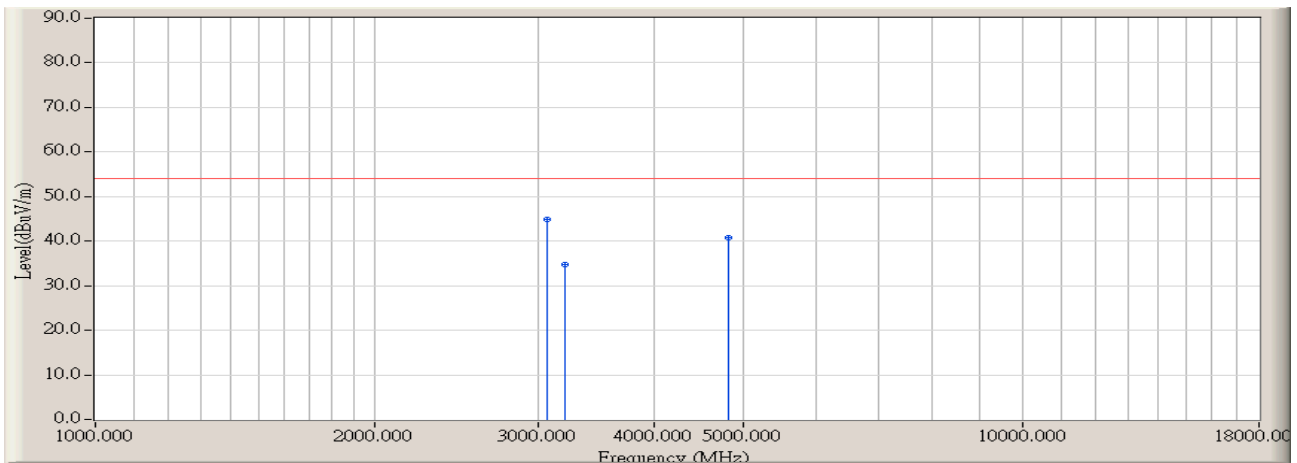


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	3068.333	-1.424	55.064	53.641	-20.329	73.970	PEAK	0.000	0.000
2		3210.000	-1.490	47.833	46.343	-27.627	73.970	PEAK	0.000	0.000
3		4825.000	3.610	49.522	53.132	-20.838	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

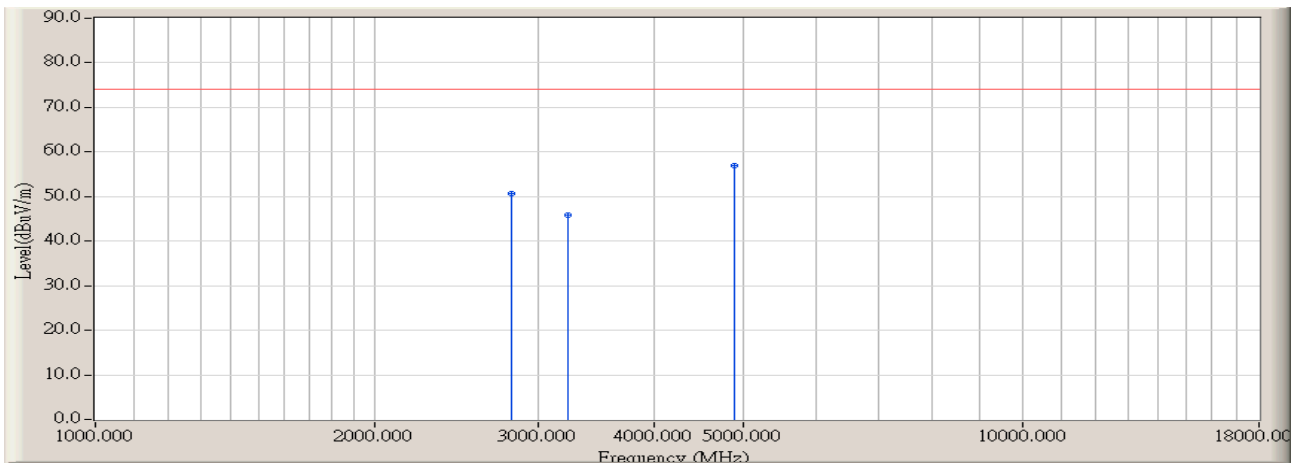


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	3068.300	-1.424	46.200	44.777	-9.193	53.970	AVERAGE	100.000	28.000
2		3210.000	-1.490	36.200	34.710	-19.260	53.970	AVERAGE	100.000	104.000
3		4825.000	3.610	37.200	40.810	-13.160	53.970	AVERAGE	100.000	92.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

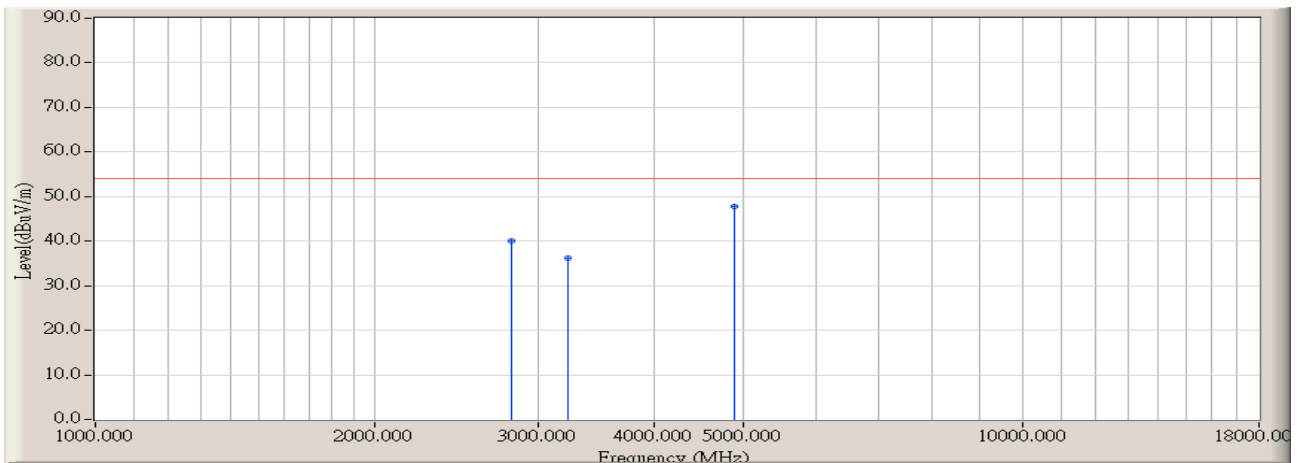


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	53.197	50.684	-23.286	73.970	PEAK	0.000	0.000
2	3238.333	-1.743	47.655	45.912	-28.058	73.970	PEAK	0.000	0.000
3	* 4881.667	3.633	53.340	56.973	-16.997	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

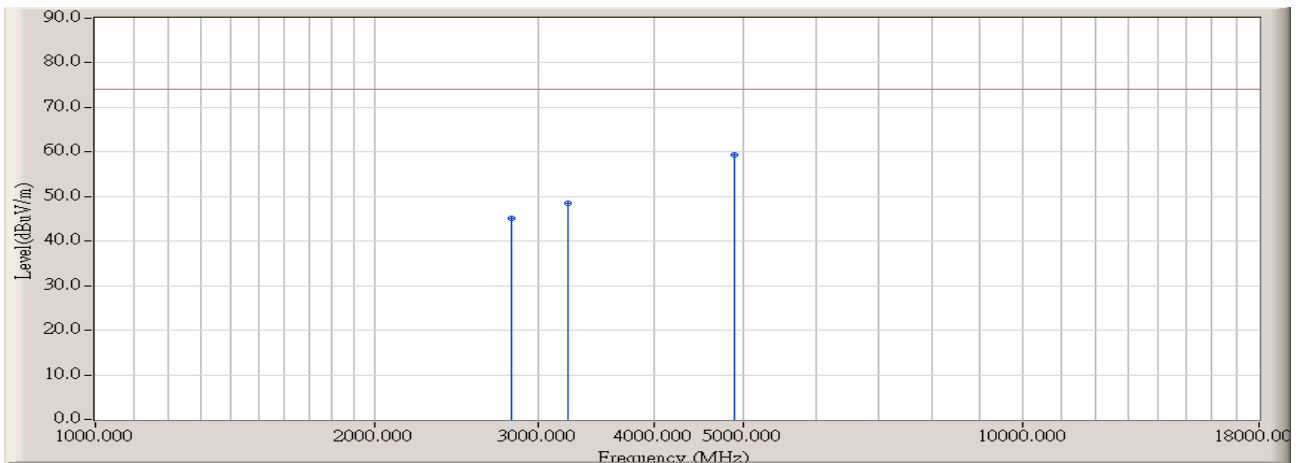


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	42.500	39.986	-13.984	53.970	AVERAGE	120.000	94.000
2	3238.300	-1.743	38.000	36.257	-17.713	53.970	AVERAGE	112.000	322.000
3	* 4881.600	3.633	44.200	47.833	-6.137	53.970	AVERAGE	110.000	264.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

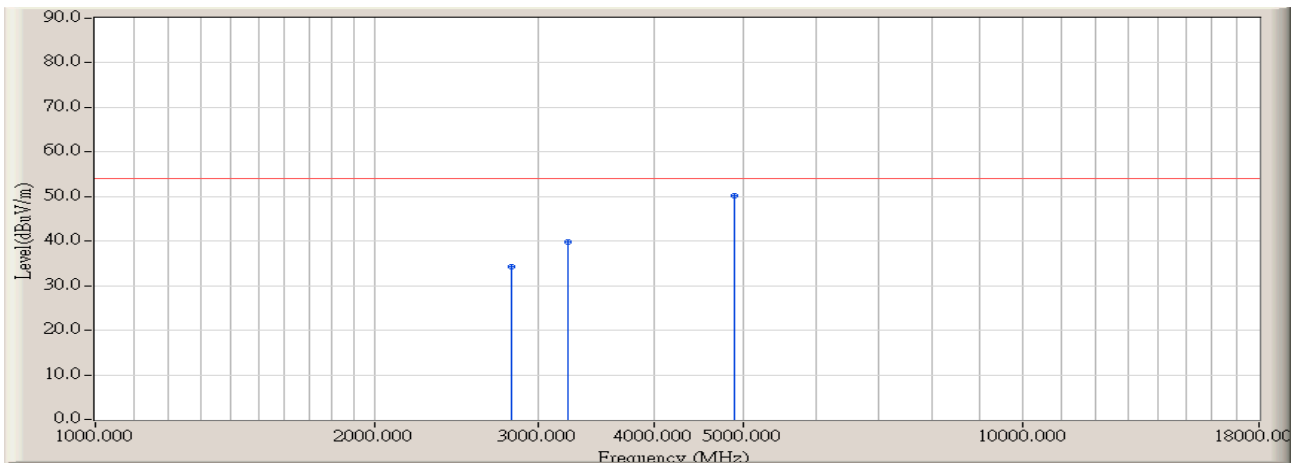


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	47.523	45.010	-28.960	73.970	PEAK	0.000	0.000
2	3238.333	-1.743	50.152	48.409	-25.561	73.970	PEAK	0.000	0.000
3	* 4881.667	3.633	55.703	59.336	-14.634	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

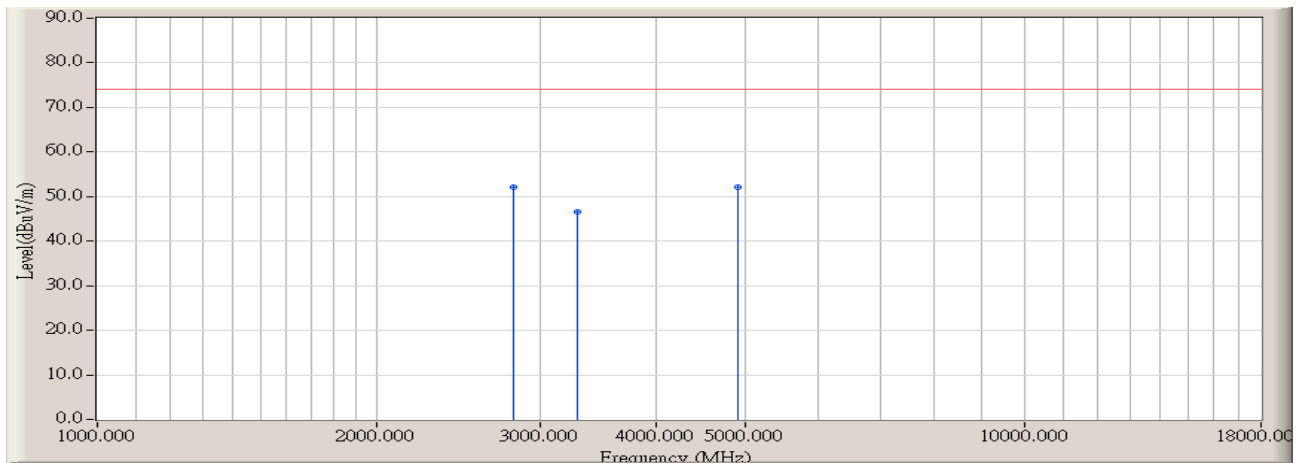


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	36.800	34.286	-19.684	53.970	AVERAGE	100.000	92.000
2	3238.300	-1.743	41.600	39.857	-14.113	53.970	AVERAGE	105.000	142.000
3	* 4881.600	3.633	46.500	50.133	-3.837	53.970	AVERAGE	100.000	186.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

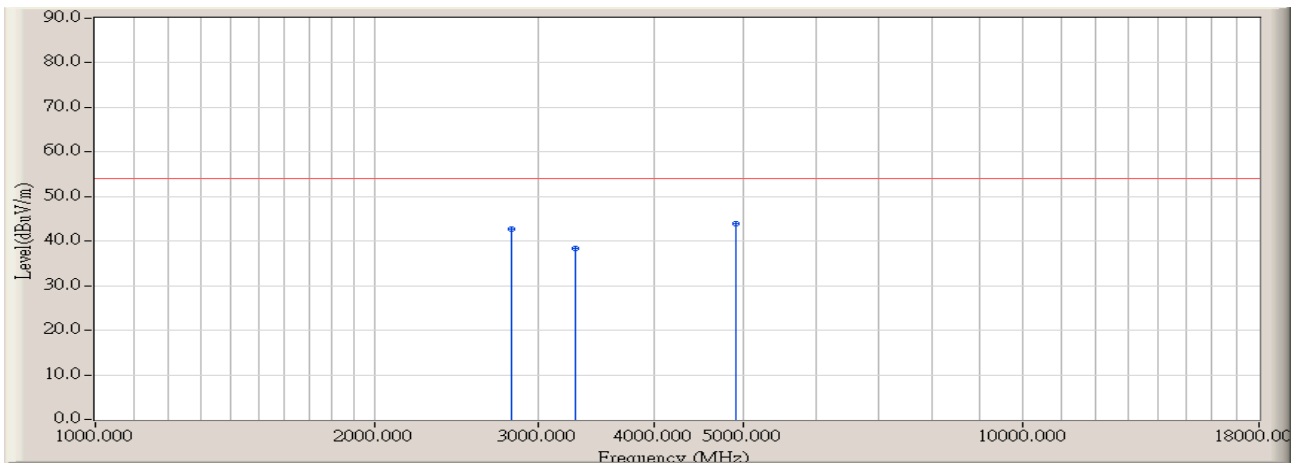


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	2813.333	-2.513	54.735	52.222	-21.748	73.970	PEAK	0.000	0.000
2		3295.000	-1.720	48.366	46.646	-27.324	73.970	PEAK	0.000	0.000
3		4910.000	3.720	48.400	52.120	-21.850	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

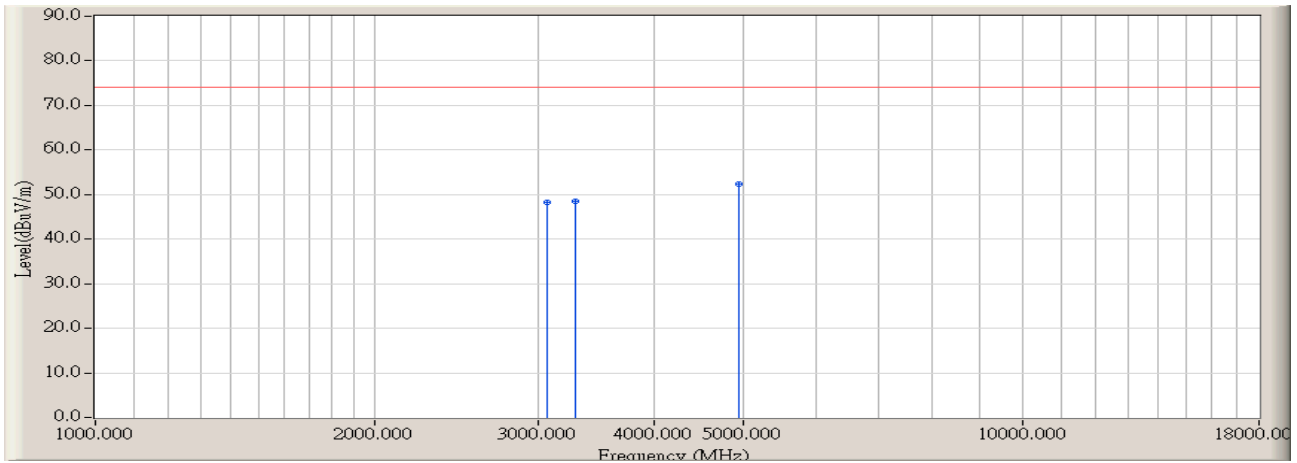


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	45.200	42.686	-11.284	53.970	AVERAGE	106.000	154.000
2	3295.000	-1.720	40.200	38.480	-15.490	53.970	AVERAGE	132.000	84.000
3	* 4910.000	3.720	40.200	43.920	-10.050	53.970	AVERAGE	108.000	182.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

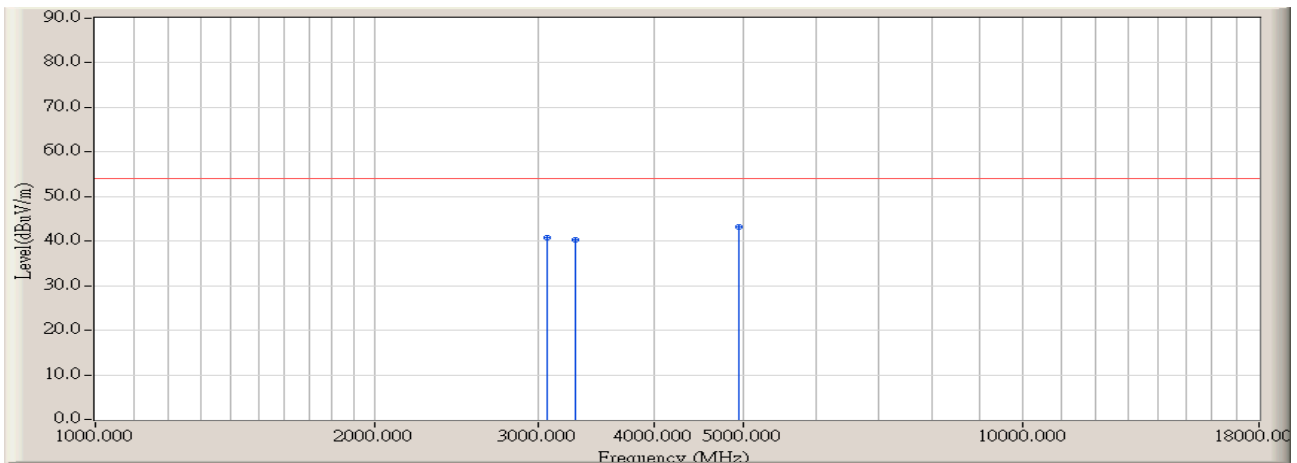


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	3068.333	-1.424	49.782	48.359	-25.611	73.970	PEAK	0.000	0.000
2	3295.000	-1.720	50.207	48.487	-25.483	73.970	PEAK	0.000	0.000
3	* 4938.333	4.046	48.409	52.456	-21.514	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

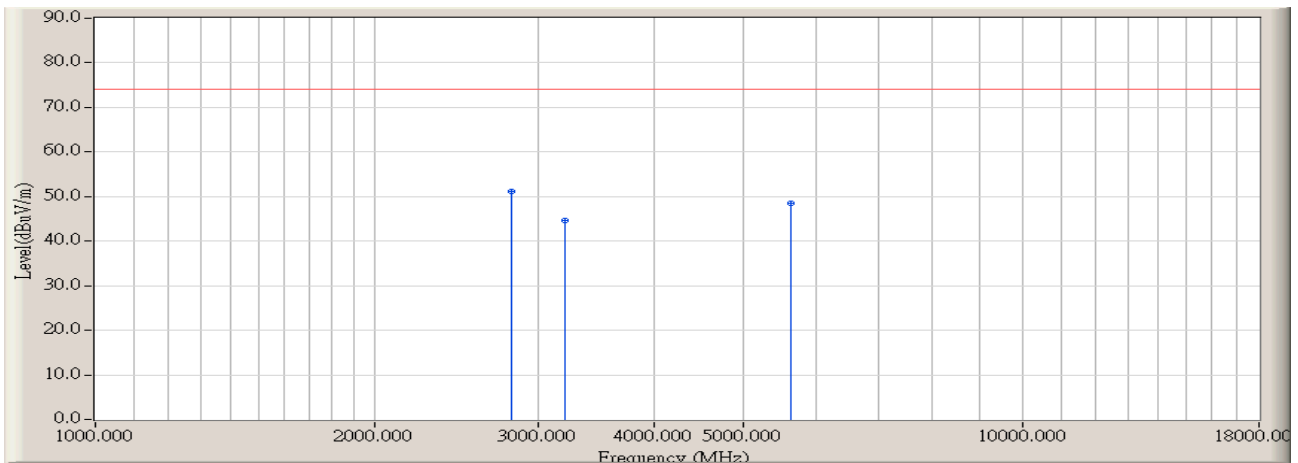


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	3068.300	-1.424	42.200	40.777	-13.193	53.970	AVERAGE	101.000	94.000
2	3295.000	-1.720	42.000	40.280	-13.690	53.970	AVERAGE	100.000	152.000
3	* 4938.300	4.046	39.200	43.246	-10.724	53.970	AVERAGE	100.000	62.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

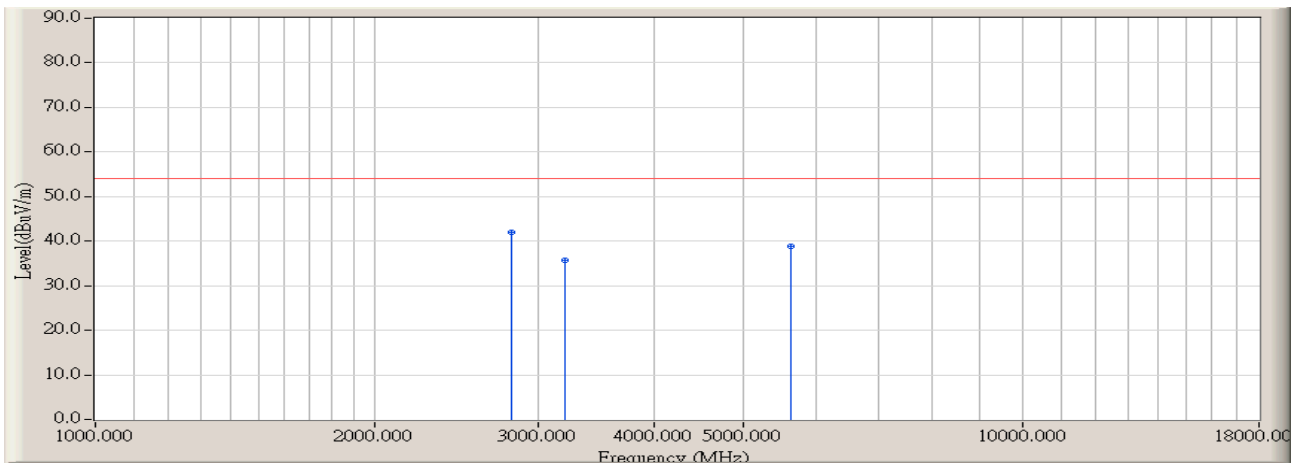


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	2813.333	-2.513	53.561	51.048	-22.922	73.970	PEAK	0.000	0.000
2		3210.000	-1.490	46.129	44.639	-29.331	73.970	PEAK	0.000	0.000
3		5618.333	5.157	43.262	48.419	-25.551	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

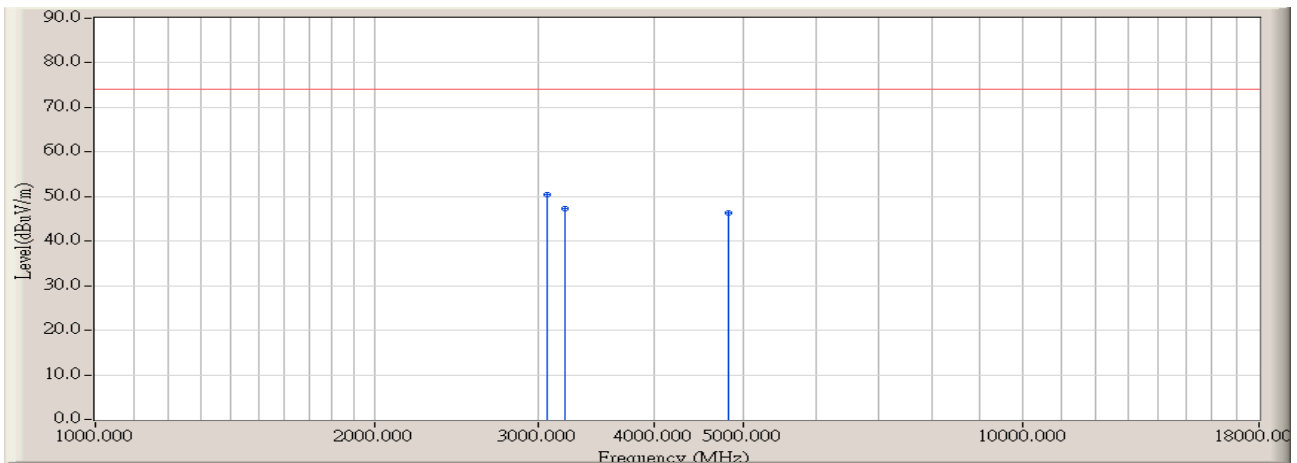


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	2813.300	-2.513	44.500	41.986	-11.984	53.970	AVERAGE	118.000	94.000
2		3210.000	-1.490	37.200	35.710	-18.260	53.970	AVERAGE	105.000	316.000
3		5618.300	5.157	33.800	38.957	-15.013	53.970	AVERAGE	114.000	128.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

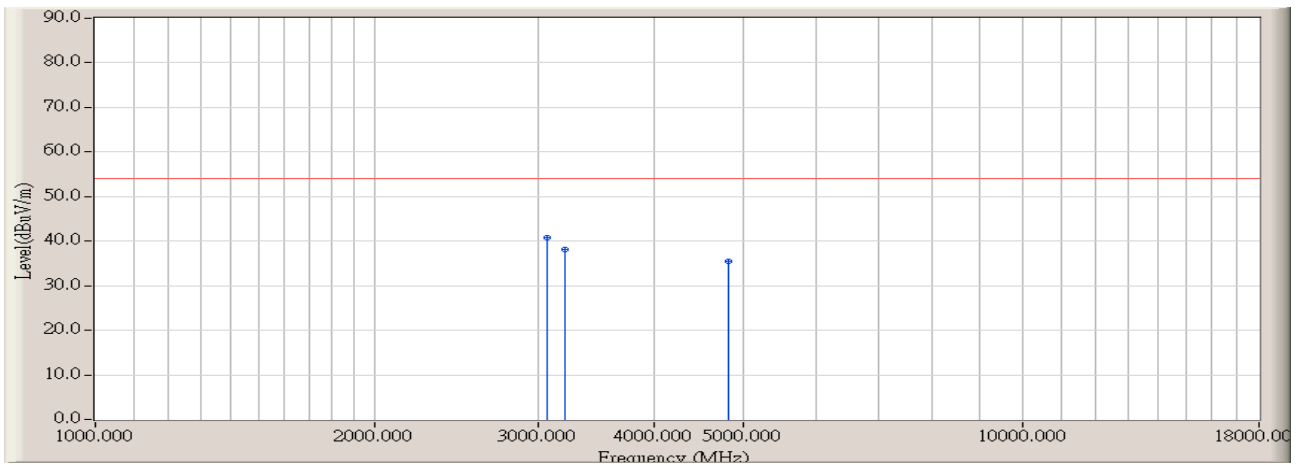


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	3068.333	-1.424	51.842	50.419	-23.551	73.970	PEAK	0.000	0.000
2		3210.000	-1.490	48.896	47.406	-26.564	73.970	PEAK	0.000	0.000
3		4825.000	3.610	42.706	46.316	-27.654	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

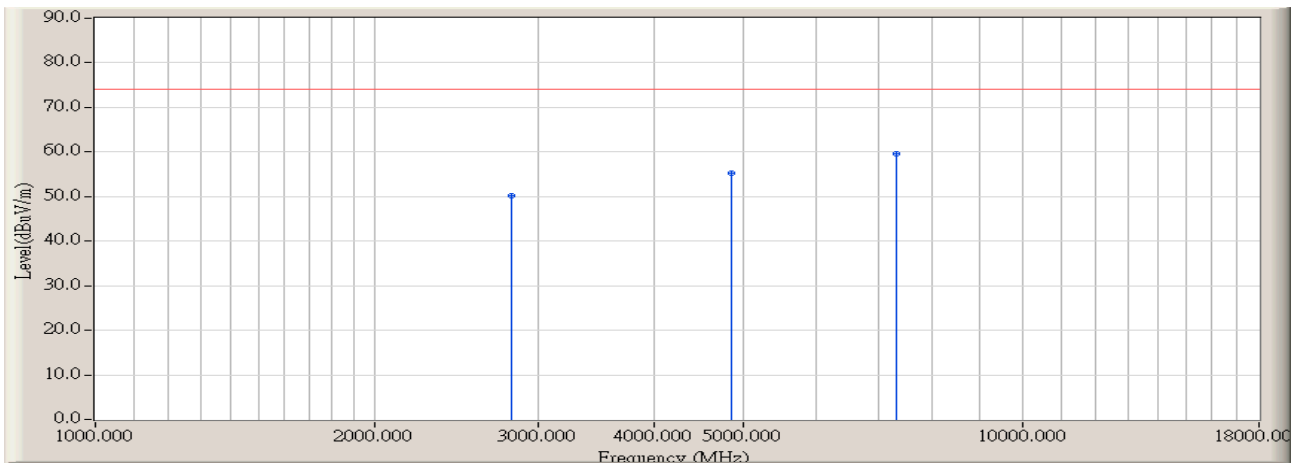


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	3068.300	-1.424	42.200	40.777	-13.193	53.970	AVERAGE	100.000	162.000
2		3210.000	-1.490	39.500	38.010	-15.960	53.970	AVERAGE	100.000	64.000
3		4825.000	3.610	31.800	35.410	-18.560	53.970	AVERAGE	154.000	194.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

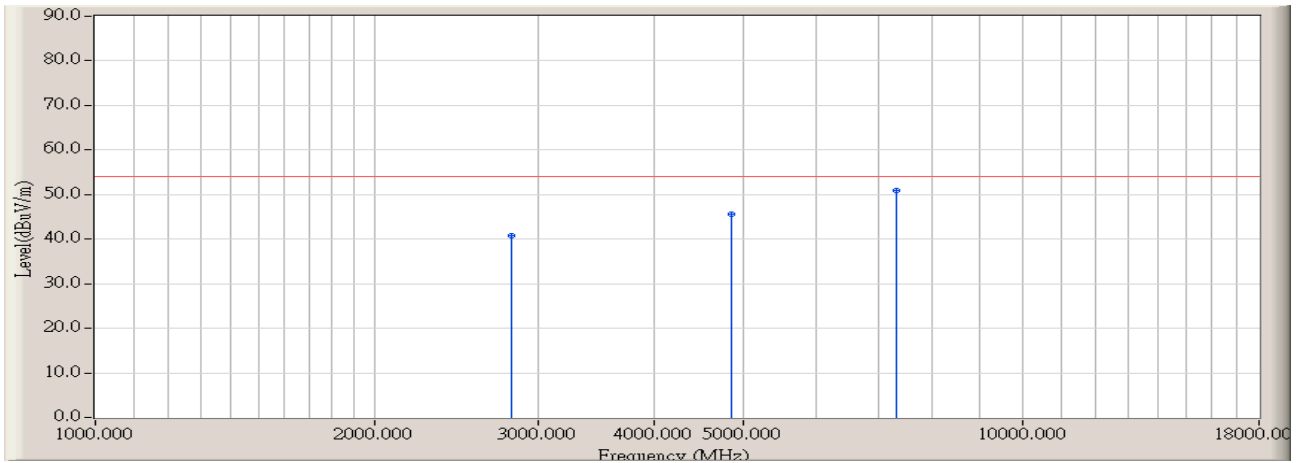


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	52.811	50.298	-23.672	73.970	PEAK	0.000	0.000
2	4853.333	3.673	51.676	55.349	-18.621	73.970	PEAK	0.000	0.000
3	* 7318.333	12.017	47.601	59.618	-14.352	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

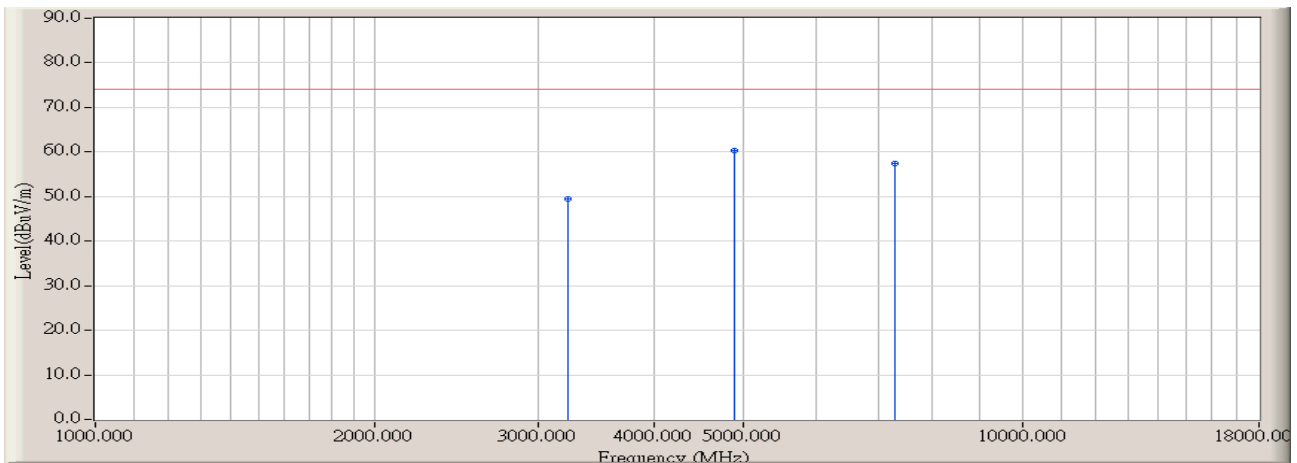


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	43.200	40.686	-13.284	53.970	AVERAGE	116.000	95.000
2	4853.300	3.673	42.000	45.673	-8.297	53.970	AVERAGE	114.000	92.000
3	* 7318.300	12.018	38.800	50.817	-3.153	53.970	AVERAGE	124.000	193.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

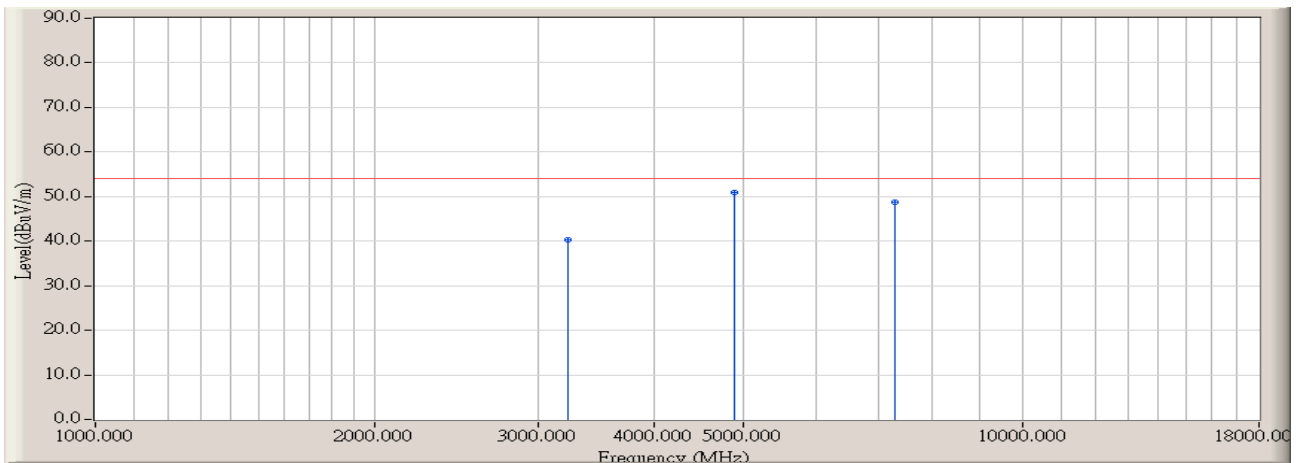


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	3238.333	-1.743	51.223	49.480	-24.490	73.970	PEAK	0.000	0.000
2	* 4881.667	3.633	56.695	60.328	-13.642	73.970	PEAK	0.000	0.000
3	7290.000	12.210	45.323	57.533	-16.437	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

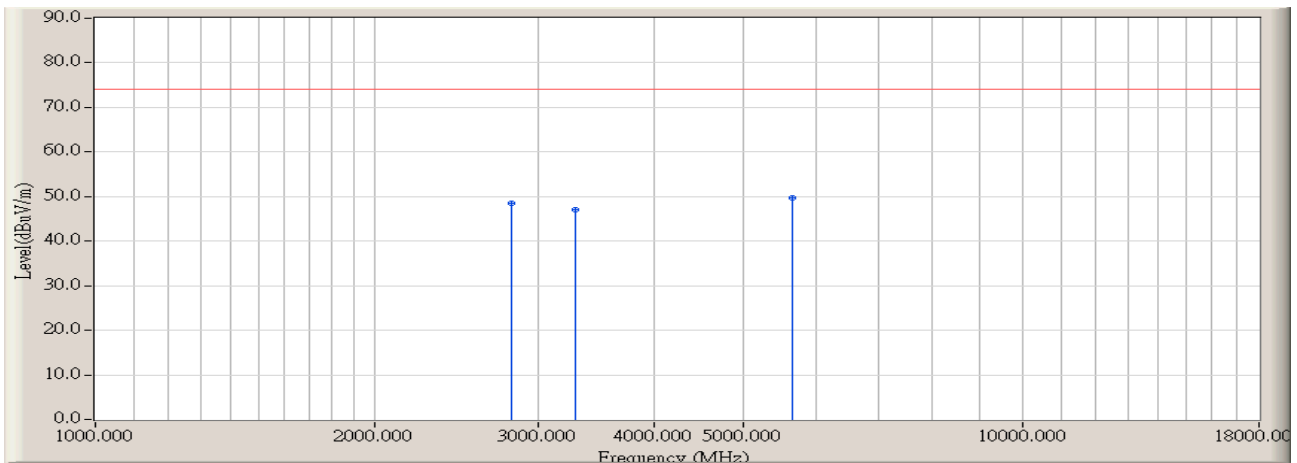


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	3238.300	-1.743	42.000	40.257	-13.713	53.970	AVERAGE	144.000	128.000
2	* 4881.600	3.633	47.300	50.933	-3.037	53.970	AVERAGE	100.000	64.000
3	7290.000	12.210	36.500	48.710	-5.260	53.970	AVERAGE	100.000	278.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

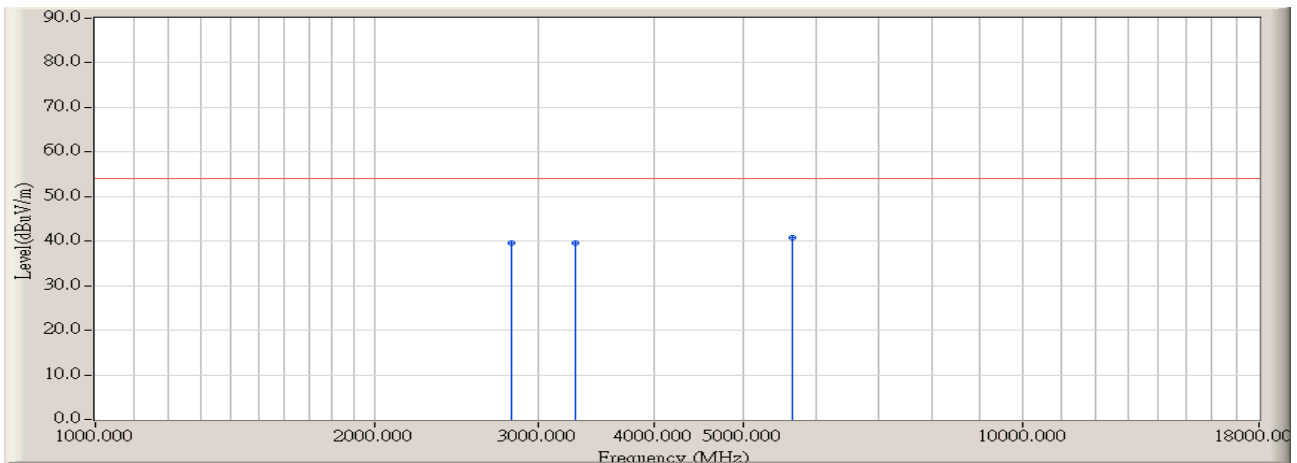


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	50.945	48.432	-25.538	73.970	PEAK	0.000	0.000
2	3295.000	-1.720	48.771	47.051	-26.919	73.970	PEAK	0.000	0.000
3	* 5646.667	5.127	44.502	49.629	-24.341	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

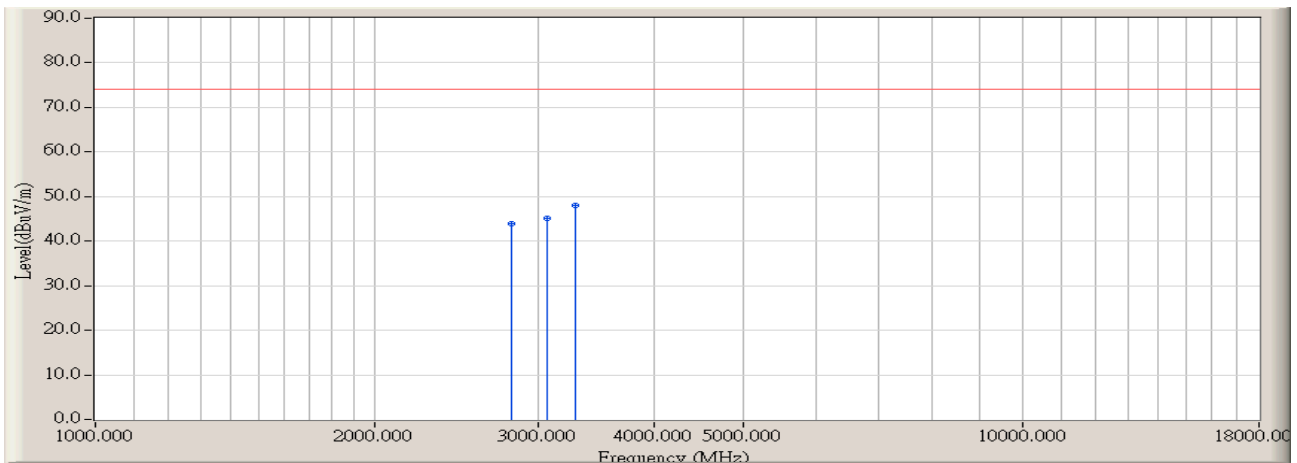


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	42.000	39.486	-14.484	53.970	AVERAGE	134.000	162.000
2	3295.000	-1.720	41.200	39.480	-14.490	53.970	AVERAGE	114.000	95.000
3	* 5646.600	5.127	35.600	40.727	-13.243	53.970	AVERAGE	118.000	274.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:22
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

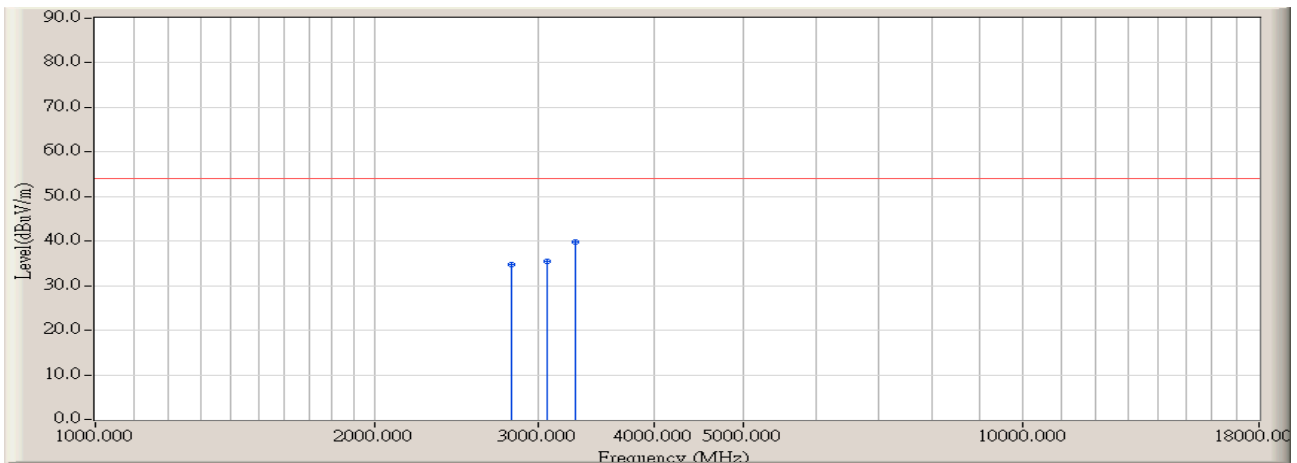


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.333	-2.513	46.544	44.031	-29.939	73.970	PEAK	0.000	0.000
2	3068.333	-1.424	46.620	45.197	-28.773	73.970	PEAK	0.000	0.000
3	* 3295.000	-1.720	49.800	48.080	-25.890	73.970	PEAK	0.000	0.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/09 - 14:22
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	2813.300	-2.513	37.200	34.686	-19.284	53.970	AVERAGE	100.000	22.000
2	3068.300	-1.424	37.000	35.577	-18.393	53.970	AVERAGE	104.000	154.000
3	* 3295.000	-1.720	41.600	39.880	-14.090	53.970	AVERAGE	110.000	312.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

5. RF Antenna Conducted Spurious

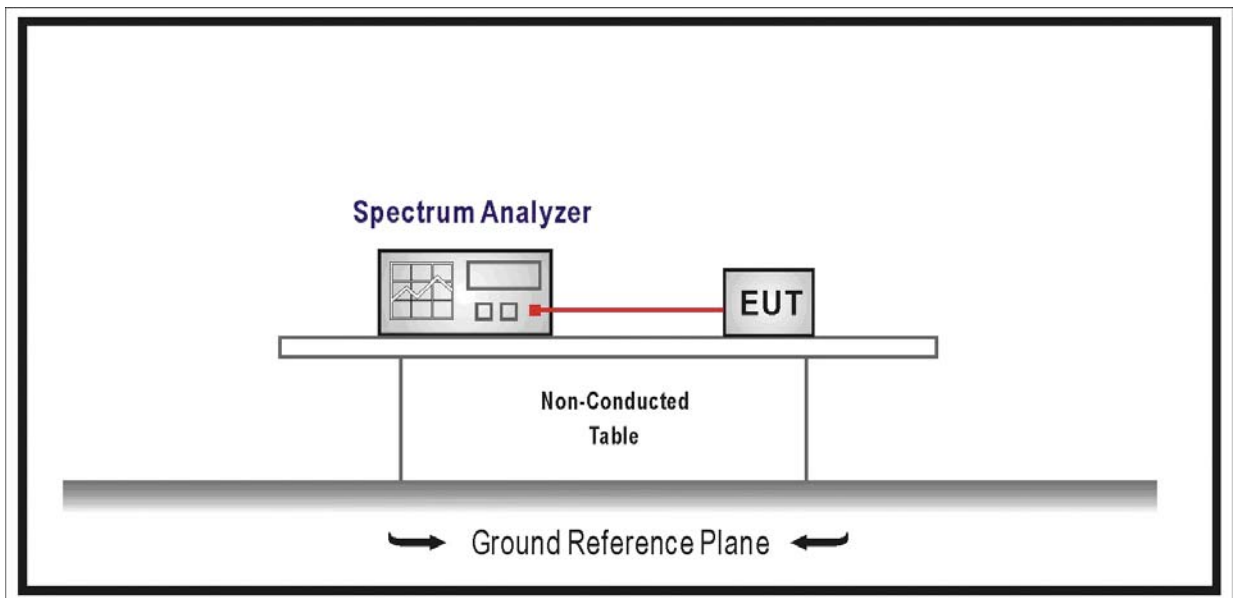
5.1. Test Equipment

RF Antenna Conducted Spurious / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

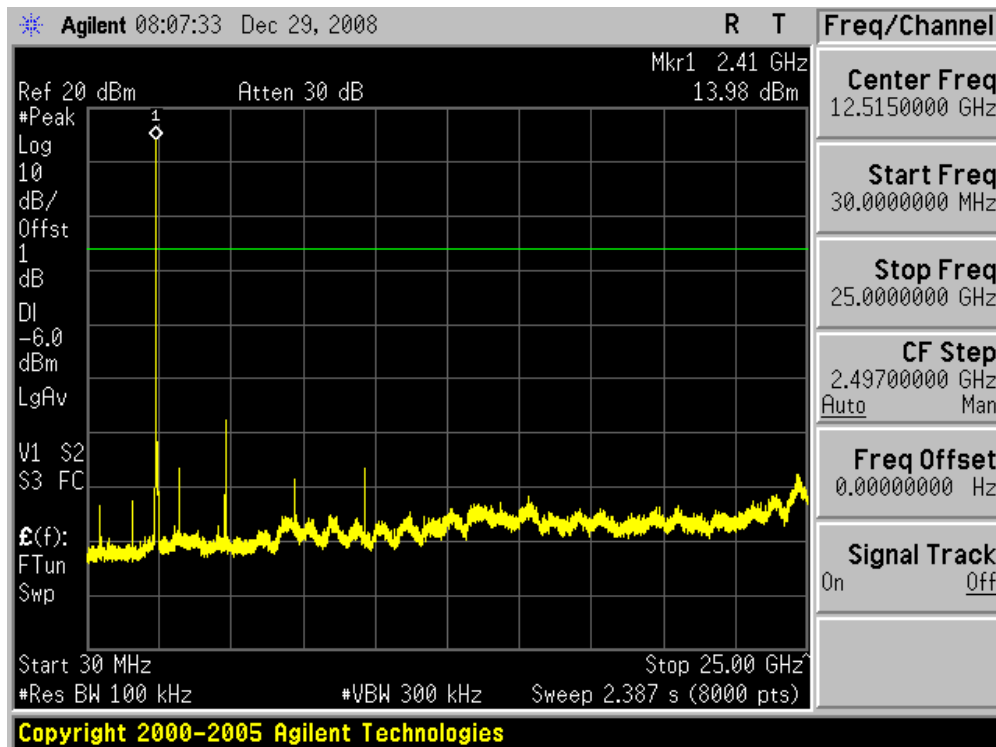
5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

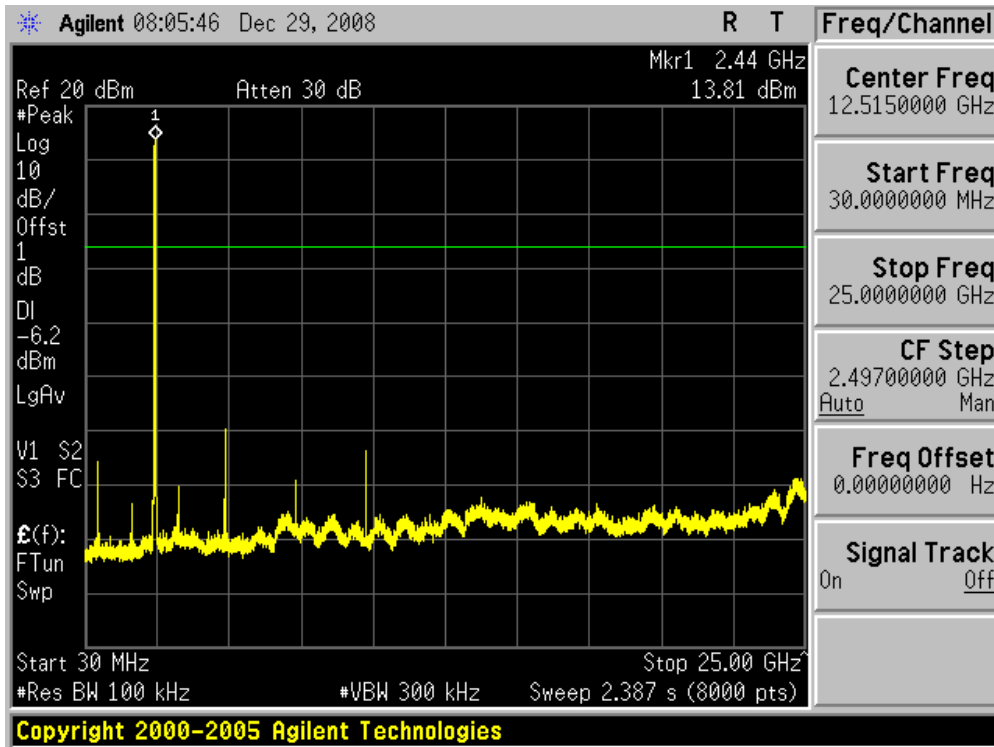
5.6. Test Result

Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11b

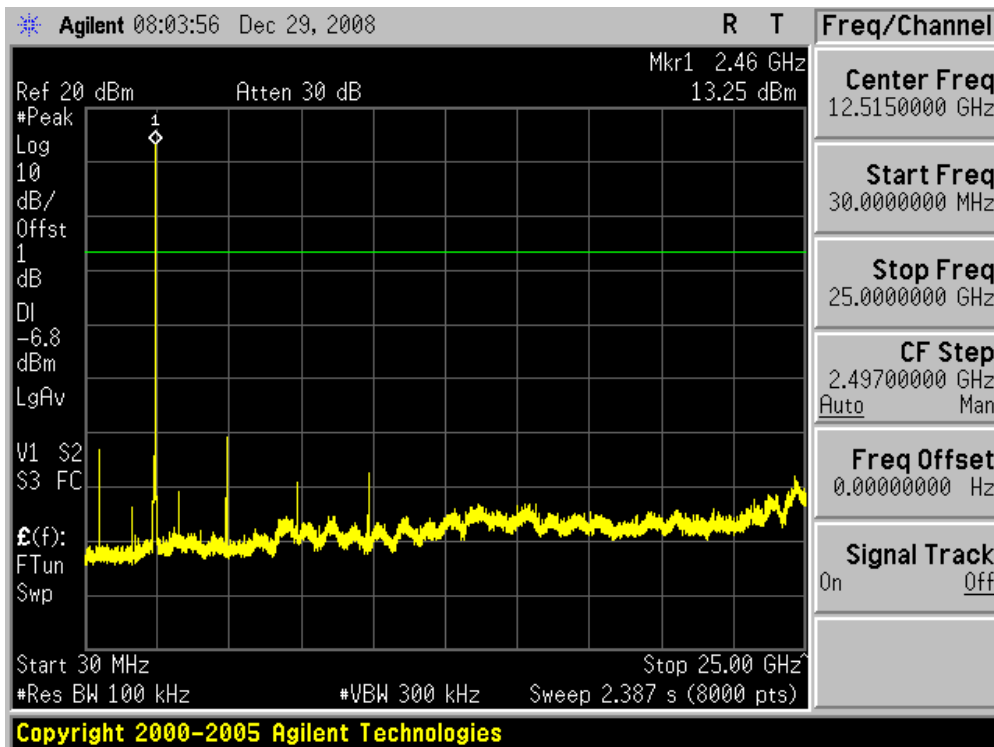
Channel 01 (2412MHz)



Channel 06 (2437MHz)

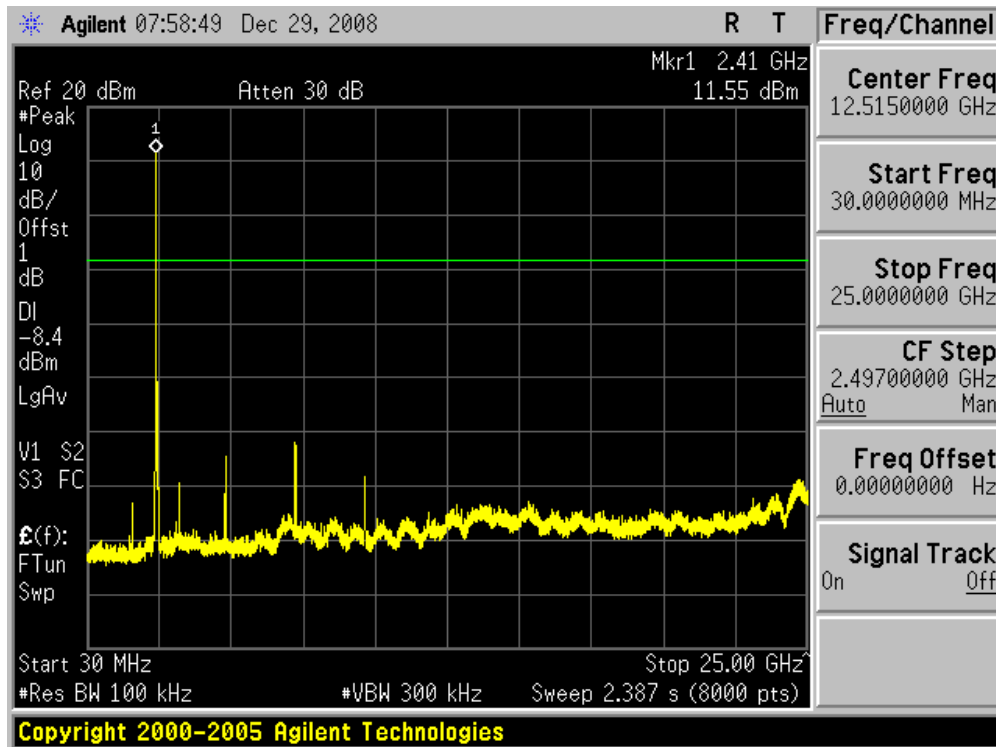


Channel 11 (2462MHz)

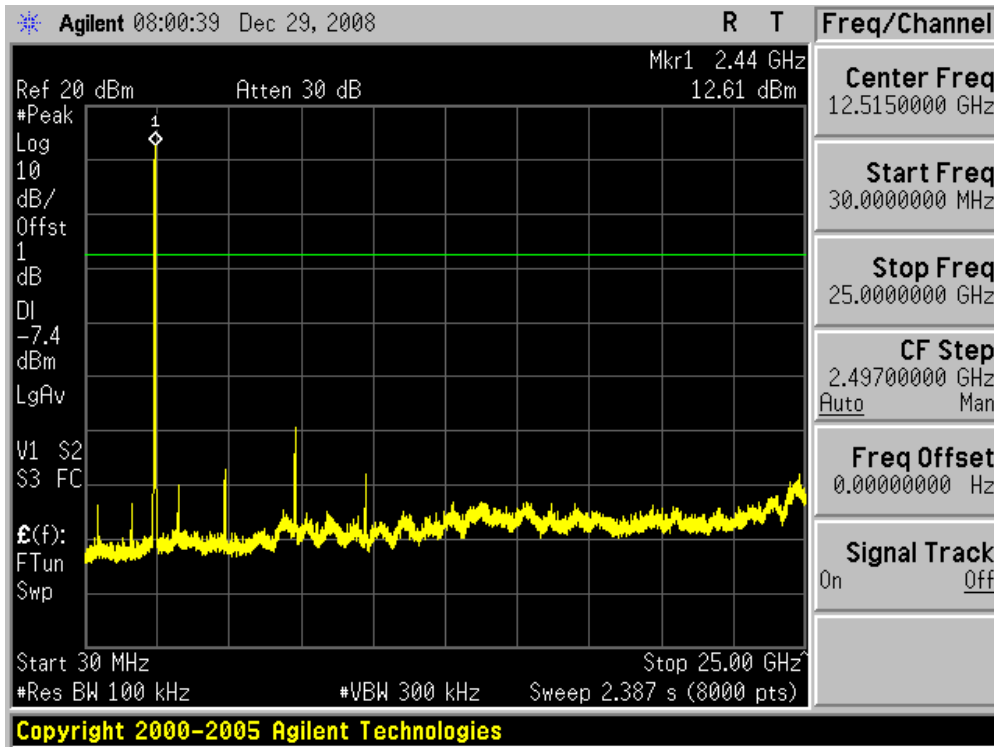


Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11g

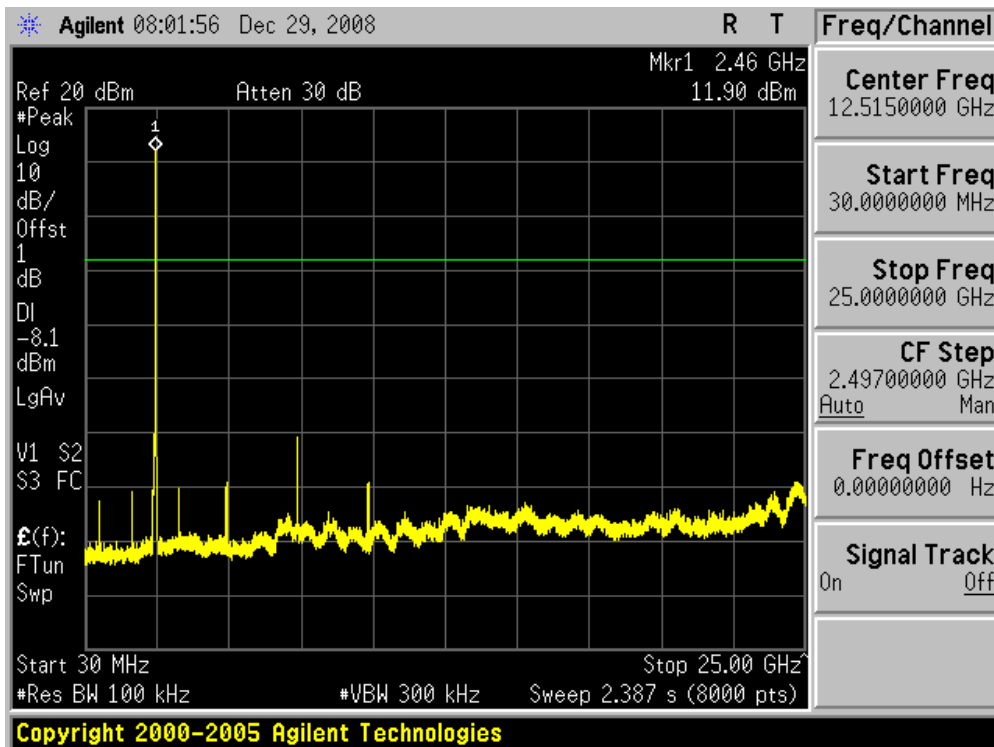
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/06/28
EMI Test Receiver	R&S	ESCI	100573	2008/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2008/03/31

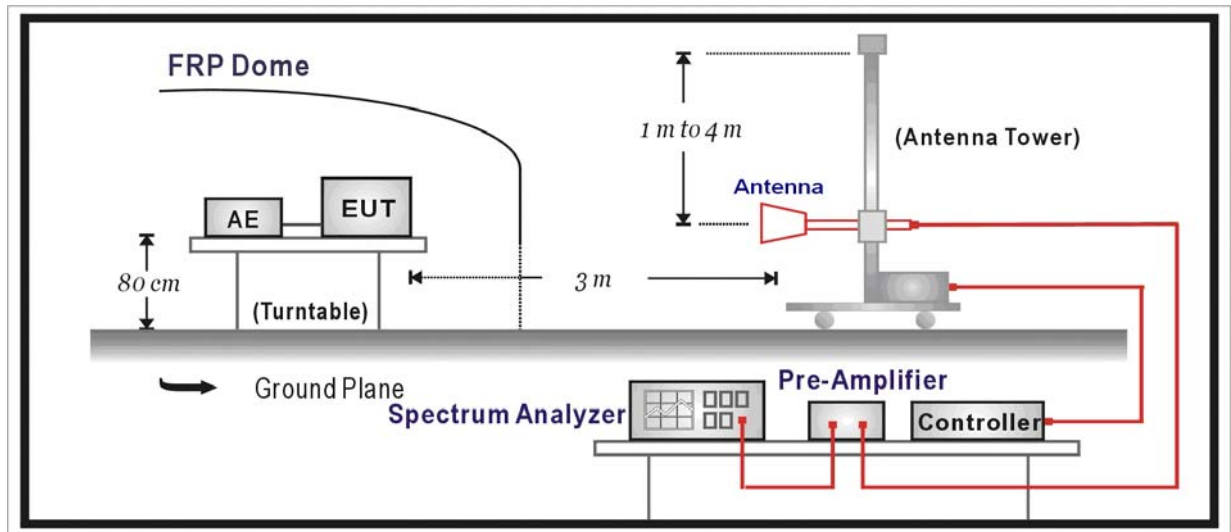
Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2008/04/24
EMI Test Receiver	R&S	ESCI	100176	2008/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/24
Bilog Type Antenna	Schaffner	CBL6112D	22254	2008/11/21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2008/11/24
Coaxial Cable	Huber+Suhner	AC2-C	05	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2008/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Note 2: The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

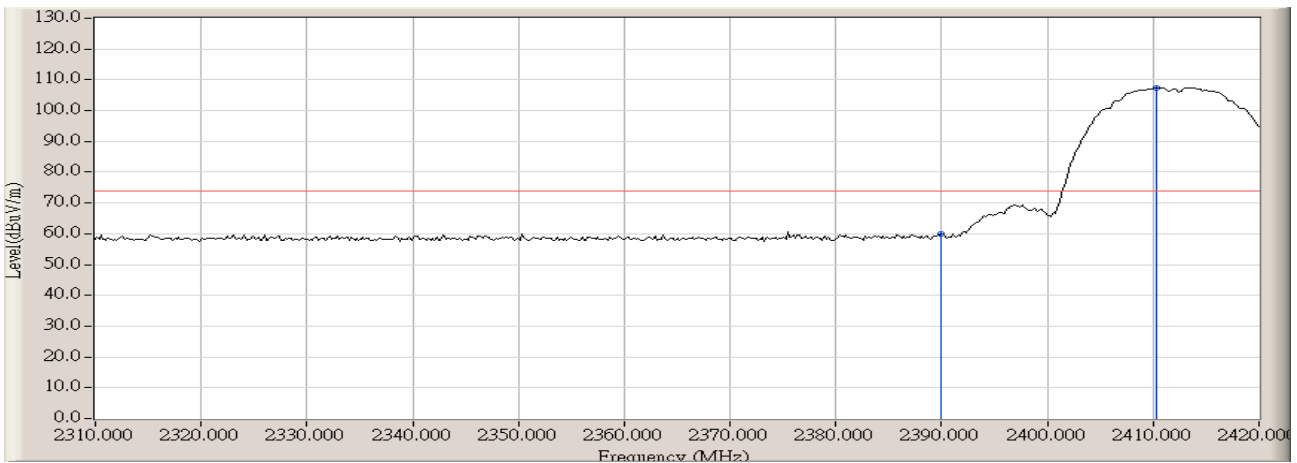
The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

6.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:06
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

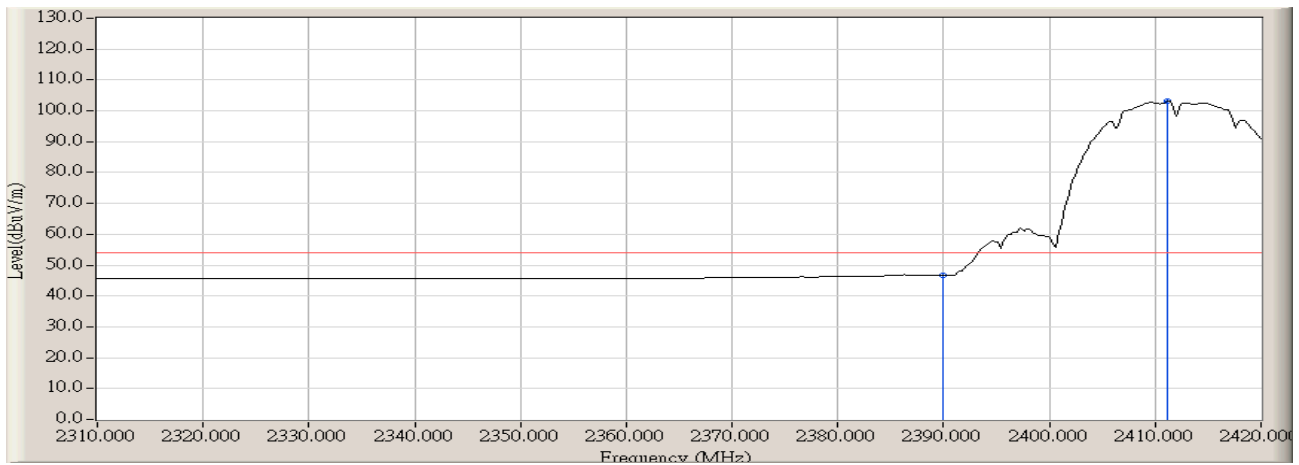


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	63.044	59.842	-14.128	73.970	PEAK
2	*	2410.283	-3.210	110.708	107.499	N/A	N/A	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:07
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

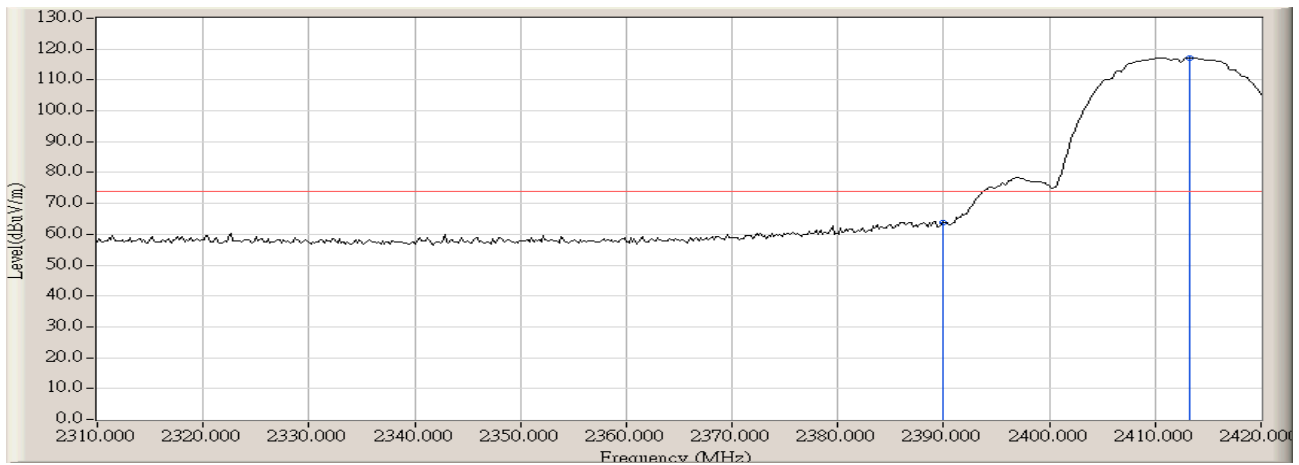


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	49.867	46.665	-7.305	53.970	AVERAGE
2	*	2411.200	-3.211	106.237	103.027	N/A	N/A	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:00
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

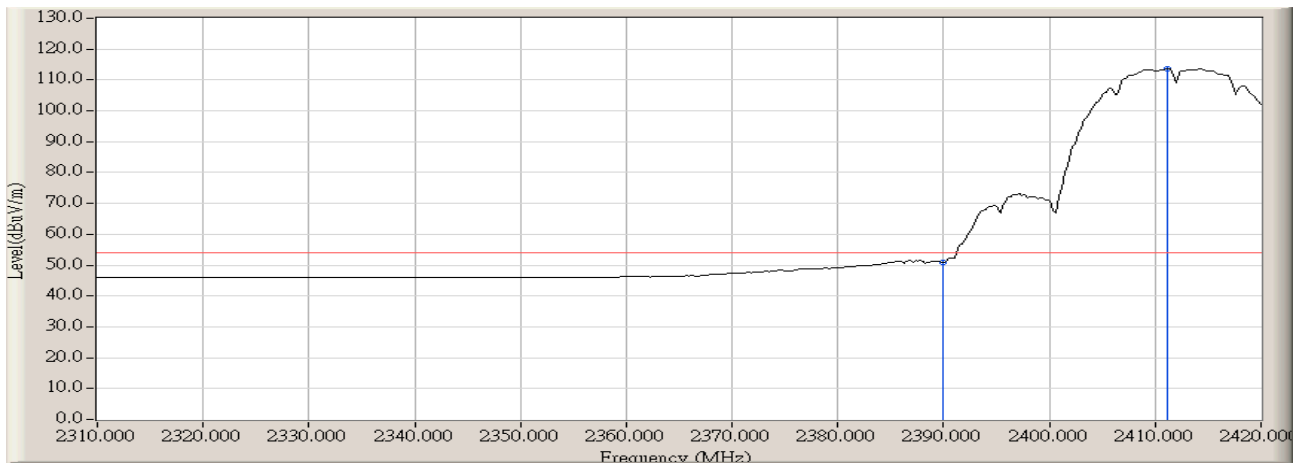


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	67.128	63.926	-10.044	73.970	PEAK
2	*	2413.217	-3.215	120.489	117.274	N/A	N/A	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:01
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

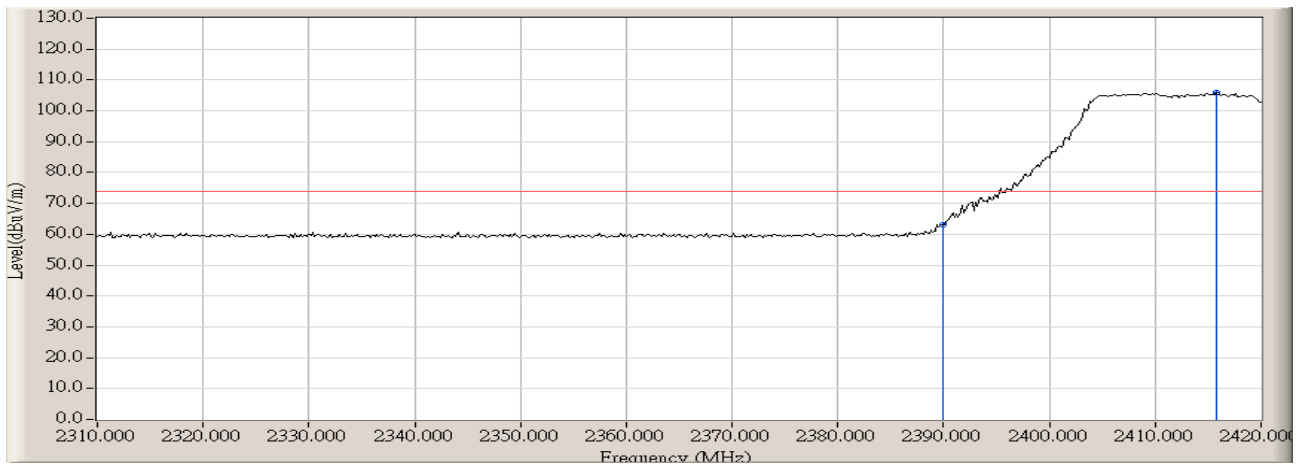


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	54.167	50.965	-3.005	53.970	AVERAGE
2	*	2411.200	-3.211	116.915	113.705	N/A	N/A	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:57
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

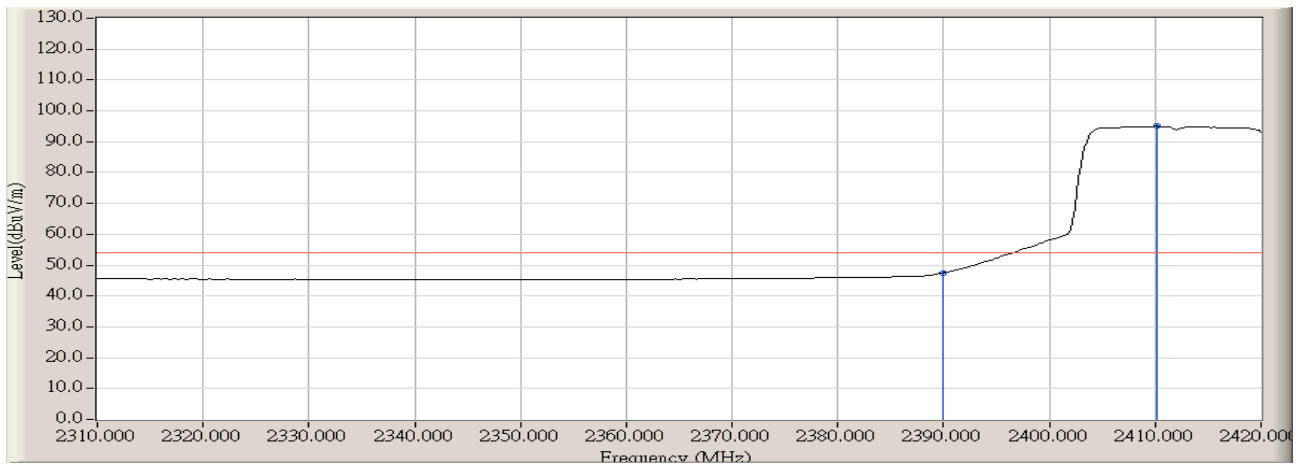


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	66.188	62.986	-10.984	73.970	PEAK
2	*	2415.783	-3.222	109.318	106.097	N/A	N/A	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:58
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

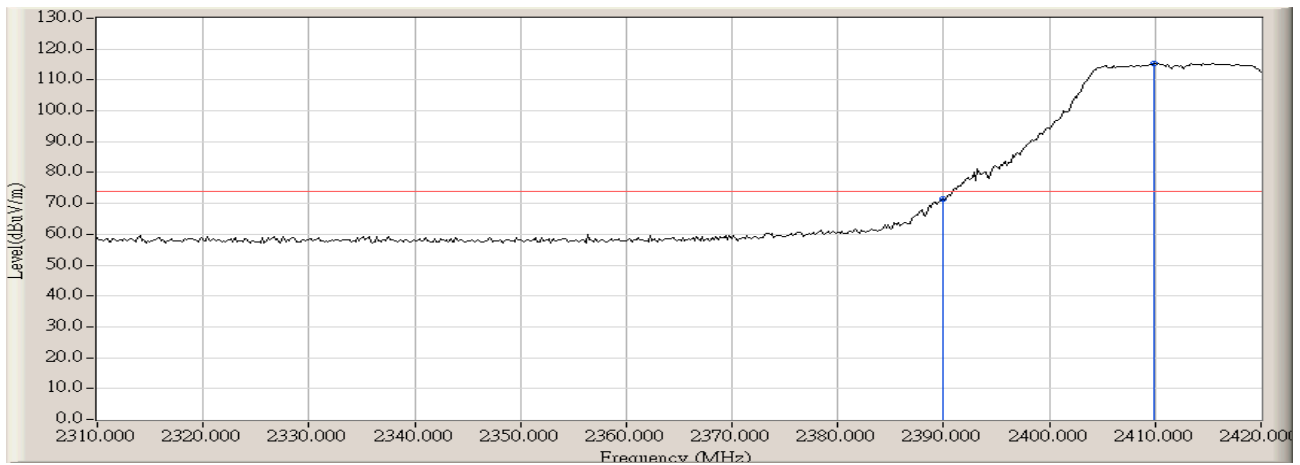


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	50.746	47.544	-6.426	53.970	AVERAGE
2	*	2410.100	-3.208	98.213	95.004	N/A	N/A	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:36
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

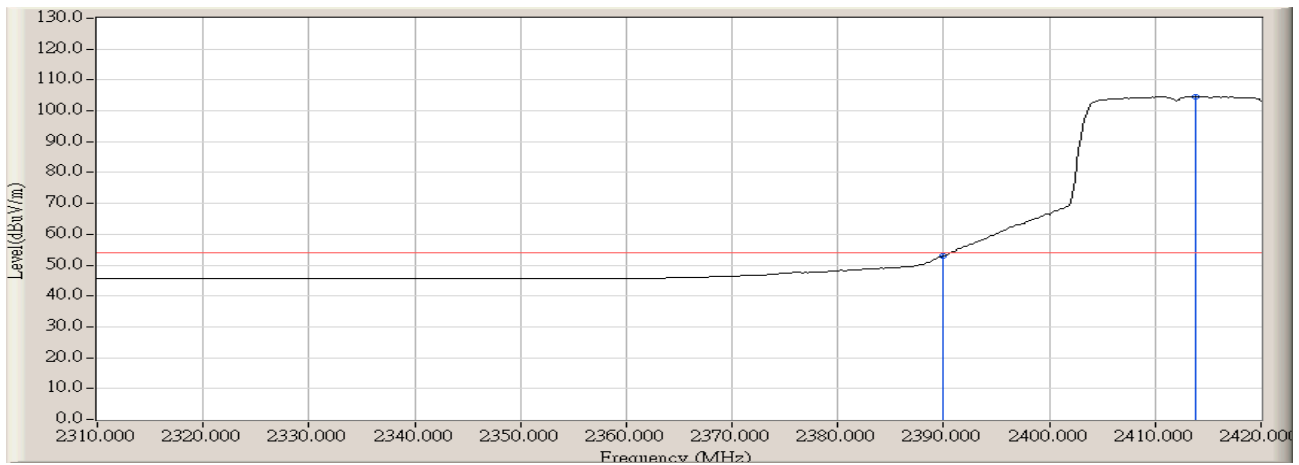


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	74.529	71.327	-2.643	73.970	PEAK
2	*	2409.917	-3.208	118.675	115.466	N/A	N/A	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 09:37
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

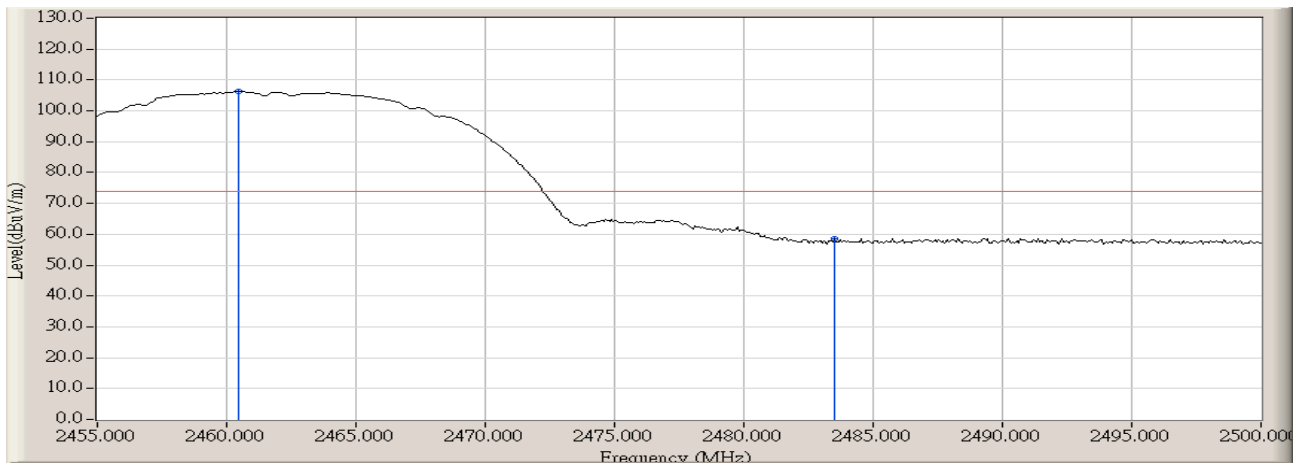


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	-3.202	56.119	52.917	-1.053	53.970	AVERAGE
2	*	2413.767	-3.216	107.791	104.574	N/A	N/A	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:26
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

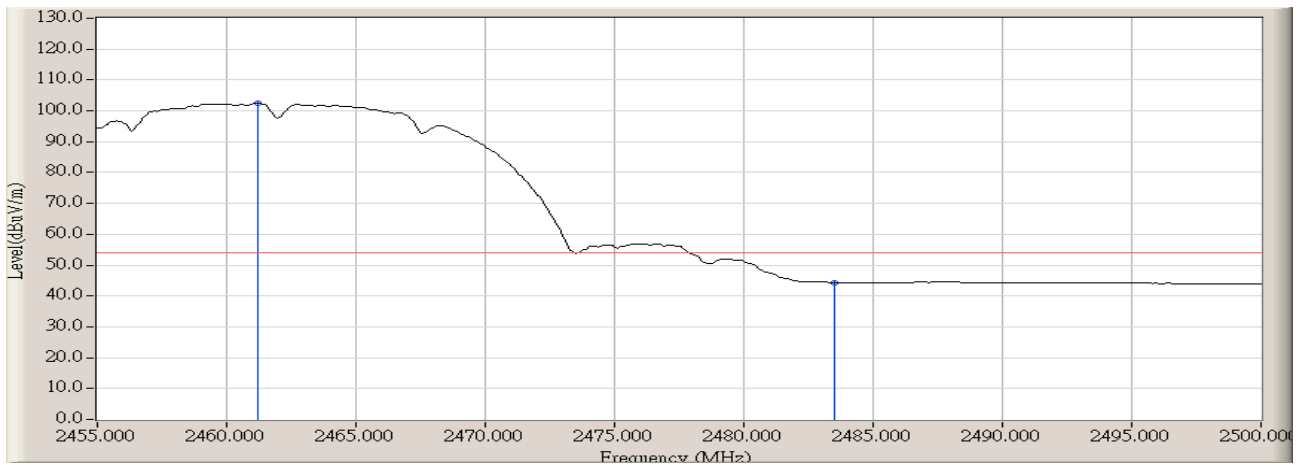


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.475	-3.264	109.608	106.344	N/A	N/A	PEAK
2		2483.500	-3.177	61.616	58.439	-15.531	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:27
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

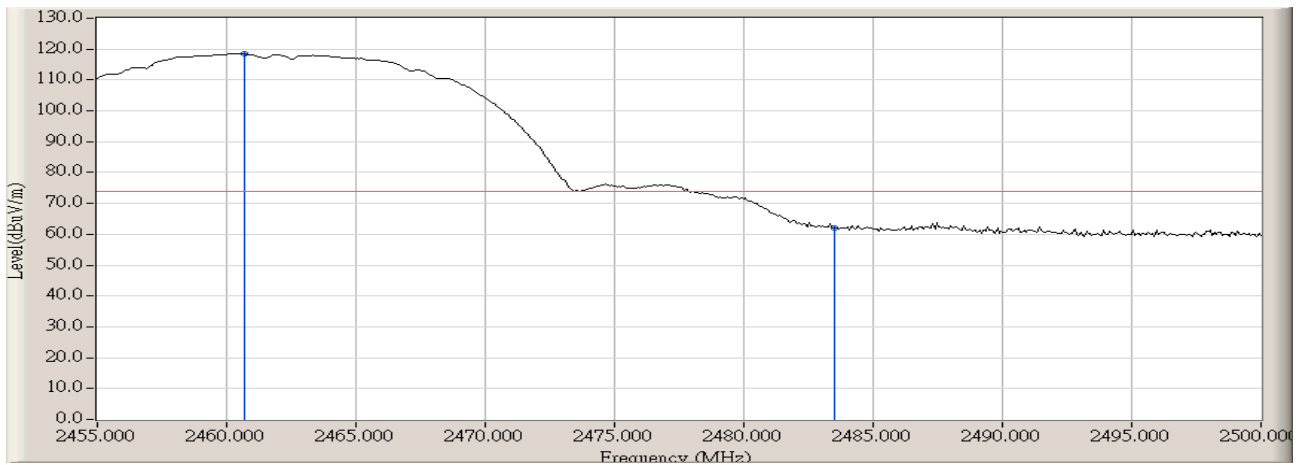


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.225	-3.261	105.661	102.399	N/A	N/A	AVERAGE
2		2483.500	-3.177	47.584	44.407	-9.563	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:18
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

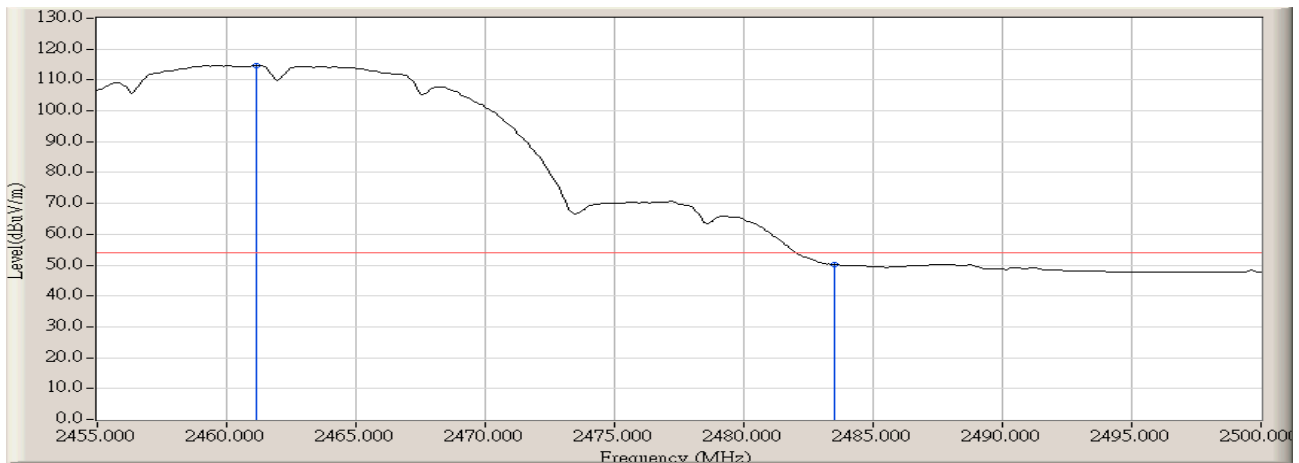


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.700	-3.263	121.764	118.501	N/A	N/A	PEAK
2		2483.500	-3.177	65.319	62.142	-11.828	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:19
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

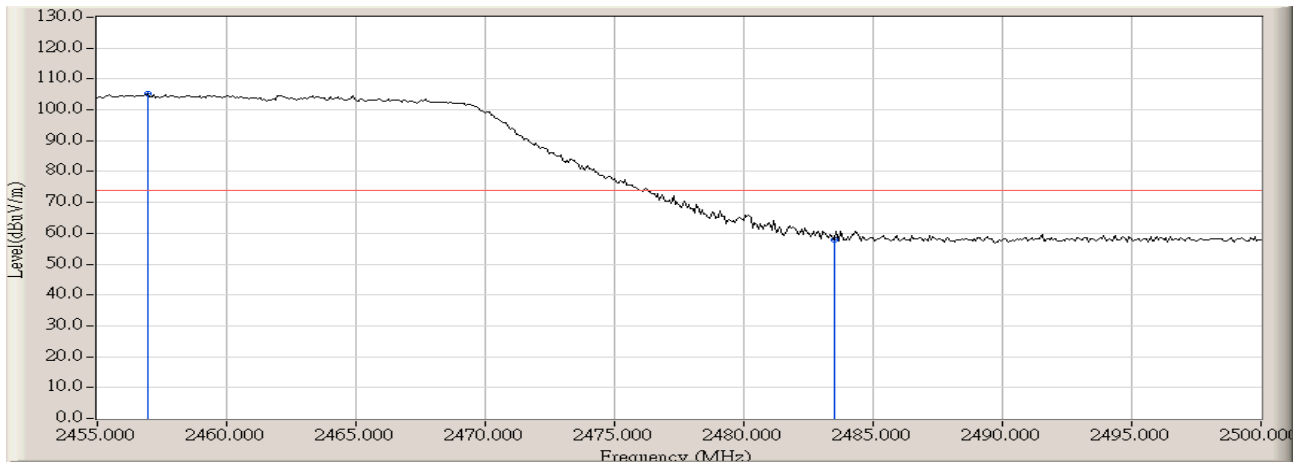


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.150	-3.261	118.008	114.746	N/A	N/A	AVERAGE
2		2483.500	-3.177	53.408	50.231	-3.739	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:45
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

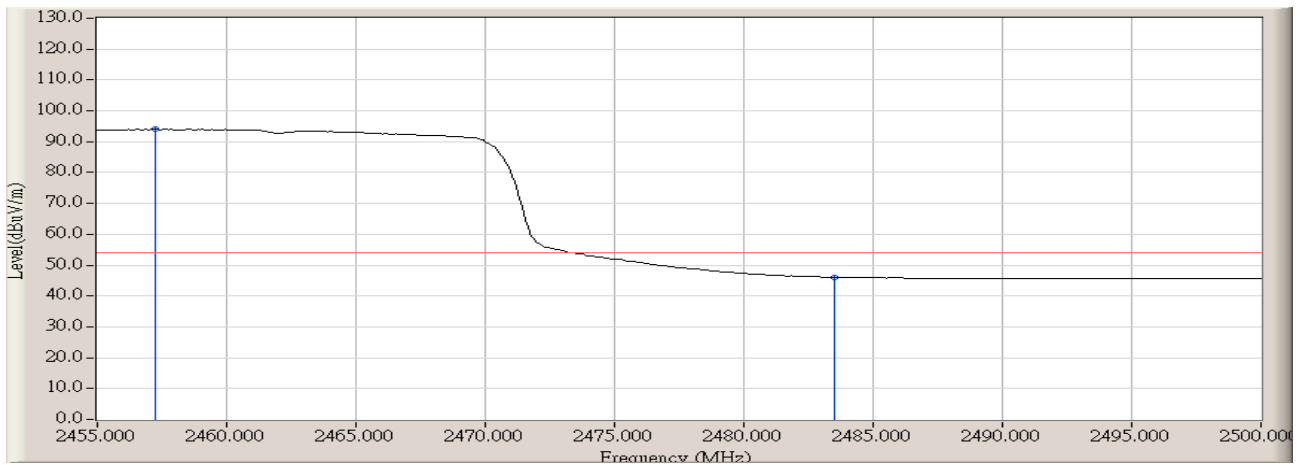


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.950	-3.272	108.356	105.084	N/A	N/A	PEAK
2		2483.500	-3.177	61.150	57.973	-15.997	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:46
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

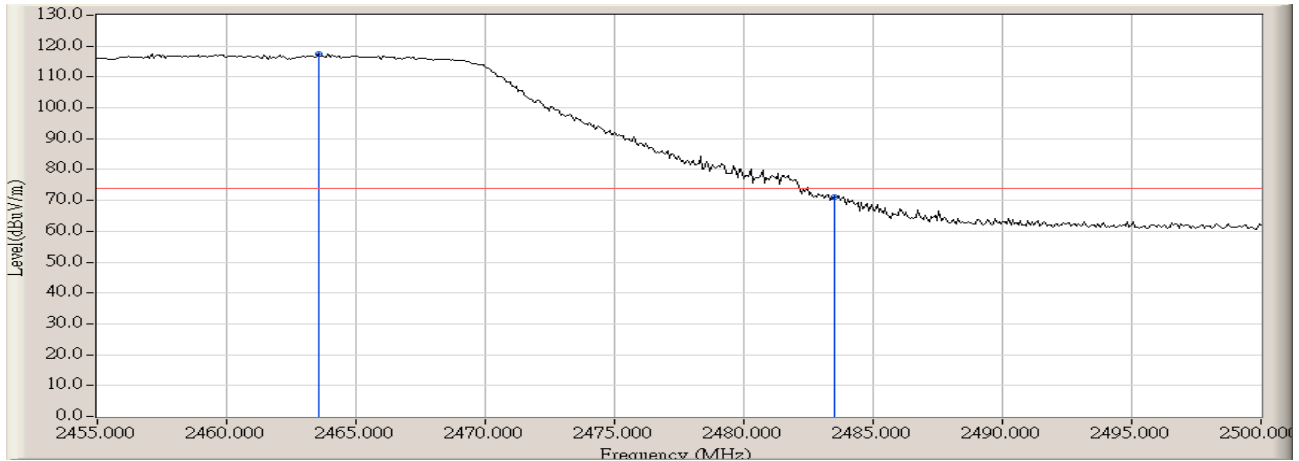


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2457.250	-3.271	97.254	93.983	N/A	N/A	AVERAGE
2		2483.500	-3.177	49.252	46.075	-7.895	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:41
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

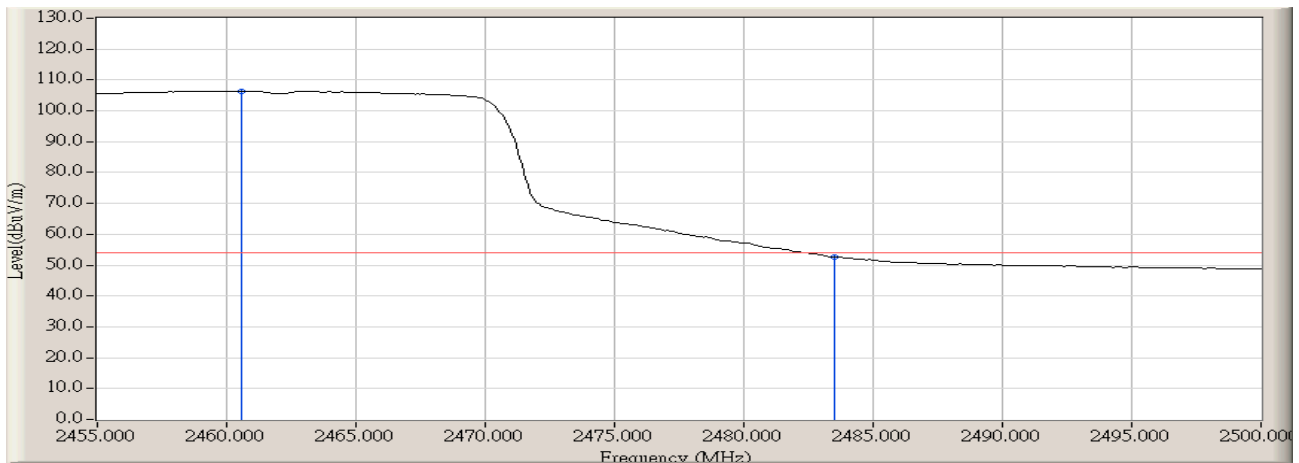


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.550	-3.254	120.669	117.415	N/A	N/A	PEAK
2		2483.500	-3.177	74.444	71.267	-2.703	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/01/08 - 10:41
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : IWAVEPORT WLM54GP28ESD	Probe : BBHA9120D_496(1-18GHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.550	-3.264	109.681	106.418	N/A	N/A	AVERAGE
2		2483.500	-3.177	55.782	52.605	-1.365	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

7. Operation Frequency Range of 20dB Bandwidth

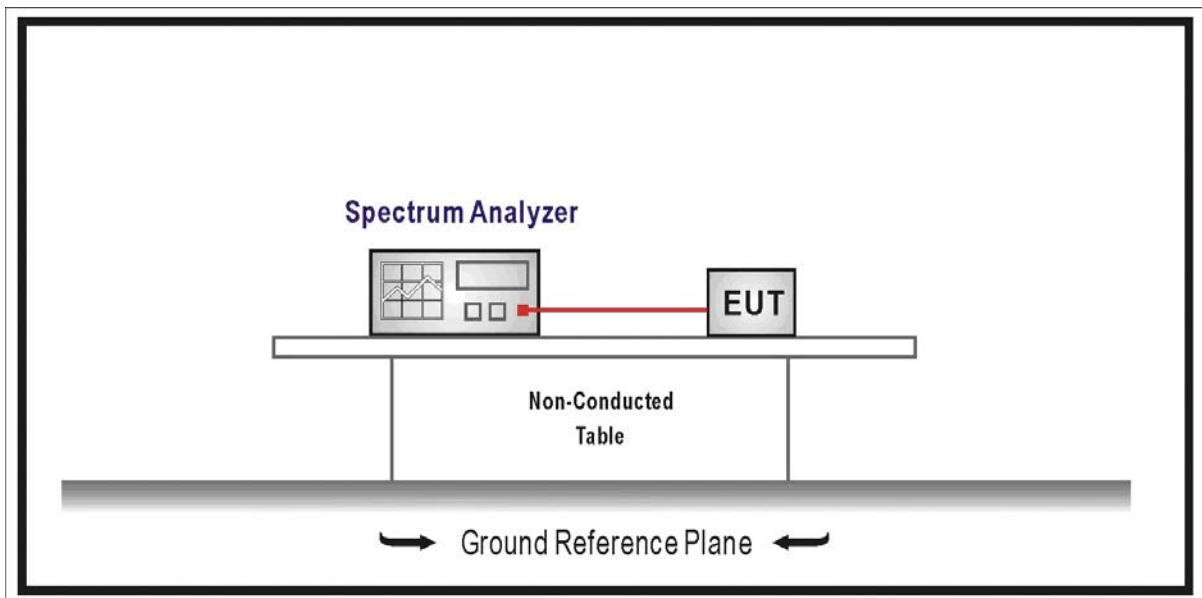
7.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band.

7.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

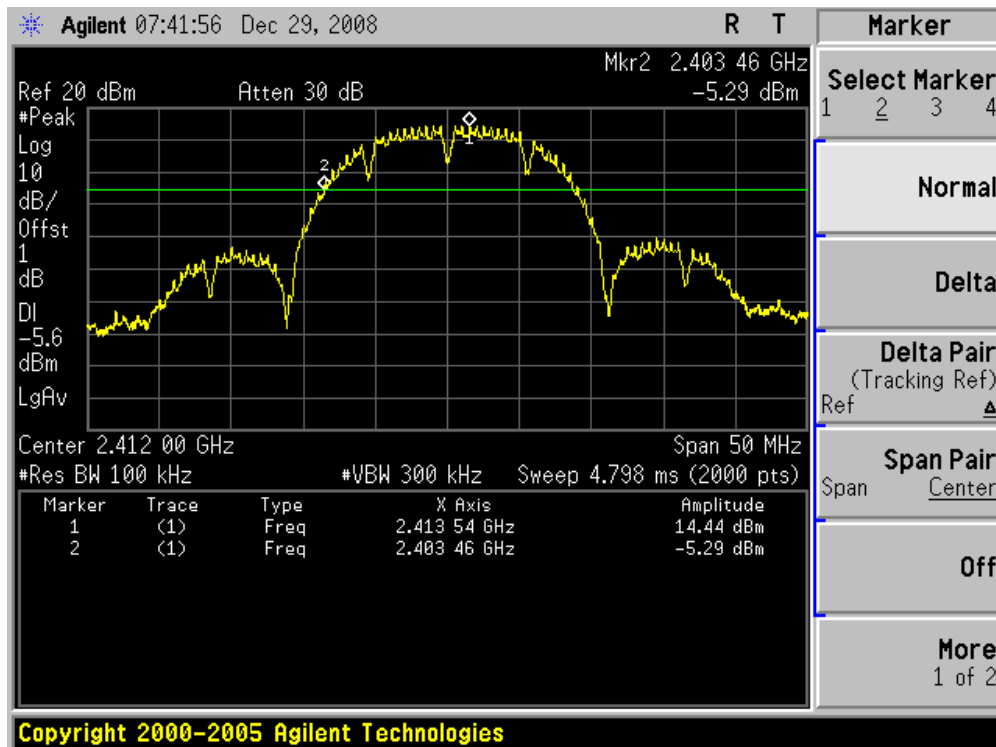
7.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

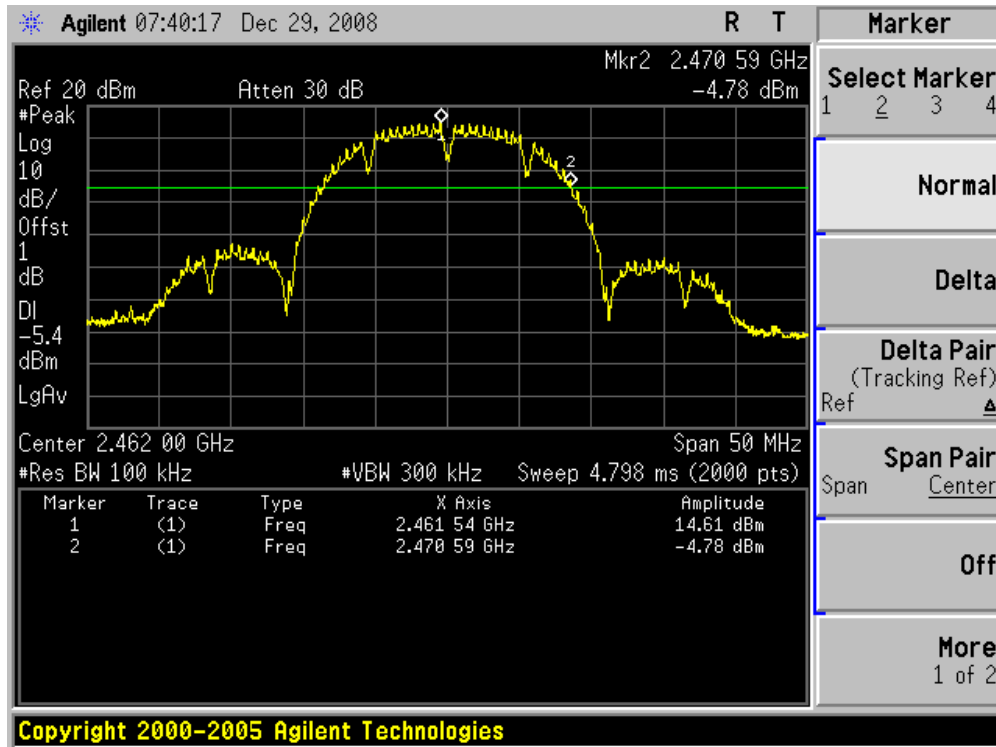
7.6. Test Result

Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)

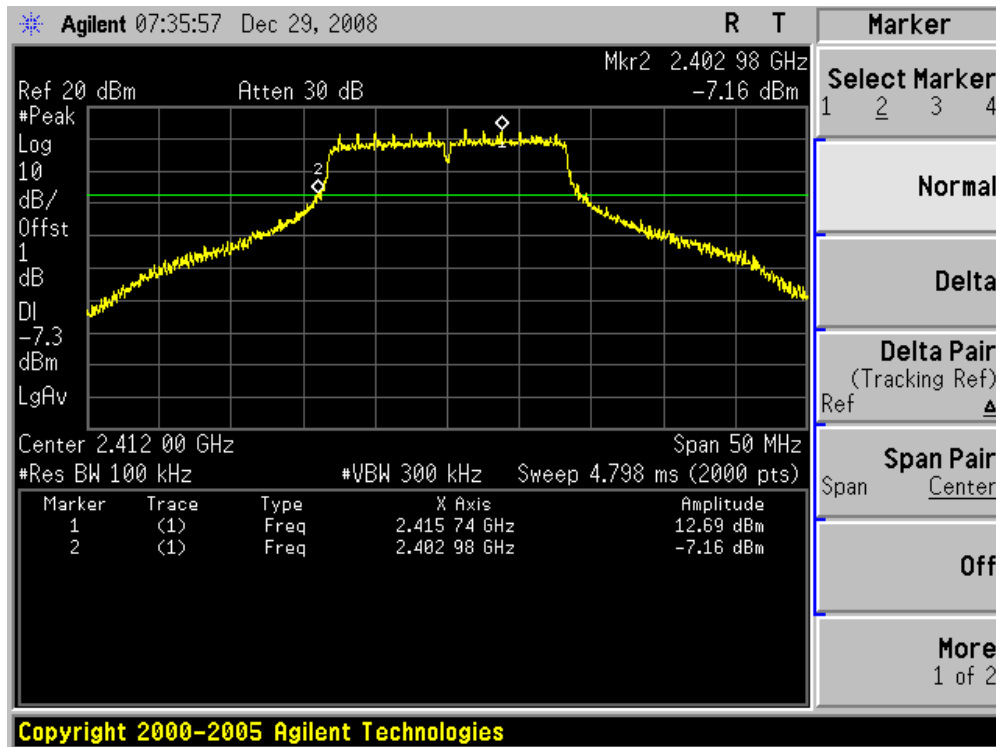


Channel 11 (2462MHz)

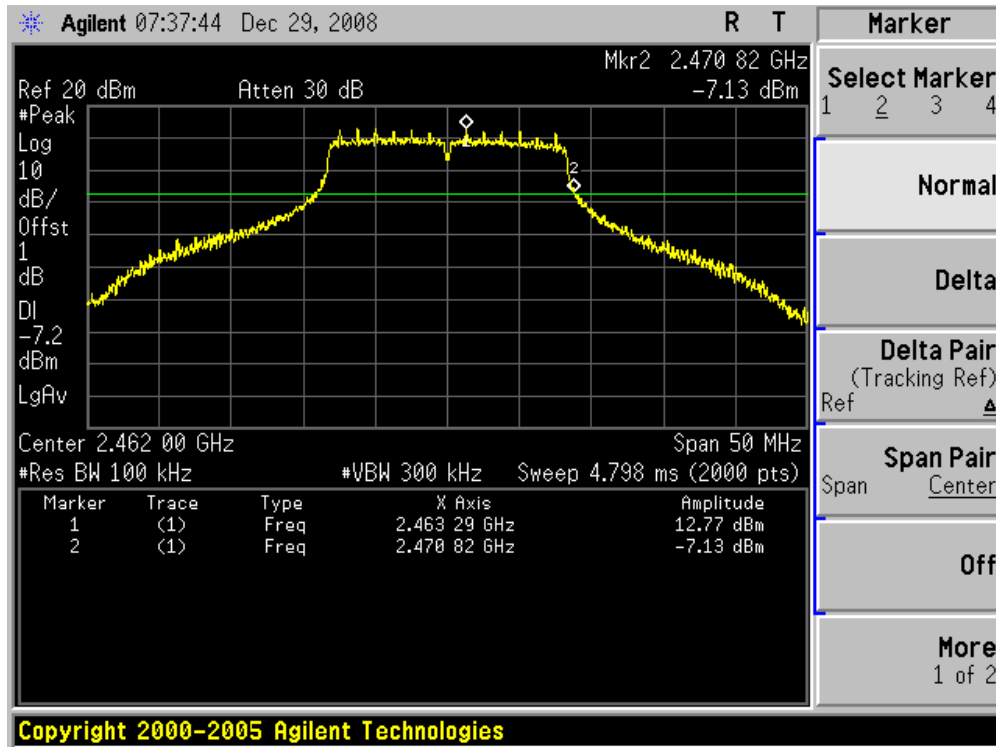


Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)



Channel 11 (2462MHz)



8. Occupied Bandwidth

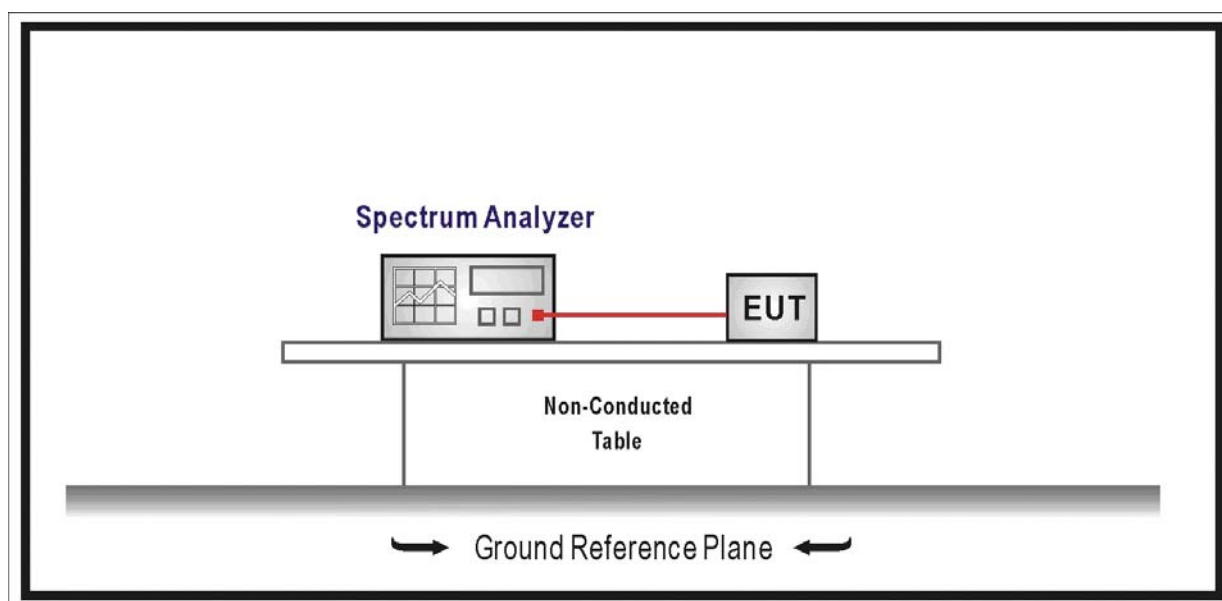
8.1. Test Equipment

Occupied Bandwidth / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

8.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

8.5. Uncertainty

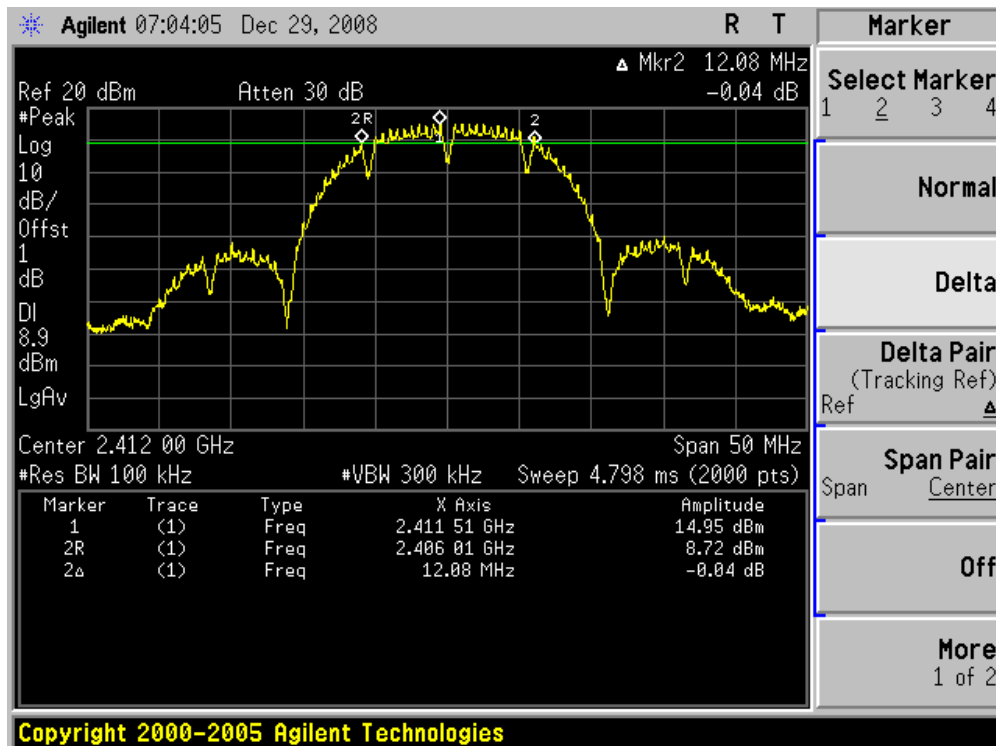
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

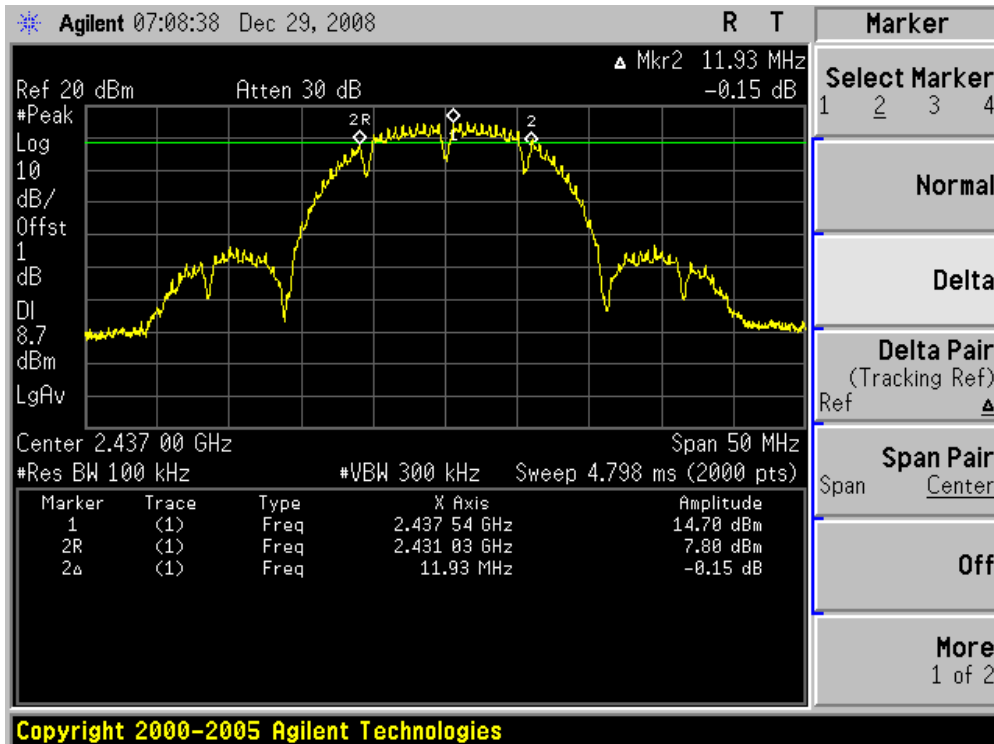
Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	12080	500	Pass
06	2437	11930	500	Pass
11	2462	12030	500	Pass

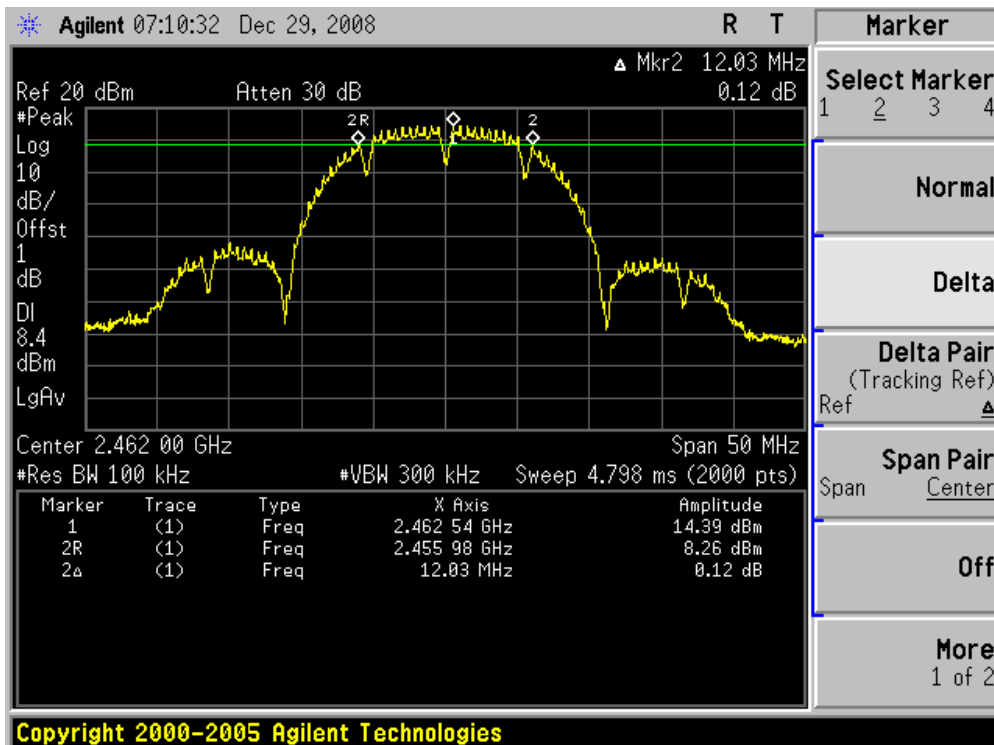
Channel 01 (2412MHz)



Channel 06 (2437MHz)



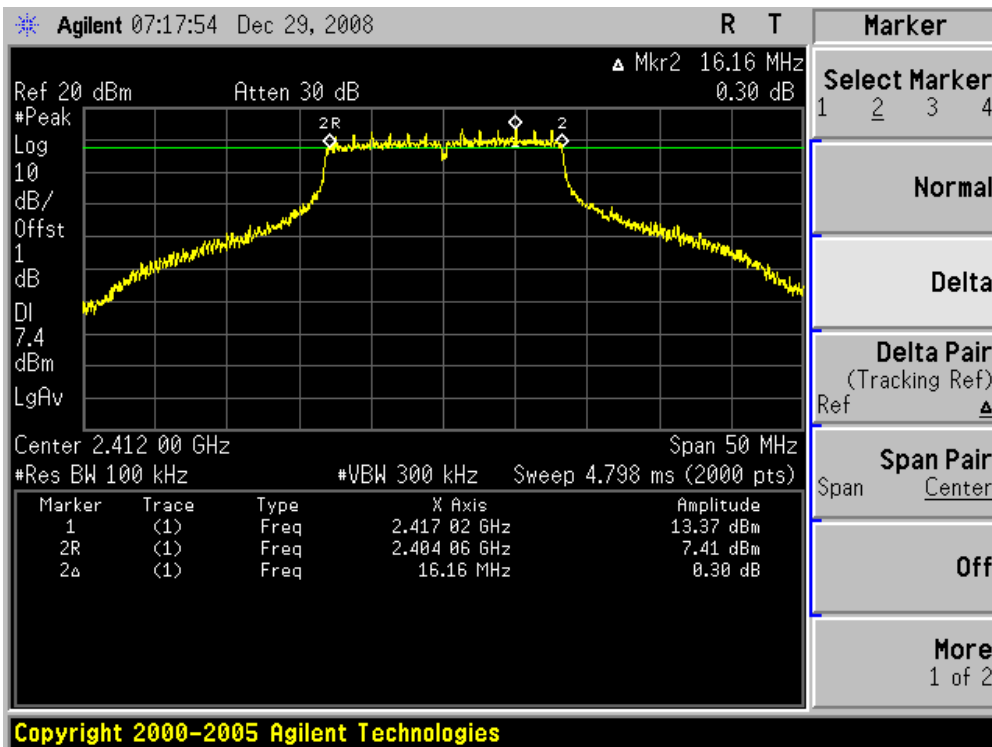
Channel 11 (2462MHz)



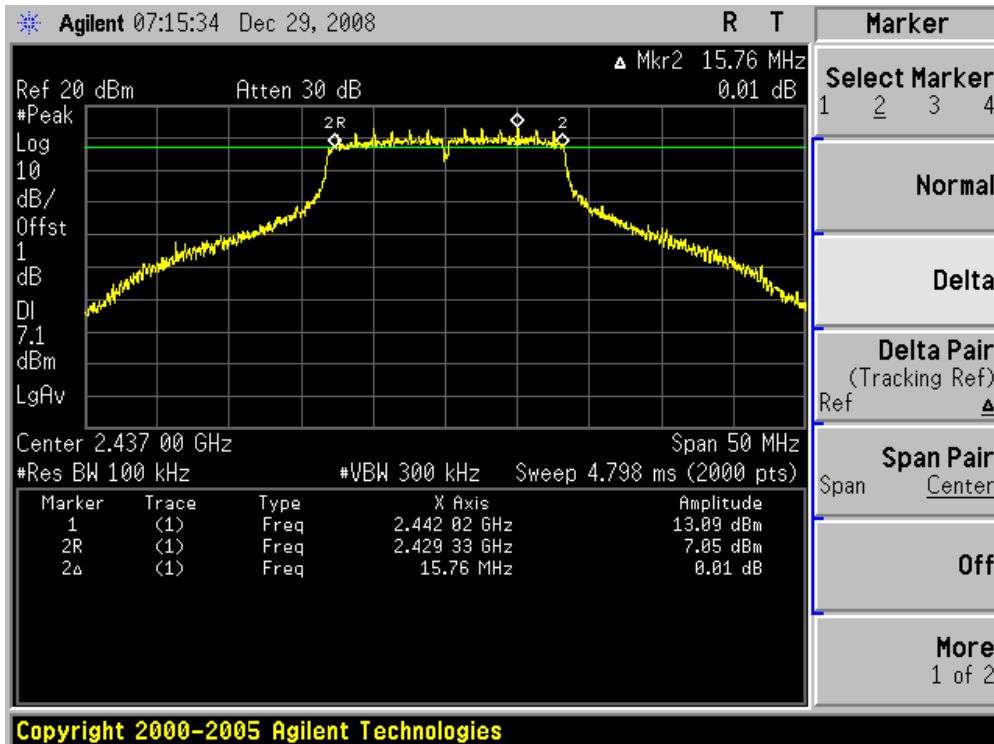
Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Occupied Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	16160	500	Pass
06	2437	15760	500	Pass
11	2462	15980	500	Pass

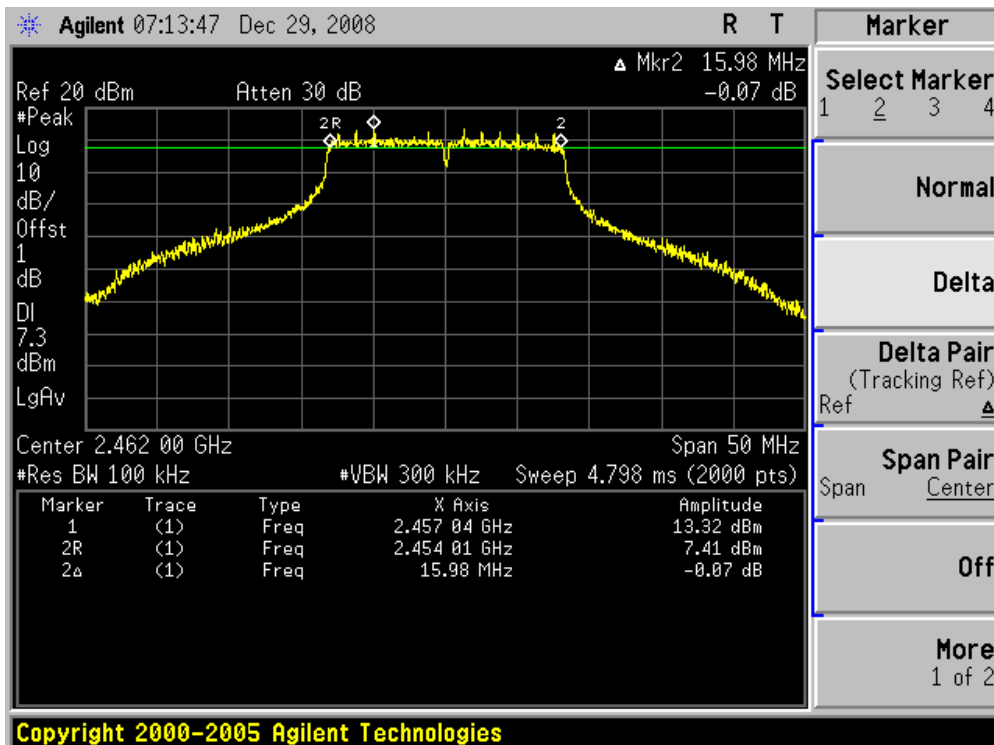
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



9. Power Output

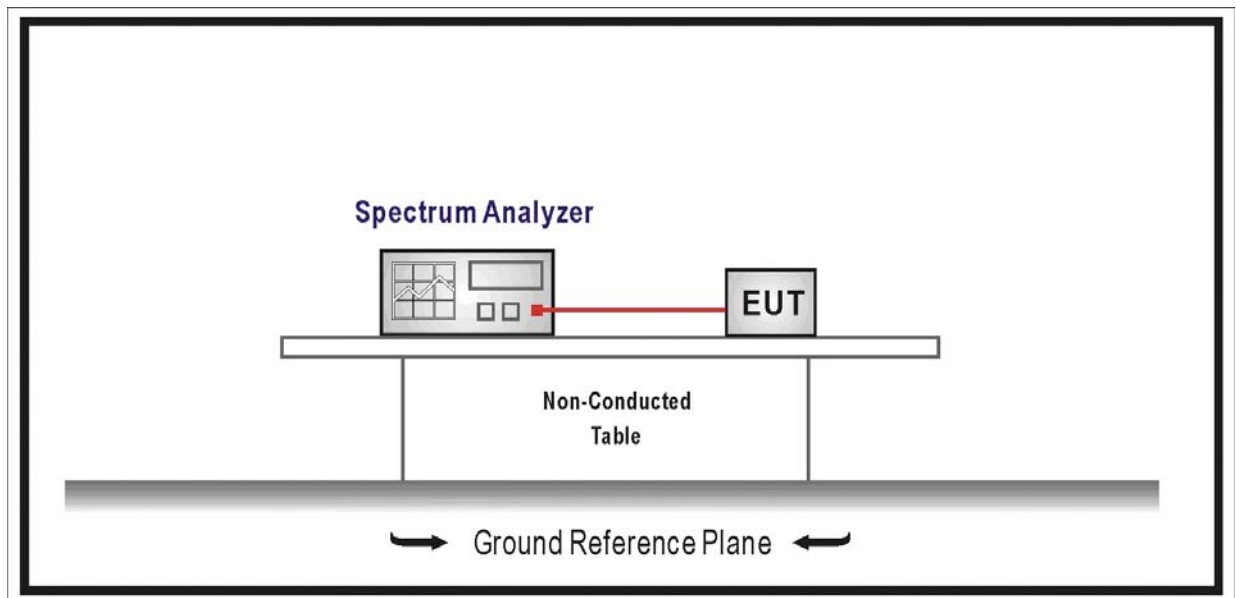
9.1. Test Equipment

Power Output / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

The maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

9.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Power output measurement allowed per Section 15.247(b)(3).

In the following, "T" is the transmission pulse duration over which the transmitter is on and transmitting at its maximum power control level. Measurements are performed with a spectrum analyzer. Three methods are provided to accommodate measurement limitations of the spectrum analyzer depending on signal parameters. Set resolution bandwidth (RBW) = 1 MHz. Set span to encompass the entire emission bandwidth (EBW) of the signal. Use automatic setting for analyzer sweep time.

As "T" \geq sweep time, the test procedure will be used as following:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz.
3. Set VBW \geq 3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run".
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

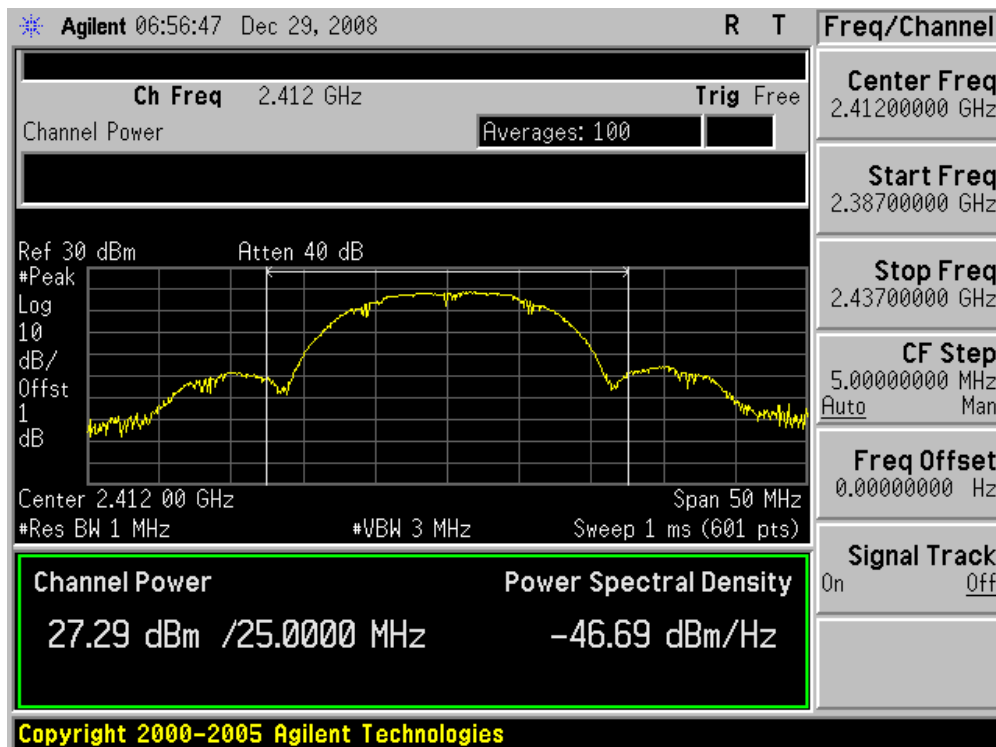
9.6. Test Result

Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Power Output
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11b

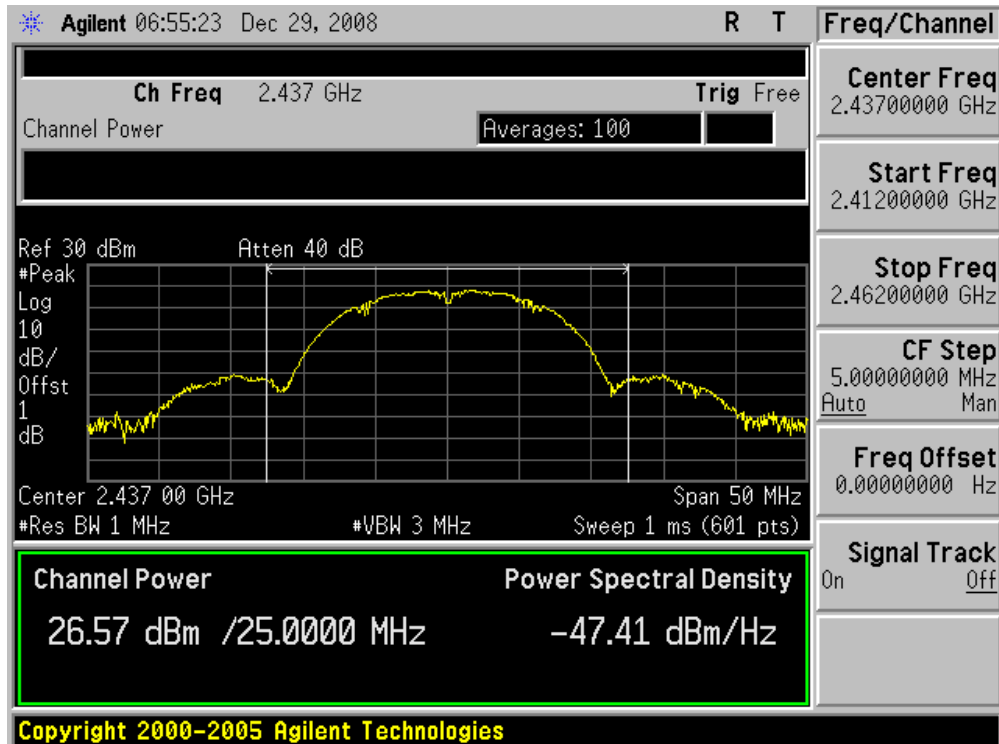
Channel No.	Frequency (MHz)	Data Rate (Mbps)				Limit (dBm)
		1	2	5.5	11	
01	2412	27.29	--	--	--	30
06	2437	26.57	26.49	26.46	26.12	30
11	2462	26.64	--	--	--	30

Note: The antenna gain of transmitter is less than 6dBi and other than fixed point-to-point operation, therefore the limit is 30dBm.

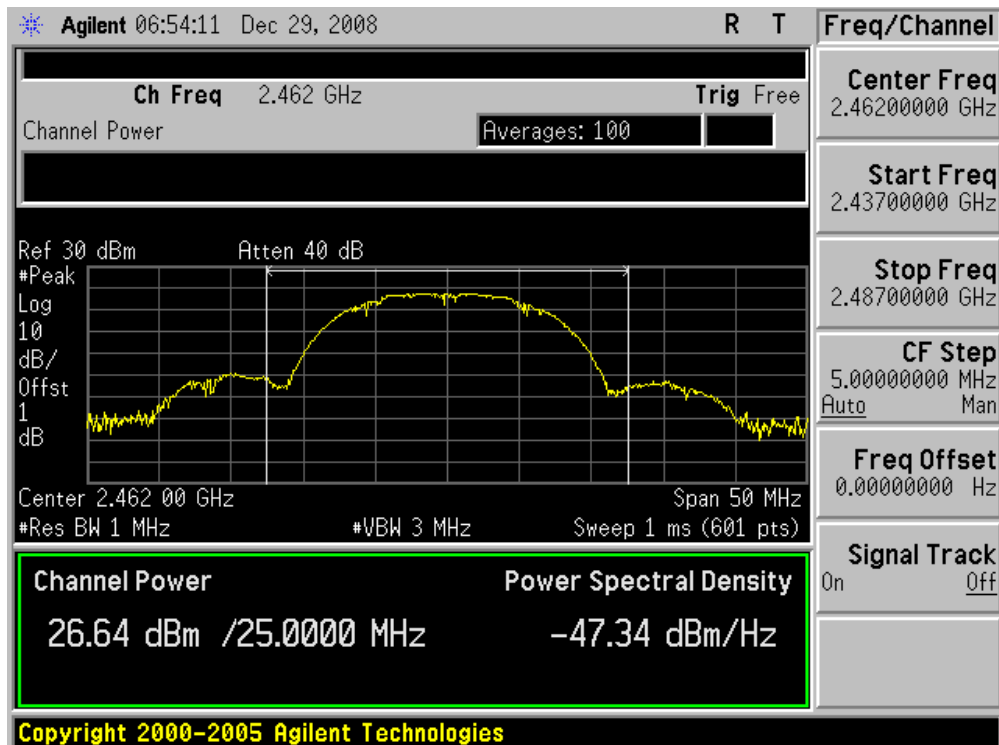
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

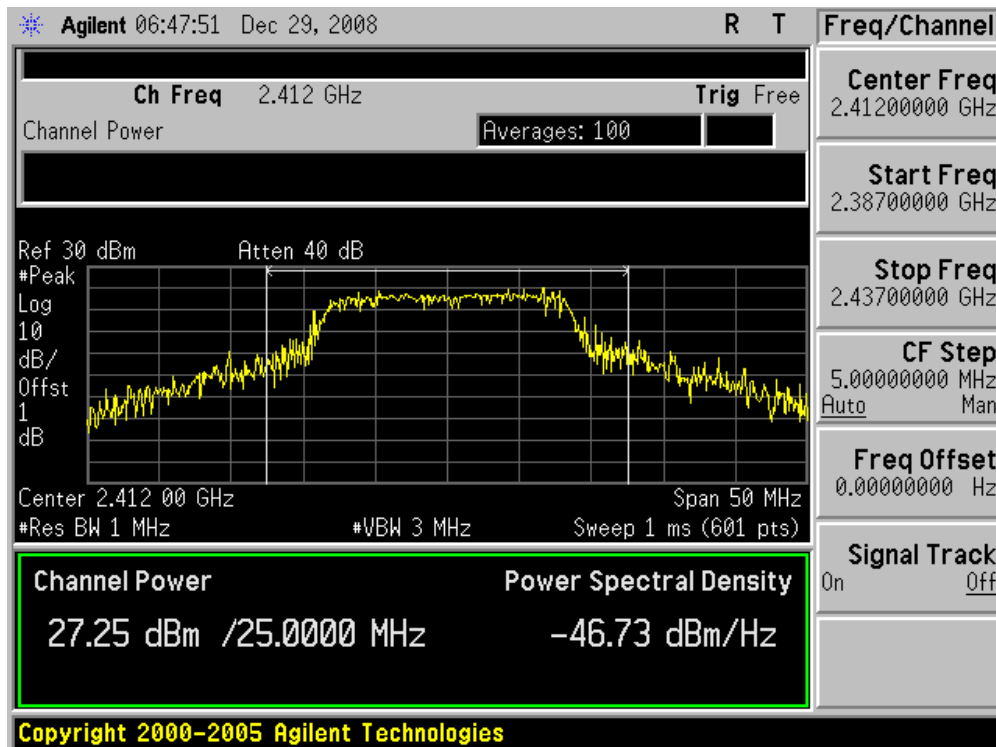


Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Power Output
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11g

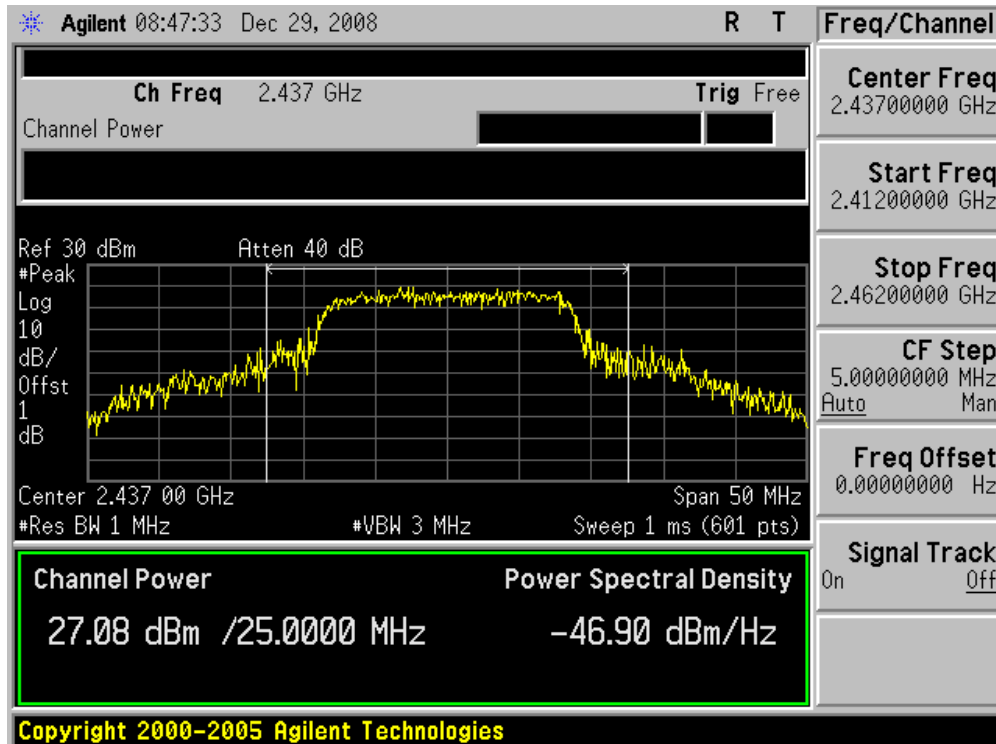
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Limit (dBm)
		6	9	12	18	24	36	48	54	
01	2412	27.25	--	--	--	--	--	--	--	30
06	2437	27.08	27.01	26.69	26.52	26.4	26.27	26.18	26.09	30
11	2462	27.05	--	--	--	--	--	--	--	30

Note: The antenna gain of transmitter is less than 6dBi and other than fixed point-to-point operation, therefore the limit is 30dBm.

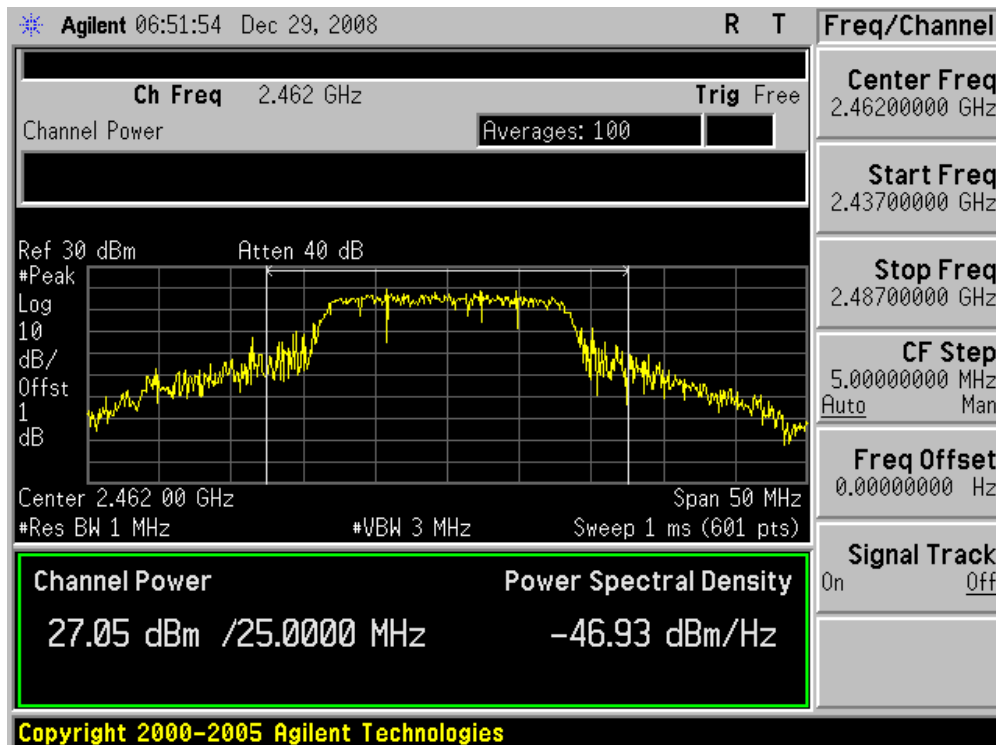
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



10. Power Spectral Density

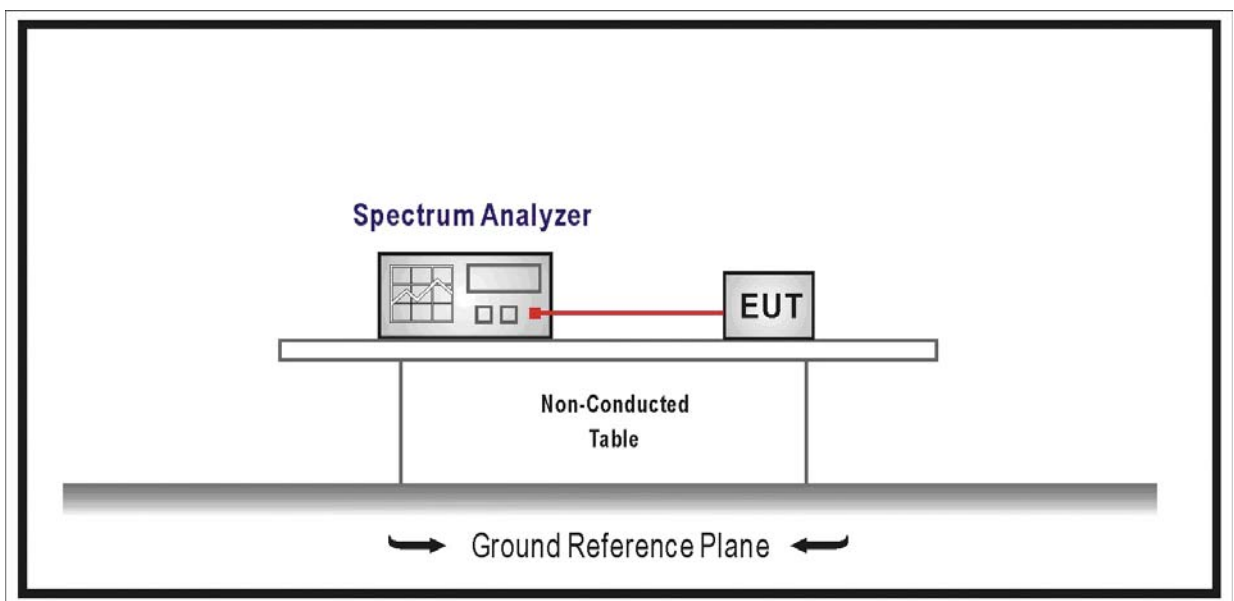
10.1. Test Equipment

Power Spectral Density / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

10.2. Test Setup



10.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

10.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements and choose test method option 2 of this item.

Set RBW= 3 kHz, Set VBW \geq 9 kHz, Sweep time=Auto, Set detector=Peak detector.

10.5. Uncertainty

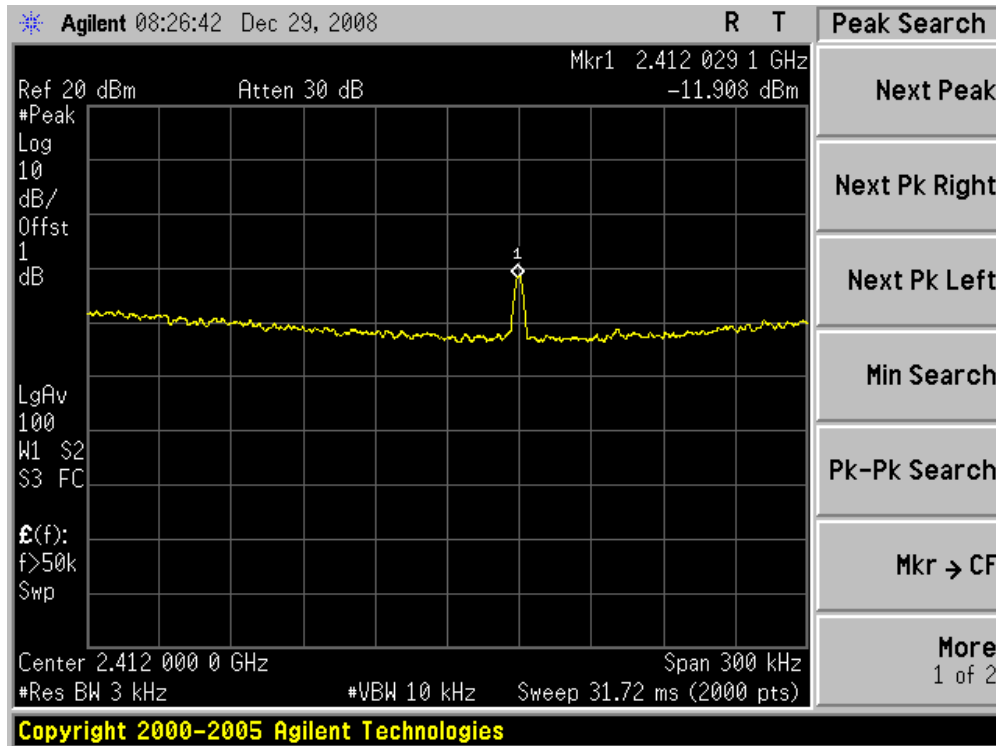
The measurement uncertainty is defined as ± 1.27 dB

10.6. Test Result

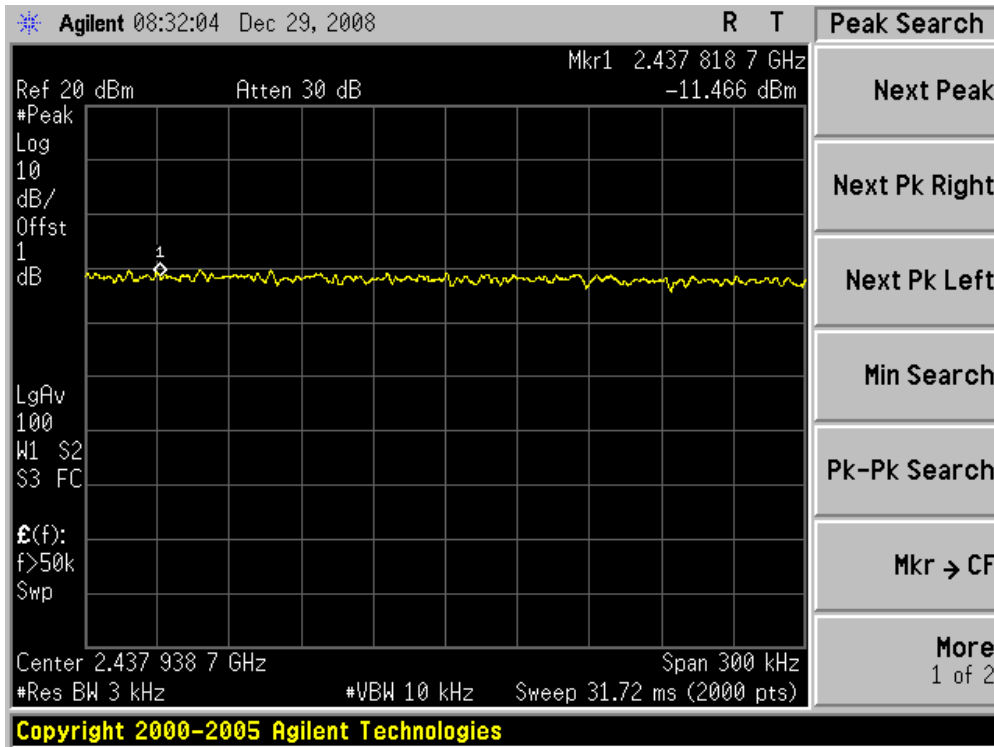
Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Power Spectral Density
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-11.908	8	Pass
06	2437	-11.466	8	Pass
11	2462	-10.046	8	Pass

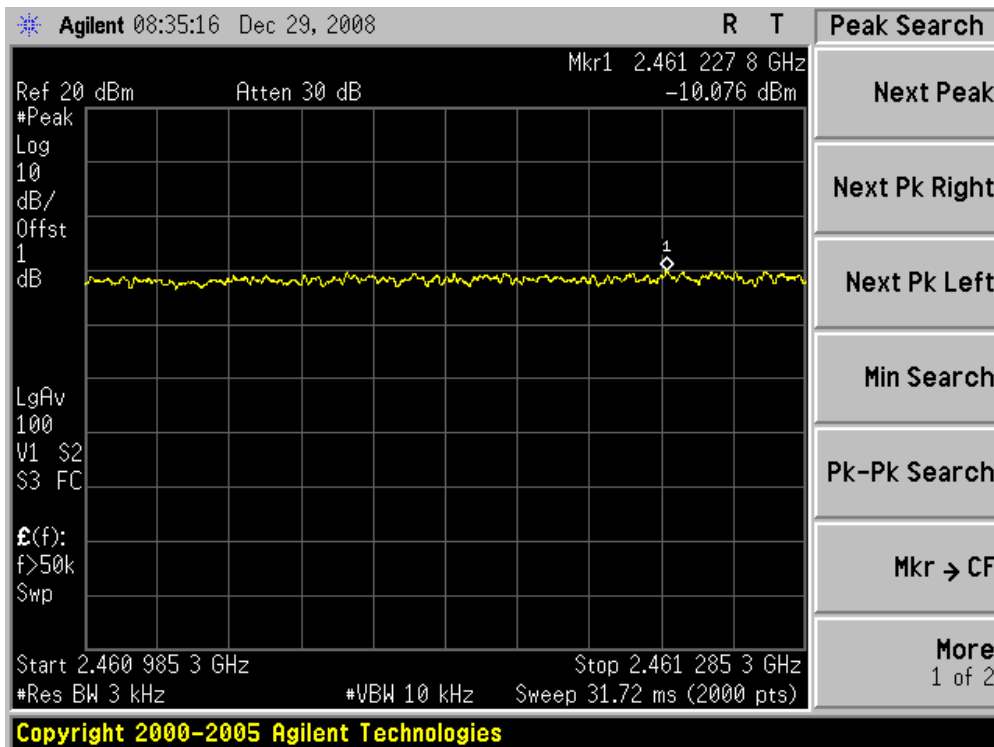
Channel 01 (2412MHz)



Channel 06 (2437MHz)



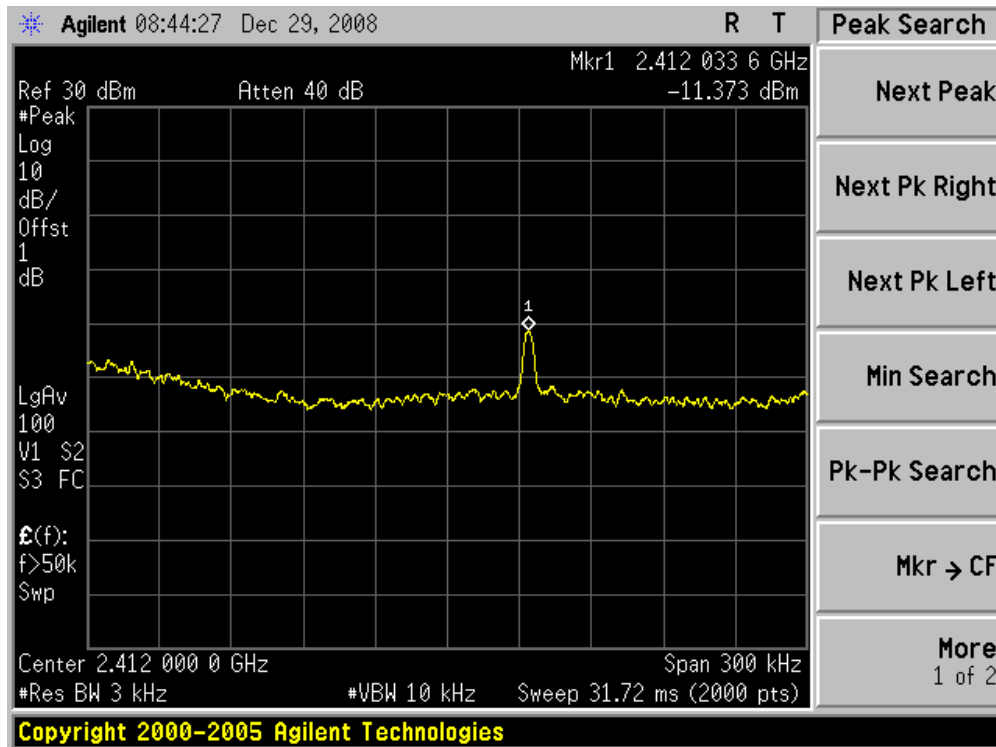
Channel 11 (2462MHz)



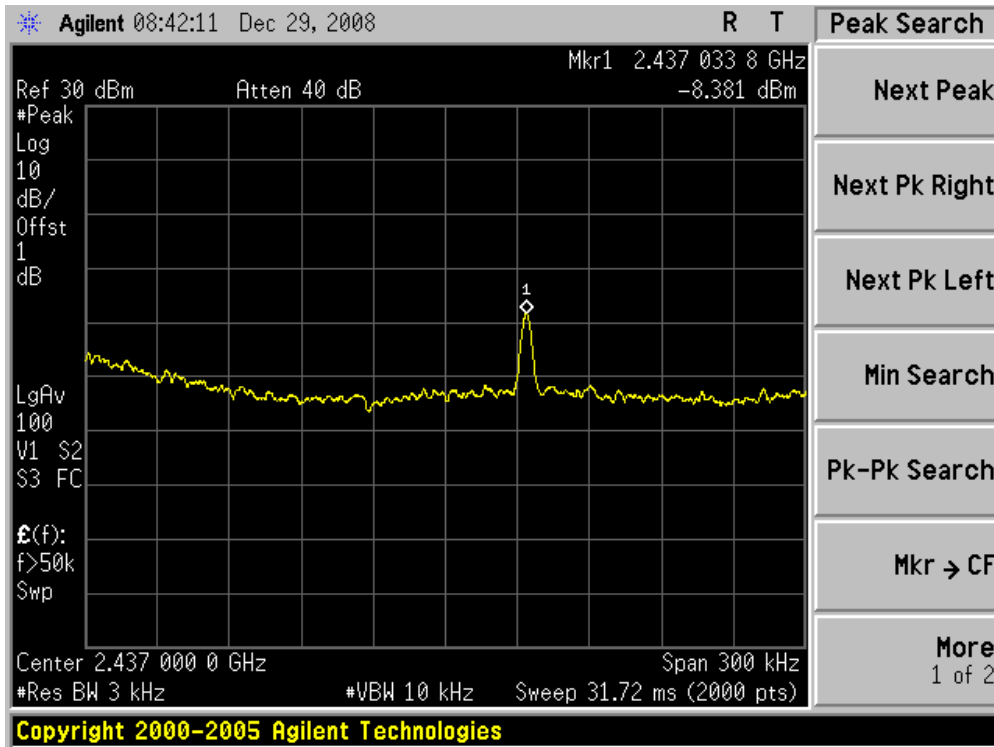
Product	:	WIRELESS-G 28DBM NETWORK MINI PCI ADAPTER WITH ESD
Test Item	:	Power Spectral Density
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-11.373	8	Pass
06	2437	-8.381	8	Pass
11	2462	-6.434	8	Pass

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

