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FCC RADIO TEST REPORT

Applicant's company	NETGEAR, Inc.
Applicant Address	350 East Plumeria Drive, San Jose, CA 95134, USA
FCC ID	PY309200112
Manufacturer's company	Ambit Microsystems (Shanghai) Ltd.
Manufacturer Address	No. 1925, Nanle Road, Songjiang Export Processing Zone, Shanghai, China

Product Name	Wireless-N 300 Modem Router/ Mobile Broadband Router
Brand Name	NETGEAR
Model Name	DGN2200/ MBRN3000, DGN2200M
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Received Date	Oct. 03, 2009
Final Test Date	Oct. 29, 2009
Submission Type	Original Equipment
Multiple Listing	Please refer to section 3.7



Statement

Test result included in this report is for the Draft n and 802.11b/g part of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.4-2003** and **47 CFR FCC Part 15 Subpart C**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



Testing Laboratory
1190

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1. CERTIFICATE OF COMPLIANCE

Product Name : Wireless-N 300 Modem Router/
Mobile Broadband Router
Brand Name : NETGEAR
Model Name : DGN2200/
MBRN3000, DGN2200M
Applicant : NETGEAR, Inc.
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Oct. 03, 2009 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Leo Huang 2009.11.17

Leo Huang / Manager

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	15.207	AC Power Line Conducted Emissions	Complies	1.42 dB
4.2	15.247(b)(3)	Maximum Conducted Output Power	Complies	1.26 dB
4.3	15.247(e)	Power Spectral Density	Complies	8.62 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	1.01 dB
4.6	15.247(d)	Band Edge Emissions	Complies	0.03 dB
4.7	15.203	Antenna Requirements	Complies	-

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	±2.3dB	Confidence levels of 95%
Maximum Conducted Output Power	±0.8dB	Confidence levels of 95%
Power Spectral Density	±0.5dB	Confidence levels of 95%
6dB Spectrum Bandwidth	±8.5×10 ⁻⁸	Confidence levels of 95%
Radiated Emissions (9kHz~30MHz)	±0.8dB	Confidence levels of 95%
Radiated Emissions (30MHz~1000MHz)	±1.9dB	Confidence levels of 95%
Radiated / Band Edge Emissions (1GHz~18GHz)	±1.9dB	Confidence levels of 95%
Radiated Emissions (18GHz~40GHz)	±1.9dB	Confidence levels of 95%
Temperature	±0.7°C	Confidence levels of 95%
Humidity	±3.2%	Confidence levels of 95%
DC / AC Power Source	±1.4%	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

Draft n

Items	Description
Product Type	WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From Power Adapter
Modulation	see the below table for draft n
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	see the below table for Draft n
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11 for 20MHz bandwidth ; 7 for 40MHz bandwidth
Channel Band Width (99%)	MCS0 (20MHz): 16.72 MHz ; MCS0 (40MHz): 36.00 MHz
Conducted Output Power	MCS0 (20MHz): 28.74 dBm ; MCS0 (40MHz): 24.86 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

802.11b/g

Items	Description
Product Type	802.11b :WLAN (1TX, 1RX), 802.11g :WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From Power Adapter
Modulation	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11g
Data Modulation	DSSS (BPSK / QPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11) ; OFDM (6/9/12/18/24/36/48/54)
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11
Channel Band Width (99%)	11b: 10.20 MHz ; 11g: 15.48 MHz
Conducted Output Power	11b: 22.56 dBm ; 11g: 28.11 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Antenna & Band width

Antenna	Single (TX)		Two (TX)	
Band width Mode	20 MHz	40 MHz	20 MHz	40 MHz
802.11b	V	X	X	X
802.11g	X	X	V	X
Draft n	X	X	V	V

Draft n spec

MCS Index	Nss	Modulation	R	NBPCS	NCBPS		NDBPS		Datarate(Mbps)			
					20MHz	40MHz	20MHz	40MHz	800nsGI		400nsGI	
									20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.200	15
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.400	30
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.700	45
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.900	60
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.300	90
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.800	120
6	1	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.000	135
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.200	150
8	2	BPSK	1/2	1	104	216	52	108	13.0	27.0	14.444	30
9	2	QPSK	1/2	2	208	432	104	216	26.0	54.0	28.889	60
10	2	QPSK	3/4	2	208	432	156	324	39.0	81.0	43.333	90
11	2	16-QAM	1/2	4	416	864	208	432	52.0	108.0	57.778	120
12	2	16-QAM	3/4	4	416	864	312	648	78.0	162.0	86.667	180
13	2	64-QAM	2/3	6	624	1296	416	864	104.0	216.0	115.556	240
14	2	64-QAM	3/4	6	624	1296	468	972	117.0	243.0	130.000	270
15	2	64-QAM	5/6	6	624	1296	520	1080	130.0	270.0	144.444	300

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPCS	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	guard interval

3.2. Accessories

Power	Brand	Model	P/N	Rating
Adapter 1	NETGEAR	MT12-Y120100-A1	332-10190-01	Input: 100-120VAC, 60Hz, 0.3A Output: 12VDC, 1.0A
Adapter 2	NETGEAR	T012LF1209 16100-2LF	332-10166-01	Input: 100-120VAC, 50/60Hz, 0.5A Output: 12VDC, 1.0A

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Remark
A	WHA YU GROUP	C107-510648-A (SSR-91581)	Dipole Antenna	HRS	2.00	TX/RX
B	WHA YU GROUP	C107-510647-A (SSR-91580)	Dipole Antenna	HRS	2.00	TX/RX

Note: The EUT has two antennas (2TX, 2RX).

For 802.11b mode:

Ant. A and Ant. B can be used as transmitting antenna.

Ant. A and Ant. B can be used as receiving antenna.

The EUT supports the antenna with TX/RX diversity function.

Due to Ant. A & Ant. B are identical and the Ant. B generated highest output power.

All tests were base on this setting and recorded in this report.

For 802.11g mode:

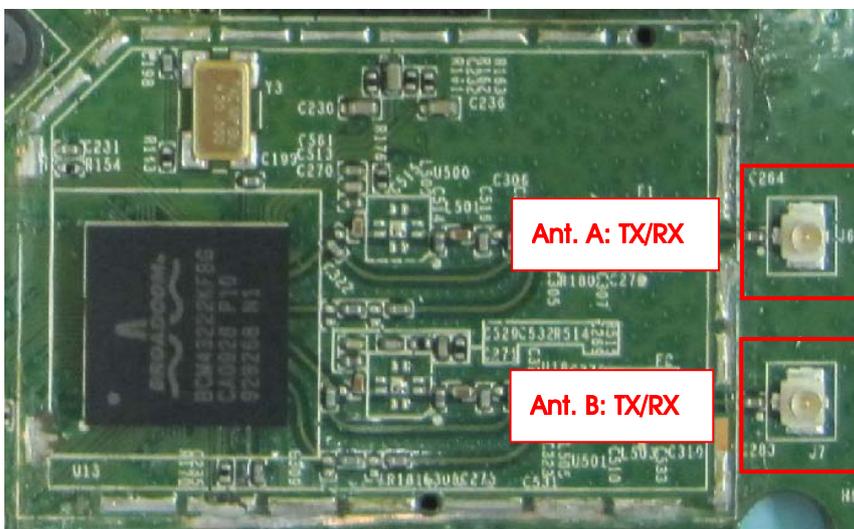
Ant. A and Ant. B can be used as transmitting/receiving antenna.

Ant. A and Ant. B will transmit/receive the same signal simultaneously.

For Draft n mode:

Ant. A and Ant. B can be used as transmitting/receiving antenna.

Ant. A and Ant. B will transmit/receive the same signal simultaneously.



3.4. Table for Carrier Frequencies

There are two bandwidth systems for draft n.

For both 20MHz bandwidth systems, use Channel 1~Channel 11.

For both 40MHz bandwidth systems, use Channel 3~Channel 9.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz		

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	Antenna
AC Power Line Conducted Emissions	Normal Link	-	-	-
Maximum Peak Conducted Output Power	MCS0/20MHz	6.5 Mbps	1/6/11	A/B/A+B
	MCS0/40MHz	13.5 Mbps	3/6/9	A/B/A+B
	11b/BPSK	1 Mbps	1/6/11	B
	11g/BPSK	6 Mbps	1/6/11	A/B/A+B
Power Spectral Density 6dB Spectrum Bandwidth	MCS0/20MHz	6.5 Mbps	1/6/11	A/B/A+B
	MCS0/40MHz	13.5 Mbps	3/6/9	A/B/A+B
	11b/BPSK	1 Mbps	1/6/11	B
	11g/BPSK	6 Mbps	1/6/11	A/B/A+B
Radiated Emissions 9kHz~1GHz	Normal Link	-	-	-
Radiated Emissions 1GHz~10 th Harmonic	MCS0/20MHz	6.5 Mbps	1/6/11	A/B/A+B
	MCS0/40MHz	13.5 Mbps	3/6/9	A/B/A+B
	11b/BPSK	1 Mbps	1/6/11	B
	11g/BPSK	6 Mbps	1/6/11	A/B/A+B
Band Edge Emissions	MCS0/20MHz	6.5 Mbps	1/11	A/B/A+B
	MCS0/40MHz	13.5 Mbps	3/9	A/B/A+B
	11b/BPSK	1 Mbps	1/11	B
	11g/BPSK	6 Mbps	1/11	A/B/A+B

The following test modes were performed for all tests:

There are three types of EUT.

EUT 1 is Annex A ADSL router and the USB Port could be only used for Memory dongle.

EUT 2 is Annex A ADSL router and the USB Port could be only used for 3G Dongle.

EUT 3 is router (without ADSL function) and the USB Port could be only used for 3G Dongle.

The difference between EUT 2 and EUT 3 is ADSL function, so only EUT 2 was tested and recorded in the report.

Both of EUT 1 and EUT 2 were recorded in the report.

Mode 1. EUT 1 + Memory dongle + Adapter 1

Mode 2. EUT 1 + Memory dongle + Adapter 2

Mode 3. EUT 2 + 3G Dongle + Adapter 1

Mode 4. EUT 2 + 3G Dongle + Adapter 2

For Conducted Emission test:

All the test results were tested and recorded in the report.

For Radiated Emission below 1GHz test:

Due to Mode 2 and Mode 4 generated the worst test result, so it was recorded in the report.

For Co-location test:

Only Mode 4 was selected and tested, please refer to APPENDIX D report.

Note:

The 3G USB dongle with substantially similar physical dimensions, construction, and electrical and RF characteristics.

We select one of these 3G USB dongle for MPE and Co-location test.

3.6. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No
03CH03-HY	SAC	Hwa Ya	480872	IC 4086	-
CO04-HY	Conduction	Hwa Ya	480872	IC 4086	-
TH01-HY	OVEN Room	Hwa Ya	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC); Fully Anechoic Chamber (FAC).

Please refer section 6 for Test Site Address.

3.7. Table for Multiple Listing & Class II Change

The model names in the following table are all refer to the identical product.

Product Name	Model No.	USB port	2.4 GHz 11n	WPS	DSL 2 Annex	Power supply
Wireless-N 300 Modem Router	DGN2200	Memory	Yes	Yes	Annex A	1.0A *2 brands
Mobile Broadband Router	MBRN3000	3G	Yes	Yes	N/A	1.0A *2 brands
	DGN2200M	3G	Yes	Yes	Annex A	1.0A *2 brands

Note: MBRN3000 will remove Annex components and turn off ADSL function by software.

3.8. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
HUB	Laneed	LD-LSW16C/AT	N/A
Flash Disk	SCANDISK	2G	DoC
HSDPA USB MODEM	CHT	E220	QISE220
ADSL 2+ Simulator	ZYXEL	IES-1000	DoC
Notebook	DELL	M1330	E2KWM3945ABG
Notebook	DELL	1200	E2K4965AGNM
Notebook	DELL	PP25L	E2K4965AGNM
COMMUNICATION	R&S	CMU200	DOC

3.9. Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters of Draft n MCS0 20MHz

Test Software Version	DOS		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 20MHz	44	74	40
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 40MHz	44	56	44

Power Parameters of IEEE 802.11b

Test Software Version	DOS		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	68	80	68
IEEE 802.11g	48	70	40

During the test, the following programs under WIN XP were executed:

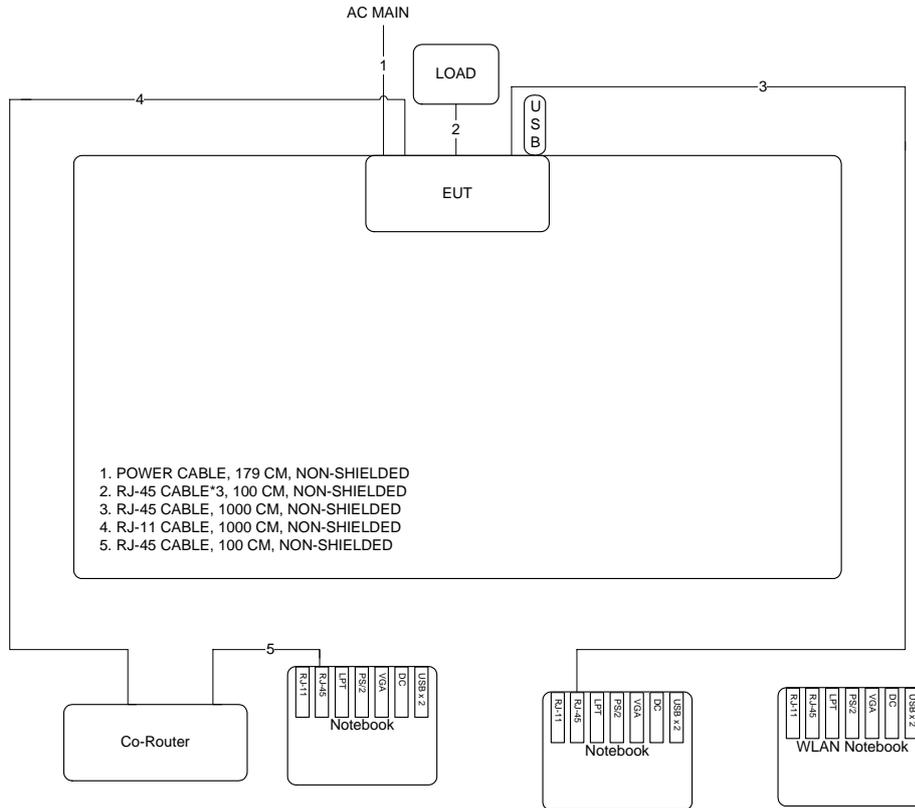
Executed "DOS" to control the EUT continuously transmit RF signal.

3.10. Test Configurations

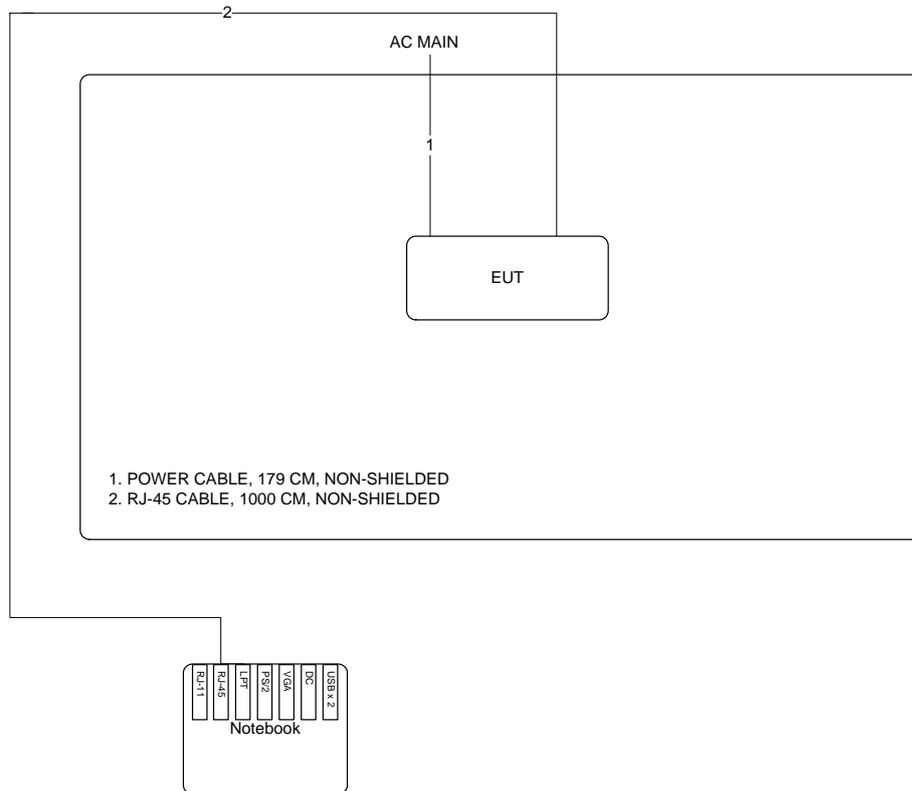
3.10.1. Radiation Emissions Test Configuration

Test Configuration: 9KHz~1GHz

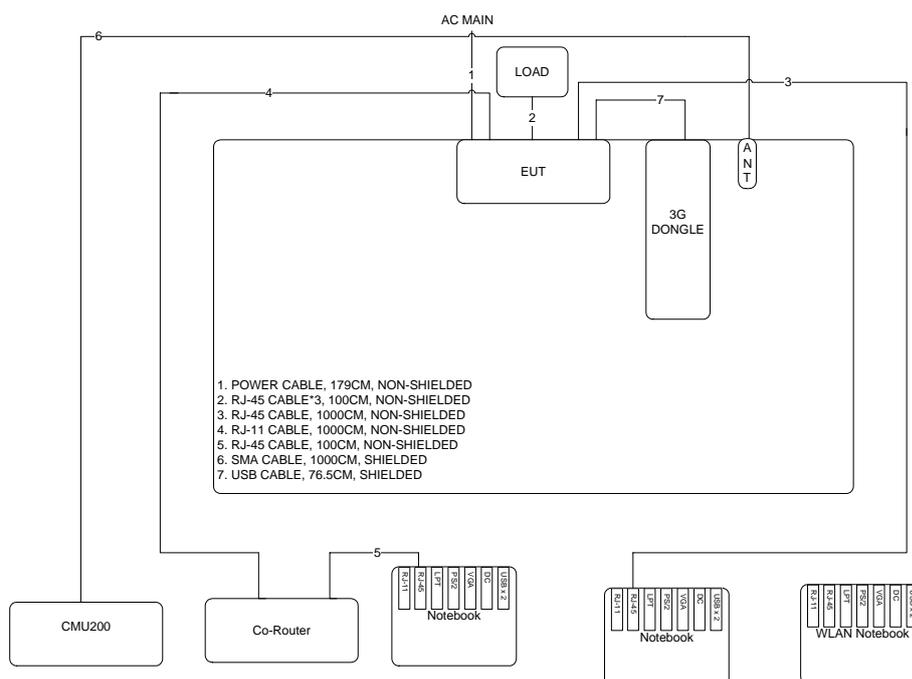
Test Mode: Mode 2 / Mode 4



Test Configuration: above 1GHz

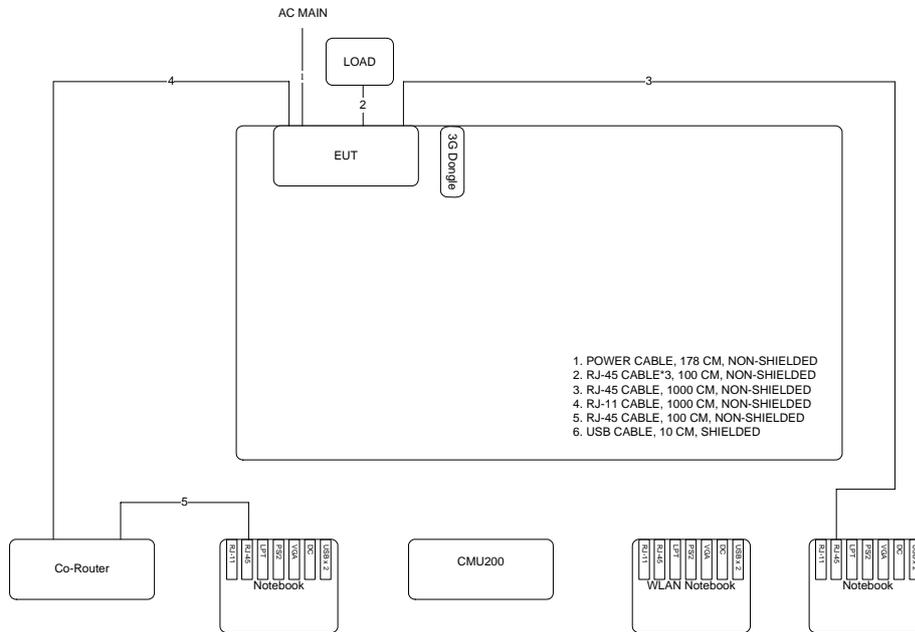


Co-location



3.10.2. AC Power Line Conduction Emissions Test Configuration

Test Mode: Mode 1 / Mode 3



4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected to the 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 below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

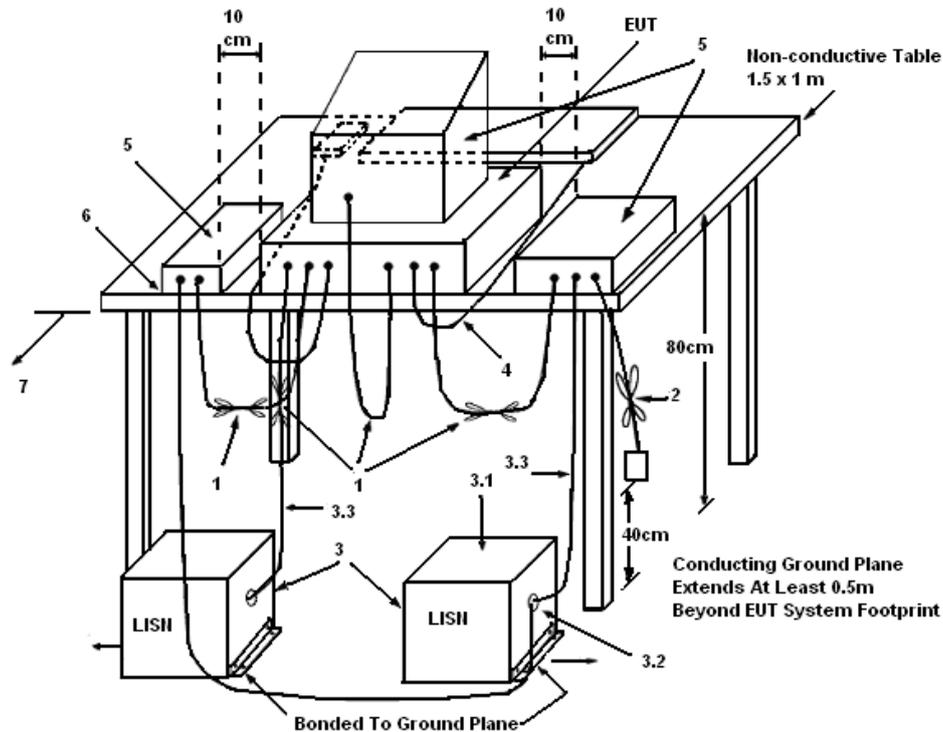
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.4. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 KHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
 - (3.1) All other equipment powered from additional LISN(s).
 - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
 - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

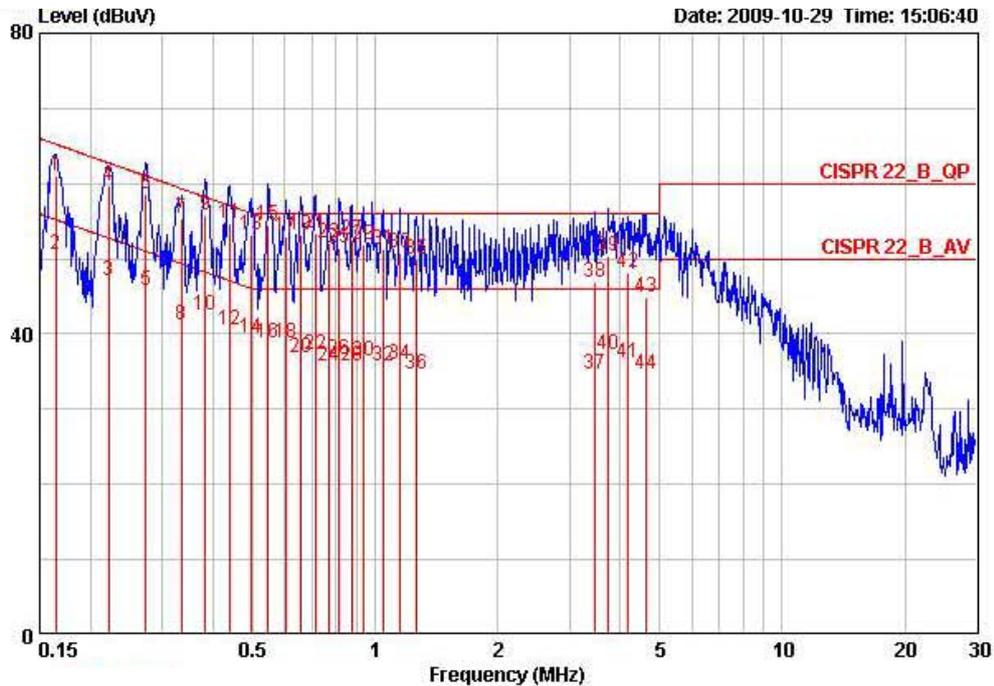
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Line
Configuration	Normal Link / Mode 1		

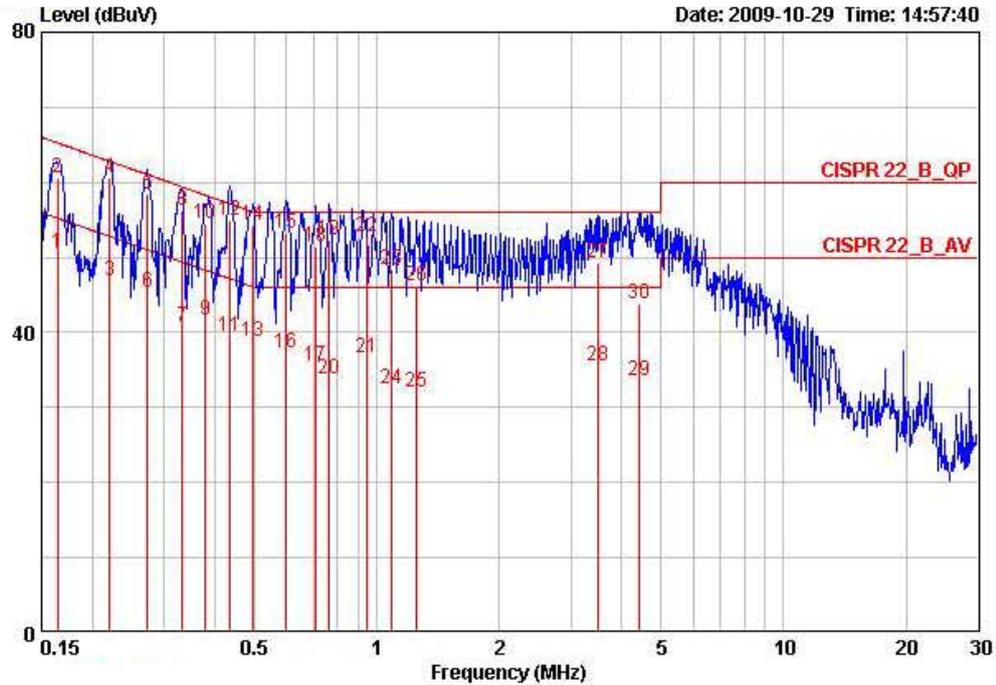


	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.16414	60.93	-4.32	65.25	60.66	0.07	0.20	QP
2	0.16414	50.60	-4.65	55.25	50.33	0.07	0.20	AVERAGE
3	0.22201	47.13	-5.62	52.74	46.88	0.05	0.20	AVERAGE
4	0.22201	59.69	-3.06	62.74	59.44	0.05	0.20	QP
5	0.27357	45.67	-5.34	51.01	45.43	0.04	0.20	AVERAGE
6	0.27357	58.73	-2.28	61.01	58.49	0.04	0.20	QP
7	0.33402	55.41	-3.95	59.35	55.17	0.04	0.20	QP
8	0.33402	41.11	-8.25	49.35	40.87	0.04	0.20	AVERAGE
9	0.38255	55.89	-2.33	58.22	55.66	0.03	0.20	QP
10	0.38255	42.56	-5.66	48.22	42.33	0.03	0.20	AVERAGE
11	0.43922	54.72	-2.36	57.08	54.49	0.03	0.20	QP
12	0.43922	40.47	-6.61	47.08	40.24	0.03	0.20	AVERAGE
13	0.49411	53.22	-2.88	56.10	53.01	0.03	0.18	QP
14	0.49411	39.48	-6.62	46.10	39.27	0.03	0.18	AVERAGE
15	0.54704	54.58	-1.42	56.00	54.35	0.03	0.20	QP
16	0.54704	38.82	-7.18	46.00	38.59	0.03	0.20	AVERAGE
17	0.60112	52.92	-3.08	56.00	52.69	0.03	0.20	QP
18	0.60112	38.74	-7.26	46.00	38.51	0.03	0.20	AVERAGE
19	0.65778	53.11	-2.89	56.00	52.88	0.03	0.20	QP
20	0.65778	36.79	-9.21	46.00	36.56	0.03	0.20	AVERAGE
21	0.71219	53.49	-2.51	56.00	53.26	0.03	0.20	QP
22	0.71219	37.19	-8.81	46.00	36.96	0.03	0.20	AVERAGE
23	0.76702	52.04	-3.96	56.00	51.81	0.03	0.20	QP



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
24	0.76702	35.77	-10.23	46.00	35.54	0.03	0.20	AVERAGE
25	0.81737	51.36	-4.64	56.00	51.13	0.03	0.20	QP
26	0.81737	36.72	-9.28	46.00	36.49	0.03	0.20	AVERAGE
27	0.87566	52.45	-3.55	56.00	52.22	0.03	0.20	QP
28	0.87566	35.79	-10.21	46.00	35.56	0.03	0.20	AVERAGE
29	0.93314	51.80	-4.20	56.00	51.57	0.03	0.20	QP
30	0.93314	36.33	-9.67	46.00	36.10	0.03	0.20	AVERAGE
31	1.043	51.27	-4.73	56.00	51.05	0.03	0.19	QP
32	1.043	35.75	-10.25	46.00	35.53	0.03	0.19	AVERAGE
33	1.147	50.80	-5.20	56.00	50.60	0.03	0.17	QP
34	1.147	36.02	-9.98	46.00	35.82	0.03	0.17	AVERAGE
35	1.262	49.98	-6.02	56.00	49.80	0.04	0.14	QP
36	1.262	34.63	-11.37	46.00	34.45	0.04	0.14	AVERAGE
37	3.454	34.73	-11.27	46.00	34.35	0.09	0.29	AVERAGE
38	3.454	46.83	-9.17	56.00	46.45	0.09	0.29	QP
39	3.720	50.44	-5.56	56.00	50.05	0.09	0.30	QP
40	3.720	37.32	-8.68	46.00	36.93	0.09	0.30	AVERAGE
41	4.158	36.28	-9.72	46.00	35.87	0.11	0.30	AVERAGE
42	4.158	48.26	-7.74	56.00	47.85	0.11	0.30	QP
43	4.647	44.88	-11.12	56.00	44.44	0.14	0.30	QP
44	4.647	34.69	-11.31	46.00	34.25	0.14	0.30	AVERAGE

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Neutral
Configuration	Normal Link / Mode 1		



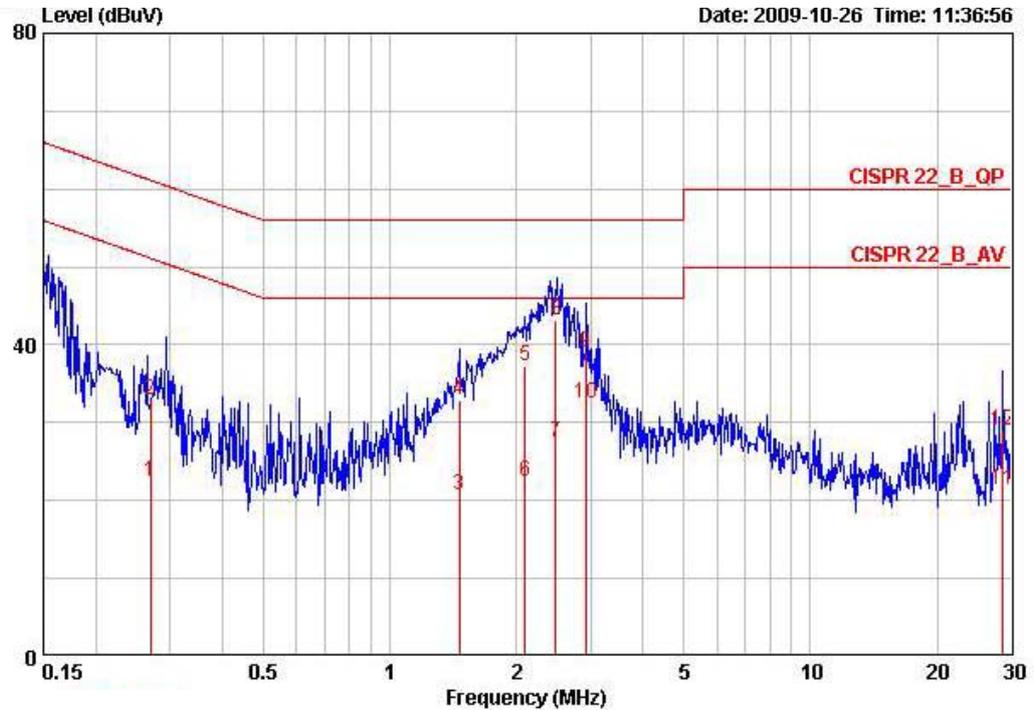
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16397	50.50	-4.76	55.26	50.20	0.10	0.20	AVERAGE
2	0.16397	60.65	-4.61	65.26	60.35	0.10	0.20	QP
3	0.22101	46.76	-6.02	52.78	46.48	0.08	0.20	AVERAGE
4	0.22101	60.50	-2.28	62.78	60.22	0.08	0.20	QP
5	0.27312	58.36	-2.67	61.02	58.08	0.08	0.20	QP
6	0.27312	45.34	-5.69	51.02	45.06	0.08	0.20	AVERAGE
7	0.33288	40.86	-8.52	49.38	40.59	0.07	0.20	AVERAGE
8	0.33288	56.33	-3.05	59.38	56.06	0.07	0.20	QP
9	0.37924	41.62	-6.68	48.30	41.35	0.07	0.20	AVERAGE
10	0.37924	54.49	-3.81	58.30	54.22	0.07	0.20	QP
11	0.43691	39.43	-7.69	47.12	39.16	0.07	0.20	AVERAGE
12	0.43691	54.87	-2.25	57.12	54.60	0.07	0.20	QP
13	0.49773	38.85	-7.18	46.04	38.60	0.07	0.18	AVERAGE
14	0.49773	54.17	-1.86	56.04	53.92	0.07	0.18	QP
15	0.59954	53.10	-2.90	56.00	52.83	0.07	0.20	QP
16	0.59954	37.31	-8.69	46.00	37.04	0.07	0.20	AVERAGE
17	0.70842	35.61	-10.39	46.00	35.34	0.07	0.20	AVERAGE
18	0.70842	51.55	-4.45	56.00	51.28	0.07	0.20	QP
19	0.76277	52.21	-3.79	56.00	51.94	0.07	0.20	QP
20	0.76277	33.82	-12.18	46.00	33.55	0.07	0.20	AVERAGE
21	0.94141	36.56	-9.44	46.00	36.29	0.07	0.20	AVERAGE
22	0.94141	52.74	-3.26	56.00	52.47	0.07	0.20	QP
23	1.088	48.29	-7.71	56.00	48.04	0.07	0.18	QP

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
24	1.088	32.54	-13.46	46.00	32.29	0.07	0.18	AVERAGE
25	1.249	31.95	-14.05	46.00	31.73	0.08	0.15	AVERAGE
26	1.249	46.18	-9.82	56.00	45.96	0.08	0.15	QP
27	3.493	49.18	-6.82	56.00	48.75	0.13	0.30	QP
28	3.493	35.60	-10.40	46.00	35.17	0.13	0.30	AVERAGE
29	4.407	33.50	-12.50	46.00	33.03	0.17	0.30	AVERAGE
30	4.407	43.80	-12.20	56.00	43.33	0.17	0.30	QP

Note:

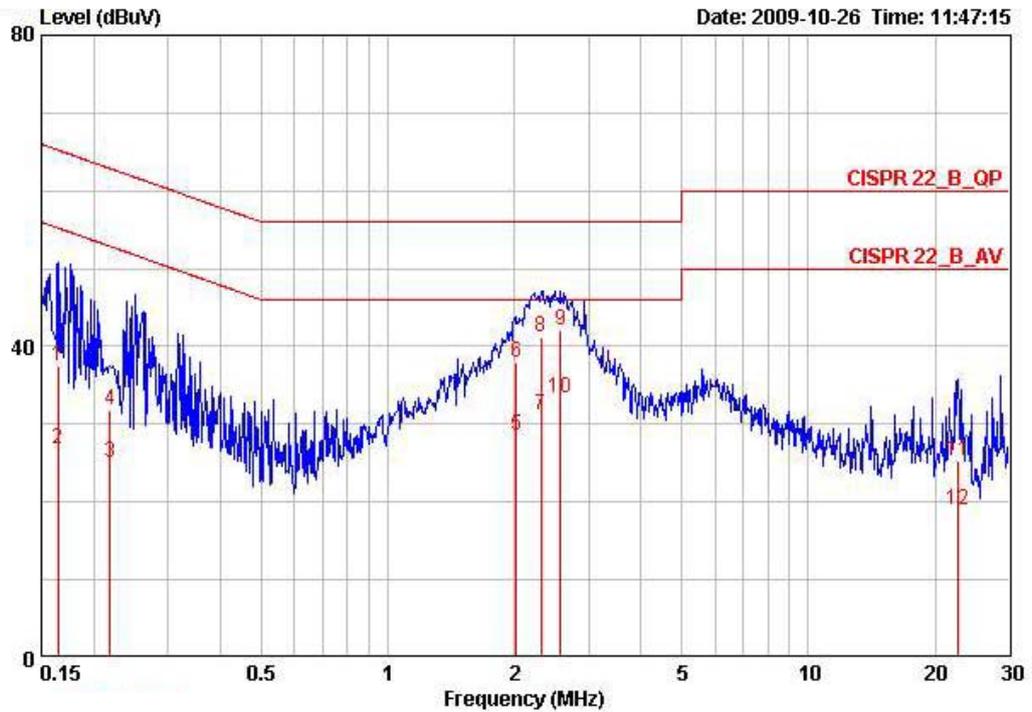
Level = Read Level + LISN Factor + Cable Loss.

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Line
Configuration	Normal Link / Mode 2		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.26958	22.48	-28.65	51.13	22.24	0.04	0.20	AVERAGE
2	0.26958	32.91	-28.22	61.13	32.67	0.04	0.20	QP
3	1.464	20.74	-25.26	46.00	20.59	0.04	0.11	AVERAGE
4	1.464	32.83	-23.17	56.00	32.68	0.04	0.11	QP
5	2.099	37.34	-18.66	56.00	37.09	0.05	0.20	QP
6	2.099	22.49	-23.51	46.00	22.24	0.05	0.20	AVERAGE
7	2.480	27.38	-18.62	46.00	27.11	0.07	0.20	AVERAGE
8	2.480	43.14	-12.86	56.00	42.87	0.07	0.20	QP
9	2.925	39.06	-16.94	56.00	38.78	0.08	0.20	QP
10	2.925	32.46	-13.54	46.00	32.18	0.08	0.20	AVERAGE
11	28.683	21.47	-28.53	50.00	19.51	1.36	0.60	AVERAGE
12	28.683	28.97	-31.03	60.00	27.01	1.36	0.60	QP

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Neutral
Configuration	Normal Link / Mode 2		

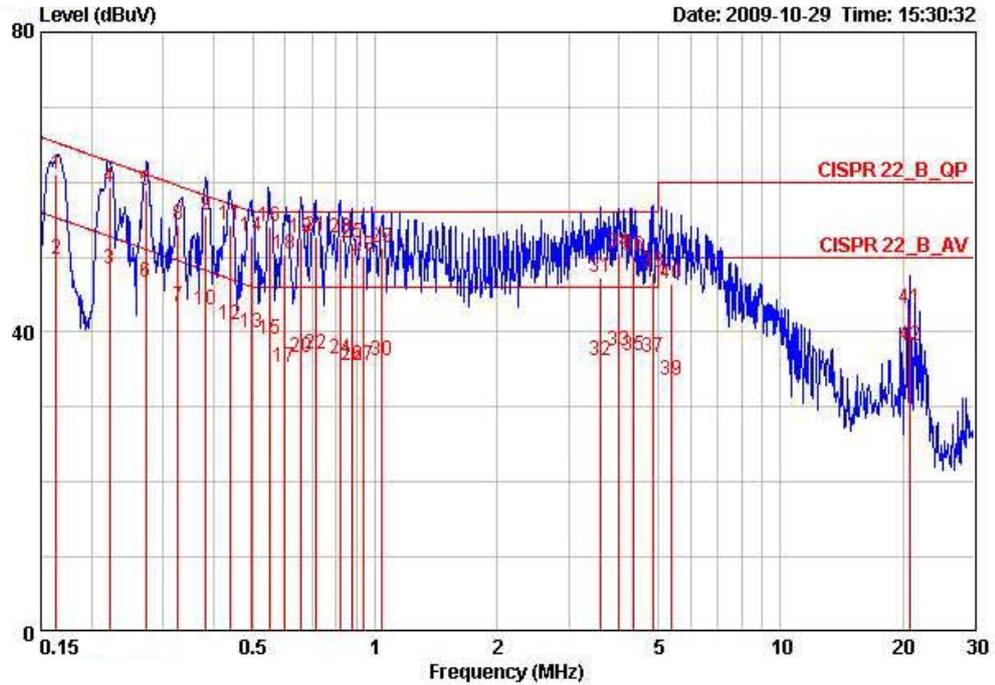


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16414	37.42	-27.83	65.25	37.12	0.10	0.20	QP
2	0.16414	26.90	-28.35	55.25	26.60	0.10	0.20	AVERAGE
3	0.21851	25.05	-27.83	52.88	24.77	0.08	0.20	AVERAGE
4	0.21851	31.79	-31.09	62.88	31.51	0.08	0.20	QP
5	2.023	28.65	-17.35	46.00	28.36	0.09	0.20	AVERAGE
6	2.023	37.87	-18.13	56.00	37.58	0.09	0.20	QP
7	2.314	31.23	-14.77	46.00	30.93	0.10	0.20	AVERAGE
8	2.314	41.24	-14.76	56.00	40.94	0.10	0.20	QP
9	2.581	41.99	-14.01	56.00	41.68	0.11	0.20	QP
10	2.581	33.42	-12.58	46.00	33.11	0.11	0.20	AVERAGE
11	22.655	25.26	-34.74	60.00	23.75	1.01	0.50	QP
12	22.655	18.96	-31.04	50.00	17.45	1.01	0.50	AVERAGE

Note:

Level = Read Level + LISN Factor + Cable Loss.

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Line
Configuration	Normal Link / Mode 3		

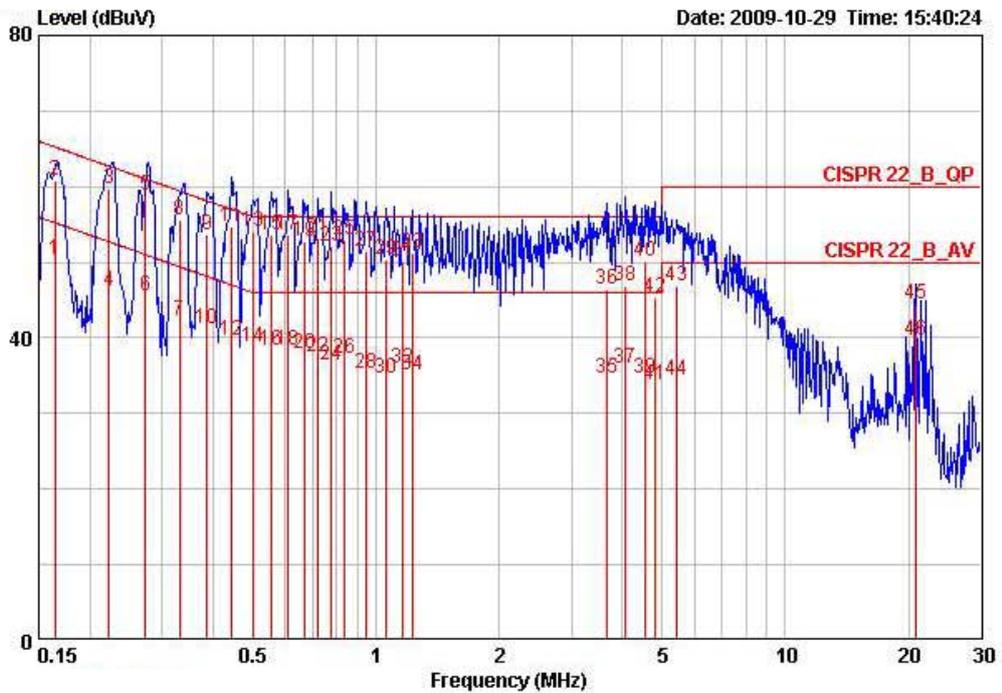


	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.16389	61.03	-4.24	65.26	60.76	0.07	0.20	QP
2	0.16389	49.63	-5.64	55.26	49.36	0.07	0.20	AVERAGE
3	0.22107	48.31	-4.47	52.78	48.06	0.05	0.20	AVERAGE
4	0.22107	59.39	-3.39	62.78	59.14	0.05	0.20	QP
5	0.27257	58.91	-2.13	61.04	58.67	0.04	0.20	QP
6	0.27257	46.62	-4.42	51.04	46.38	0.04	0.20	AVERAGE
7	0.32665	43.48	-6.06	49.54	43.24	0.04	0.20	AVERAGE
8	0.32665	54.23	-5.31	59.54	53.99	0.04	0.20	QP
9	0.38355	55.61	-2.59	58.20	55.38	0.03	0.20	QP
10	0.38355	42.93	-5.27	48.20	42.70	0.03	0.20	AVERAGE
11	0.43782	54.36	-2.74	57.10	54.13	0.03	0.20	QP
12	0.43782	40.88	-6.22	47.10	40.65	0.03	0.20	AVERAGE
13	0.49411	39.80	-6.30	46.10	39.59	0.03	0.18	AVERAGE
14	0.49411	52.67	-3.43	56.10	52.46	0.03	0.18	QP
15	0.54744	38.99	-7.01	46.00	38.76	0.03	0.20	AVERAGE
16	0.54744	54.03	-1.97	56.00	53.80	0.03	0.20	QP
17	0.60032	35.22	-10.78	46.00	34.99	0.03	0.20	AVERAGE
18	0.60032	50.46	-5.54	56.00	50.23	0.03	0.20	QP
19	0.65778	52.62	-3.38	56.00	52.39	0.03	0.20	QP
20	0.65778	36.68	-9.32	46.00	36.45	0.03	0.20	AVERAGE
21	0.71219	52.68	-3.32	56.00	52.45	0.03	0.20	QP
22	0.71219	36.97	-9.03	46.00	36.74	0.03	0.20	AVERAGE
23	0.82172	52.56	-3.44	56.00	52.33	0.03	0.20	QP



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
24	0.82172	36.50	-9.50	46.00	36.27	0.03	0.20	AVERAGE
25	0.87426	51.83	-4.17	56.00	51.60	0.03	0.20	QP
26	0.87426	35.53	-10.47	46.00	35.30	0.03	0.20	AVERAGE
27	0.93314	35.54	-10.46	46.00	35.31	0.03	0.20	AVERAGE
28	0.93314	50.09	-5.91	56.00	49.86	0.03	0.20	QP
29	1.039	51.33	-4.67	56.00	51.11	0.03	0.19	QP
30	1.039	36.11	-9.89	46.00	35.89	0.03	0.19	AVERAGE
31	3.603	47.22	-8.78	56.00	46.83	0.09	0.30	QP
32	3.603	36.09	-9.91	46.00	35.70	0.09	0.30	AVERAGE
33	3.985	37.47	-8.53	46.00	37.07	0.10	0.30	AVERAGE
34	3.985	50.65	-5.35	56.00	50.25	0.10	0.30	QP
35	4.321	36.89	-9.11	46.00	36.47	0.12	0.30	AVERAGE
36	4.321	50.19	-5.81	56.00	49.77	0.12	0.30	QP
37	4.846	36.72	-9.28	46.00	36.27	0.15	0.30	AVERAGE
38	4.846	47.99	-8.01	56.00	47.54	0.15	0.30	QP
39	5.362	33.59	-16.41	50.00	33.11	0.18	0.30	AVERAGE
40	5.362	46.39	-13.61	60.00	45.91	0.18	0.30	QP
41	20.924	43.20	-16.80	60.00	41.81	0.89	0.50	QP
42	20.924	38.25	-11.75	50.00	36.86	0.89	0.50	AVERAGE

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Neutral
Configuration	Normal Link / Mode 3		



	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.16397	50.34	-4.92	55.26	50.04	0.10	0.20	AVERAGE
2	0.16397	60.84	-4.42	65.26	60.54	0.10	0.20	QP
3	0.22277	59.64	-3.08	62.72	59.36	0.08	0.20	QP
4	0.22277	46.28	-6.44	52.72	46.00	0.08	0.20	AVERAGE
5	0.27314	58.83	-2.20	61.02	58.55	0.08	0.20	QP
6	0.27314	45.64	-5.39	51.02	45.36	0.08	0.20	AVERAGE
7	0.33180	42.28	-7.12	49.41	42.01	0.07	0.20	AVERAGE
8	0.33180	55.56	-3.84	59.41	55.29	0.07	0.20	QP
9	0.38644	53.57	-4.57	58.14	53.30	0.07	0.20	QP
10	0.38644	41.09	-7.05	48.14	40.82	0.07	0.20	AVERAGE
11	0.44423	54.66	-2.32	56.98	54.39	0.07	0.20	QP
12	0.44423	39.75	-7.23	46.98	39.48	0.07	0.20	AVERAGE
13	0.50058	53.97	-2.03	56.00	53.72	0.07	0.18	QP
14	0.50058	38.84	-7.16	46.00	38.59	0.07	0.18	AVERAGE
15	0.55640	53.69	-2.31	56.00	53.42	0.07	0.20	QP
16	0.55640	38.41	-7.59	46.00	38.14	0.07	0.20	AVERAGE
17	0.61135	53.64	-2.36	56.00	53.37	0.07	0.20	QP
18	0.61135	38.28	-7.72	46.00	38.01	0.07	0.20	AVERAGE
19	0.66658	52.76	-3.24	56.00	52.49	0.07	0.20	QP
20	0.66658	37.91	-8.09	46.00	37.64	0.07	0.20	AVERAGE
21	0.72300	53.27	-2.73	56.00	53.00	0.07	0.20	QP
22	0.72300	37.43	-8.57	46.00	37.16	0.07	0.20	AVERAGE
23	0.77831	52.00	-4.00	56.00	51.73	0.07	0.20	QP

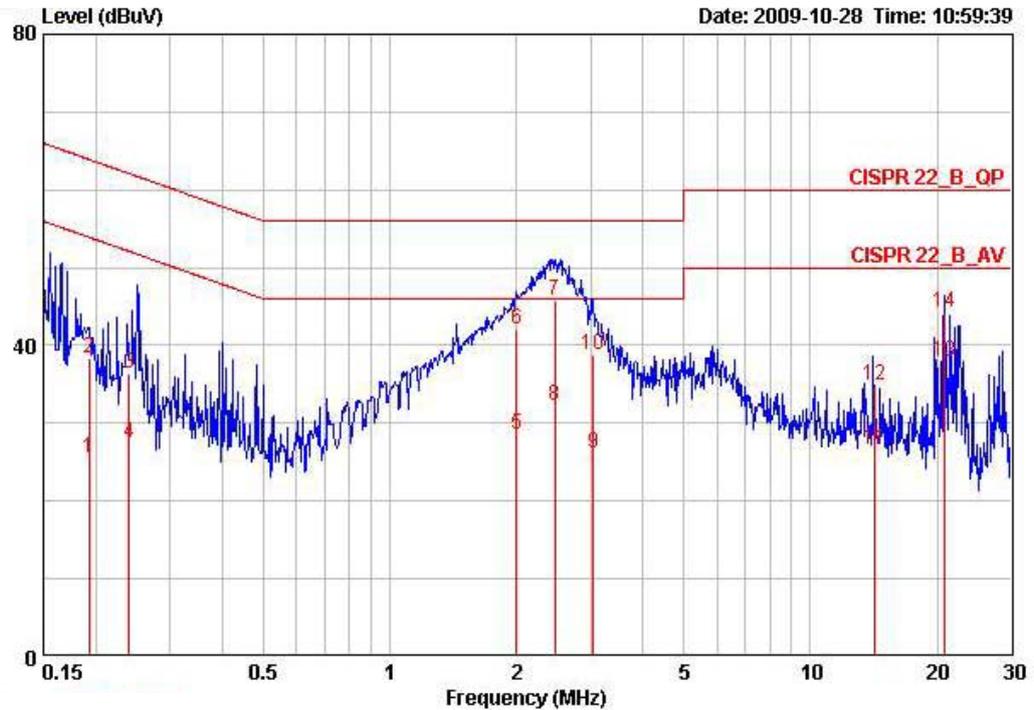


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
24	0.77831	36.46	-9.54	46.00	36.19	0.07	0.20	AVERAGE
25	0.83367	52.89	-3.11	56.00	52.62	0.07	0.20	QP
26	0.83367	37.19	-8.81	46.00	36.92	0.07	0.20	AVERAGE
27	0.94809	51.54	-4.46	56.00	51.27	0.07	0.20	QP
28	0.94809	35.34	-10.66	46.00	35.07	0.07	0.20	AVERAGE
29	1.060	50.36	-5.64	56.00	50.10	0.07	0.19	QP
30	1.060	34.75	-11.25	46.00	34.49	0.07	0.19	AVERAGE
31	1.166	50.09	-5.91	56.00	49.85	0.07	0.16	QP
32	1.166	35.94	-10.06	46.00	35.70	0.07	0.16	AVERAGE
33	1.223	51.31	-4.69	56.00	51.08	0.08	0.15	QP
34	1.223	35.16	-10.84	46.00	34.93	0.08	0.15	AVERAGE
35	3.681	34.66	-11.34	46.00	34.23	0.13	0.30	AVERAGE
36	3.681	46.52	-9.48	56.00	46.09	0.13	0.30	QP
37	4.070	35.92	-10.08	46.00	35.47	0.15	0.30	AVERAGE
38	4.070	46.96	-9.04	56.00	46.51	0.15	0.30	QP
39	4.525	34.58	-11.42	46.00	34.11	0.17	0.30	AVERAGE
40	4.525	50.20	-5.80	56.00	49.73	0.17	0.30	QP
41	4.797	33.72	-12.28	46.00	33.23	0.19	0.30	AVERAGE
42	4.797	45.29	-10.71	56.00	44.80	0.19	0.30	QP
43	5.447	46.91	-13.09	60.00	46.39	0.22	0.30	QP
44	5.447	34.46	-15.54	50.00	33.94	0.22	0.30	AVERAGE
45	20.923	44.56	-15.44	60.00	43.18	0.88	0.50	QP
46	20.923	39.74	-10.26	50.00	38.36	0.88	0.50	AVERAGE

Note:

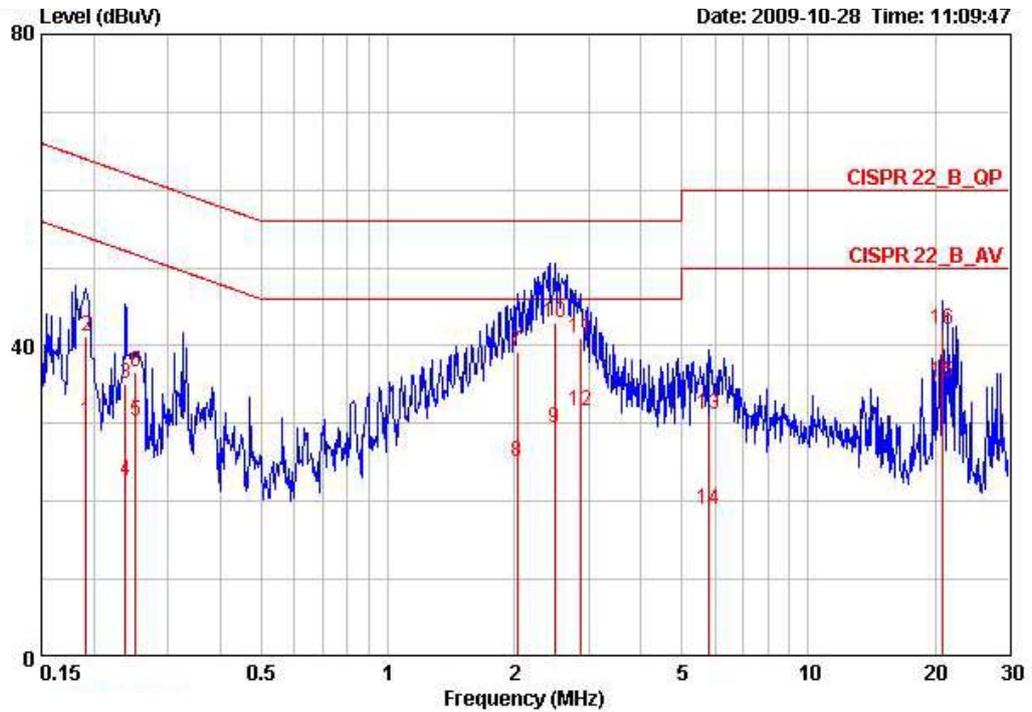
Level = Read Level + LISN Factor + Cable Loss.

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Line
Configuration	Normal Link / Mode 4		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.19269	25.47	-28.45	53.92	25.22	0.05	0.20	AVERAGE
2	0.19269	38.33	-25.59	63.92	38.08	0.05	0.20	QP
3	0.24038	36.42	-25.66	62.08	36.18	0.04	0.20	QP
4	0.24038	27.54	-24.54	52.08	27.30	0.04	0.20	AVERAGE
5	2.001	28.50	-17.50	46.00	28.25	0.05	0.20	AVERAGE
6	2.001	42.00	-14.00	56.00	41.75	0.05	0.20	QP
7	2.468	45.72	-10.28	56.00	45.45	0.07	0.20	QP
8	2.468	32.30	-13.70	46.00	32.03	0.07	0.20	AVERAGE
9	3.041	26.22	-19.78	46.00	25.93	0.08	0.21	AVERAGE
10	3.041	38.75	-17.25	56.00	38.46	0.08	0.21	QP
11	14.152	26.68	-23.32	50.00	25.76	0.52	0.40	AVERAGE
12	14.152	34.86	-25.14	60.00	33.94	0.52	0.40	QP
13	20.924	37.98	-12.02	50.00	36.59	0.89	0.50	AVERAGE
14	20.924	44.15	-15.85	60.00	42.76	0.89	0.50	QP

Temperature	25°C	Humidity	57%
Test Engineer	Howar Sung	Phase	Neutral
Configuration	Normal Link / Mode 4		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.19140	30.22	-23.75	53.98	29.94	0.08	0.20	AVERAGE
2	0.19140	41.18	-22.79	63.98	40.90	0.08	0.20	QP
3	0.23784	35.06	-27.11	62.17	34.78	0.08	0.20	QP
4	0.23784	22.71	-29.46	52.17	22.43	0.08	0.20	AVERAGE
5	0.25184	30.40	-21.30	51.70	30.12	0.08	0.20	AVERAGE
6	0.25184	36.53	-25.17	61.70	36.25	0.08	0.20	QP
7	2.033	39.13	-16.87	56.00	38.84	0.09	0.20	QP
8	2.033	25.06	-20.94	46.00	24.77	0.09	0.20	AVERAGE
9	2.488	29.40	-16.60	46.00	29.09	0.11	0.20	AVERAGE
10	2.488	43.01	-12.99	56.00	42.70	0.11	0.20	QP
11	2.869	41.06	-14.94	56.00	40.74	0.12	0.20	QP
12	2.869	31.68	-14.32	46.00	31.36	0.12	0.20	AVERAGE
13	5.805	31.10	-28.90	60.00	30.56	0.24	0.30	QP
14	5.805	18.89	-31.11	50.00	18.35	0.24	0.30	AVERAGE
15	20.925	35.38	-14.62	50.00	34.00	0.88	0.50	AVERAGE
16	20.925	41.97	-18.03	60.00	40.59	0.88	0.50	QP

Note: Level = Read Level + LISN Factor + Cable Loss.

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

4.2.2. Measuring Instruments and Setting

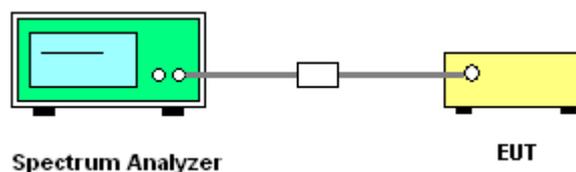
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1MHz
VB	3MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under Section 15.247 March 23, 2005.
3. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	Draft n

Configuration Draft n MCS0 20MHz Ant. A

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	19.63	30.00	Complies
6	2437 MHz	25.85	30.00	Complies
11	2462 MHz	18.83	30.00	Complies

Configuration Draft n MCS0 20MHz Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	19.42	30.00	Complies
6	2437 MHz	25.60	30.00	Complies
11	2462 MHz	18.67	30.00	Complies

Configuration Draft n MCS0 20MHz Ant. A + Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	22.54	30.00	Complies
6	2437 MHz	28.74	30.00	Complies
11	2462 MHz	21.76	30.00	Complies

Configuration Draft n MCS0 40MHz Ant. A

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	19.52	30.00	Complies
6	2437 MHz	22.05	30.00	Complies
9	2452 MHz	19.72	30.00	Complies

Configuration Draft n MCS0 40MHz Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	19.21	30.00	Complies
6	2437 MHz	21.64	30.00	Complies
9	2452 MHz	19.62	30.00	Complies

Configuration Draft n MCS0 40MHz Ant. A + Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	22.38	30.00	Complies
6	2437 MHz	24.86	30.00	Complies
9	2452 MHz	22.68	30.00	Complies

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	802.11b/g

Configuration IEEE 802.11b Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	19.49	30.00	Complies
6	2437 MHz	22.56	30.00	Complies
11	2462 MHz	19.99	30.00	Complies

Configuration IEEE 802.11g Ant. A

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	20.45	30.00	Complies
6	2437 MHz	25.31	30.00	Complies
11	2462 MHz	19.17	30.00	Complies

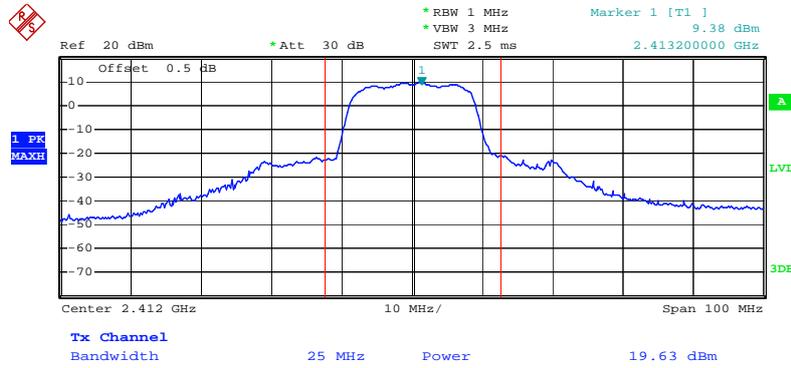
Configuration IEEE 802.11g Ant. B

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	20.45	30.00	Complies
6	2437 MHz	24.87	30.00	Complies
11	2462 MHz	18.67	30.00	Complies

Configuration IEEE 802.11g Ant. A + Ant. B

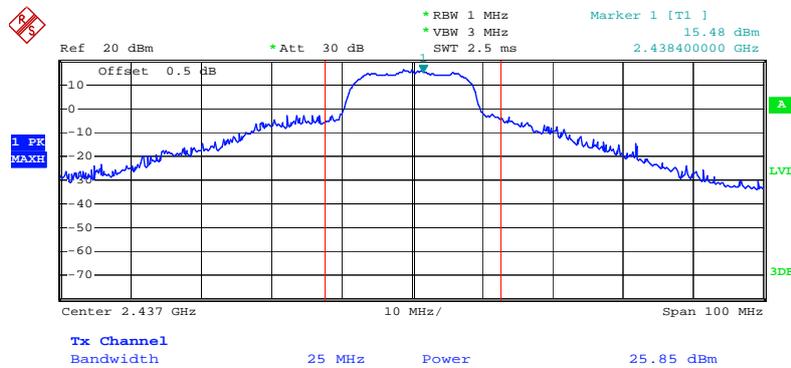
Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	23.46	30.00	Complies
6	2437 MHz	28.11	30.00	Complies
11	2462 MHz	21.94	30.00	Complies

Conducted Output Power Plot on Configuration Draft n MCS0 20MHz Ant. A / 2412 MHz



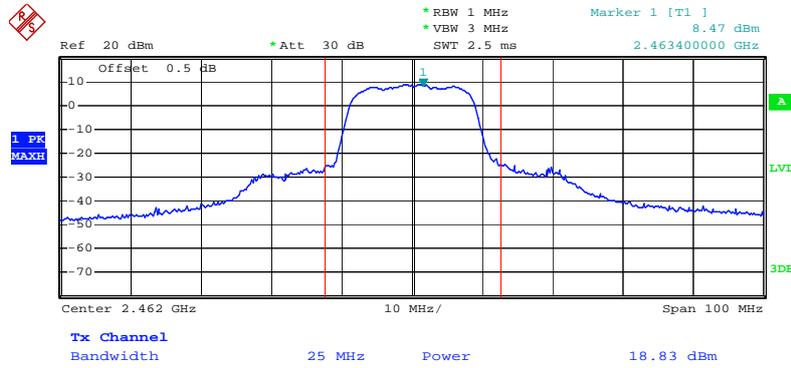
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Conducted Output Power Plot on Configuration Draft n MCS0 20MHz Ant. A / 2437 MHz



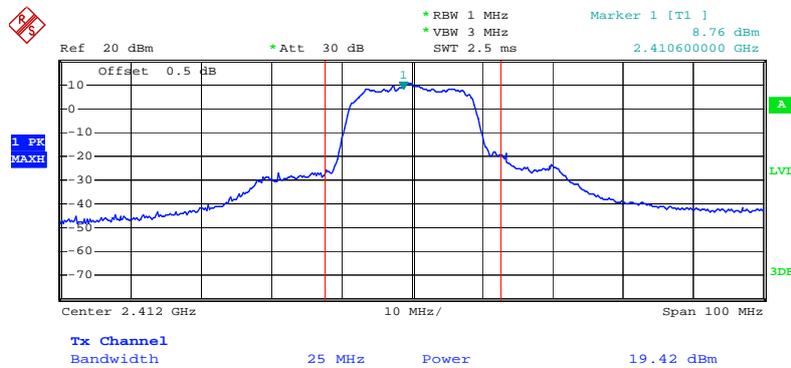
Date: 6.OCT.2009 12:00:55

Conducted Output Power Plot on Configuration Draft n MCS0 20MHz Ant. A / 2462 MHz



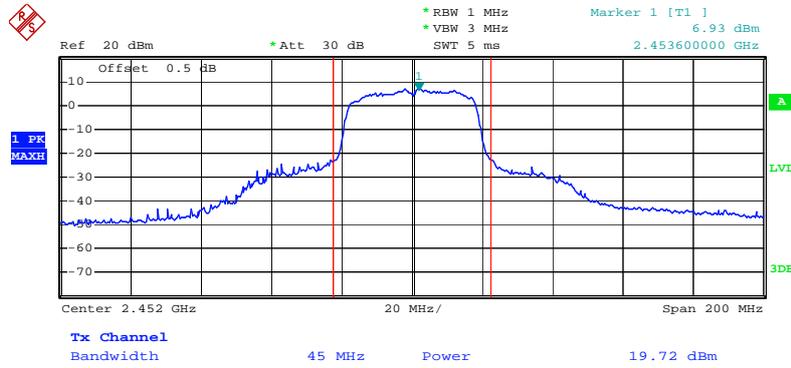
Date: 6.OCT.2009 12:02:01

Conducted Output Power Plot on Configuration Draft n MCS0 20MHz Ant. B/ 2412 MHz



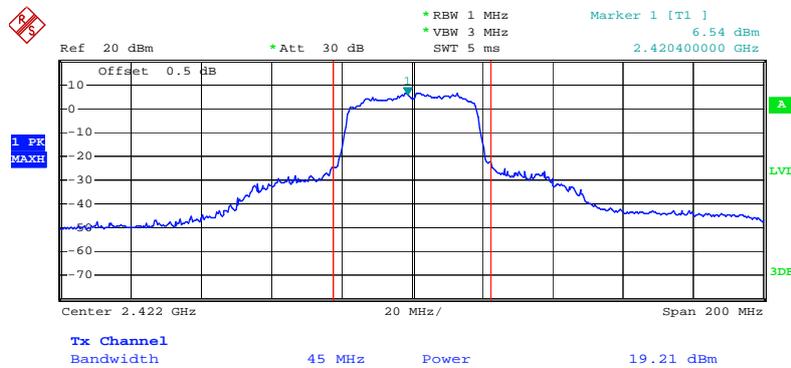
Date: 6.OCT.2009 11:58:41

Conducted Output Power Plot on Configuration Draft n MCS0 40MHz Ant. A / 2452 MHz



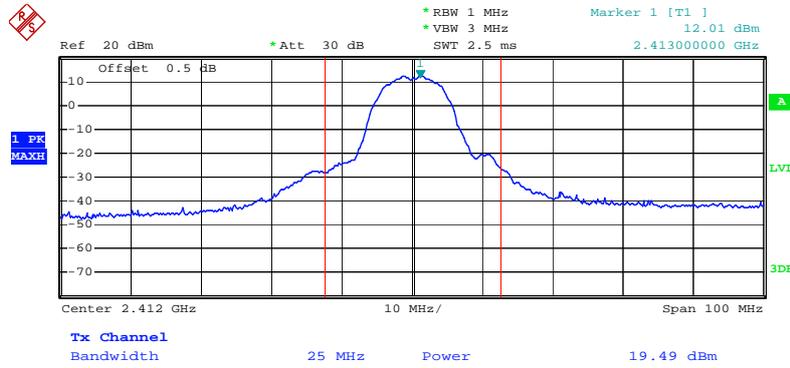
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Conducted Output Power Plot on Configuration Draft n MCS0 40MHz Ant. B / 2422 MHz



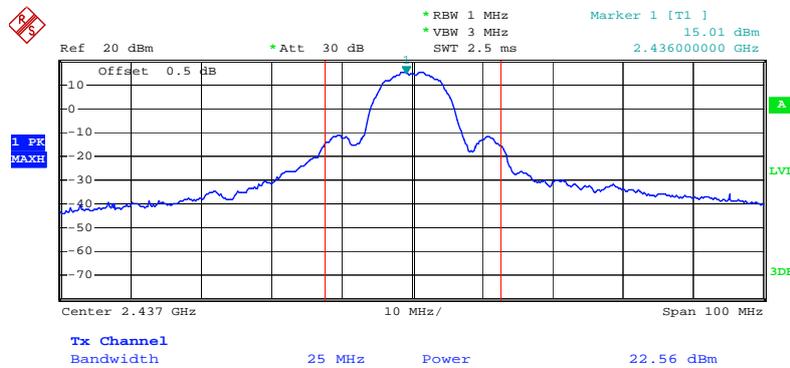
Date: 6.OCT.2009 12:04:51

Conducted Output Power Plot on Configuration IEEE 802.11b Ant. B / 2412 MHz



Date: 6.OCT.2009 11:31:40

Conducted Output Power Plot on Configuration IEEE 802.11b Ant. B / 2437 MHz



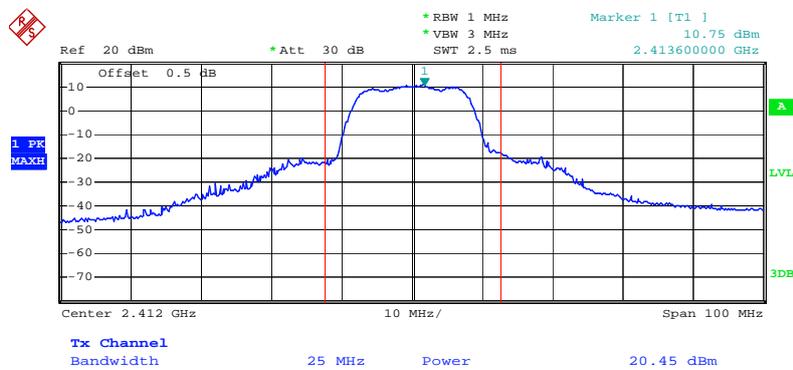
Date: 6.OCT.2009 11:33:59

Conducted Output Power Plot on Configuration IEEE 802.11b Ant. B / 2462 MHz



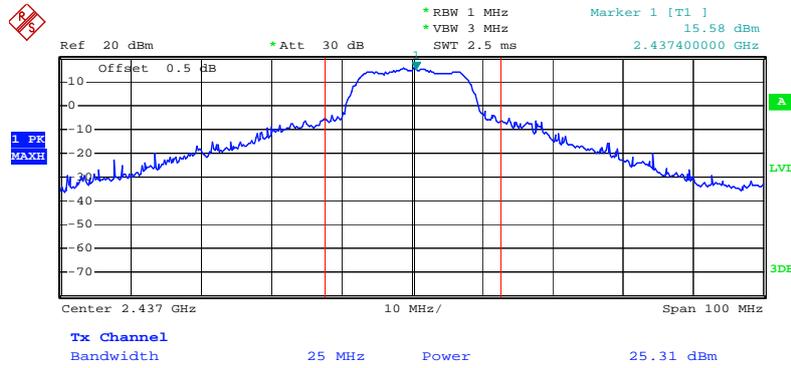
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Conducted Output Power Plot on Configuration IEEE 802.11g Ant. A / 2412 MHz



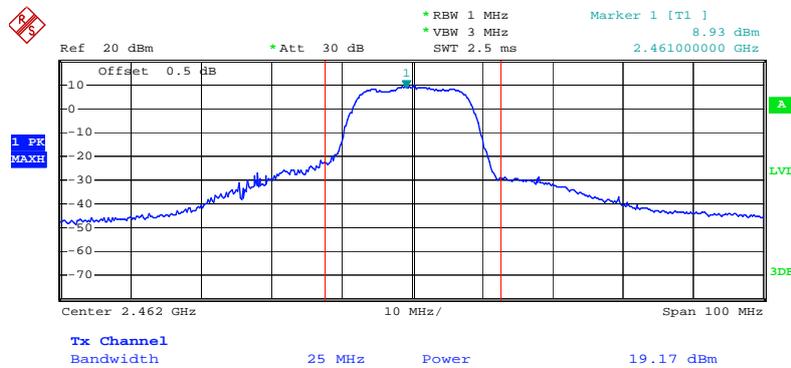
Date: 6.OCT.2009 11:56:11

Conducted Output Power Plot on Configuration IEEE 802.11g Ant. A / 2437 MHz



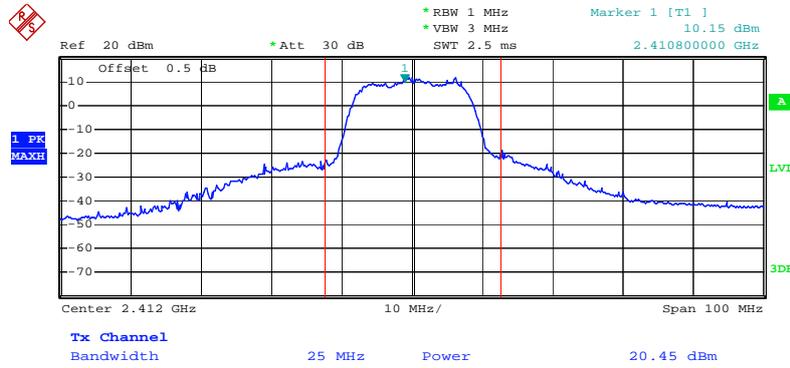
Date: 6.OCT.2009 11:50:37

Conducted Output Power Plot on Configuration IEEE 802.11g Ant. A / 2462 MHz



Date: 6.OCT.2009 11:49:23

Conducted Output Power Plot on Configuration IEEE 802.11g Ant. B / 2412 MHz



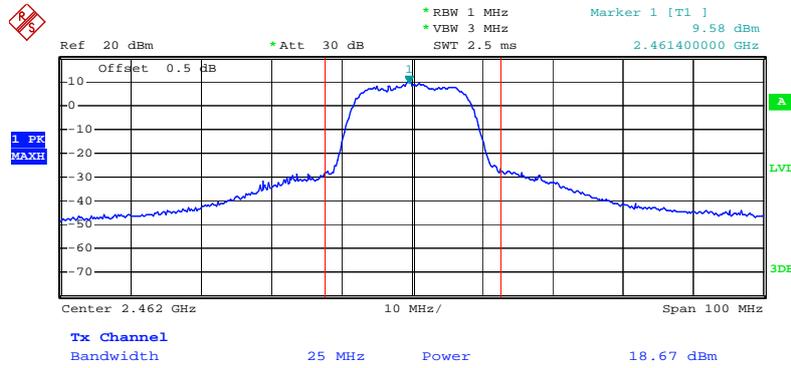
Date: 6.OCT.2009 11:54:34

Conducted Output Power Plot on Configuration IEEE 802.11g Ant. B / 2437 MHz



Date: 6.OCT.2009 11:51:47

Conducted Output Power Plot on Configuration IEEE 802.11g Ant. B / 2462 MHz



Date: 6.OCT.2009 11:48:25

4.3. Power Spectral Density Measurement

4.3.1. Limit

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

4.3.2. Measuring Instruments and Setting

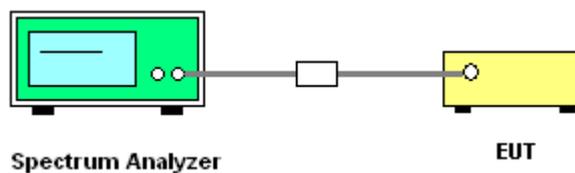
Please refer to section 5 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	30 kHz
RB	3 kHz
VB	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	10s

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set RBW of spectrum analyzer to 3kHz and VBW to 30kHz. Set Detector to Peak, Trace to Max Hold.
3. Mark the frequency with maximum peak power as the center of the display of the spectrum.
4. Set the span to 30kHz and the sweep time to 10s and record the maximum peak value.
5. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	Draft n

Configuration Draft n MCS0 20MHz Ant. A + Ant. B

Channel	Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
1	2412 MHz	-9.55	8.00	Complies
6	2437 MHz	-3.86	8.00	Complies
11	2462 MHz	-7.31	8.00	Complies

Configuration Draft n MCS0 40MHz Ant. A + Ant. B

Channel	Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
3	2422 MHz	-9.89	8.00	Complies
6	2437 MHz	-8.88	8.00	Complies
9	2452 MHz	-9.06	8.00	Complies

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	802.11b/g

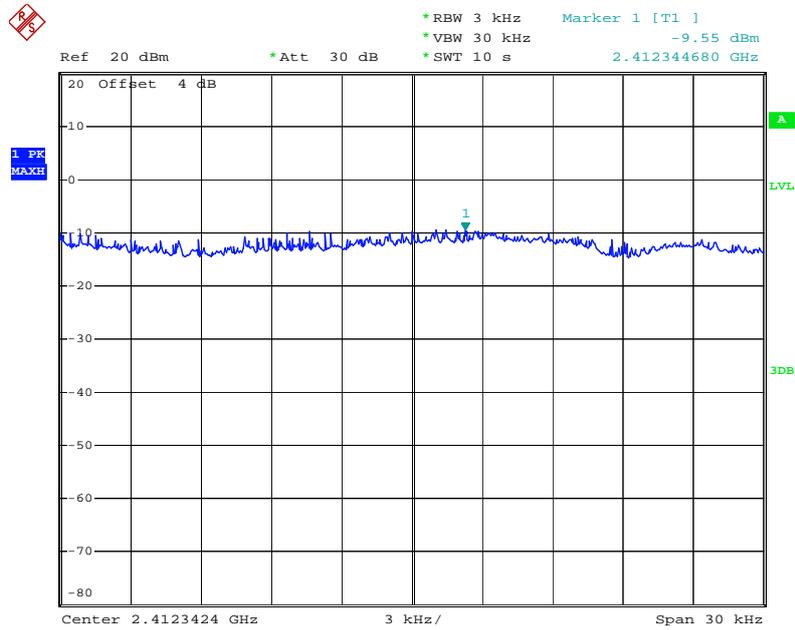
Configuration IEEE 802.11b Ant. B

Channel	Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
1	2412 MHz	-7.73	8.00	Complies
6	2437 MHz	-3.28	8.00	Complies
11	2462 MHz	-6.22	8.00	Complies

Configuration IEEE 802.11g Ant. A + Ant. B

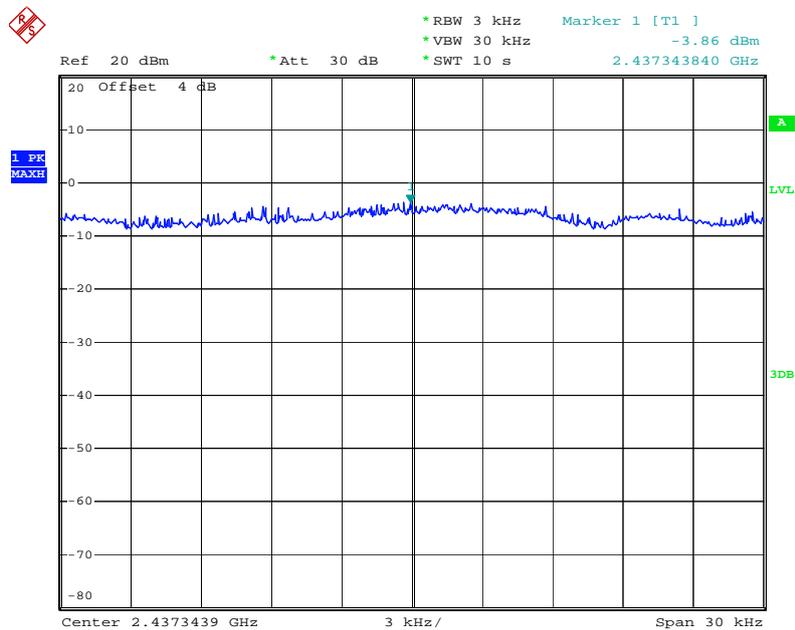
Channel	Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
1	2412 MHz	-6.14	8.00	Complies
6	2437 MHz	-0.62	8.00	Complies
11	2462 MHz	-9.01	8.00	Complies

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2412 MHz



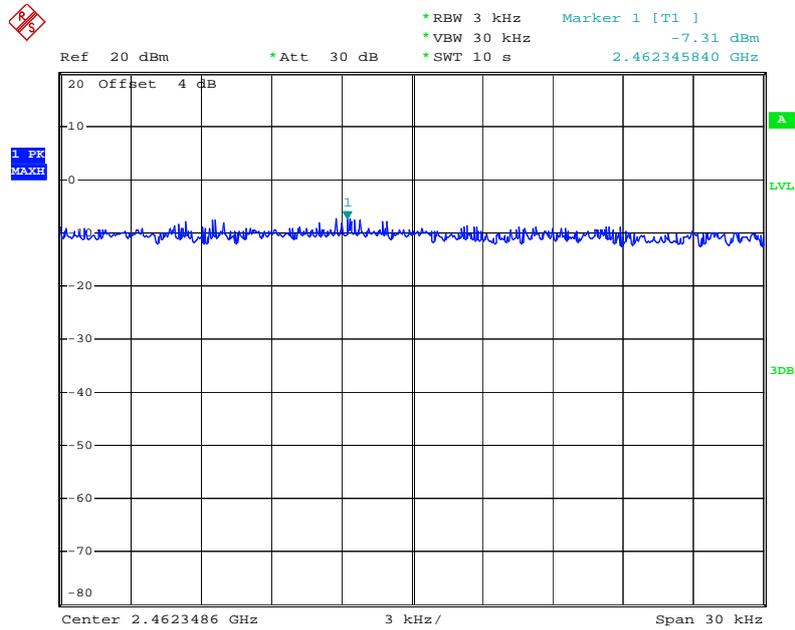
Date: 6.OCT.2009 17:40:21

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2437 MHz



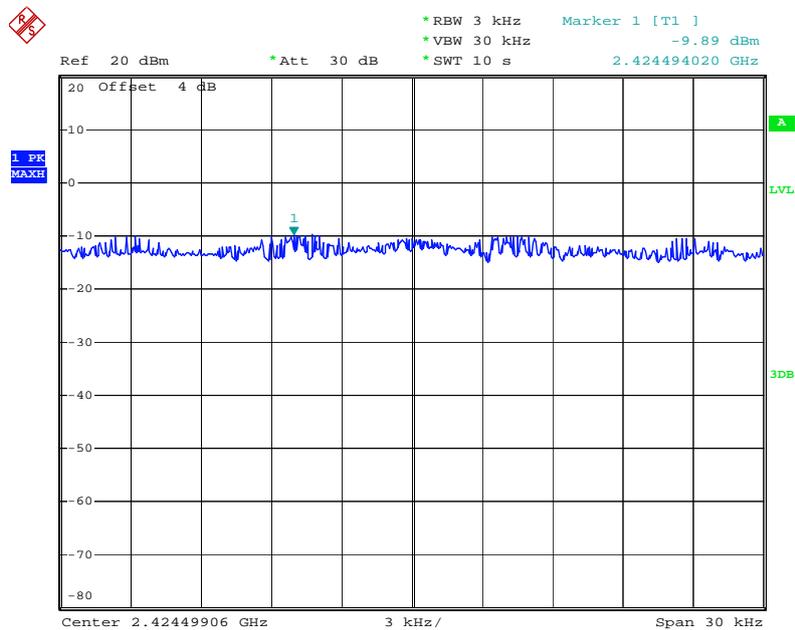
Date: 6.OCT.2009 17:35:47

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2462 MHz



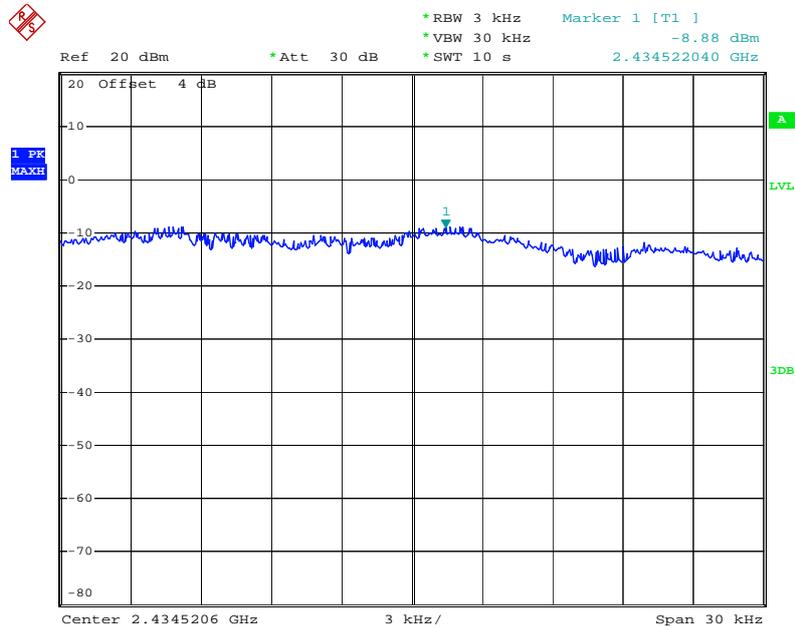
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Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. A + Ant. B / 2422 MHz



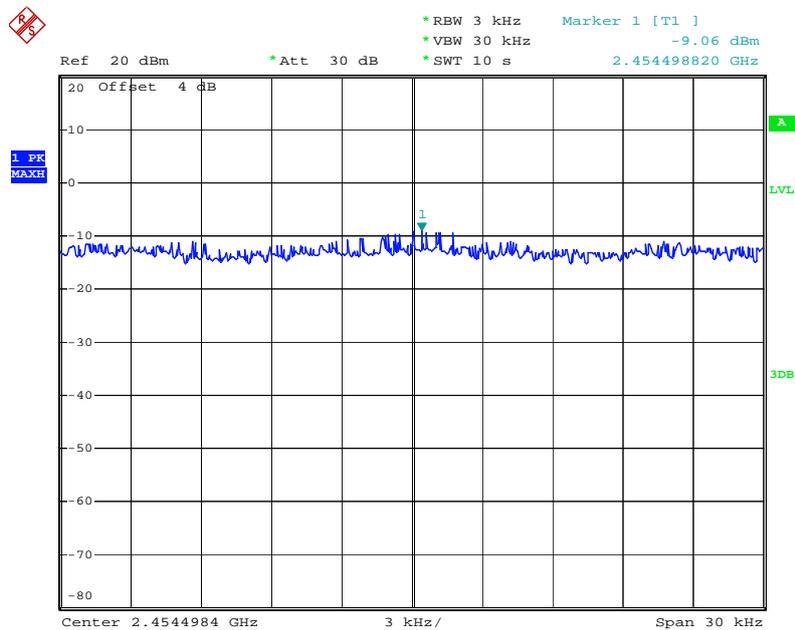
Date: 6.OCT.2009 17:43:23

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. A + Ant. B / 2437 MHz



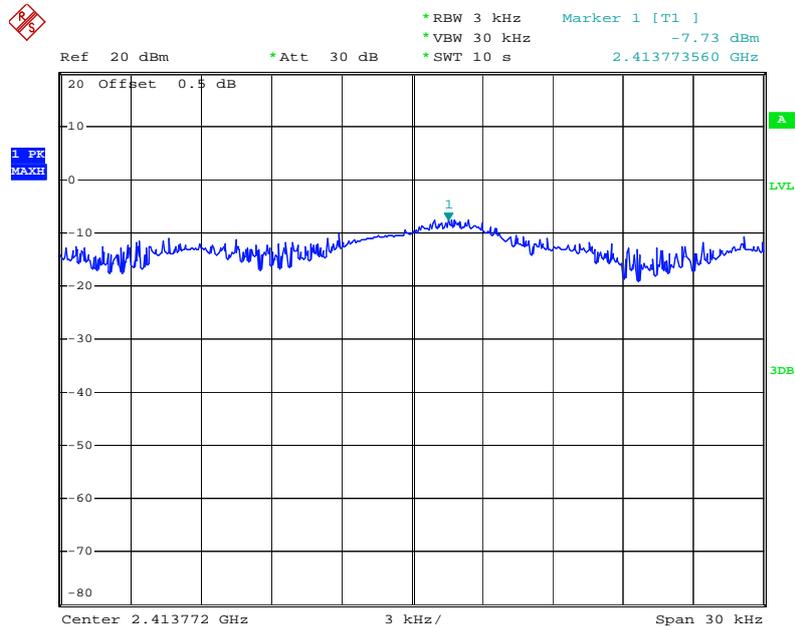
Date: 6.OCT.2009 17:46:43

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. A + Ant. B / 2452 MHz



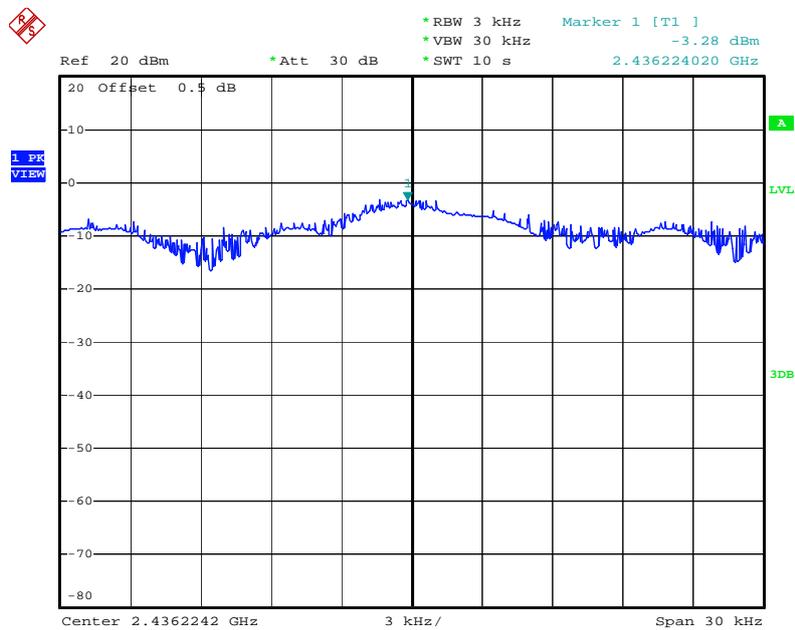
Date: 6.OCT.2009 17:48:52

Power Density Plot on Configuration IEEE 802.11b Ant. B / 2412 MHz



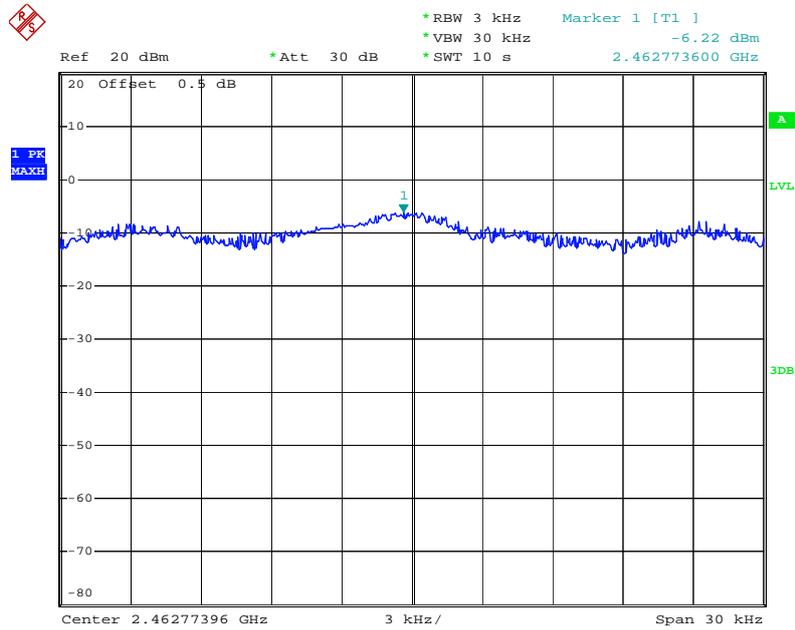
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Power Density Plot on Configuration IEEE 802.11b Ant. B / 2437 MHz



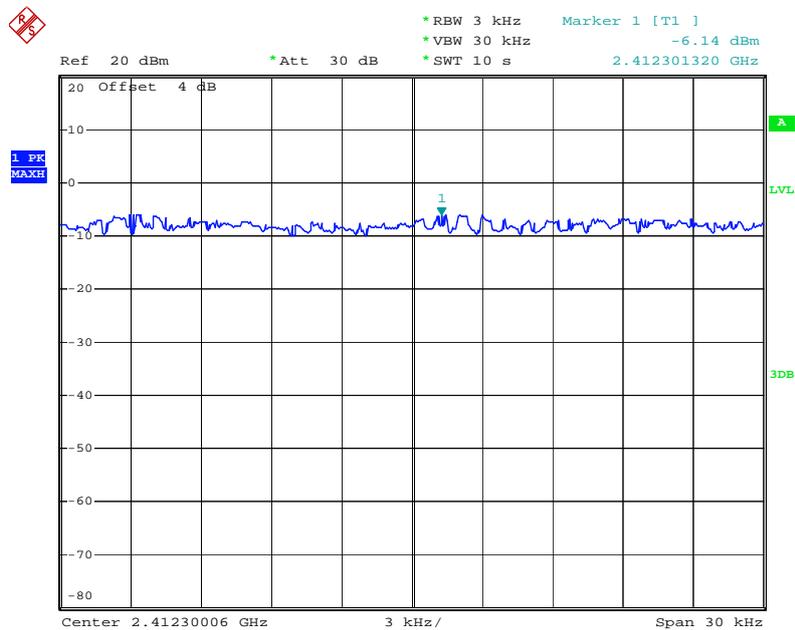
Date: 6.OCT.2009 17:04:58

Power Density Plot on Configuration IEEE 802.11b Ant. B / 2462 MHz



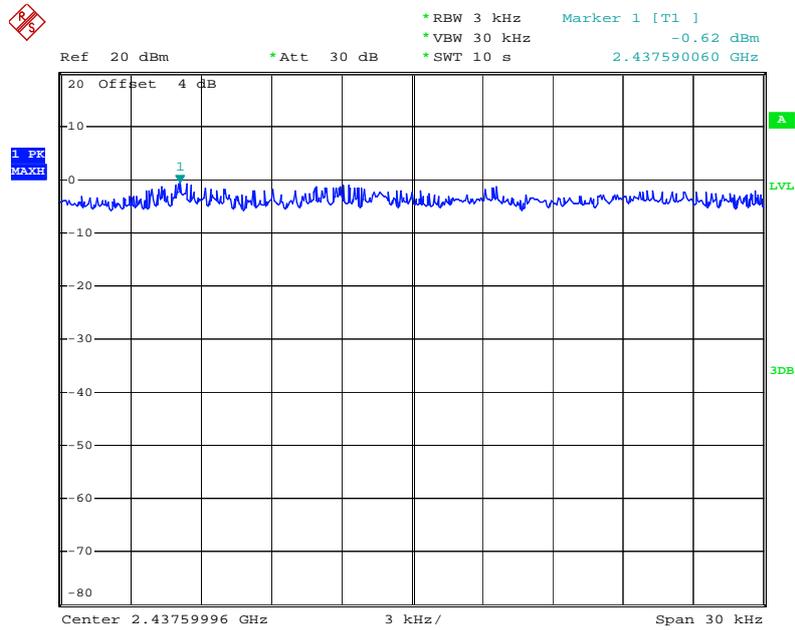
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Power Density Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2412 MHz



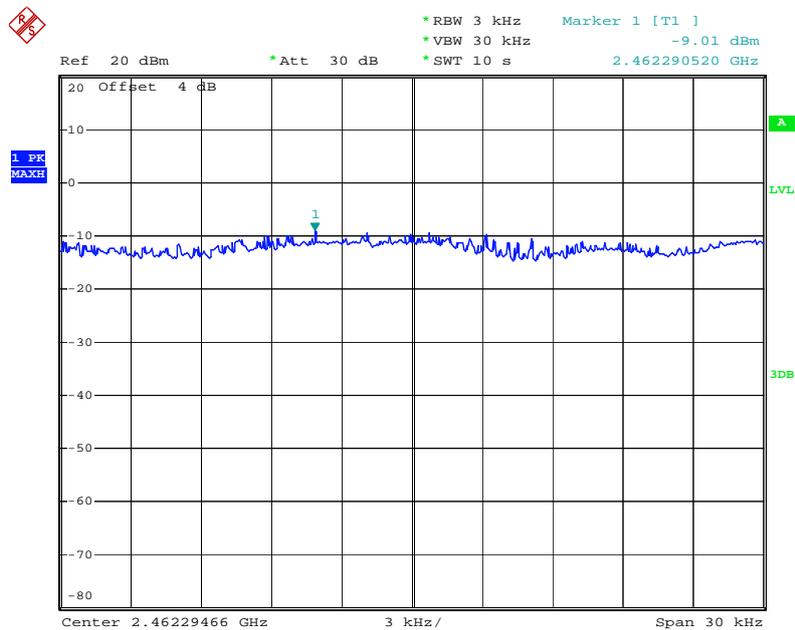
Date: 6.OCT.2009 17:24:35

Power Density Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2437 MHz



Date: 6.OCT.2009 17:27:29

Power Density Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2462 MHz



Date: 6.OCT.2009 17:29:55

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

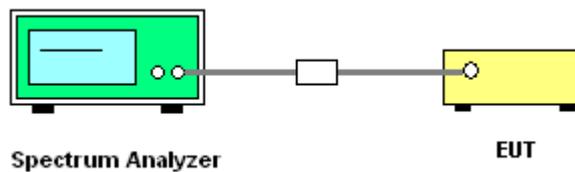
Please refer to section 5 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were used.
3. Measured the spectrum width with power higher than 6dB below carrier.
4. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	Draft n

Configuration Draft n MCS0 20MHz Ant. A + Ant. B

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	12.96	16.68	500	Complies
6	2437 MHz	14.68	16.68	500	Complies
11	2462 MHz	15.12	16.72	500	Complies

Configuration Draft n MCS0 40MHz Ant. A + Ant. B

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	35.44	36.00	500	Complies
6	2437 MHz	30.08	36.00	500	Complies
9	2452 MHz	35.20	36.00	500	Complies

Temperature	24°C	Humidity	60%
Test Engineer	Sam Chen	Configurations	802.11b/g

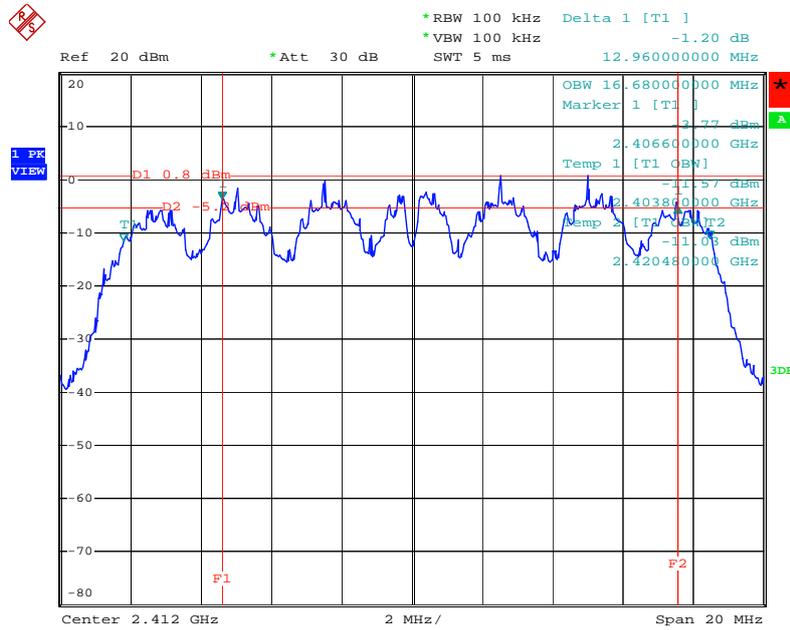
Configuration IEEE 802.11b Ant. B

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	8.08	10.12	500	Complies
6	2437 MHz	8.52	10.04	500	Complies
11	2462 MHz	8.04	10.20	500	Complies

Configuration IEEE 802.11g Ant. A+ Ant. B

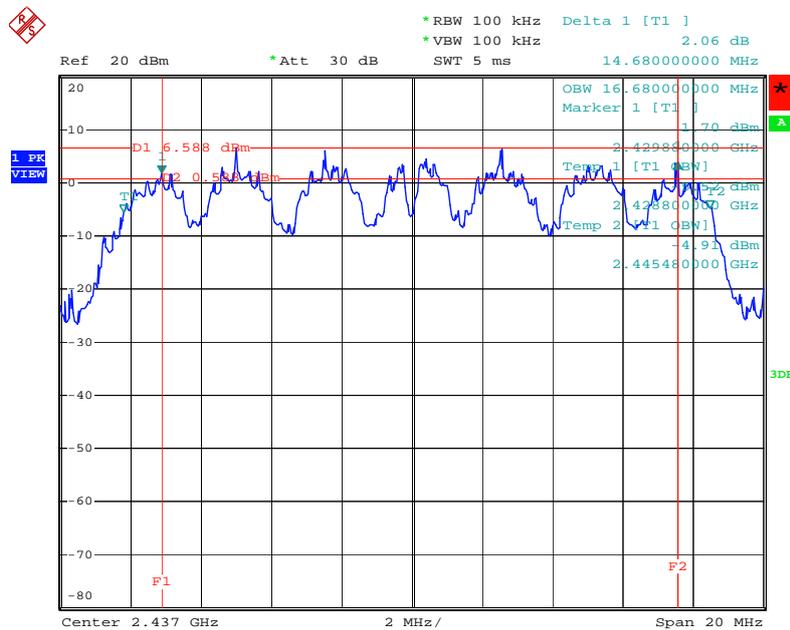
Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	12.56	15.16	500	Complies
6	2437 MHz	12.64	15.28	500	Complies
11	2462 MHz	12.72	15.48	500	Complies

6 dB Bandwidth Plot on Configuration Draft n MCS0 20MHz Ant. A + Ant. B / 2412 MHz



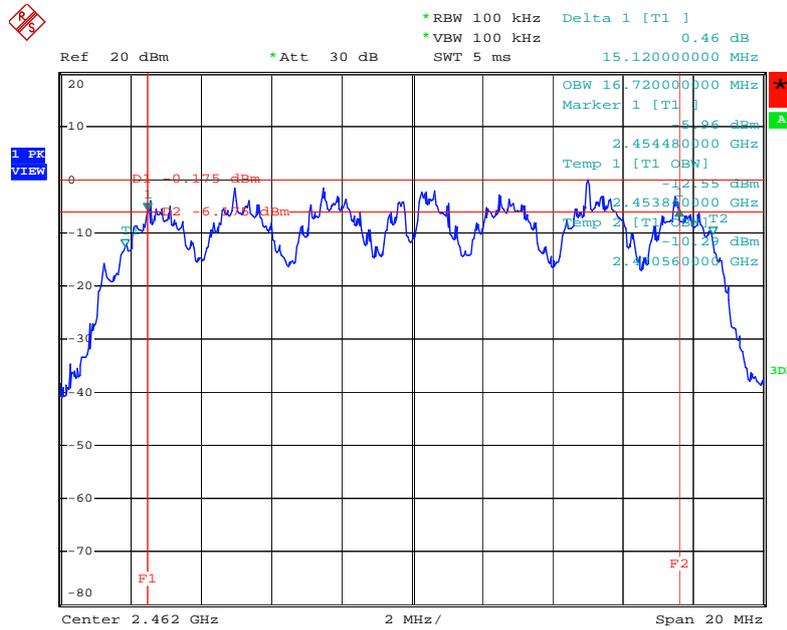
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6 dB Bandwidth Plot on Configuration Draft n MCS0 20MHz Ant. A + Ant. B / 2437 MHz



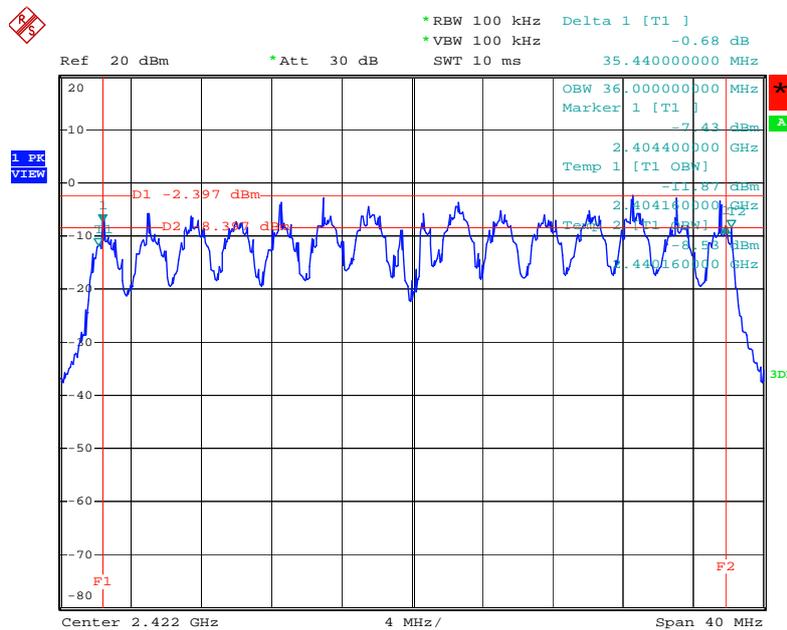
Date: 6.OCT.2009 17:34:43

6 dB Bandwidth Plot on Configuration Draft n MCS0 20MHz Ant. A + Ant. B / 2462 MHz



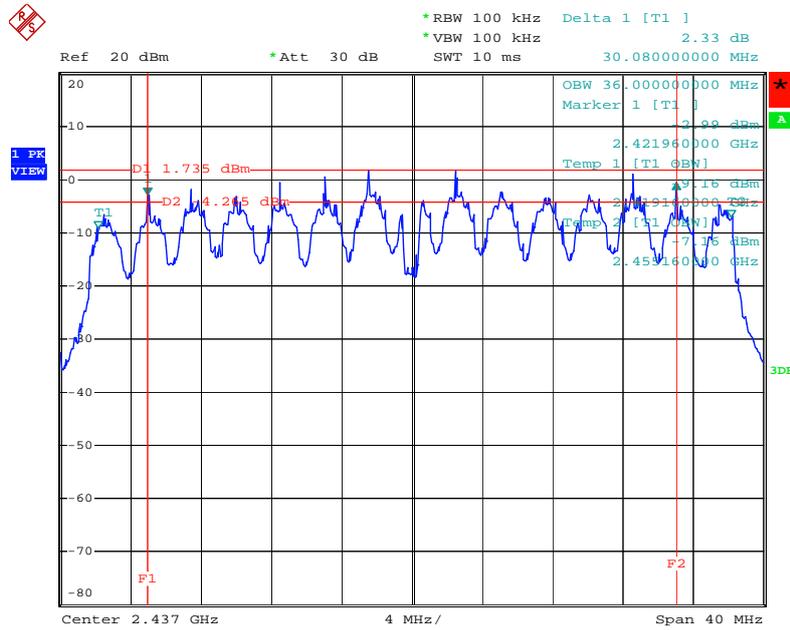
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6 dB Bandwidth Plot on Configuration Draft n MCS0 40MHz Ant. A + Ant. B / 2422 MHz



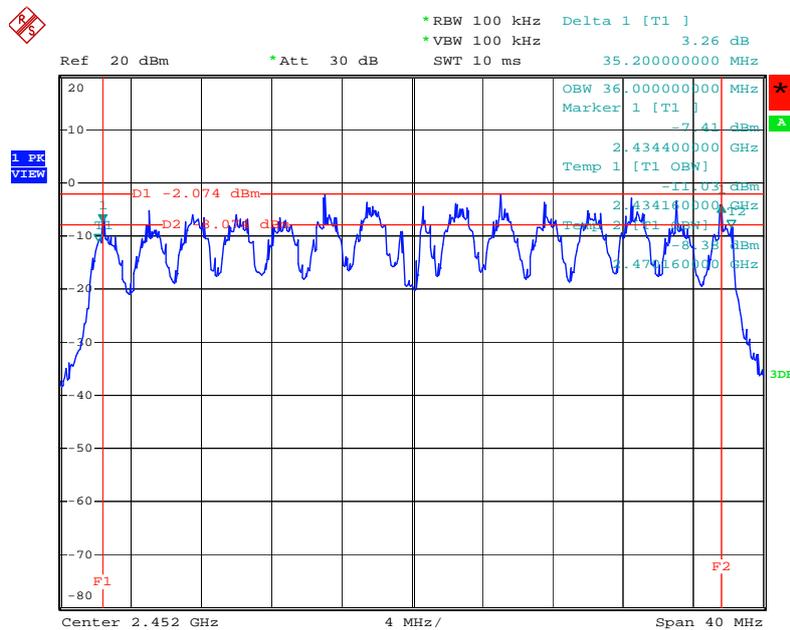
Date: 6.OCT.2009 17:42:09

6 dB Bandwidth Plot on Configuration Draft n MCS0 40MHz Ant. A + Ant. B / 2437 MHz



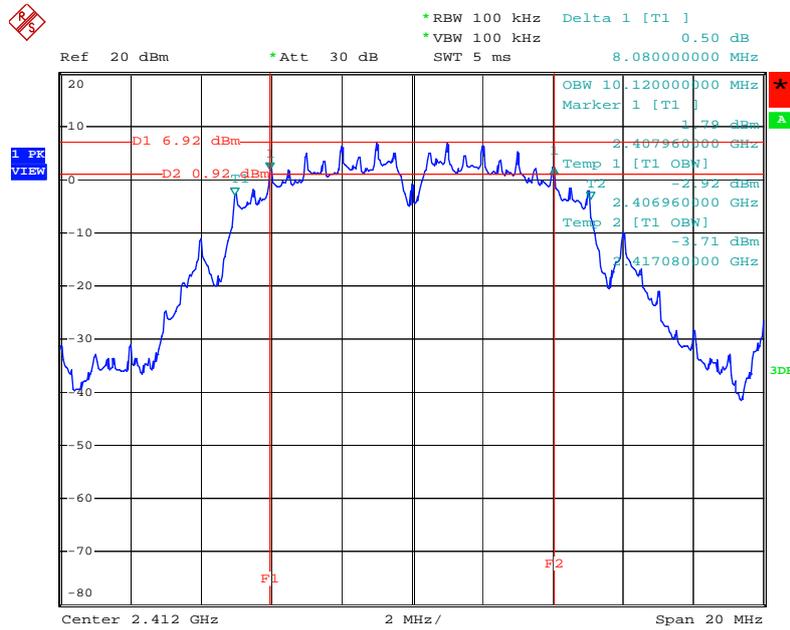
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6 dB Bandwidth Plot on Configuration Draft n MCS0 40MHz Ant. A + Ant. B / 2452 MHz



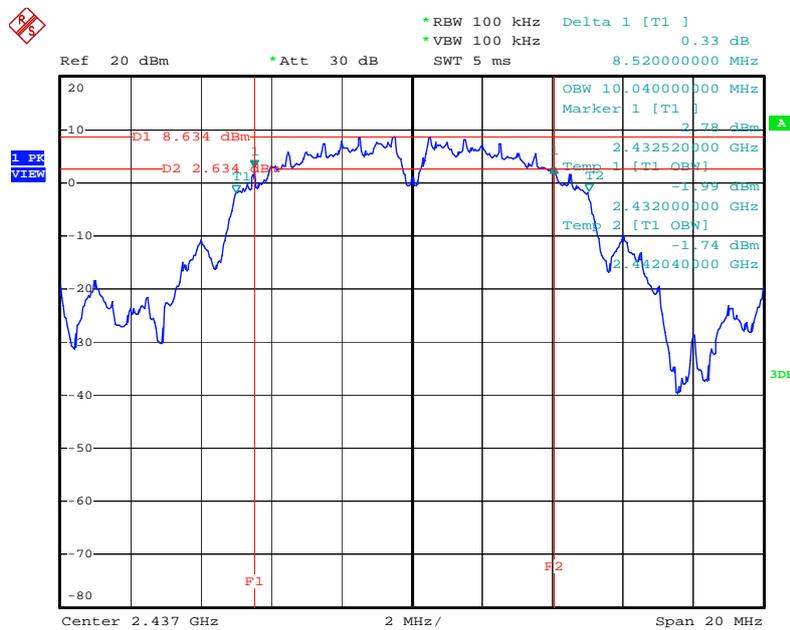
Date: 6.OCT.2009 17:47:43

6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. B / 2412 MHz



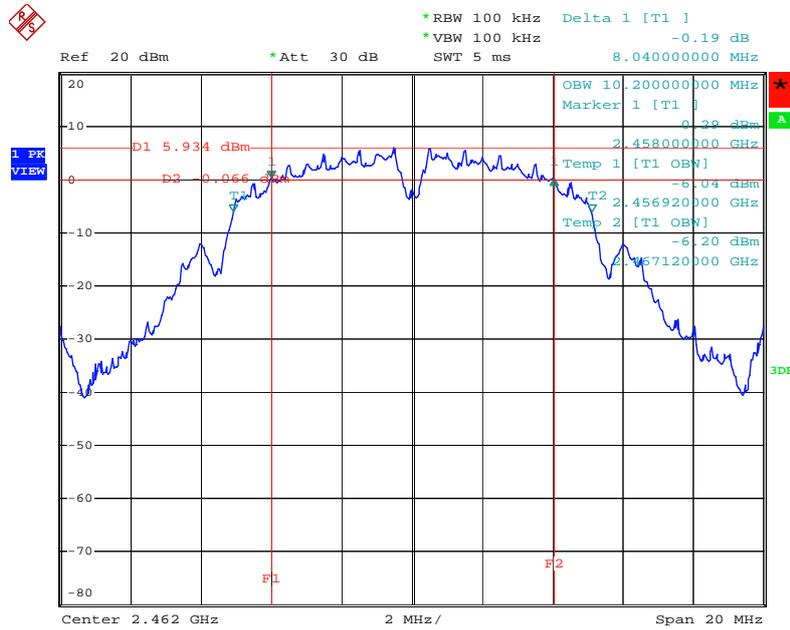
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6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. B / 2437 MHz



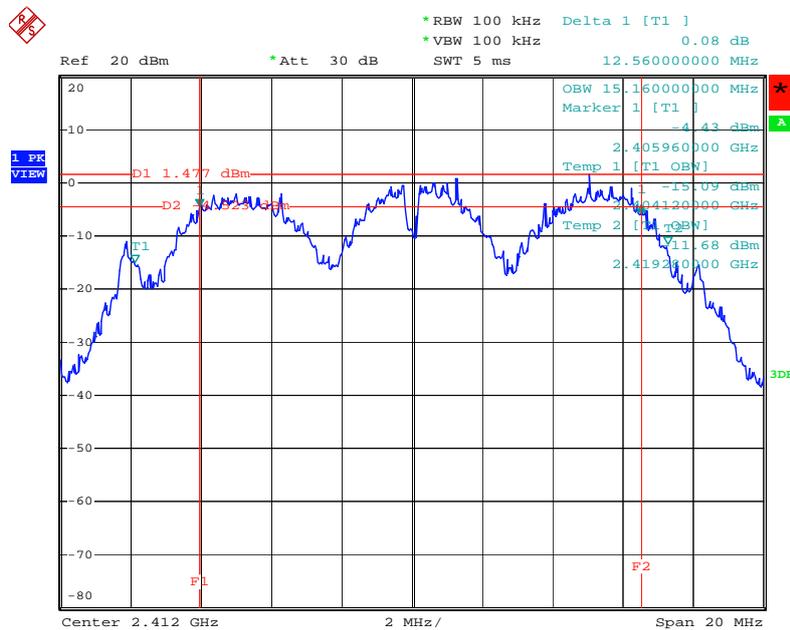
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6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. B / 2462 MHz



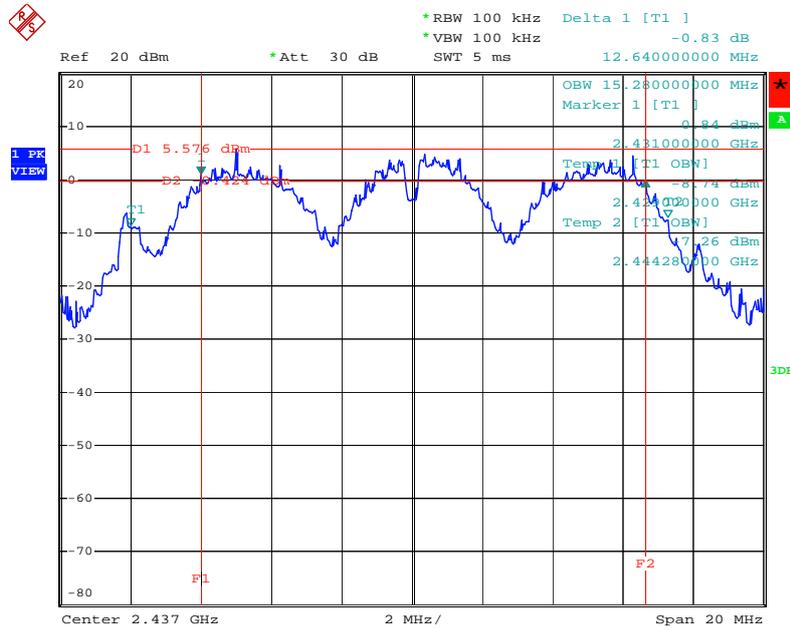
Date: 6.OCT.2009 17:14:34

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2412 MHz



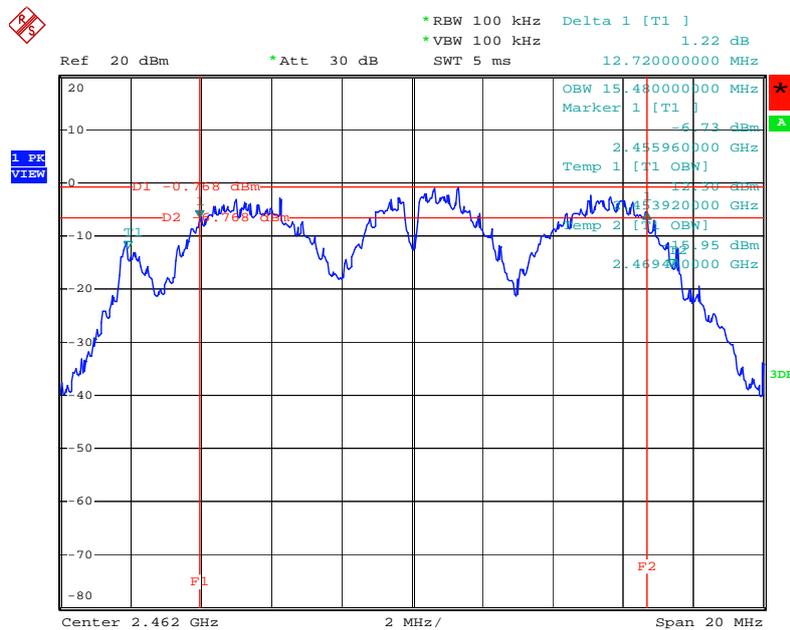
Date: 6.OCT.2009 17:23:11

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2437 MHz



Date: 6.OCT.2009 17:26:11

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2462 MHz



Date: 6.OCT.2009 17:28:19

4.5. Radiated Emissions Measurement

4.5.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microrvolts/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

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for peak

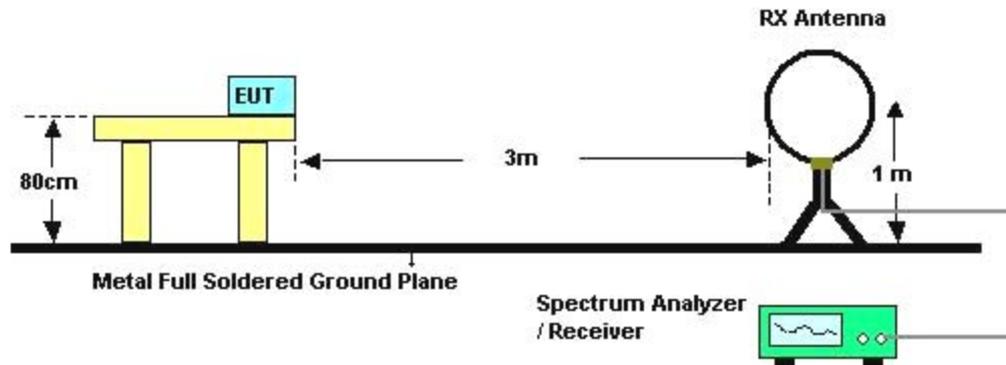
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.5.3. Test Procedures

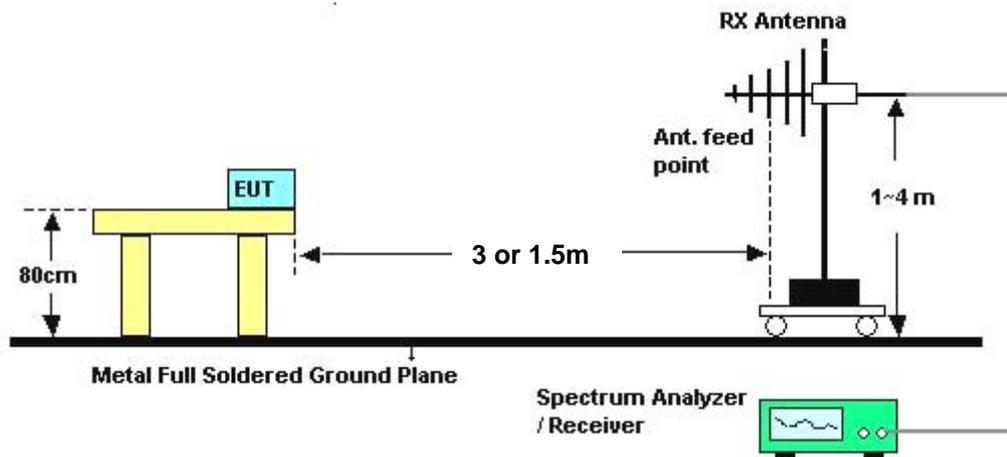
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1.5m]})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Normal Link

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

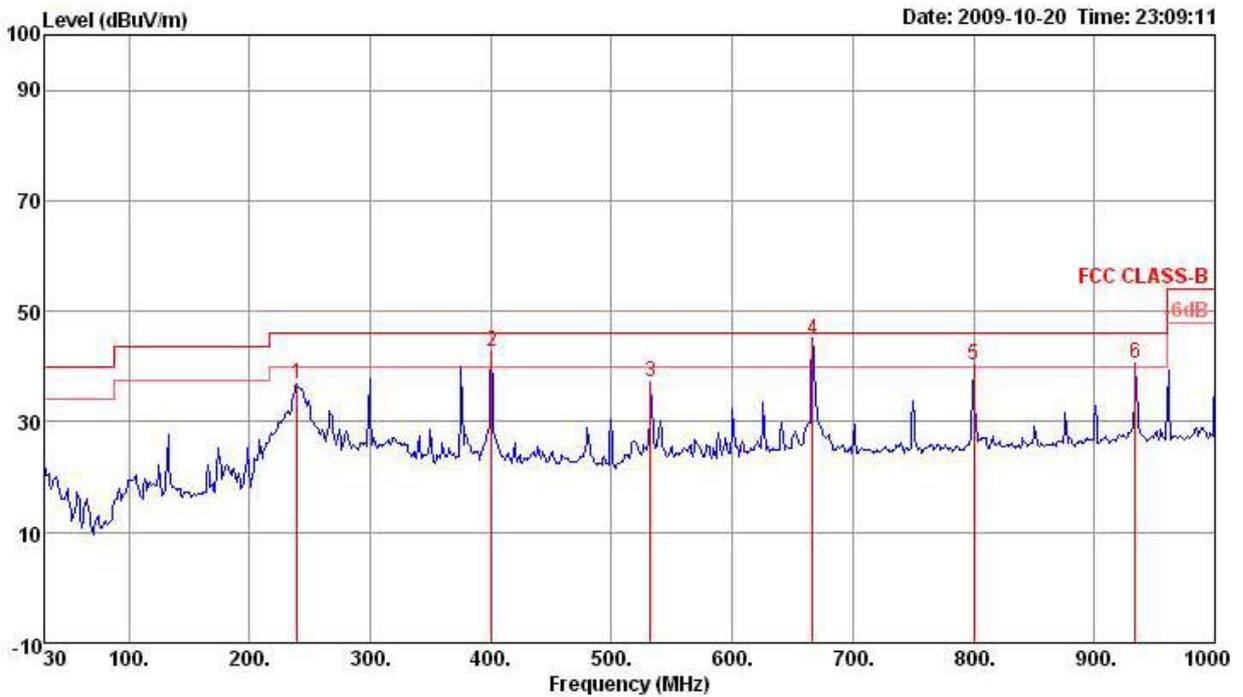
Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

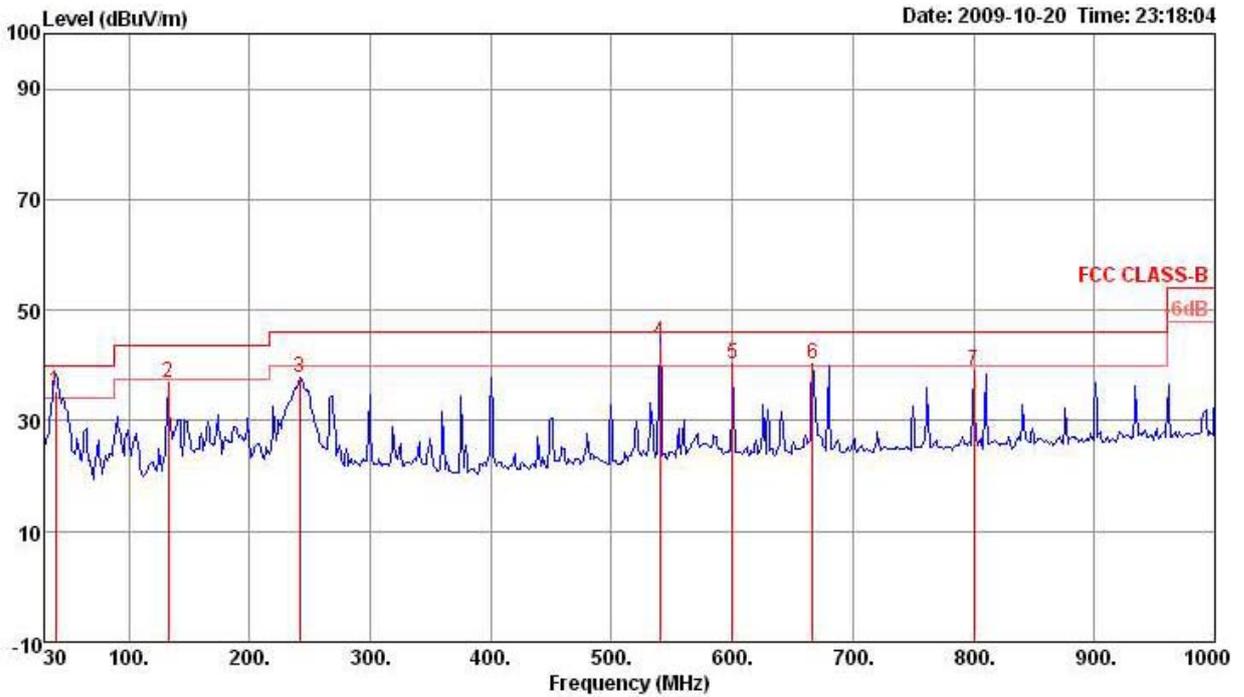
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Normal Link / Mode 2

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	deg	cm		
1	239.52	36.74	46.00	-9.26	49.92	1.86	27.02	11.98	360	400	Peak	HORIZONTAL
2	p 400.54	42.66	46.00	-3.34	51.88	2.31	27.61	16.08	360	400	Peak	HORIZONTAL
3	532.46	37.26	46.00	-8.74	44.60	2.76	28.10	18.00	360	400	Peak	HORIZONTAL
4	q 666.32	44.99	46.00	-1.01	50.61	3.43	28.03	18.98	360	400	QP	HORIZONTAL
5	! 800.18	40.31	46.00	-5.69	44.84	3.30	27.60	19.77	360	400	Peak	HORIZONTAL
6	! 934.04	40.49	46.00	-5.51	43.36	3.60	27.26	20.79	360	400	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	39.70	35.26	40.00	-4.74	49.25	0.70	27.80	13.11	360	400	QP	VERTICAL
2	132.82	37.02	43.50	-6.48	50.84	1.33	27.43	12.28	360	400	Peak	VERTICAL
3	241.46	37.65	46.00	-8.35	50.67	1.87	27.02	12.13	360	400	Peak	VERTICAL
4	540.22	44.32	46.00	-1.68	51.56	2.78	28.10	18.08	360	400	QP	VERTICAL
5	600.36	40.11	46.00	-5.89	46.54	2.90	28.10	18.77	360	400	Peak	VERTICAL
6	666.32	40.37	46.00	-5.63	45.99	3.43	28.03	18.98	360	400	Peak	VERTICAL
7	800.18	38.92	46.00	-7.08	43.45	3.30	27.60	19.77	360	400	Peak	VERTICAL

Note:

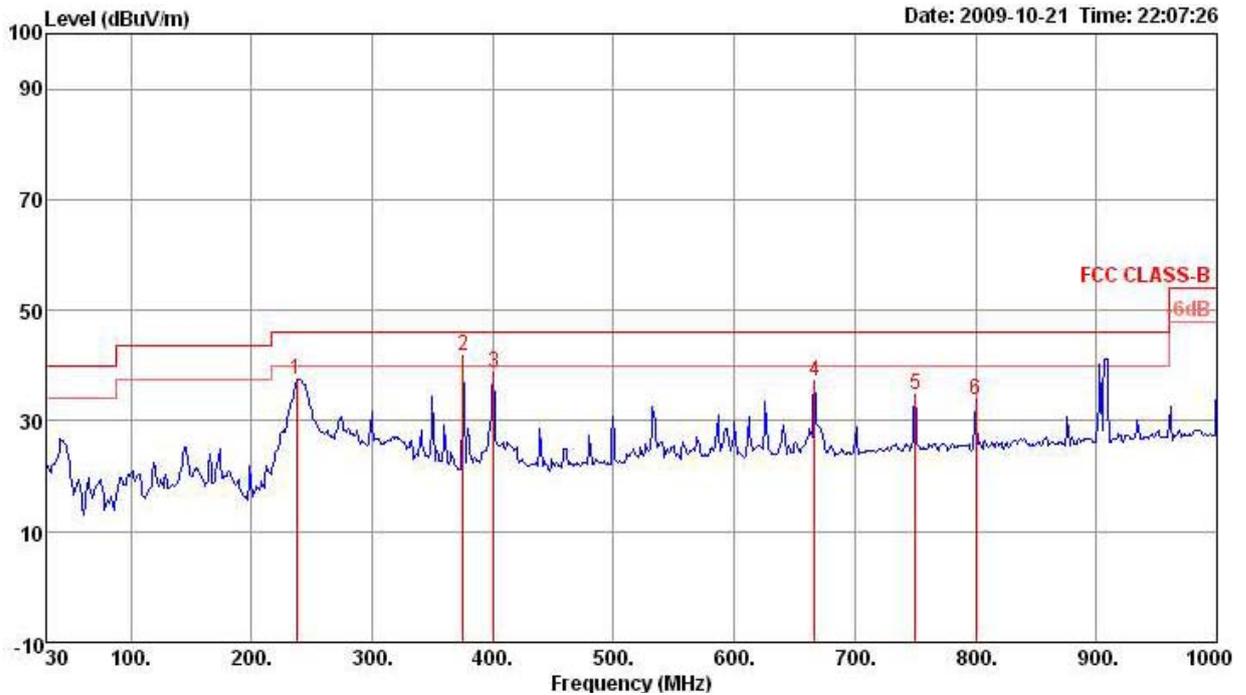
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

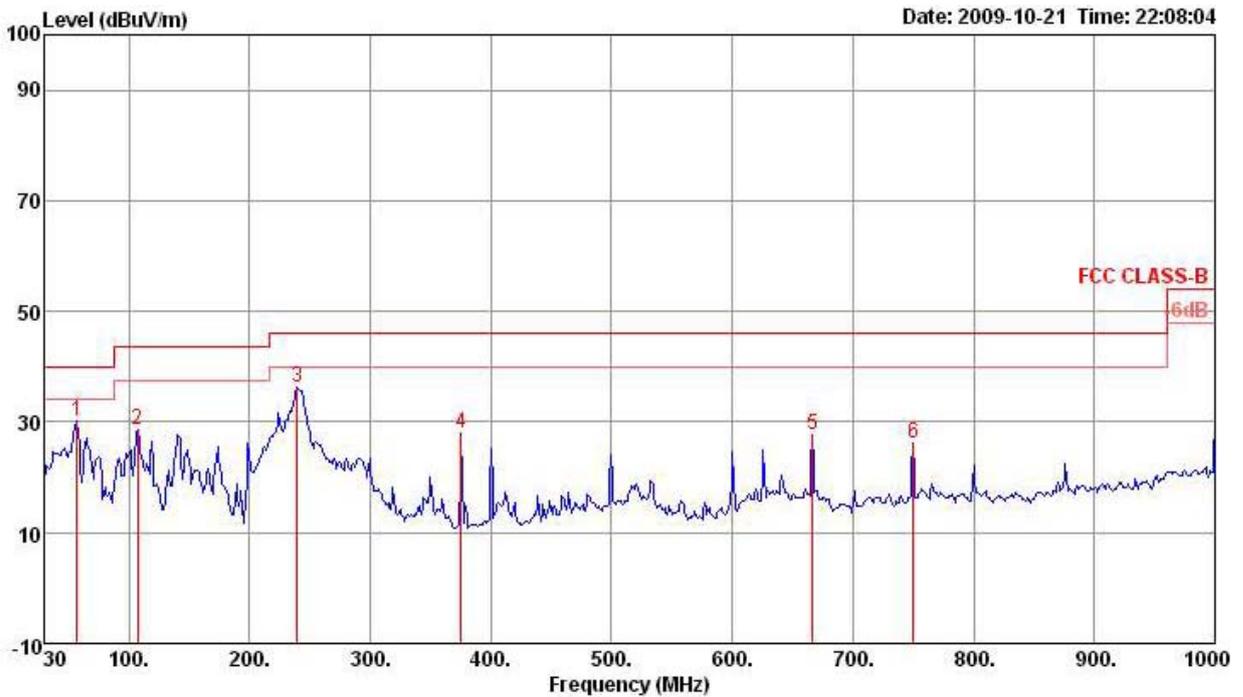
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Normal Link / Mode 4

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	237.58	37.59	46.00	-8.41	50.92	1.85	27.02	11.84	360	400	Peak	HORIZONTAL
2	375.32	41.72	46.00	-4.28	51.50	2.25	27.43	15.40	360	400	Peak	HORIZONTAL
3	400.54	38.76	46.00	-7.24	47.98	2.31	27.61	16.08	360	400	Peak	HORIZONTAL
4	666.32	37.09	46.00	-8.91	42.71	3.43	28.03	18.98	360	400	Peak	HORIZONTAL
5	749.74	34.64	46.00	-11.36	39.51	3.50	27.80	19.43	360	400	Peak	HORIZONTAL
6	800.18	33.91	46.00	-12.09	38.44	3.30	27.60	19.77	360	400	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	57.16	30.04	40.00	-9.96	49.71	0.80	27.77	7.30	0	400	Peak	VERTICAL
2	107.60	28.71	43.50	-14.79	43.49	1.20	27.56	11.58	0	400	Peak	VERTICAL
3	239.52	36.18	46.00	-9.82	49.36	1.86	27.02	11.98	0	400	Peak	VERTICAL
4	375.32	27.97	46.00	-18.03	37.75	2.25	27.43	15.40	0	400	Peak	VERTICAL
5	666.32	27.63	46.00	-18.37	33.25	3.43	28.03	18.98	0	400	Peak	VERTICAL
6	749.74	26.23	46.00	-19.77	31.10	3.50	27.80	19.43	0	400	Peak	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

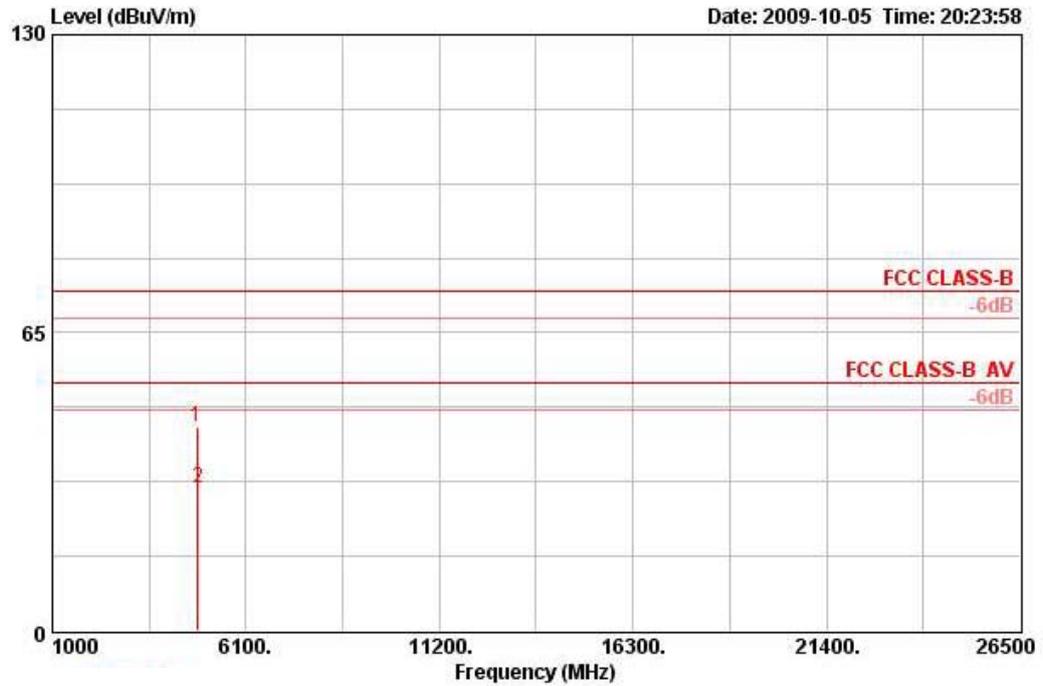
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

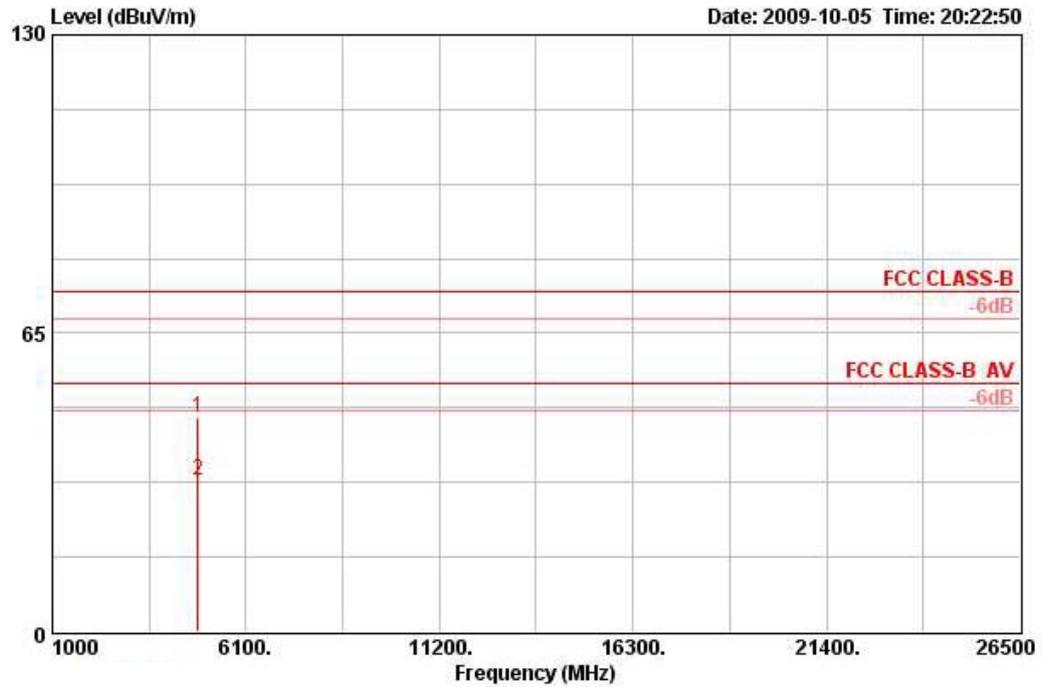
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 20MHz Ch 1 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4822.720	44.32	-29.68	74.00	44.12	32.46	35.26	3.00	PEAK	HORIZONTAL	316	100
2	4823.470	30.96	-23.04	54.00	30.76	32.46	35.26	3.00	AVERAGE	HORIZONTAL	316	100

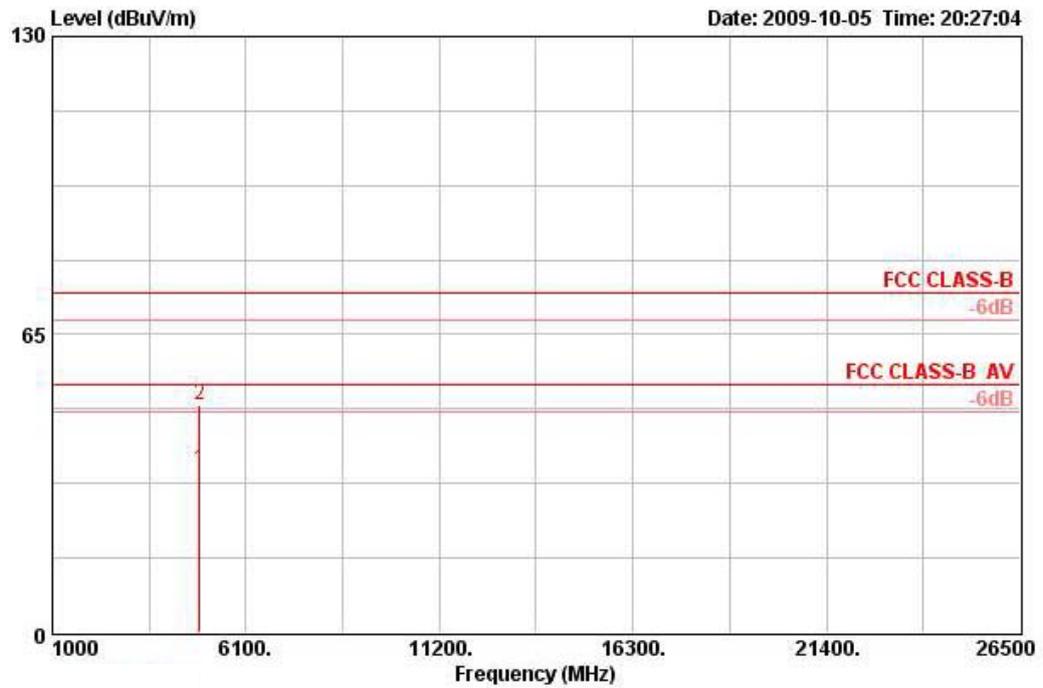
Vertical



	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4823.600	46.70	-27.30	74.00	46.50	32.46	35.26	3.00	PEAK	VERTICAL	277	100
2	4824.200	33.07	-20.93	54.00	32.87	32.46	35.26	3.00	AVERAGE	VERTICAL	277	100

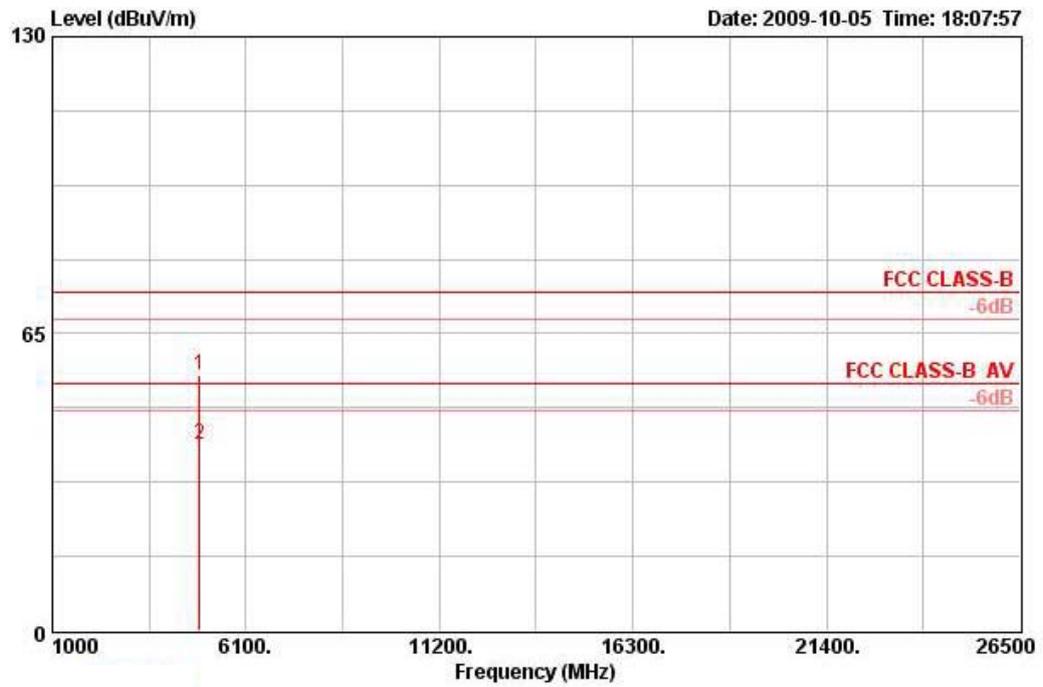
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 20MHz Ch 6 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4874.100	35.74	-18.26	54.00	35.31	32.56	35.15	3.01	AVERAGE	HORIZONTAL	319	100
2	4874.300	49.70	-24.30	74.00	49.28	32.56	35.15	3.01	PEAK	HORIZONTAL	319	100

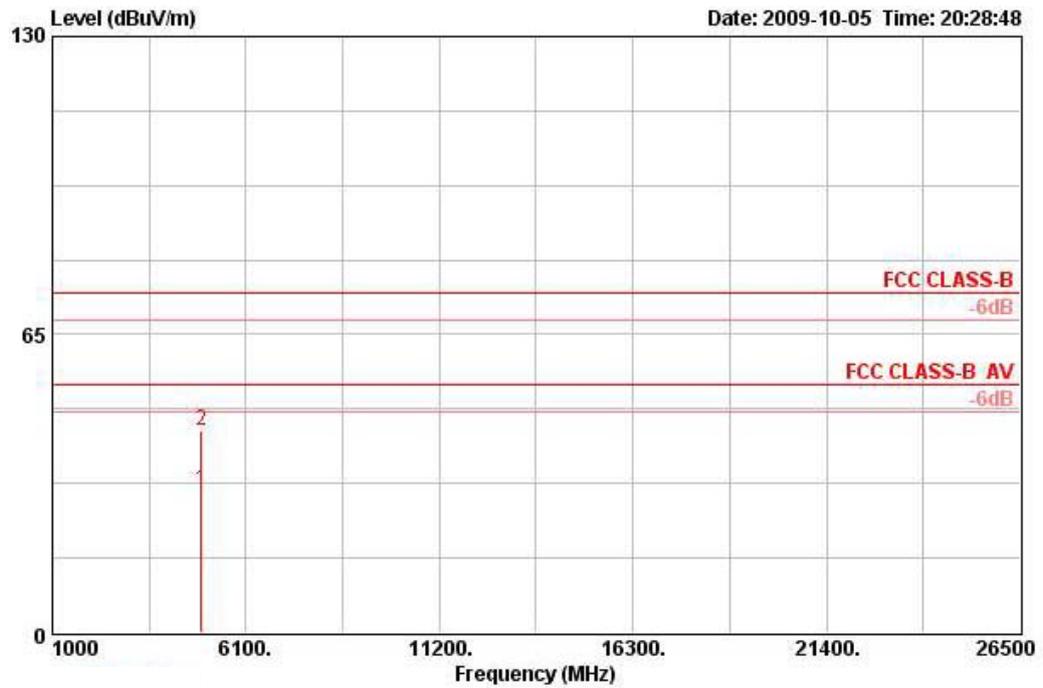
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4872.000	55.94	-18.06	74.00	55.52	32.56	35.15	3.01	PEAK	VERTICAL	116	100
2	4874.240	40.83	-13.17	54.00	40.41	32.56	35.15	3.01	AVERAGE	VERTICAL	116	100

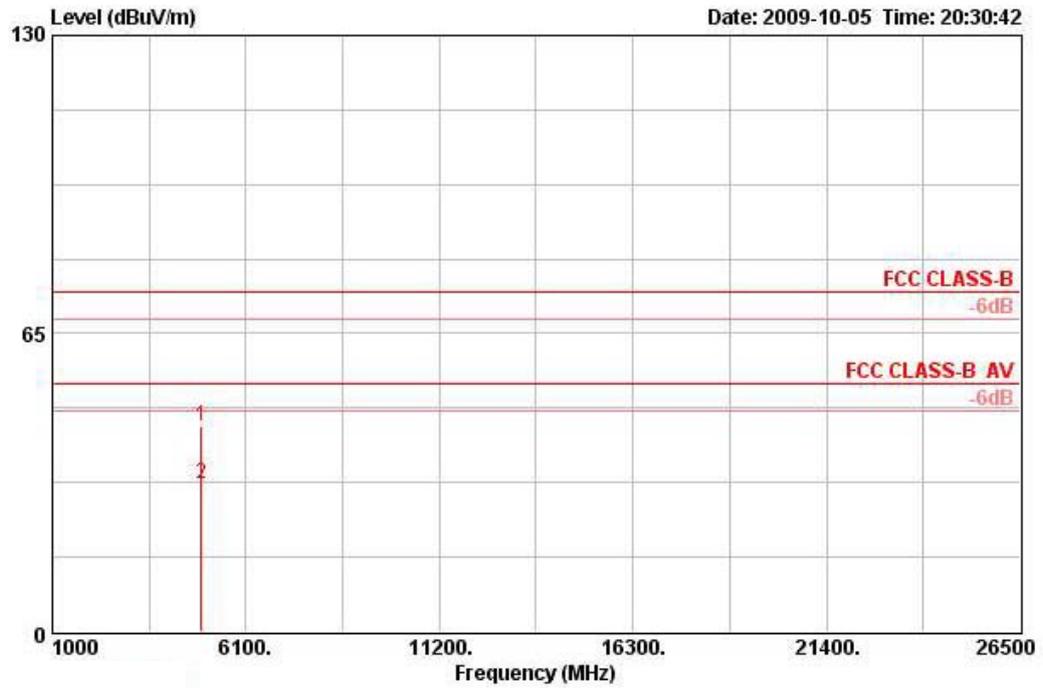
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 20MHz Ch11 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.971	31.03	-22.97	54.00	30.38	32.66	35.03	3.02	AVERAGE	HORIZONTAL	298	100
2	4924.057	44.05	-29.95	74.00	43.39	32.66	35.03	3.02	PEAK	HORIZONTAL	298	100

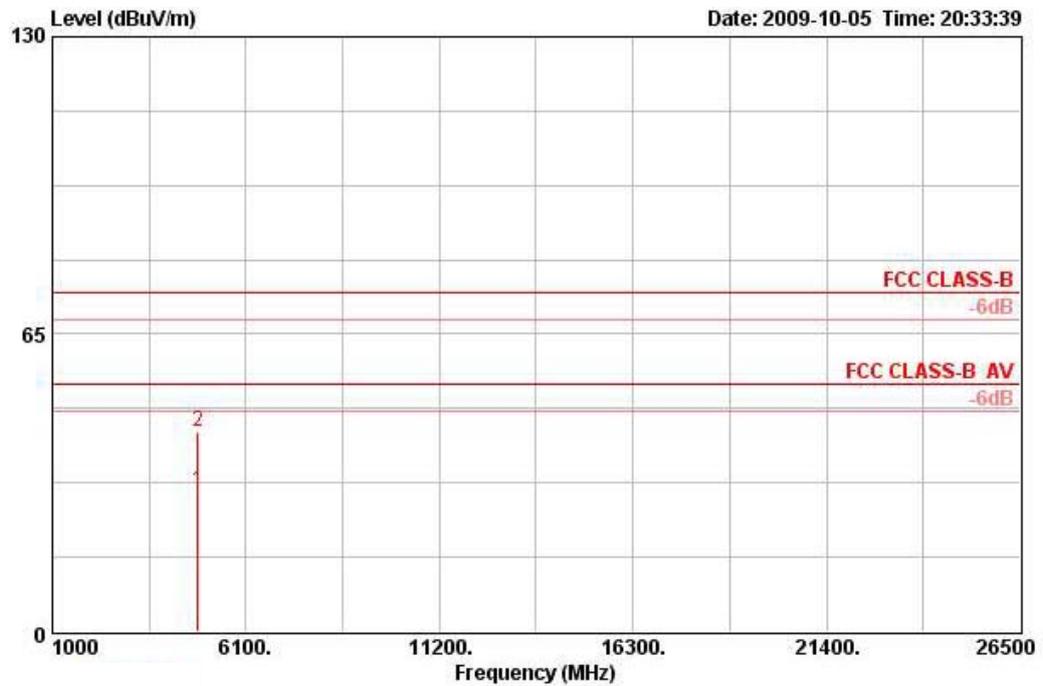
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4924.064	44.96	-29.04	74.00	44.30	32.66	35.03	3.02	PEAK	VERTICAL	102	100
2	4924.070	32.40	-21.60	54.00	31.75	32.66	35.03	3.02	AVERAGE	VERTICAL	102	100

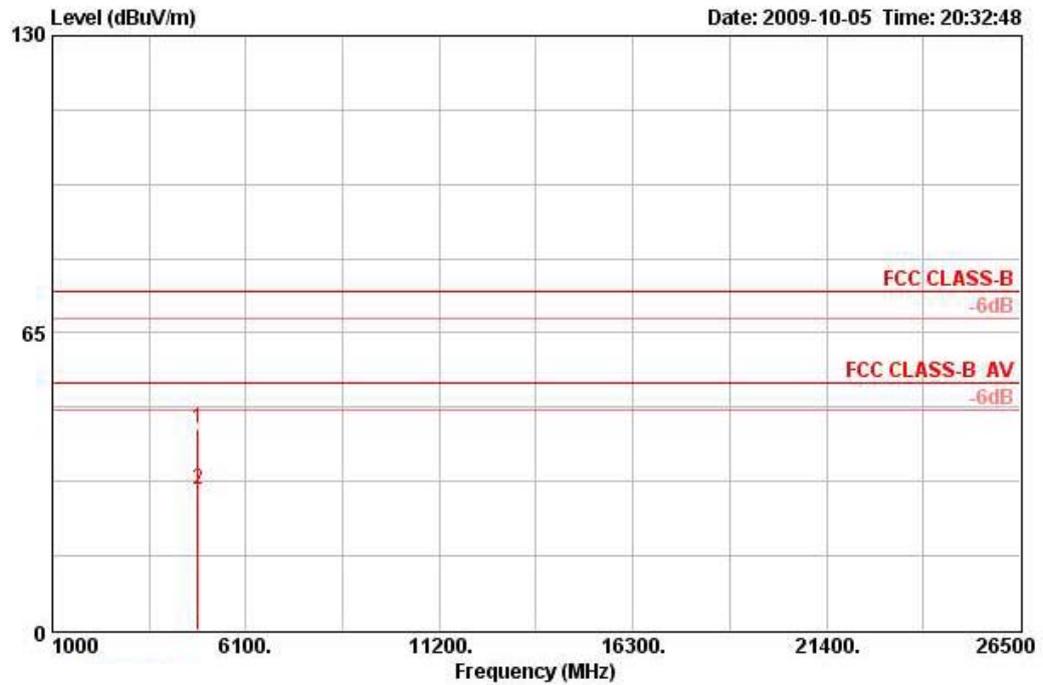
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 40MHz Ch 3 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4843.953	30.86	-23.14	54.00	30.56	32.49	35.20	3.01	AVERAGE	HORIZONTAL	321	100
2	4844.015	43.82	-30.18	74.00	43.53	32.49	35.20	3.01	PEAK	HORIZONTAL	321	100

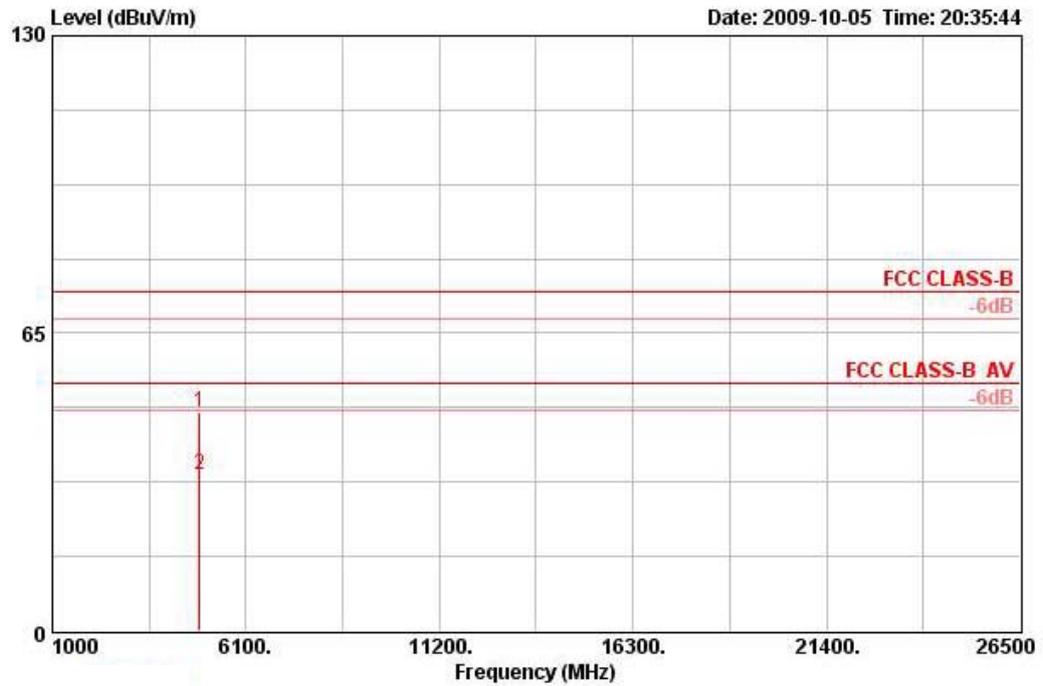
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4844.049	43.90	-30.10	74.00	43.60	32.49	35.20	3.01	PEAK	VERTICAL	108	100
2	4844.081	30.73	-23.27	54.00	30.44	32.49	35.20	3.01	AVERAGE	VERTICAL	108	100

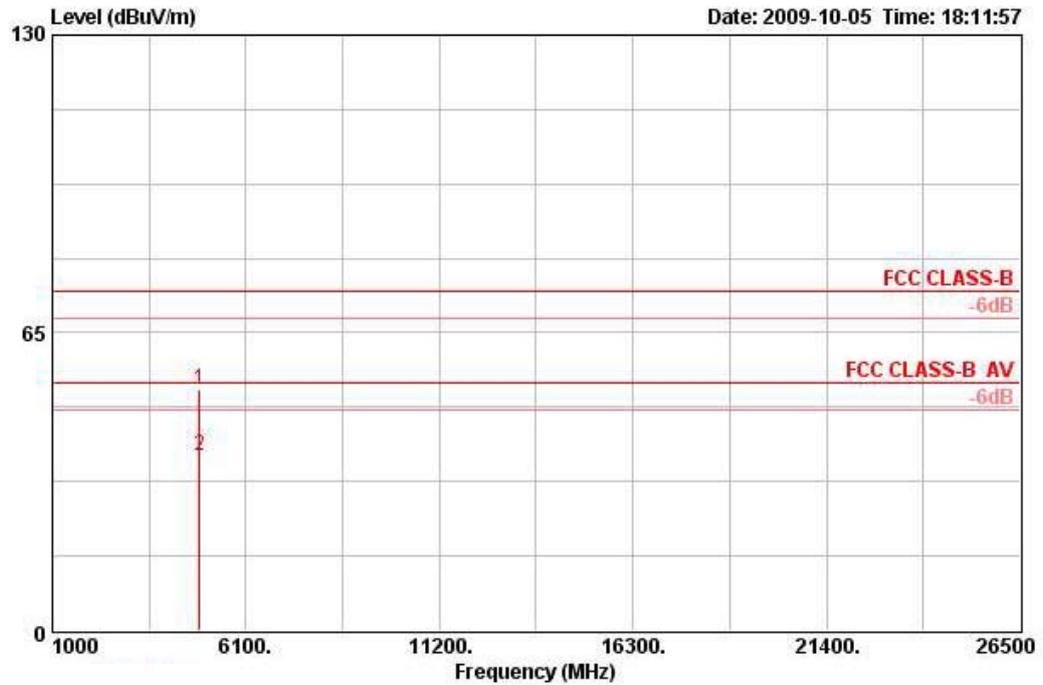
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 40MHz Ch 6 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.650	47.85	-26.15	74.00	47.42	32.56	35.15	3.01	PEAK	HORIZONTAL	318	100
2	4874.150	34.06	-19.94	54.00	33.64	32.56	35.15	3.01	AVERAGE	HORIZONTAL	318	100

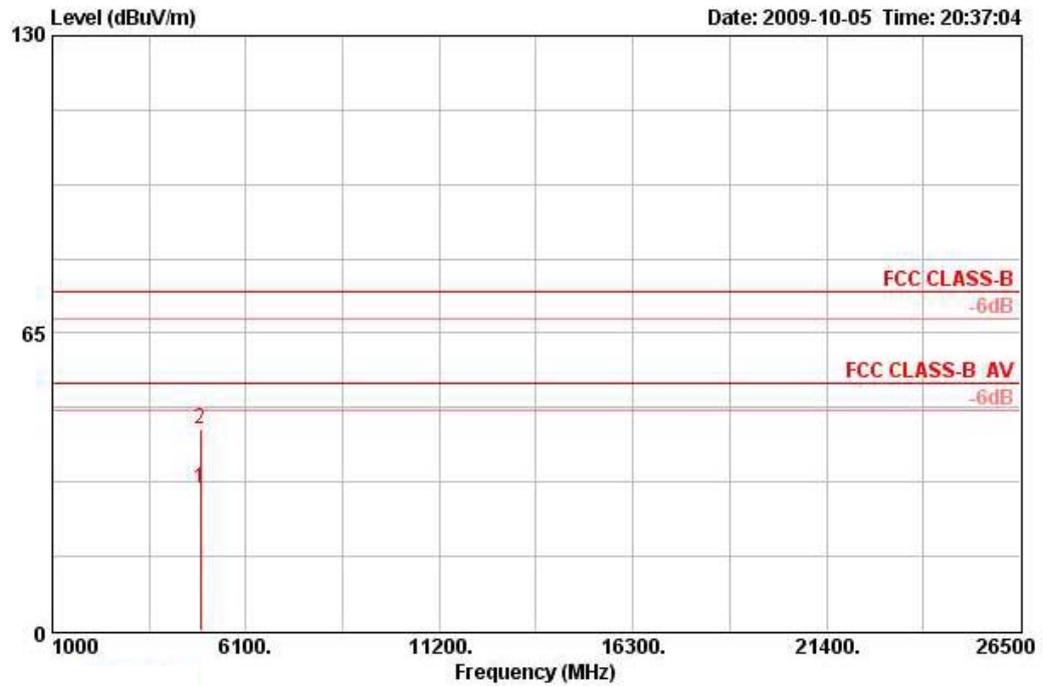
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4871.480	52.54	-21.46	74.00	52.12	32.56	35.15	3.01	PEAK	VERTICAL	115	100
2	4874.200	37.99	-16.01	54.00	37.56	32.56	35.15	3.01	AVERAGE	VERTICAL	115	100

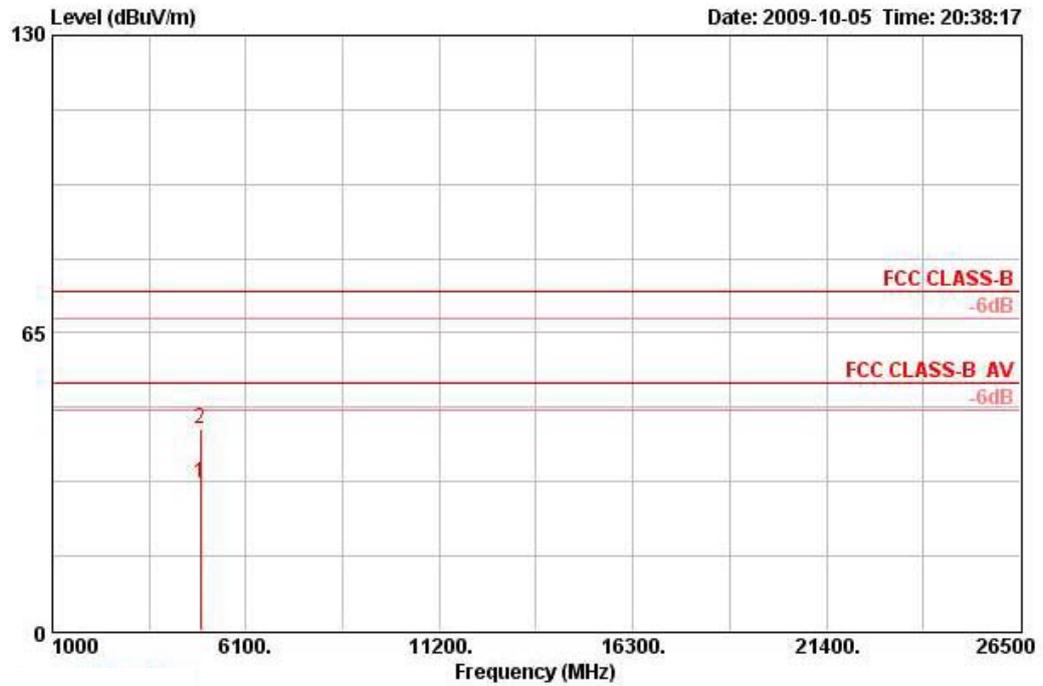
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 40MHz Ch 9 / Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4903.730	31.11	-22.89	54.00	30.55	32.63	35.09	3.02	AVERAGE	HORIZONTAL	283	100
2	4905.550	44.17	-29.83	74.00	43.61	32.63	35.09	3.02	PEAK	HORIZONTAL	283	100

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4903.530	32.21	-21.79	54.00	31.66	32.63	35.09	3.02	AVERAGE	VERTICAL	102	100
2	4905.680	44.05	-29.95	74.00	43.49	32.63	35.09	3.02	PEAK	VERTICAL	102	100

Note:

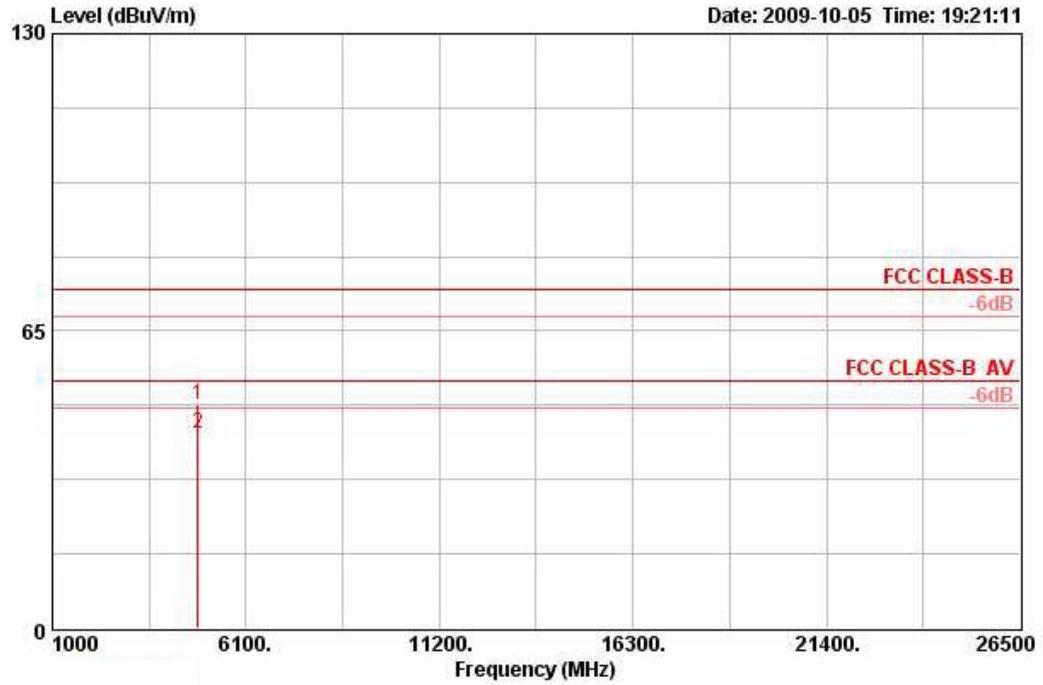
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

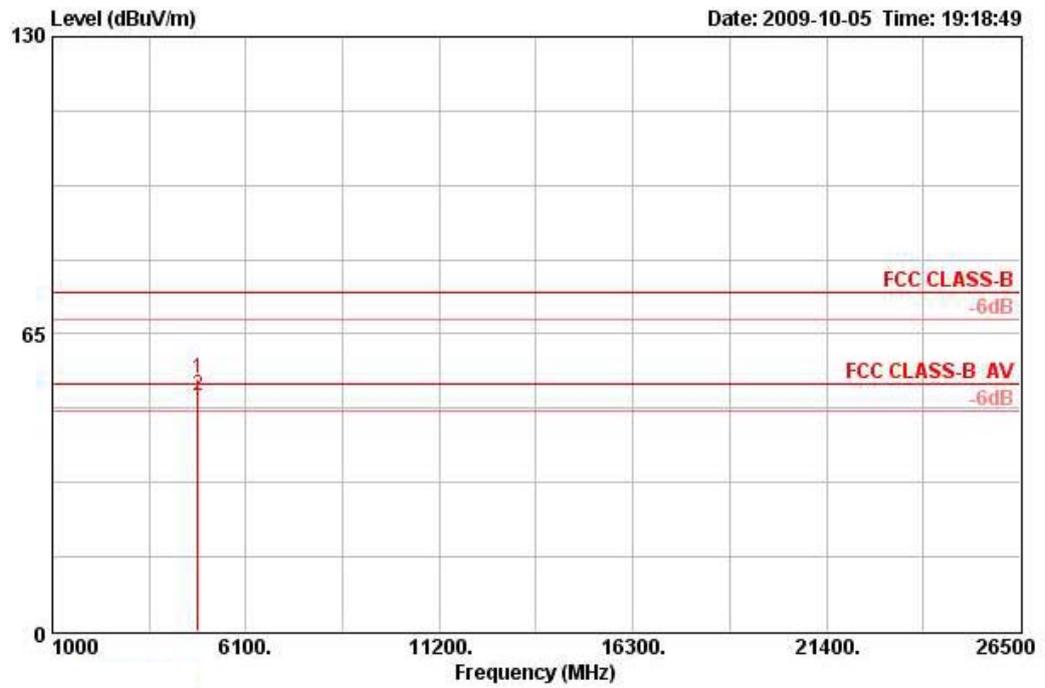
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1 / Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB			deg	cm
1	4823.930	48.72	-25.28	74.00	48.53	32.46	35.26	3.00	PEAK	HORIZONTAL	342	100
2	4823.990	42.55	-11.45	54.00	42.36	32.46	35.26	3.00	AVERAGE	HORIZONTAL	342	100

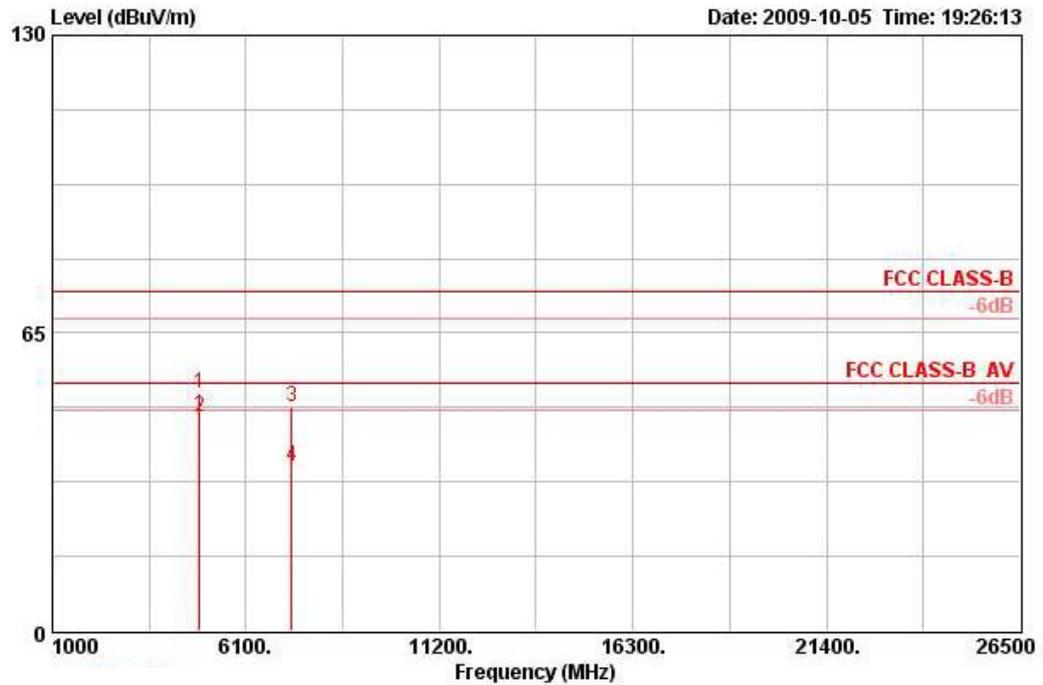
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB			deg	cm
1	4823.940	55.03	-18.97	74.00	54.84	32.46	35.26	3.00	PEAK	VERTICAL	112	172
2	4824.010	51.32	-2.68	54.00	51.12	32.46	35.26	3.00	AVERAGE	VERTICAL	112	172

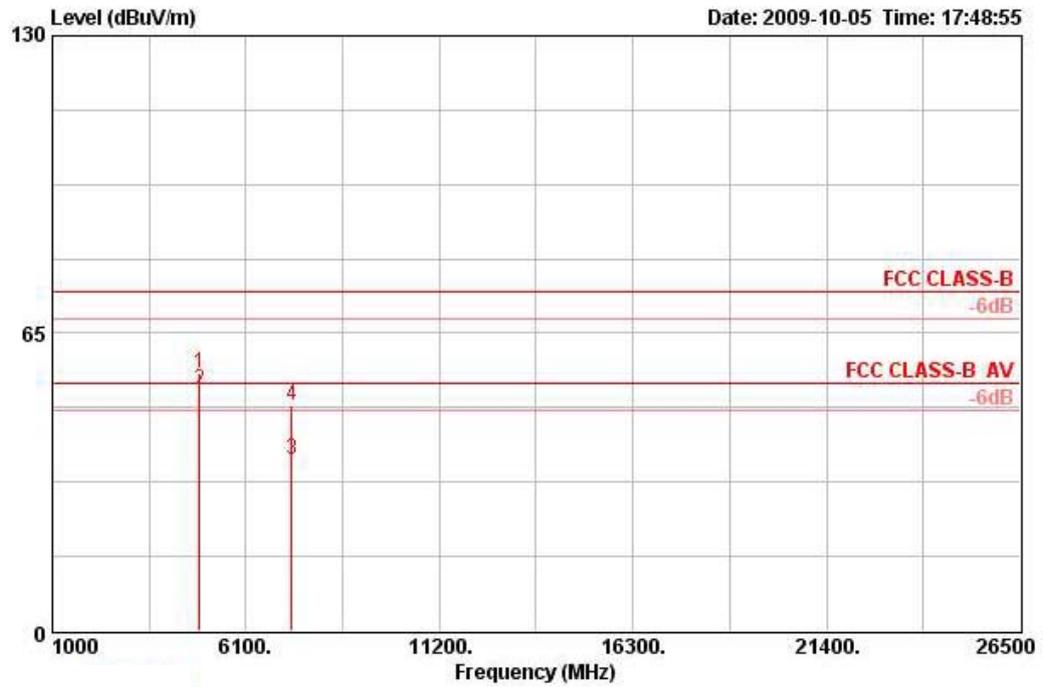
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11b CH 6 / Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.910	52.01	-21.99	74.00	51.58	32.56	35.15	3.01	PEAK	HORIZONTAL	320	100
2	4874.050	46.75	-7.25	54.00	46.32	32.56	35.15	3.01	AVERAGE	HORIZONTAL	320	100
3	7309.310	48.84	-25.16	74.00	43.37	36.67	34.94	3.75	PEAK	HORIZONTAL	163	102
4	7309.650	35.99	-18.01	54.00	30.51	36.67	34.94	3.75	AVERAGE	HORIZONTAL	163	102

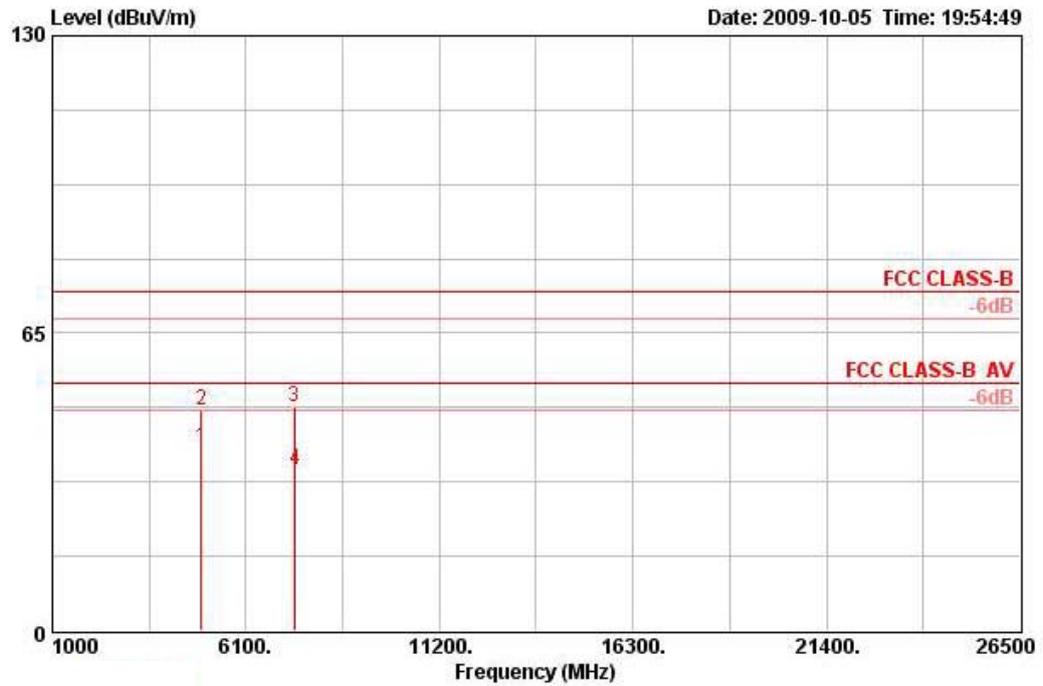
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.920	56.23	-17.77	74.00	55.81	32.56	35.15	3.01	PEAK	VERTICAL	277	103
2	4874.050	52.66	-1.34	54.00	52.24	32.56	35.15	3.01	AVERAGE	VERTICAL	277	103
3	7310.180	37.28	-16.72	54.00	31.80	36.67	34.94	3.75	AVERAGE	VERTICAL	203	100
4	7312.320	49.14	-24.86	74.00	43.64	36.67	34.93	3.75	PERK	VERTICAL	203	100

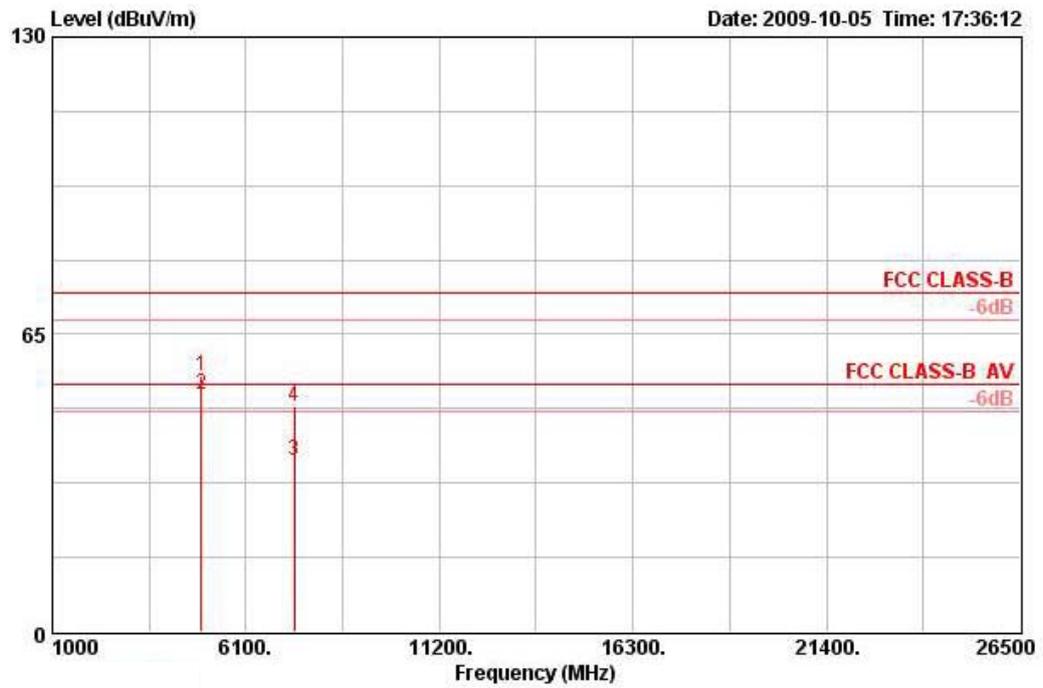
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11b CH 11 / Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.990	40.17	-13.83	54.00	39.52	32.66	35.03	3.02	AVERAGE	HORIZONTAL	329	100
2	4924.020	48.28	-25.72	74.00	47.62	32.66	35.03	3.02	PEAK	HORIZONTAL	329	100
3	7385.860	48.77	-25.23	74.00	43.14	36.78	34.90	3.76	PEAK	HORIZONTAL	162	100
4	7386.380	35.17	-18.83	54.00	29.53	36.78	34.90	3.76	AVERAGE	HORIZONTAL	162	100

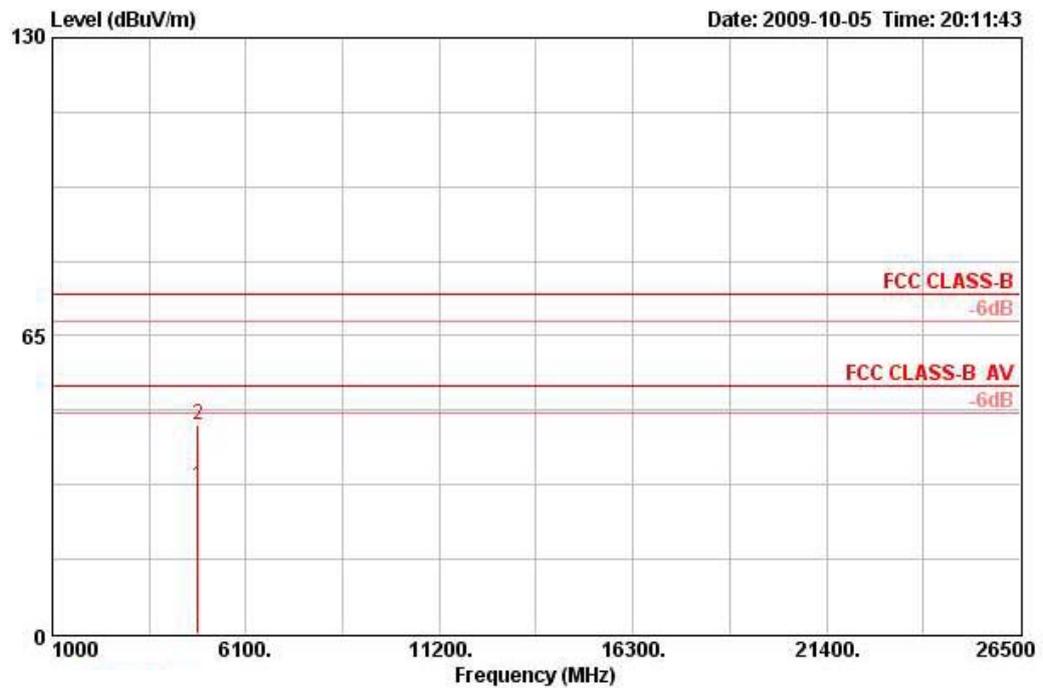
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.830	56.06	-17.94	74.00	55.41	32.66	35.03	3.02	PEAK	VERTICAL	276	102
2	4924.010	51.87	-2.13	54.00	51.22	32.66	35.03	3.02	AVERAGE	VERTICAL	276	102
3	7384.090	37.22	-16.78	54.00	31.59	36.78	34.90	3.76	AVERAGE	VERTICAL	88	100
4	7384.550	49.16	-24.84	74.00	43.52	36.78	34.90	3.76	PEAK	VERTICAL	88	100

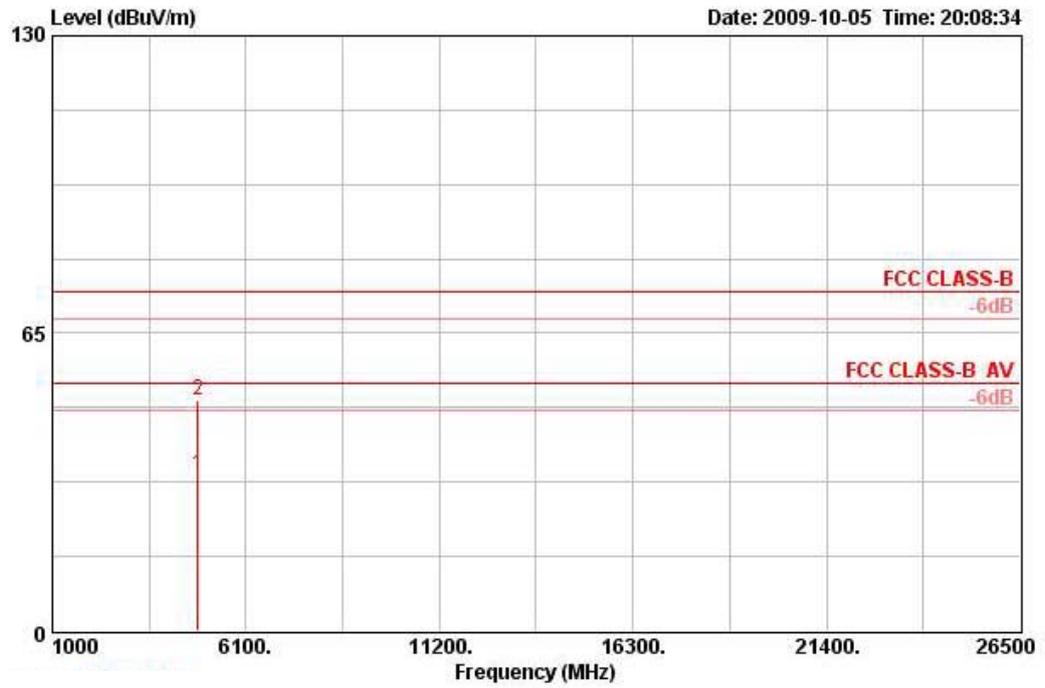
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1 / Ant. A+ Ant. B

Horizontal



	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4823.600	32.31	-21.69	54.00	32.11	32.46	35.26	3.00	AVERAGE	HORIZONTAL	354	106
2	4826.400	45.47	-28.53	74.00	45.27	32.46	35.26	3.00	PEAK	HORIZONTAL	354	106

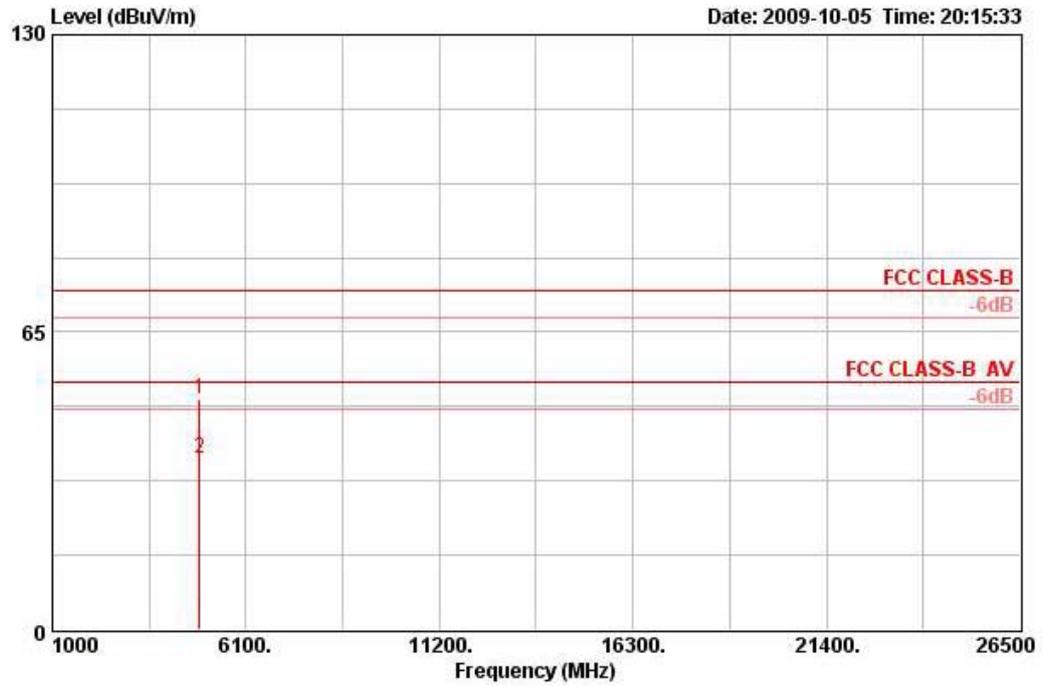
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4824.280	33.93	-20.07	54.00	33.73	32.46	35.26	3.00	AVERAGE	VERTICAL	115	100
2	4824.600	50.28	-23.72	74.00	50.08	32.46	35.26	3.00	PEAK	VERTICAL	115	100

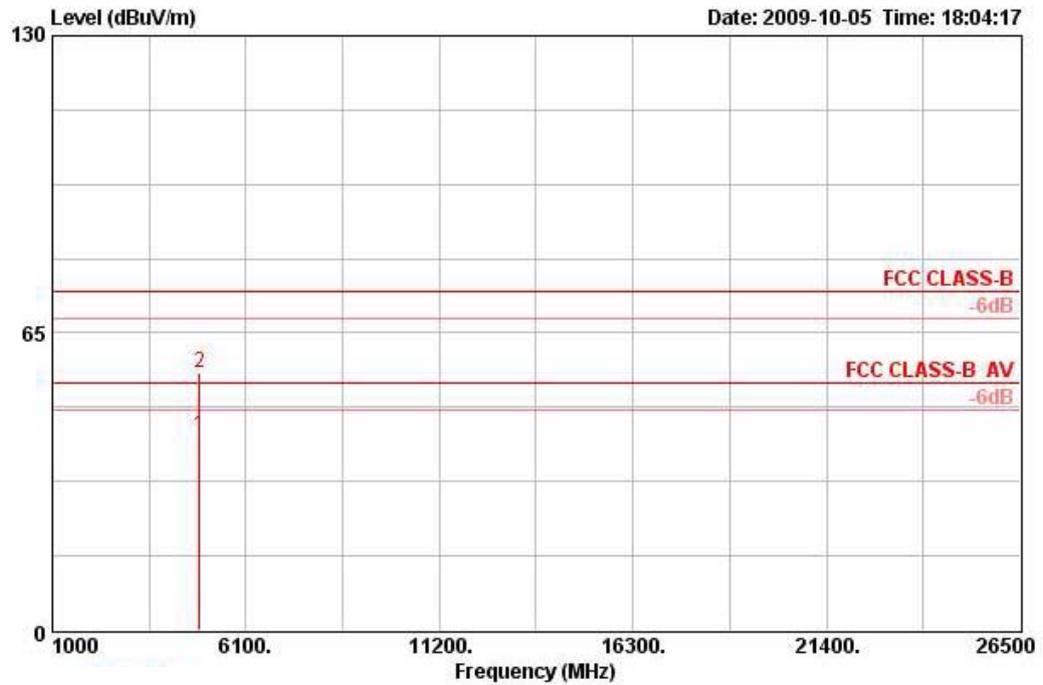
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11g CH 6 / Ant. A+ Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4874.000	50.45	-23.55	74.00	50.02	32.56	35.15	3.01	PEAK	HORIZONTAL	319	100
2	4874.200	37.23	-16.77	54.00	36.81	32.56	35.15	3.01	AVERAGE	HORIZONTAL	319	100

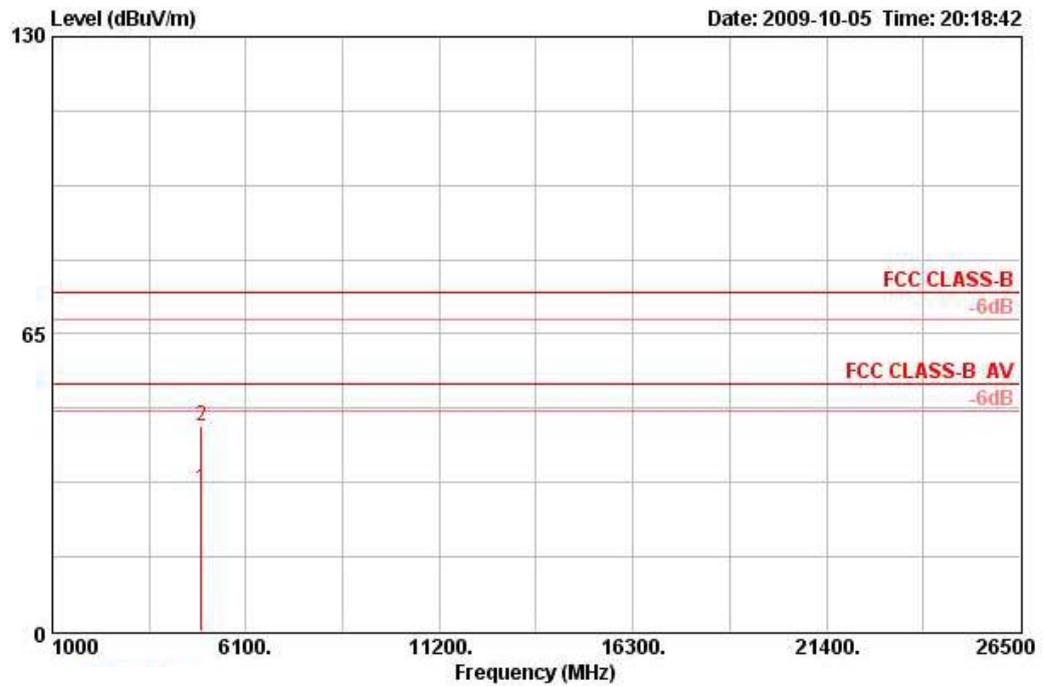
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4874.320	42.48	-11.52	54.00	42.05	32.56	35.15	3.01	AVERAGE	VERTICAL	116	100
2	4874.320	56.29	-17.71	74.00	55.87	32.56	35.15	3.01	PEAK	VERTICAL	116	100

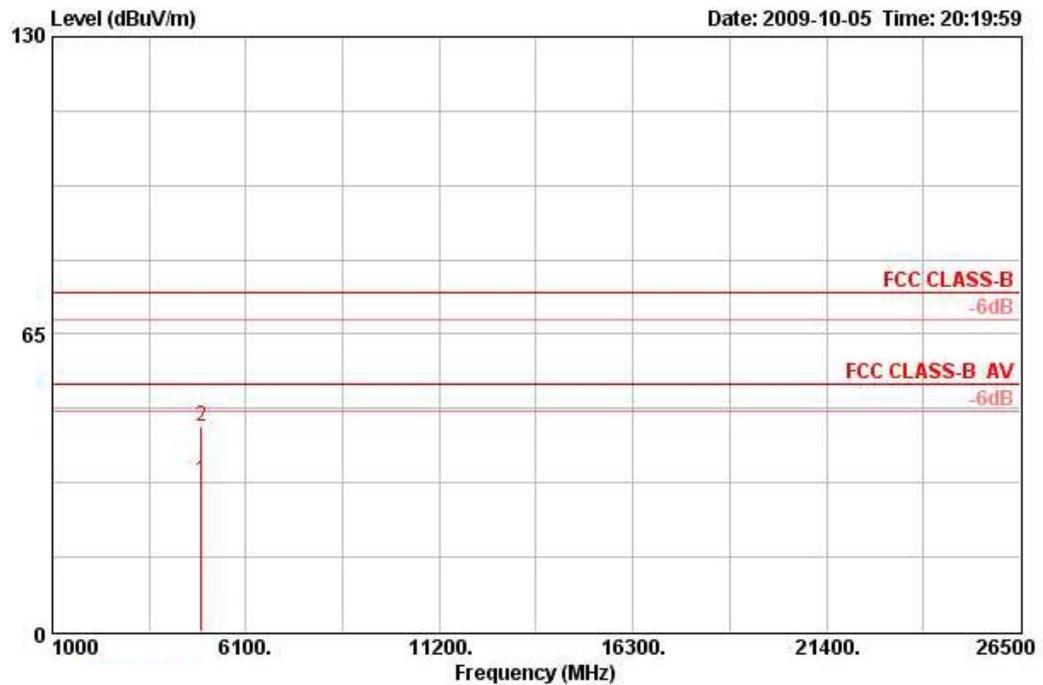
Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11g CH 11 / Ant. A+ Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB			deg	cm
1	4921.540	31.09	-22.91	54.00	30.44	32.66	35.03	3.02	AVERAGE	HORIZONTAL	325	100
2	4923.740	44.69	-29.31	74.00	44.03	32.66	35.03	3.02	PEAK	HORIZONTAL	325	100

Vertical



	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4924.040	32.88	-21.12	54.00	32.22	32.66	35.03	3.02	AVERAGE	VERTICAL	116	100
2	4924.390	44.78	-29.22	74.00	44.13	32.66	35.03	3.02	PEAK	VERTICAL	116	100

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Band Edge Emissions Measurement

4.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/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

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1 MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 KHz /100 KHz for Peak

4.6.3. Test Procedures

1. The test procedure is the same as section 4.5.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.6.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.5.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 20MHz Ch 1, 6, 11 / Ant. A + Ant. B
Test Date	Oct. 05, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 !	2388.600	72.44	-1.56	74.00	42.53	27.87	0.00	2.04	PEAK	VERTICAL	216	102
2 !	2390.000	53.94	-0.06	54.00	24.02	27.87	0.00	2.05	AVERAGE	VERTICAL	216	102
3 over	2411.000	88.56			58.67	27.84	0.00	2.05	AVERAGE	VERTICAL	216	102
4 over	2413.200	111.90			82.01	27.84	0.00	2.05	PEAK	VERTICAL	216	102

Item 3, 4 are the fundamental frequency at 2412 MHz

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 !	2388.600	68.21	-5.79	74.00	38.30	27.87	0.00	2.04	PEAK	VERTICAL	282	100
2 !	2390.000	51.55	-2.45	54.00	21.63	27.87	0.00	2.05	AVERAGE	VERTICAL	282	100
3 over	2437.400	89.96			60.11	27.78	0.00	2.07	AVERAGE	VERTICAL	282	100
4 over	2437.800	116.83			86.98	27.78	0.00	2.07	PEAK	VERTICAL	282	100
5 !	2484.900	53.20	-0.80	54.00	23.37	27.73	0.00	2.10	AVERAGE	VERTICAL	282	100
6 !	2485.100	68.57	-5.43	74.00	38.74	27.73	0.00	2.10	PEAK	VERTICAL	282	100

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 over	2461.000	85.46			55.62	27.76	0.00	2.08	AVERAGE	VERTICAL	217	100
2 over	2468.400	111.47			81.62	27.76	0.00	2.10	PEAK	VERTICAL	217	100
3 !	2483.500	53.72	-0.28	54.00	23.89	27.73	0.00	2.10	AVERAGE	VERTICAL	217	100
4 !	2483.700	69.77	-4.23	74.00	39.95	27.73	0.00	2.10	PEAK	VERTICAL	217	100

Item 1, 2 are the fundamental frequency at 2462 MHz.

Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	Draft n MCS0 40MHz Ch 3, 6, 9 / Ant. A + Ant. B
Test Date	Oct. 05, 2009		

Channel 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 !	2388.000	53.58	-0.42	54.00	23.68	27.87	0.00	2.04	AVERAGE	VERTICAL	215	100
2 !	2388.800	73.95	-0.05	74.00	44.04	27.87	0.00	2.04	PEAK	VERTICAL	215	100
3 over	2423.600	74.45			44.57	27.81	0.00	2.07	AVERAGE	VERTICAL	215	100
4 over	2423.600	106.29			76.41	27.81	0.00	2.07	PEAK	VERTICAL	215	100

Item 3, 4 are the fundamental frequency at 2422 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 !	2390.000	51.83	-2.17	54.00	21.91	27.87	0.00	2.05	AVERAGE	VERTICAL	214	100
2 !	2390.000	71.67	-2.33	74.00	41.75	27.87	0.00	2.05	PEAK	VERTICAL	214	100
3 over	2438.600	75.49			45.63	27.78	0.00	2.07	AVERAGE	VERTICAL	214	100
4 over	2438.600	112.53			82.68	27.78	0.00	2.07	PEAK	VERTICAL	214	100
5 !	2483.500	52.96	-1.04	54.00	23.14	27.73	0.00	2.10	AVERAGE	VERTICAL	214	100
6 !	2483.500	73.90	-0.10	74.00	44.08	27.73	0.00	2.10	PEAK	VERTICAL	214	100

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 9

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 over	2453.200	73.61			43.74	27.78	0.00	2.08	AVERAGE	VERTICAL	218	100
2 over	2453.200	110.68			80.81	27.78	0.00	2.08	PEAK	VERTICAL	218	100
3 !	2483.500	53.83	-0.17	54.00	24.00	27.73	0.00	2.10	AVERAGE	VERTICAL	218	100
4 !	2488.700	73.92	-0.08	74.00	44.12	27.70	0.00	2.10	PEAK	VERTICAL	218	100

Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1, 6, 11 / Ant. B
Test Date	Oct. 05, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1	2389.000	61.65	-12.35	74.00	31.74	27.87	0.00	2.04 PEAK	VERTICAL	282	100
2 !	2390.000	50.18	-3.82	54.00	20.27	27.87	0.00	2.05 AVERAGE	VERTICAL	282	100
3 @	2411.200	105.75			75.86	27.84	0.00	2.05 AVERAGE	VERTICAL	282	100
4 over	2413.000	111.44			81.55	27.84	0.00	2.05 PEAK	VERTICAL	282	100

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1	2389.400	60.40	-13.60	74.00	30.49	27.87	0.00	2.04 PEAK	VERTICAL	333	100
2	2390.000	47.81	-6.19	54.00	17.89	27.87	0.00	2.05 AVERAGE	VERTICAL	333	100
3 @	2437.800	109.23			79.38	27.78	0.00	2.07 AVERAGE	VERTICAL	333	100
4 over	2438.000	114.96			85.11	27.78	0.00	2.07 PEAK	VERTICAL	333	100
5	2483.500	64.24	-9.76	74.00	34.41	27.73	0.00	2.10 PEAK	VERTICAL	333	100
6 !	2483.900	53.97	-0.03	54.00	24.15	27.73	0.00	2.10 AVERAGE	VERTICAL	333	100

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1 @	2462.800	108.63			78.80	27.76	0.00	2.08 AVERAGE	VERTICAL	79	100
2 over	2463.000	112.65			82.81	27.76	0.00	2.08 PEAK	VERTICAL	79	100
3 !	2483.500	51.85	-2.15	54.00	22.03	27.73	0.00	2.10 AVERAGE	VERTICAL	79	100
4	2483.500	63.92	-10.08	74.00	34.09	27.73	0.00	2.10 PEAK	VERTICAL	79	100

Item 1, 2 are the fundamental frequency at 2462 MHz.

Temperature	24°C	Humidity	58%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1, 6, 11 / Ant. A + Ant. B
Test Date	Oct. 05, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 !	2390.000	73.02	-0.98	74.00	43.10	27.87	0.00	2.05	PEAK	VERTICAL	336	100
2 !	2390.000	53.75	-0.25	54.00	23.83	27.87	0.00	2.05	AVERAGE	VERTICAL	336	100
3 over	2410.600	90.68			60.79	27.84	0.00	2.05	AVERAGE	VERTICAL	336	100
4 over	2410.800	112.23			82.34	27.84	0.00	2.05	PEAK	VERTICAL	336	100

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	2387.800	64.77	-9.23	74.00	34.87	27.87	0.00	2.04	PEAK	VERTICAL	262	100
2 !	2388.000	49.54	-4.46	54.00	19.63	27.87	0.00	2.04	AVERAGE	VERTICAL	262	100
3 over	2437.800	91.99			62.14	27.78	0.00	2.07	AVERAGE	VERTICAL	262	100
4 over	2437.800	116.93			87.08	27.78	0.00	2.07	PEAK	VERTICAL	262	100
5 !	2483.500	52.37	-1.63	54.00	22.54	27.73	0.00	2.10	AVERAGE	VERTICAL	262	100
6 !	2484.600	68.81	-5.19	74.00	38.99	27.73	0.00	2.10	PEAK	VERTICAL	262	100

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 over	2460.400	89.60			59.76	27.76	0.00	2.08	AVERAGE	VERTICAL	217	100
2 over	2460.600	110.83			81.00	27.76	0.00	2.08	PEAK	VERTICAL	217	100
3 !	2483.500	53.81	-0.19	54.00	23.98	27.73	0.00	2.10	AVERAGE	VERTICAL	217	100
4	2484.700	67.76	-6.24	74.00	37.93	27.73	0.00	2.10	PEAK	VERTICAL	217	100

Item 1, 2 are the fundamental frequency at 2462 MHz.

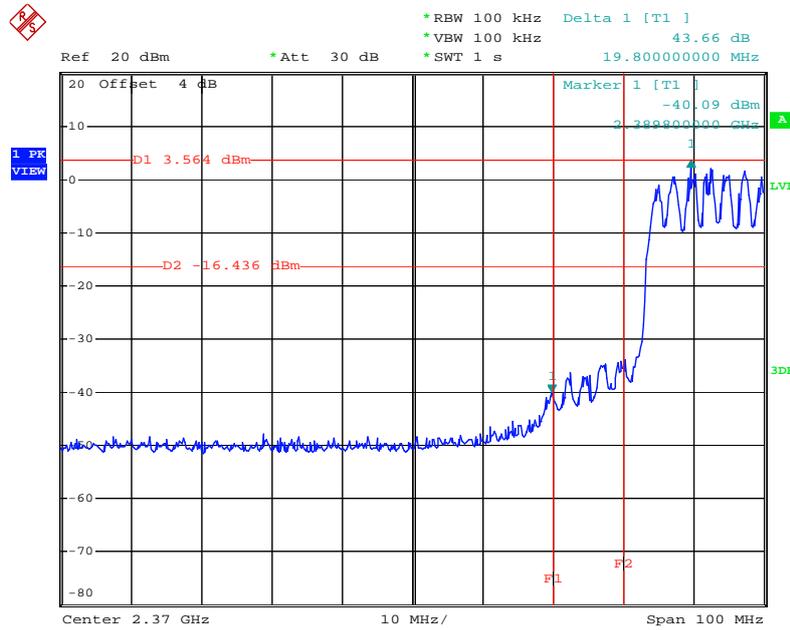
Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

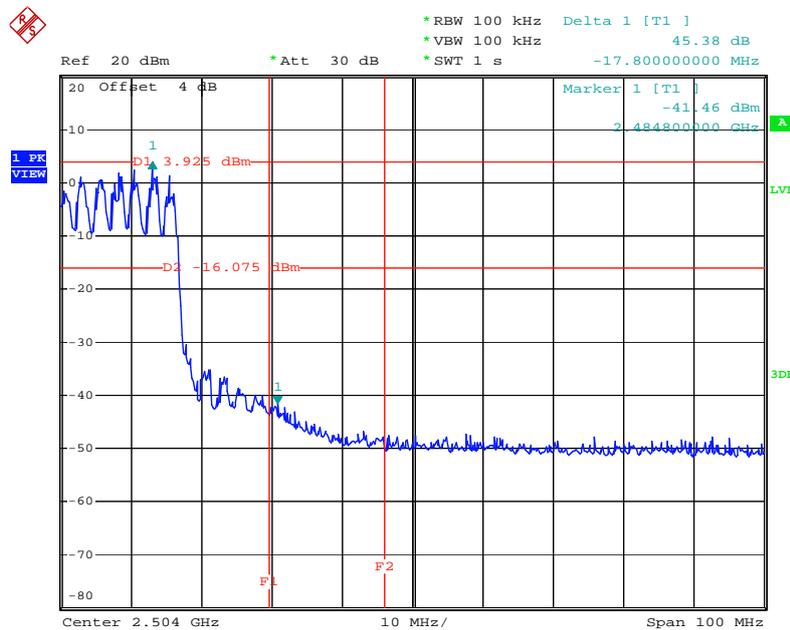
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Low Band Edge Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2412 MHz



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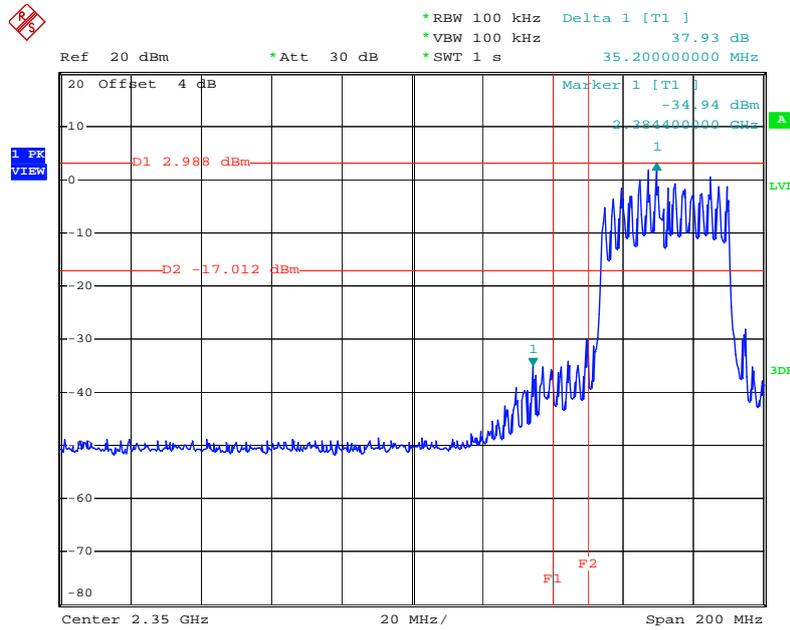
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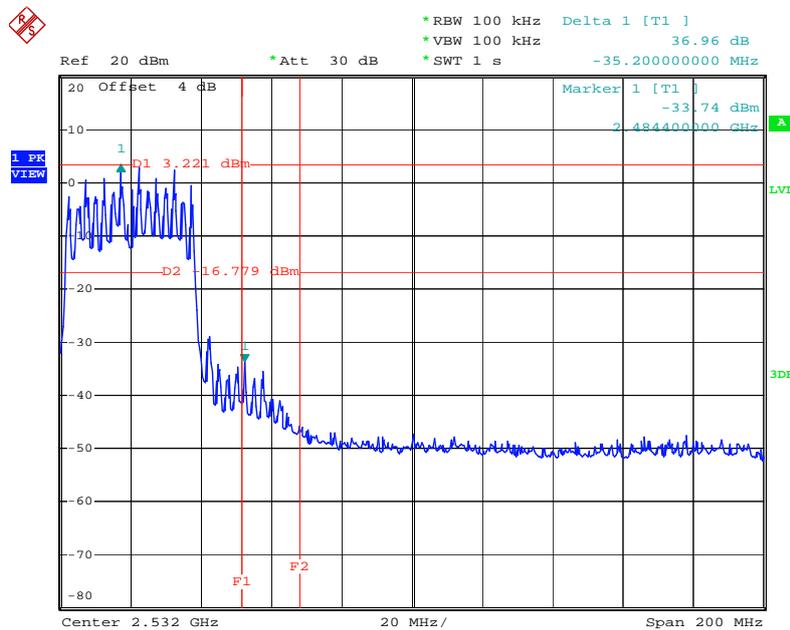
For Emission not in Restricted Band

Low Band Edge Plot on Configuration Drafft n MCS0 40MHz Ant. A + Ant. B / 2422 MHz



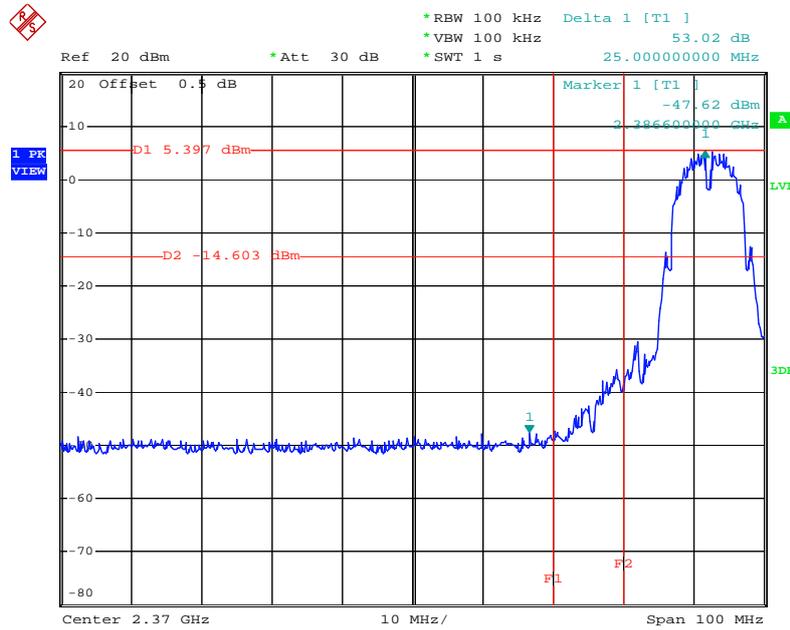
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High Band Edge Plot on Configuration Drafft n MCS0 40MHz Ant. A + Ant. B / 2452 MHz



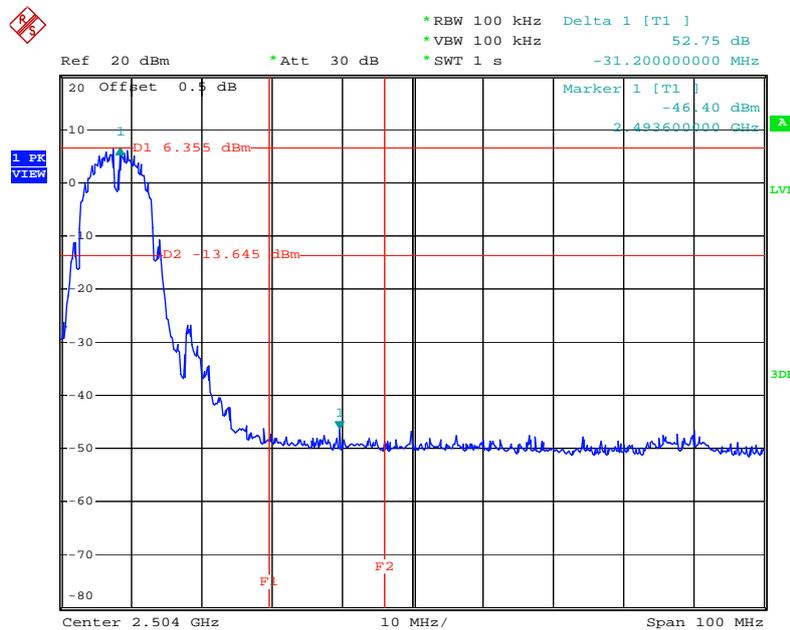
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Low Band Edge Plot on Configuration IEEE 802.11b Ant. B / 2412 MHz



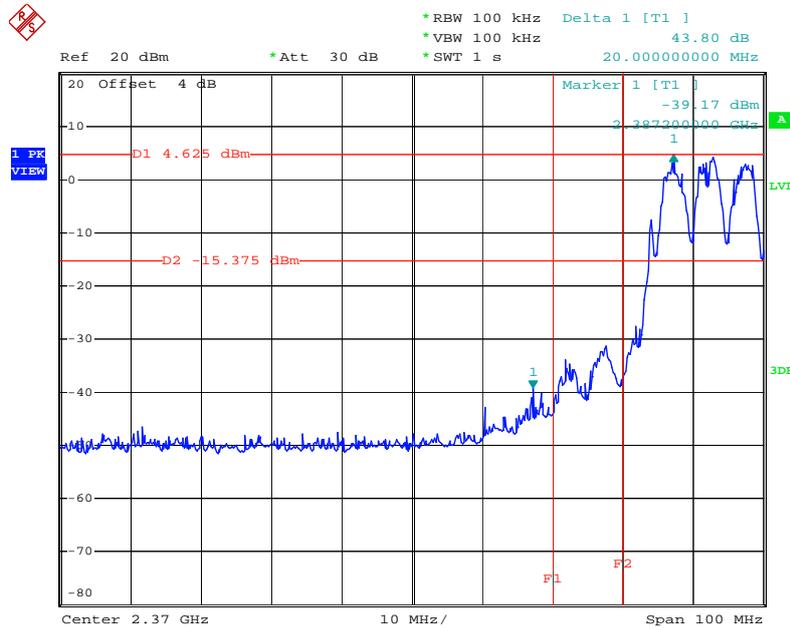
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High Band Edge Plot on Configuration IEEE 802.11b Ant. B / 2462 MHz



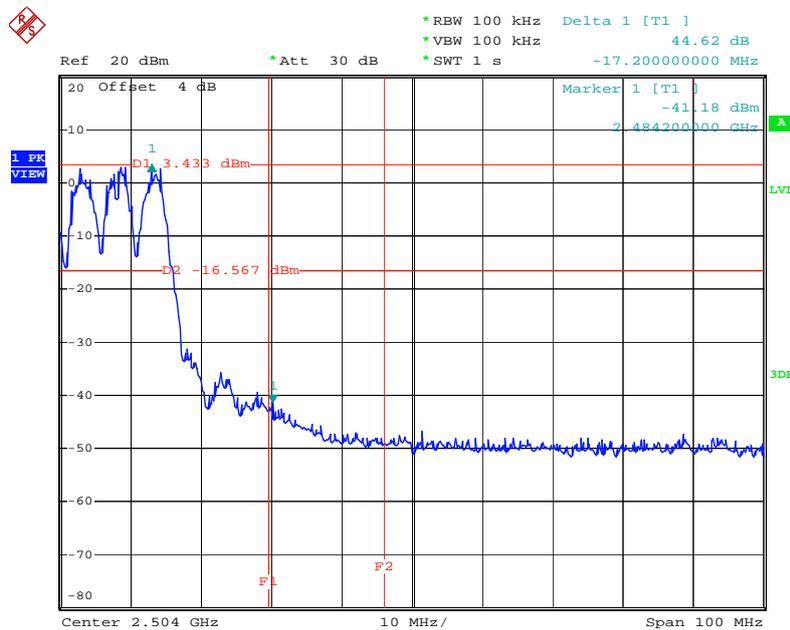
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Low Band Edge Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2412 MHz



Date: 6.OCT.2009 17:25:16

High Band Edge Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2462 MHz



Date: 6.OCT.2009 17:30:15

4.7. Antenna Requirements

4.7.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Apr. 15, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 23, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2009	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz – 30MHz	Jun. 11, 2009	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 07, 2009	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 23, 2009	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2009	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Apr. 06, 2009*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100305	9 kHz - 40 GHz	Feb. 03, 2009	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Sep. 26, 2009	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Apr. 28, 2009	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan.16, 2009	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Oct. 28, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 31, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100666	DC ~ 30GHz	Aug. 05, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 31, 2009	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Jul. 12, 2009*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Aug. 06, 2009	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Feb. 13, 2009	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Note: *Calibration Interval of instruments listed above is two year.

6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

7. TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.

EMC & Wireless Communications Laboratory

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2007 to January 09, 2010
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory



Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

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The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.