



FCC COMPLIANCE TEST REPORT

Technical Statement of Conformity
in accordance with 47 CFR Part 15 Subpart C

The product

Equipment Under Test	: 720P Day/Night Wireless IPCAM
Model Number	: CW-720IR
Product Series	: CU-720IR, CU-720IRXXXXX, CW-720IRXXXXX
Trade Name	: Air Live
Report Number	: HA140617-SARA
Issue Date	: 11-Dec-2014
Test Result	: Compliance

is produced by

OvisLink Corp.

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SL2-IS-E-0023, SL2-R1-E-0023,
SL2-R2-E-0023, SL2-L1-E-0023

FCC Designation No.: TW1071

TAF Accreditation No.: 1163

VCCI Registration No.: R-2156, C-2329, T-219

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Test Result Certification

Applicant	: OvisLink Corp.
Address of Applicant	: 5F, No.6, Lane 130, Min-Chuan Rd., Hsin-Tien Dist., New Taipei City, 231, Taiwan
Manufacturer	: OvisLink Corp.
Address of Manufacturer	: 5F, No.6, Lane 130, Min-Chuan Rd., Hsin-Tien Dist., New Taipei City, 231, Taiwan
Trade Name	: Air Live
Equipment Under Test	: 720P Day/Night Wireless IPCAM
Model Number	: CW-720IR
Product Series	: CU-720IR, CU-720IRXXXXX, CW-720IRXXXXX
FCC ID	: ODMCW720IR
Filing Type	: Certification
Sample Received Date	: 17-Sep-2014
Test Standard	:

☒ FCC Part 15 Subpart C §15.247

Deviations from standard test methods & any other specifications : NONE

Remark:

1. This report details the results of the test carried out on one sample.
2. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.
3. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd..

Documented by:**Kay Wang/ ADM. Dept Staff****2014-12-11****Tested by:****Kidd Liao / ENG. Dept. Staff****2014-12-10****Approved by:****Peter Chin / Section Manager****Date:****2014-12-11**



Summary of Test Result

	Test Item	Applicable Standard	Test Result
1	Conducted limits	FCC part 15 subpart C §207	Compliance
2	Radiated emission limits	FCC part 15 subpart C §209	Compliance
3	6dB Bandwidth	FCC part 15 subpart C §247(a)(2)	Compliance
4	Maximum Conducted Output Power	FCC part 15 subpart C §247(b)(3)	Compliance
5	Out of Band Emission	FCC part 15 subpart C §247(d)	Compliance
6	Power Spectral Density	FCC part 15 subpart C §247(e)	Compliance
7	Antenna Requirement	FCC part 15 subpart C §203	Compliance

1 General Description

1.1 Description of EUT

Equipment Under Test	:	720P Day/Night Wireless IPCAM									
Model Number of EUT	:	CW-720IR									
Product Series	:	CU-720IR, CU-720IRXXXXX, CW-720IRXXXXX									
Power Supply	:	Switch Adaptor Manufacturer: JENTEC, MN: CH1212-B, EMC: CE/FCC Input: AC 100~240V, 50/60Hz Output: DC12V, 1A Power Cord: 2Pin ☐Shielded ☐Detachable ☐w Ferrite Core ☒Non-Shielded ☒Un-Detachable, 1.5m ☒w/o Ferrite Core									
Frequency Range	:	802.11 b/ g/ n(20M) : 2412~2462 MHz 802.11n(40M) : 2422~2452 MHz									
Number of Channels	:	11 Channels									
Carrier Frequency of Each Channel	:	Ch.	Fre. (MHz)	Ch.	Fre. (MHz)	Ch.	Fre. (MHz)	Ch.	Fre. (MHz)	Ch.	Fre. (MHz)
		01	2412	02	2417	03	2422	04	2427	05	2432
		06	2437	07	2442	08	2447	09	2452	10	2457
		11	2462								
Antenna Specification	:	Dipole Antenna/ Gain: 2 dBi									
Modulation Technique	:	802.11b : DSSS (Type: CCK, DQPSK, DBPSK) 802.11g : OFDM (Type: 64QAM, 16QAM, QPSK, BPSK) 802.11n : OFDM (Type: 64QAM, 16QAM, QPSK, BPSK)									
Transmit Data Rate	:	802.11b : 11/5.5/2/1 Mbps 802.11g : 54/48/36/24/18/12/9/6 Mbps 802.11n : up to 135Mbps									
Specification	:	Dimensions : 7.5 cm (L) X 5.5 cm (W) X 3.5 cm (H) Weight : 220 g Function : The EUT is a 720P Day/Night Wireless IPCAM, using WIFI as its wireless transmitting technology. Product Variant : The manufacturer declares that due to marketing purpose the model numbers CU-720IR, CU-720IRXXXXX, CW-720IRXXXXX are identical to FCC authorization model CW-720IR as series models on electronic circuits and appearances except for brand									



	name. The series products naming convention is as following: CU-720IRXXXXX, CW-720IRXXXXX (where X could be A-Z, a-z, 1-9, “-” or blank). The first X and second X are used to identify different sales channels. The third X and forth X are used to identify different clients. The fifth X is used to identify different software versions. ※For more detail specification, please refer to the User Manual.
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1.2 Test Instruments

Instruments Used for Measurement

HA1

Instrument Name	Manufacture Mode	Model Number	Serial Number	Last Cal. Date	Next Cal. Date
RF Amplifier	AR	15S1G3	306578	11-AUG-2014	11-AUG-2015
EMI Receiver	R&S	ESCI	100615	03-MAR-2014	03-MAR-2015
Spectrum Analyzer	R&S	FSL6	100323	11-JUN-2014	11-JUN-2015
Spectrum Analyzer	Advantest	R3172	101202158	24-JUN-2014	24-JUN-2015
Preamplifier	WIRELESS	FPA-6592G	060009	09-JUL-2014	09-JUL-2015
Preamplifier	HD	HD17187	004	04-AUG-2014	04-AUG-2015
Bilog Antenna	TESEQ	CBL6111D	25769	03-MAR-2014	03-MAR-2015
Bilog Antenna	Schaffner	CBL6112B	2860	12-AUG-2014	12-AUG-2015
Double-Ridged Waveguide Horn	EMCO	3115	9912-5992	04-MAY-2014	04-MAY-2015
Temp. & Humidity Chamber	Giant Force	GTH-150-20-SP-AR	MMA0907-012	22-JUL-2014	22-JUL-2015
Horn Antenna (18-40GHz)	Com-Power	AH-840	101042	03-Jul-2014	03-Jul-2015
Microwave Preamplifier	Com-Power	PAM-840	461269	02-Jul-2014	02-Jul-2015
L.I.S.N.	Mess Tec	NNB-2/16Z	03/1006	24-Jan-2014	24-Jan-2015
L.I.S.N.	EMCIS	LN2-16	LN04023	01-Aug-2014	01-Aug-2015
Wideband Power Sensor	R&S	NRP-Z11	111731	05-Dec-2013	05-Dec-2014

※ The test equipments used are calibrated and can be traced to National ITRI and International Standards.

1.3 Auxiliary Equipments

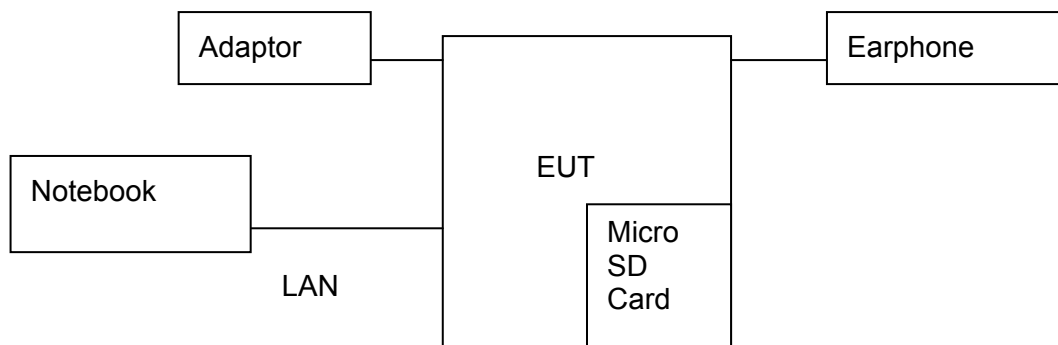
1.3.1. Provided by HongAn Technology Co., Ltd. for Emission Test.

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
01	Notebook	N61J	N61JV-021A520M	FCC DoC	ASUS	Adapter to Notebook Unshielded*1.8 m	AC to Adapter Unshielded*1.8 m

1.3.2. Provided by the Manufacturer

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
01	MicroSD Card	MM8GR01GJCCA-MGI	F0230000050	FCC DoC	Transcend	N/A	N/A
02	Earphone	EK-Y672CS	N/A	FCC DoC	SAMPO	Audio cable, Un-detachable, 2m	N/A

1.4 EUT SETUP



Note: Main Test Sample: CW-720IR

1.5 Identifying the Final Test Mode

1. Mode 1: TX WIFI mode (802.11b) CH 01.
2. Mode 2: TX WIFI mode (802.11b) CH 06.
3. Mode 3: TX WIFI mode (802.11b) CH 11.
4. Mode 4: TX WIFI mode (802.11g) CH 01.
5. Mode 5: TX WIFI mode (802.11g) CH 06.
6. Mode 6: TX WIFI mode (802.11g) CH 11.
7. Mode 7: TX WIFI mode (802.11n [20M]) CH 01.
8. Mode 8: TX WIFI mode (802.11n [20M]) CH 06.
9. Mode 9: TX WIFI mode (802.11n [20M]) CH 11.
10. Mode 10: TX WIFI mode (802.11n [40M]) CH 03.
11. Mode 11: TX WIFI mode (802.11n [40M]) CH 06.
12. Mode 12: TX WIFI mode (802.11n [40M]) CH 09.



Note:

1. During radiated emission pre-test, rotation of the EUT through three orthogonal axes has been evaluated. A variation in the primary supply voltage from 85% to 115% of the rated supply voltage has been evaluated. And, the variation in supply voltage has no significant influence to the test result.
2. After pre-test, we identified that the TX Vertical Position was most likely to cause maximum disturbance and most likely to be susceptible to disturbance. Therefore, the Final Assessment was performed for the worst case. All pre-test data show at appendix.
3. The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.
4. Channel Low (2412MHz), Mid (2437MHz) and High (2462MHz) with highest data rate were chosen for full testing.
5. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.



1.6 Final Test Mode (Worst Case)

802.11b: CCK 1Mbps.
802.11g: 64QAM 6Mbps.
802.11n (20M&40M): 64QAM MCS0.
Conducted Emission: Mode 3.
Radiated Emission (30~1000 MHz): Mode 3.
Radiated Emission (1~26.5GHz): All Mode.

1.7 Condition of Power Supply

AC 120 V, 60Hz

1.8 EUT Configuration

1. Setup the EUT as shown in Sec.1.4 Block Diagram.
2. Turn on the power of all equipments.
3. Activate the selected Final Test Mode.

1.9 Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.4 (2003) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.203, 15.207, 15.209 and 15.247.

1.10 General Test Procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 (2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C 63.4 (2003).

1.11 Modification

N/A

1.12 FCC Part 15.205 restricted bands of operations

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37635-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

1.13 Qualification of Test Facility

BSMI Certificate No. : SL2-IS-E-0023, SL2-IN-E-0023, SL2-R1-E-0023, SL2-R2-E-0023, SL2-A1-E-0023, SL2-L1-E-0023.

FCC Designation No. : TW1071

TAF Accreditation No. : 1163

VCCI Certificate No. : R-2156, C-2329, T-219

2 Power line Conducted Emission Measurement

2.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

2.2 Test Arrangement and Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

2.3 Limit (§ 15.207)

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency (MHz)	Limits (dBuV)	
	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

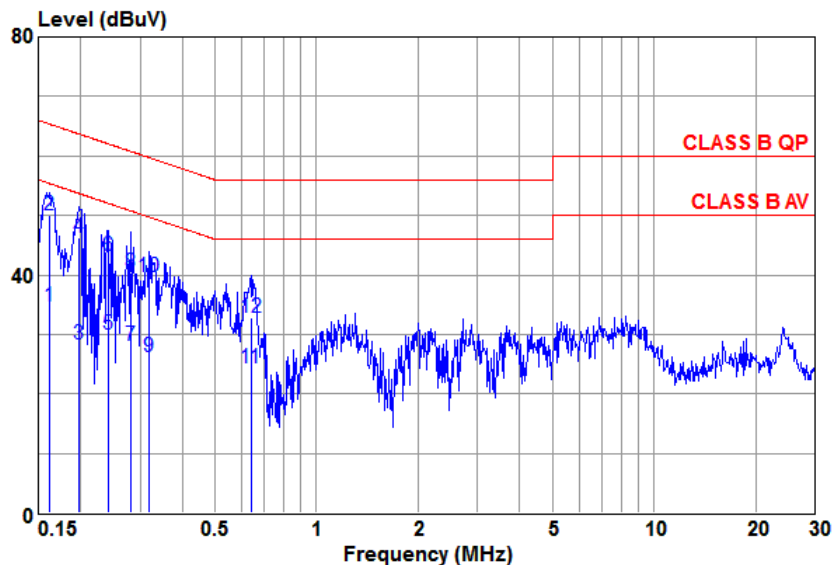
2.4 Test Result

Compliance

The final test data are shown on the following page(s).

Power Line Conducted Emission Test Data

Test Date : 2014-10-08 Power Line : Line
 Temperature : 26.4°C Humidity : 35%



		Freq	Reading	C.F	Result	Limit	Margin	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.162	34.39	0.26	34.65	55.38	-20.73	Average
2	@	0.162	49.67	0.26	49.93	65.38	-15.45	QP
3		0.199	27.61	0.69	28.30	53.67	-25.37	Average
4		0.199	45.59	0.69	46.28	63.67	-17.39	QP
5		0.242	29.40	0.54	29.94	52.04	-22.10	Average
6		0.242	42.68	0.54	43.22	62.04	-18.82	QP
7		0.282	27.61	0.41	28.02	50.76	-22.74	Average
8		0.282	39.85	0.41	40.26	60.76	-20.50	QP
9		0.320	25.86	0.30	26.16	49.71	-23.55	Average
10		0.320	39.26	0.30	39.56	59.71	-20.15	QP
11		0.641	24.17	0.10	24.27	46.00	-21.73	Average
12		0.641	32.81	0.10	32.91	56.00	-23.09	QP

Result = Reading + C.F ; C.F = LISN Factor + Cable Loss

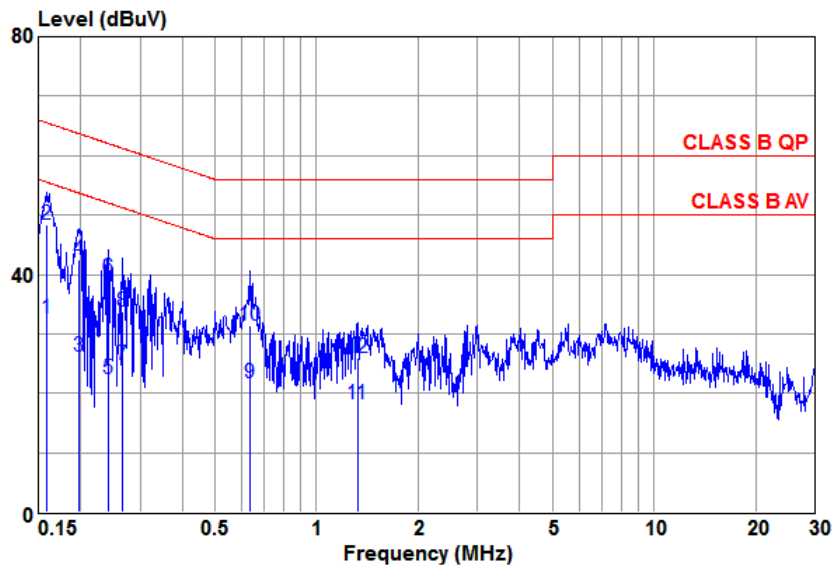
@ :Maximum QP * :Maximum AVG x :Over Limit

Remark :

1. Measuring frequencies from 0.15 MHz to 30 MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30 MHz were made with an instrument using quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15 MHz to 30 MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15 MHz to 30 MHz was 9kHz.

Power Line Conducted Emission Test Data

Test Date : 2014-10-08 Power Line : Neutral
 Temperature : 26.4°C Humidity : 35%



		Freq	Reading	C.F	Result	Limit	Margin	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.158	32.56	0.10	32.66	55.56	-22.90	Average
2	@	0.158	48.35	0.10	48.45	65.56	-17.11	QP
3		0.198	26.12	0.10	26.22	53.71	-27.49	Average
4		0.198	42.29	0.10	42.39	63.71	-21.32	QP
5		0.242	22.44	0.09	22.53	52.04	-29.51	Average
6		0.242	39.32	0.09	39.41	62.04	-22.63	QP
7		0.267	24.67	0.09	24.76	51.20	-26.44	Average
8		0.267	33.76	0.09	33.85	61.20	-27.35	QP
9		0.634	21.72	0.09	21.81	46.00	-24.19	Average
10		0.634	31.21	0.09	31.30	56.00	-24.70	QP
11		1.324	18.11	0.11	18.22	46.00	-27.78	Average
12		1.324	25.89	0.11	26.00	56.00	-30.00	QP

Result = Reading + C.F ; C.F = LISN Factor + Cable Loss

@ :Maximum QP * :Maximum AVG x :Over Limit

Remark :

1. Measuring frequencies from 0.15 MHz to 30 MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30 MHz were made with an instrument using quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15 MHz to 30 MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15 MHz to 30 MHz was 9kHz.

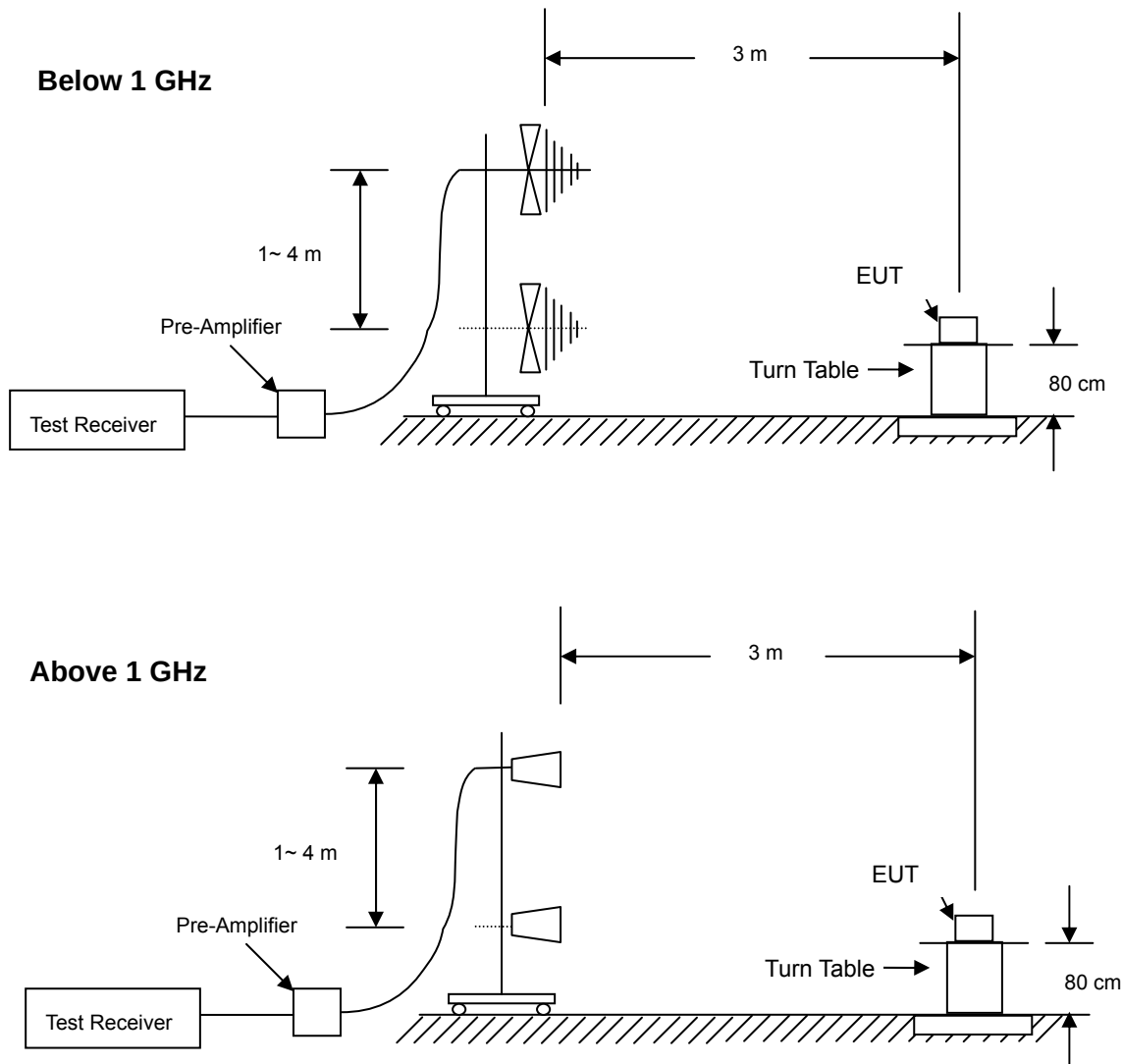


3 Radiated Emission Test

3.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

3.2 Test Arrangement and Procedure



1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.



3.3 Limit of Spurious Emission (§ 15.209)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is lesser attenuation.

Frequency (MHz)	Field strength (microvolts/ meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

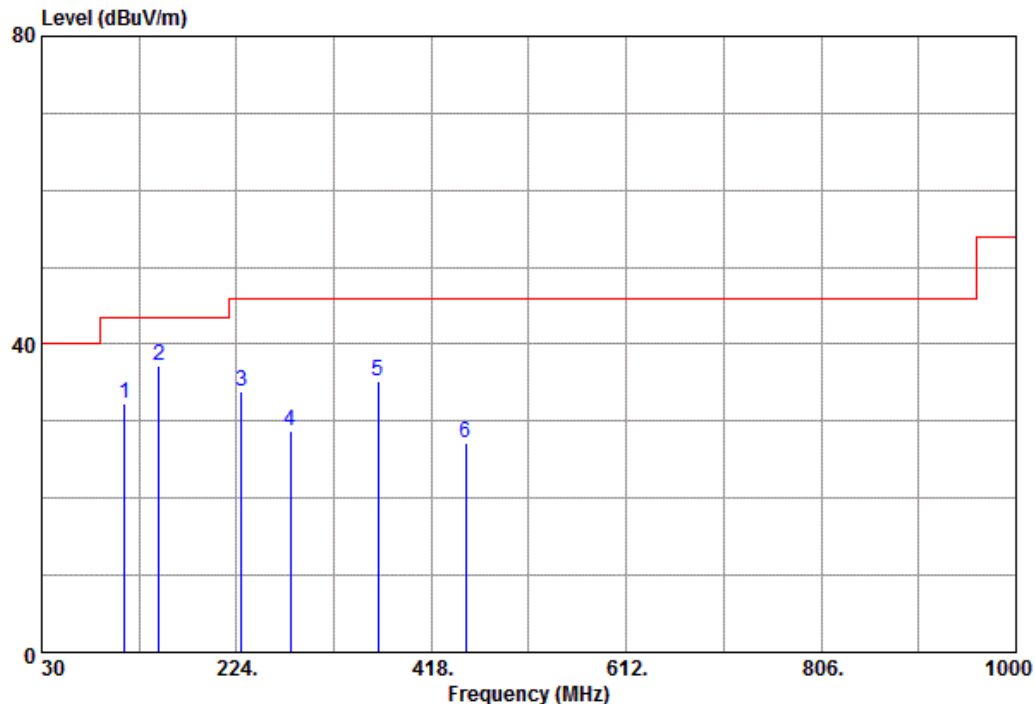
3.4 Test Result

Compliance

The final test data are shown on the following page(s).

Radiated Emission Test Data (Below 1 GHz)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH11 (2462MHz)
Test Mode	: Mode 3		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	112.450	55.90	-23.57	32.33	43.50	-11.17	---	---	
2	@ 146.400	58.98	-21.78	37.20	43.50	-6.30	---	---	
3	228.850	52.22	-18.41	33.81	46.00	-12.19	---	---	
4	277.350	47.29	-18.46	28.83	46.00	-17.17	---	---	
5	364.650	49.85	-14.56	35.29	46.00	-10.71	---	---	
6	451.950	39.94	-12.84	27.10	46.00	-18.90	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

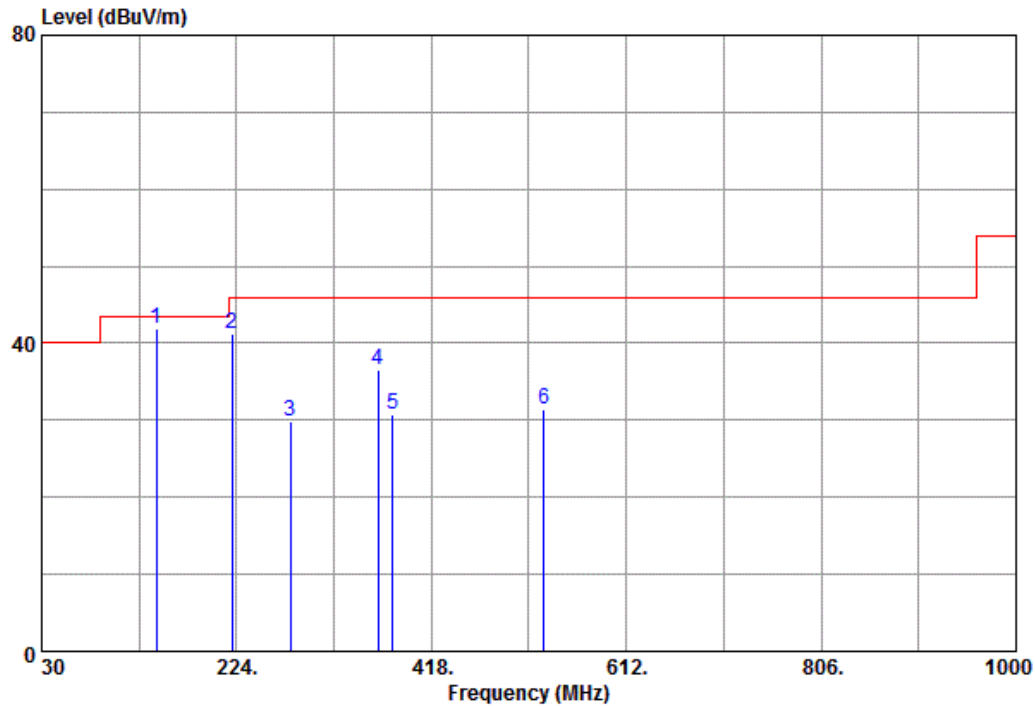
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
4. All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

Radiated Emission Test Data (Below 1 GHz)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH11 (2462MHz)
Test Mode	: Mode 3		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 144.460	63.61	-21.76	41.85	43.50	-1.65	---	---	
2 219.150	59.21	-17.95	41.26	46.00	-4.74	---	---	
3 277.350	48.25	-18.46	29.79	46.00	-16.21	---	---	
4 364.650	51.05	-14.56	36.49	46.00	-9.51	---	---	
5 379.200	44.80	-14.09	30.71	46.00	-15.29	---	---	
6 529.550	42.10	-10.61	31.49	46.00	-14.51	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

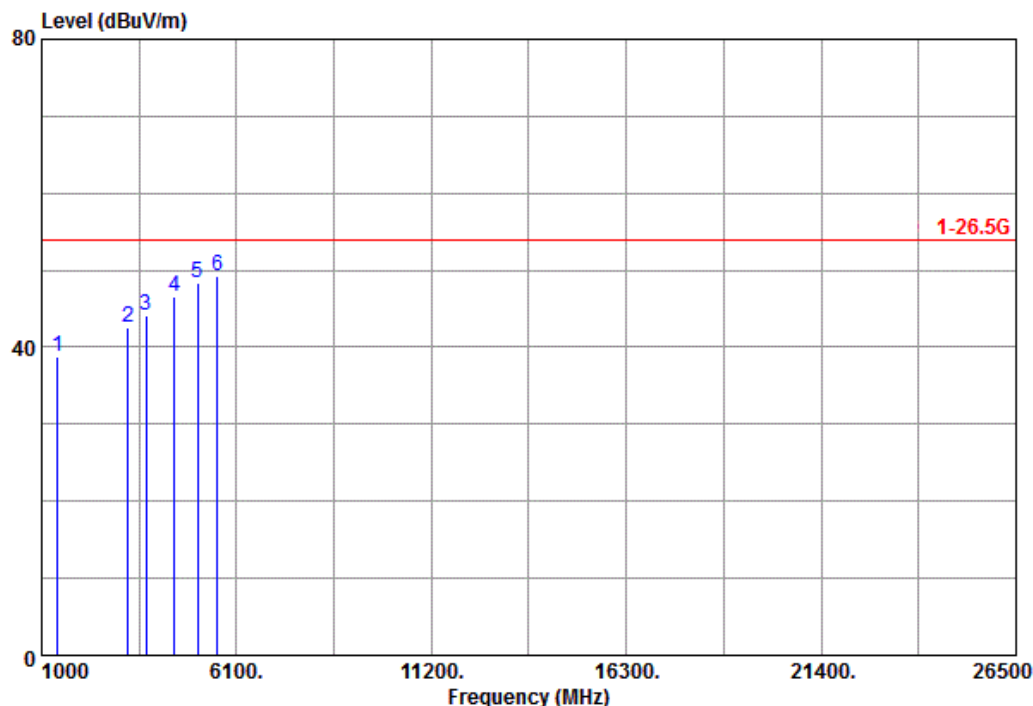
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
4. All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 1		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1408.000	50.34	-11.46	38.88	54.00	-15.12	---	---	
2	3269.500	47.69	-5.06	42.63	54.00	-11.37	---	---	
3	3728.500	47.92	-3.77	44.15	54.00	-9.85	---	---	
4	4468.000	47.57	-0.95	46.62	54.00	-7.38	---	---	
5	5080.000	46.91	1.52	48.43	54.00	-5.57	---	---	
6	@5590.000	46.44	2.83	49.27	54.00	-4.73	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

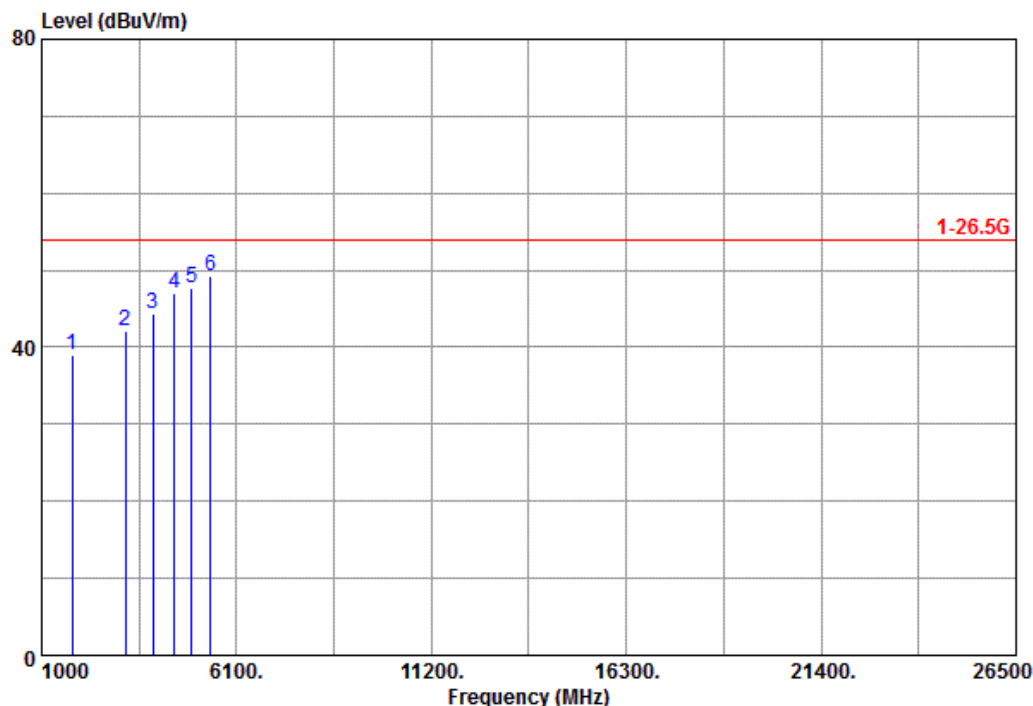
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 1		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1790.500	48.77	-9.79	38.98	54.00	-15.02	---	---	
2	3193.000	47.42	-5.29	42.13	54.00	-11.87	---	---	
3	3907.000	47.51	-3.23	44.28	54.00	-9.72	---	---	
4	4468.000	47.95	-0.95	47.00	54.00	-7.00	---	---	
5	4927.000	46.74	1.01	47.75	54.00	-6.25	---	---	
6	@5411.500	46.88	2.38	49.26	54.00	-4.74	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

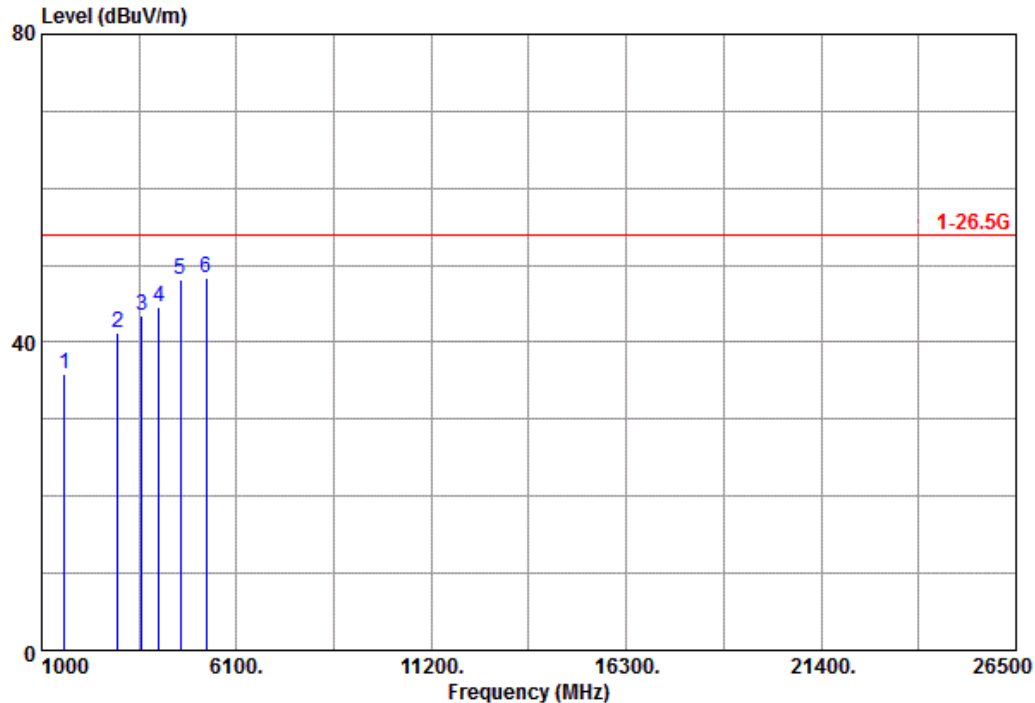
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 2		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1586.500	46.58	-10.70	35.88	54.00	-18.12	---	---	
2	2989.000	47.12	-5.88	41.24	54.00	-12.76	---	---	
3	3626.500	47.44	-4.07	43.37	54.00	-10.63	---	---	
4	4060.000	47.26	-2.70	44.56	54.00	-9.44	---	---	
5	4621.000	48.53	-0.30	48.23	54.00	-5.77	---	---	
6	@5309.500	46.23	2.13	48.36	54.00	-5.64	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

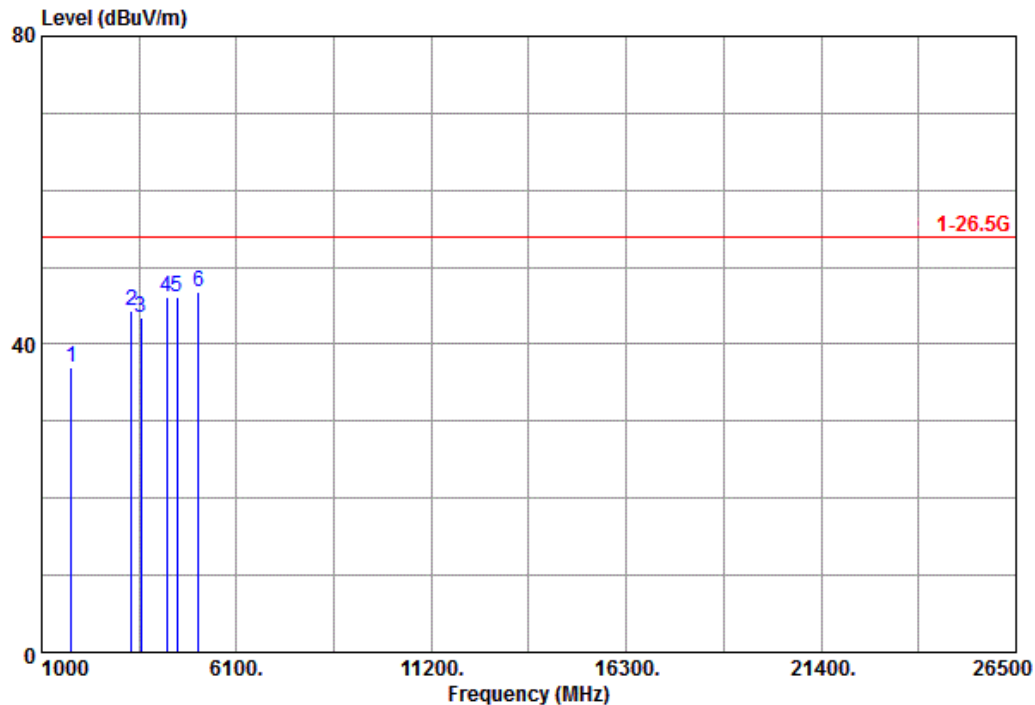
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 2		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1765.000	46.85	-9.85	37.00	54.00	-17.00	---	---	
2	3346.000	49.17	-4.85	44.32	54.00	-9.68	---	---	
3	3601.000	47.68	-4.12	43.56	54.00	-10.44	---	---	
4	4264.000	47.96	-1.83	46.13	54.00	-7.87	---	---	
5	4544.500	46.84	-0.66	46.18	54.00	-7.82	---	---	
6	@5105.500	45.11	1.61	46.72	54.00	-7.28	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

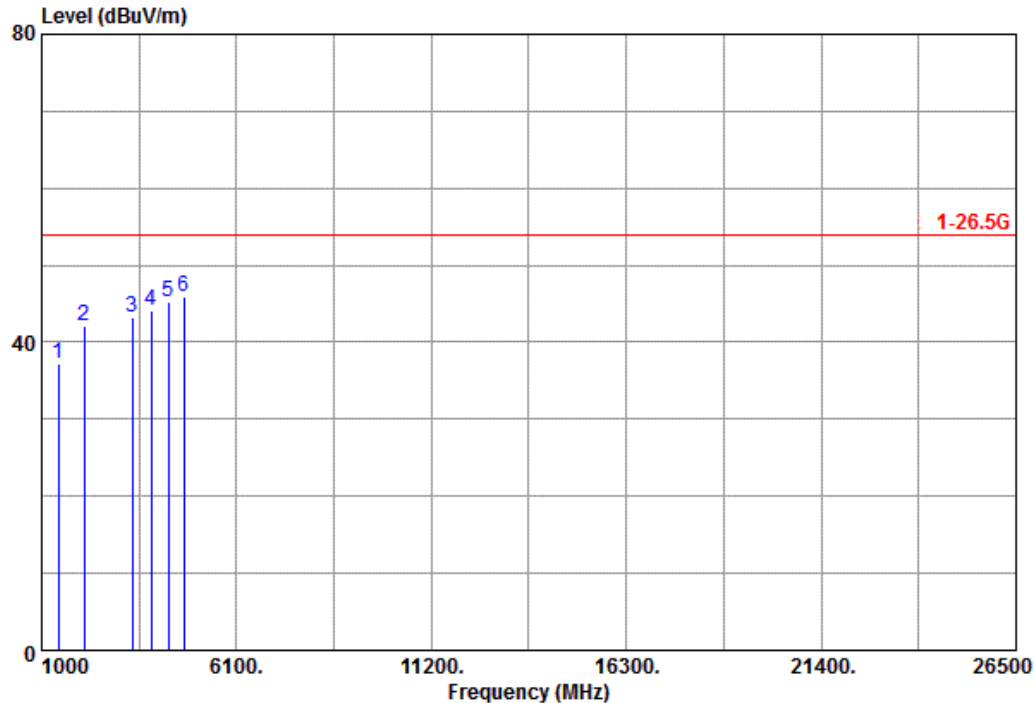
@ :Maximum Data x :Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 3		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1433.500	48.63	-11.33	37.30	54.00	-16.70	---	---	
2	2122.000	50.50	-8.44	42.06	54.00	-11.94	---	---	
3	3371.500	48.02	-4.76	43.26	54.00	-10.74	---	---	
4	3856.000	47.53	-3.38	44.15	54.00	-9.85	---	---	
5	4315.000	46.85	-1.61	45.24	54.00	-8.76	---	---	
6	@4723.000	45.73	0.15	45.88	54.00	-8.12	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

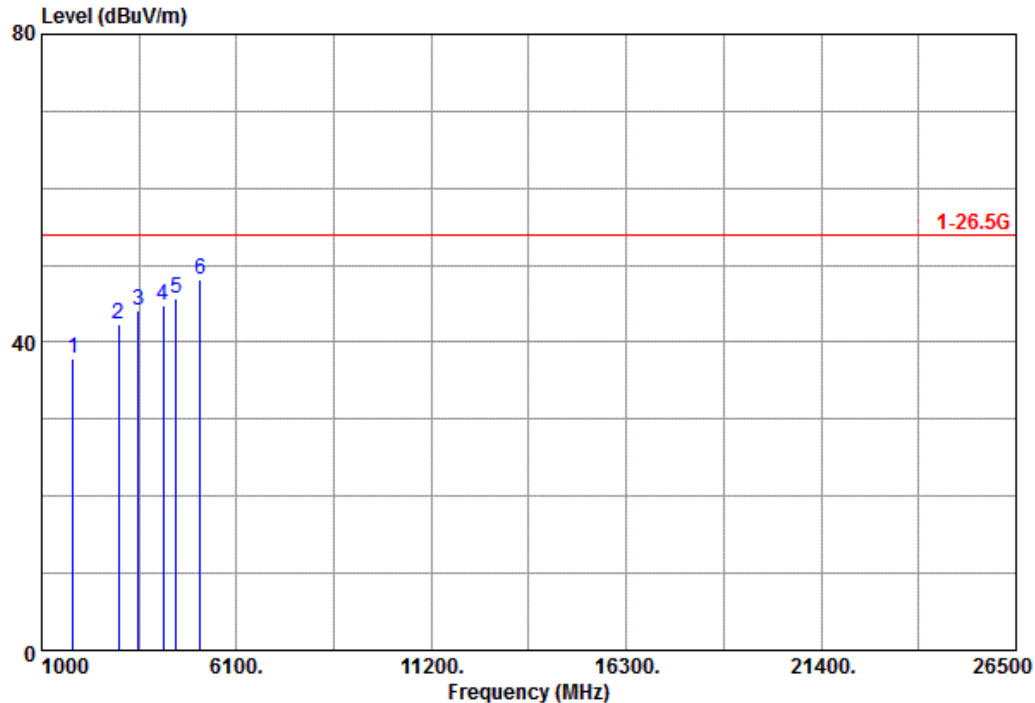
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 3		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1816.000	47.43	-9.63	37.80	54.00	-16.20	---	---	
2	3014.500	48.10	-5.84	42.26	54.00	-11.74	---	---	
3	3524.500	48.51	-4.37	44.14	54.00	-9.86	---	---	
4	4187.500	46.86	-2.12	44.74	54.00	-9.26	---	---	
5	4519.000	46.42	-0.74	45.68	54.00	-8.32	---	---	
6	5156.500	46.42	1.69	48.11	54.00	-5.89	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

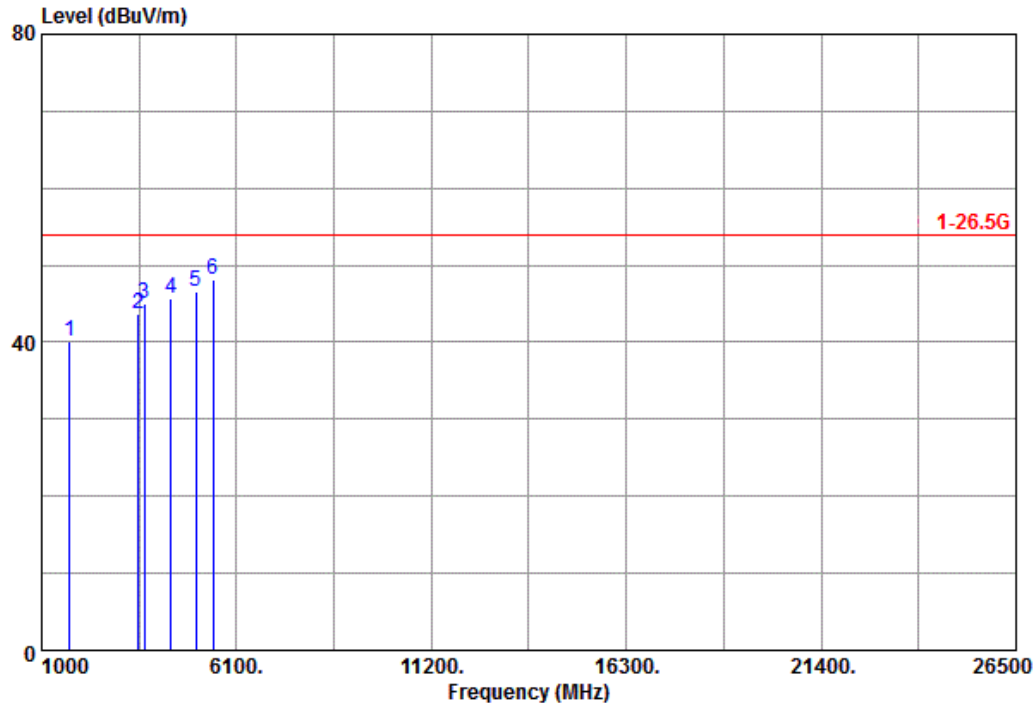
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 4		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1739.500	50.08	-9.94	40.14	54.00	-13.86	---	---	
2	3524.500	48.06	-4.37	43.69	54.00	-10.31	---	---	
3	3677.500	48.78	-3.87	44.91	54.00	-9.09	---	---	
4	4391.500	46.97	-1.24	45.73	54.00	-8.27	---	---	
5	5029.000	45.26	1.39	46.65	54.00	-7.35	---	---	
6	@5488.000	45.63	2.56	48.19	54.00	-5.81	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

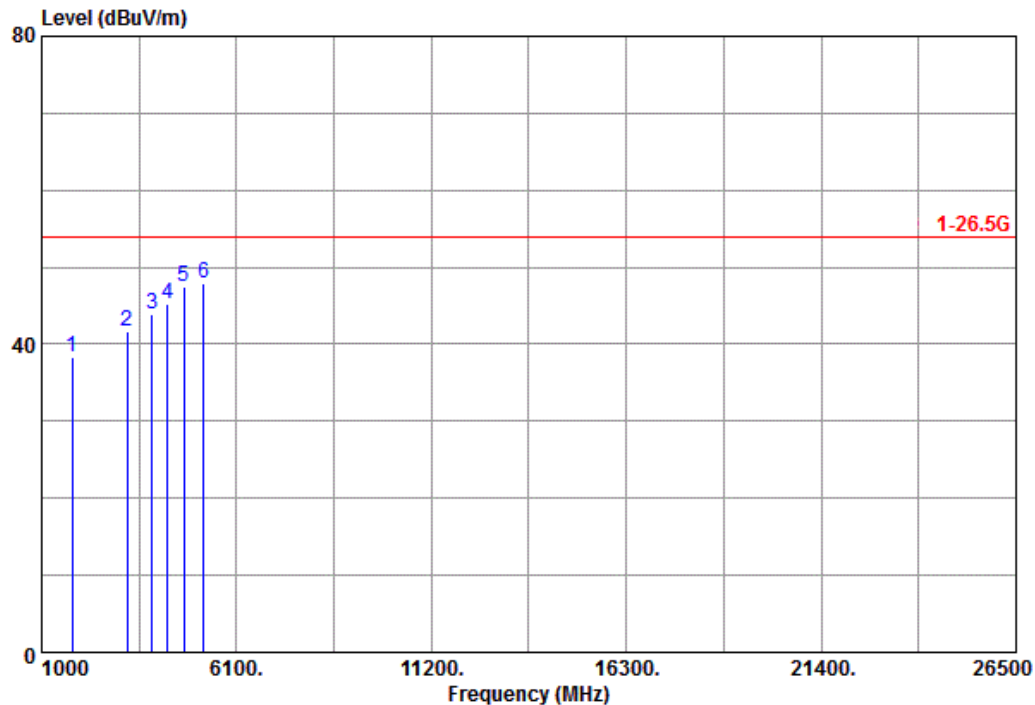
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 4		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1790.500	48.07	-9.79	38.28	54.00	-15.72	---	---	
2	3244.000	46.92	-5.15	41.77	54.00	-12.23	---	---	
3	3881.500	47.17	-3.29	43.88	54.00	-10.12	---	---	
4	4289.500	46.97	-1.68	45.29	54.00	-8.71	---	---	
5	4723.000	47.29	0.15	47.44	54.00	-6.56	---	---	
6	@5233.000	45.90	1.91	47.81	54.00	-6.19	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

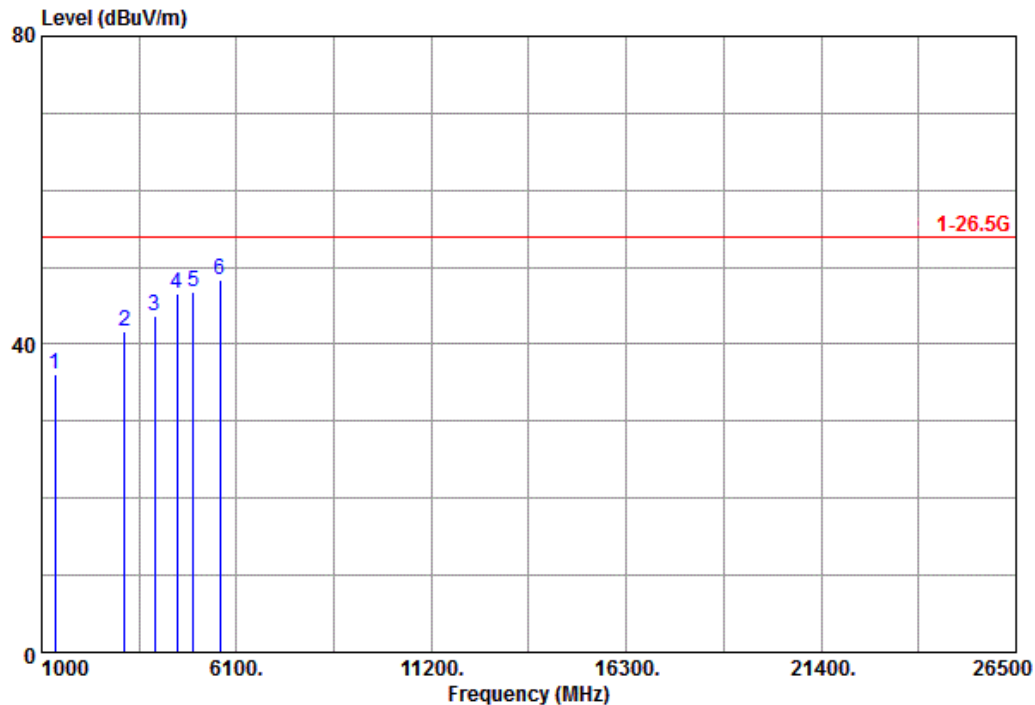
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 5		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1357.000	47.79	-11.71	36.08	54.00	-17.92	---	---	
2	3167.500	46.95	-5.35	41.60	54.00	-12.40	---	---	
3	3958.000	46.78	-3.08	43.70	54.00	-10.30	---	---	
4	4544.500	47.27	-0.66	46.61	54.00	-7.39	---	---	
5	4978.000	45.54	1.22	46.76	54.00	-7.24	---	---	
6	@5666.500	45.32	2.99	48.31	54.00	-5.69	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

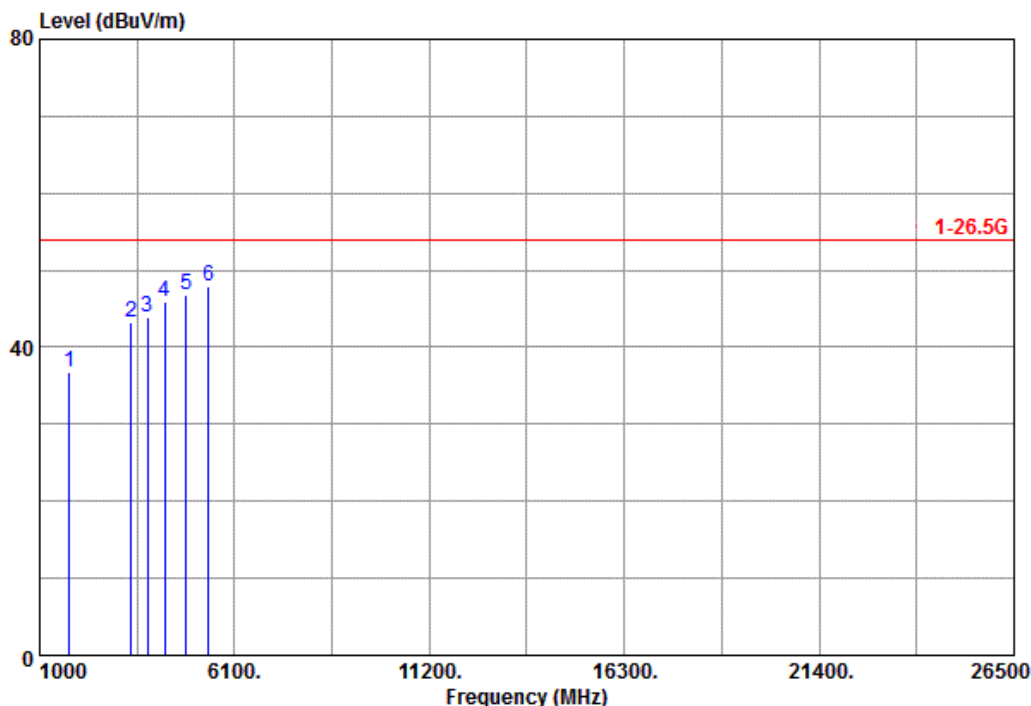
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 5		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1765.000	46.63	-9.85	36.78	54.00	-17.22	---	---	
2	3397.000	47.91	-4.70	43.21	54.00	-10.79	---	---	
3	3830.500	47.41	-3.48	43.93	54.00	-10.07	---	---	
4	4264.000	47.82	-1.83	45.99	54.00	-8.01	---	---	
5	4825.000	46.24	0.57	46.81	54.00	-7.19	---	---	
6	5411.500	45.56	2.38	47.94	54.00	-6.06	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

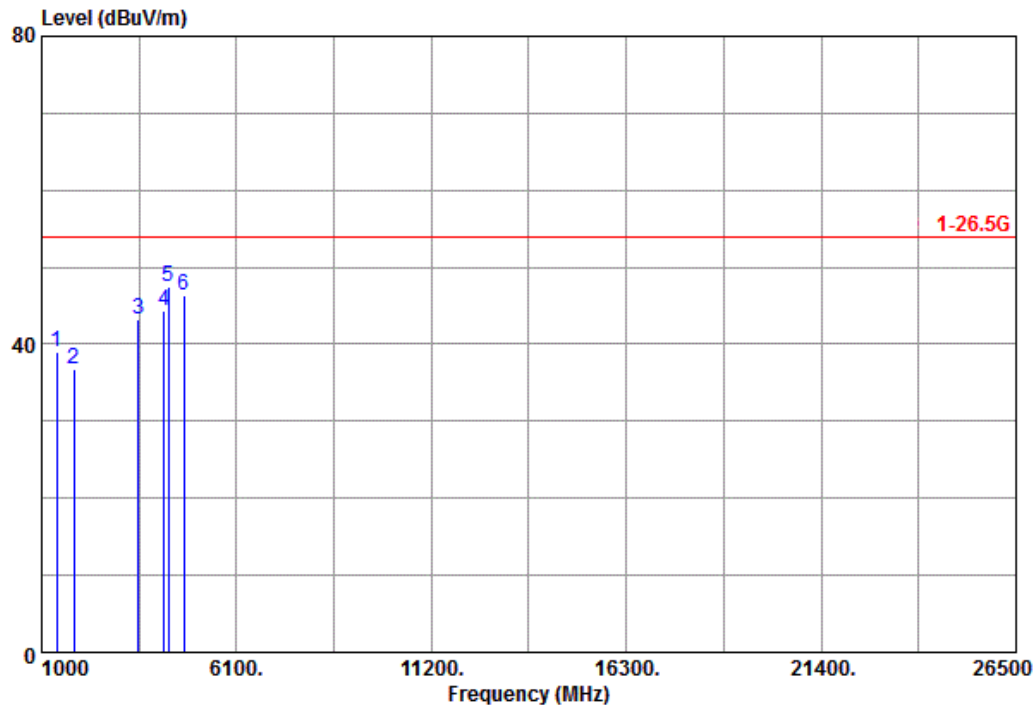
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 6		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1382.500	50.66	-11.62	39.04	54.00	-14.96	---	---	
2	1841.500	46.31	-9.47	36.84	54.00	-17.16	---	---	
3	3524.500	47.71	-4.37	43.34	54.00	-10.66	---	---	
4	4213.000	46.30	-2.04	44.26	54.00	-9.74	---	---	
5	4315.000	49.18	-1.61	47.57	54.00	-6.43	---	---	
6	4723.000	46.14	0.15	46.29	54.00	-7.71	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

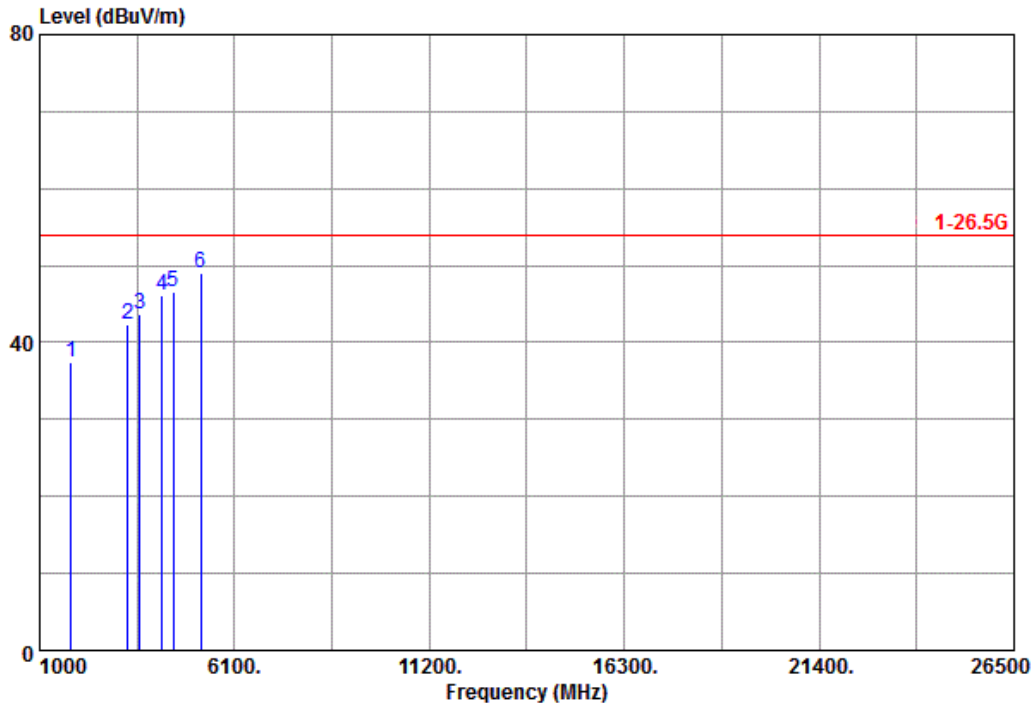
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 6		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1816.000	47.06	-9.63	37.43	54.00	-16.57	---	---	
2	3295.000	47.29	-5.01	42.28	54.00	-11.72	---	---	
3	3626.500	47.66	-4.07	43.59	54.00	-10.41	---	---	
4	4213.000	48.10	-2.04	46.06	54.00	-7.94	---	---	
5	4493.500	47.33	-0.81	46.52	54.00	-7.48	---	---	
6	5207.500	47.08	1.86	48.94	54.00	-5.06	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

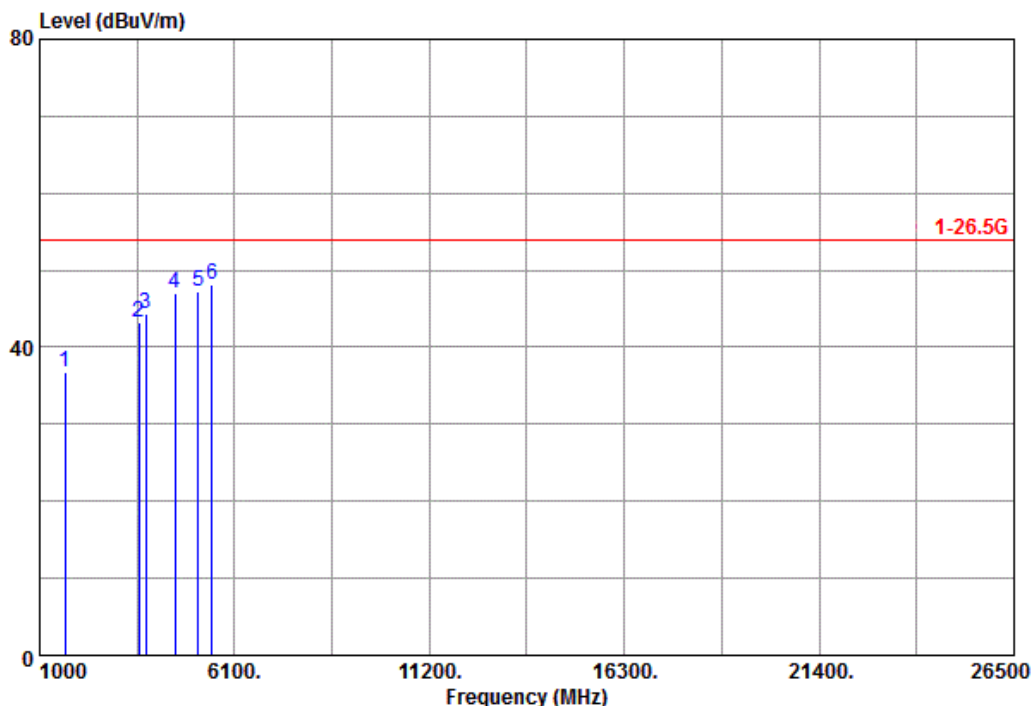
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 7		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1663.000	46.98	-10.32	36.66	54.00	-17.34	---	---	
2	3601.000	47.31	-4.12	43.19	54.00	-10.81	---	---	
3	3779.500	47.97	-3.58	44.39	54.00	-9.61	---	---	
4	4544.500	47.57	-0.66	46.91	54.00	-7.09	---	---	
5	5156.500	45.62	1.69	47.31	54.00	-6.69	---	---	
6	@5513.500	45.40	2.65	48.05	54.00	-5.95	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

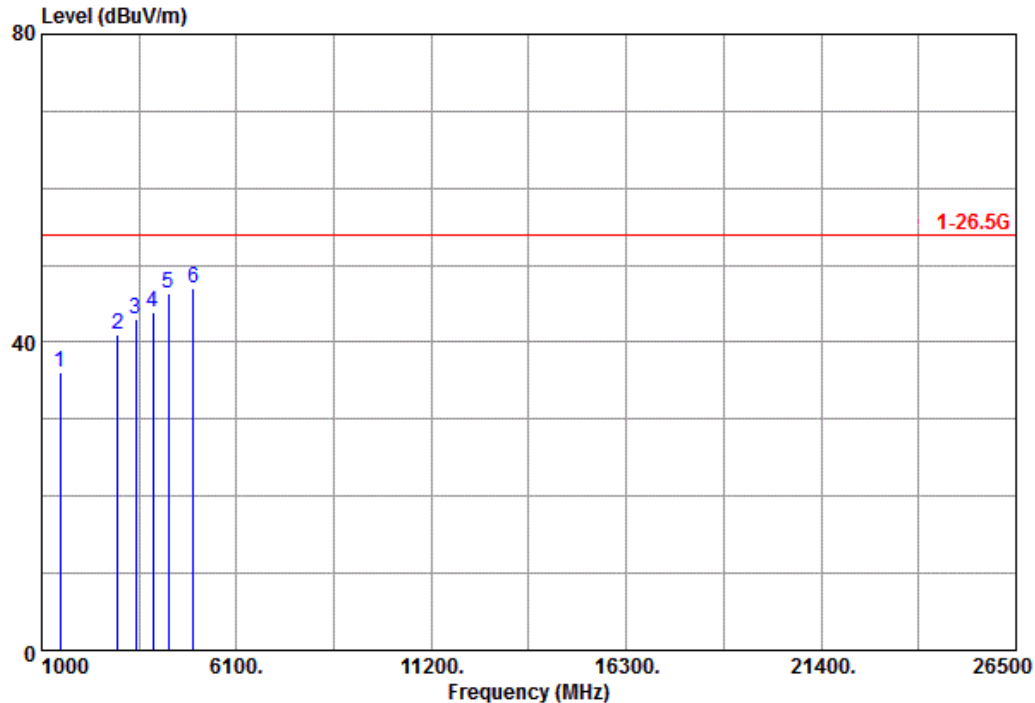
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH01 (2412 MHz)
Test Mode	: Mode 7		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1484.500	47.30	-11.17	36.13	54.00	-17.87	---	---	
2	2989.000	46.80	-5.88	40.92	54.00	-13.08	---	---	
3	3473.500	47.41	-4.46	42.95	54.00	-11.05	---	---	
4	3907.000	47.05	-3.23	43.82	54.00	-10.18	---	---	
5	4315.000	48.00	-1.61	46.39	54.00	-7.61	---	---	
6	@4978.000	45.71	1.22	46.93	54.00	-7.07	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

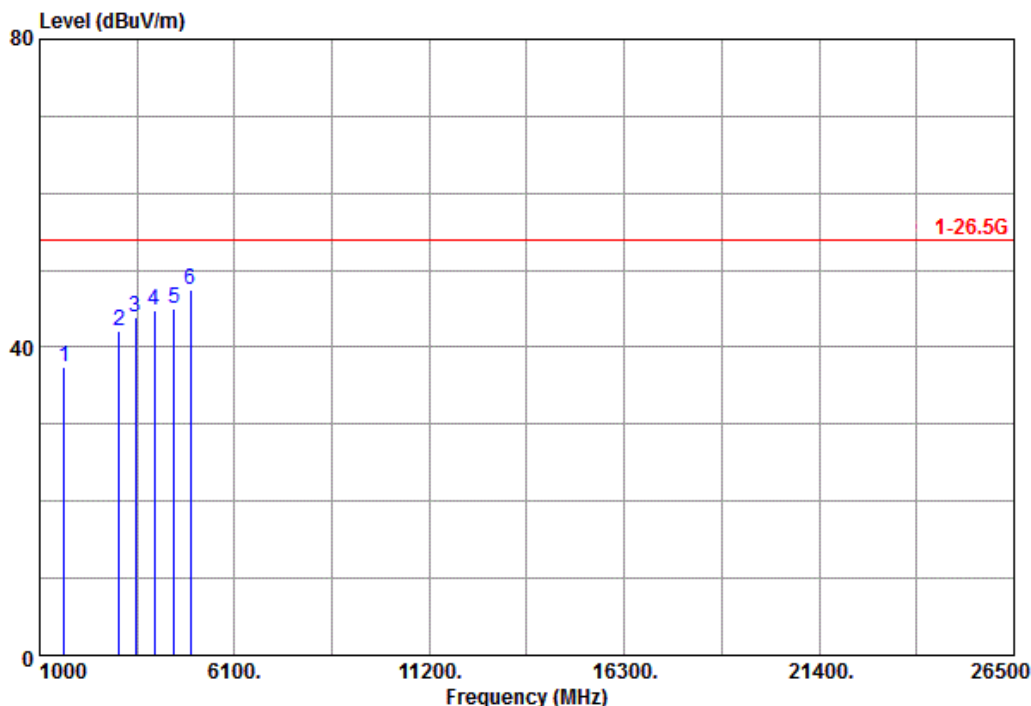
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 8		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1637.500	47.80	-10.39	37.41	54.00	-16.59	---	---	
2	3091.000	47.64	-5.59	42.05	54.00	-11.95	---	---	
3	3499.000	48.34	-4.40	43.94	54.00	-10.06	---	---	
4	4009.000	47.64	-2.91	44.73	54.00	-9.27	---	---	
5	4519.000	45.75	-0.74	45.01	54.00	-8.99	---	---	
6	@4952.500	46.32	1.08	47.40	54.00	-6.60	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

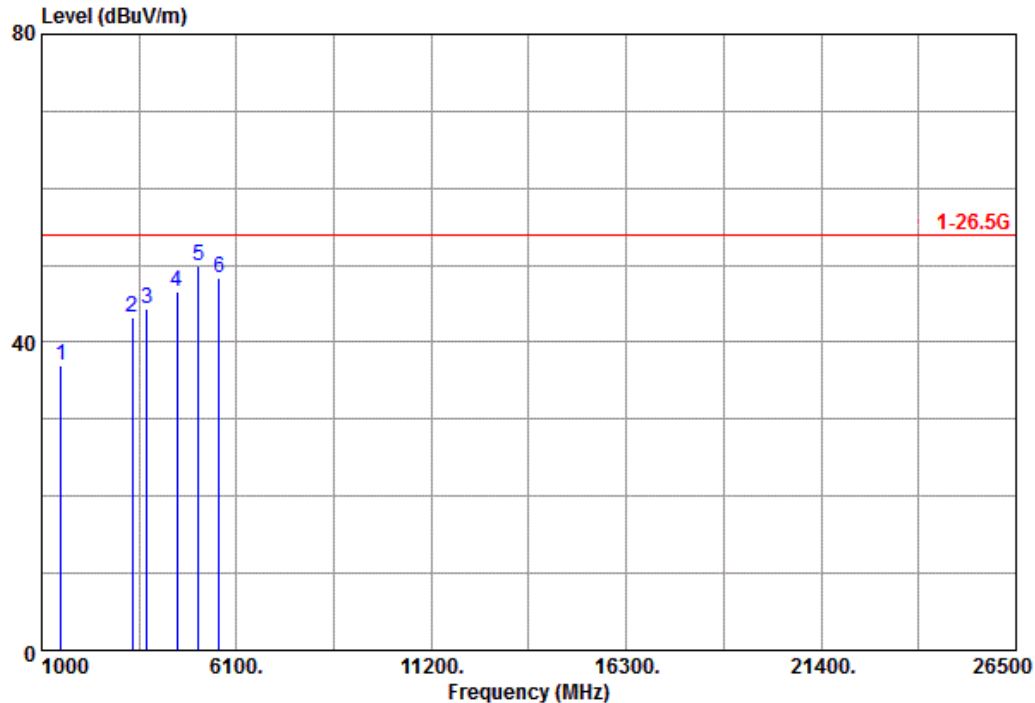
@ : Maximum Data x : Over Limit

Remark :

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 8		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1510.000	47.92	-11.02	36.90	54.00	-17.10	---	---	
2	3371.500	47.90	-4.76	43.14	54.00	-10.86	---	---	
3	3754.000	48.01	-3.68	44.33	54.00	-9.67	---	---	
4	4544.500	47.32	-0.66	46.66	54.00	-7.34	---	---	
5	5105.500	48.24	1.61	49.85	54.00	-4.15	---	---	
6	5641.000	45.33	2.96	48.29	54.00	-5.71	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

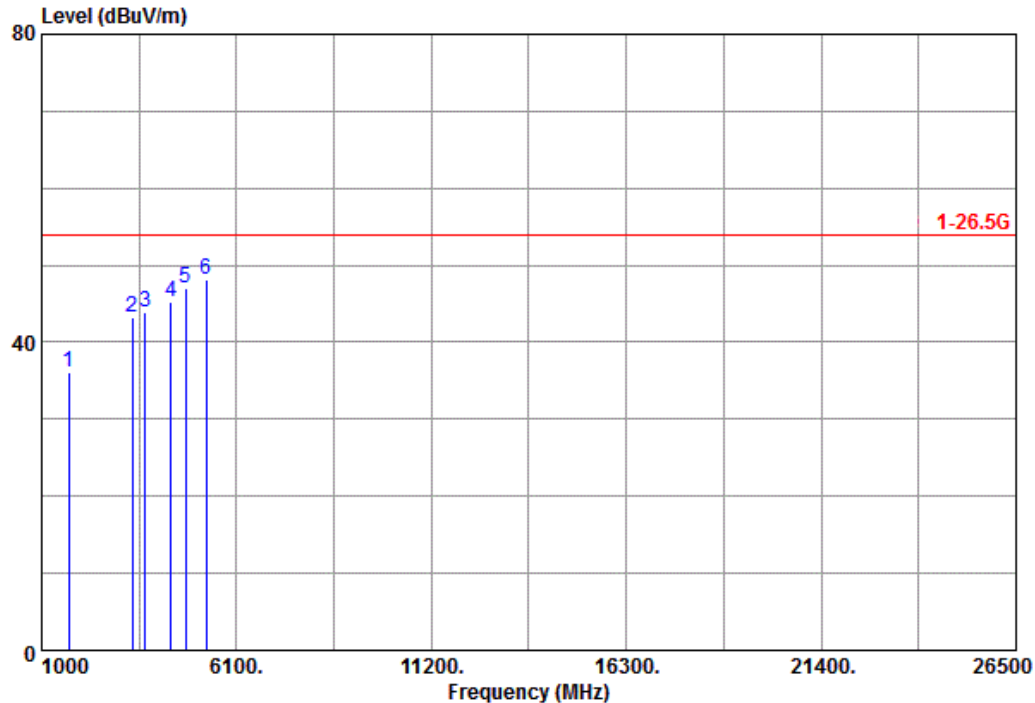
@ :Maximum Data x :Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 9		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1714.000	46.27	-10.08	36.19	54.00	-17.81	---	---	
2	3371.500	48.03	-4.76	43.27	54.00	-10.73	---	---	
3	3703.000	47.64	-3.82	43.82	54.00	-10.18	---	---	
4	4391.500	46.51	-1.24	45.27	54.00	-8.73	---	---	
5	4774.000	46.61	0.35	46.96	54.00	-7.04	---	---	
6	5309.500	45.96	2.13	48.09	54.00	-5.91	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

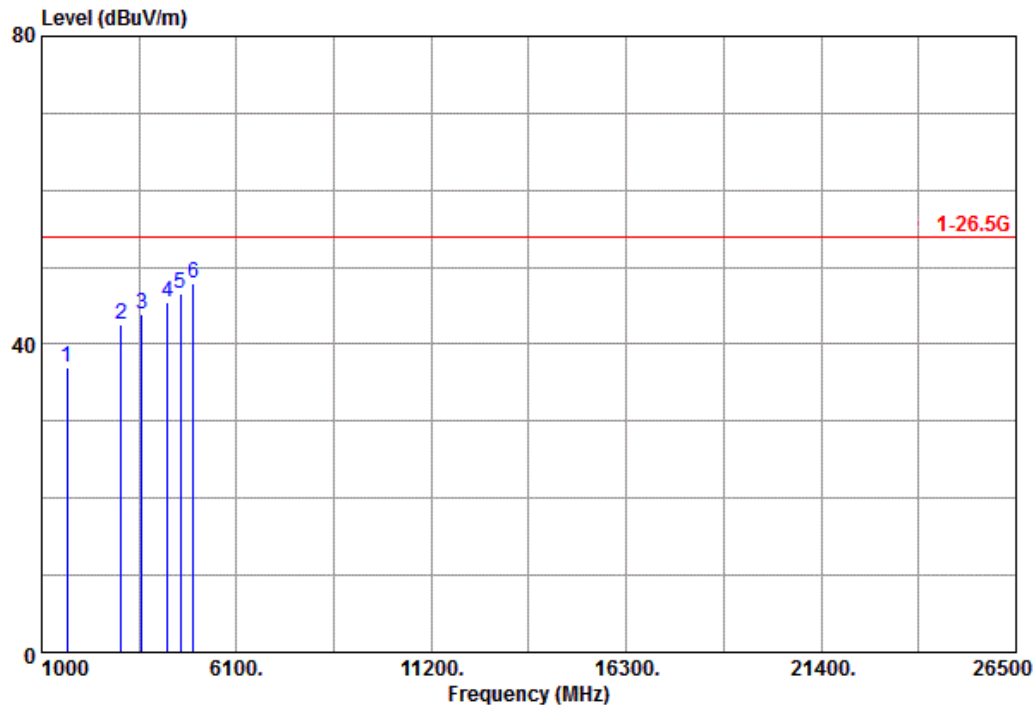
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH11 (2462 MHz)
Test Mode	: Mode 9		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1663.000	47.25	-10.32	36.93	54.00	-17.07	---	---	
2	3091.000	48.19	-5.59	42.60	54.00	-11.40	---	---	
3	3626.500	47.96	-4.07	43.89	54.00	-10.11	---	---	
4	4289.500	47.10	-1.68	45.42	54.00	-8.58	---	---	
5	4621.000	46.79	-0.30	46.49	54.00	-7.51	---	---	
6	@4978.000	46.65	1.22	47.87	54.00	-6.13	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

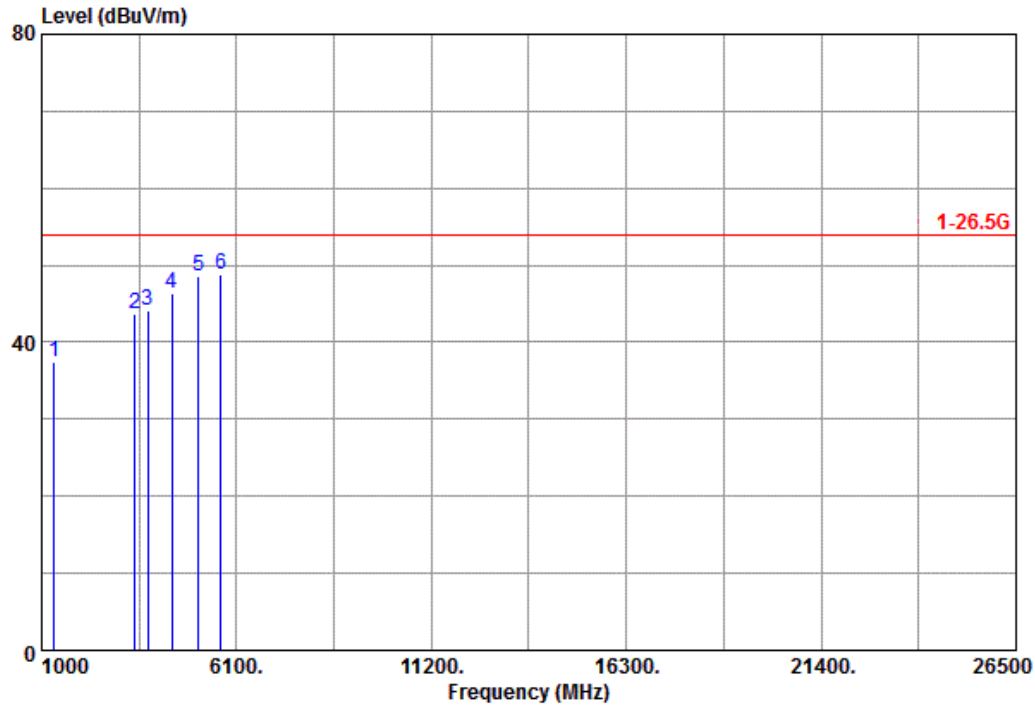
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH03 (2422 MHz)
Test Mode	: Mode 10		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1331.500	49.18	-11.78	37.40	54.00	-16.60	---	---	
2	3448.000	48.34	-4.56	43.78	54.00	-10.22	---	---	
3	3779.500	47.60	-3.58	44.02	54.00	-9.98	---	---	
4	4417.000	47.49	-1.17	46.32	54.00	-7.68	---	---	
5	5105.500	47.05	1.61	48.66	54.00	-5.34	---	---	
6	@5692.000	45.67	3.08	48.75	54.00	-5.25	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
 Result = Reading + C.F ; Margin = Result - Limit

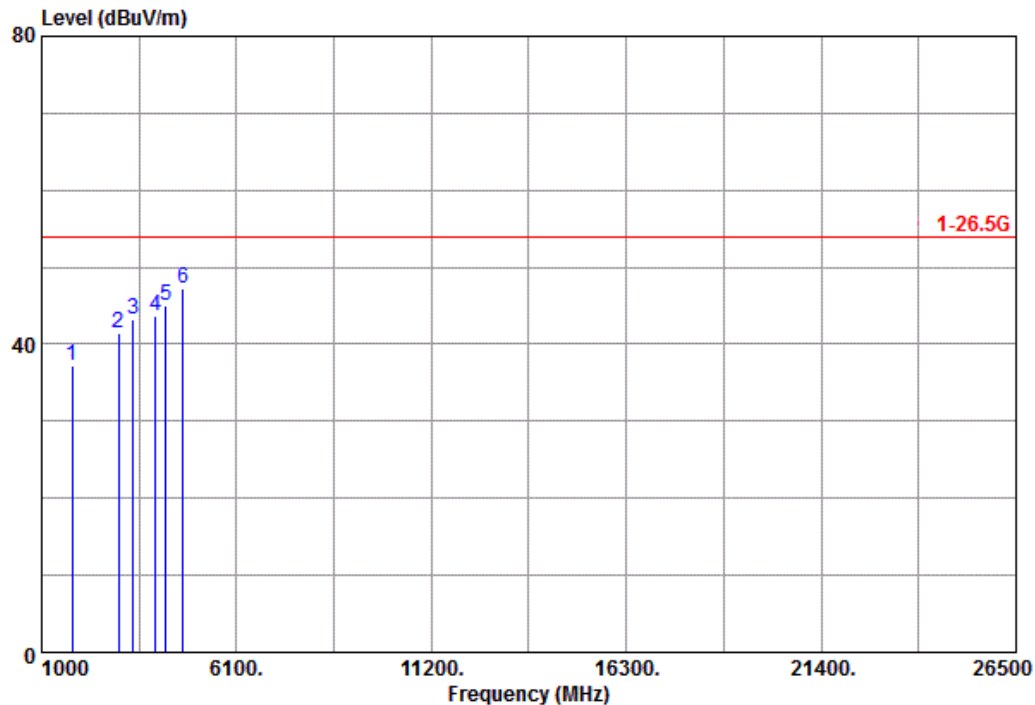
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
 Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH03 (2422 MHz)
Test Mode	: Mode 10		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1790.500	46.97	-9.79	37.18	54.00	-16.82	---	---	
2	3014.500	47.38	-5.84	41.54	54.00	-12.46	---	---	
3	3397.000	48.03	-4.70	43.33	54.00	-10.67	---	---	
4	3983.500	46.75	-2.99	43.76	54.00	-10.24	---	---	
5	4238.500	47.00	-1.97	45.03	54.00	-8.97	---	---	
6	@4697.500	47.10	0.07	47.17	54.00	-6.83	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

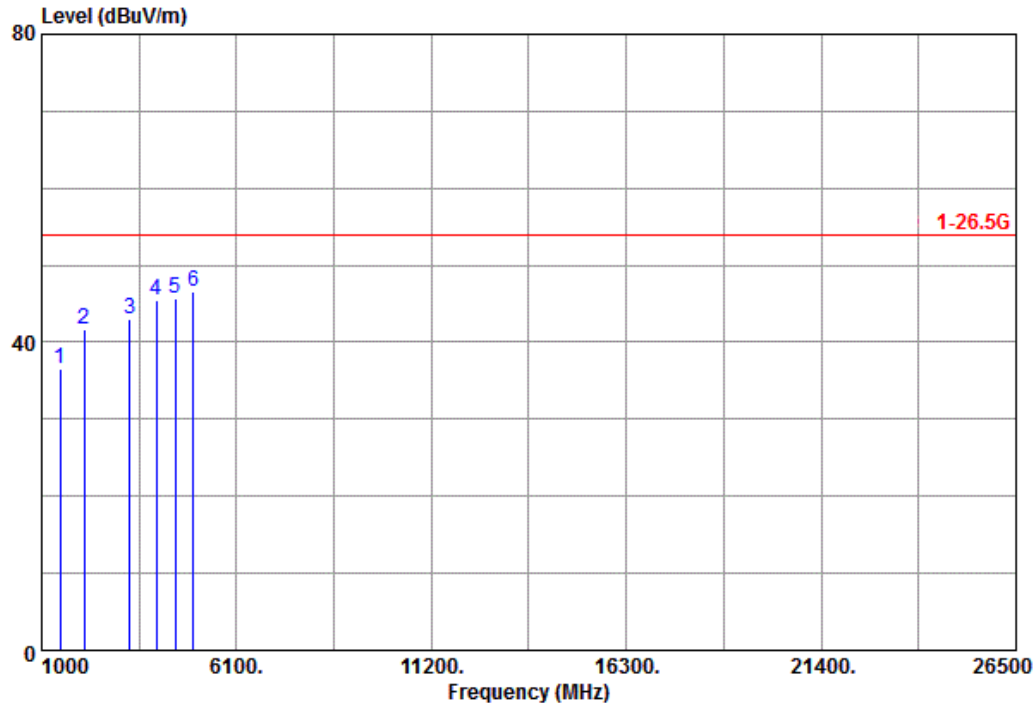
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 11		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1484.500	47.62	-11.17	36.45	54.00	-17.55	---	---	
2	2122.000	50.06	-8.44	41.62	54.00	-12.38	---	---	
3	3295.000	48.05	-5.01	43.04	54.00	-10.96	---	---	
4	4009.000	48.26	-2.91	45.35	54.00	-8.65	---	---	
5	4493.500	46.42	-0.81	45.61	54.00	-8.39	---	---	
6	@4978.000	45.41	1.22	46.63	54.00	-7.37	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

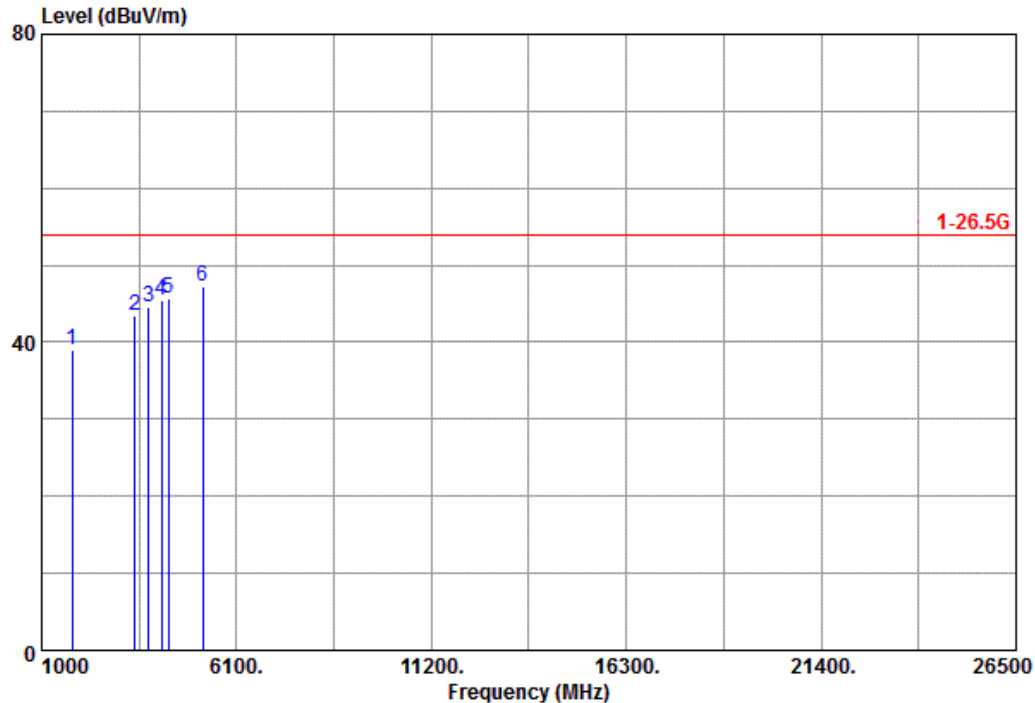
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH06 (2437 MHz)
Test Mode	: Mode 11		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1790.500	48.85	-9.79	39.06	54.00	-14.94	---	---	
2	3448.000	48.06	-4.56	43.50	54.00	-10.50	---	---	
3	3805.000	48.05	-3.52	44.53	54.00	-9.47	---	---	
4	4136.500	47.76	-2.41	45.35	54.00	-8.65	---	---	
5	4315.000	47.20	-1.61	45.59	54.00	-8.41	---	---	
6	5207.500	45.46	1.86	47.32	54.00	-6.68	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

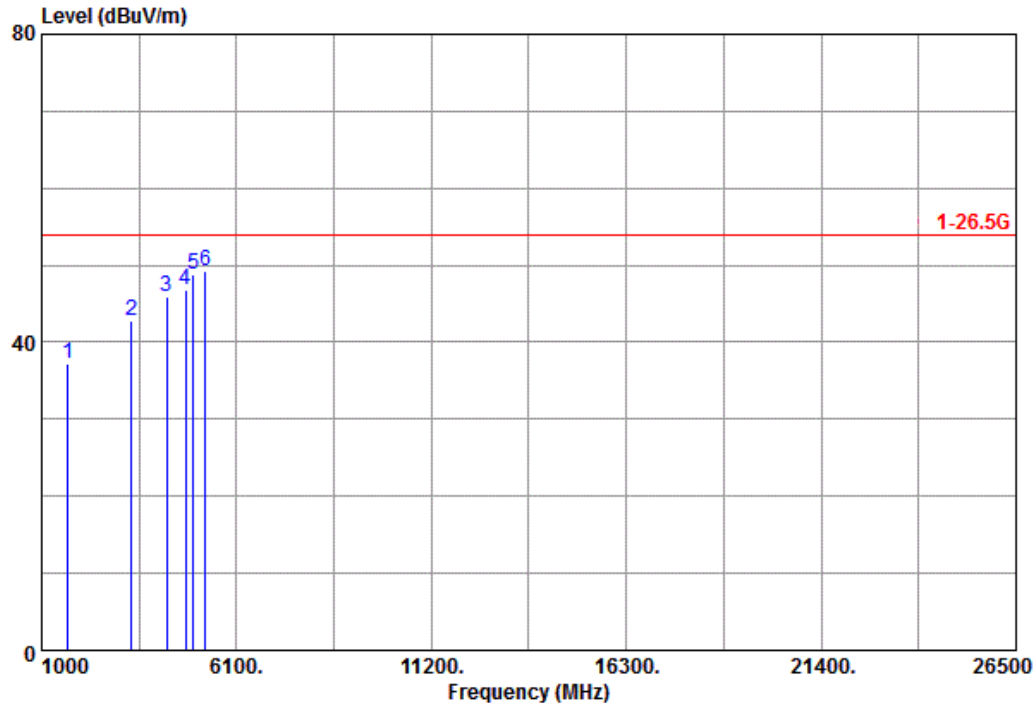
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Vertical	Channel	: CH09 (2452 MHz)
Test Mode	: Mode 12		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1688.500	47.35	-10.23	37.12	54.00	-16.88	---	---	
2	3346.000	47.60	-4.85	42.75	54.00	-11.25	---	---	
3	4264.000	47.75	-1.83	45.92	54.00	-8.08	---	---	
4	4774.000	46.36	0.35	46.71	54.00	-7.29	---	---	
5	4978.000	47.53	1.22	48.75	54.00	-5.25	---	---	
6	@5284.000	47.18	2.03	49.21	54.00	-4.79	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

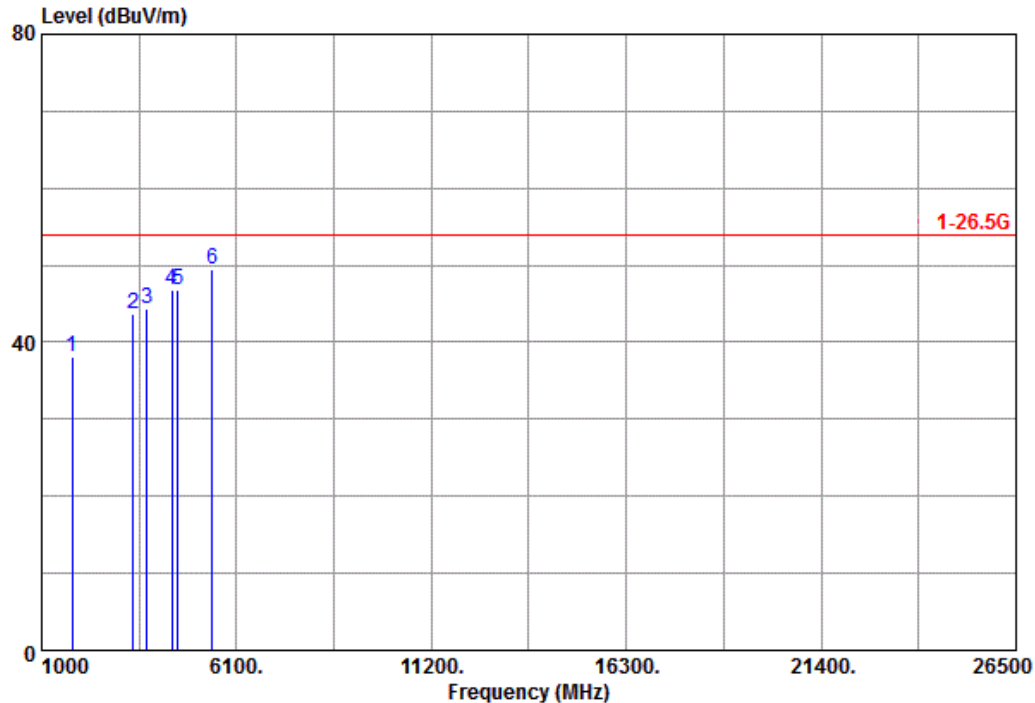
@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

**Radiated Emission Test Data (Above and Field Strength to 10th Harmonic)**

Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Polarization	: Horizontal	Channel	: CH09 (2452 MHz)
Test Mode	: Mode 12		



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1790.500	47.84	-9.79	38.05	54.00	-15.95	---	---	
2	3397.000	48.29	-4.70	43.59	54.00	-10.41	---	---	
3	3754.000	47.97	-3.68	44.29	54.00	-9.71	---	---	
4	4417.000	47.87	-1.17	46.70	54.00	-7.30	---	---	
5	4570.000	47.25	-0.51	46.74	54.00	-7.26	---	---	
6	@5462.500	47.03	2.48	49.51	54.00	-4.49	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@ : Maximum Data x : Over Limit

Remark :

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

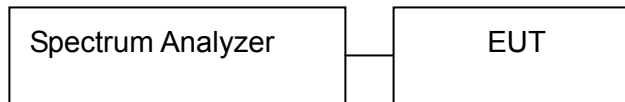


4 6 dB Bandwidth of the Emission

4.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

4.2 Test Arrangement



4.3 Test Procedure

1. Connect the EUT to spectrum analyzer through appropriate attenuator.
2. Spectrum setting; RMB = 100 kHz; VBW $\geq$ 300 kHz. Detector = Peak. Sweep = Auto.
3. Trace = Max Hold.

4.4 Limit (§ 15.247(a)(2))

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

4.5 Test Result

Compliance

The final test data are shown on the following page(s).



Temperature : 26.4°C

Humidity : 35%

Test Date : 08-Oct-2014

Tested by : Kidd Liao

Test Mode : 802.11 b

Test Channel	Frequency (MHz)	Test Result (MHz)	Limit (MHz)
01	2412	11.0670	≥ 0.5
06	2437	11.0930	≥ 0.5
11	2462	11.080	≥ 0.5

Test Mode : 802.11 g

Test Channel	Frequency (MHz)	Test Result (MHz)	Limit (MHz)
01	2412	16.387	≥ 0.5
06	2437	16.387	≥ 0.5
11	2462	16.36	≥ 0.5

Test Mode : 802.11 n (20M)

Test Channel	Frequency (MHz)	Test Result (MHz)	Limit (MHz)
01	2412	16.92	≥ 0.5
06	2437	17.373	≥ 0.5
11	2462	17.387	≥ 0.5

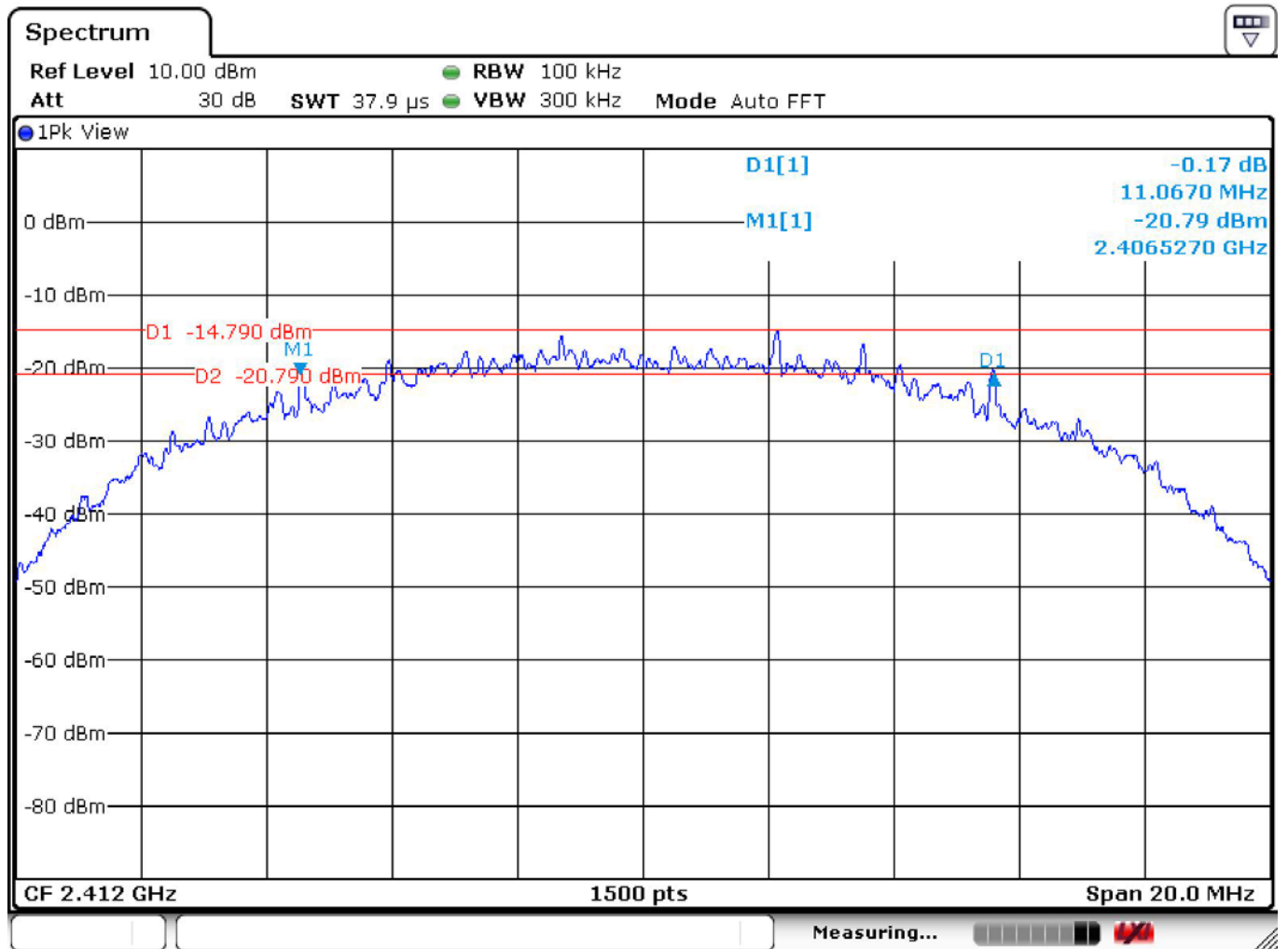
Test Mode : 802.11n (40M)

Test Channel	Frequency (MHz)	Test Result (MHz)	Limit (MHz)
03	2422	35.173	≥ 0.5
06	2437	36.16	≥ 0.5
09	2452	35.16	≥ 0.5

The final test data are shown on the following page(s).

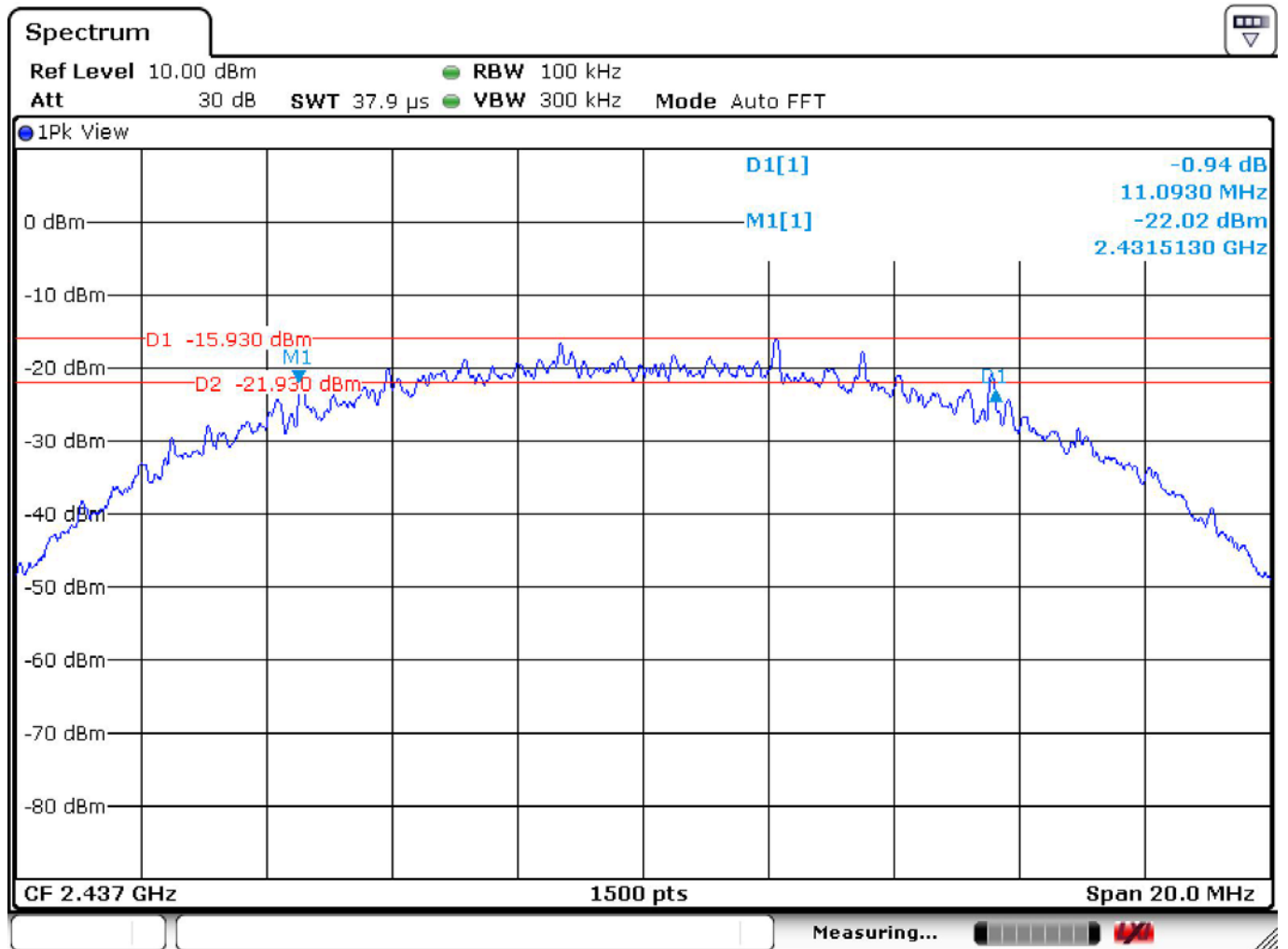


Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Test Mode	: 802.11b	Channel	: CH01 (2412MHz)



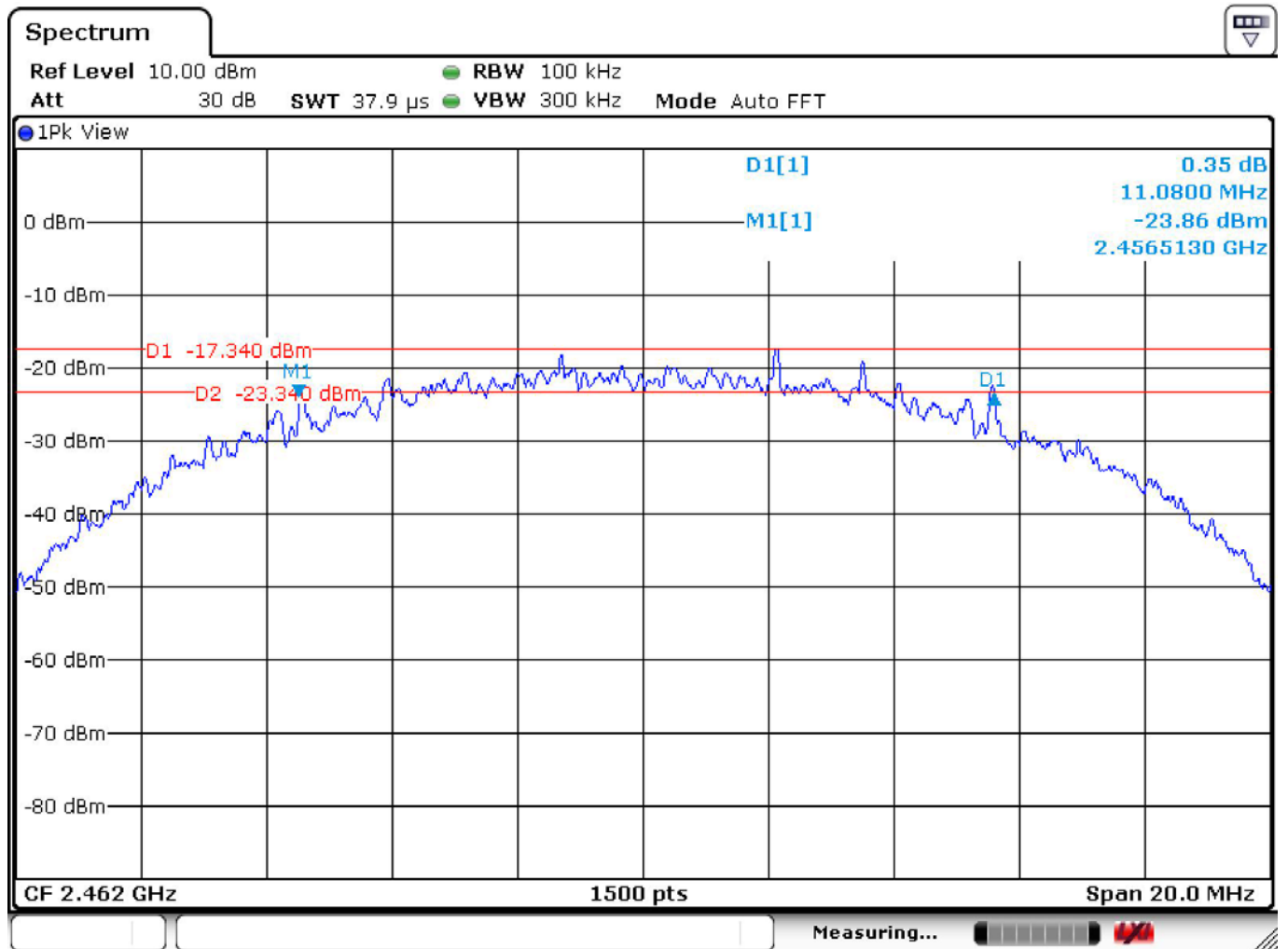


Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Test Mode	: 802.11b	Channel	: CH06 (2437MHz)



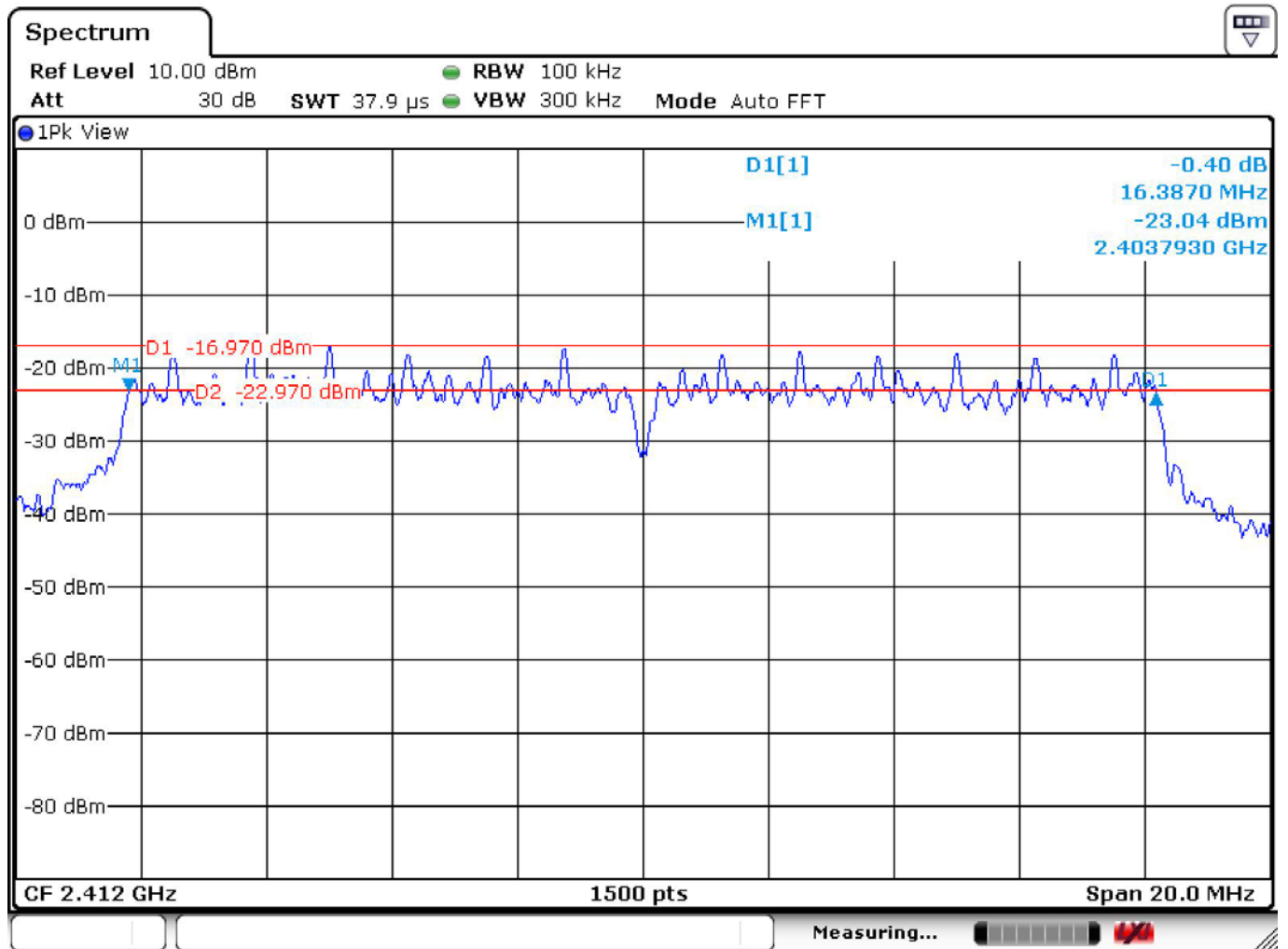


Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Test Mode	: 802.11b	Channel	: CH11 (2462MHz)





Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Test Mode	: 802.11g	Channel	: CH01 (2412MHz)





Temperature	: 26.4°C	Humidity	: 35%
Test Date	: 08-Oct-2014	Tested by	: Kidd Liao
Test Mode	: 802.11g	Channel	: CH06 (2437MHz)

