SPORTON International Inc.
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Radio Test Report

Model Name	TG788vn v2
Brand Name	technicolor
Model No.	DSLCBA642SP
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Applicant's company	Technicolor Delivery Technologies Belgium
Applicant Address	Prins Boudewijnlaan 47 B-2650 Edegem Belgium
FCC ID	**RSE-TG788VNV2**
Received Date	Jul. 19, 2012
Final Test Date	Feb. 26, 2013
Submission Type	Original Equipment

Statement

Test result included in this report is for the IEEE 802.11n and IEEE 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 C63.10-2009**, **47 CFR FCC Part 15 Subpart C**, **KDB 558074 D01 v02** and **KDB 662911 D01 v01r02**.

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

Testing Laboratory
1190

Table of Contents

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR271934	Rev. 01	Initial issue of report	Mar. 22, 2013

Certificate No.: CB10202041

1 CERTIFICATE OF COMPLIANCE

Model Name	:	TG788vn v2
Brand Name	:	technicolor
Model No.	:	DSLCBA642SP
Applicant	:	Technicolor Delivery Technologies Belgium
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 Jul. 19, 2012 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.

Sam Chen

SPORTON INTERNATIONAL INC.

2 GENERAL DESCRIPTION

2.1 Information

2.1.1 Equipment under Test

Model Name: TG788vn v2
Brand Name: technicolor
Model No.: DSLCBA642SP
Power Supply: Switching-Type, 12Vdc, 1.5A, Manufacturer: AcBel, Model: WAA009, DSL36929060
AC Power Cord: Wall-mount, 2pin
Hardware Version: PEM1

Interface Availability

Interface / Model	DC 12Vdc1.5A	ADSL: (ADSL/2/2+ Annex A, ADSL 2 L1) VDSL2 17a: (B7-6, B7-8 B7-13, B8-6 B8-13)	Ethernet 10/100Mbps	USB 2. 0	Line	WLAN IEEE 802.11b/g/n (2.4GHz)
TG788vn v2	●	●	●(4 port)	●(1 port)	●(2 port)	●

● : Equipped

○ : Not Equipped

2.1.2 Application of harmonized standard

US Standard: 47 CFR FCC Part 15 Subpart C § 15.247
ANSI C63.4-2003
ANSI C63.10-2009
KDB662911, 09/26/2012
KDB558074 D01 DTS Meas Guidance v02 , 10/04/2012

2.1.3 Cabling Attached to the Equipment

Table 1- Cable and Interconnection

Interface	Cable type	Cable length delivered with the modem	"Real life" Cable length that can be attached to this type of interface	Cable length to be used for testing	Internal/ external connection
DSL	UTP Cat 3	2 meter flat cable	> 10 meter	10 meter	External
Eth1	UTP Cat 5	2 meter	> 10 meter	10 meter	Internal
Line1/2	UTP Cat 3	2 meter	> 10 meter	1 meter flat cable	Internal
USB	STP	NA	NA	NA	Internal
AC power	-	-	-	-	External

2.1.4 Panel Drawing

3 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	16.59 dB
4.2	15.247(b)(3)	Maximum Conducted Output Power	Complies	7.47 dB
4.3	15.247(e)	Power Spectral Density	Complies	6.04 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	0.23 dB
4.6	15.247(d)	Band Edge Emissions	Complies	0.10 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	$\pm 8.5\times10^{-8}$	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℃	Confidence levels of 95%
Humidity	±3.2%	Confidence levels of 95%
DC / AC Power Source	±1.4%	Confidence levels of 95%

4 GENERAL INFORMATION

4.1 Product Details

Items	Description			
Product	Stand alone			
Model No.	DSLCBA642SP			
FCC ID	RSE-TG788VNV2			
Product Type	For IEEE 802.11b: WLAN(1TX, 2RX) For IEEE 802.11g: WLAN(1TX, 2RX) For IEEE 802.11n: WLAN(1TX/2TX, 2RX)			
Power Type	From power adapter			
Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11n: See the below table.			
Data Rate (Mbps)	11b mode :DSSS (1/2/5.5/11) 11g mode :OFDM (6/9/12/18/24/36/48/54) 11n(20MHz) mode(MCS0~MCS15); 11n(40MHz) mode(MCS0~MCS15)			
Nominal Channel Bandwidth	20MHz / 40MHz			
Number of Channel	11 for 20MHz bandwidth ; 7 for 40MHz bandwidth			
Channel Spacing	5MHz			
Operating Band, Conducted Output power	2400 ~ 2483.5MHz	■	IEEE 802.11b: 19.95 dBm	
		■	IEEE 802.11g: 22.16 dBm	
		■	IEEE 802.11n MCS0 (20MHz): 22.30 dBm IEEE 802.11n MCS8 (20MHz): 22.53 dBm	
		■	IEEE 802.11n MCS0 (40MHz): 15.39 dBm IEEE 802.11n MCS8 (40MHz): 17.60 dBm	
EUT Stage	■	Product Unit	□	Pre-Sample
Antenna Type	Please refer to section 4.4			
I/O Ports	LAN Port x 4 USB Host Port x 1 Phone Port x 2 DSL Port x 1			
Software Version	1.0.0.2			
Associated Devices	Power Supply*1 (PSU information, please refer to Section 2.1.1)			

IEEE 802.11n spec

Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)	
-	-	LGI (800ns)	SGI (400ns)	-	-	LGI (800ns)	SGI (400ns)
11n 20MHz 1 stream	MCS0	6.5	7.2	11n 40MHz 1 stream	MCS0	13.5	15
	MCS1	13	14.4		MCS1	27	30
	MCS2	19.5	21.7		MCS2	40.5	45
	MCS3	26	28.9		MCS3	54	60
	MCS4	39	43.3		MCS4	81	90
	MCS5	52	57.8		MCS5	108	120
	MCS6	58.5	65		MCS6	121.5	135
	MCS7	65	72.2		MCS7	135	150
11n 20MHz 2 stream	MCS8	13	14.4	11n 40MHz 2 stream	MCS8	27	30
	MCS9	26	28.9		MCS9	54	60
	MCS10	39	43.3		MCS10	81	90
	MCS11	52	57.8		MCS11	108	120
	MCS12	78	86.7		MCS12	162	180
	MCS13	104	115.6		MCS13	216	240
	MCS14	117	130		MCS14	243	270
	MCS15	130	144.4		MCS15	270	300

4.2 Transmit Operating Modes

Transmit Operating Mode							Transmit Multiple Antennas					
☐	Operating mode 1 (single antenna)						■	1TX				
☐	Operating mode 2 (multiple antenna, no beam forming)						■	2TX	☐	3TX	☐	4TX
☐	Operating mode 3 (multiple antenna, with beam forming)						☐	2TX	☐	3TX	☐	4TX
☐	802.11b	Operating mode	■	1TX	☐	2TX	☐	3TX	☐	Cyclic shift		
☐	802.11g	Operating mode	■	1TX	☐	2TX	☐	3TX	☐	Cyclic shift		
☐	802.11n(HT20)	Operating mode	■	1TX	■	2TX	☐	3TX	☐	Cyclic shift		
☐	802.11n(HT40)	Operating mode	■	1TX	■	2TX	☐	3TX	☐	Cyclic shift		

Note1: For IEEE802.11n, MCS0~MCS7: 1TX; MCS8~MCS15:2TX

4.3 Accessories

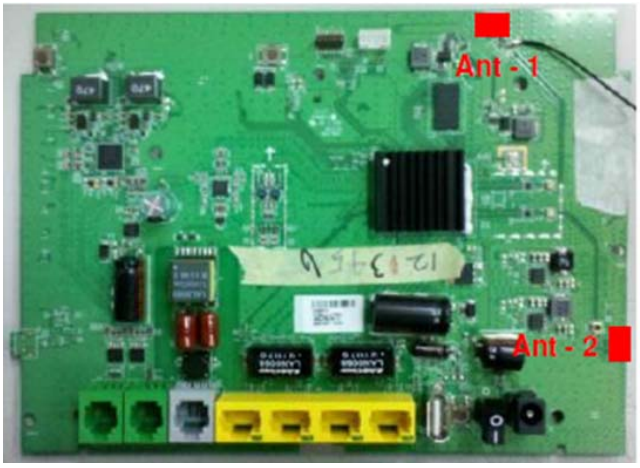
Power	Brand	Model	Technicolor P/N	Rating
Adapter 1	AcBel	WAA009-ADJG modify	DSL36929060	INPUT: 100-240V ~ 0.4A 50/60Hz OUTPUT: 12V-1.5A

4.4 Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector
1	INPAQ	ACA-5036-A5-CC-S	Chip Antenna	N/A
2	INPAQ	ACA-5036-A5-CC-S	Chip Antenna	N/A

Antenna	1st (TX)		2nd (TX)	
Band width Mode	20 MHz	40 MHz	20 MHz	40 MHz
IEEE 802.11b	V	X	X	X
IEEE 802.11g	V	X	X	X
IEEE 802.11n	V	V	V	V

Frequency	Antenna Gain (dBi)			
	Ant. 1 (WJ1)		Ant. 2 (WJ2)	
	20 MHz	40 MHz	20 MHz	40 MHz
2412 MHz	2.24	-	2.79	-
2422 MHz	-	2.14	-	2.63
2437 MHz	2.19	2.19	2.85	2.85
2452 MHz	-	1.80	-	2.87
2462 MHz	2.36	-	2.72	-



4.5 Table for Carrier Frequencies

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

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	-	-

Seven channels are provided for 802.11n (40MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	3	2422 MHz	7	2442 MHz
	4	2427 MHz	8	2447 MHz
	5	2432 MHz	9	2452 MHz
	6	2437 MHz	-	-

4.6 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	Note	Channel	Data Rate	Antenna
AC Power Line Conducted Emissions	CTX	OFDM/BPSK	6	-	1+2
Maximum Conducted Output Power	11b	DSSS/DBPSK	1/6/11	1 Mbps	1
				1 Mbps	2
	11g	OFDM/BPSK	1/6/11	6 Mbps	1
				6 Mbps	2
	11n(20MHz)		1/6/11	MCS0	1
				MCS0	2
				MCS8	1+2
	11n(40MHz)		3/6/9	MCS0	1
				MCS0	2
				MCS8	1+2
Power Spectral Density	11b	DSSS/DBPSK	1/6/11	1 Mbps	1
	11g	OFDM/BPSK	1/6/11	6 Mbps	2
	11n(20MHz)		1/6/11	MCS0	2
				MCS8	1+2
	11n(40MHz)		3/6/9	MCS0	2
				MCS8	1+2
6dB Spectrum Bandwidth	11b	DSSS/DBPSK	1/6/11	1 Mbps	1
	11g	OFDM/BPSK	1/6/11	6 Mbps	2
	11n(20MHz)		1/6/11	MCS0	2
				MCS8	1+2
	11n(40MHz)		3/6/9	MCS0	2
				MCS8	1+2
Band Edge Emissions (Radiated)	11b	DSSS/DBPSK	1/6/11	1 Mbps	1
	11g	OFDM/BPSK	1/6/11	6 Mbps	2
	11n(20MHz)		1/6/11	MCS0	2
				MCS8	1+2
	11n(40MHz)		3/6/9	MCS0	2
				MCS8	1+2

Radiated Emissions Above 1GHz (Radiated)	11b	DSSS/DBPSK	1/6/11	1 Mbps	1
	11g	OFDM/BPSK	1/6/11	6 Mbps	2
	11n(20MHz)		1/6/11	MCS0	2
				MCS8	1+2
	11n(40MHz)		3/6/9	MCS0	2
				MCS8	1+2
Radiated Emissions Below 1GHz (Radiated)	CTX	OFDM/BPSK	6	-	1+2

4.7 Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC);Please refer section 6 for Test Site Address.

4.8 Table for Supporting Units

For Test Site No : 03CH01-CB and CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	N/A

For Test Site No. : TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	D520	E2KWM3945ABG

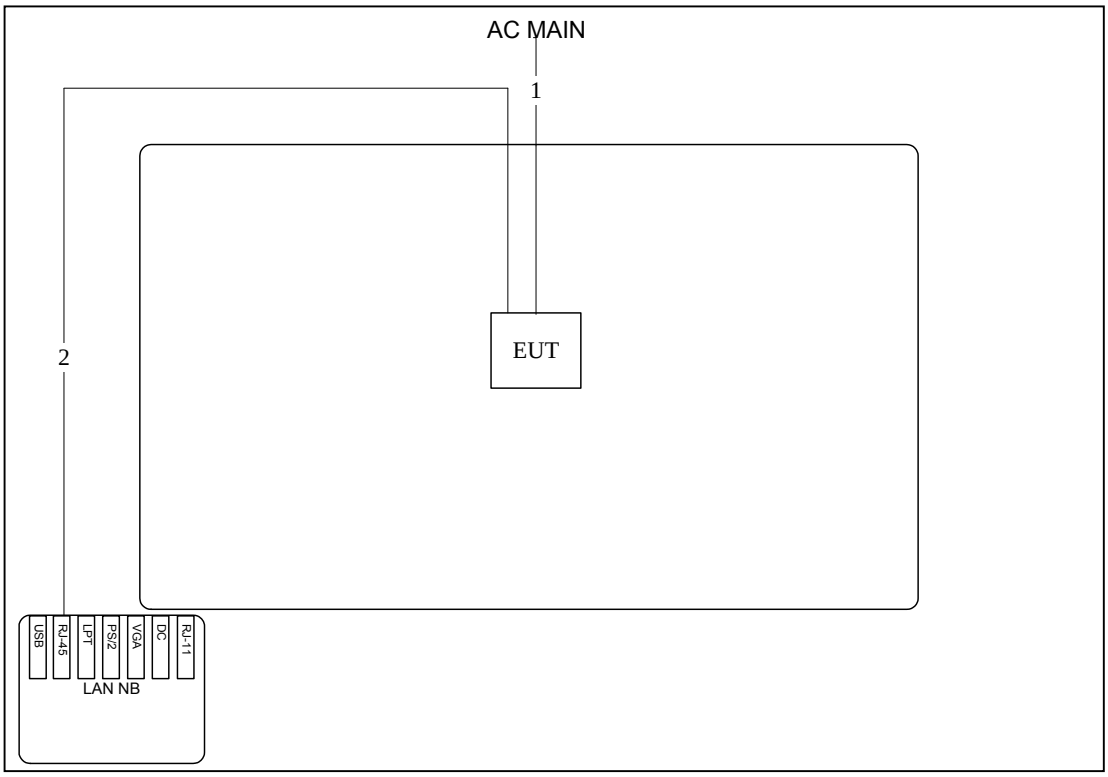
4.9 Table for Parameters of Test Software Setting

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.

The Power Setting Parameter					
Power Level		1			
Test Software Version		1.0.0.2			
Worst Modulation Mode		Number of Transmit Chains (NTX)	Frequency (MHz)	Power Setting	Data Rate / MCS
Ant. 1	802.11b	1	2412	78	1Mbps
Ant. 1	802.11b	1	2437	77	1Mbps
Ant. 1	802.11b	1	2462	70	1Mbps
Ant. 2	802.11b	1	2412	73	1Mbps
Ant. 2	802.11b	1	2437	71	1Mbps
Ant. 2	802.11b	1	2462	71	1Mbps
Ant. 1	802.11g	1	2412	63	6Mbps
Ant. 1	802.11g	1	2437	80	6Mbps
Ant. 1	802.11g	1	2462	69	6Mbps
Ant. 2	802.11g	1	2412	67	6Mbps
Ant. 2	802.11g	1	2437	90	6Mbps
Ant. 2	802.11g	1	2462	66	6Mbps
Ant. 1	802.11n 20MHz	1	2412	59	MCS0
Ant. 1	802.11n 20MHz	1	2437	78	MCS0
Ant. 1	802.11n 20MHz	1	2462	63	MCS0
Ant. 2	802.11n 20MHz	1	2412	62	MCS0
Ant. 2	802.11n 20MHz	1	2437	90	MCS0
Ant. 2	802.11n 20MHz	1	2462	62	MCS0
Ant. 1+2	802.11n 20MHz	2	2412	60	MCS8
Ant. 1+2	802.11n 20MHz	2	2437	82	MCS8
Ant. 1+2	802.11n 20MHz	2	2462	62	MCS8
Ant. 1	802.11n 40MHz	1	2422	57	MCS0
Ant. 1	802.11n 40MHz	1	2437	57	MCS0
Ant. 1	802.11n 40MHz	1	2452	53	MCS0
Ant. 2	802.11n 40MHz	1	2422	50	MCS0
Ant. 2	802.11n 40MHz	1	2437	58	MCS0
Ant. 2	802.11n 40MHz	1	2452	51	MCS0
Ant. 1+2	802.11n 40MHz	2	2422	52	MCS8
Ant. 1+2	802.11n 40MHz	2	2437	56	MCS8
Ant. 1+2	802.11n 40MHz	2	2452	56	MCS8

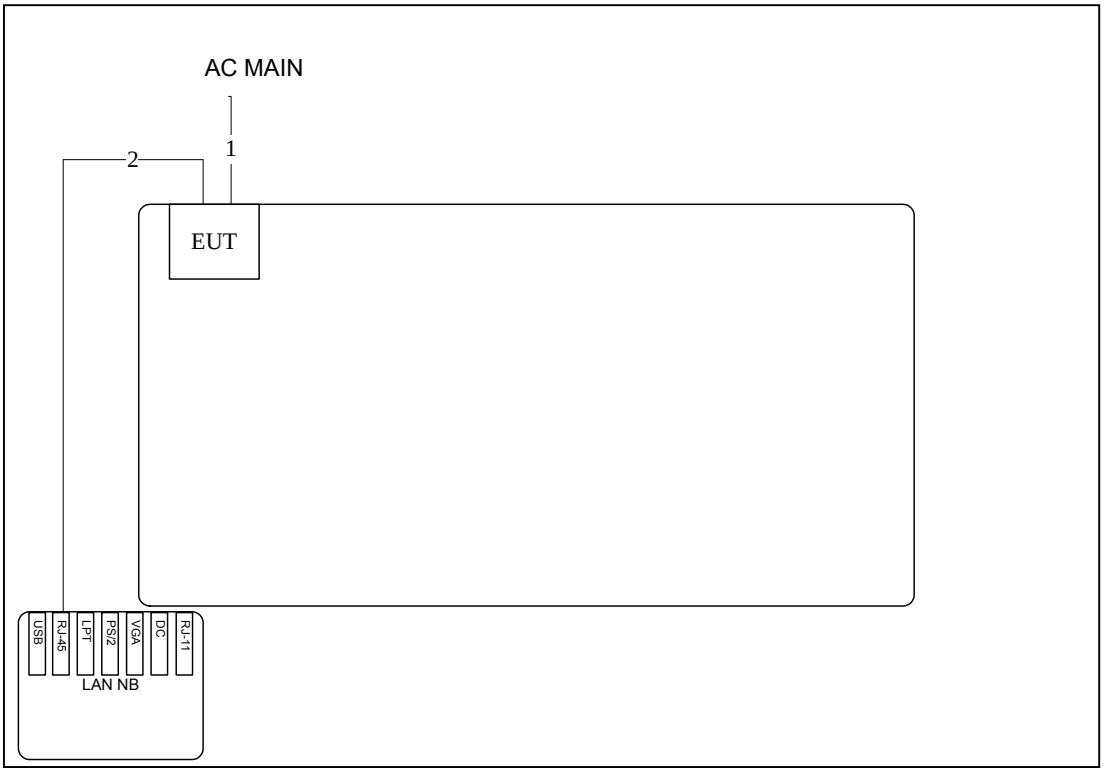
4.10 Test Configurations

4.10.1 Radiation Emissions Test Configuration



Item	Connection	Shield	Length
1	Power cable	No	1.5M
2	RJ-45 Cable	No	10M

4.10.2 AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shield	Length
1	Power cable	No	1.5m
2	RJ-45 Cable	No	10m

5 TEST RESULT

5.1 AC Power Line Conducted Emissions Measurement

5.1.1 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

5.1.2 Measuring Instruments and Setting

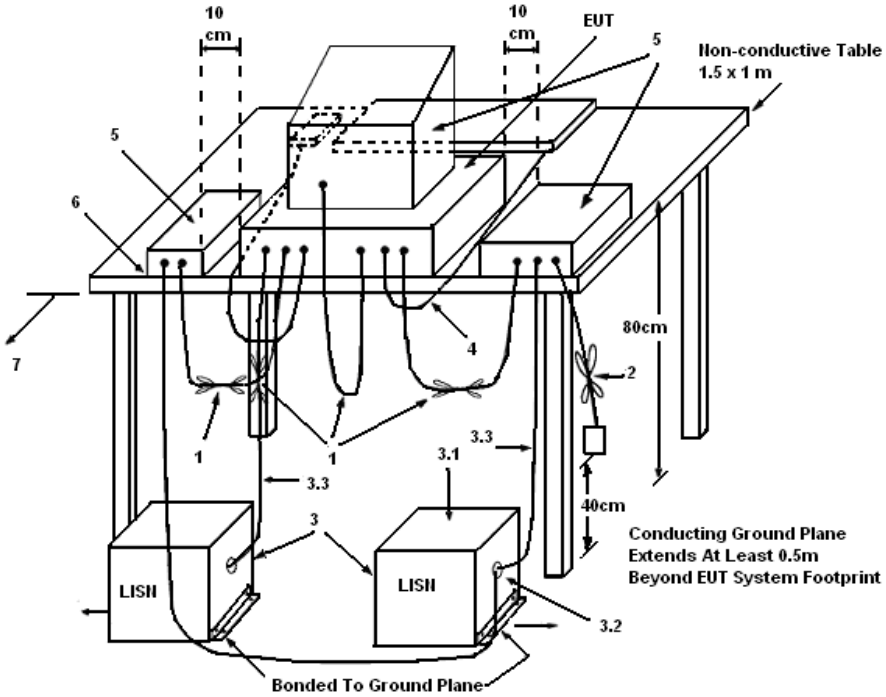
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

5.1.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. 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.

5.1.4 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.

5.1.5 Test Deviation

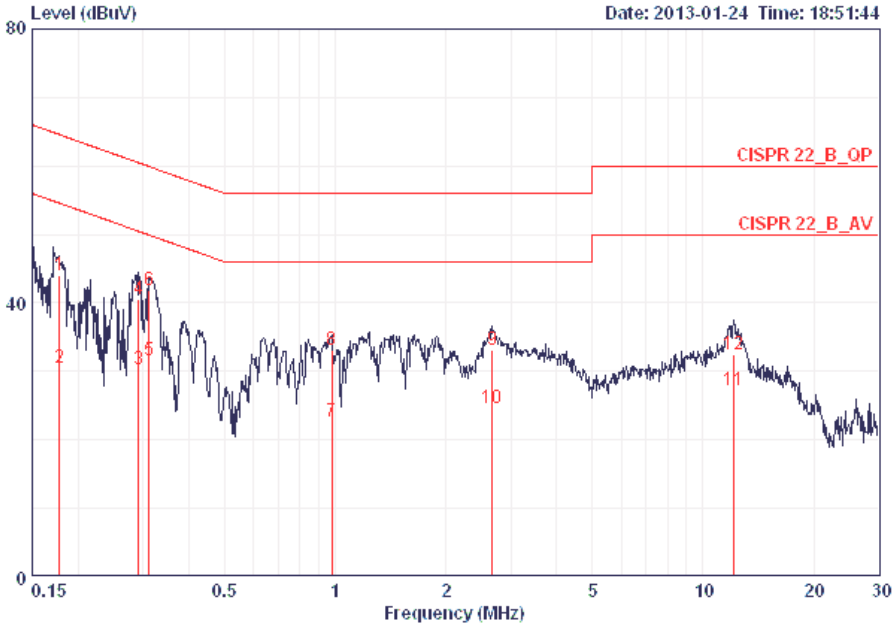
There is no deviation with the original standard.

5.1.6 EUT Operation during Test

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

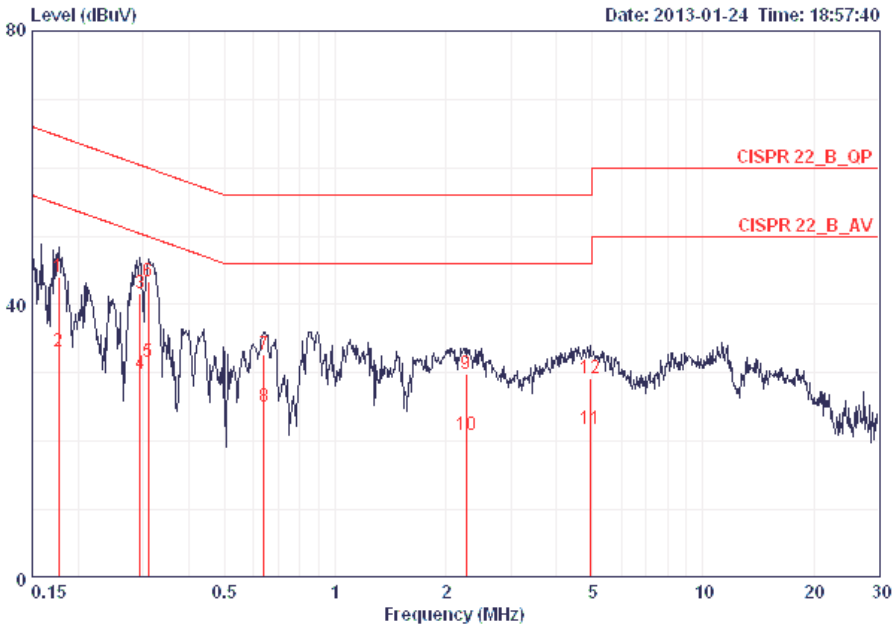
5.1.7 Results of AC Power Line Conducted Emissions Measurement

Temperature	24°C	Humidity	60%
Test Engineer	Simon Yang	Phase	Line
Configuration	CTX	Test Site No.	CO01-CB



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17815	44.13	-20.44	64.57	43.79	0.15	0.19	QP
2	0.17815	30.52	-24.05	54.57	30.18	0.15	0.19	AVERAGE
3	0.29243	30.33	-20.13	50.46	29.98	0.15	0.20	AVERAGE
4	0.29243	40.59	-19.87	60.46	40.24	0.15	0.20	QP
5	0.31163	31.59	-18.34	49.93	31.24	0.15	0.20	AVERAGE
6	0.31163	41.77	-18.16	59.93	41.42	0.15	0.20	QP
7	0.97871	22.75	-23.25	46.00	22.42	0.17	0.16	AVERAGE
8	0.97871	33.17	-22.83	56.00	32.84	0.17	0.16	QP
9	2.678	33.13	-22.87	56.00	32.69	0.20	0.24	QP
10	2.678	24.69	-21.31	46.00	24.25	0.20	0.24	AVERAGE
11	12.124	27.19	-22.81	50.00	26.42	0.37	0.40	AVERAGE
12	12.124	32.44	-27.56	60.00	31.67	0.37	0.40	QP

Temperature	24°C	Humidity	60%
Test Engineer	Simon Yang	Phase	Neutral
Configuration	CTX	Test Site No.	CO01-CB



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17678	44.10	-20.53	64.64	43.83	0.08	0.19	QP
2	0.17678	33.13	-21.50	54.64	32.86	0.08	0.19	AVERAGE
3	0.29398	41.70	-18.71	60.41	41.42	0.08	0.20	QP
4	0.29398	29.93	-20.48	50.41	29.65	0.08	0.20	AVERAGE
5	0.30998	31.63	-18.34	49.97	31.35	0.08	0.20	AVERAGE
6 @	0.30998	43.38	-16.59	59.97	43.10	0.08	0.20	QP
7	0.64058	32.61	-23.39	56.00	32.33	0.08	0.20	QP
8	0.64058	25.07	-20.93	46.00	24.79	0.08	0.20	AVERAGE
9	2.273	29.85	-26.15	56.00	29.50	0.11	0.24	QP
10	2.273	21.00	-25.00	46.00	20.65	0.11	0.24	AVERAGE
11	4.926	21.71	-24.29	46.00	21.24	0.15	0.32	AVERAGE
12	4.926	29.16	-26.84	56.00	28.69	0.15	0.32	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

5.2 Maximum Conducted Output Power Measurement

5.2.1 Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for 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.

5.2.2 Measuring Instruments and Setting

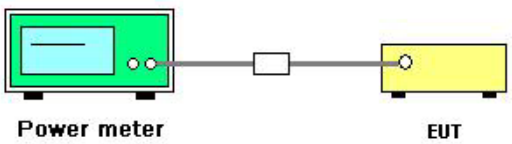
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	Average

5.2.3 Test Procedures

1. Test procedures refer KDB558074 v01 r02 section 8.2.3 option 3.
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

5.2.4 Test Setup Layout



5.2.5 Test Deviation

There is no deviation with the original standard.

5.2.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.2.7 Test Result of Maximum Conducted Output Power

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11b	Test Engineer	Robert Chang
Duty cycle	100%	Duty Factor	0 dB

Configuration IEEE 802.11b

<Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	19.72	19.72	30.00	Complies
6	2437 MHz	19.95	19.95	30.00	Complies
11	2462 MHz	17.59	17.59	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

<Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	18.37	18.37	30.00	Complies
6	2437 MHz	18.33	18.33	30.00	Complies
11	2462 MHz	18.47	18.47	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11g	Test Engineer	Robert Chang
Duty cycle	99.03%	Duty Factor	0.04 dB

Configuration IEEE 802.11g

<Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	15.55	15.59	30.00	Complies
6	2437 MHz	19.04	19.08	30.00	Complies
11	2462 MHz	16.41	16.45	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

<Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	16.42	16.46	30.00	Complies
6	2437 MHz	22.12	22.16	30.00	Complies
11	2462 MHz	16.83	16.87	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang
Duty cycle	99.27%	Duty Factor	0.03 dB

Configuration IEEE 802.11n 20MHz

<MCS0, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	14.48	14.51	30.00	Complies
6	2437 MHz	18.60	18.63	30.00	Complies
11	2462 MHz	15.09	15.12	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power

<MCS0, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	15.41	15.44	30.00	Complies
6	2437 MHz	22.27	22.30	30.00	Complies
11	2462 MHz	16.05	16.08	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang
Duty cycle	98.39%	Duty Factor	0.07 dB

Configuration IEEE 802.11n 20MHz

<MCS8, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Result
1	2412 MHz	14.89	Complies
6	2437 MHz	19.22	Complies
11	2462 MHz	15.16	Complies

<MCS8, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Result
1	2412 MHz	14.92	Complies
6	2437 MHz	19.66	Complies
11	2462 MHz	15.70	Complies

<MCS8, Ant. 1+2>

Channel	Frequency	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	17.99	30.00	Complies
6	2437 MHz	22.53	30.00	Complies
11	2462 MHz	18.52	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power

CH1:Total power = Ant. 1 + Ant. 2 + Duty Factor= (14.89 dBm + 14.92 dBm) + 0.07dB = (0.0308W + 0.0310W) + 0.07 dB = 17.99 dBm

CH6:Total power = Ant. 1 + Ant. 2 + Duty Factor= (19.22 dBm + 19.66 dBm) + 0.07dB = (0.0836W + 0.0925W) + 0.07 dB = 22.53 dBm

CH11:Total power = Ant. 1 + Ant. 2 + Duty Factor= (15.16 dBm + 15.70 dBm) + 0.07dB = (0.0328W + 0.0372W) + 0.07 dB = 18.52 dBm

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang
Duty cycle	97.89%	Duty Factor	0.09 dB

Configuration IEEE 802.11n 40MHz

<MCS0, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	14.33	14.42	30.00	Complies
6	2437 MHz	14.27	14.36	30.00	Complies
9	2452 MHz	13.41	13.50	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

<MCS0, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	13.50	13.59	30.00	Complies
6	2437 MHz	15.30	15.39	30.00	Complies
9	2452 MHz	13.68	13.77	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang
Duty cycle	96.77%	Duty Factor	0.14 dB

Configuration IEEE 802.11n 40MHz

<MCS8, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Result
3	2422 MHz	13.30	Complies
6	2437 MHz	14.00	Complies
9	2452 MHz	13.87	Complies

<MCS8, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Result
3	2422 MHz	13.52	Complies
6	2437 MHz	14.85	Complies
9	2452 MHz	14.82	Complies

<MCS8, Ant. 1+2>

Channel	Frequency	Total Conducted Power (dBm)	Max. Limit (dBm)	Result
3	2422 MHz	16.56	30.00	Complies
6	2437 MHz	17.60	30.00	Complies
9	2452 MHz	17.52	30.00	Complies

Note: Conducted Output Power + duty factor = Total Conducted Output Power.

CH3:Total power = Ant. 1 + Ant. 2 + Duty Factor= (13.30 dBm + 13.52 dBm) + 0.14dB = (0.0214W + 0.0225W) + 0.14 dB = 16.56 dBm

CH6:Total power = Ant. 1 + Ant. 2 + Duty Factor= (14.00 dBm + 14.85 dBm) + 0.14dB = (0.0251W + 0.0305W) + 0.14 dB = 17.60 dBm

CH9:Total power = Ant. 1 + Ant. 2 + Duty Factor= (13.87 dBm + 14.82 dBm) + 0.14dB = (0.0244W + 0.0303W) + 0.14 dB = 17.52 dBm

5.3 Power Spectral Density Measurement

5.3.1 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.

5.3.2 Measuring Instruments and Setting

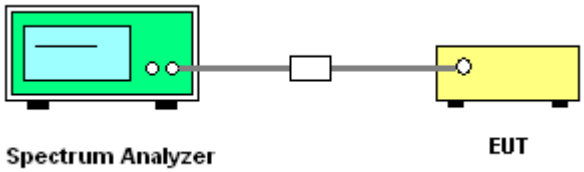
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RB	Set the RBW ≥ 3 kHz
VB	Set the VBW ≥ 3 x RBW
Detector	RMS
Trace	Average sweep count 100
Sweep Time	Auto couple

5.3.3 Test Procedures

1. Test procedures refer 558074 D01 DTS Meas Guidance v02 section 9.2 option 2 and "662911 D01 Multiple Transmitter Output v01r02" In-Band Power Spectral Density (PSD) Measurements option 2 Measure each output and add 10 log(NANT) dB
2. The transmitter output (antenna port) was connected to the spectrum analyzer.
3. Use this procedure when the maximum conducted output power in the fundamental emission is used to demonstrate compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
4. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW (use of a greater number of measurement points than this minimum requirement is recommended).
5. Find the peak value of the trace and place the analyser marker on this peak.
6. Mark the frequency with maximum peak value as the center of the display of the spectrum.
7. The resulting PSD level must be ≤ 8 dBm.
8. When measuring power spectral density with multiple antenna systems, add every result of the values by mathematic formula.

5.3.4 Test Setup Layout



5.3.5 Test Deviation

There is no deviation with the original standard.

5.3.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.3.7 Test Result of Power Spectral Density

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11b	Test Engineer	Robert Chang
Duty cycle	100%	Duty Factor	0 dB

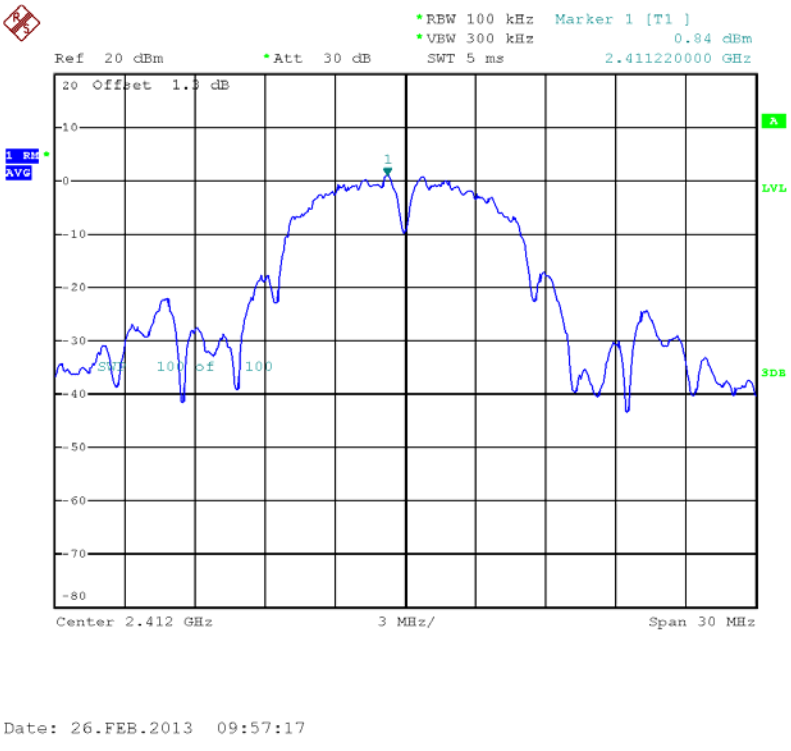
Configuration IEEE 802.11b

< Ant. 1>

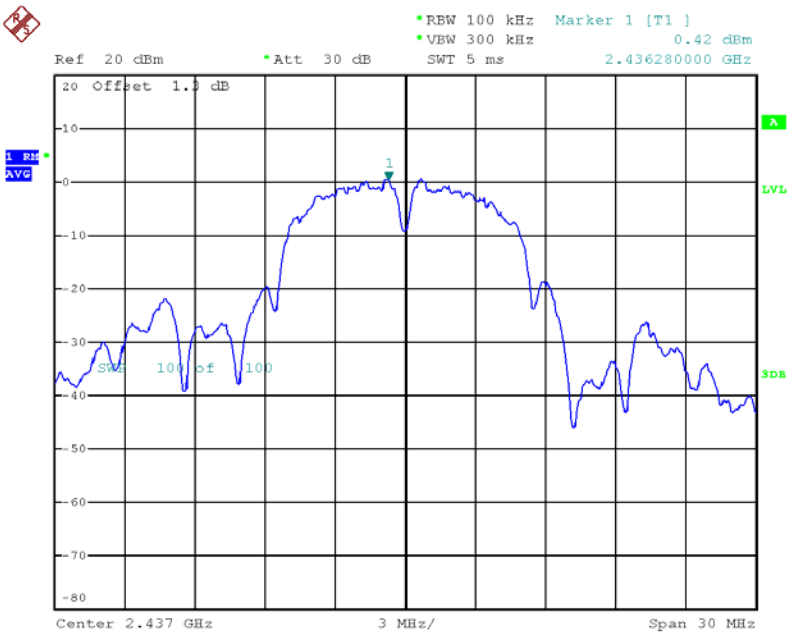
Channel	Frequency	Power Density (dBm/3kHz)	Total Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.84	0.84	8.00	Complies
6	2437 MHz	0.42	0.42	8.00	Complies
11	2462 MHz	-1.58	-1.58	8.00	Complies

Note: Power Density + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11b / Ant. 1 / 2412 MHz

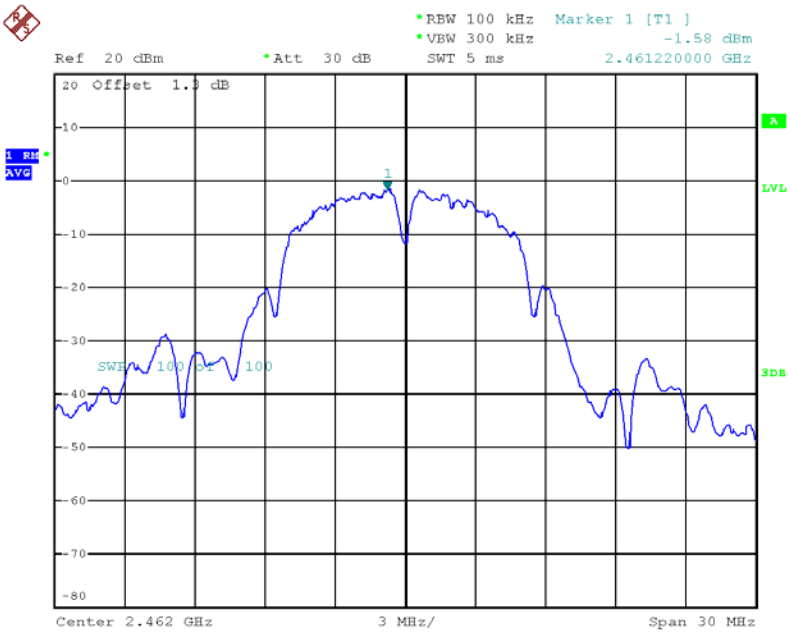


Power Density Plot on Configuration IEEE 802.11b / Ant. 1 / 2437 MHz



Date: 26.FEB.2013 10:17:24

Power Density Plot on Configuration IEEE 802.11b / Ant. 1 / 2462 MHz



Date: 26.FEB.2013 10:32:21

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11g	Test Engineer	Robert Chang
Duty cycle	99.03%	Duty Factor	0.04 dB

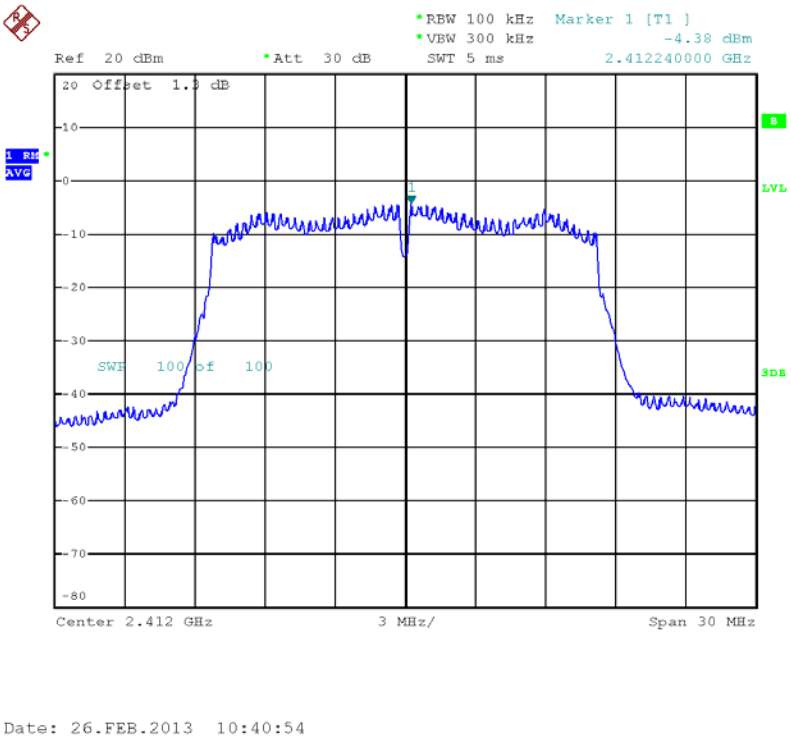
Configuration IEEE 802.11g

< Ant. 2>

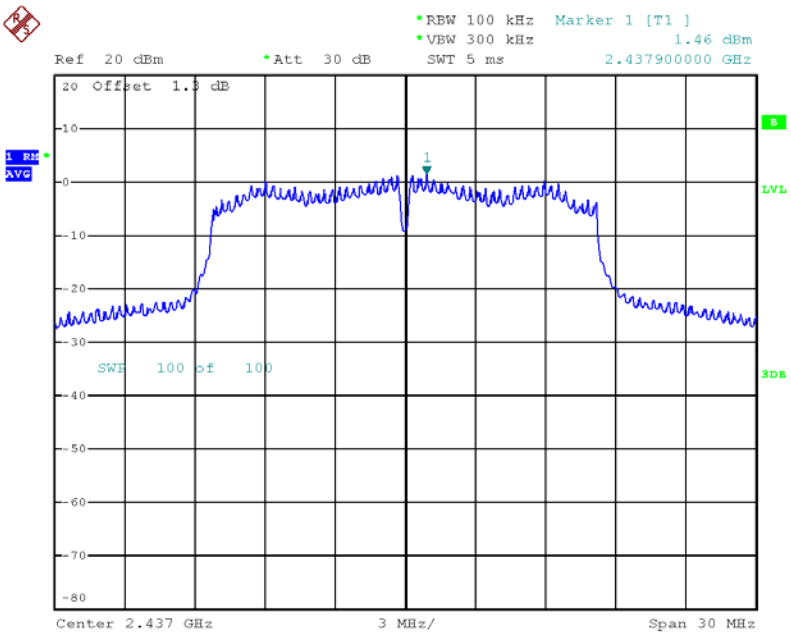
Channel	Frequency	Power Density (dBm/3kHz)	Total Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412 MHz	-4.38	-4.34	8.00	Complies
6	2437 MHz	1.46	1.50	8.00	Complies
11	2462 MHz	-3.68	-3.64	8.00	Complies

Note: Power Density + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11g / Ant. 2 / 2412 MHz

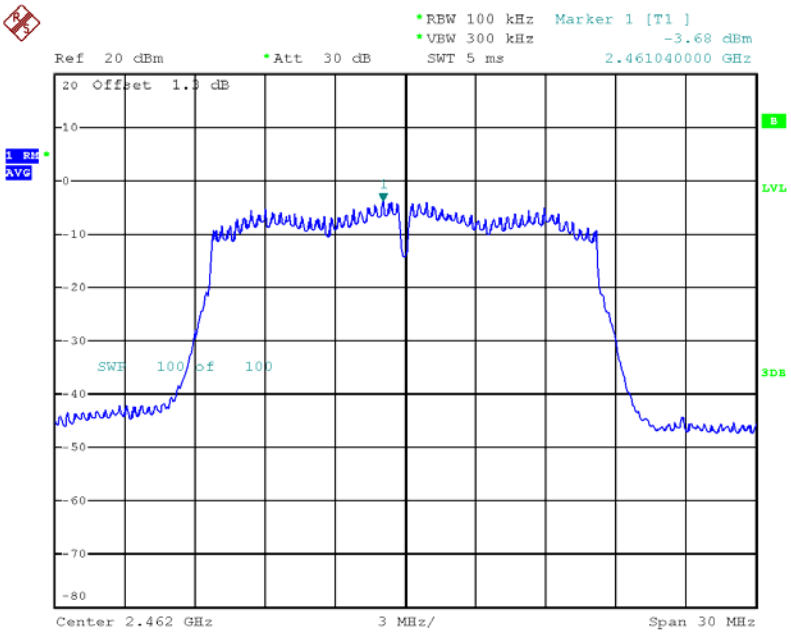


Power Density Plot on Configuration IEEE 802.11g / Ant. 2 / 2437 MHz



Date: 26.FEB.2013 10:43:28

Power Density Plot on Configuration IEEE 802.11g / Ant. 2 / 2462 MHz



Date: 26.FEB.2013 10:47:03

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang
Duty cycle	99.27%	Duty Factor	0.03 dB

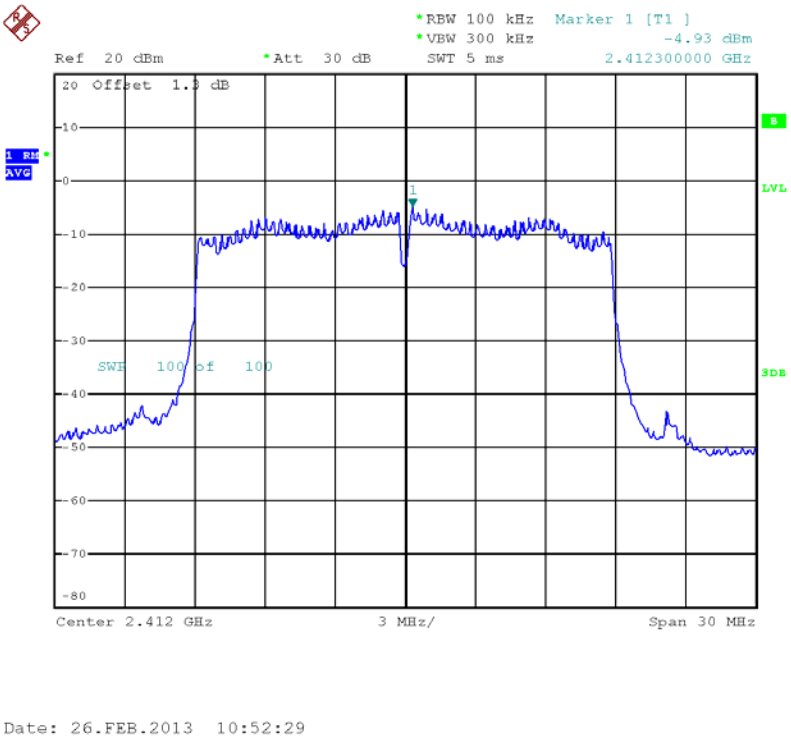
Configuration IEEE 802.11n 20MHz

<MCS0, Ant. 2>

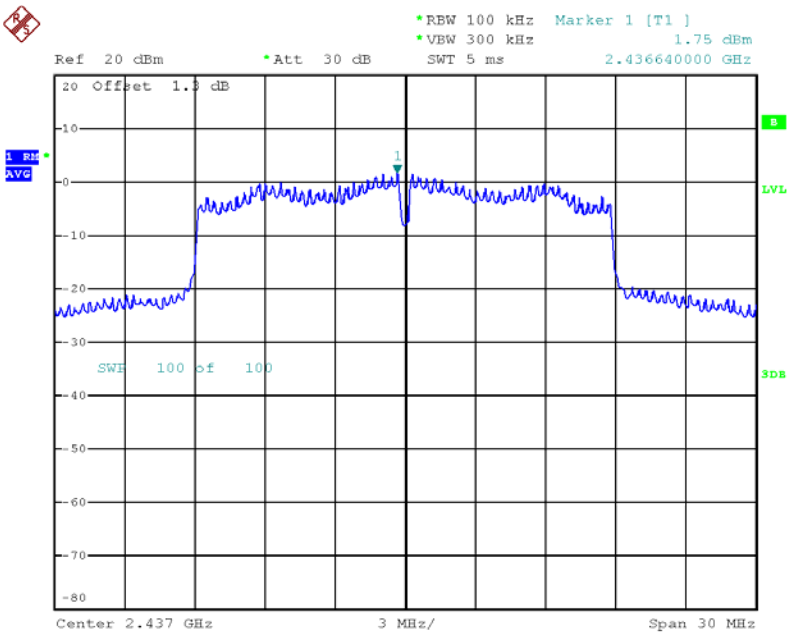
Channel	Frequency	Power Density (dBm/3kHz)	Total Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412 MHz	-4.93	-4.90	8.00	Complies
6	2437 MHz	1.75	1.78	8.00	Complies
11	2462 MHz	-4.92	-4.89	8.00	Complies

Note: Power Density + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2412 MHz

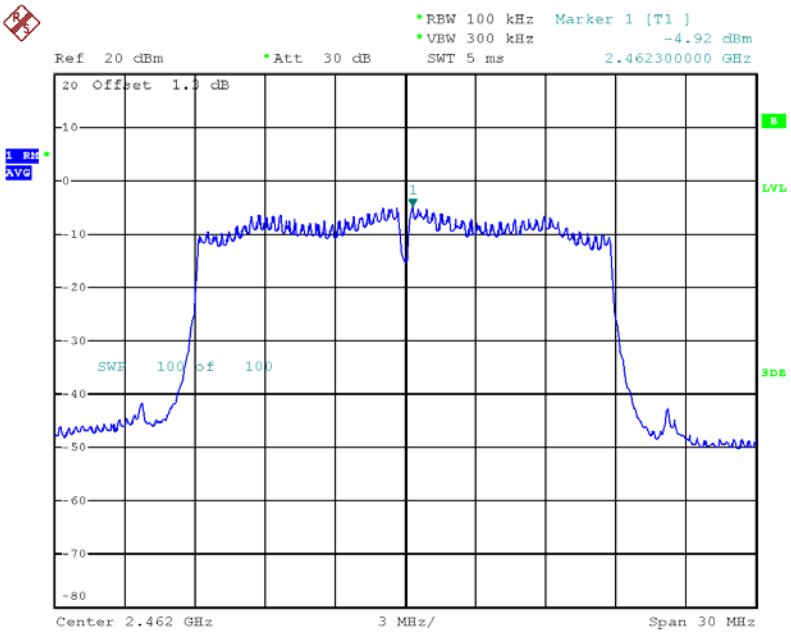


Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2437 MHz



Date: 26.FEB.2013 10:55:15

Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2462 MHz



Date: 26.FEB.2013 10:57:54

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang
Duty cycle	98.39%	Duty Factor	0.07 dB

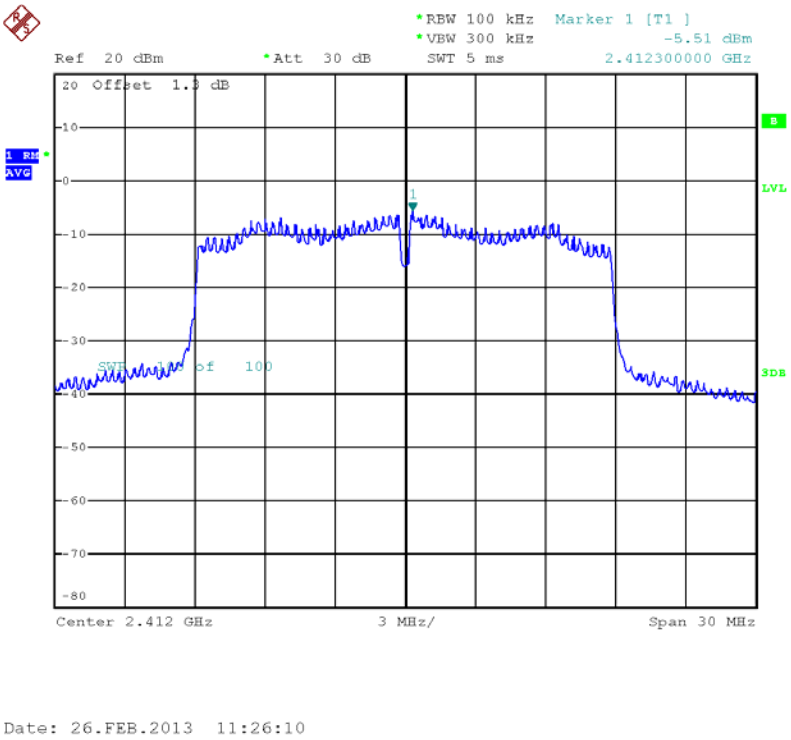
Configuration IEEE 802.11n 20MHz

<MCS8, Ant. 1&2>

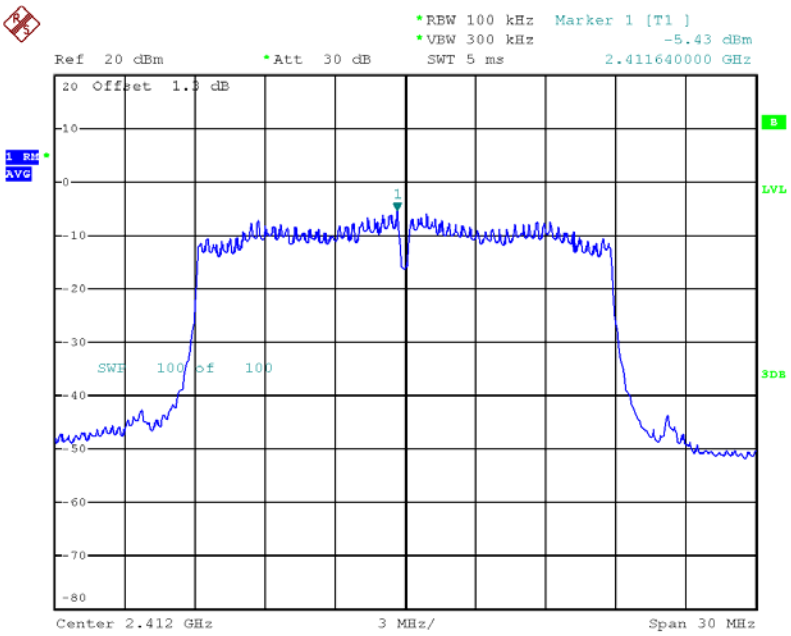
Channel	Frequency	Power Density (dBm/3kHz)		10 log (N=2) dB	Total Power Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
		Ant. 1	Ant. 2		Ant. 1	Ant. 2		
1	2412 MHz	-5.51	-5.43	3.01	-2.43	-2.35	8.00	Complies
6	2437 MHz	-1.75	-1.12		1.33	1.96	8.00	Complies
11	2462 MHz	-5.74	-5.67		-2.66	-2.59	8.00	Complies

Note: Power Density + 10log(2) + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 / 2412 MHz

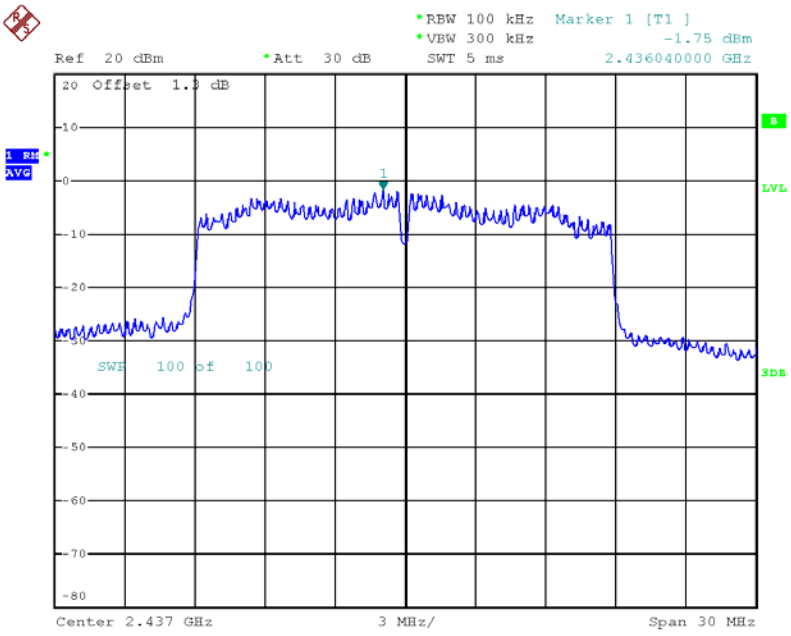


Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 2 / 2412 MHz



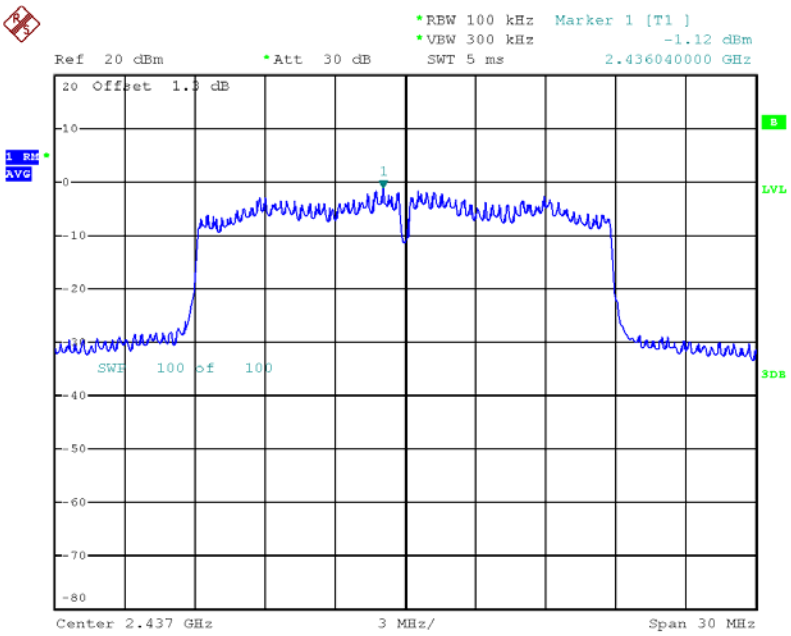
Date: 26.FEB.2013 11:29:17

Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 / 2437 MHz



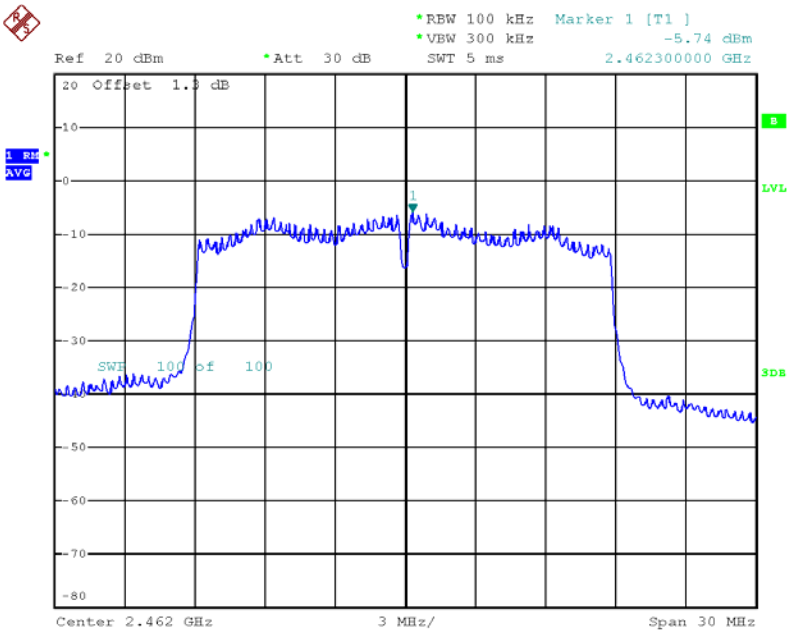
Date: 26.FEB.2013 11:43:27

Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 2 / 2437 MHz



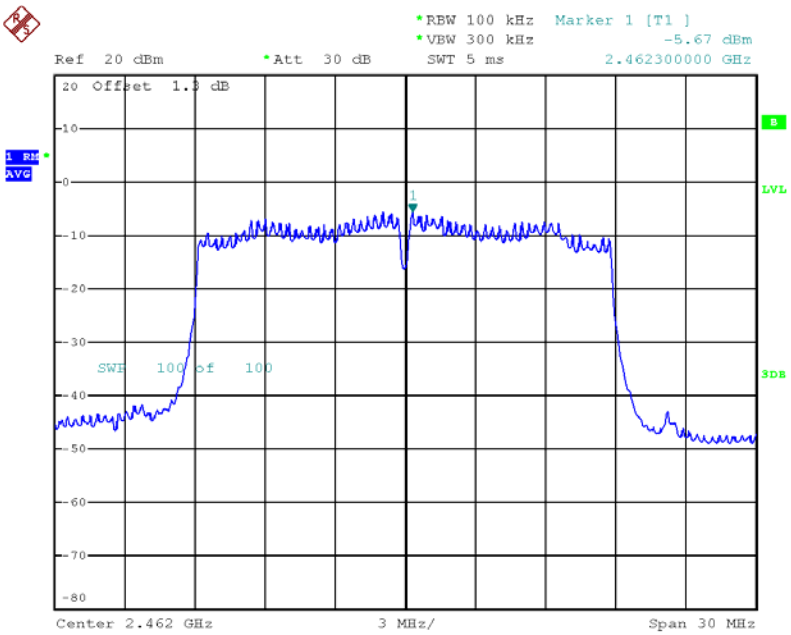
Date: 26.FEB.2013 11:40:32

Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 / 2462 MHz



Date: 26.FEB.2013 11:47:16

Power Density Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 2 / 2462 MHz



Date: 26.FEB.2013 11:49:40

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang
Duty cycle	97.89%	Duty Factor	0.09 dB

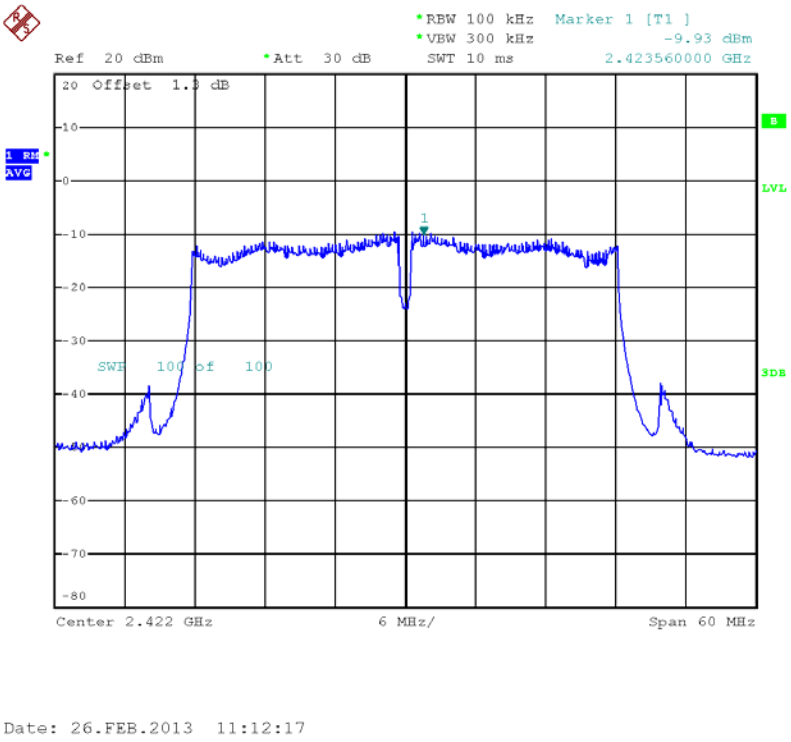
Configuration IEEE 802.11n 40MHz

<MCS0, Ant. 2>

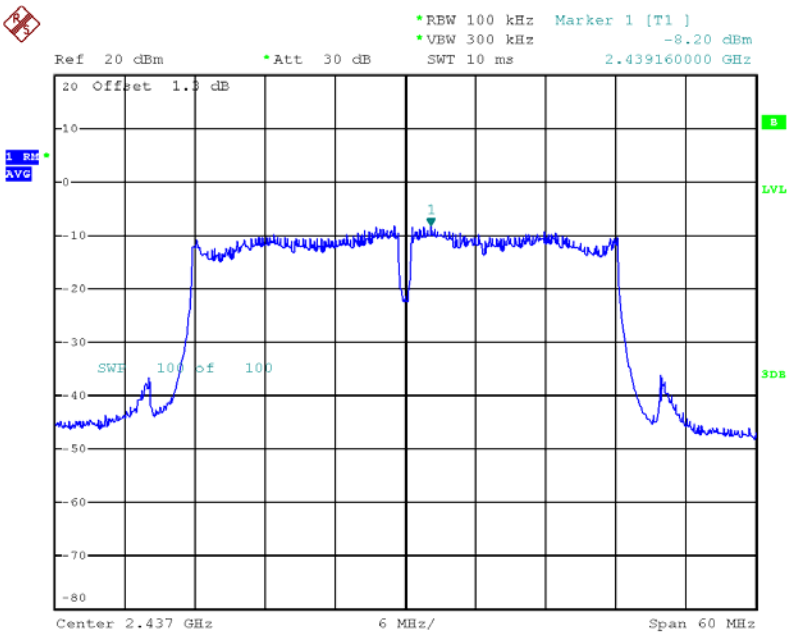
Channel	Frequency	Power Density (dBm/3kHz)	Total Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
3	2422 MHz	-9.93	-9.84	8.00	Complies
6	2437 MHz	-8.20	-8.11	8.00	Complies
9	2452 MHz	-9.38	-9.29	8.00	Complies

Note: Power Density + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2422 MHz

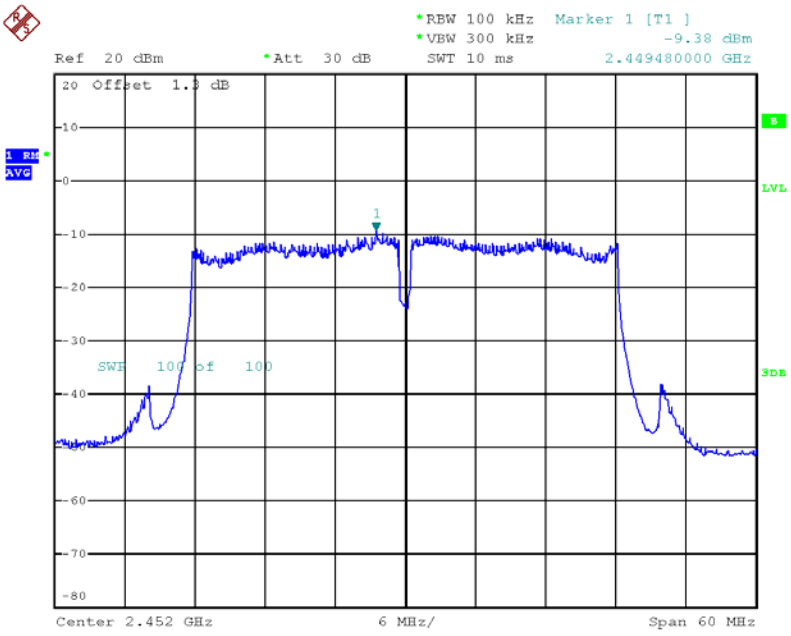


Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2437 MHz



Date: 26.FEB.2013 11:17:29

Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2452 MHz



Date: 26.FEB.2013 11:21:32

Final Test Date	Feb. 26, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang
Duty cycle	96.77%	Duty Factor	0.14 dB

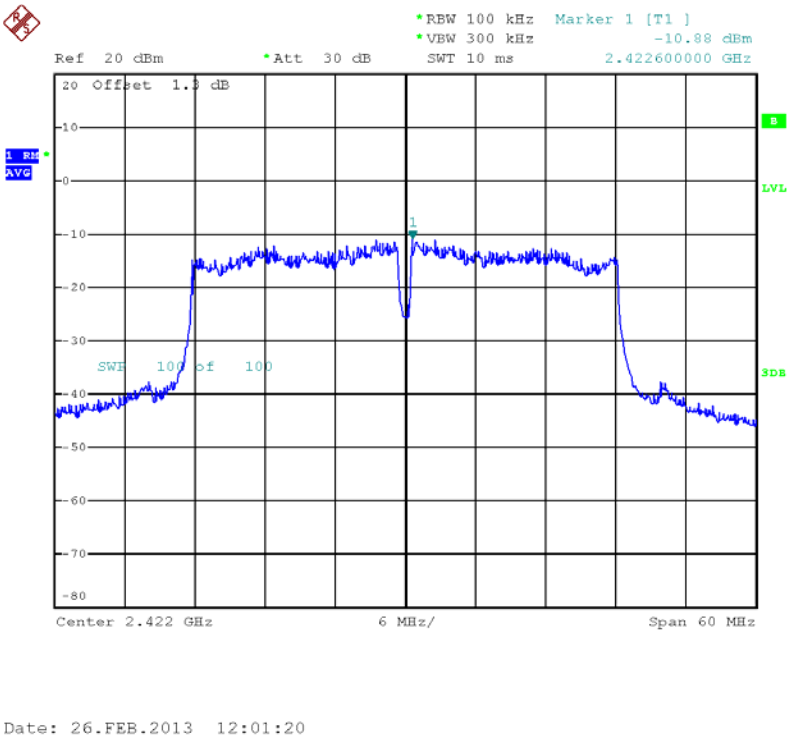
Configuration IEEE 802.11n 40MHz

<MCS8, Ant. 1&2>

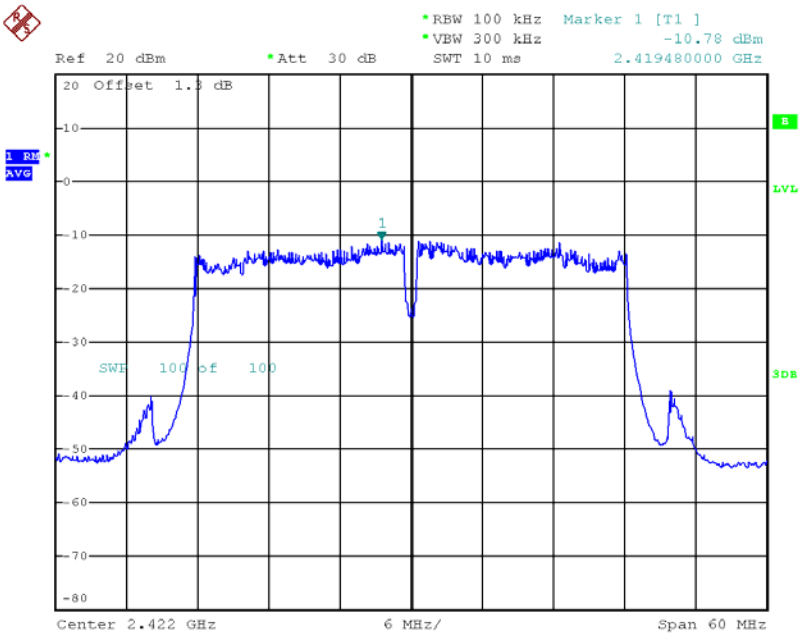
Channel	Frequency	Power Density (dBm/3kHz)		10 log (N=2) dB	Total Power Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
		Ant. 1	Ant. 2		Ant. 1	Ant. 2		
3	2422 MHz	-10.88	-10.78	3.01	-7.73	-7.63	8.00	Complies
6	2437 MHz	-10.47	-9.73		-7.32	-6.58	8.00	Complies
9	2452 MHz	-9.96	-10.20		-6.81	-7.05	8.00	Complies

Note: Power Density + 10log(2) + Duty Factor = Total Power Density

Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 / 2422 MHz

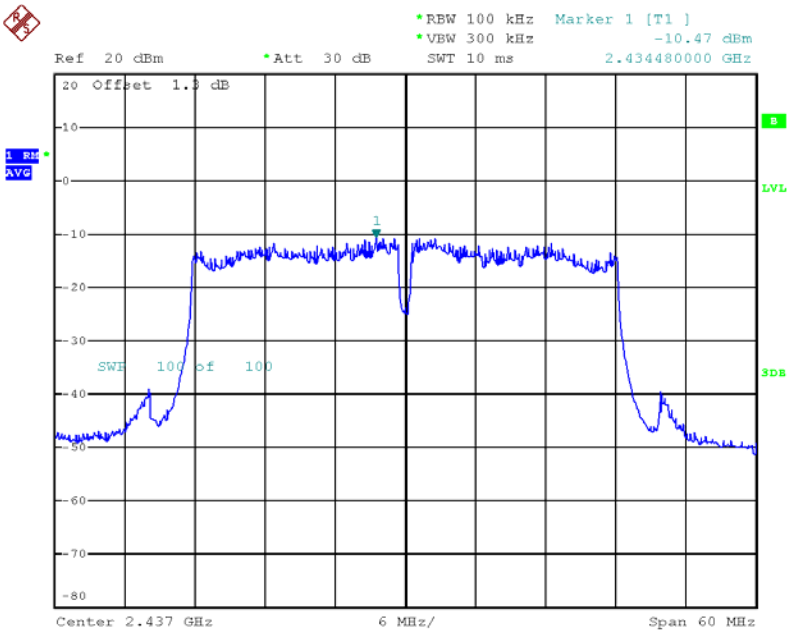


Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 2 / 2422 MHz



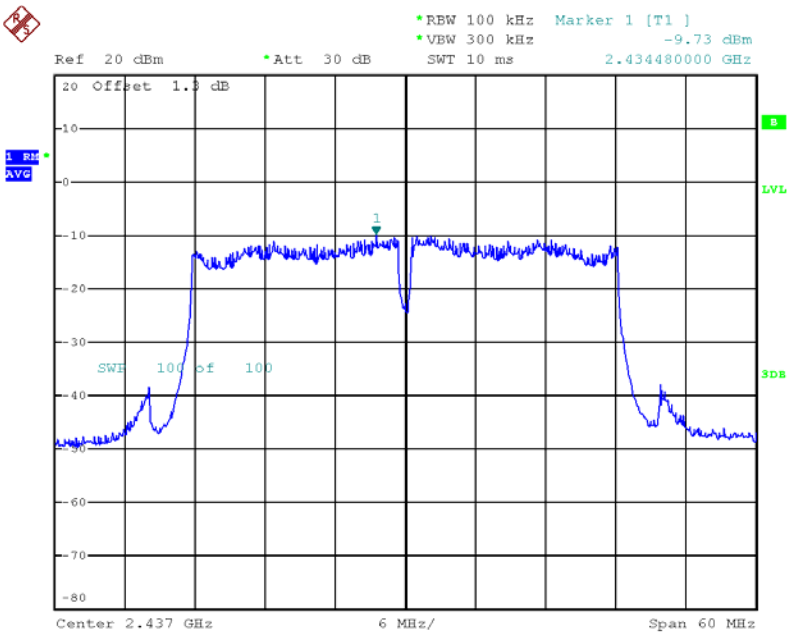
Date: 26.FEB.2013 11:58:54

Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 / 2437 MHz



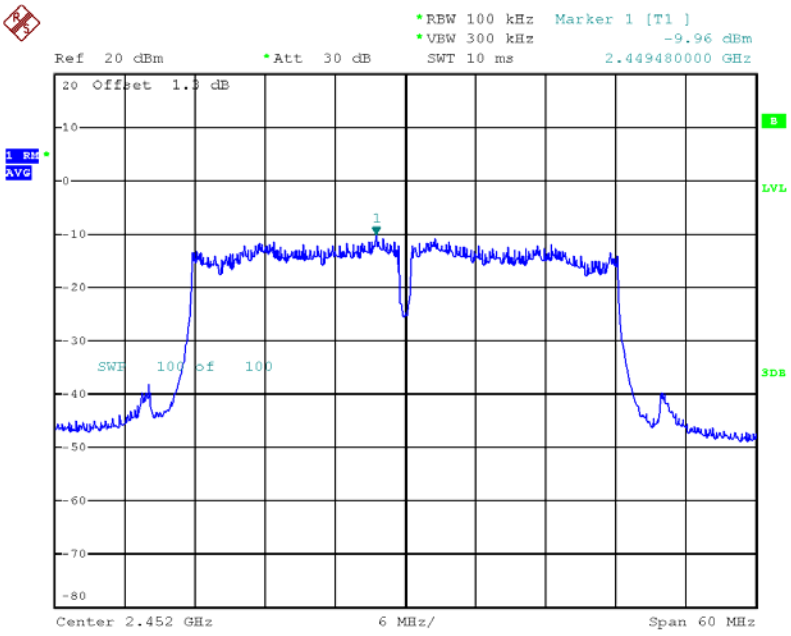
Date: 26.FEB.2013 12:04:21

Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 2 / 2437 MHz



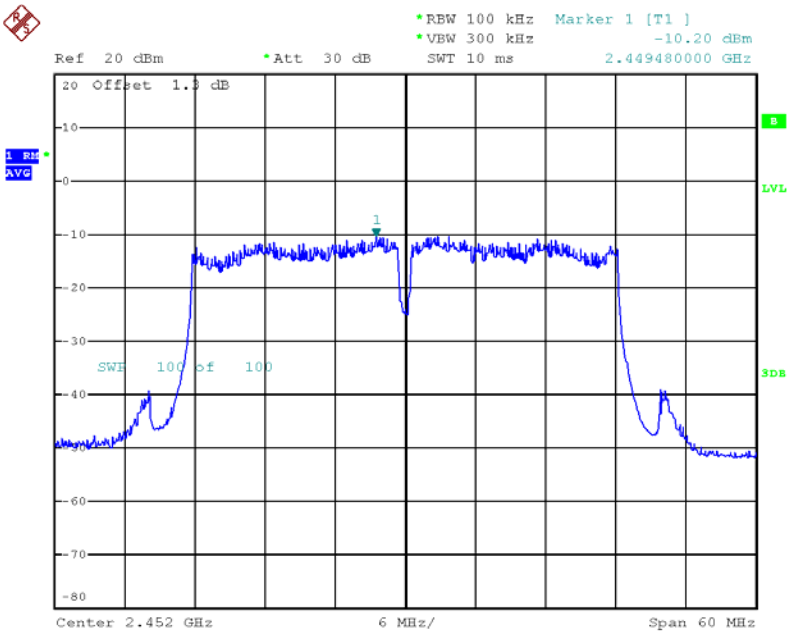
Date: 26.FEB.2013 12:07:05

Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 / 2452 MHz



Date: 26.FEB.2013 12:15:20

Power Density Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 2 / 2452 MHz



Date: 26.FEB.2013 12:12:48

5.4 6dB Spectrum Bandwidth Measurement

5.4.1 Limit

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

5.4.2 Measuring Instruments and Setting

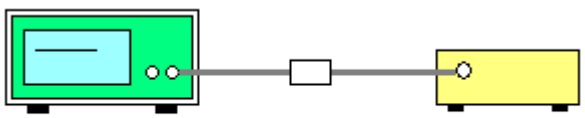
Please refer to section 5 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RB	1-5 % or DTS BW, not exceed 100KHz
VB	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.4.3 Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB 558074 Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 5.1.1 EBW Measurement Procedure
3. Multiple antenna system was performed in accordance with KDB 662911 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

5.4.4 Test Setup Layout



5.4.5 Test Deviation

There is no deviation with the original standard.

5.4.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.4.7 Test Result of 6dB Spectrum Bandwidth

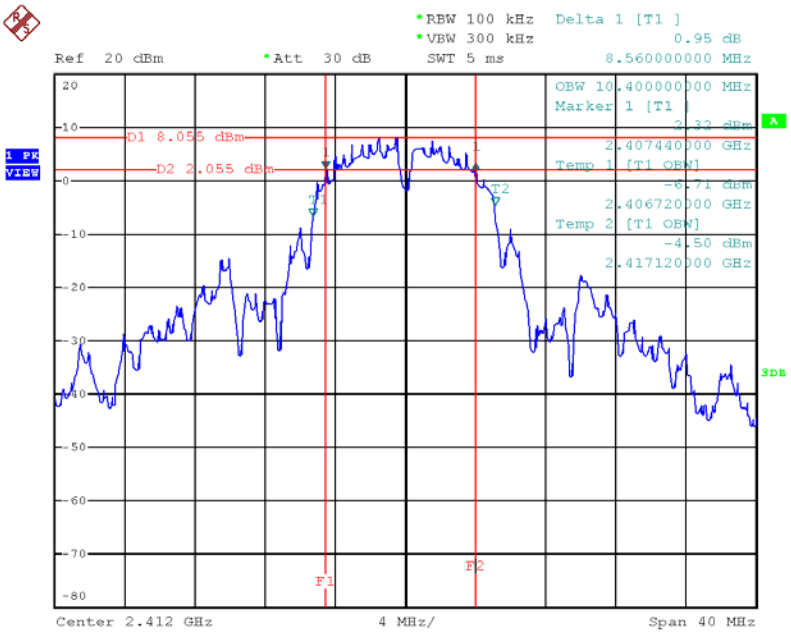
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11b	Test Engineer	Robert Chang

Configuration IEEE 802.11b

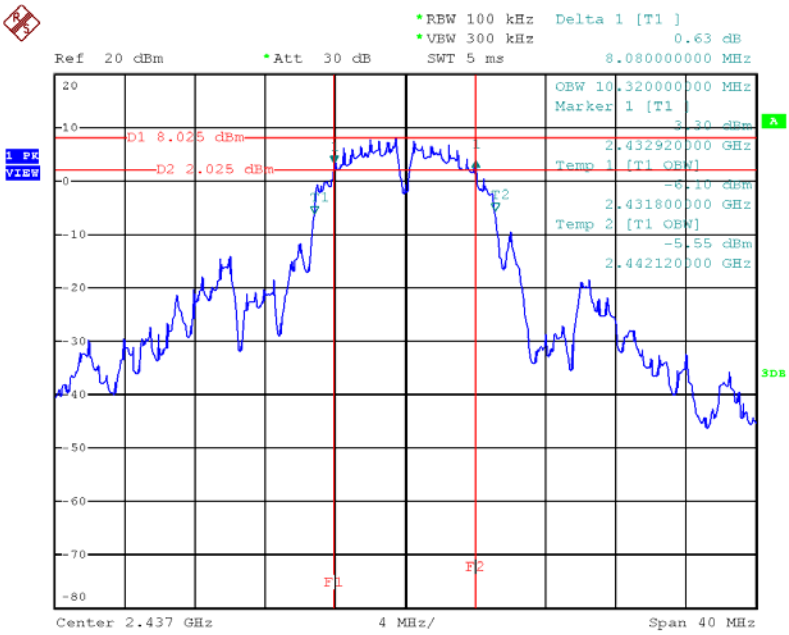
<Ant. 1>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	8.56	10.40	500	Complies
6	2437 MHz	8.08	10.32	500	Complies
11	2462 MHz	7.52	10.08	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11b / Ant. 1 / 2412 MHz

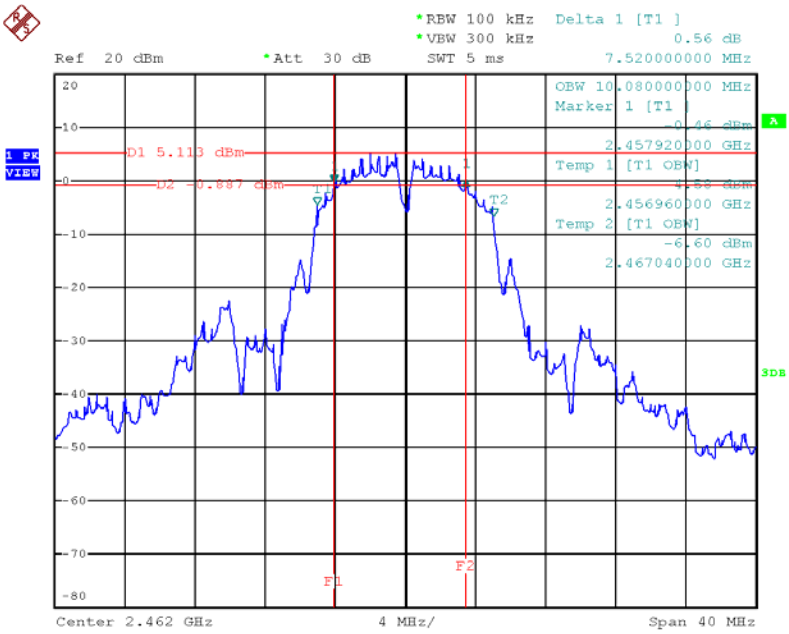


6 dB Bandwidth Plot on Configuration IEEE 802.11b / Ant. 1 / 2437 MHz



Date: 23.JAN.2013 14:43:49

6 dB Bandwidth Plot on Configuration IEEE 802.11b / Ant. 1 / 2462 MHz



Date: 23.JAN.2013 17:23:16

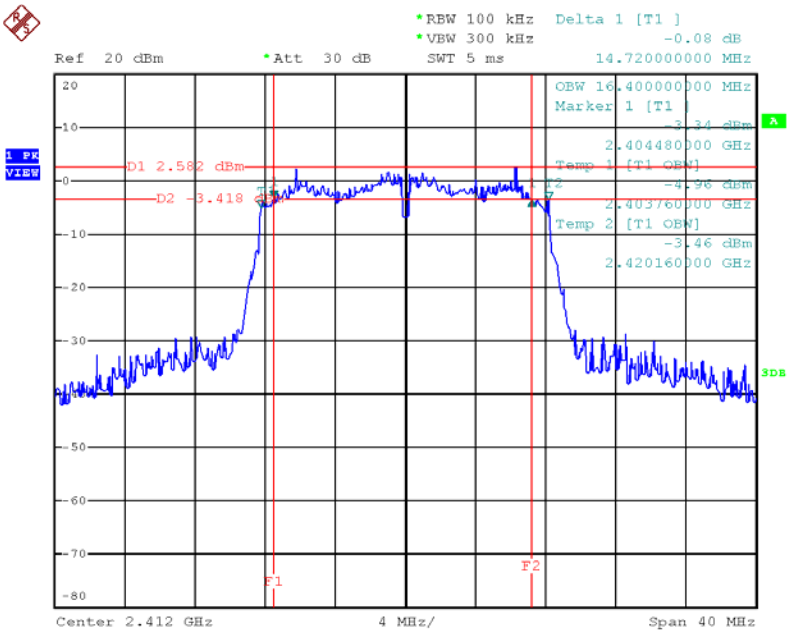
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11g	Test Engineer	Robert Chang

Configuration IEEE 802.11g

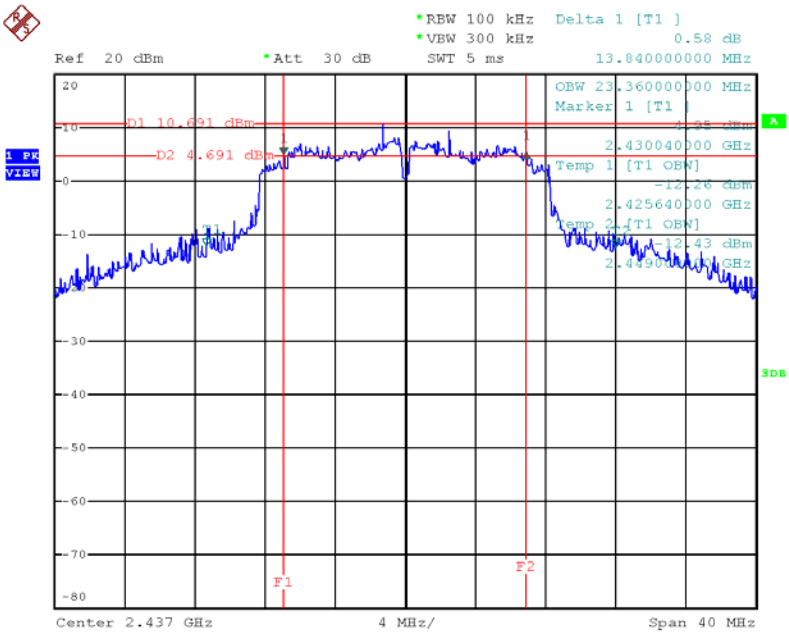
<Ant. 2>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	14.72	16.40	500	Complies
6	2437 MHz	13.84	23.26	500	Complies
11	2462 MHz	15.04	16.40	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11g / Ant. 2 / 2412 MHz

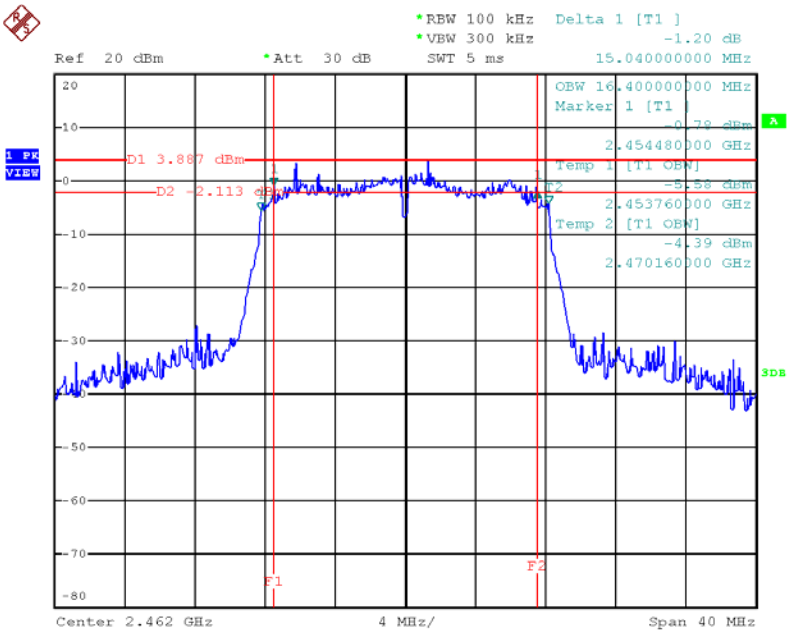


6 dB Bandwidth Plot on Configuration IEEE 802.11g / Ant. 2 / 2437 MHz



Date: 23.JAN.2013 14:48:50

6 dB Bandwidth Plot on Configuration IEEE 802.11g / Ant. 2 / 2462 MHz



Date: 23.JAN.2013 14:50:01

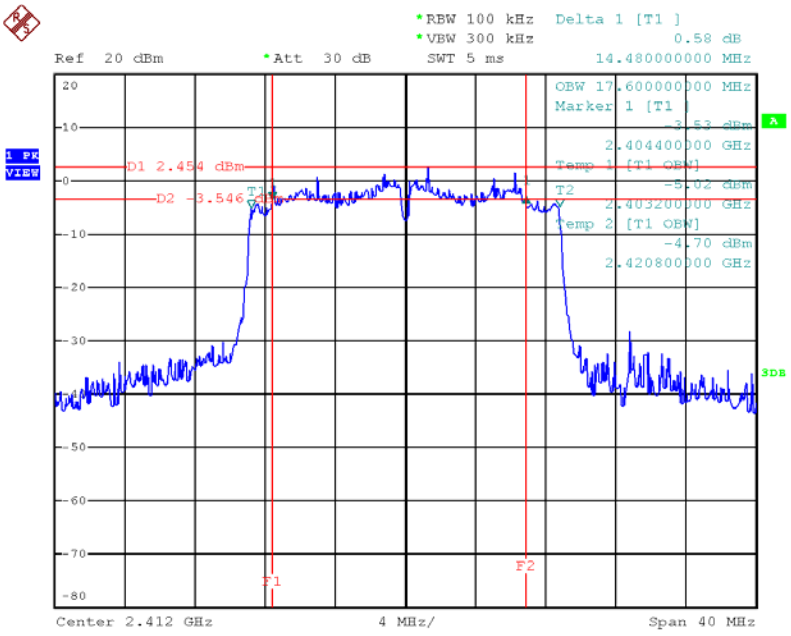
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang

Configuration IEEE 802.11n 20MHz

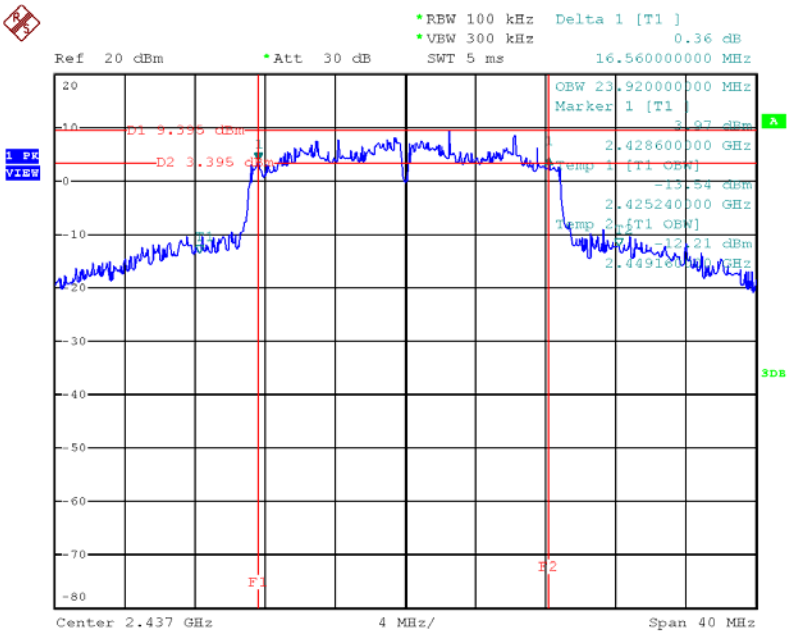
<MCS0, Ant. 2>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	14.48	17.60	500	Complies
6	2437 MHz	16.56	23.92	500	Complies
11	2462 MHz	15.04	17.60	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2412 MHz

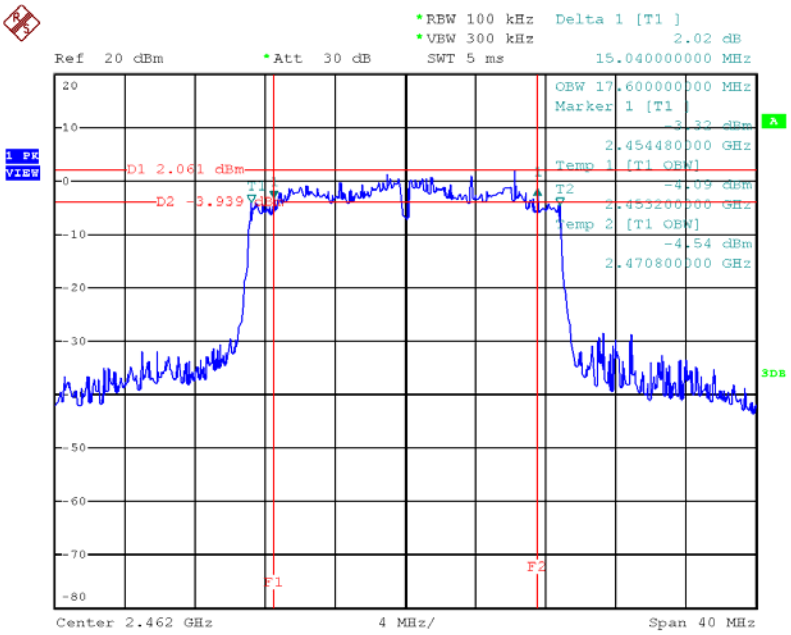


6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2437 MHz



Date: 23.JAN.2013 14:58:56

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / 2462 MHz



Date: 23.JAN.2013 14:59:56

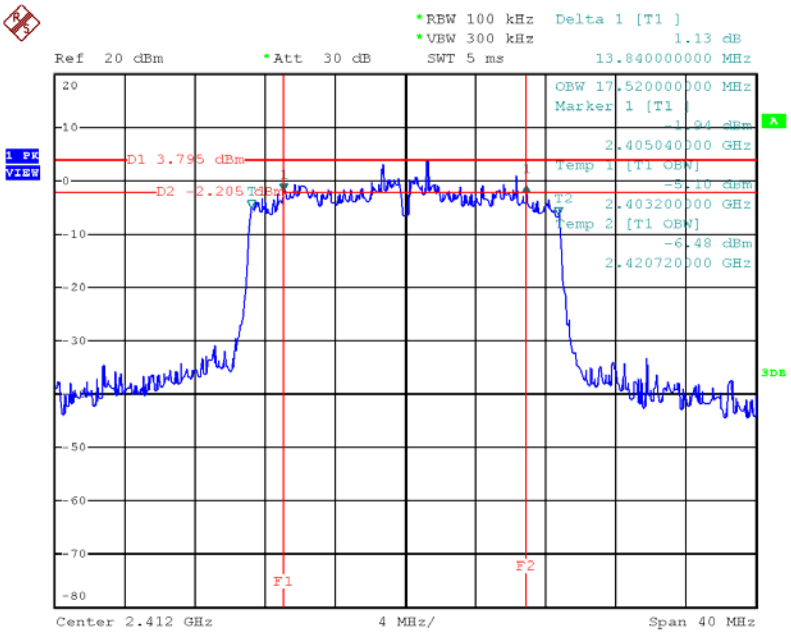
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 20MHz	Test Engineer	Robert Chang

Configuration IEEE 802.11n 20MHz

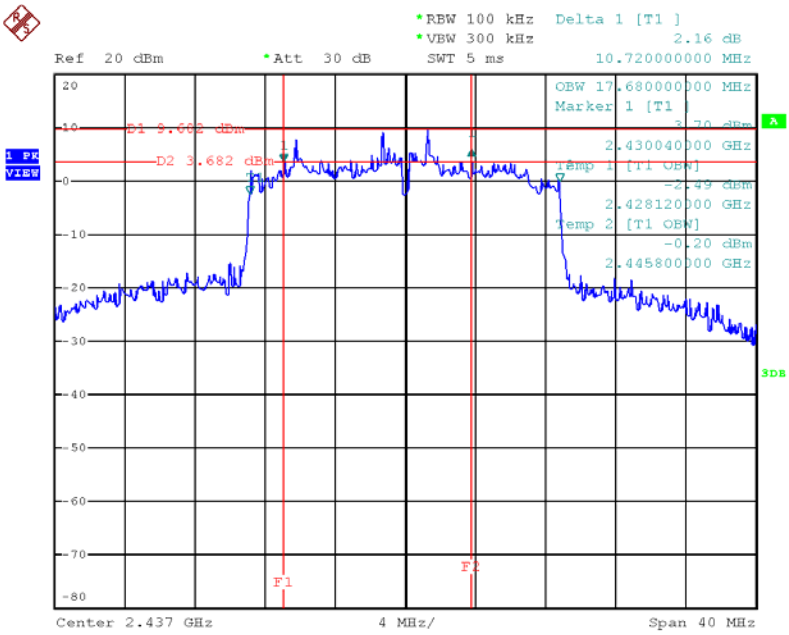
<MCS8, Ant. 1+2>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	13.84	17.52	500	Complies
6	2437 MHz	10.72	17.68	500	Complies
11	2462 MHz	15.44	17.52	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 + Ant. 2 / 2412 MHz

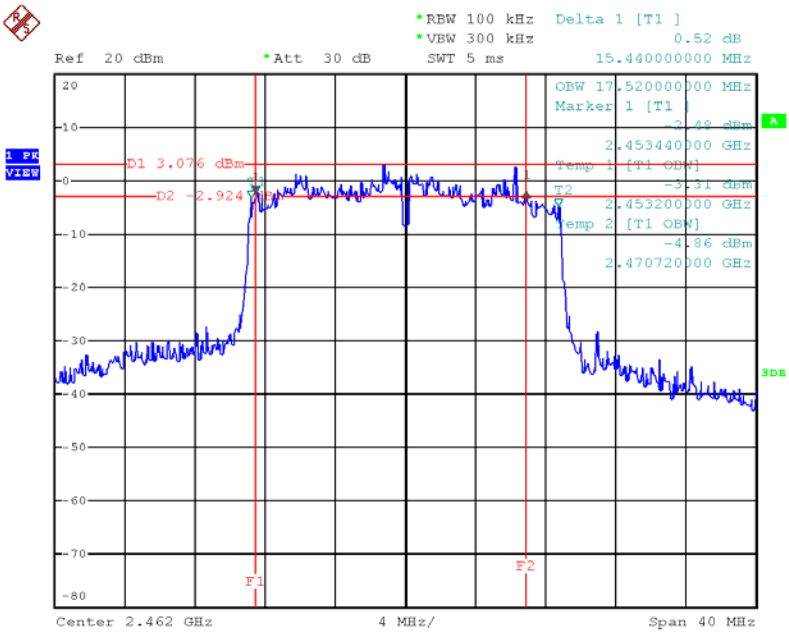


6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 + Ant. 2 / 2437 MHz



Date: 23.JAN.2013 15:14:56

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 20MHz / Ant. 1 + Ant. 2 / 2462 MHz



Date: 23.JAN.2013 15:15:49

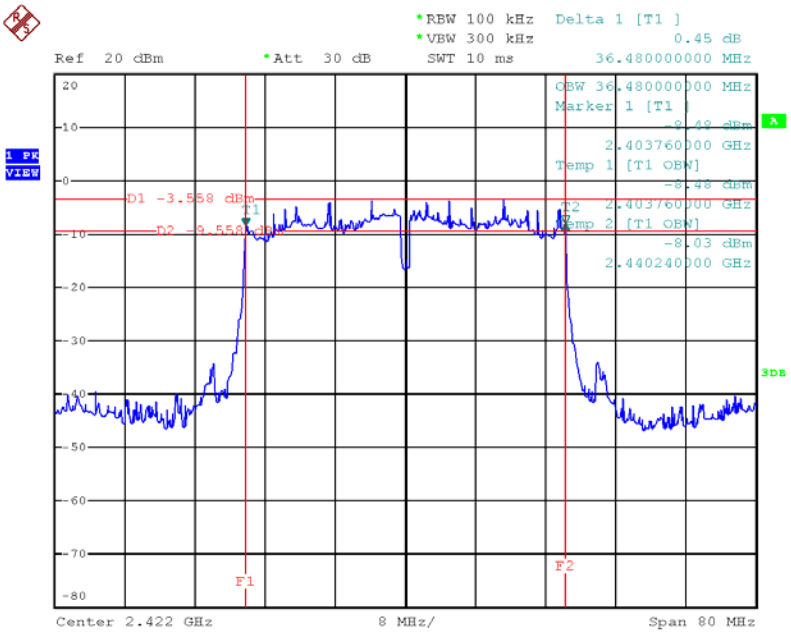
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang

Configuration IEEE 802.11n 40MHz

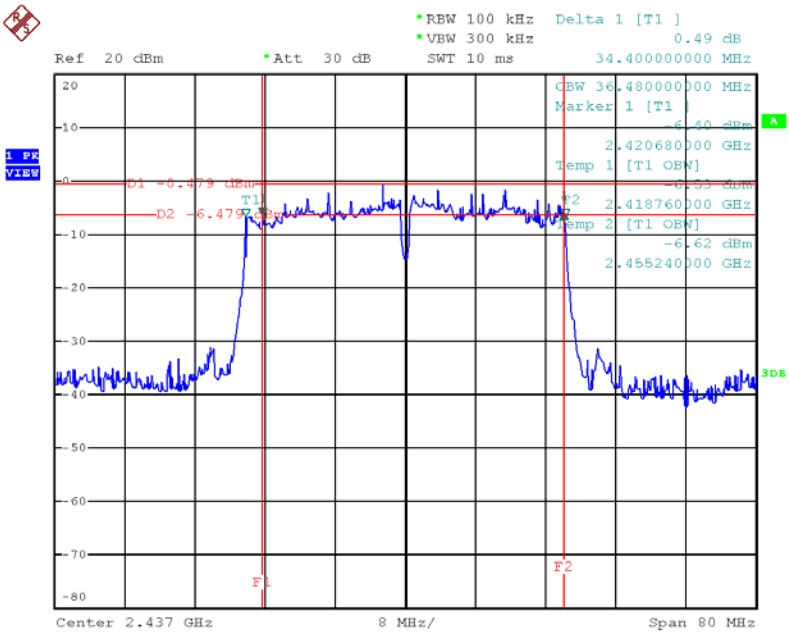
<MCS0, Ant. 2>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	36.48	36.48	500	Complies
6	2437 MHz	34.40	36.48	500	Complies
9	2452 MHz	36.32	36.32	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2422 MHz

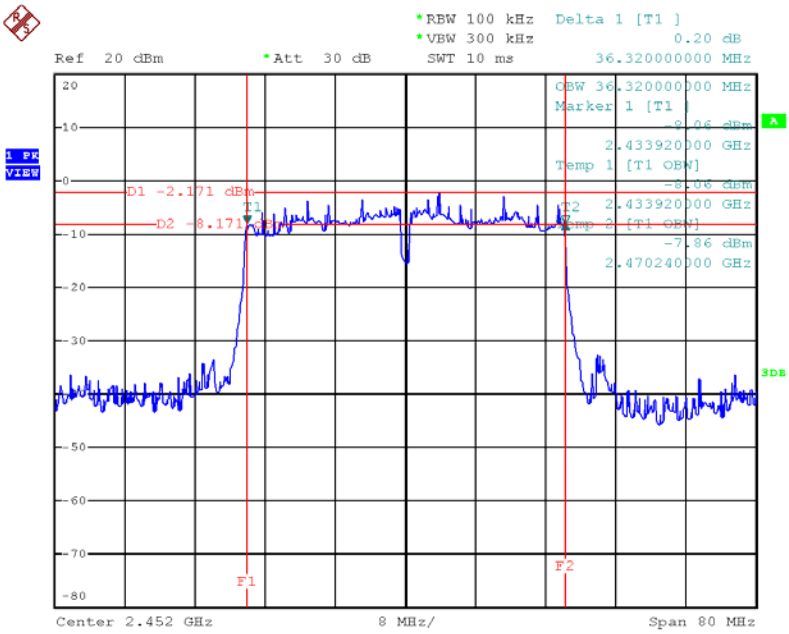


6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2437 MHz



Date: 23.JAN.2013 15:07:55

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / 2452 MHz



Date: 23.JAN.2013 15:08:56

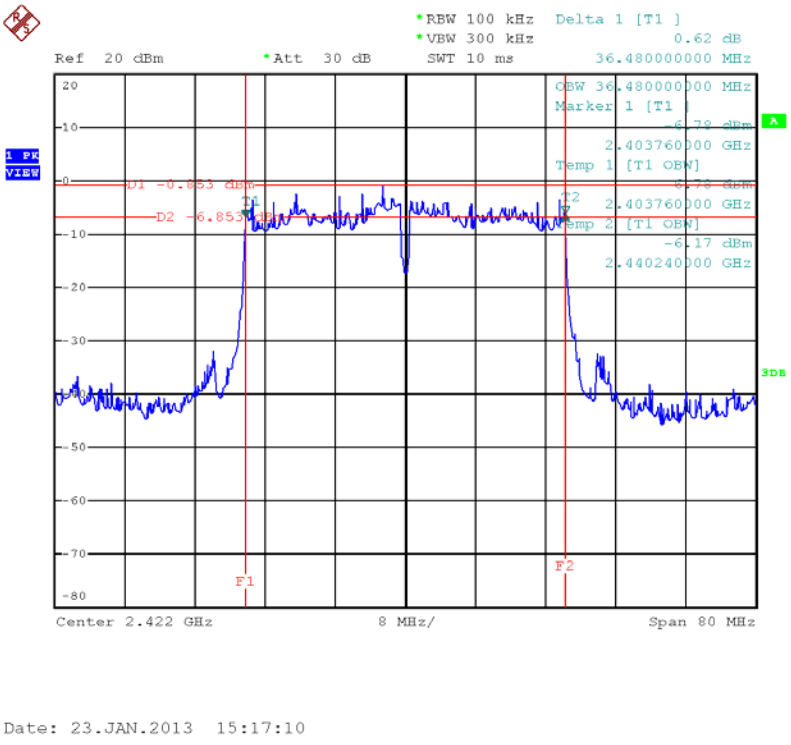
Final Test Date	Jan. 23, 2013	Test Site No.	TH01-CB
Temperature	25°C	Humidity	60%
Configurations	IEEE 802.11n 40MHz	Test Engineer	Robert Chang

Configuration IEEE 802.11n 40MHz

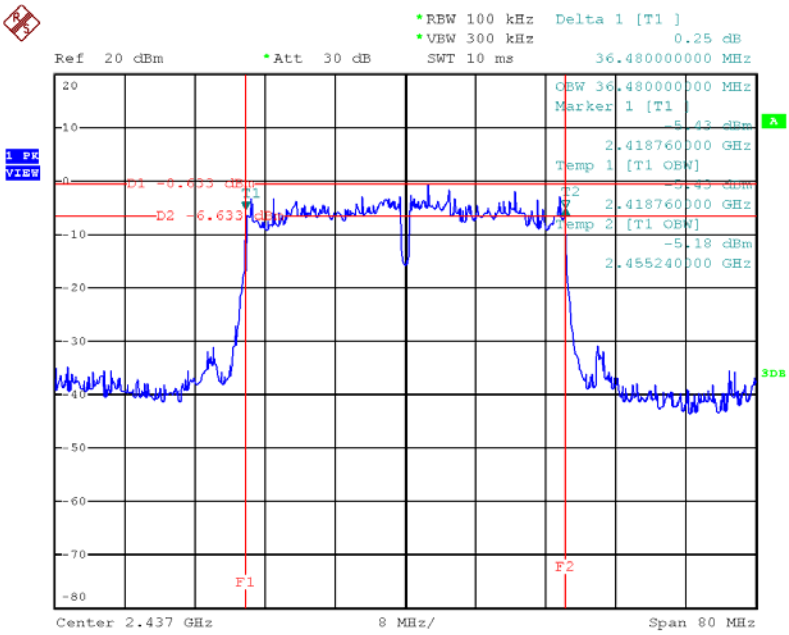
<MCS8, Ant. 1+2>

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	36.48	36.48	500	Complies
6	2437 MHz	36.48	36.48	500	Complies
9	2452 MHz	35.84	36.48	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 + Ant. 2 / 2422 MHz

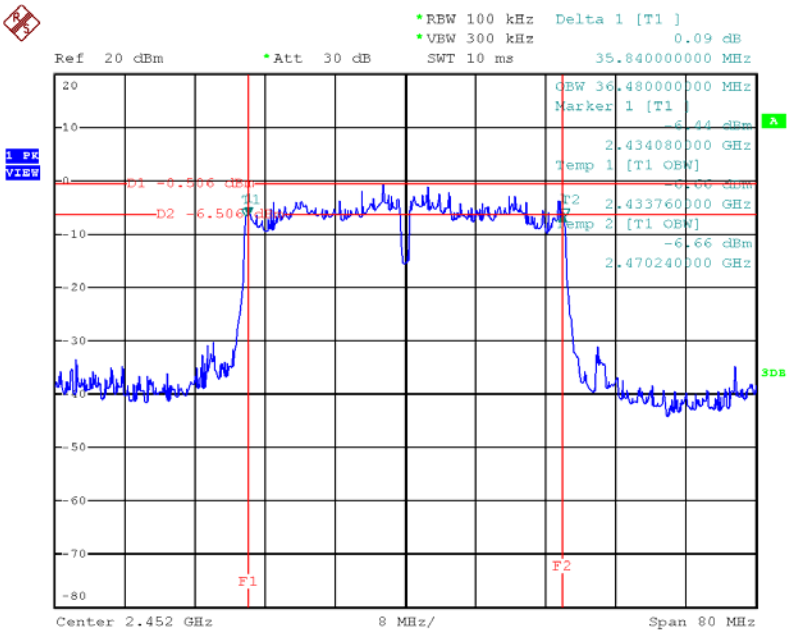


6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 + Ant. 2 / 2437 MHz



Date: 23.JAN.2013 15:18:15

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS8 40MHz / Ant. 1 + Ant. 2 / 2452 MHz



Date: 23.JAN.2013 15:19:18

5.5 Radiated Emissions Measurement

5.5.1 Limit

30dBc 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 (micorvolts/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

5.5.2 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 / 3MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100kHz / 300kHz for peak

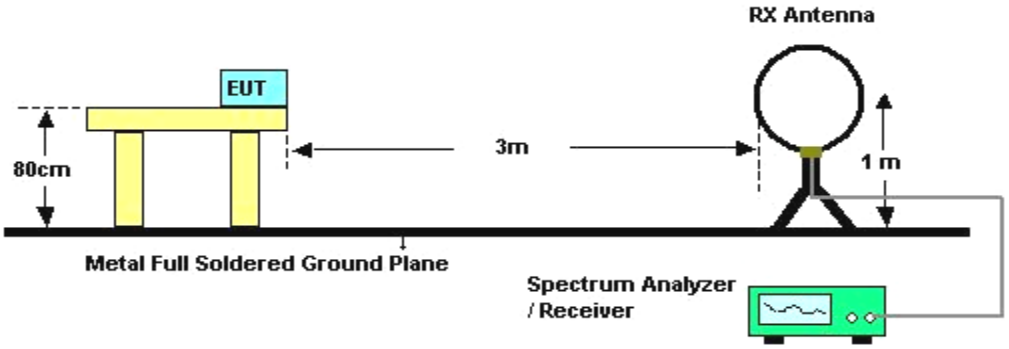
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

5.5.3 Test Procedures

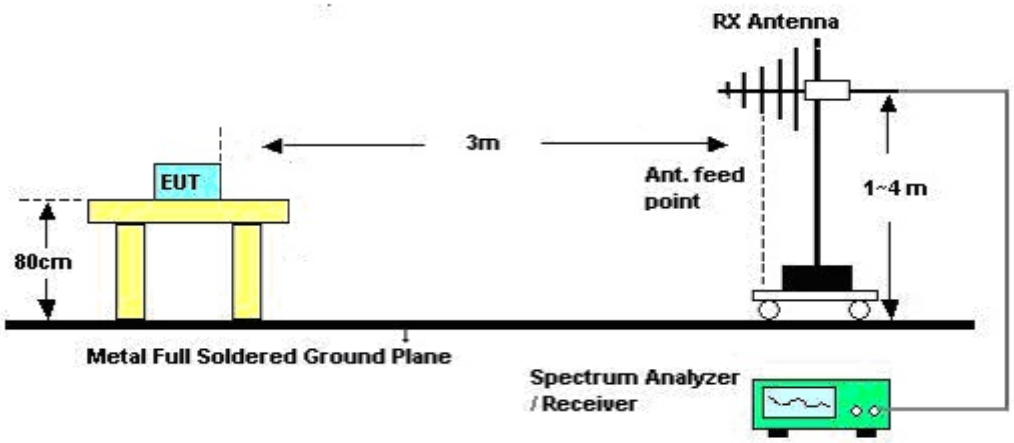
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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 3MHz 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.

5.5.4 Test Setup Layout

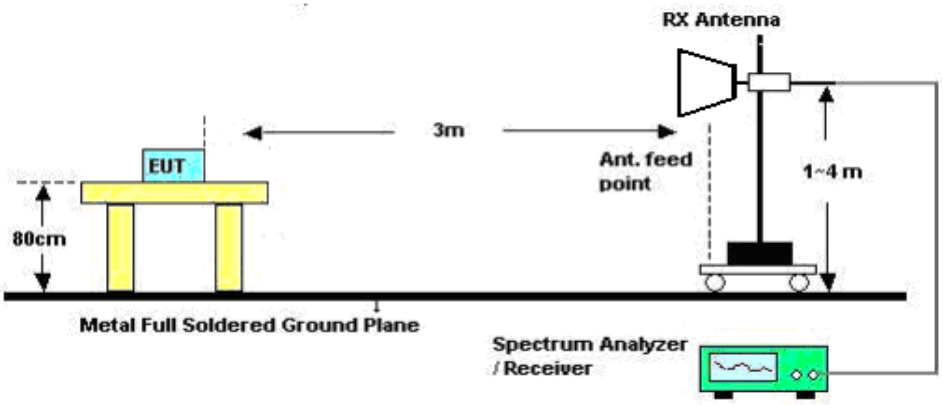
For Radiated Emissions below 1GHz (9kHz~30MHz)



For Radiated Emissions below 1GHz (30MHz~1GHz)



For Radiated Emissions above 1GHz



5.5.5 Test Deviation

There is no deviation with the original standard.

5.5.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.5.7 Results of Radiated Emissions (9kHz~30MHz)

Frequency Range	9kHz~30MHz	Test Site No.	03CH01-CB
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Configurations	CTX
Test Date	Jan. 23, 2013	Duty cycle	99.27%

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.

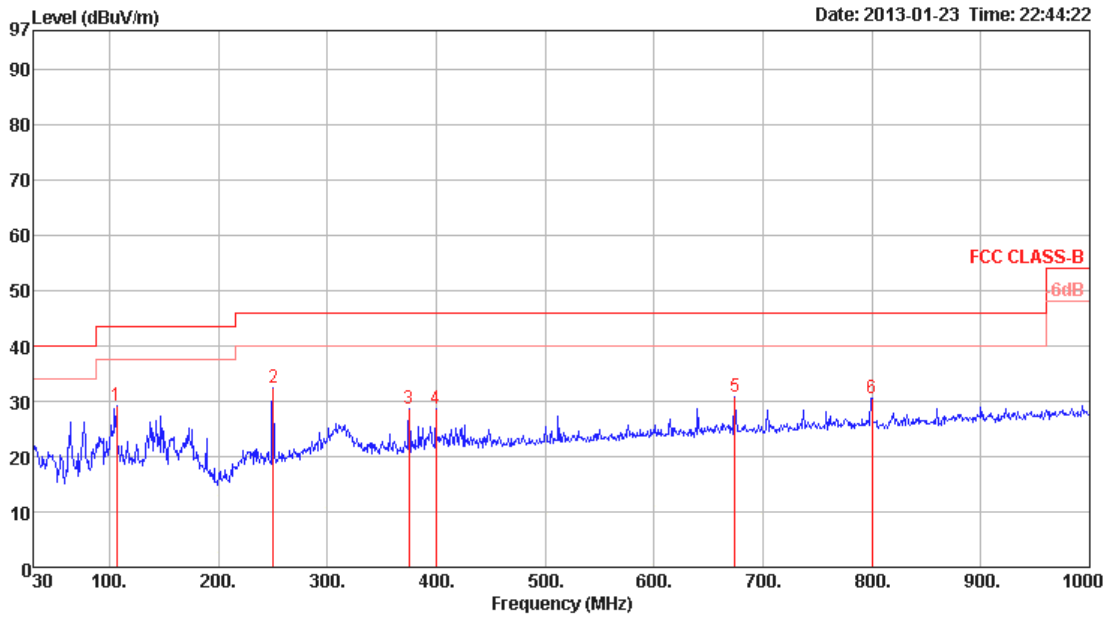
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

5.5.8 Results of Radiated Emissions (30MHz~1GHz)

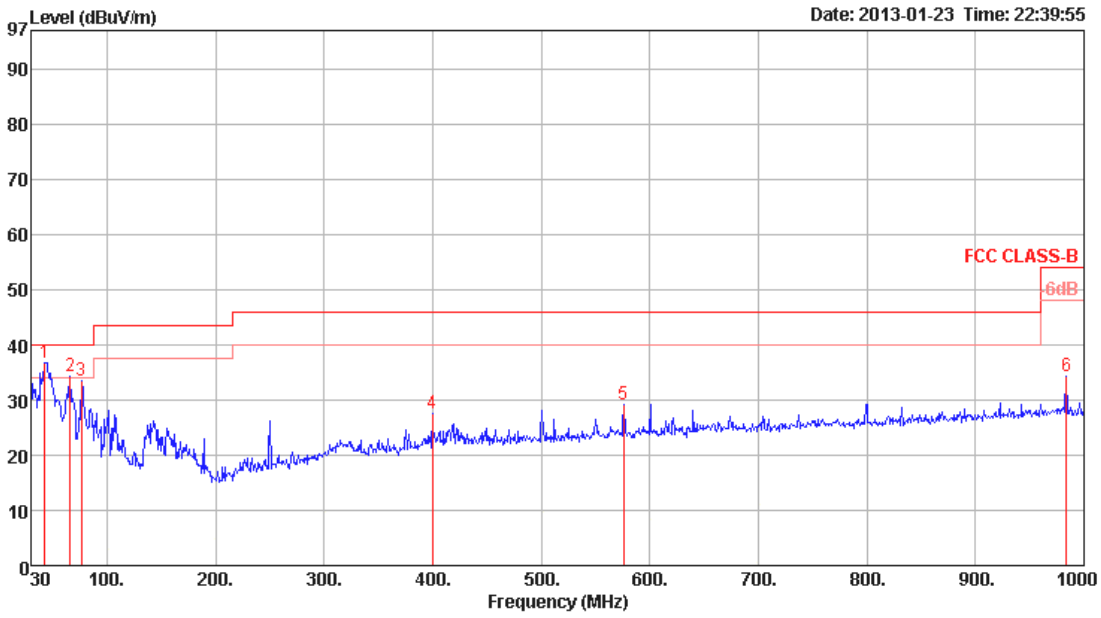
Frequency Range	30MHz~1GHz	Test Site No.	03CH01-CB
Temperature	22℃	Humidity	60%
Test Engineer	Robert Chang	Configurations	CTX
Duty cycle	99.27%		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	106.63	29.16	43.50	-14.34	44.03	1.20	11.50	27.57	Peak	100	0	HORIZONTAL
2	250.19	32.42	46.00	-13.58	44.75	1.90	12.77	27.00	Peak	100	0	HORIZONTAL
3	375.32	28.56	46.00	-17.44	38.34	2.25	15.40	27.43	Peak	100	0	HORIZONTAL
4	399.57	28.76	46.00	-17.24	38.00	2.30	16.06	27.60	Peak	100	0	HORIZONTAL
5	674.08	30.80	46.00	-15.20	36.42	3.40	19.01	28.03	Peak	100	0	HORIZONTAL
6	800.18	30.57	46.00	-15.43	35.10	3.30	19.77	27.60	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	42.61	36.82	40.00	-3.18	52.48	0.70	11.44	27.80	Peak	400	0	VERTICAL
2	65.89	34.37	40.00	-5.63	54.54	0.88	6.69	27.74	Peak	400	0	VERTICAL
3	76.56	33.63	40.00	-6.37	53.38	0.97	6.98	27.70	Peak	400	0	VERTICAL
4	399.57	27.62	46.00	-18.38	36.86	2.30	16.06	27.60	Peak	400	0	VERTICAL
5	576.11	29.19	46.00	-16.81	35.95	2.85	18.49	28.10	Peak	400	0	VERTICAL
6	983.51	34.31	54.00	-19.69	36.55	3.67	21.16	27.07	Peak	400	0	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.

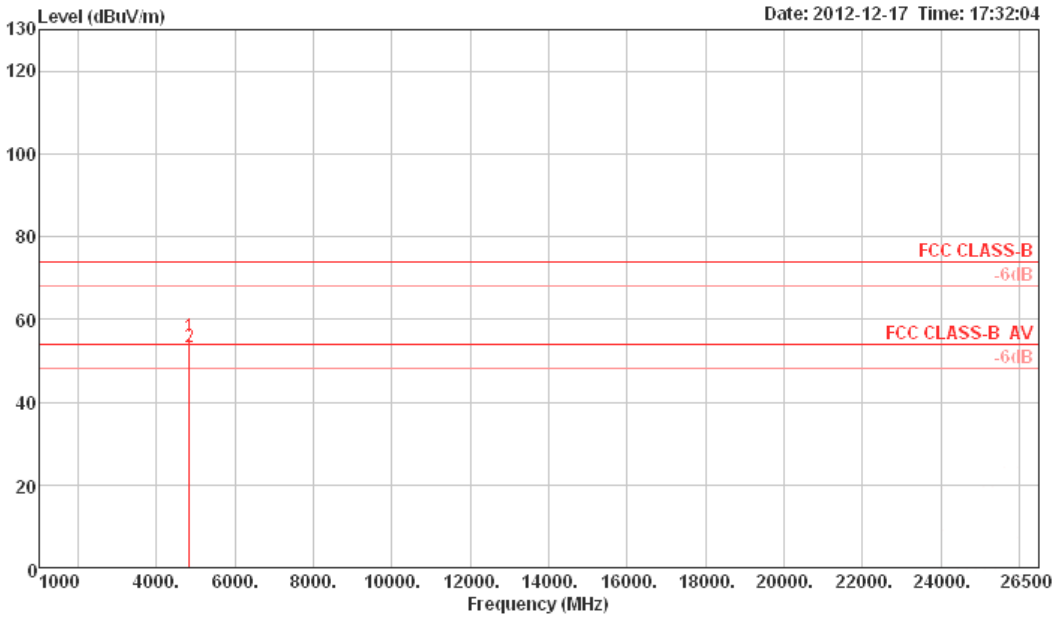
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

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

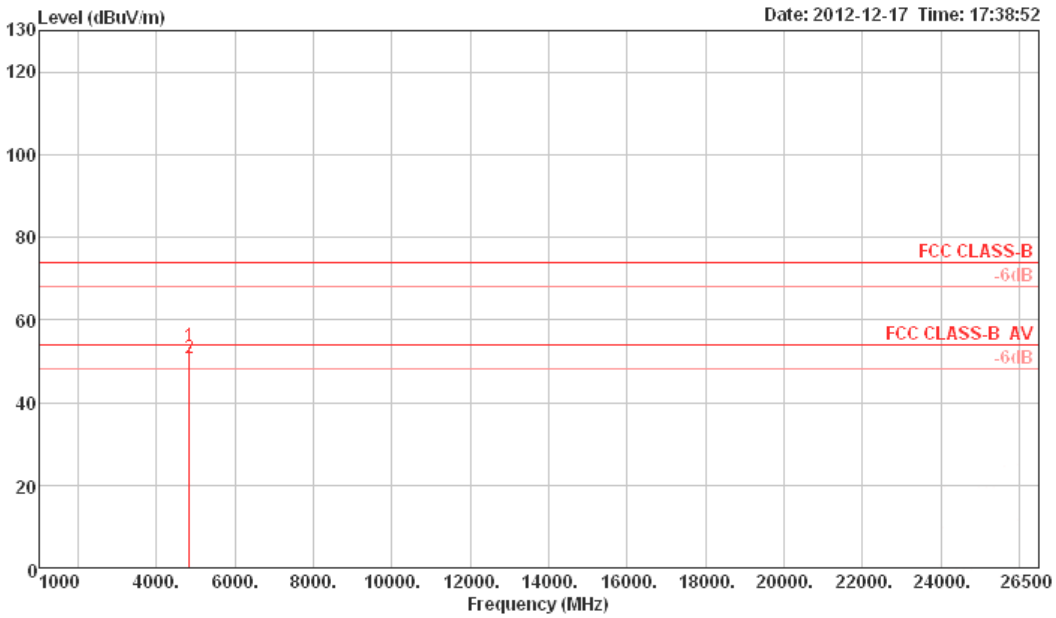
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 1 / Ant. 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.88	55.73	74.00	-18.27	54.39	3.31	33.06	35.03	Peak	136	226	HORIZONTAL
2	4823.97	53.21	54.00	-0.79	51.87	3.31	33.06	35.03	Average	136	226	HORIZONTAL

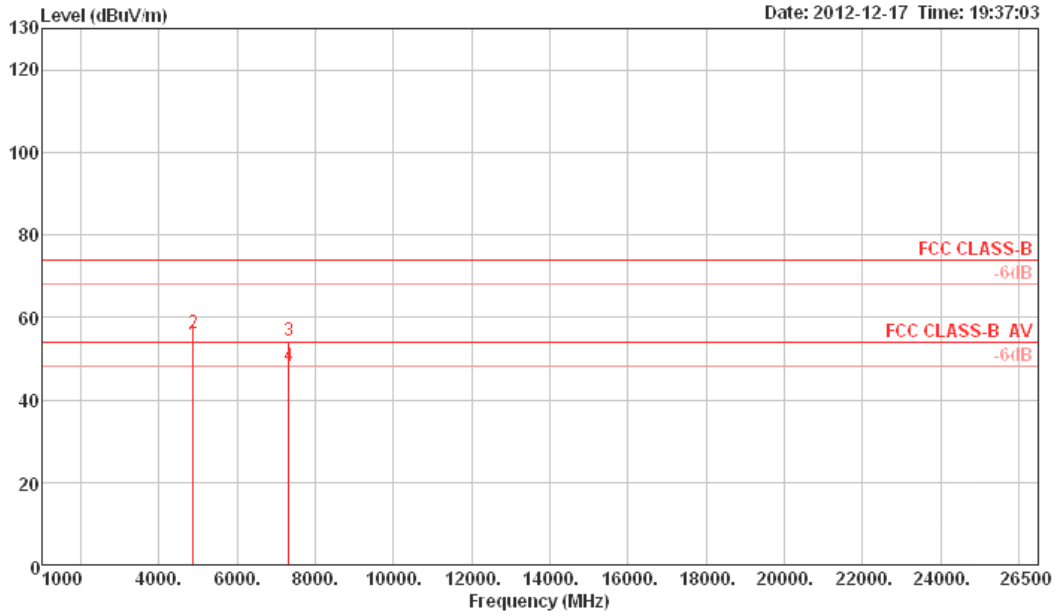
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.96	53.67	74.00	-20.33	52.33	3.31	33.06	35.03	Peak	100	140	VERTICAL
2	4823.97	50.54	54.00	-3.46	49.20	3.31	33.06	35.03	Average	100	140	VERTICAL

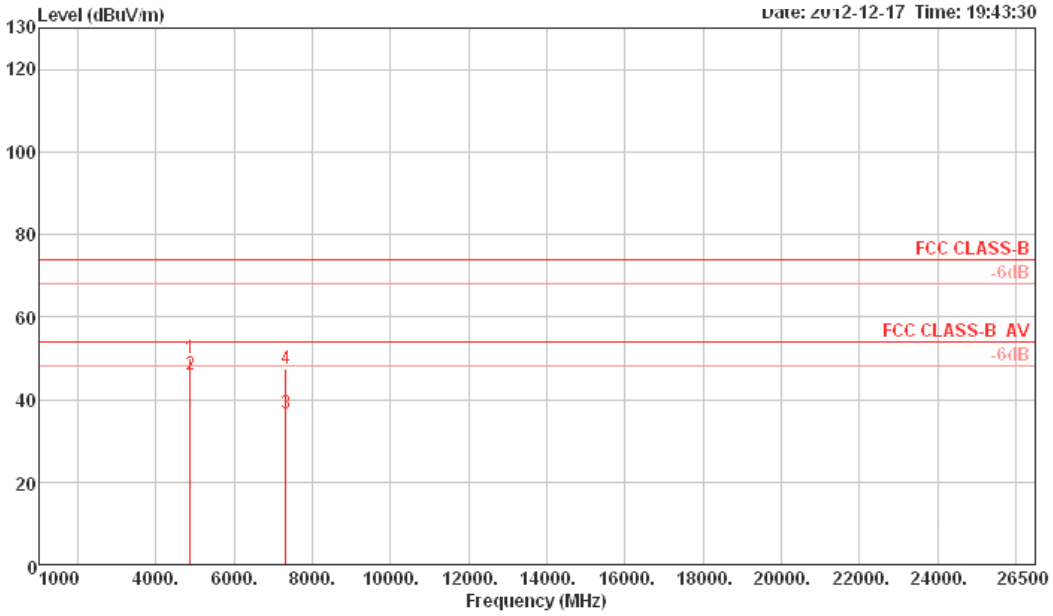
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 6 / Ant. 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4873.97	53.77	54.00	-0.23	52.31	3.33	33.16	35.03	Average	130	224	HORIZONTAL
2	4873.99	56.26	74.00	-17.74	54.80	3.33	33.16	35.03	Peak	130	224	HORIZONTAL
3	7309.97	54.18	74.00	-19.82	49.56	4.06	35.96	35.40	Peak	108	172	HORIZONTAL
4	7310.23	48.04	54.00	-5.96	43.42	4.06	35.96	35.40	Average	108	172	HORIZONTAL

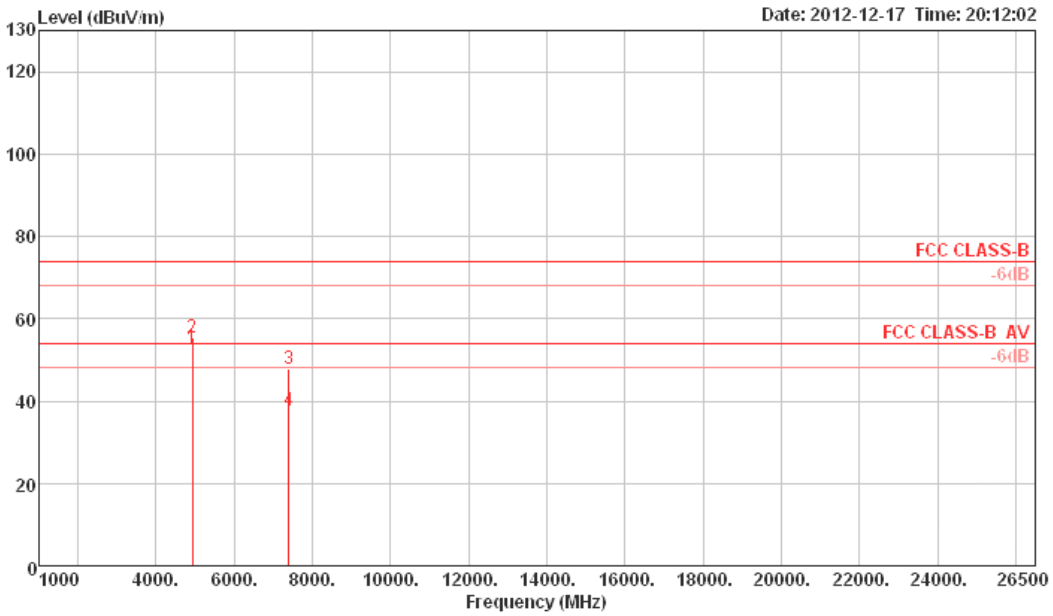
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4873.97	49.94	74.00	-24.06	48.48	3.33	33.16	35.03	Peak	100	139	VERTICAL
2	4873.97	46.06	54.00	-7.94	44.60	3.33	33.16	35.03	Average	100	139	VERTICAL
3	7310.17	36.67	54.00	-17.33	32.05	4.06	35.96	35.40	Average	100	144	VERTICAL
4	7310.33	47.54	74.00	-26.46	42.92	4.06	35.96	35.40	Peak	100	144	VERTICAL

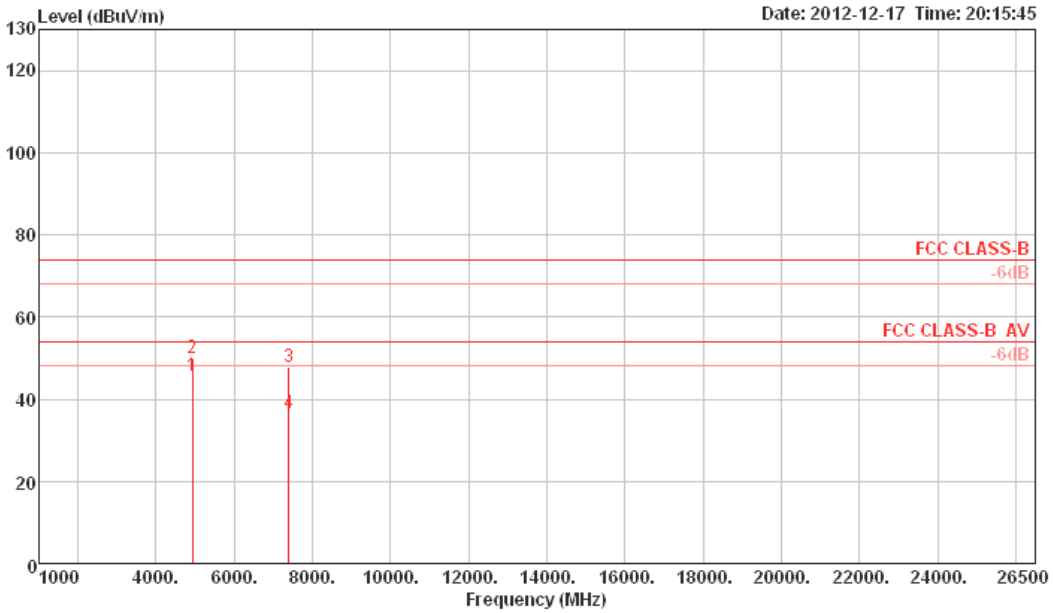
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 11 / Ant. 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4923.97	52.97	54.00	-1.03	51.37	3.35	33.26	35.01	Average	131	87	HORIZONTAL
2	4924.03	55.54	74.00	-18.46	53.94	3.35	33.26	35.01	Peak	131	87	HORIZONTAL
3	7384.99	47.94	74.00	-26.06	43.19	4.06	36.09	35.40	Peak	100	124	HORIZONTAL
4	7385.18	37.61	54.00	-16.39	32.86	4.06	36.09	35.40	Average	100	124	HORIZONTAL

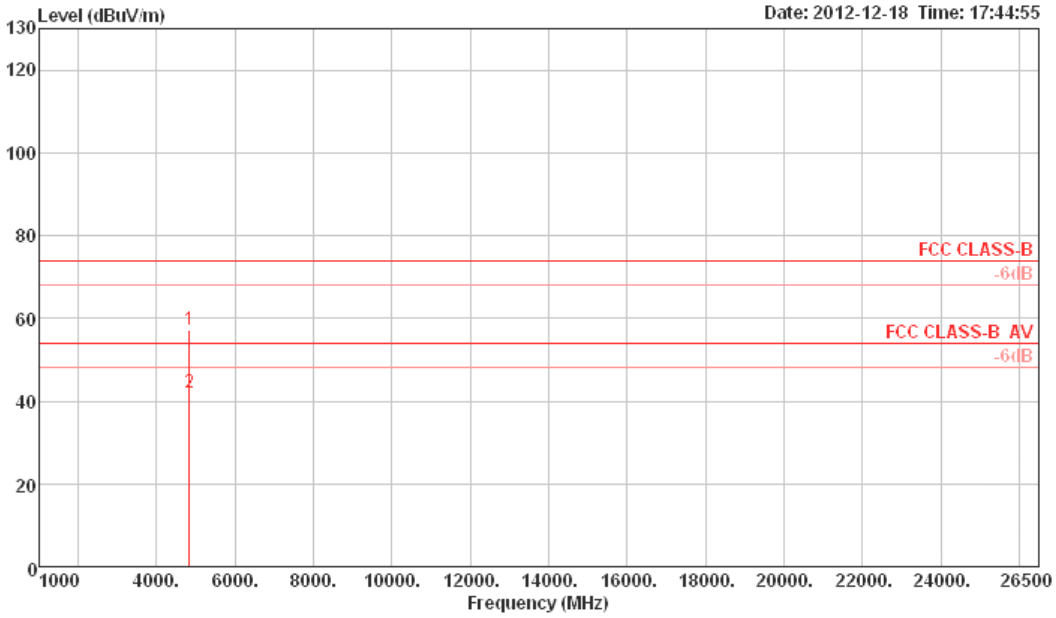
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4923.96	45.55	54.00	-8.45	43.95	3.35	33.26	35.01	Average	120	151	VERTICAL
2	4924.07	50.00	74.00	-24.00	48.40	3.35	33.26	35.01	Peak	120	151	VERTICAL
3	7386.59	47.82	74.00	-26.18	43.07	4.06	36.09	35.40	Peak	100	117	VERTICAL
4	7386.72	36.52	54.00	-17.48	31.77	4.06	36.09	35.40	Average	100	117	VERTICAL

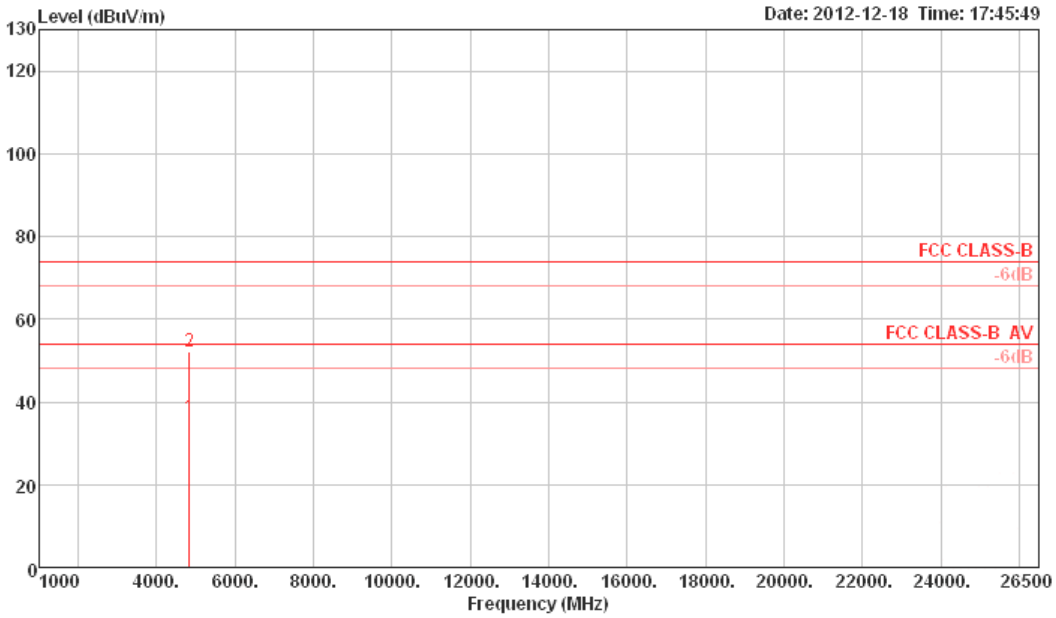
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 1 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.46	57.20	74.00	-16.80	55.86	3.31	33.06	35.03	Peak	135	240	HORIZONTAL
2	4824.00	42.02	54.00	-11.98	40.68	3.31	33.06	35.03	Average	135	240	HORIZONTAL

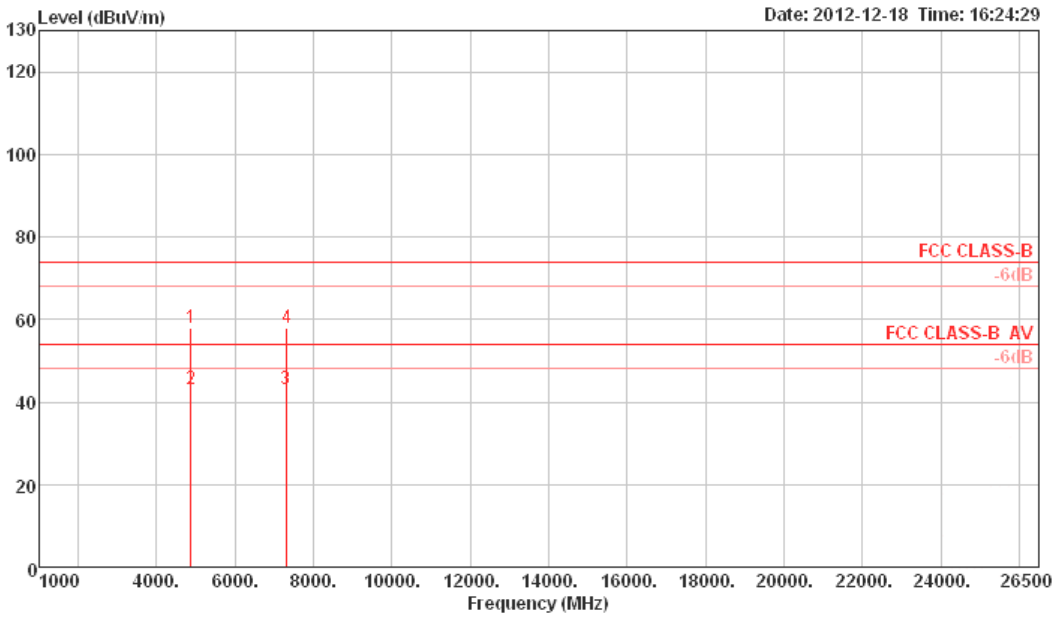
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4825.67	36.35	54.00	-17.65	35.01	3.31	33.06	35.03	Average	100	126	VERTICAL
2	4827.37	51.98	74.00	-22.02	50.64	3.31	33.06	35.03	Peak	100	126	VERTICAL

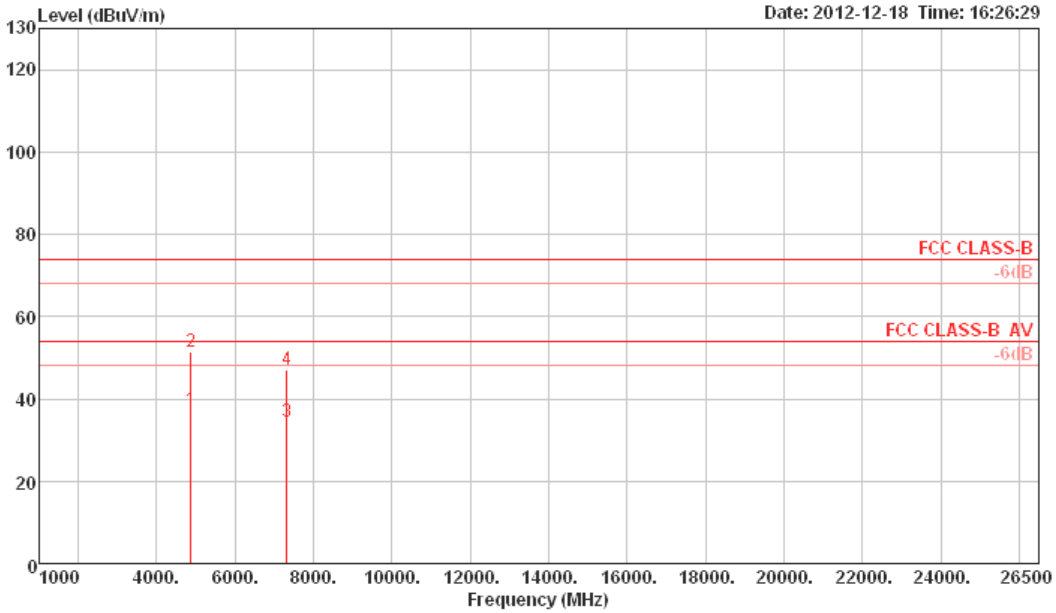
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 6 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4869.07	57.76	74.00	-16.24	56.34	3.33	33.12	35.03	Peak	130	258	HORIZONTAL
2	4874.02	43.20	54.00	-10.80	41.74	3.33	33.16	35.03	Average	130	258	HORIZONTAL
3	7307.71	43.08	54.00	-10.92	38.46	4.06	35.96	35.40	Average	100	179	HORIZONTAL
4	7311.43	57.82	74.00	-16.18	53.20	4.06	35.96	35.40	Peak	100	179	HORIZONTAL

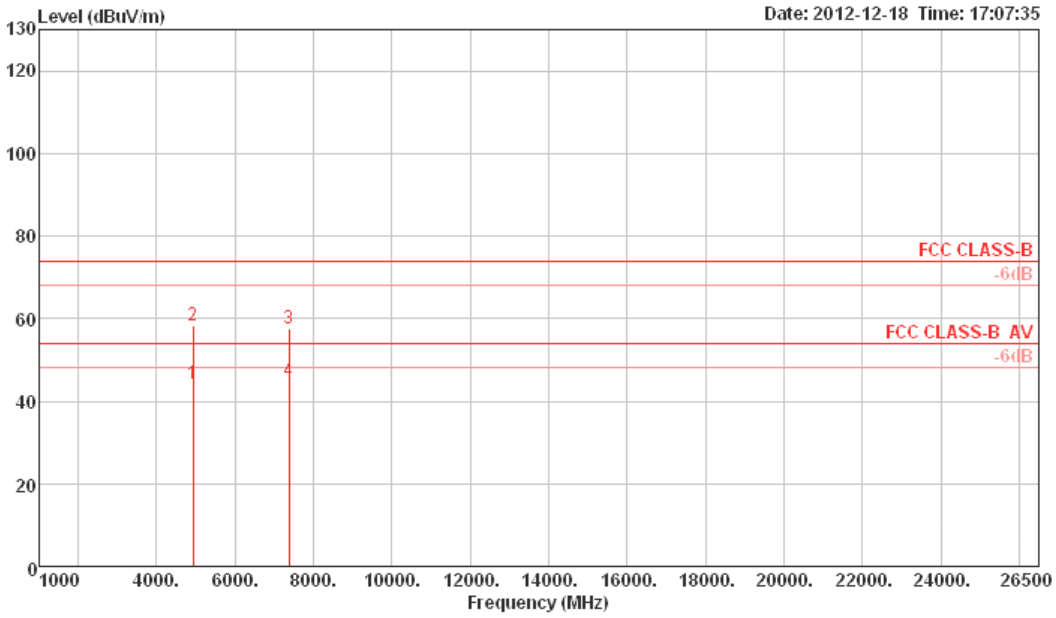
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4873.54	37.24	54.00	-16.76	35.78	3.33	33.16	35.03	Average	100	146	VERTICAL
2	4873.62	51.48	74.00	-22.52	50.02	3.33	33.16	35.03	Peak	100	146	VERTICAL
3	7310.62	34.35	54.00	-19.65	29.73	4.06	35.96	35.40	Average	100	343	VERTICAL
4	7311.34	46.97	74.00	-27.03	42.35	4.06	35.96	35.40	Peak	100	343	VERTICAL

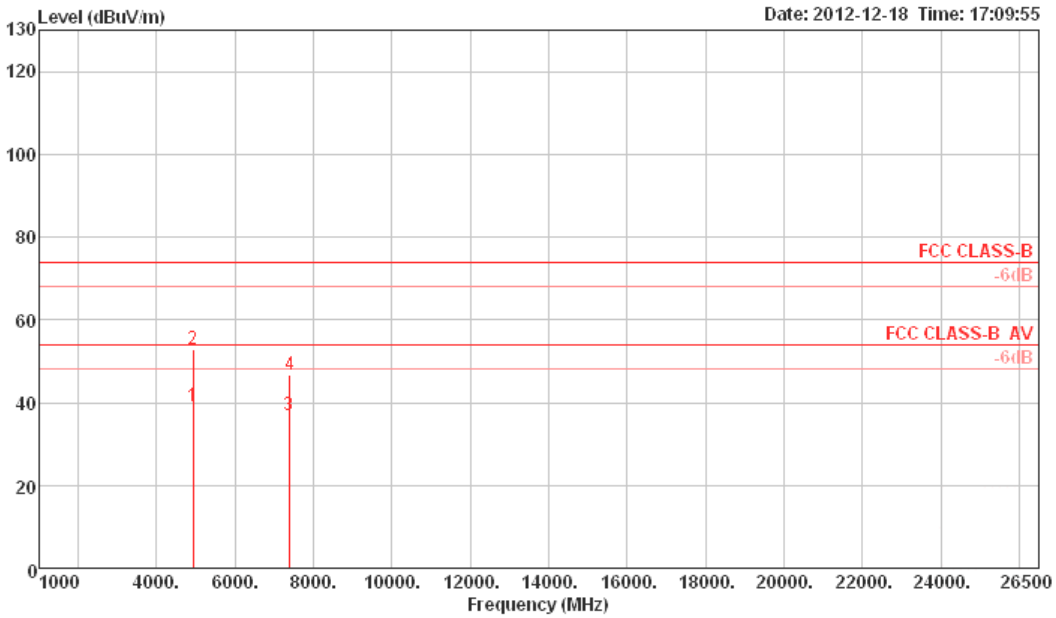
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 11 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4922.97	44.15	54.00	-9.85	42.55	3.35	33.26	35.01	Average	135	274	HORIZONTAL
2	4927.41	58.34	74.00	-15.66	56.74	3.35	33.26	35.01	Peak	135	274	HORIZONTAL
3	7378.93	57.74	74.00	-16.26	52.99	4.06	36.09	35.40	Peak	100	170	HORIZONTAL
4	7382.64	44.82	54.00	-9.18	40.07	4.06	36.09	35.40	Average	100	170	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4922.29	39.05	54.00	-14.95	37.45	3.35	33.26	35.01	Average	100	140	VERTICAL
2	4924.63	52.82	74.00	-21.18	51.22	3.35	33.26	35.01	Peak	100	140	VERTICAL
3	7383.57	36.83	54.00	-17.17	32.08	4.06	36.09	35.40	Average	100	336	VERTICAL
4	7388.69	46.66	74.00	-27.34	41.91	4.06	36.09	35.40	Peak	100	336	VERTICAL

Note:

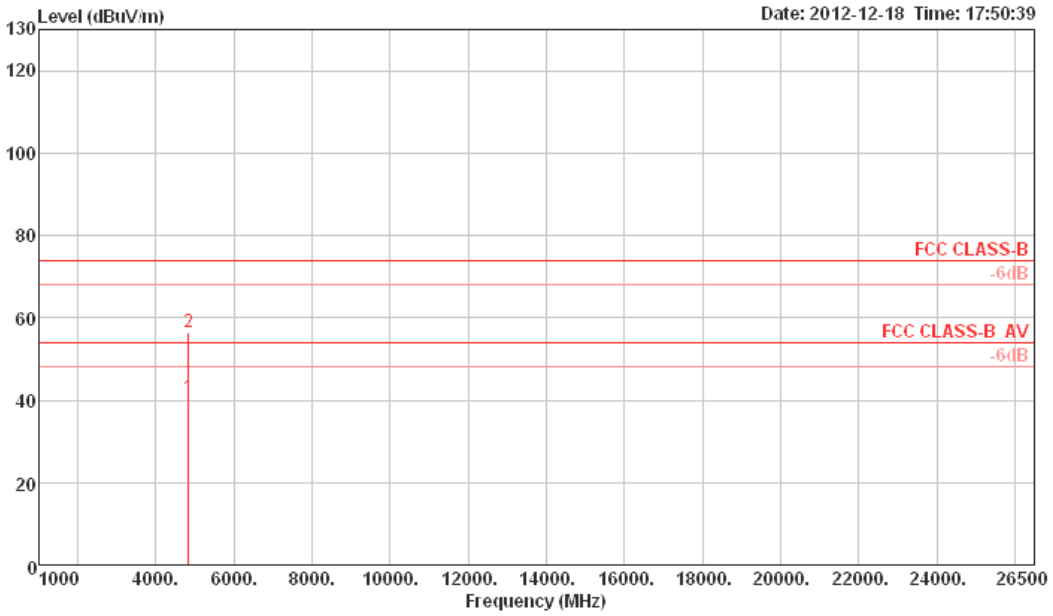
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

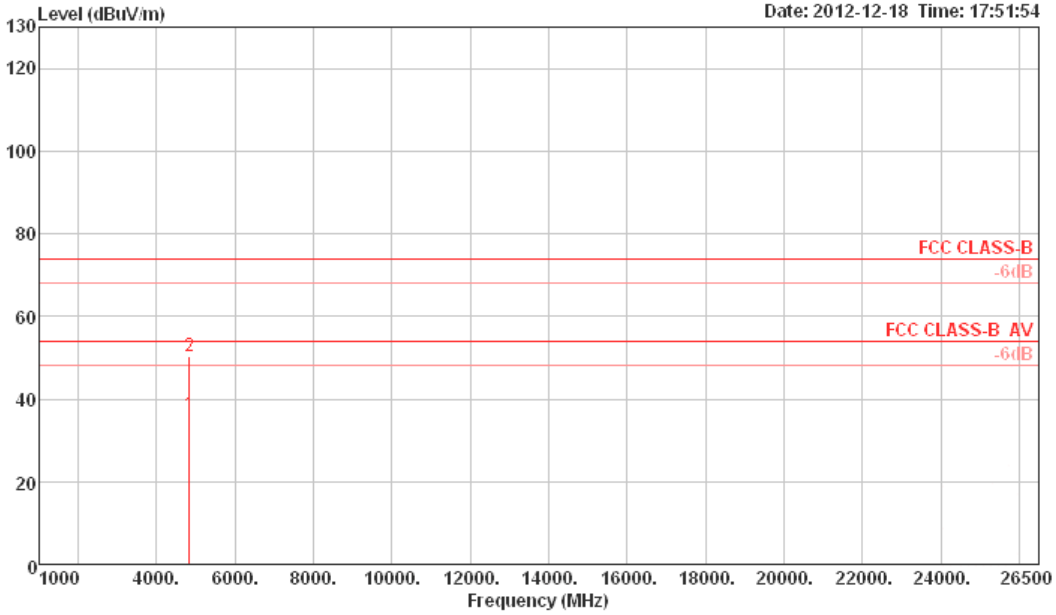
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 1 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.90	40.62	54.00	-13.38	39.28	3.31	33.06	35.03	Average	136	240	HORIZONTAL
2	4826.34	56.43	74.00	-17.57	55.09	3.31	33.06	35.03	Peak	136	240	HORIZONTAL

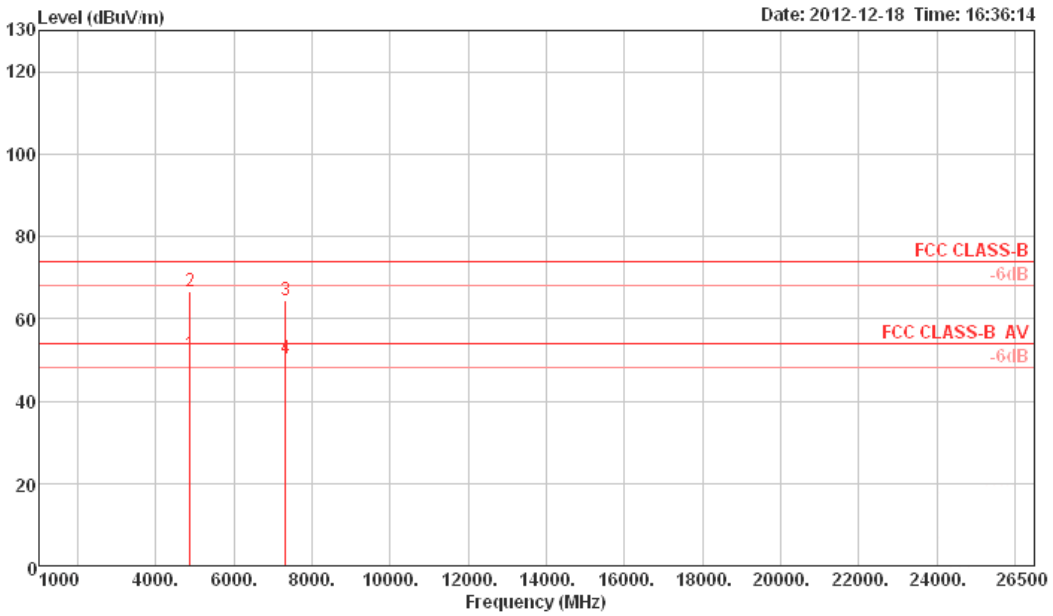
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.62	36.15	54.00	-17.85	34.81	3.31	33.06	35.03	Average	100	127	VERTICAL
2	4827.56	50.42	74.00	-23.58	49.08	3.31	33.06	35.03	Peak	100	127	VERTICAL

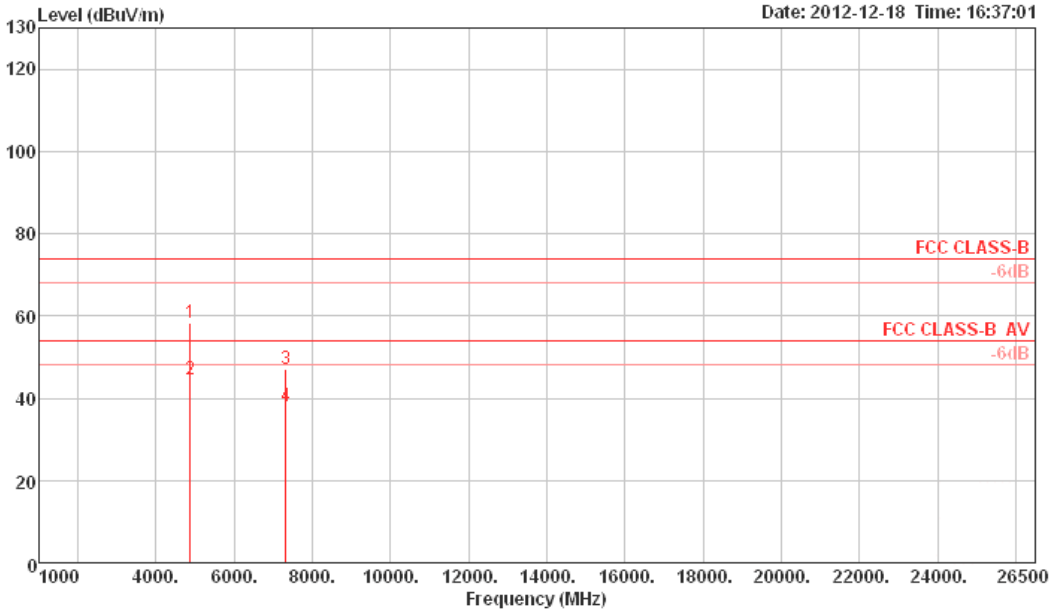
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 6 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4872.56	51.34	54.00	-2.66	49.88	3.33	33.16	35.03	Average	124	268	HORIZONTAL
2	4878.23	66.70	74.00	-7.30	65.24	3.33	33.16	35.03	Peak	124	268	HORIZONTAL
3	7308.14	64.28	74.00	-9.72	59.66	4.06	35.96	35.40	Peak	100	169	HORIZONTAL
4	7309.87	50.18	54.00	-3.82	45.56	4.06	35.96	35.40	Average	100	169	HORIZONTAL

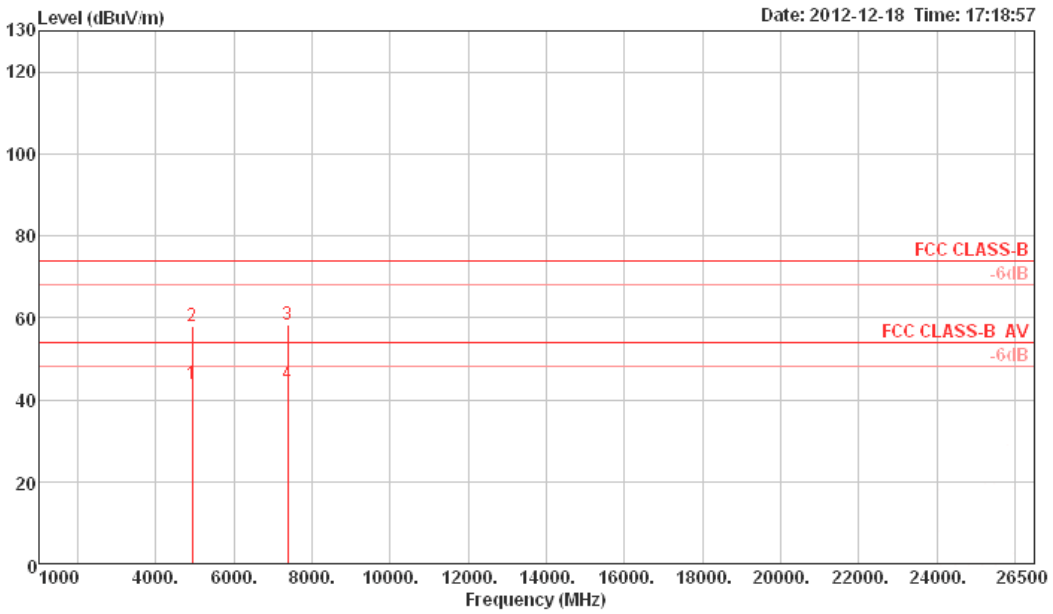
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4871.09	58.23	74.00	-15.77	56.77	3.33	33.16	35.03	Peak	100	123	VERTICAL
2	4871.98	44.65	54.00	-9.35	43.19	3.33	33.16	35.03	Average	100	123	VERTICAL
3	7309.17	46.92	74.00	-27.08	42.30	4.06	35.96	35.40	Peak	100	333	VERTICAL
4	7311.41	37.93	54.00	-16.07	33.31	4.06	35.96	35.40	Average	100	333	VERTICAL

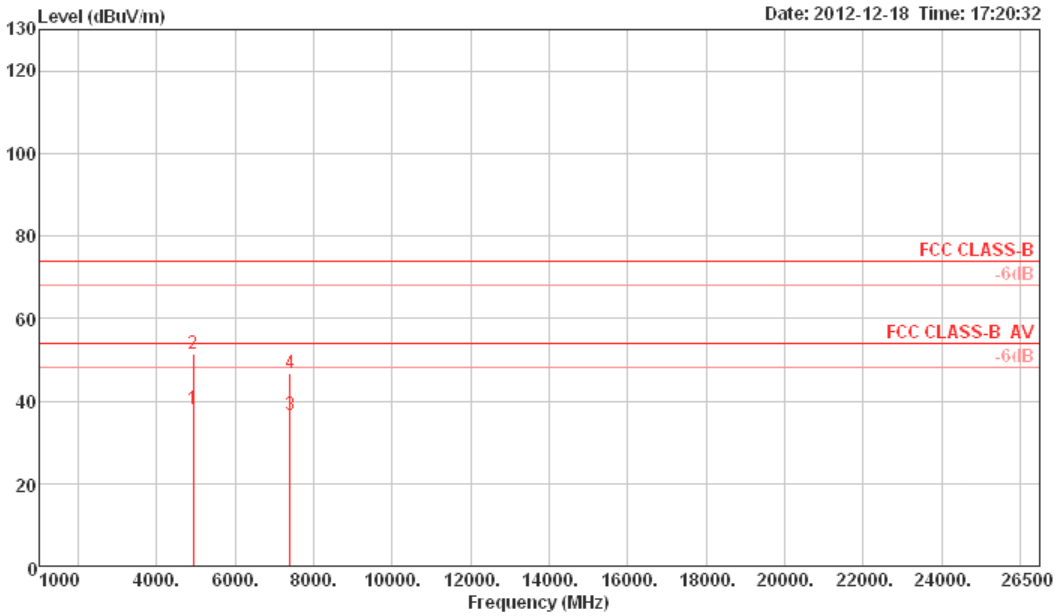
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 11 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4923.83	43.89	54.00	-10.11	42.29	3.35	33.26	35.01	Average	143	273	HORIZONTAL
2	4924.51	58.03	74.00	-15.97	56.43	3.35	33.26	35.01	Peak	143	273	HORIZONTAL
3	7382.11	58.33	74.00	-15.67	53.58	4.06	36.09	35.40	Peak	100	166	HORIZONTAL
4	7383.84	43.85	54.00	-10.15	39.10	4.06	36.09	35.40	Average	100	166	HORIZONTAL

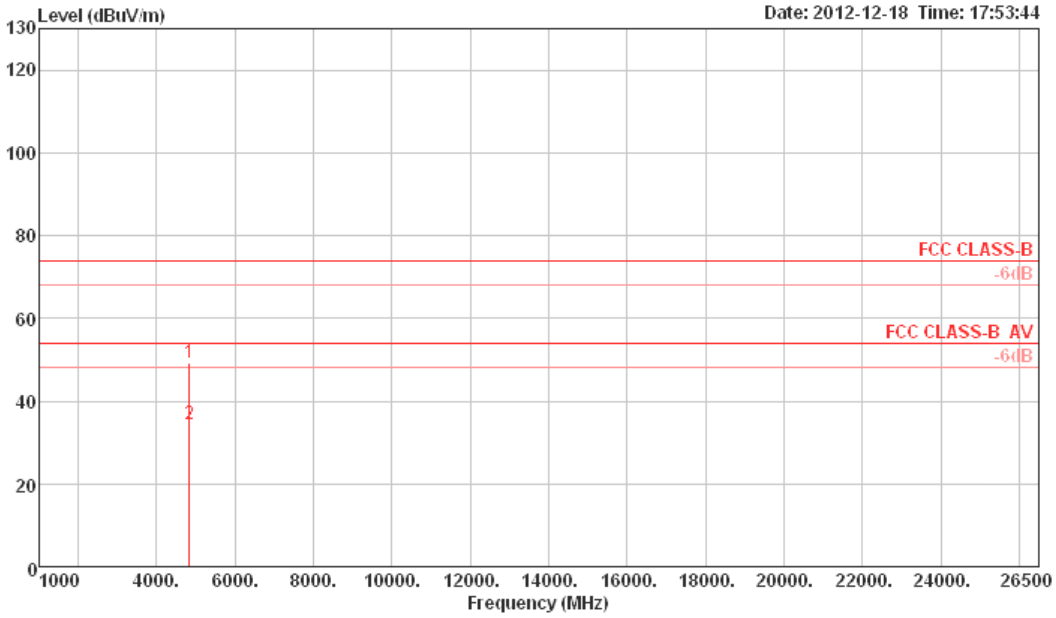
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4921.64	38.06	54.00	-15.94	36.49	3.35	33.23	35.01	Average	100	146	VERTICAL
2	4926.33	51.43	74.00	-22.57	49.83	3.35	33.26	35.01	Peak	100	146	VERTICAL
3	7385.64	36.40	54.00	-17.60	31.65	4.06	36.09	35.40	Average	100	295	VERTICAL
4	7386.29	46.69	74.00	-27.31	41.94	4.06	36.09	35.40	Peak	100	295	VERTICAL

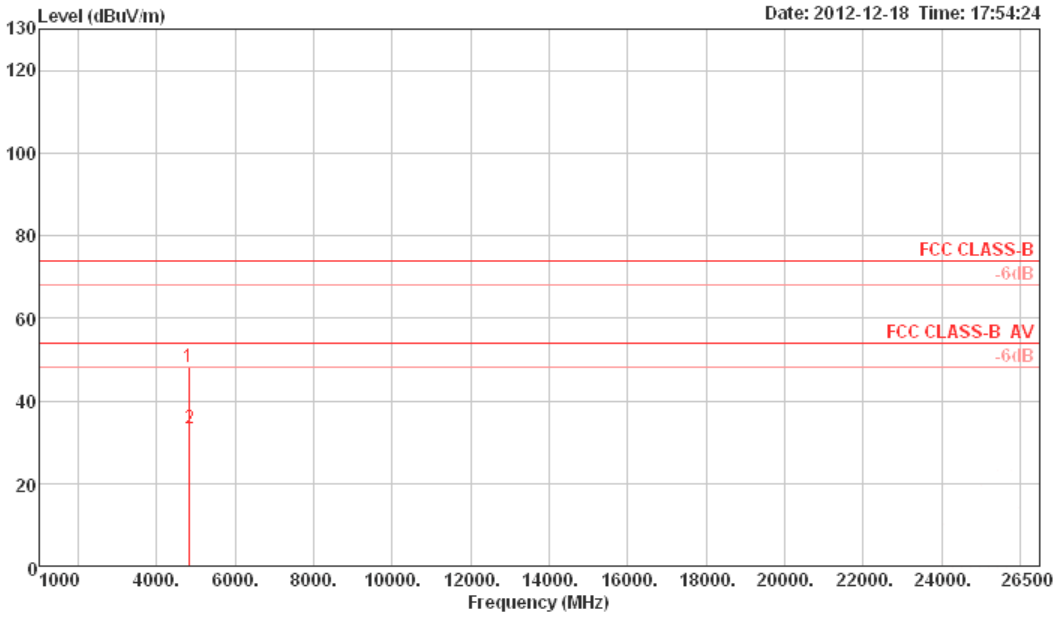
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 1 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4825.25	49.23	74.00	-24.77	47.89	3.31	33.06	35.03	Peak	100	225	HORIZONTAL
2	4825.47	34.38	54.00	-19.62	33.04	3.31	33.06	35.03	Average	100	225	HORIZONTAL

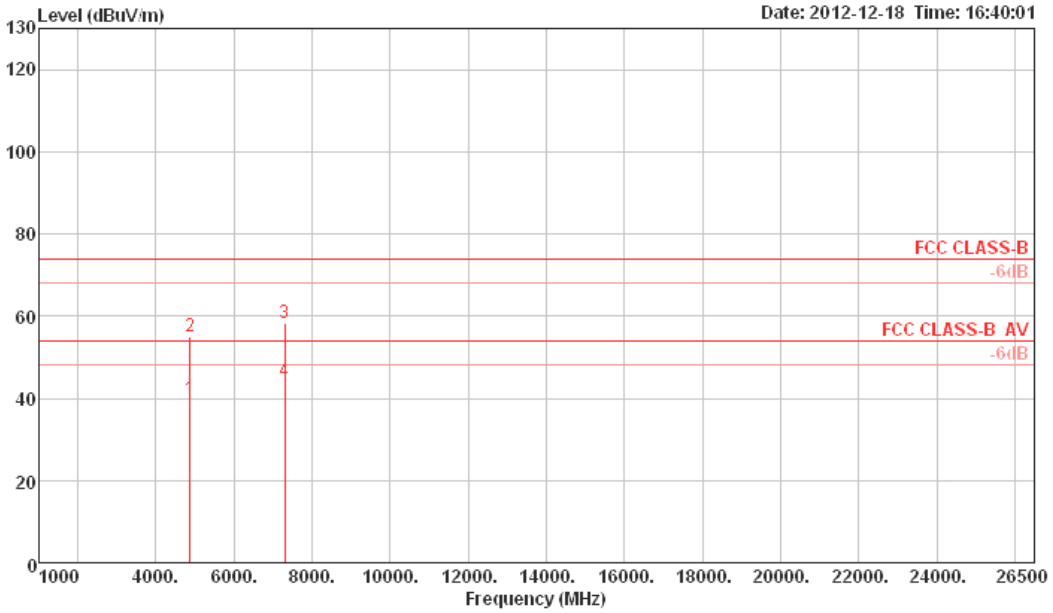
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4816.08	48.06	74.00	-25.94	46.77	3.31	33.02	35.04	Peak	100	106	VERTICAL
2	4826.24	33.44	54.00	-20.56	32.10	3.31	33.06	35.03	Average	100	106	VERTICAL

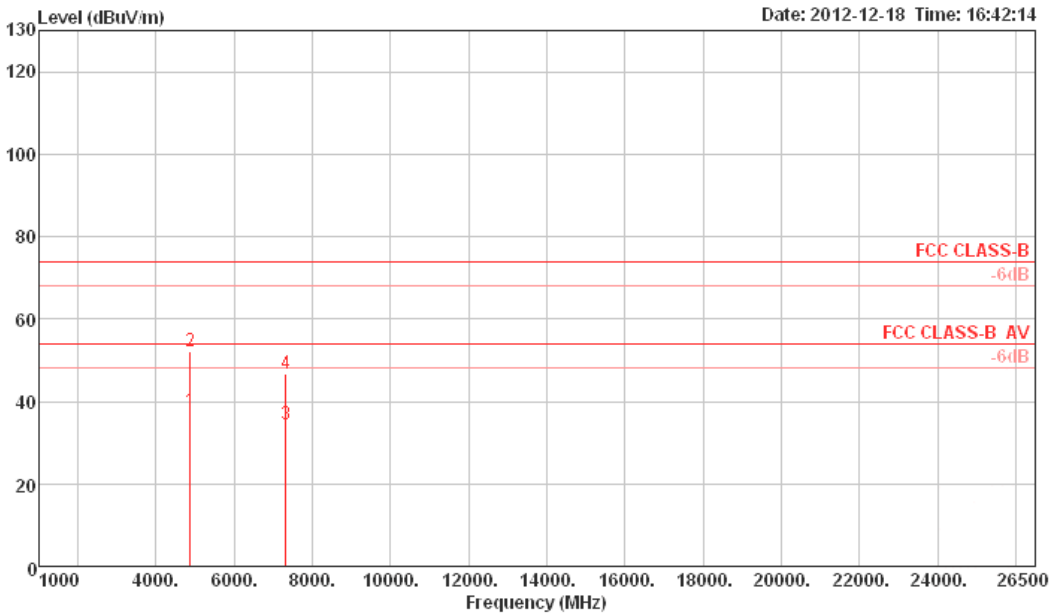
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 6 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4874.41	39.88	54.00	-14.12	38.42	3.33	33.16	35.03	Average	140	288	HORIZONTAL
2	4874.96	55.15	74.00	-18.85	53.69	3.33	33.16	35.03	Peak	140	288	HORIZONTAL
3	7304.89	58.35	74.00	-15.65	53.77	4.06	35.92	35.40	Peak	100	160	HORIZONTAL
4	7307.85	44.09	54.00	-9.91	39.47	4.06	35.96	35.40	Average	100	160	HORIZONTAL

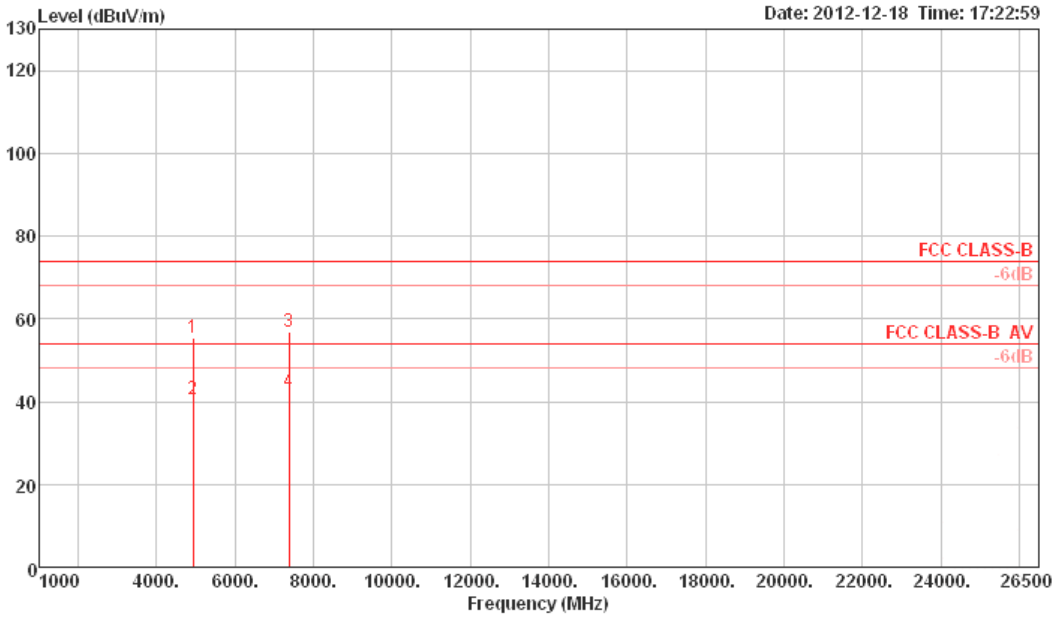
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4873.88	37.70	54.00	-16.30	36.24	3.33	33.16	35.03	Average	100	111	VERTICAL
2	4876.40	52.30	74.00	-21.70	50.84	3.33	33.16	35.03	Peak	100	111	VERTICAL
3	7312.49	34.57	54.00	-19.43	29.95	4.06	35.96	35.40	Average	100	294	VERTICAL
4	7313.55	46.82	74.00	-27.18	42.20	4.06	35.96	35.40	Peak	100	294	VERTICAL

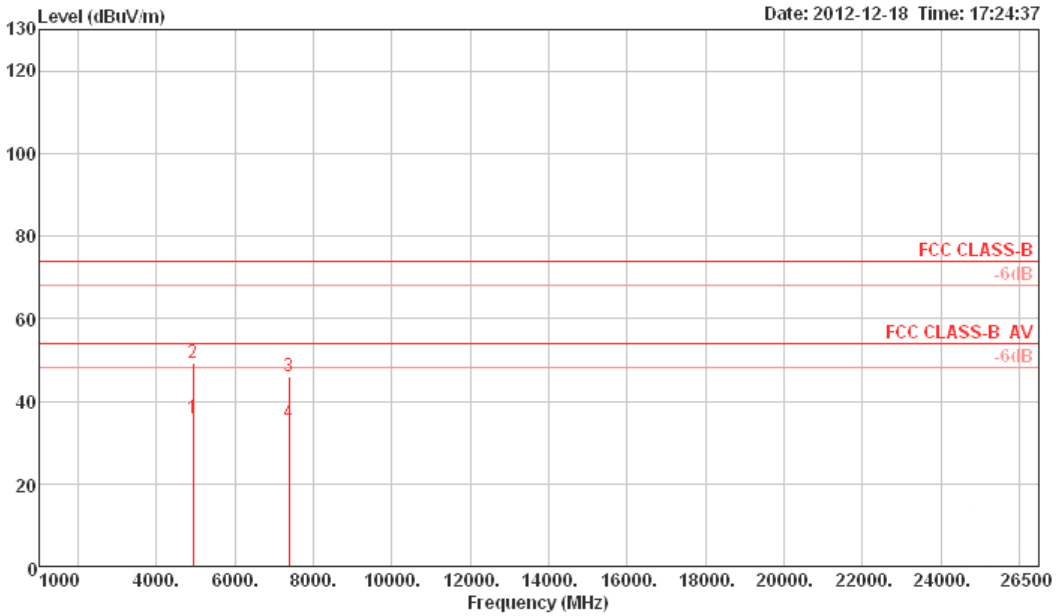
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 11 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4922.65	55.28	74.00	-18.72	53.68	3.35	33.26	35.01	Peak	145	233	HORIZONTAL
2	4923.11	40.62	54.00	-13.38	39.02	3.35	33.26	35.01	Average	145	233	HORIZONTAL
3	7381.67	56.80	74.00	-17.20	52.05	4.06	36.09	35.40	Peak	100	150	HORIZONTAL
4	7381.79	42.35	54.00	-11.65	37.60	4.06	36.09	35.40	Average	100	150	HORIZONTAL

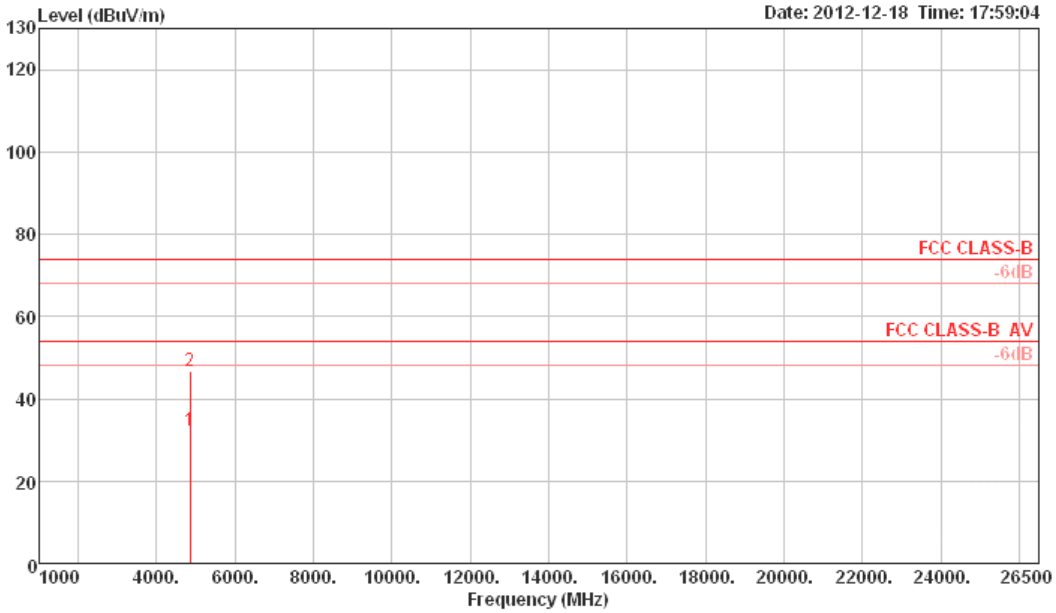
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4924.10	35.83	54.00	-18.17	34.23	3.35	33.26	35.01	Average	100	140	VERTICAL
2	4926.12	49.21	74.00	-24.79	47.61	3.35	33.26	35.01	Peak	100	140	VERTICAL
3	7379.39	45.84	74.00	-28.16	41.09	4.06	36.09	35.40	Peak	100	320	VERTICAL
4	7382.44	34.85	54.00	-19.15	30.10	4.06	36.09	35.40	Average	100	320	VERTICAL

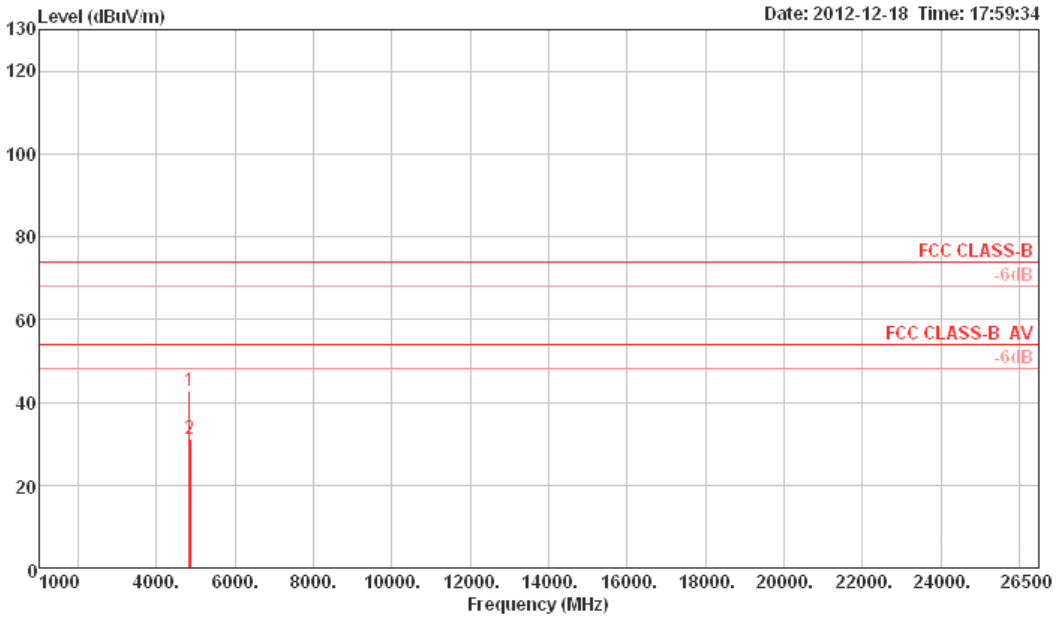
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 3 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4843.68	32.39	54.00	-21.61	31.01	3.32	33.09	35.03	Average	100	250	HORIZONTAL
2	4847.62	46.55	74.00	-27.45	45.17	3.32	33.09	35.03	Peak	100	250	HORIZONTAL

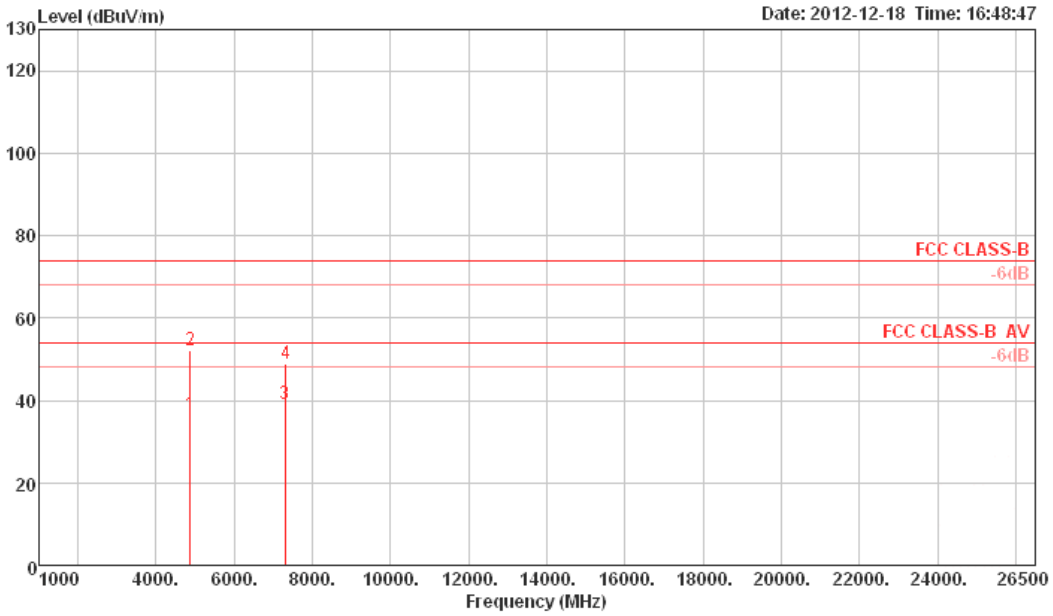
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4834.45	42.69	74.00	-31.31	41.35	3.31	33.06	35.03	Peak	100	58	VERTICAL
2	4844.13	31.32	54.00	-22.68	29.94	3.32	33.09	35.03	Average	100	58	VERTICAL

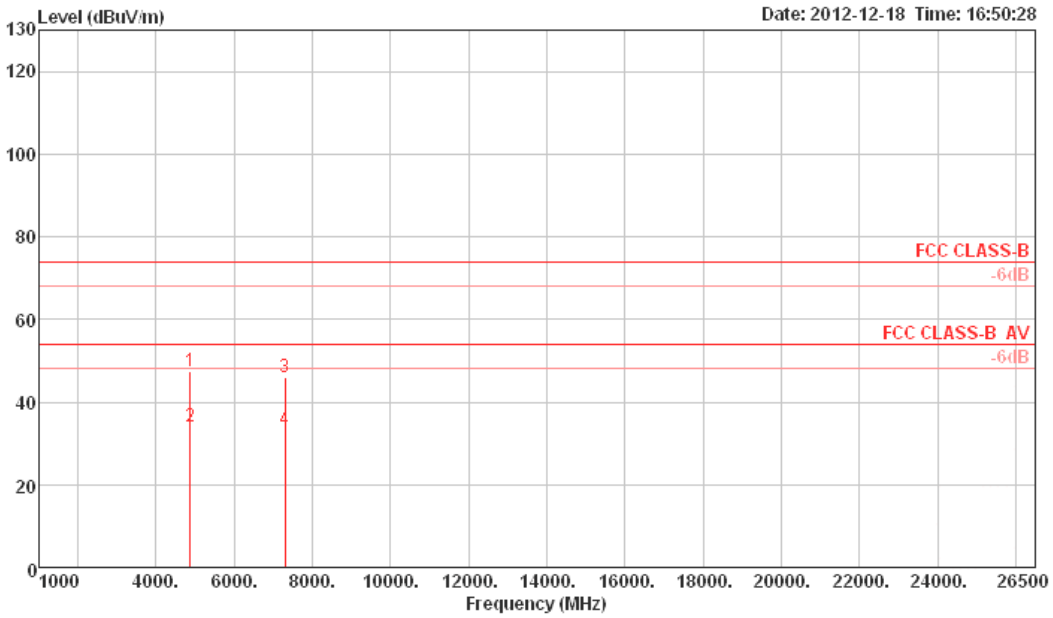
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 6 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4874.05	36.61	54.00	-17.39	35.15	3.33	33.16	35.03	Average	100	273	HORIZONTAL
2	4874.17	51.98	74.00	-22.02	50.52	3.33	33.16	35.03	Peak	100	273	HORIZONTAL
3	7306.58	39.22	54.00	-14.78	34.64	4.06	35.92	35.40	Average	100	94	HORIZONTAL
4	7315.45	48.91	74.00	-25.09	44.29	4.06	35.96	35.40	Peak	100	94	HORIZONTAL

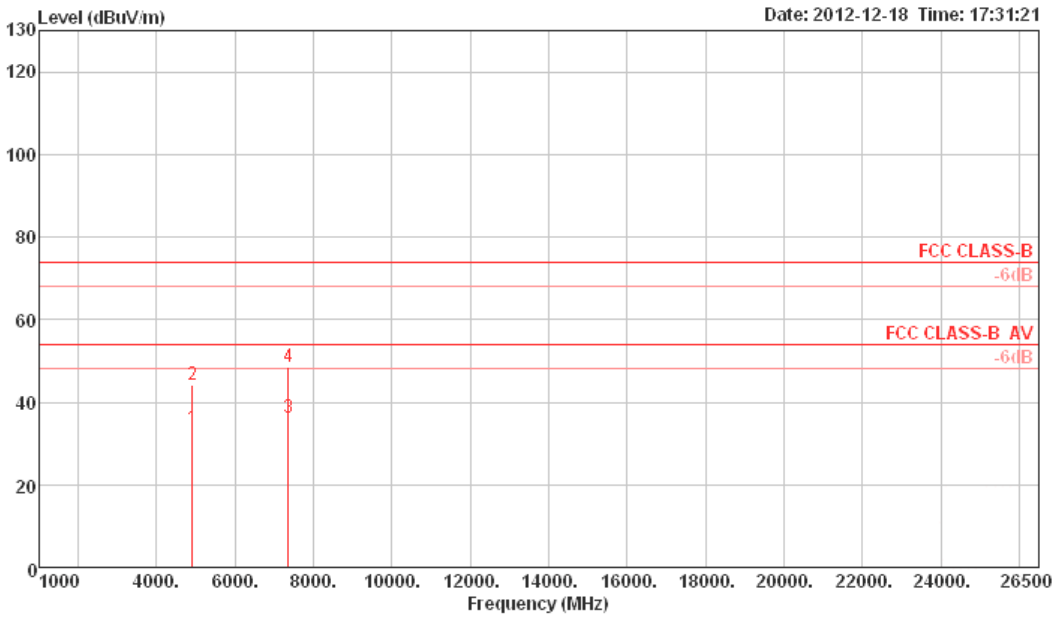
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4869.39	47.41	74.00	-26.59	45.99	3.33	33.12	35.03	Peak	100	117	VERTICAL
2	4874.43	33.89	54.00	-20.11	32.43	3.33	33.16	35.03	Average	100	117	VERTICAL
3	7303.52	45.88	74.00	-28.12	41.30	4.06	35.92	35.40	Peak	100	304	VERTICAL
4	7304.68	33.41	54.00	-20.59	28.83	4.06	35.92	35.40	Average	100	304	VERTICAL

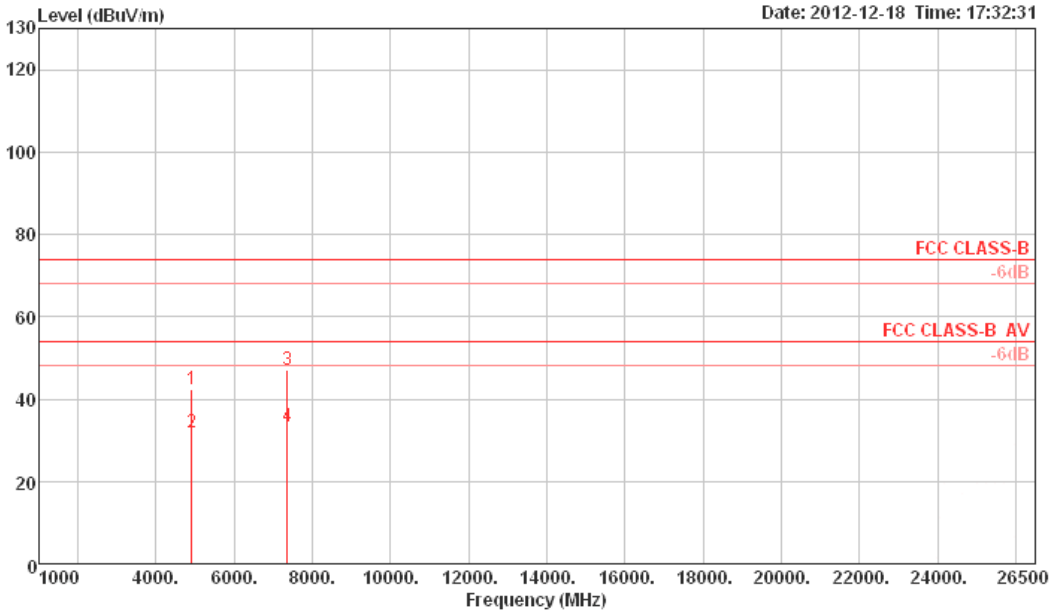
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 9 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4905.51	33.53	54.00	-20.47	31.98	3.34	33.23	35.02	Average	100	355	HORIZONTAL
2	4909.67	44.04	74.00	-29.96	42.49	3.34	33.23	35.02	Peak	100	355	HORIZONTAL
3	7358.63	36.29	54.00	-17.71	31.57	4.06	36.06	35.40	Average	100	153	HORIZONTAL
4	7361.32	48.39	74.00	-25.61	43.67	4.06	36.06	35.40	Peak	100	153	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4902.81	42.26	74.00	-31.74	40.75	3.34	33.19	35.02	Peak	100	256	VERTICAL
2	4903.87	31.71	54.00	-22.29	30.20	3.34	33.19	35.02	Average	100	256	VERTICAL
3	7355.14	47.09	74.00	-26.91	42.41	4.06	36.02	35.40	Peak	100	113	VERTICAL
4	7362.47	33.31	54.00	-20.69	28.59	4.06	36.06	35.40	Average	100	113	VERTICAL

Note:

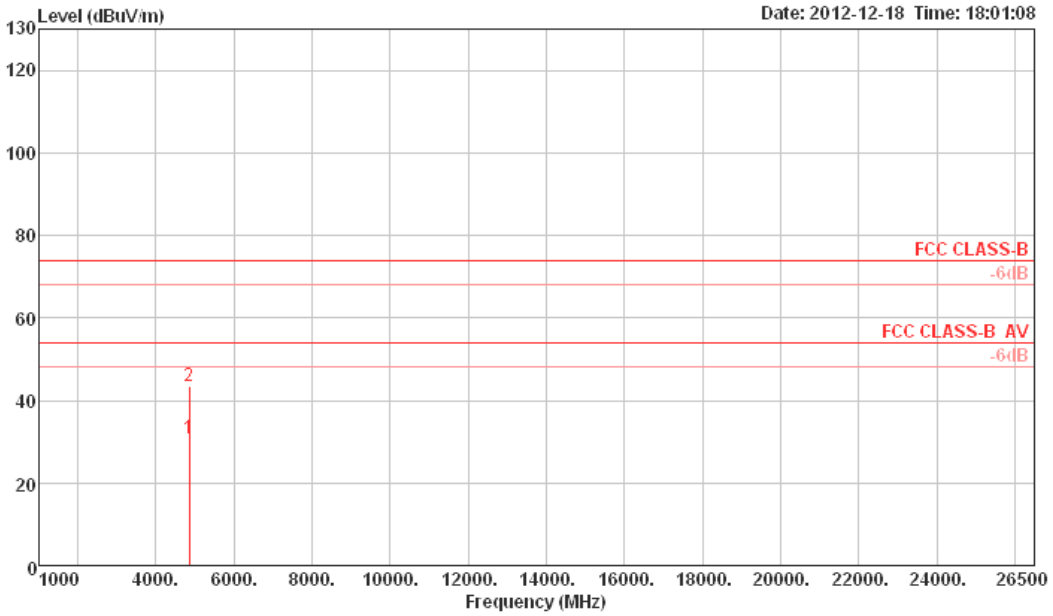
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

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

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

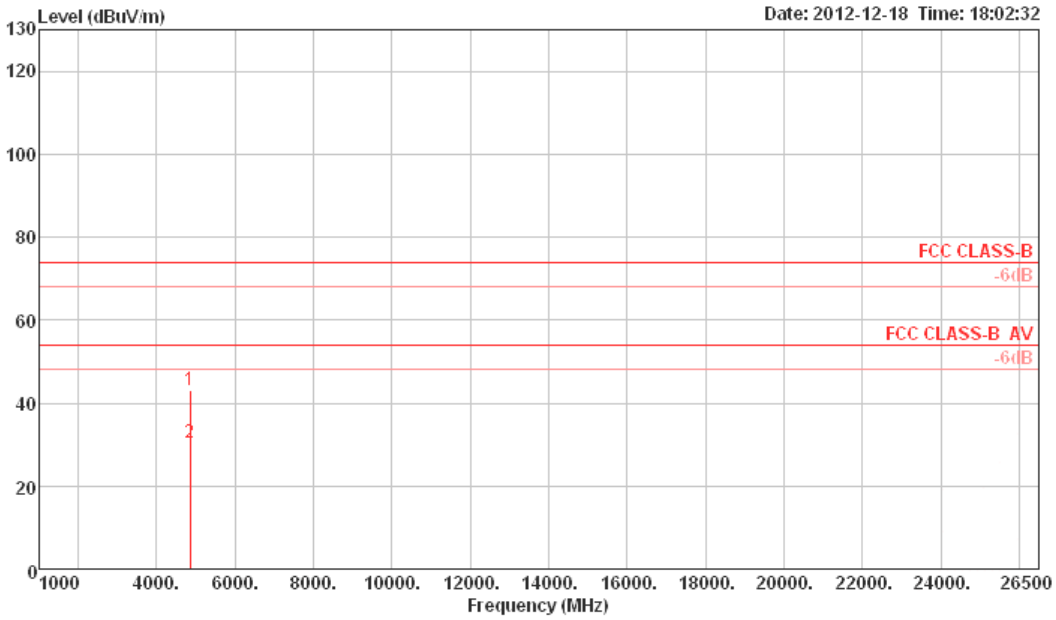
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 3 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4844.06	30.84	54.00	-23.16	29.46	3.32	33.09	35.03	Average	100	320	HORIZONTAL
2	4847.65	43.32	74.00	-30.68	41.94	3.32	33.09	35.03	Peak	100	320	HORIZONTAL

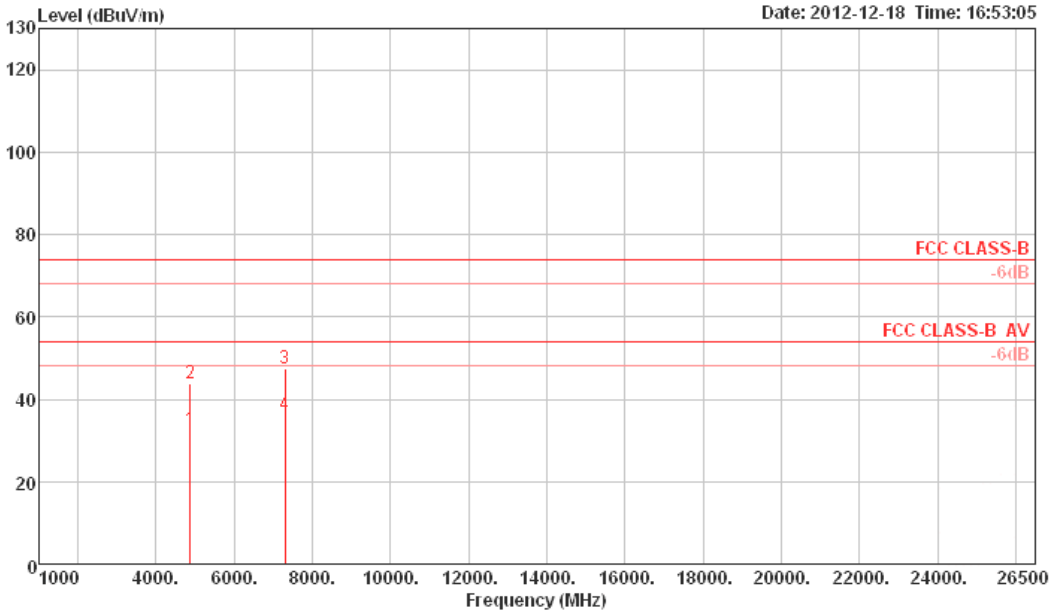
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4842.37	43.12	74.00	-30.88	41.74	3.32	33.09	35.03	Peak	100	318	VERTICAL
2	4843.84	30.33	54.00	-23.67	28.95	3.32	33.09	35.03	Average	100	318	VERTICAL

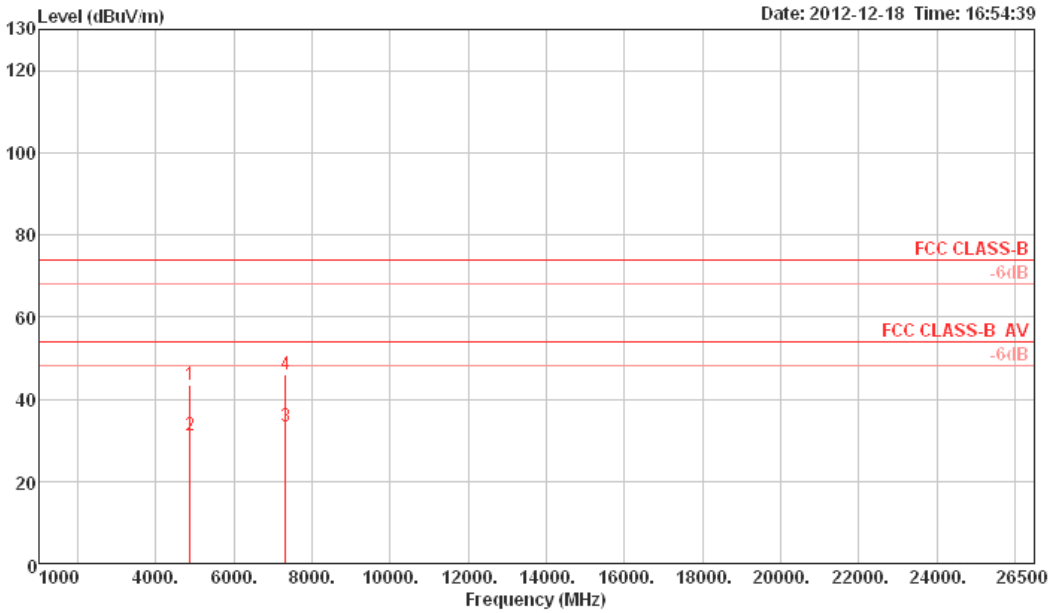
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 6 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4874.84	32.44	54.00	-21.56	30.98	3.33	33.16	35.03	Average	100	355	HORIZONTAL
2	4875.83	43.91	74.00	-30.09	42.45	3.33	33.16	35.03	Peak	100	355	HORIZONTAL
3	7305.40	47.51	74.00	-26.49	42.93	4.06	35.92	35.40	Peak	100	99	HORIZONTAL
4	7307.23	36.38	54.00	-17.62	31.80	4.06	35.92	35.40	Average	100	99	HORIZONTAL

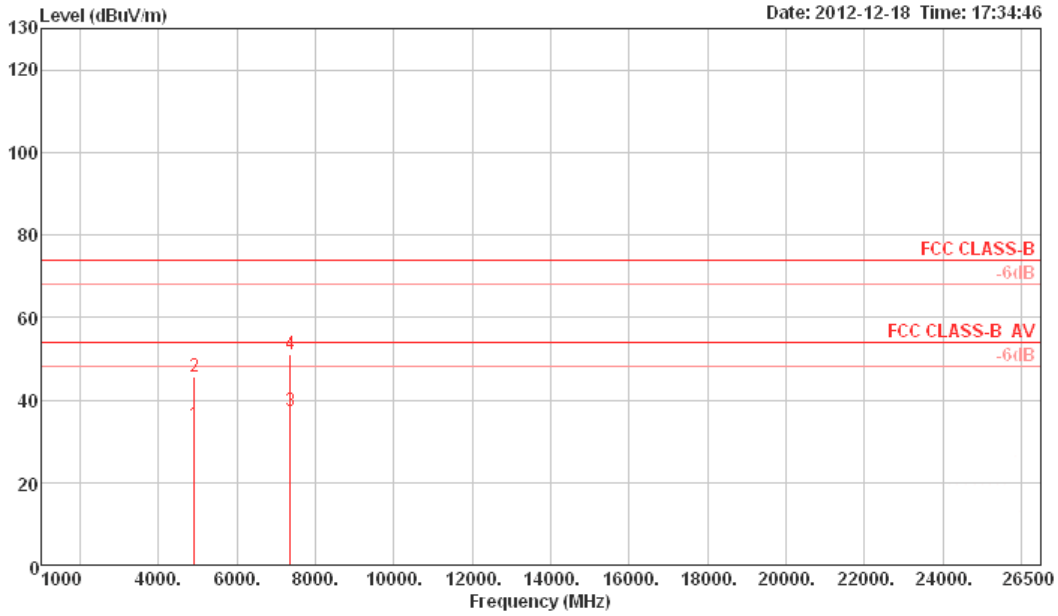
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4872.01	43.42	74.00	-30.58	41.96	3.33	33.16	35.03	Peak	100	120	VERTICAL
2	4878.59	31.14	54.00	-22.86	29.68	3.33	33.16	35.03	Average	100	120	VERTICAL
3	7311.58	33.16	54.00	-20.84	28.54	4.06	35.96	35.40	Average	100	348	VERTICAL
4	7315.81	46.07	74.00	-27.93	41.45	4.06	35.96	35.40	Peak	100	348	VERTICAL

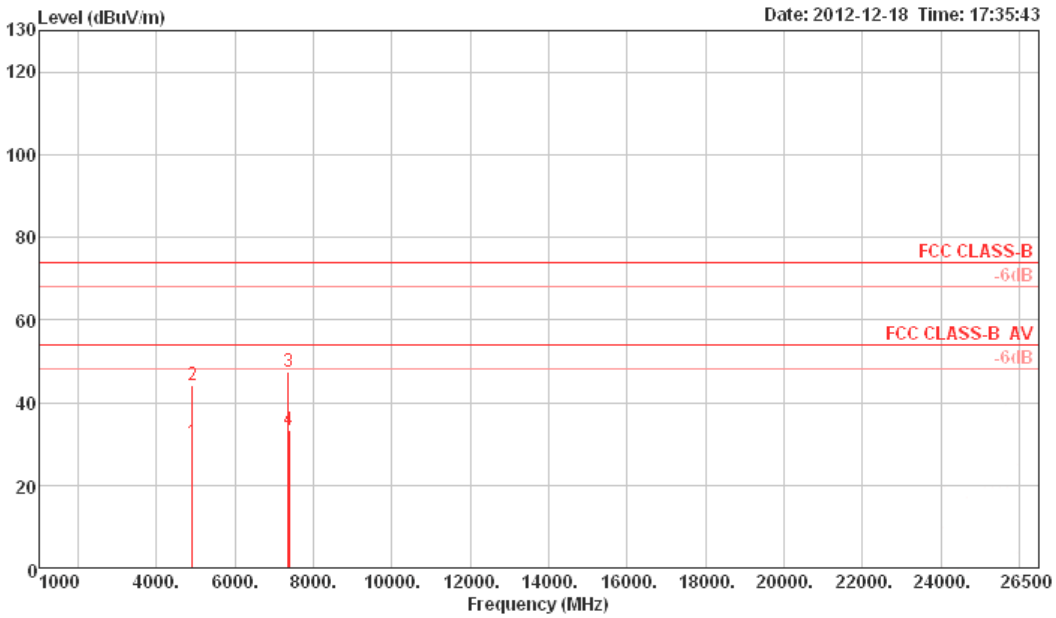
Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 9 / Ant. 1 + Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4906.34	33.89	54.00	-20.11	32.34	3.34	33.23	35.02	Average	100	29	HORIZONTAL
2	4907.33	45.62	74.00	-28.38	44.07	3.34	33.23	35.02	Peak	100	29	HORIZONTAL
3	7363.92	37.19	54.00	-16.81	32.47	4.06	36.06	35.40	Average	100	160	HORIZONTAL
4	7364.11	50.97	74.00	-23.03	46.25	4.06	36.06	35.40	Peak	100	160	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4902.81	30.27	54.00	-23.73	28.76	3.34	33.19	35.02	Average	100	206	VERTICAL
2	4907.56	44.14	74.00	-29.86	42.59	3.34	33.23	35.02	Peak	100	206	VERTICAL
3	7347.35	47.40	74.00	-26.60	42.72	4.06	36.02	35.40	Peak	100	360	VERTICAL
4	7365.58	33.47	54.00	-20.53	28.75	4.06	36.06	35.40	Average	100	360	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.

5.6 Emissions Measurement

5.6.1 Limit

30dBc 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 (micorvolts/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

5.6.2 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)	1MHz / 3MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 kHz / 300 kHz for Peak

5.6.3 Test Procedures

For Radiated band edges Measurement:

1. The test procedure is the same as section 5.5.3, only the freqeuncy range investigated is limited to 100MHz around band edges

For Conducted Out of Band Emission Measurement:

1. Test was performed in accordance with KDB 558074 v02 Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 10.1 Unwanted Emissions into Non-Restricted Frequency Bands Measurement Procedure
2. The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

5.6.4 Test Setup Layout

For Radiated band edges Measurement:

This test setup layout is the same as that shown in section 5.5.4.

For Conducted Out of Band Emission Measurement:

This test setup layout is the same as that shown in section 5.4.4.

5.6.5 Test Deviation

There is no deviation with the original standard.

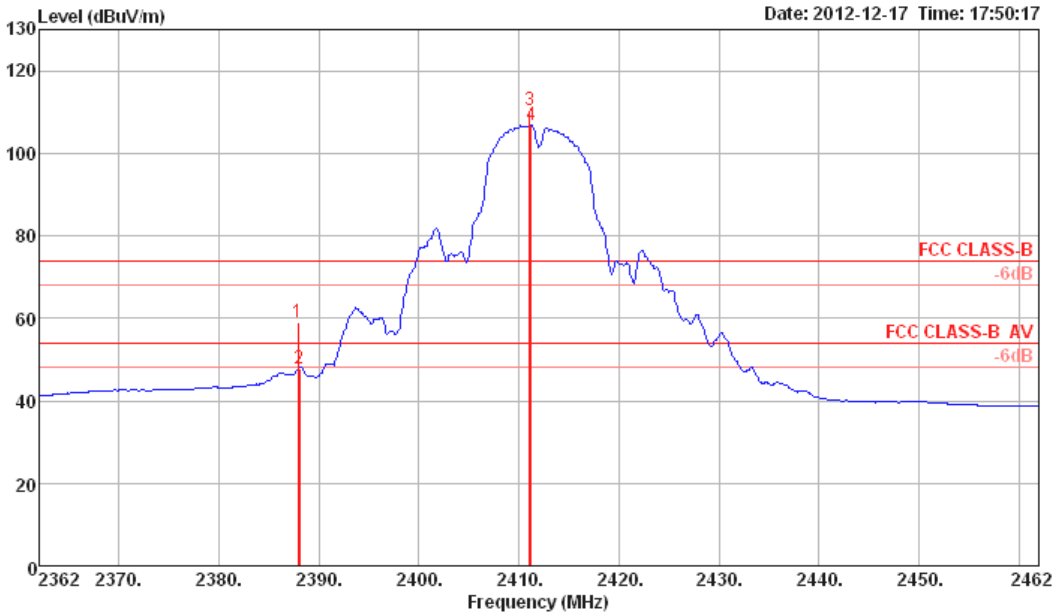
5.6.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.6.7 Test Result of Band Edge and Fundamental Emissions

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 1 / Ant. 1

Channel 1

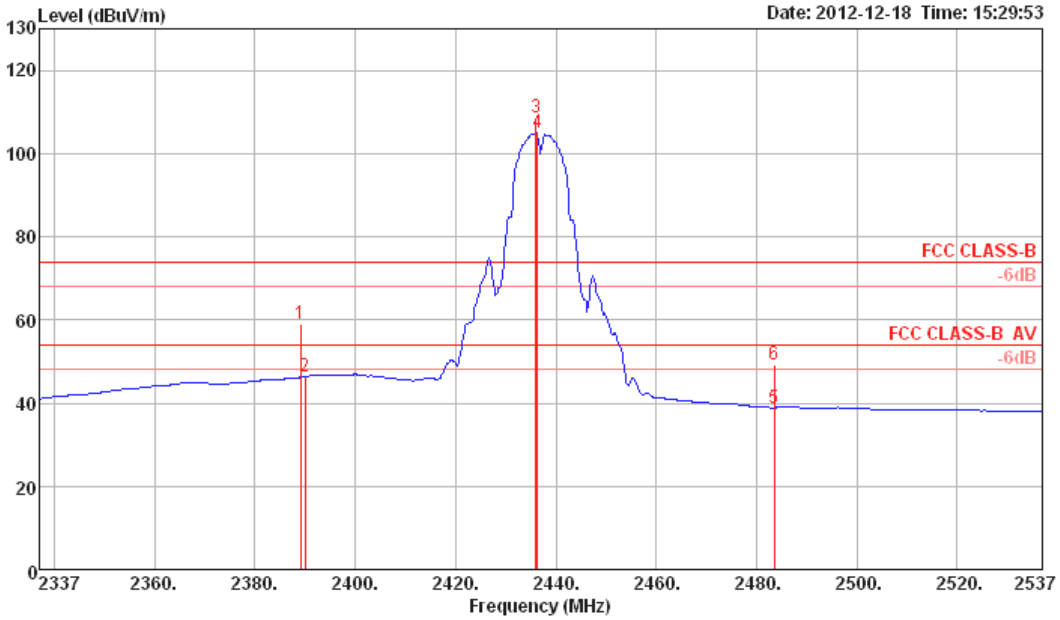


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2387.92	58.87	74.00	-15.13	28.49	2.21	28.17	0.00	Peak	145	112	HORIZONTAL
2	2388.08	47.66	54.00	-6.34	17.28	2.21	28.17	0.00	Average	145	112	HORIZONTAL
3	2411.04	110.48			80.05	2.22	28.21	0.00	Peak	145	112	HORIZONTAL
4	2411.20	106.75			76.32	2.22	28.21	0.00	Average	145	112	HORIZONTAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 6 / Ant. 1

Channel 6

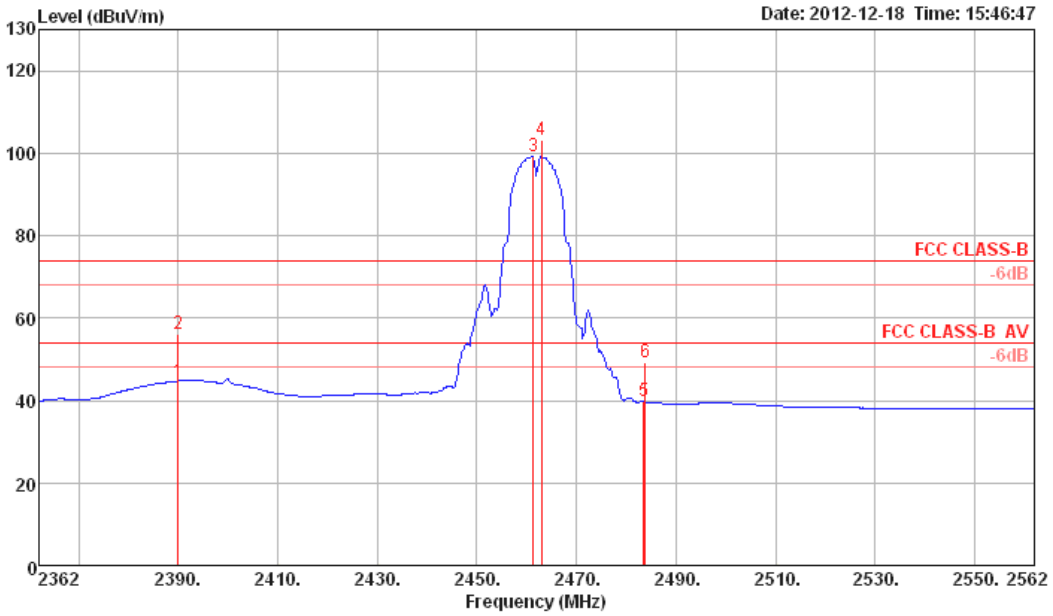


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2389.04	59.18	74.00	-14.82	28.80	2.21	28.17	0.00	Peak	143	32	HORIZONTAL
2	2390.00	46.40	54.00	-7.60	16.01	2.22	28.17	0.00	Average	143	32	HORIZONTAL
3	2436.04	108.69			78.17	2.23	28.29	0.00	Peak	143	32	HORIZONTAL
4	2436.36	104.87			74.35	2.23	28.29	0.00	Average	143	32	HORIZONTAL
5	2483.50	38.87	54.00	-15.13	8.23	2.26	28.38	0.00	Average	143	32	HORIZONTAL
6	2483.50	49.43	74.00	-24.57	18.79	2.26	28.38	0.00	Peak	143	32	HORIZONTAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	100%	Configurations	IEEE 802.11b CH 11 / Ant. 1

Channel 11

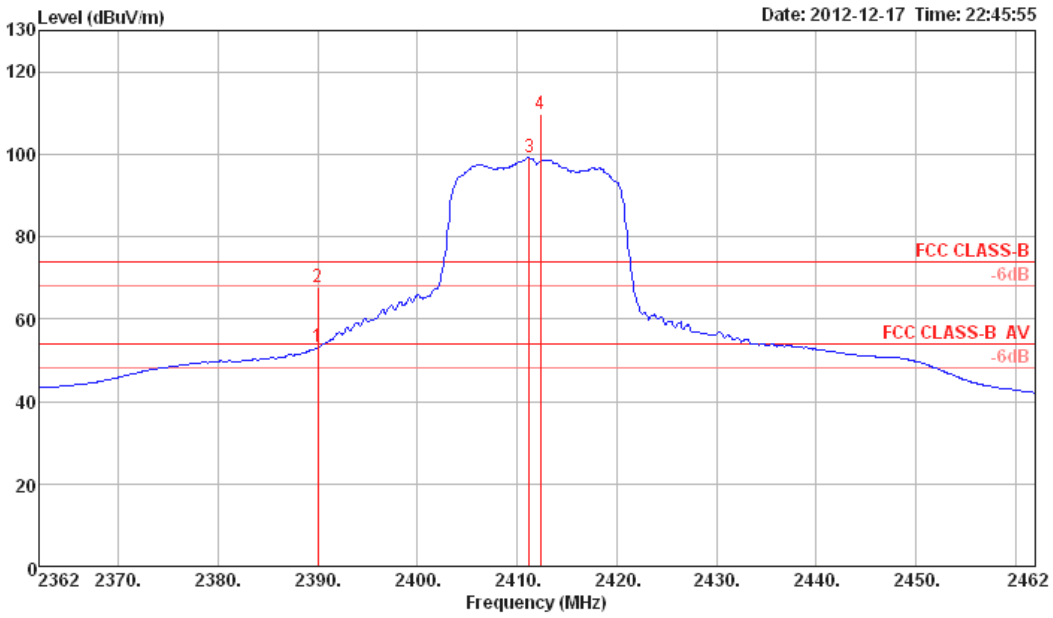


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2390.00	44.72	54.00	-9.28	14.33	2.22	28.17	0.00	Average	159	288	HORIZONTAL
2	2390.00	56.22	74.00	-17.78	25.83	2.22	28.17	0.00	Peak	159	288	HORIZONTAL
3	2461.36	99.32			68.75	2.24	28.33	0.00	Average	159	288	HORIZONTAL
4	2462.96	103.03			72.46	2.24	28.33	0.00	Peak	159	288	HORIZONTAL
5	2483.50	39.74	54.00	-14.26	9.10	2.26	28.38	0.00	Average	159	288	HORIZONTAL
6	2483.82	49.17	74.00	-24.83	18.53	2.26	28.38	0.00	Peak	159	288	HORIZONTAL

Item 3, 4 are the fundamental frequency at 2462 MHz.

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 1 / Ant. 2

Channel 1

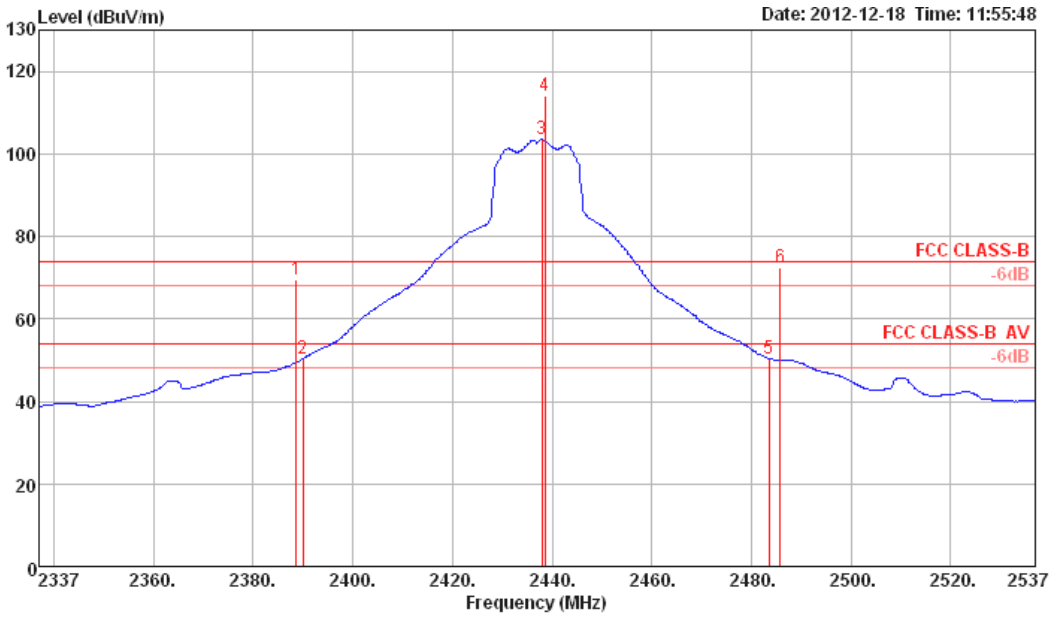


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2390.00	53.17	54.00	-0.83	22.78	2.22	28.17	0.00	Average	100	170	VERTICAL
2	2390.00	67.69	74.00	-6.31	37.30	2.22	28.17	0.00	Peak	100	170	VERTICAL
3	2411.20	99.05			68.62	2.22	28.21	0.00	Average	100	170	VERTICAL
4	2412.32	109.89			79.46	2.22	28.21	0.00	Peak	100	170	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 6 / Ant. 2

Channel 6

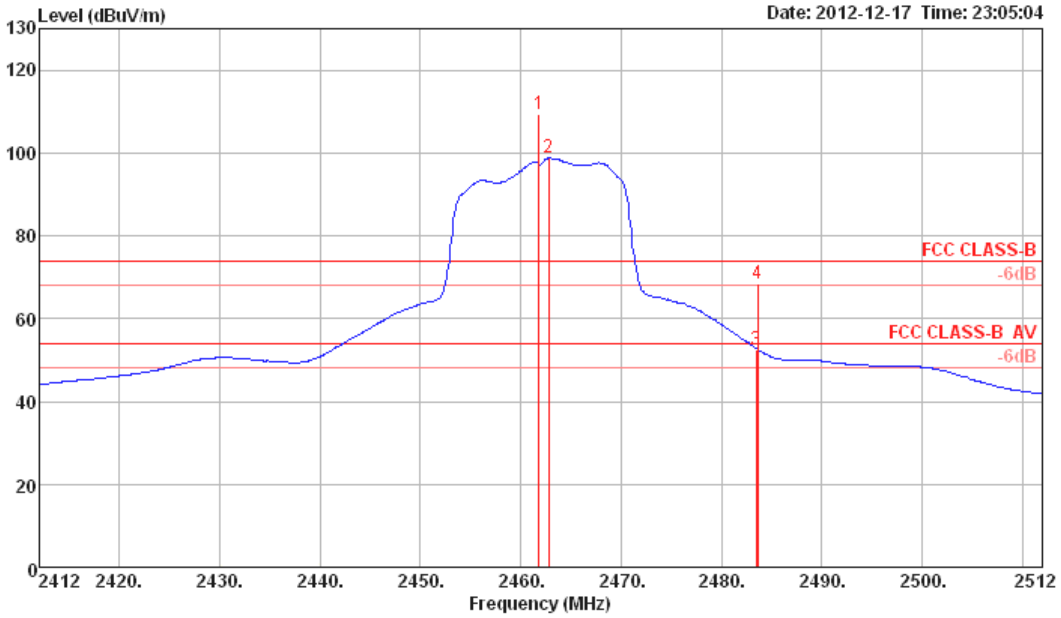


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2388.72	69.43	74.00	-4.57	39.05	2.21	28.17	0.00	Peak	163	216	VERTICAL
2	2390.00	50.19	54.00	-3.81	19.80	2.22	28.17	0.00	Average	163	216	VERTICAL
3	2437.96	103.45			72.93	2.23	28.29	0.00	Average	163	216	VERTICAL
4	2438.60	114.00			83.48	2.23	28.29	0.00	Peak	163	216	VERTICAL
5	2483.50	50.36	54.00	-3.64	19.73	2.26	28.37	0.00	Average	163	216	VERTICAL
6	2485.74	72.36	74.00	-1.64	41.69	2.26	28.41	0.00	Peak	163	216	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.03%	Configurations	IEEE 802.11g CH 11 / Ant. 2

Channel 11



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2461.84	109.22			78.65	2.24	28.33	0.00	Peak	100	206	VERTICAL
2	2462.80	98.68			68.11	2.24	28.33	0.00	Average	100	206	VERTICAL
3	2483.50	52.67	54.00	-1.33	22.04	2.26	28.37	0.00	Average	100	206	VERTICAL
4	2483.66	68.60	74.00	-5.40	37.97	2.26	28.37	0.00	Peak	100	206	VERTICAL

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

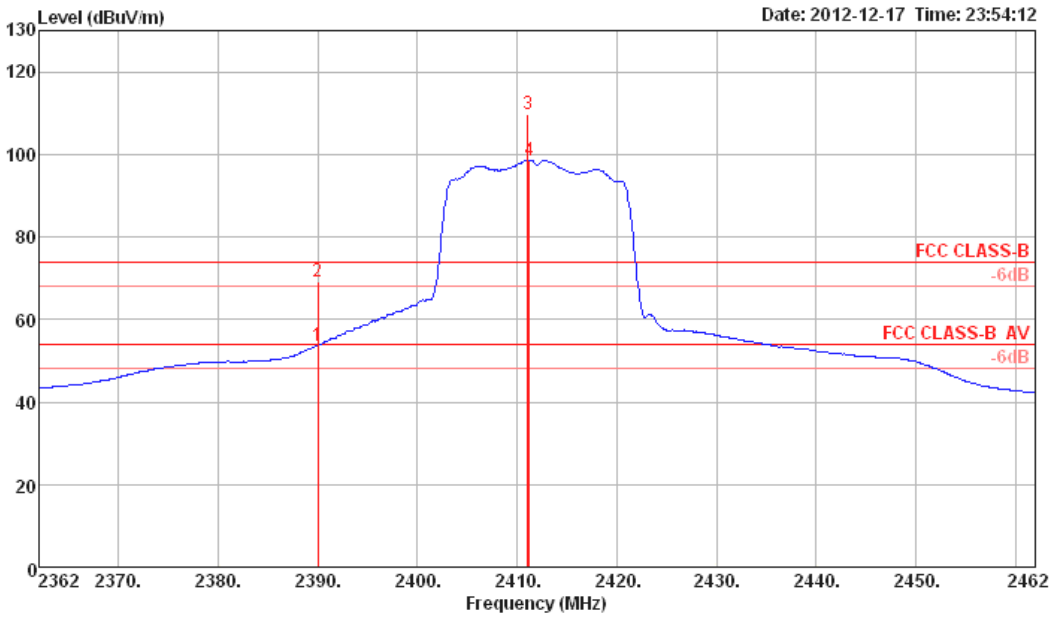
Note:

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

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 1 / Ant. 2

Channel 1

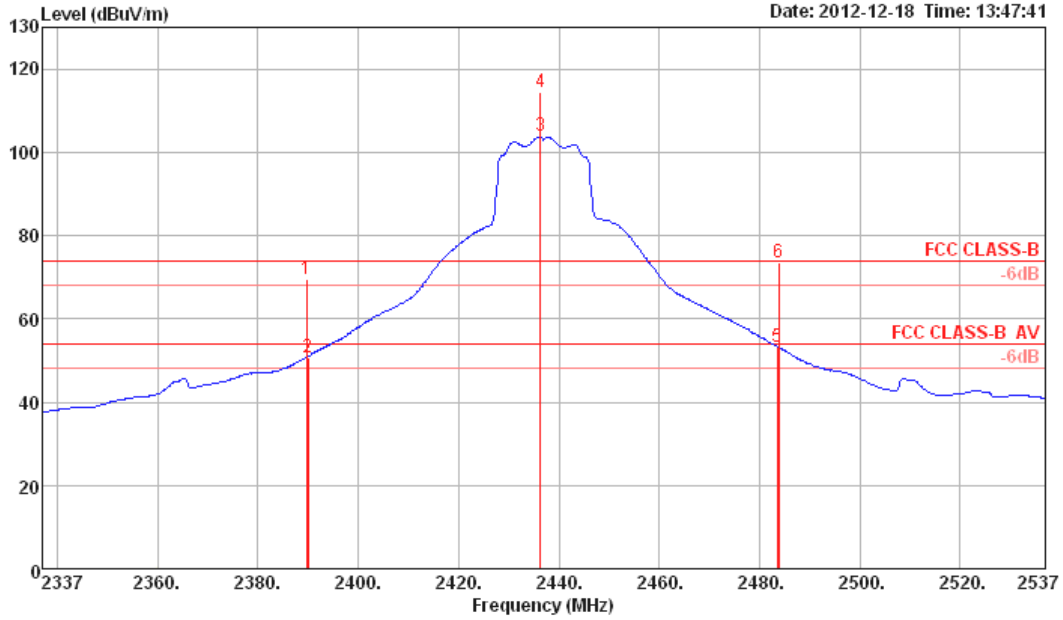


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2390.00	53.63	54.00	-0.37	23.24	2.22	28.17	0.00	Average	100	195	VERTICAL
2	2390.00	69.33	74.00	-4.67	38.94	2.22	28.17	0.00	Peak	100	195	VERTICAL
3	2411.04	109.73			79.30	2.22	28.21	0.00	Peak	100	195	VERTICAL
4	2411.20	98.58			68.15	2.22	28.21	0.00	Average	100	195	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 6 / Ant. 2

Channel 6

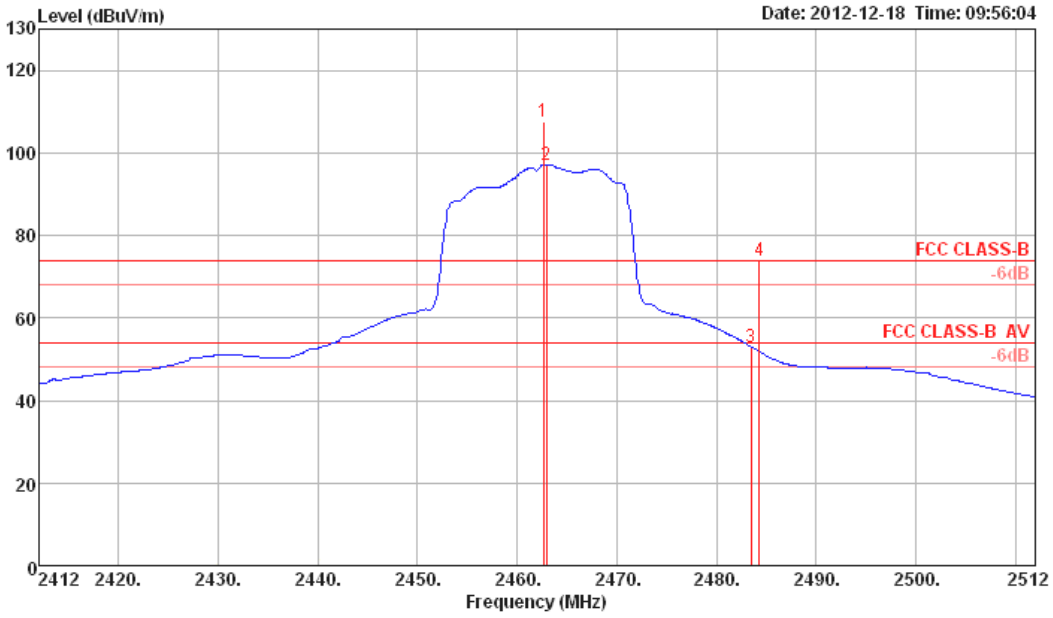


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2389.68	69.57	74.00	-4.43	39.19	2.21	28.17	0.00	Peak	118	191	VERTICAL
2	2390.00	50.79	54.00	-3.21	20.40	2.22	28.17	0.00	Average	118	191	VERTICAL
3	2436.36	103.78			73.26	2.23	28.29	0.00	Average	118	191	VERTICAL
4	2436.36	114.53			84.01	2.23	28.29	0.00	Peak	118	191	VERTICAL
5	2483.50	53.32	54.00	-0.68	22.69	2.26	28.37	0.00	Average	118	191	VERTICAL
6	2483.82	73.61	74.00	-0.39	42.98	2.26	28.37	0.00	Peak	118	191	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	99.27%	Configurations	IEEE 802.11n MCS0 20MHz Ch 11 / Ant. 2

Channel 11



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2462.64	107.53			76.96	2.24	28.33	0.00	Peak	100	241	VERTICAL
2	2462.96	97.16			66.59	2.24	28.33	0.00	Average	100	241	VERTICAL
3	2483.50	52.92	54.00	-1.08	22.29	2.26	28.37	0.00	Average	100	241	VERTICAL
4	2484.30	73.72	74.00	-0.28	43.09	2.26	28.37	0.00	Peak	100	253	VERTICAL

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

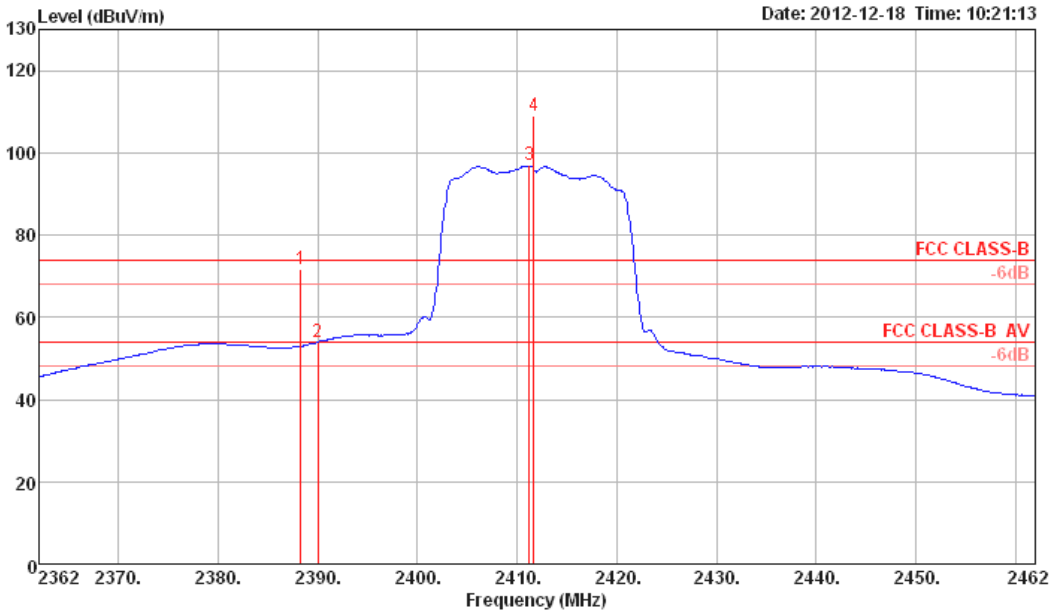
Note:

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

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 1 / Ant. 1 + Ant. 2

Channel 1

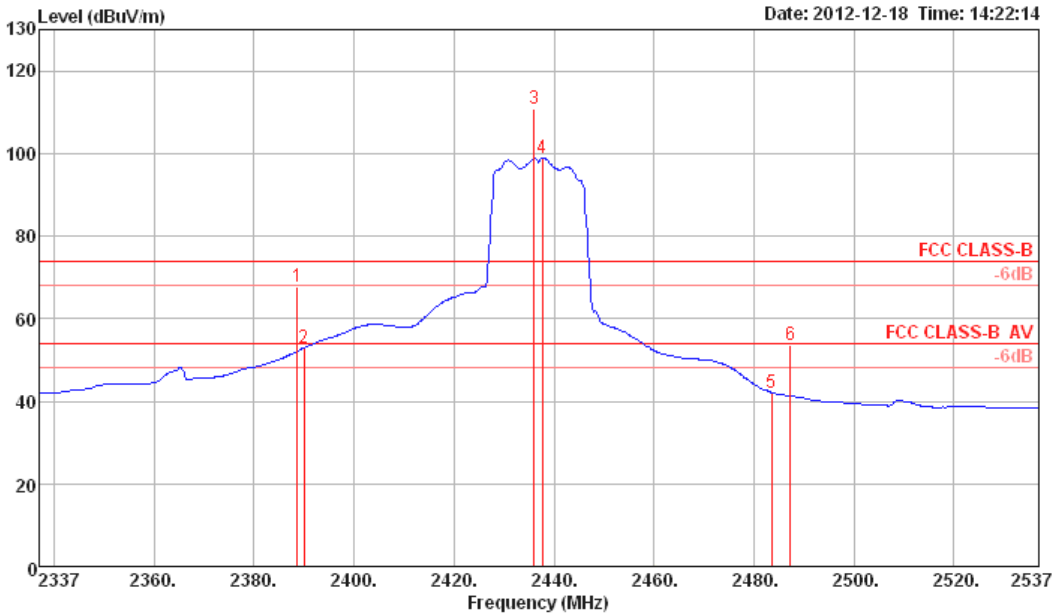


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2388.24	71.76	74.00	-2.24	41.38	2.21	28.17	0.00	Peak	148	44	HORIZONTAL
2	2390.00	53.86	54.00	-0.14	23.47	2.22	28.17	0.00	Average	148	44	HORIZONTAL
3	2411.20	96.99			66.56	2.22	28.21	0.00	Average	148	44	HORIZONTAL
4	2411.68	109.17			78.74	2.22	28.21	0.00	Peak	148	44	HORIZONTAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 6 / Ant. 1 + Ant. 2

Channel 6

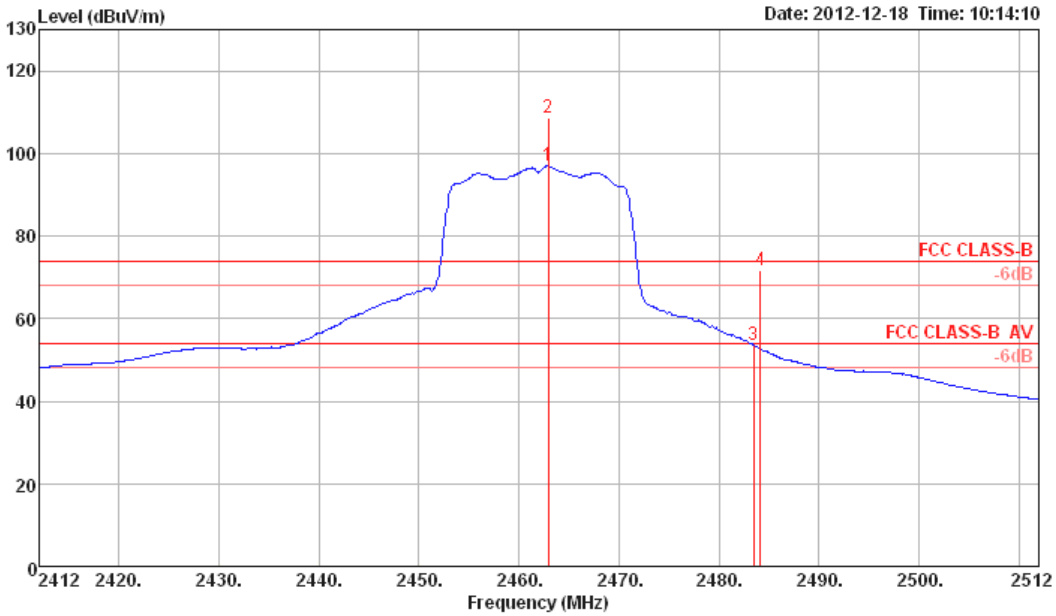


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2388.72	67.54	74.00	-6.46	37.16	2.21	28.17	0.00	Peak	145	117	HORIZONTAL
2	2390.00	52.75	54.00	-1.25	22.36	2.22	28.17	0.00	Average	145	117	HORIZONTAL
3	2436.04	110.69			80.17	2.23	28.29	0.00	Peak	145	117	HORIZONTAL
4	2437.64	98.81			68.29	2.23	28.29	0.00	Average	145	117	HORIZONTAL
5	2483.50	42.06	54.00	-11.94	11.42	2.26	28.38	0.00	Average	145	117	HORIZONTAL
6	2487.35	53.44	74.00	-20.56	22.76	2.26	28.42	0.00	Peak	145	117	HORIZONTAL

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

Temperature	22℃	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	98.39%	Configurations	IEEE 802.11n MCS8 20MHz Ch 11 / Ant. 1 + Ant. 2

Channel 11



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2462.96	96.92			66.35	2.24	28.33	0.00	Average	171	126	HORIZONTAL
2	2462.96	108.57			78.00	2.24	28.33	0.00	Peak	171	126	HORIZONTAL
3	2483.50	53.44	54.00	-0.56	22.80	2.26	28.38	0.00	Average	171	126	HORIZONTAL
4	2484.14	71.80	74.00	-2.20	41.16	2.26	28.38	0.00	Peak	171	126	HORIZONTAL

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

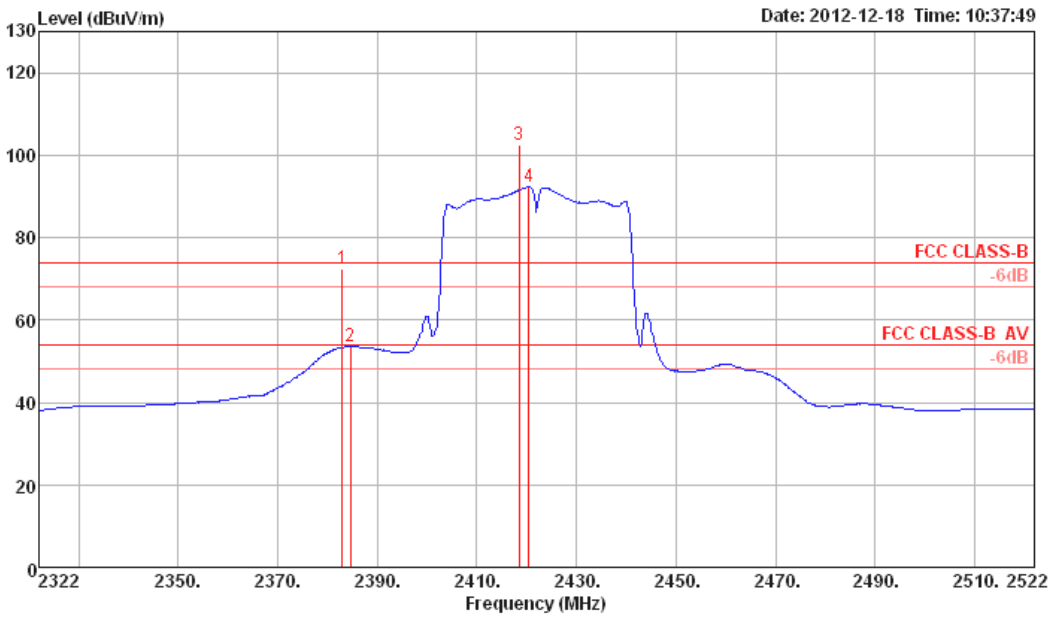
Note:

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

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 3 / Ant. 2

Channel 3

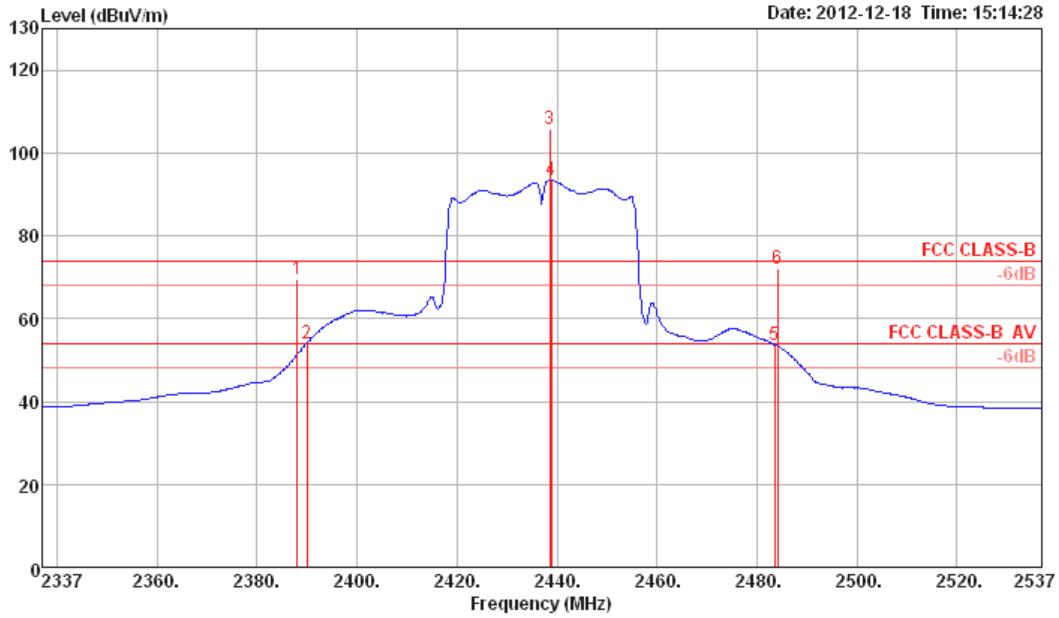


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2382.95	72.43	74.00	-1.57	42.05	2.21	28.17	0.00	Peak	100	176	VERTICAL
2	2384.55	53.71	54.00	-0.29	23.33	2.21	28.17	0.00	Average	100	176	VERTICAL
3	2418.47	102.56			72.08	2.23	28.25	0.00	Peak	100	176	VERTICAL
4	2420.40	92.31			61.83	2.23	28.25	0.00	Average	100	176	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 6 / Ant. 2

Channel 6

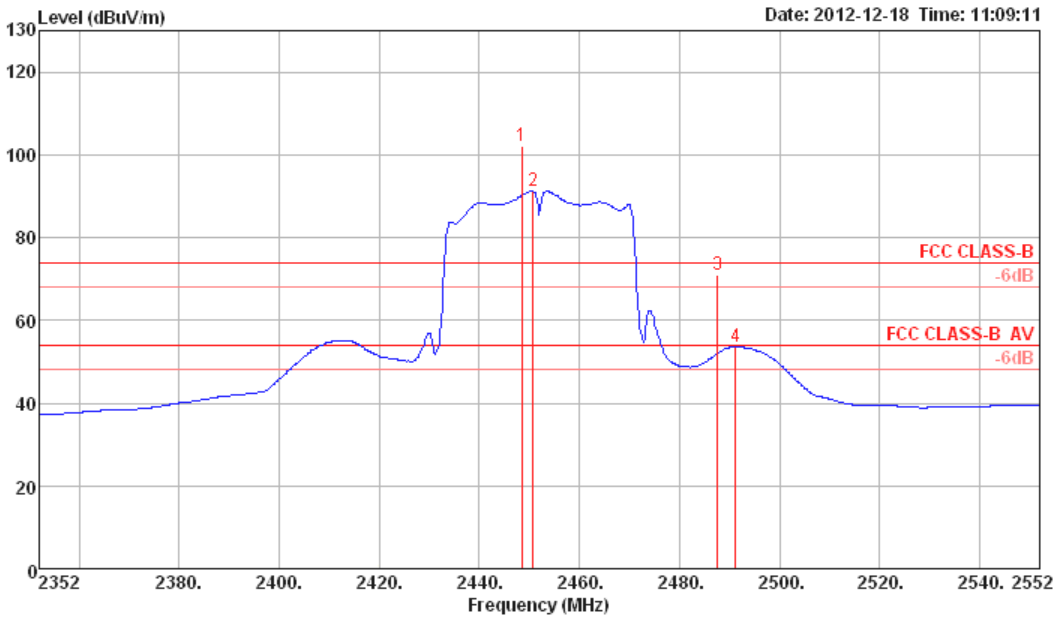


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2388.08	69.53	74.00	-4.47	39.15	2.21	28.17	0.00	Peak	100	198	VERTICAL
2	2390.00	53.90	54.00	-0.10	23.51	2.22	28.17	0.00	Average	100	198	VERTICAL
3	2438.60	105.91			75.39	2.23	28.29	0.00	Peak	100	198	VERTICAL
4	2438.92	93.37			62.85	2.23	28.29	0.00	Average	100	198	VERTICAL
5	2483.50	53.69	54.00	-0.31	23.06	2.26	28.37	0.00	Average	100	198	VERTICAL
6	2484.14	71.94	74.00	-2.06	41.31	2.26	28.37	0.00	Peak	100	198	VERTICAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	97.89%	Configurations	IEEE 802.11n MCS0 40MHz Ch 9 / Ant. 2

Channel 9



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2448.47	102.15			71.62	2.24	28.29	0.00	Peak	100	143	VERTICAL
2	2450.72	91.26			60.73	2.24	28.29	0.00	Average	100	143	VERTICAL
3	2487.67	70.80	74.00	-3.20	40.13	2.26	28.41	0.00	Peak	100	143	VERTICAL
4	2491.19	53.50	54.00	-0.50	22.83	2.26	28.41	0.00	Average	100	143	VERTICAL

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

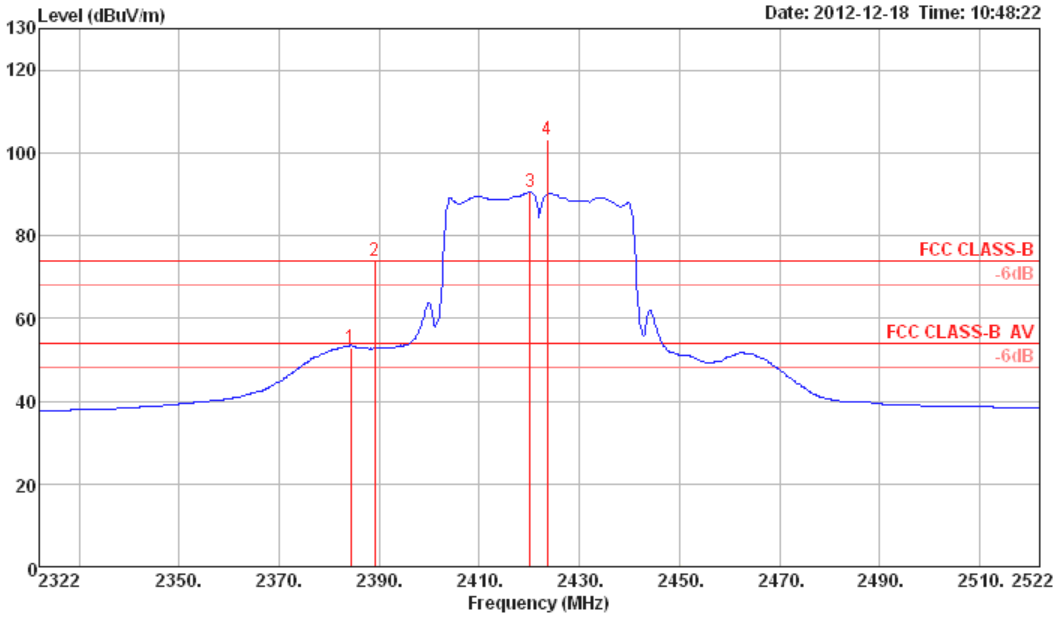
Note:

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

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 3 / Ant. 1 + Ant. 2

Channel 3

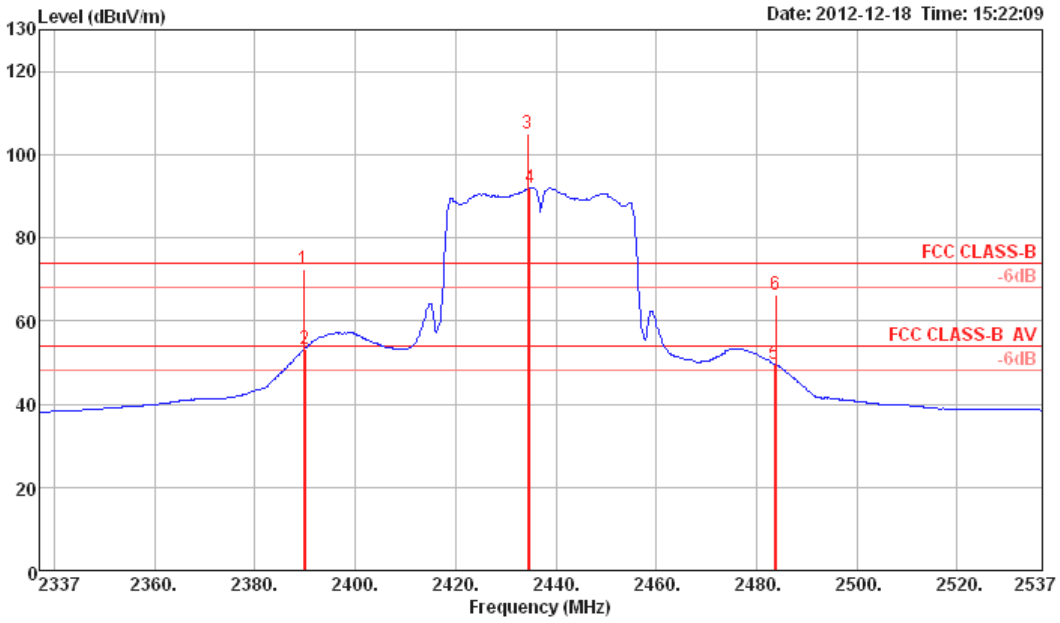


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2384.23	53.02	54.00	-0.98	22.64	2.21	28.17	0.00	Average	144	33	HORIZONTAL
2	2389.04	73.86	74.00	-0.14	43.48	2.21	28.17	0.00	Peak	144	33	HORIZONTAL
3	2420.08	90.46			59.98	2.23	28.25	0.00	Average	144	33	HORIZONTAL
4	2423.60	103.30			72.82	2.23	28.25	0.00	Peak	144	33	HORIZONTAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 6 / Ant. 1 + Ant. 2

Channel 6

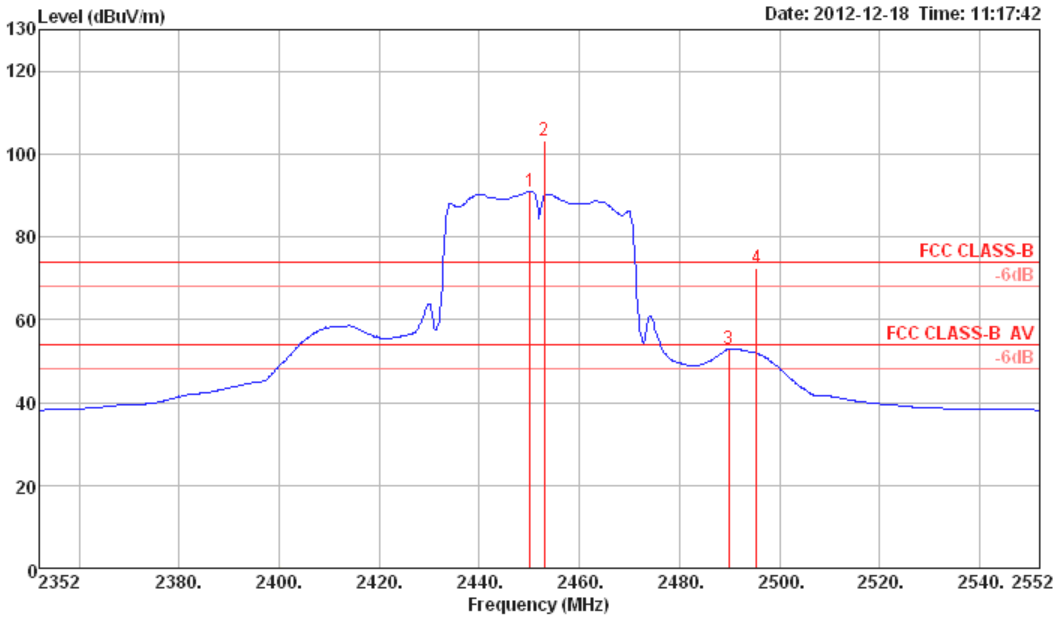


	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2389.68	72.48	74.00	-1.52	42.10	2.21	28.17	0.00	Peak	143	38	HORIZONTAL
2	2390.00	53.17	54.00	-0.83	22.78	2.22	28.17	0.00	Average	143	38	HORIZONTAL
3	2434.44	104.84			74.32	2.23	28.29	0.00	Peak	143	38	HORIZONTAL
4	2434.76	91.97			61.45	2.23	28.29	0.00	Average	143	38	HORIZONTAL
5	2483.50	49.49	54.00	-4.51	18.85	2.26	28.38	0.00	Average	143	38	HORIZONTAL
6	2483.82	66.35	74.00	-7.65	35.71	2.26	28.38	0.00	Peak	143	38	HORIZONTAL

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

Temperature	22°C	Humidity	60%
Test Engineer	Robert Chang	Test Site No.	03CH01-CB
Duty cycle	96.77%	Configurations	IEEE 802.11n MCS8 40MHz Ch 9 / Ant. 1 + Ant. 2

Channel 9



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	2450.08	90.94			60.41	2.24	28.29	0.00	Average	144	135	HORIZONTAL
2	2452.96	103.25			72.68	2.24	28.33	0.00	Peak	144	135	HORIZONTAL
3	2489.91	52.93	54.00	-1.07	22.25	2.26	28.42	0.00	Average	144	135	HORIZONTAL
4	2495.36	72.42	74.00	-1.58	41.73	2.27	28.42	0.00	Peak	144	135	HORIZONTAL

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

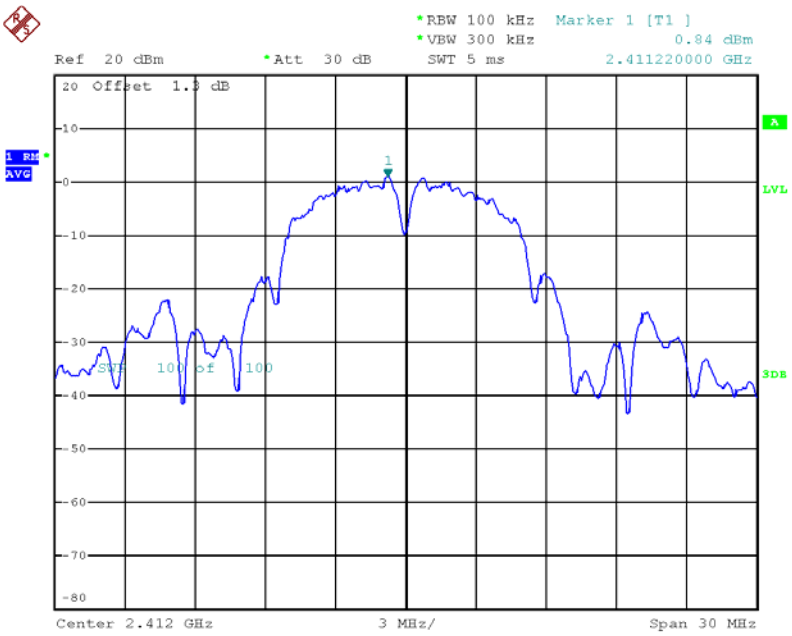
Note:

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

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

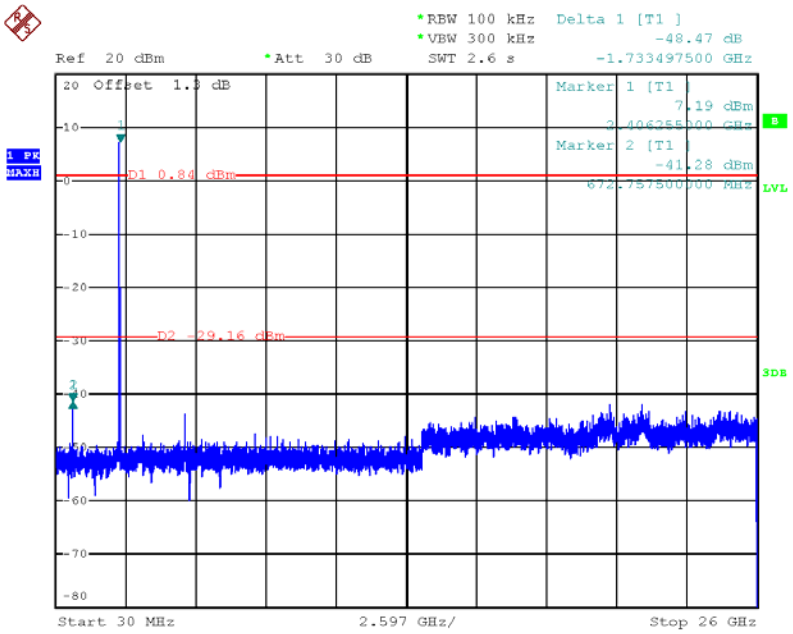
For Emission not in Restricted Band

Plot on Configuration IEEE 802.11b / CH 1 / Reference Level / Ant. 1



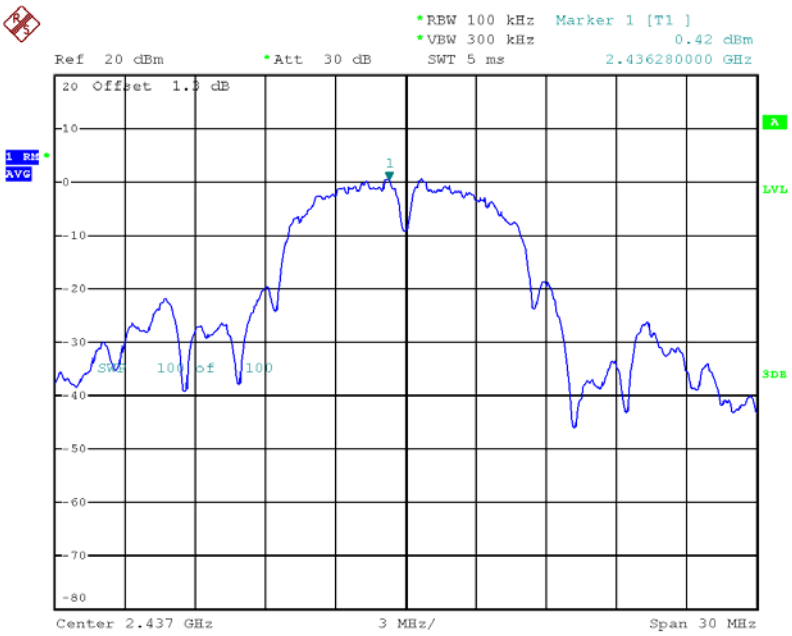
Date: 26.FEB.2013 09:57:17

Plot on Configuration IEEE 802.11b / CH 1 (down 30dBc) / Ant. 1



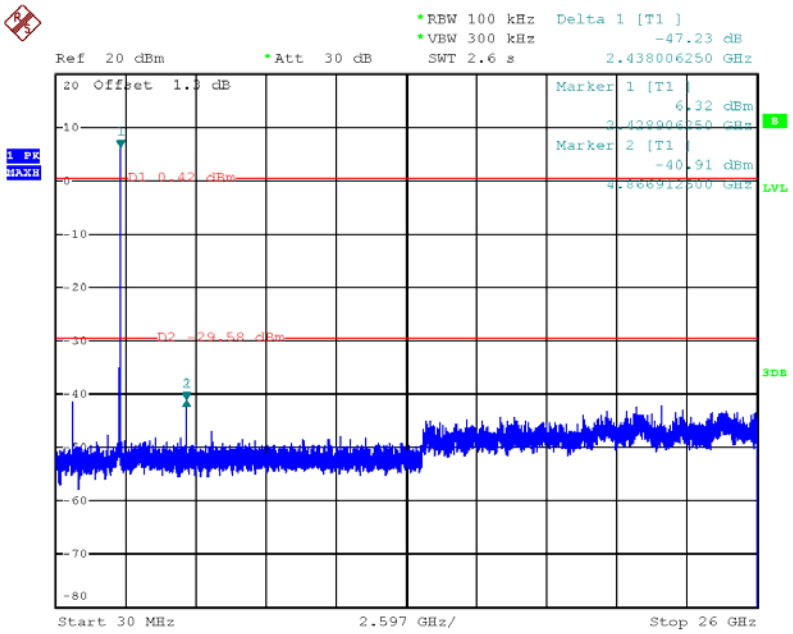
Date: 26.FEB.2013 10:30:32

Plot on Configuration IEEE 802.11b / CH 6 / Reference Level / Ant. 1



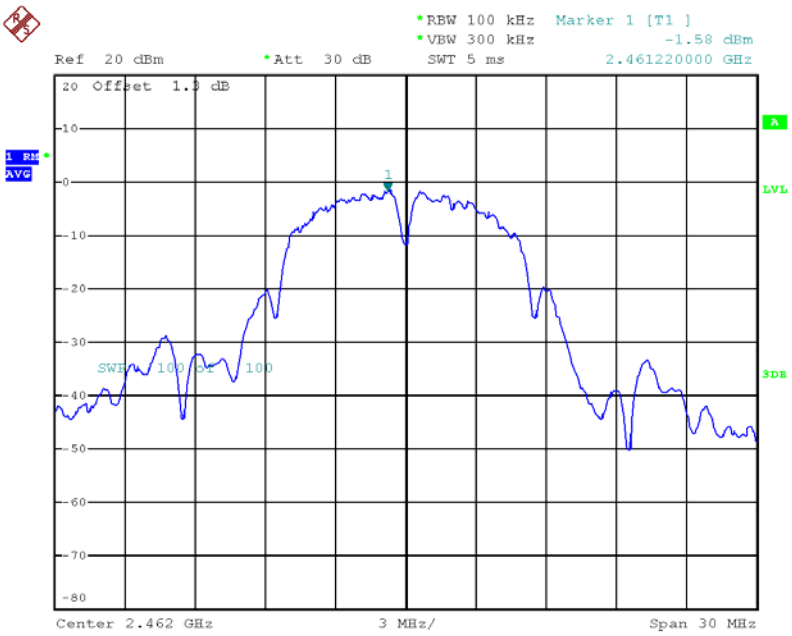
Date: 26.FEB.2013 10:17:24

Plot on Configuration IEEE 802.11b / CH 6 (down 30dBc) / Ant. 1



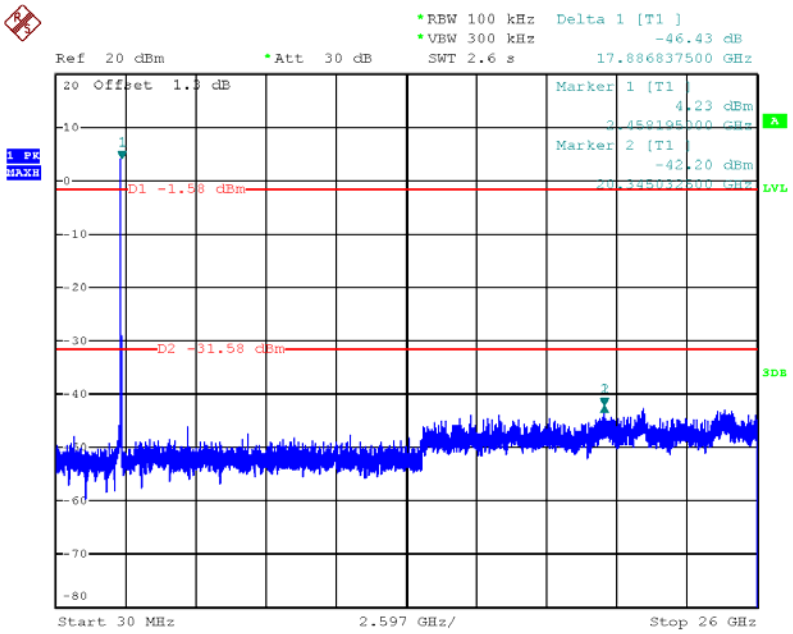
Date: 26.FEB.2013 10:23:44

Plot on Configuration IEEE 802.11b / CH 11 / Reference Level / Ant. 1



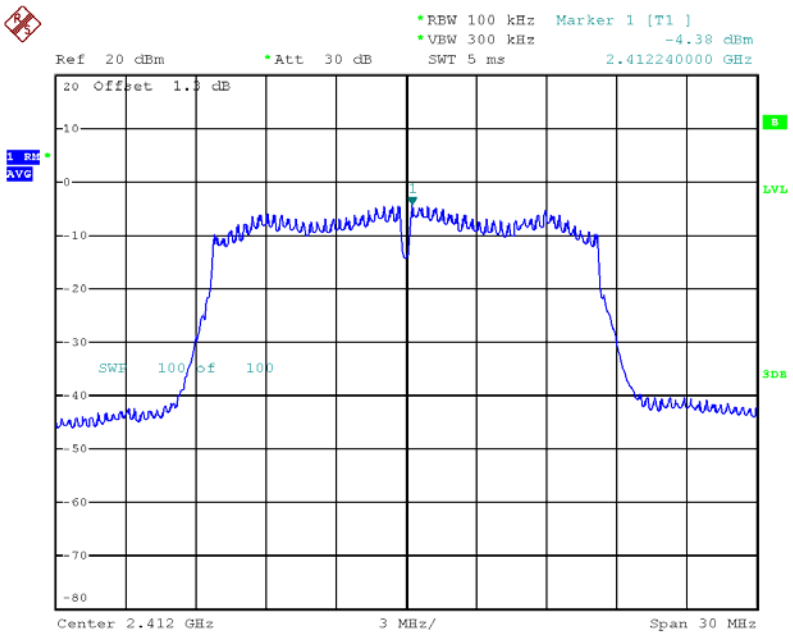
Date: 26.FEB.2013 10:32:21

Plot on Configuration IEEE 802.11b / CH 11 (down 30dBc) / Ant. 1



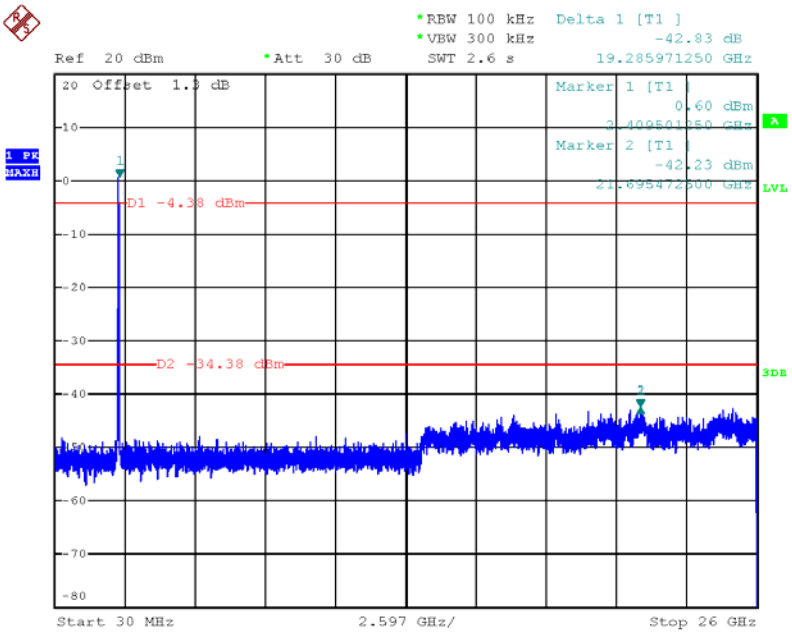
Date: 26.FEB.2013 10:34:57

Plot on Configuration IEEE 802.11g / CH 1 / Reference Level / Ant. 2



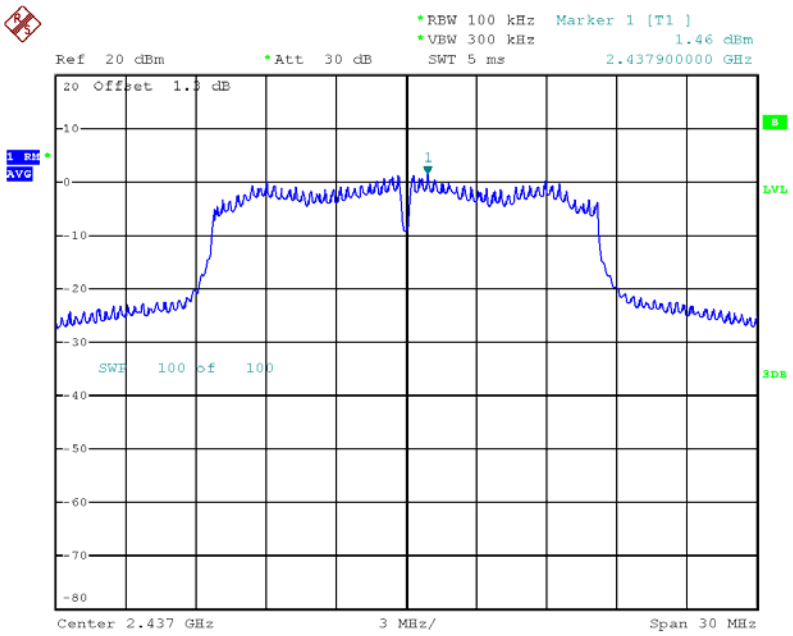
Date: 26.FEB.2013 10:40:54

Plot on Configuration IEEE 802.11g / CH 1 (down 30dBc) / Ant. 2



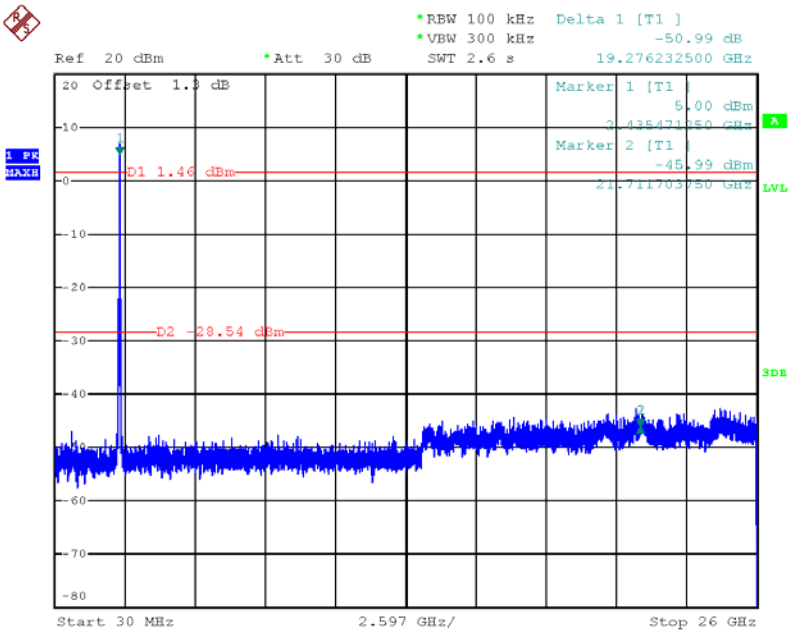
Date: 26.FEB.2013 10:42:05

Plot on Configuration IEEE 802.11g / CH 6 / Reference Level / Ant. 2



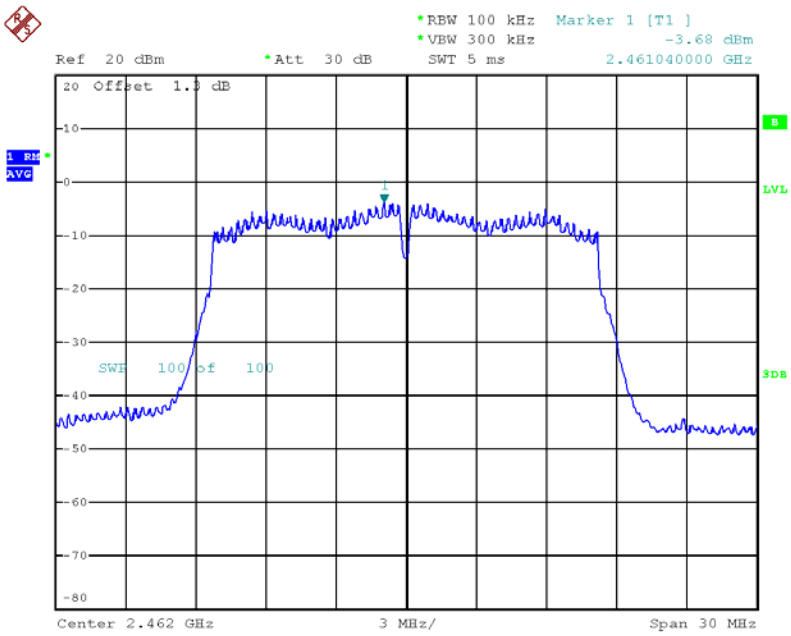
Date: 26.FEB.2013 10:43:28

Plot on Configuration IEEE 802.11g / CH 6 (down 30dBc) / Ant. 2



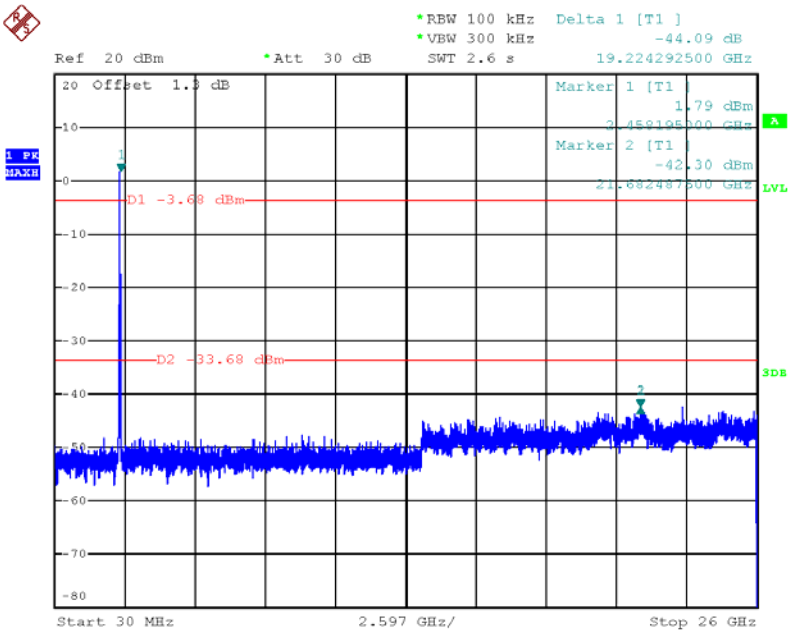
Date: 26.FEB.2013 10:44:28

Plot on Configuration IEEE 802.11g / CH 11 / Reference Level / Ant. 2



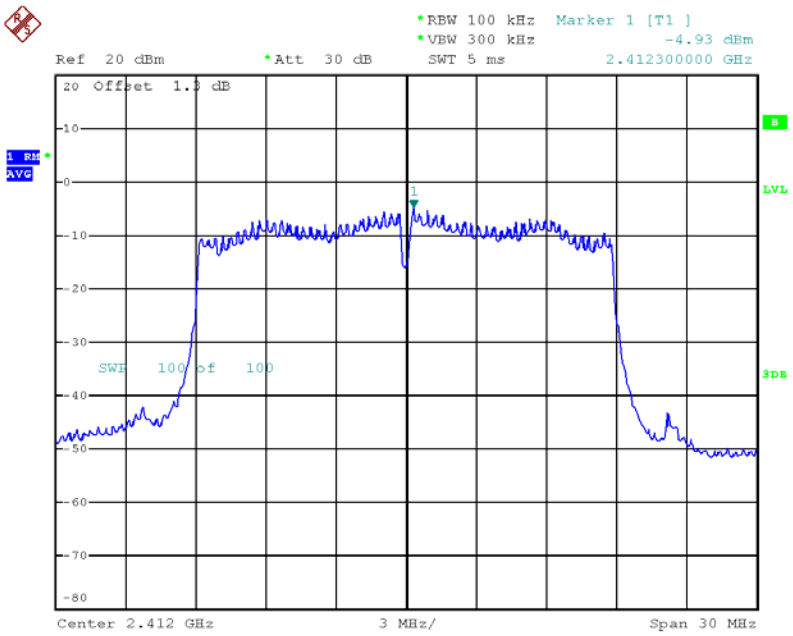
Date: 26.FEB.2013 10:47:03

Plot on Configuration IEEE 802.11g / CH 11 (down 30dBc) / Ant. 2



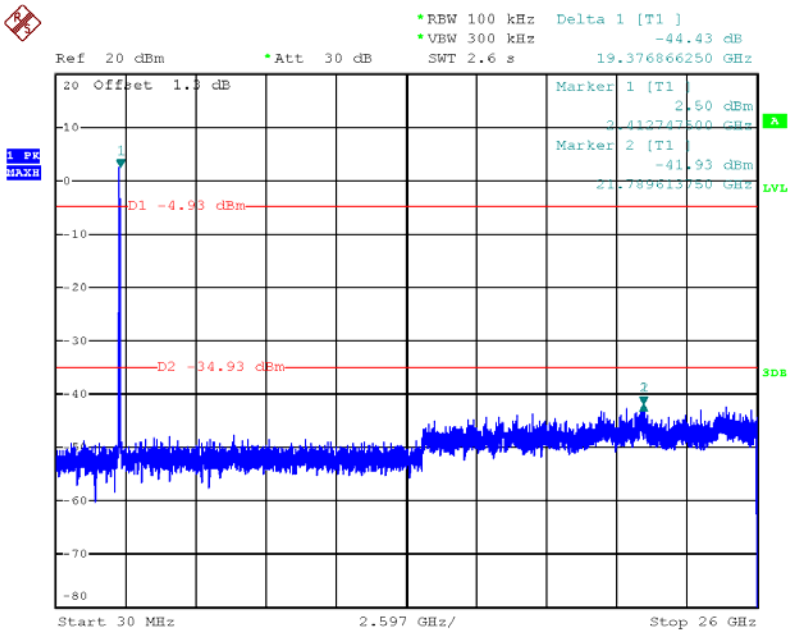
Date: 26.FEB.2013 10:48:14

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 1 / Reference Level / Ant. 2



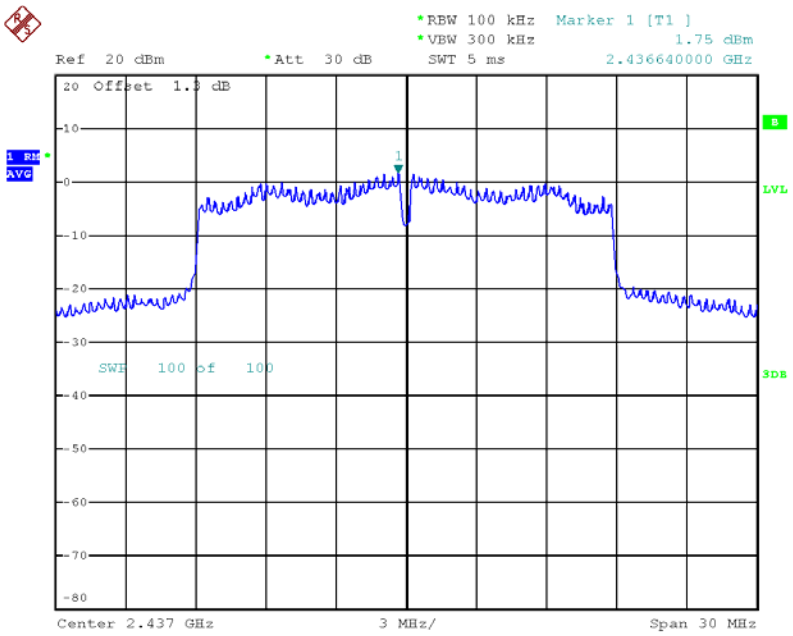
Date: 26.FEB.2013 10:52:29

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 1 (down 30dBc) / Ant. 2



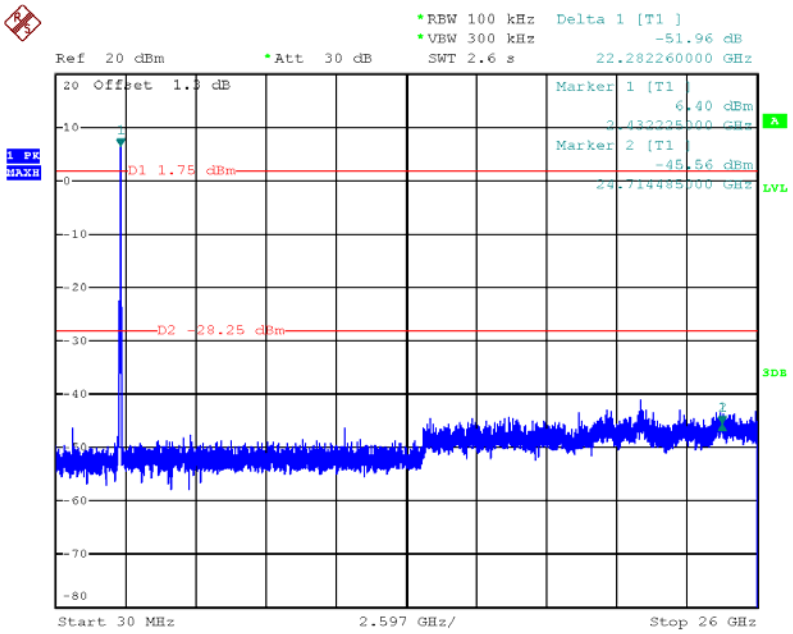
Date: 26.FEB.2013 10:53:31

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 6 / Reference Level / Ant. 2



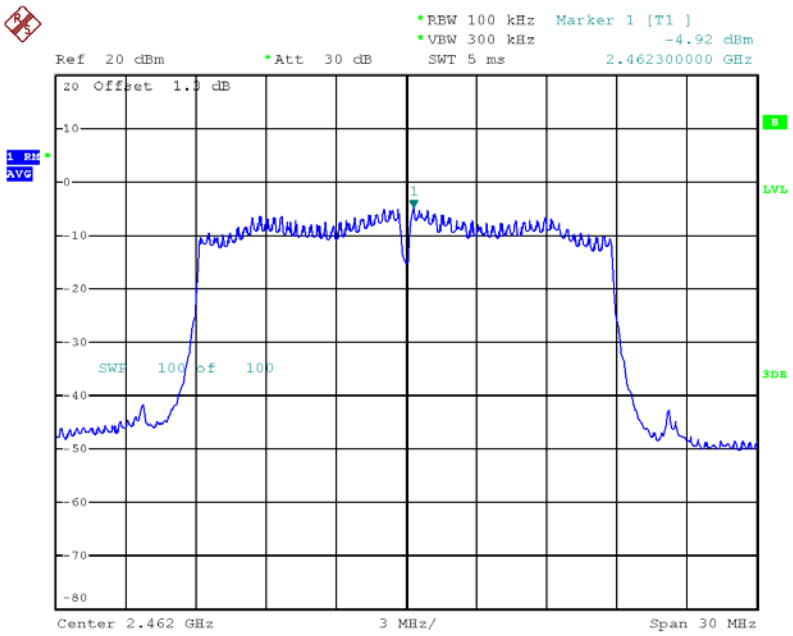
Date: 26.FEB.2013 10:55:15

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 6 (down 30dBc) / Ant. 2



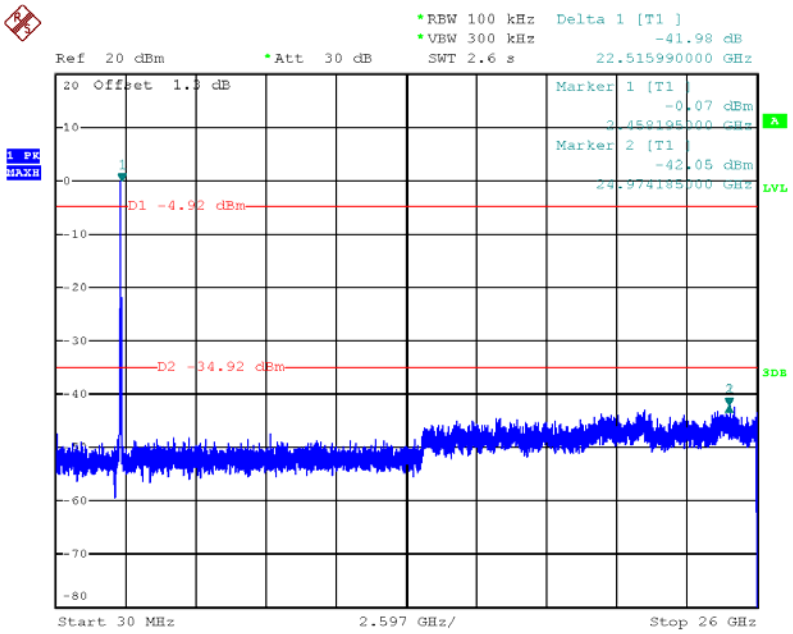
Date: 26.FEB.2013 10:56:32

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 11 / Reference Level / Ant. 2



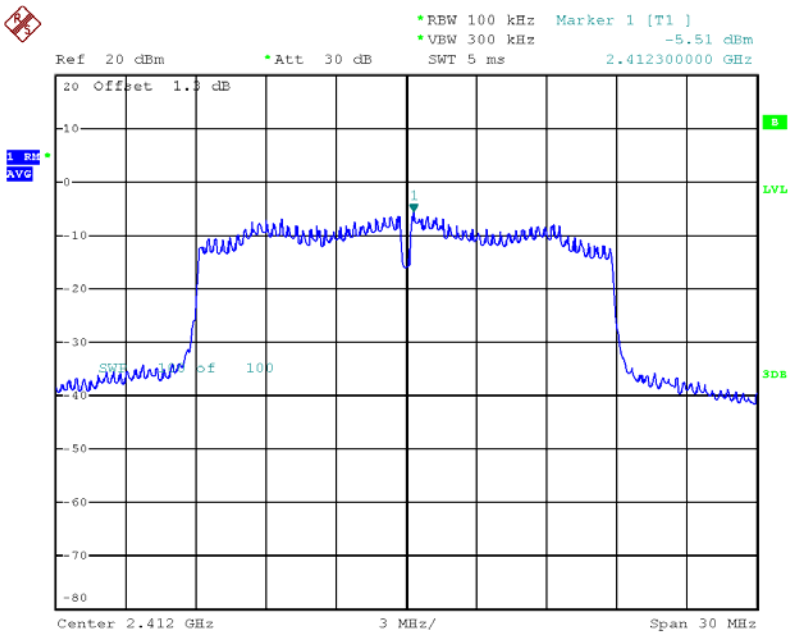
Date: 26.FEB.2013 10:57:54

Plot on Configuration IEEE 802.11n MCS0 20MHz / CH 11 (down 30dBc) / Ant. 2



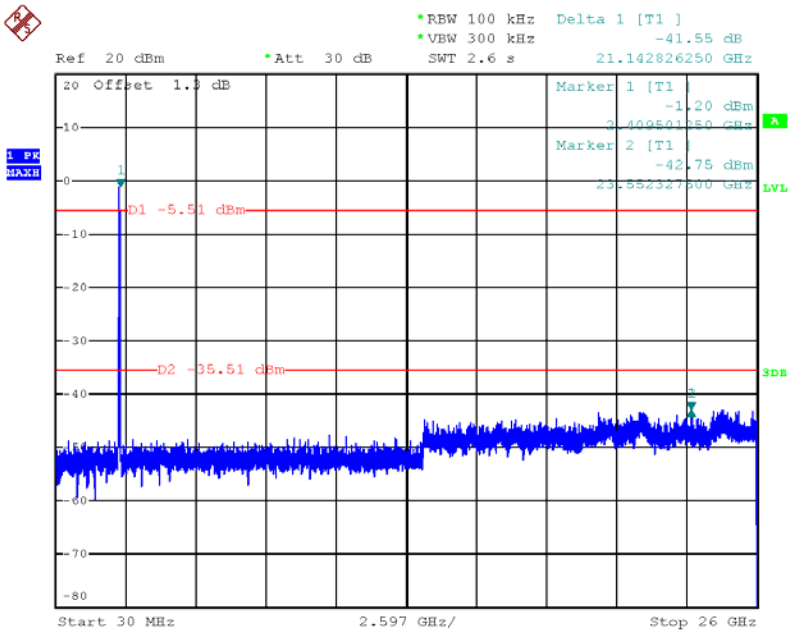
Date: 26.FEB.2013 10:59:34

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 1 / Reference Level / 2TX (Ant. 1)



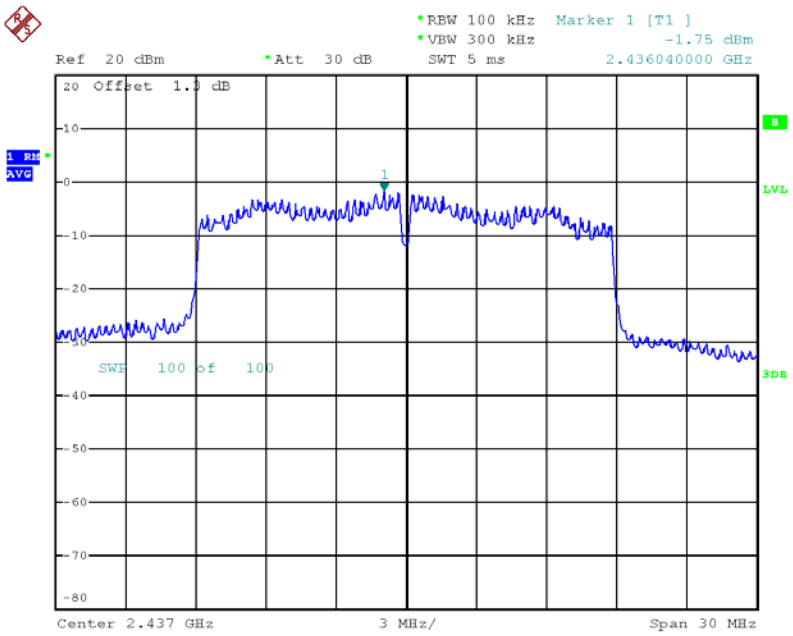
Date: 26.FEB.2013 11:26:10

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 1 (down 30dBc) / 2TX (Ant. 1)



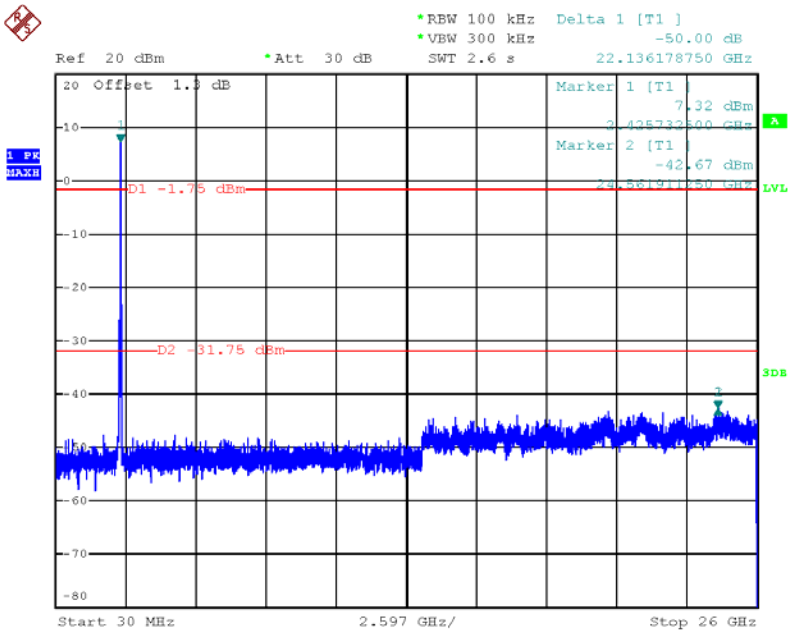
Date: 26.FEB.2013 11:27:16

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 6 / Reference Level / 2TX (Ant. 1)



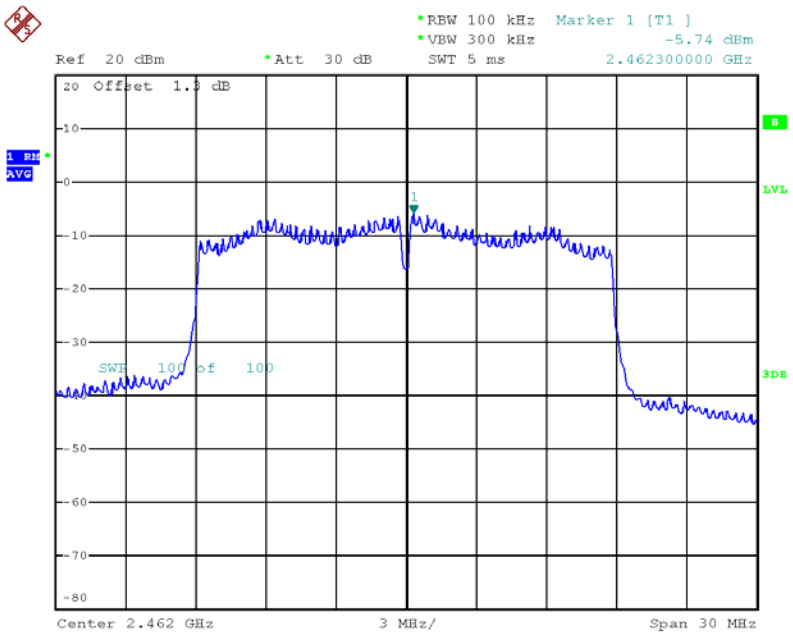
Date: 26.FEB.2013 11:43:27

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 6 (down 30dBc) / 2TX (Ant. 1)



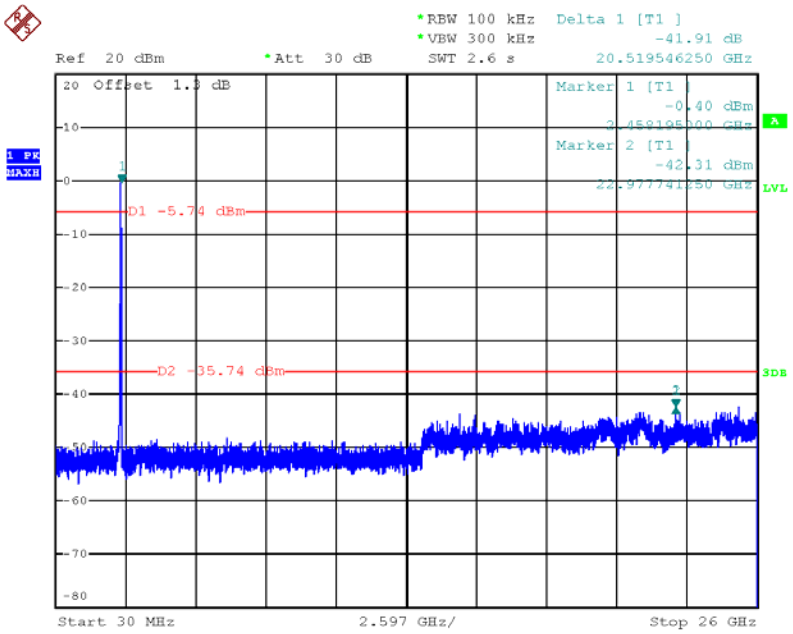
Date: 26.FEB.2013 11:44:09

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 11 / Reference Level / 2TX (Ant. 1)



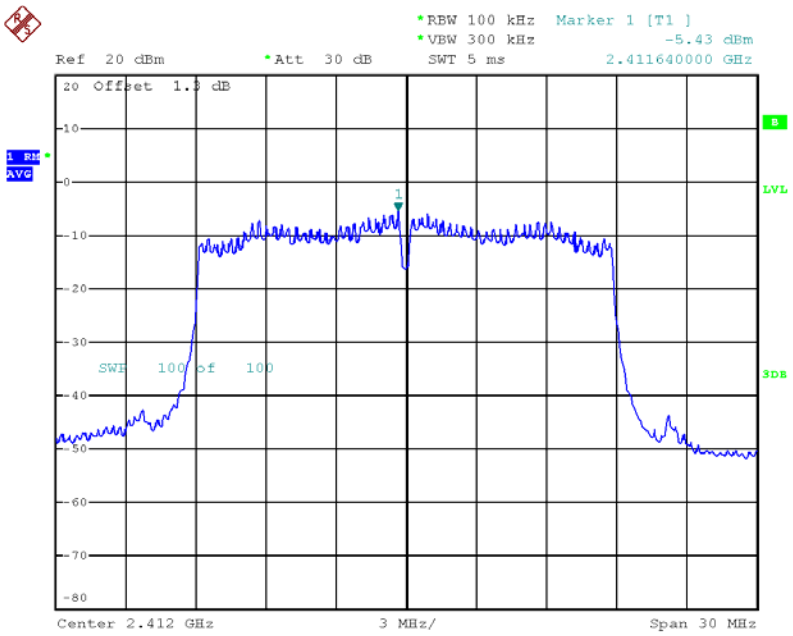
Date: 26.FEB.2013 11:47:16

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 11 (down 30dBc) / 2TX (Ant. 1)



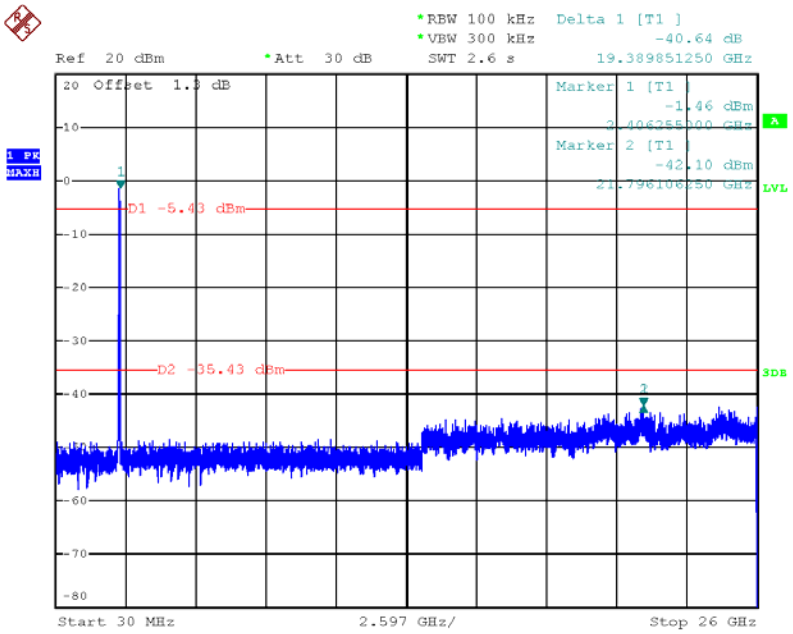
Date: 26.FEB.2013 11:48:35

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 1 / Reference Level / 2TX (Ant. 2)



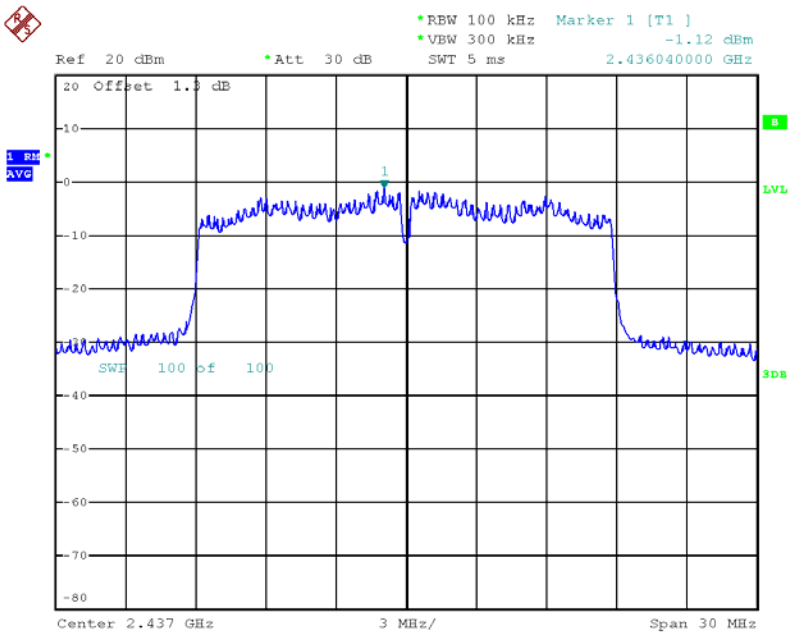
Date: 26.FEB.2013 11:29:17

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 1 (down 30dBc) / 2TX (Ant. 2)



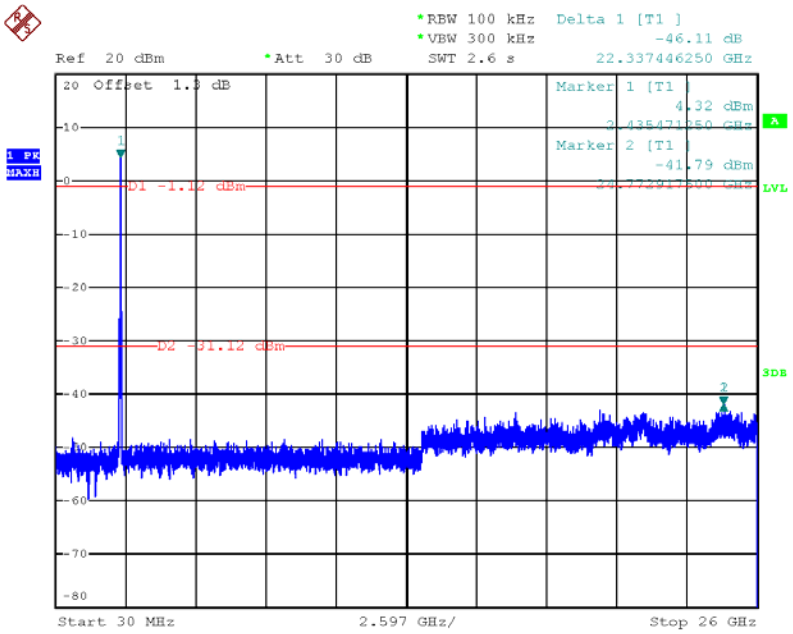
Date: 26.FEB.2013 11:38:15

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 6 / Reference Level / 2TX (Ant. 2)



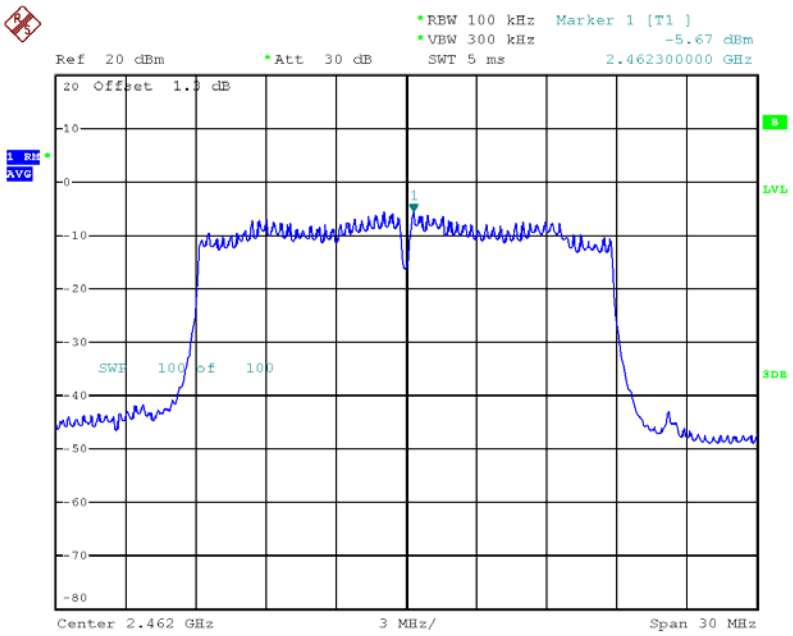
Date: 26.FEB.2013 11:40:32

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 6 (down 30dBc) / 2TX (Ant. 2)



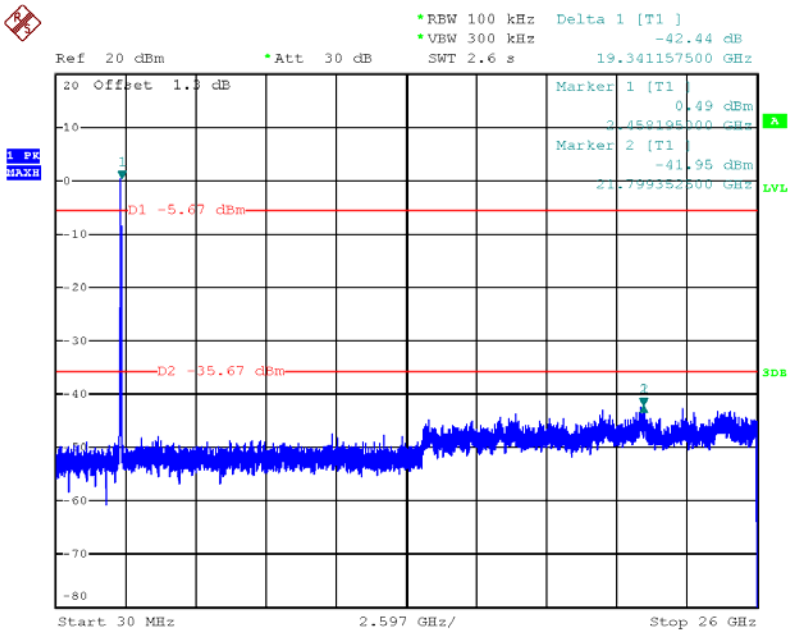
Date: 26.FEB.2013 11:42:25

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 11 / Reference Level / 2TX (Ant. 2)



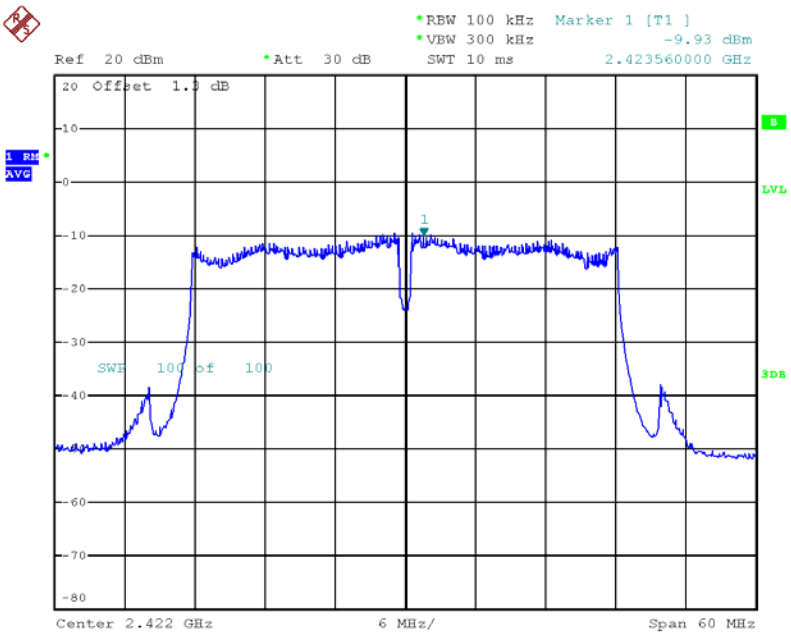
Date: 26.FEB.2013 11:49:40

Plot on Configuration IEEE 802.11n MCS8 20MHz / CH 11 (down 30dBc) / 2TX (Ant. 2)



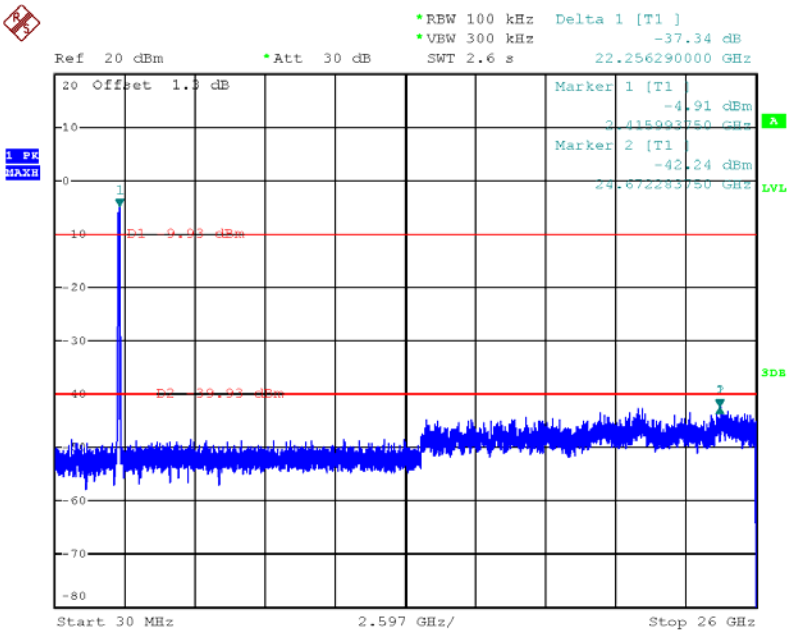
Date: 26.FEB.2013 11:50:43

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 3 / Reference Level / Ant. 2



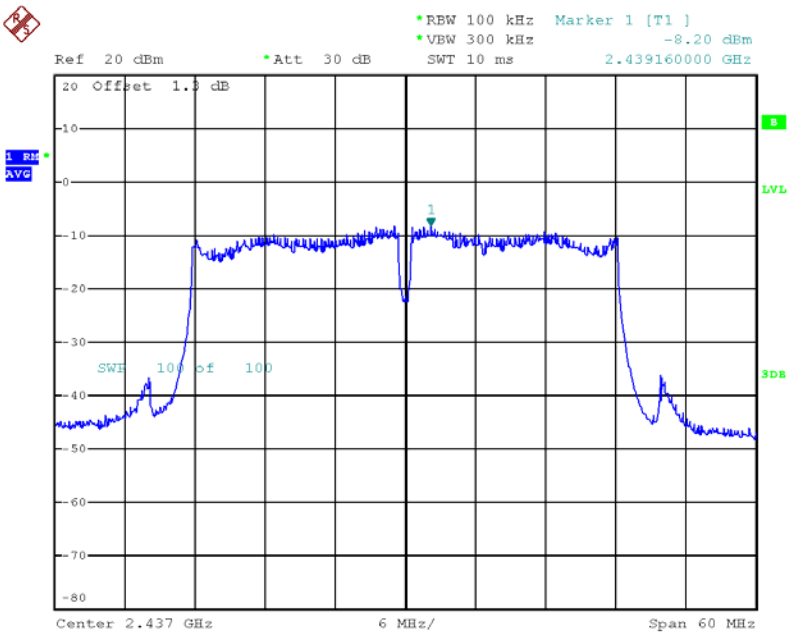
Date: 26.FEB.2013 11:12:17

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 3 (down 30dBc) / Ant. 2



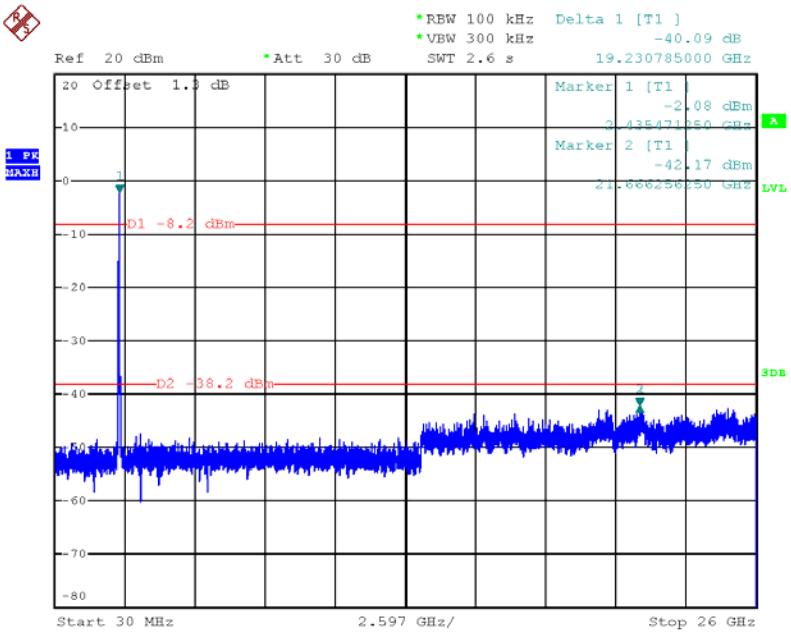
Date: 26.FEB.2013 11:13:53

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 6 / 6Reference Level / Ant. 2



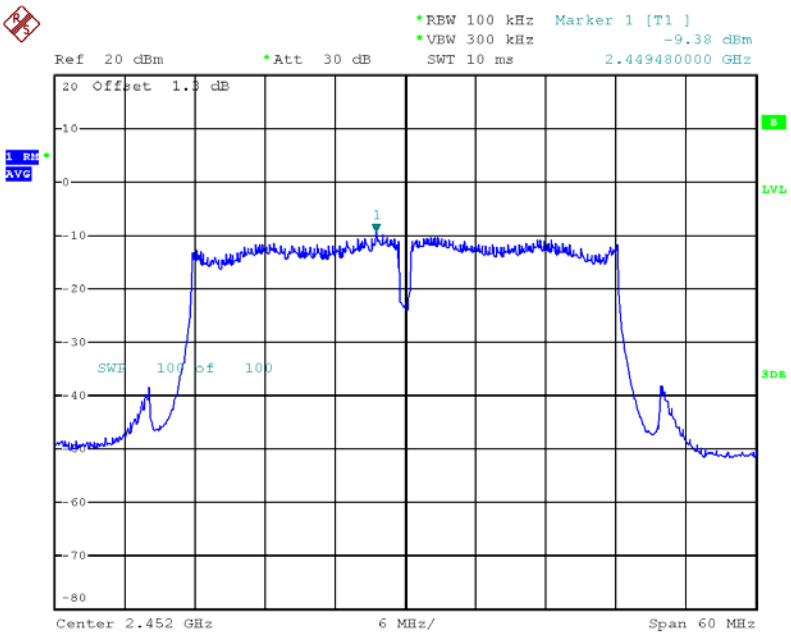
Date: 26.FEB.2013 11:17:29

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 6 (down 30dBc) / Ant. 2



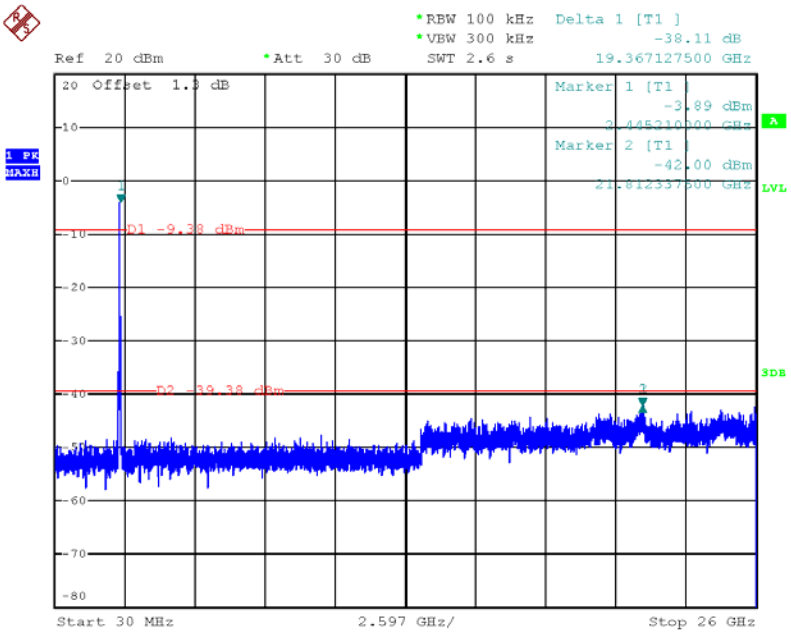
Date: 26.FEB.2013 11:19:32

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 9 / Reference Level / Ant. 2



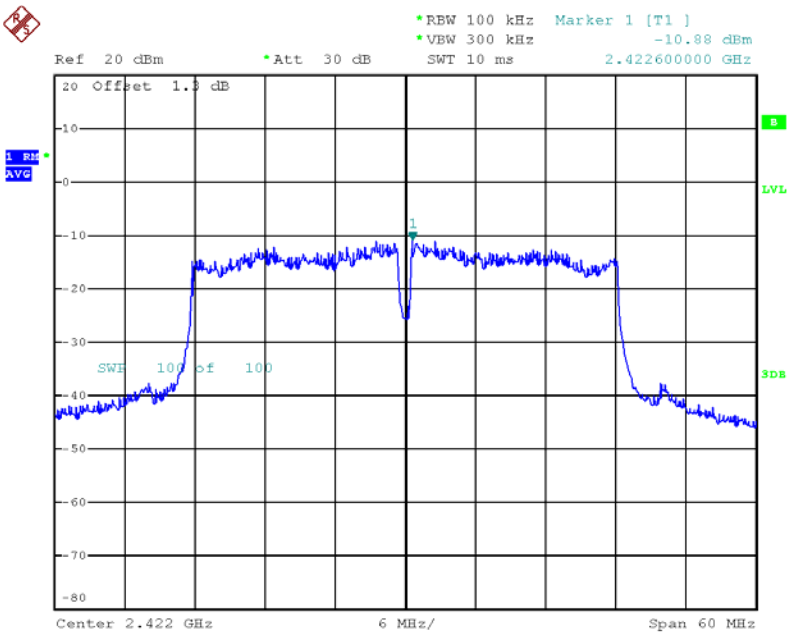
Date: 26.FEB.2013 11:21:32

Plot on Configuration IEEE 802.11n MCS0 40MHz / CH 9 (down 30dBc) / Ant. 2



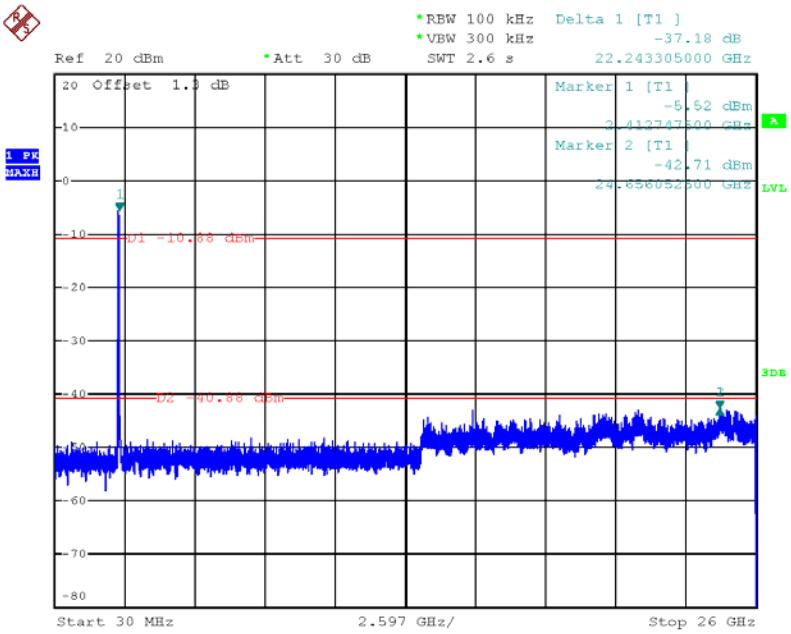
Date: 26.FEB.2013 11:22:56

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 3 / Reference Level / 2TX (Ant. 1)



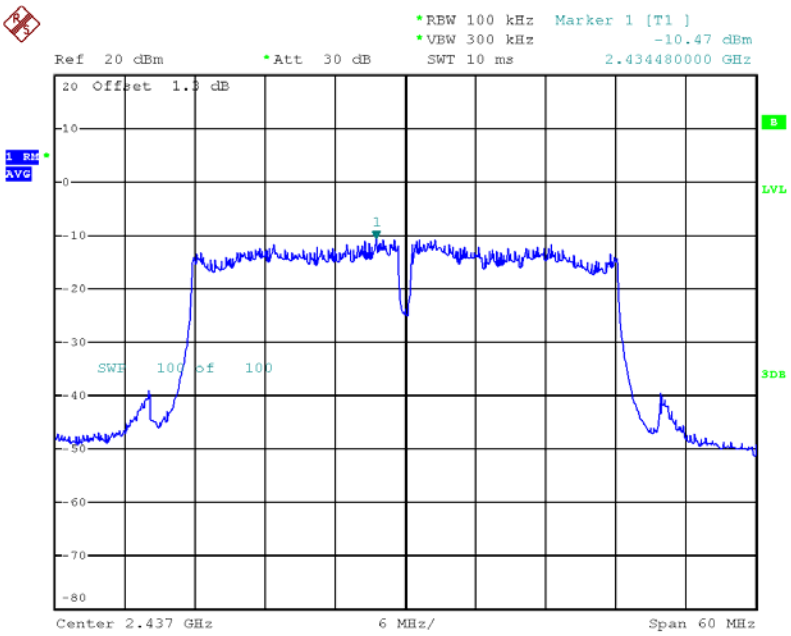
Date: 26.FEB.2013 12:01:20

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 3 (down 30dBc) / 2TX (Ant. 1)



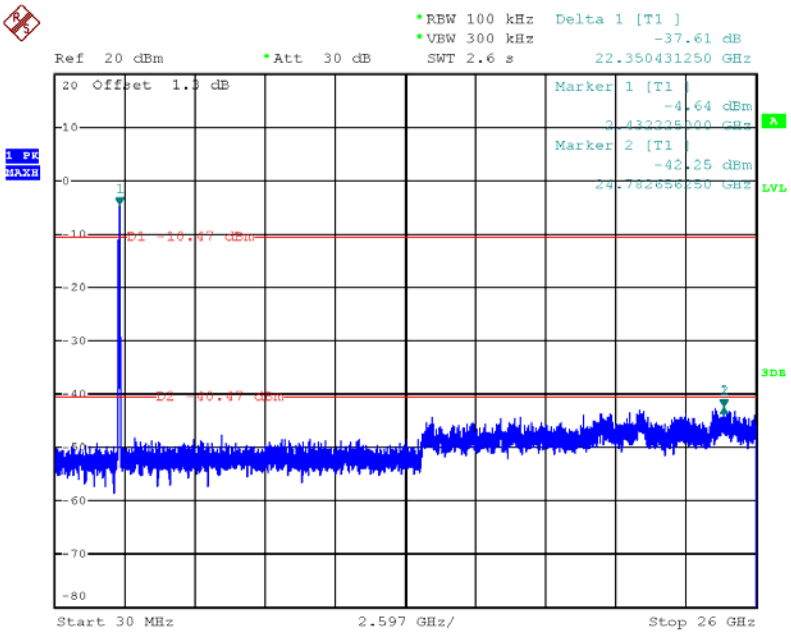
Date: 26.FEB.2013 12:02:45

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 6 / Reference Level / 2TX (Ant. 1)



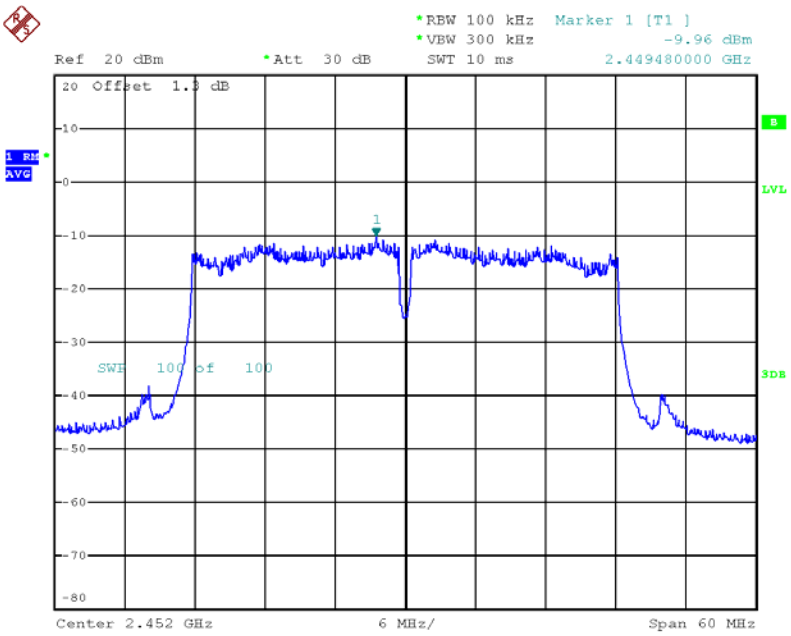
Date: 26.FEB.2013 12:04:21

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 6 (down 30dBc) / 2TX (Ant. 1)



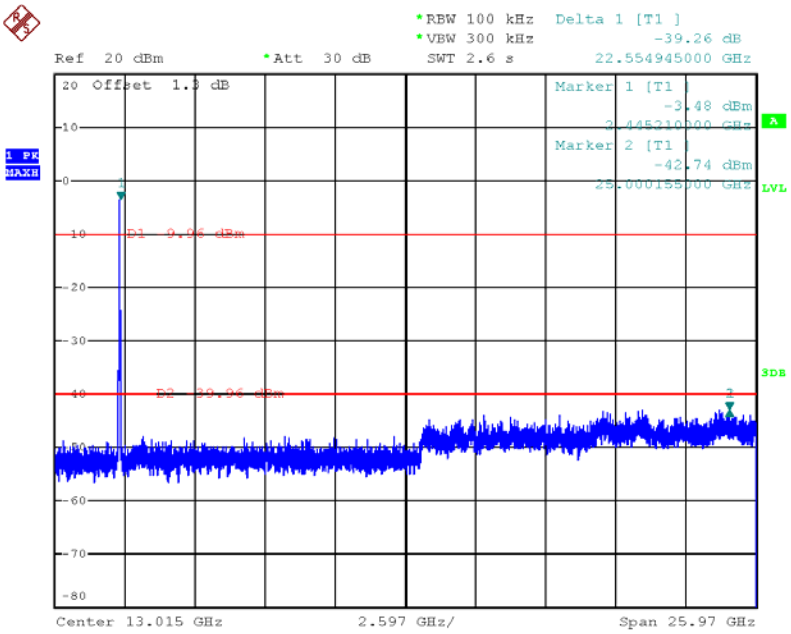
Date: 26.FEB.2013 12:05:49

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 9 / Reference Level / 2TX (Ant. 1)



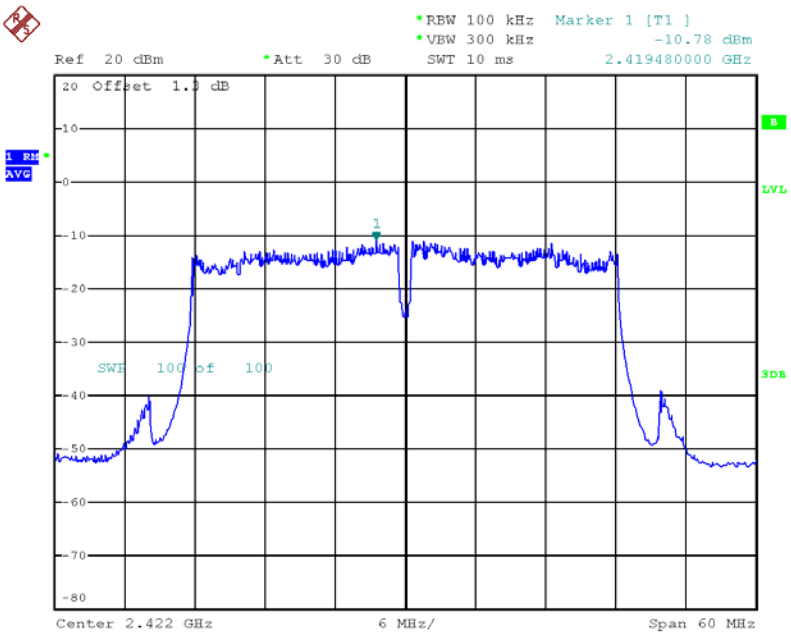
Date: 26.FEB.2013 12:15:20

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 9 (down 30dBc) / 2TX (Ant. 1)



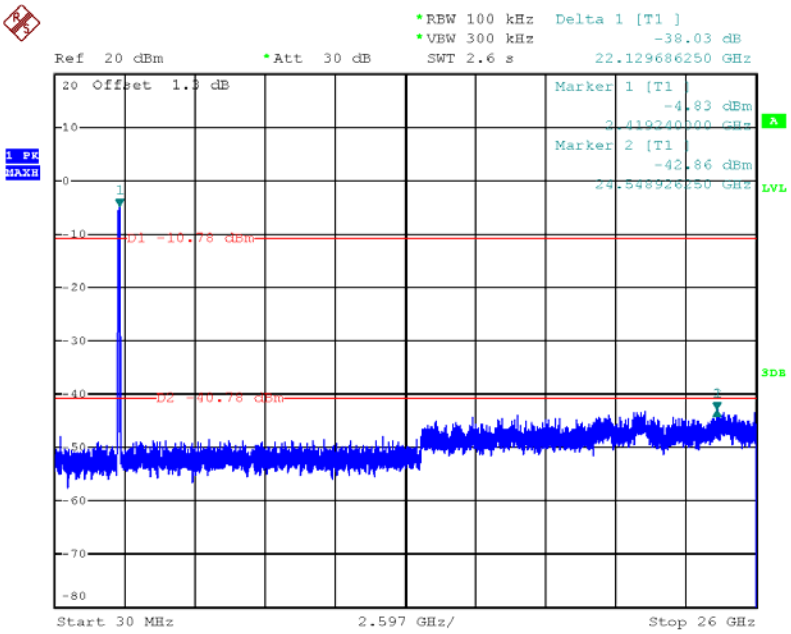
Date: 26.FEB.2013 12:16:38

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 3 / Reference Level / 2TX (Ant. 2)



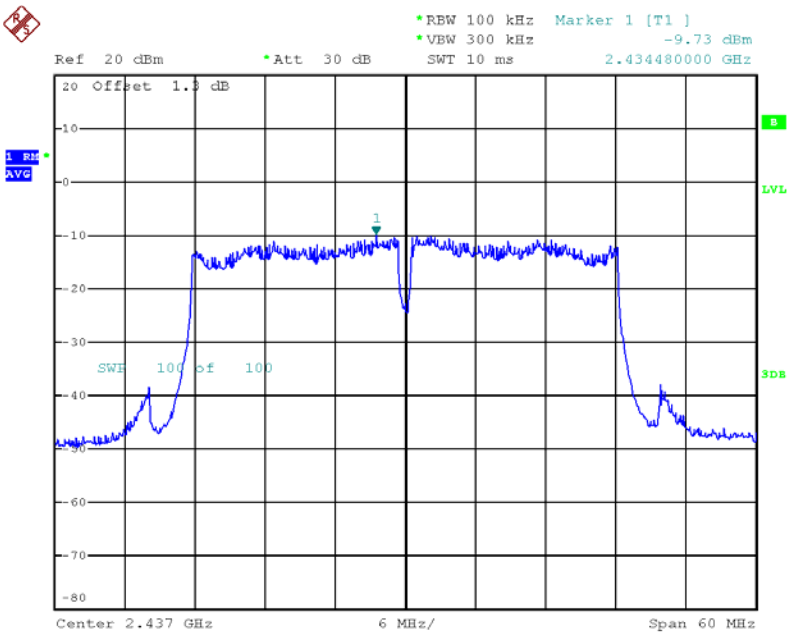
Date: 26.FEB.2013 11:58:54

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 3 (down 30dBc) / 2TX (Ant. 2)



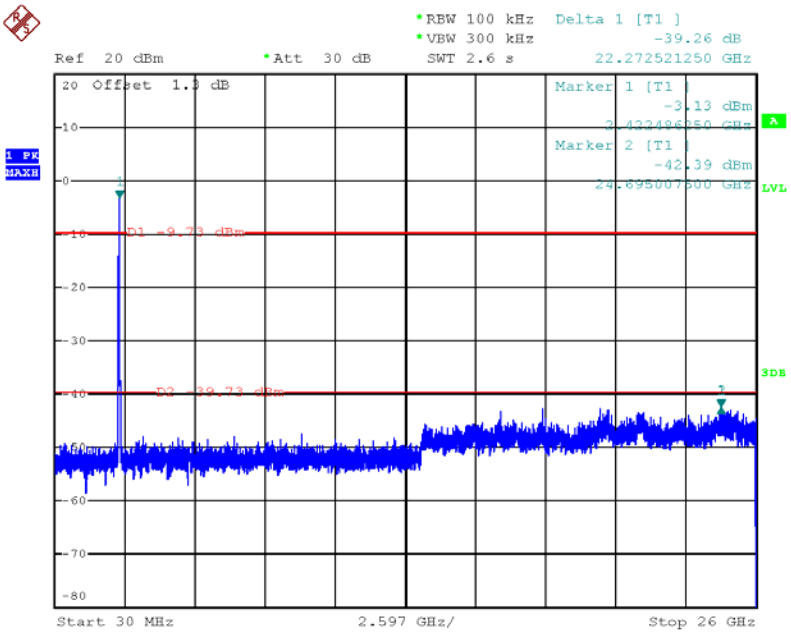
Date: 26.FEB.2013 12:00:14

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 6 / Reference Level / 2TX (Ant. 2)



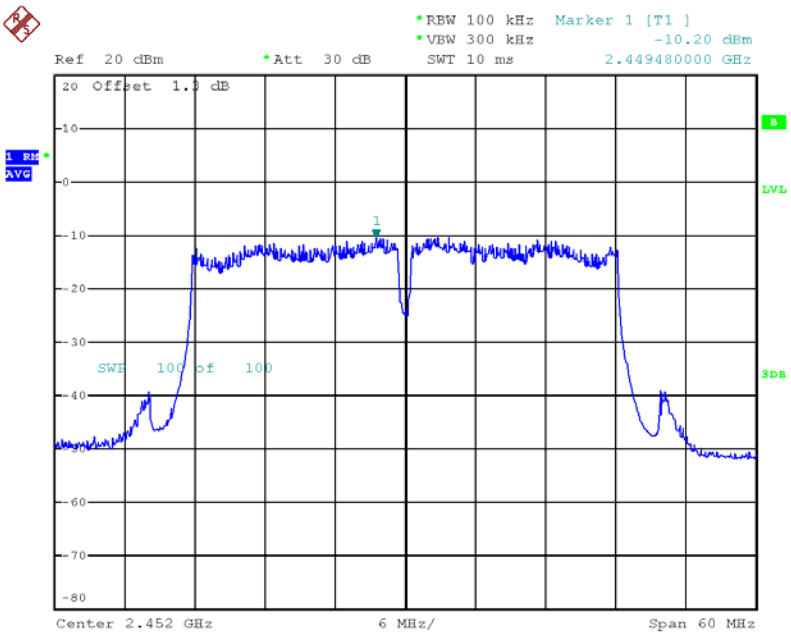
Date: 26.FEB.2013 12:07:05

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 6 (down 30dBc) / 2TX (Ant. 2)



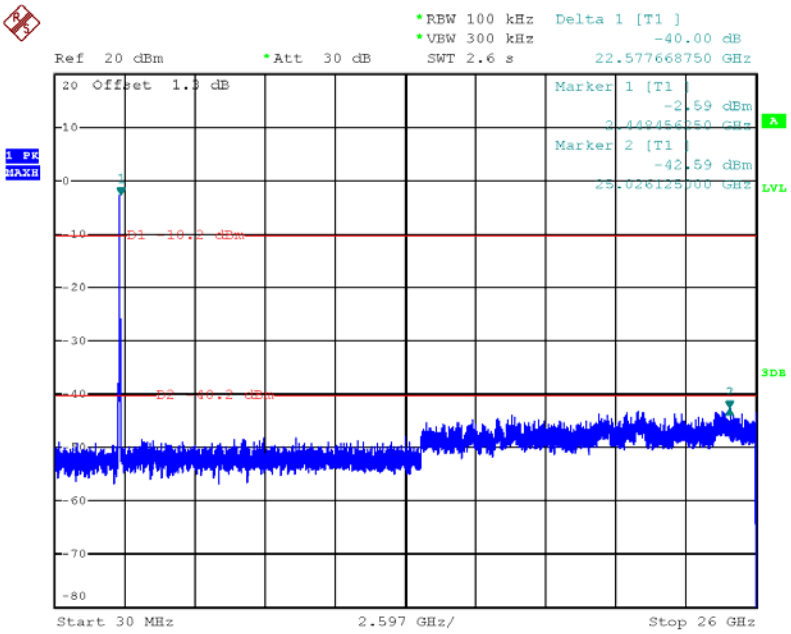
Date: 26.FEB.2013 12:09:32

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 9 / Reference Level / 2TX (Ant. 2)



Date: 26.FEB.2013 12:12:48

Plot on Configuration IEEE 802.11n MCS8 40MHz / CH 9 (down 30dBc) / 2TX (Ant. 2)



Date: 26.FEB.2013 12:13:38

5.7 Antenna Requirements

5.7.1 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.

5.7.2 Antenna Connector Construction

Please refer to section 4.4 in this test report; antenna connector complied with the requirements.

6 LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100377	9kHz ~ 2.75GHz	Oct. 23, 2012	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Nov.26, 2012	Conduction (CO01-CB)
V- LISN	Schwarzbeck	NSLK 8127	8127-478	9kHz ~ 30MHz	Jun. 22, 2012	Conduction (CO01-CB)
Impulsbegrenzer Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz~30MHz	Feb. 03, 2012	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	0.15MHz~30MHz	Dec. 4, 2012	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	-	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	Jan. 11, 2012	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9 kHz - 30 MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
forHorn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 27, 2012	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Nov. 23, 2012	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 27, 2012	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Nov. 23, 2012	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26.5GHz ~ 40GHz	Jul. 31, 2012	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100056	9KHz~40GHz	Nov. 16, 2012	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS 30	100355	9KHz ~ 2.75GHz	Mar. 20, 2012	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz - 1 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-1	N/A	1 GHz – 26.5 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-2	N/A	1 GHz – 26.5 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1 GHz - 40 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1 GHz - 40 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
Signal analyzer	R&S	FSV40	100979	9KHz~40GHz	Oct. 08, 2012	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 05, 2012	Conducted (TH01-CB)
RF Power Divider	Woken	2 Way	0120A02056002D	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Power Divider	Woken	3 Way	MDC2366	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)
RF Power Divider	Woken	4 Way	0120A04056002D	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-9	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Nov. 28, 2012	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Nov. 27, 2012	Conducted (TH01-CB)

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

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

7 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 2nd 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