NVLAP LAB CODE 200707-0

FCC PART 15.247

MEASUREMENT AND TEST REPORT

For

Kiss Communications Technology Co., Ltd.

Room 13A20, 14F, New Asia International Digital Center,
No.55 Xi Di Er Road, Liwan District, Guangzhou, Guangdong, China

FCC ID: TJ7-BTKA51

Model: BTK-A51,(BTK-A52/A53/A55/A56/A57/A58/A59)

Report Type:	**Product Type:**
Original Report	Bluetooth Headset

Test Engineer:	Bruce Zhang
Report Number:	RSZ09122208
Report Date:	2010-01-27
Reviewed By:	Merry Zhao EMC Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Kiss Communications Technology Co., Ltd.*'s product, model number: *BTK-A51 (FCC ID: TJ7-BTKA51)* or the "EUT" as referred to in this report is a *Bluetooth Headset,* which measures approximately: 4.5 cm L x 1.6 cm W x 2.3 cm H, rated input voltage: DC 3.7 V Lithum battery.

**Note:* The series products, model *BTK-A51and BTK-A52/A53 /A55/A56/A57/A58/A59* are electrically identical, the difference is model nam, *BTK-A51has been selected tofully tested, please refer to the Product Similarity* Declaration Letter provided by the manufacte inAppendix A.

All measurement and test data in this report was gathered from production sample serial number: 0912074 (Assigned by BACL, Shenzhen). The EUT was received on 2009-12-22.

Objective

This Type approval report is prepared on behalf of *Kiss Communications Technology Co., Ltd. in* accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209, 15.109 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 21, 2007. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

Equipment Modifications

No modification was made to the unit tested.

Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
Intel	Motherboard	D865GKD	11S19R1949ZJ1WCB46J1K8	DoC
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E-80BM	DoC
Maxtor	Hard Disk	6Y080L0	Y23QNXTE	DoC
ALPS	3.5' Floppy	06P5226	11S06P5226ZJ1W25373957	DoC
Lite-ON	CD-Rom	LTN-489S	11S71P7366ZJ1SYC130015	DoC
ProMOS	Memory	V826616J24SATG-C0	D61A2605H	N/A
Intel	CPU	Pentium4 2800MHz	N/A	N/A
Intel	Ethernet	PRO 10/100 VE	N/A	DoC

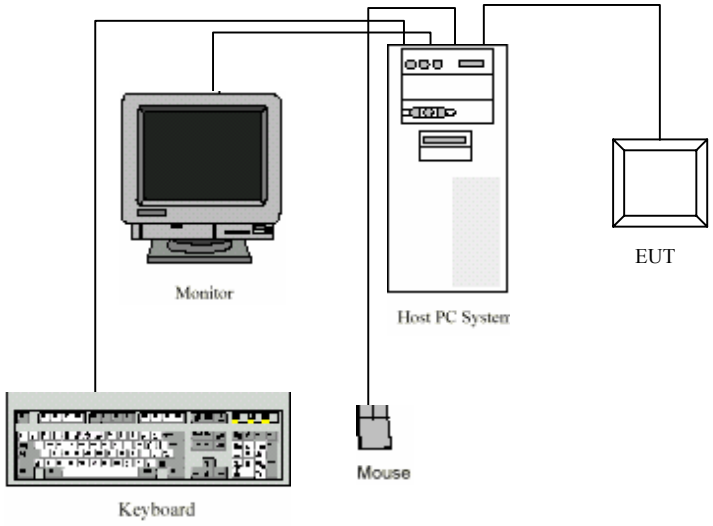
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	PC	DELL 170L	CN-0TC670-70821-560-F4WQ	DoC
DELL	Keyboard	L100	CNORH656658907BL05DC	DoC
DELL	Mouse	MOC5UO	G1900NKD	DoC
DELL	LCD Monitor	1505FP	CN-OY4287-71618-574-GBSH	DoC

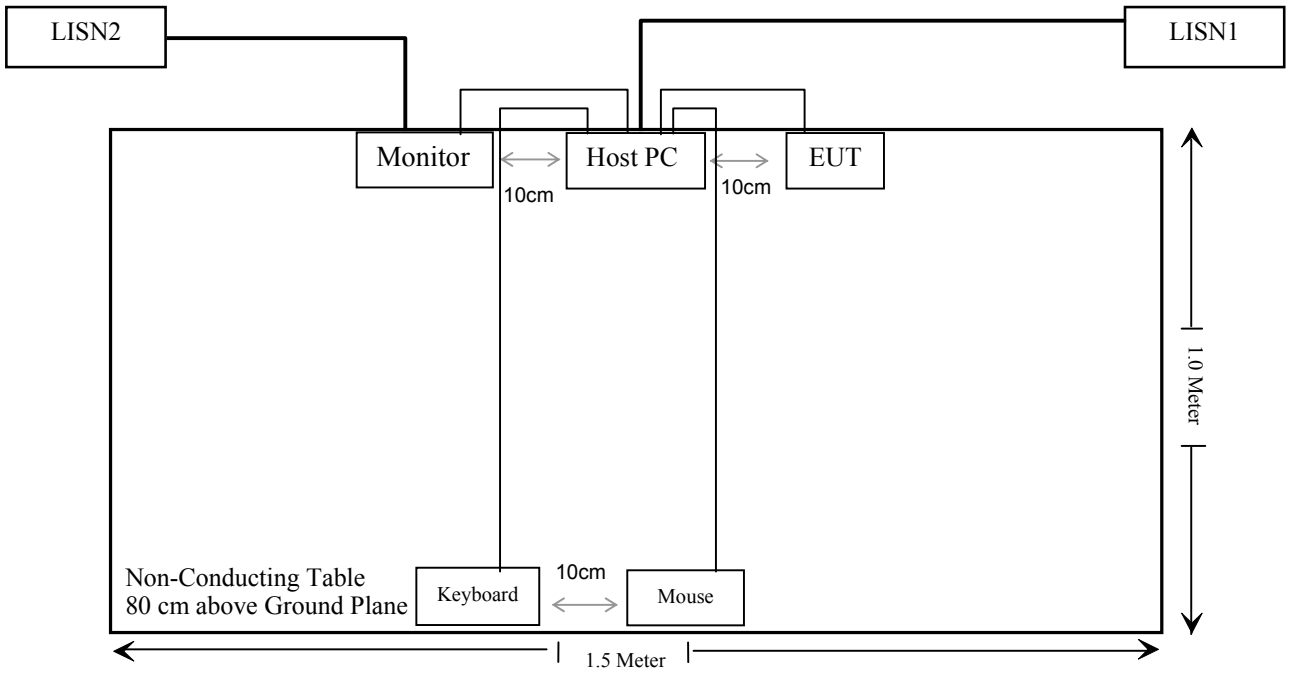
External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielded Detachable K/B Cable	1.50	K/B Port / Host	K/B
Shielded Detachable Mouse Cable	1.50	PS/2 Port / Host	Mouse
Shielded Detachable VGA Cable	1.50	VGA Port / Host	Monitor
Shielded Detachable Serial Cable	1.20	Serial Port / Host	Modem
Unshielded Detachable USB Power Line	0.8	Host PC	EUT

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b)(1), §2.1093	RF Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a), §15.107	Conducted Emissions	Compliant
§15.205, §15.209, §15.109, §15.247(d)	Radiated Emissions	Compliant
§15.247 (a)(1)	20 dB Bandwidth	Compliant
§15.247(a)(1)	Channel Separation Test	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
§15.247(b)(1)	Peak Output Power Measurement	Compliant
§15.247(d)	Band Edges	Compliant

FCC §15.247 (i), §1.1307(b)(1) & §2.1093 - RF EXPOSURE

Standard Applicable

According to FCC §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 Mobile Portable RF Exposure v03r03, no SAR required if power is lower than the flowing threshold:

When routine evaluation is required for SAR and the output power is ≤ 60/f (GHz) mW, the test reduction and test exclusion procedures given herein, or in KDB 616217 or KDB 648474, are applicable.

A device may be used in portable exposure conditions with no restrictions on host platforms when either the source-based time-averaged output power is ≤ 60/f(GHz) mW or all measured 1-g SAR are < 0.4 W/kg.10 When SAR evaluation is required, the most conservative exposure conditions for all expected operating configurations must be tested.

Measurement Result:

Max peak output power of EUT:

P_{BDR} = -0.81 dBm = 0.83 mW
P_{EDR} = -0.31 dBm = 0.93 mW

$60/f_{GHz}$ = 60/2441 = 24.58 mW

$P_{BDR} < 60/f_{GHz}$

This is a portable device and the Max peak output power of EUT is less than 24.58mW, the SAR is not required.

FCC §15.203 – ANTENNA REQUIREMENT

Standard Applicable

According to FCC §15.203, 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 a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has a printed antenna on the PCB, which in accordance to section 15.203, the maximum gain is 0.5 dBi; please refer to the internal photos.

Result: Compliant.

FCC §15.207(a) - CONDUCTED EMISSIONS

Applicable Standard

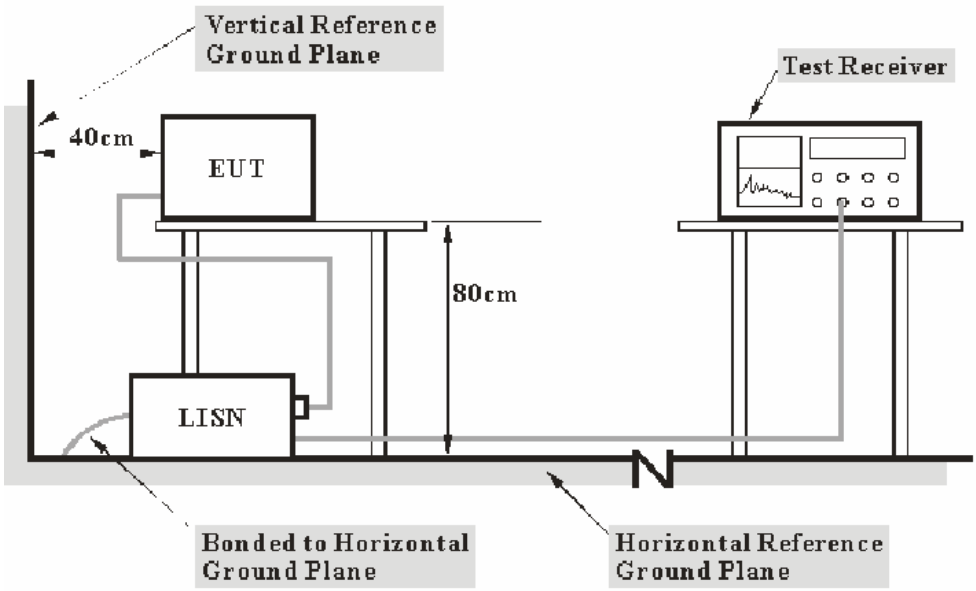
FCC §15.207

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is ±2.4 dB.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The host was connected to a 120V 60Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2009-04-28	2010-04-27
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2009-04-28	2010-04-27

*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, 15.107, with the worst margin reading of:

9.01 dB at **1.420 MHz** in the **Line** conductor mode
10.92 dB at **3.540 MHz** in the **Neutral** conductor mode

Test Data

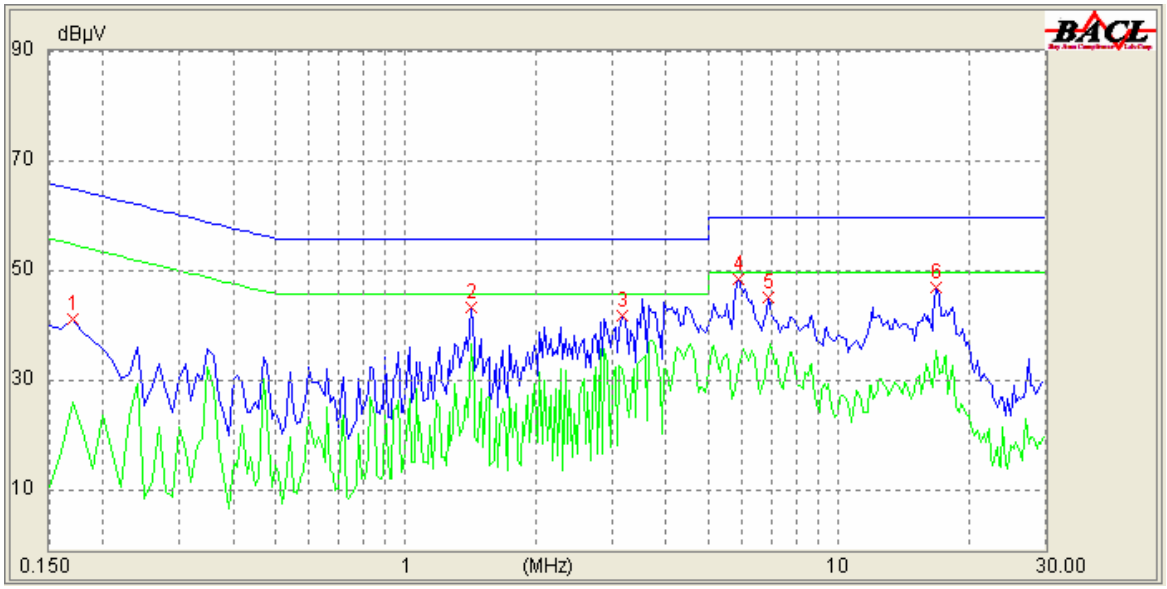
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

** The testing was performed by Bruce Zhang on 2010-01-07.*

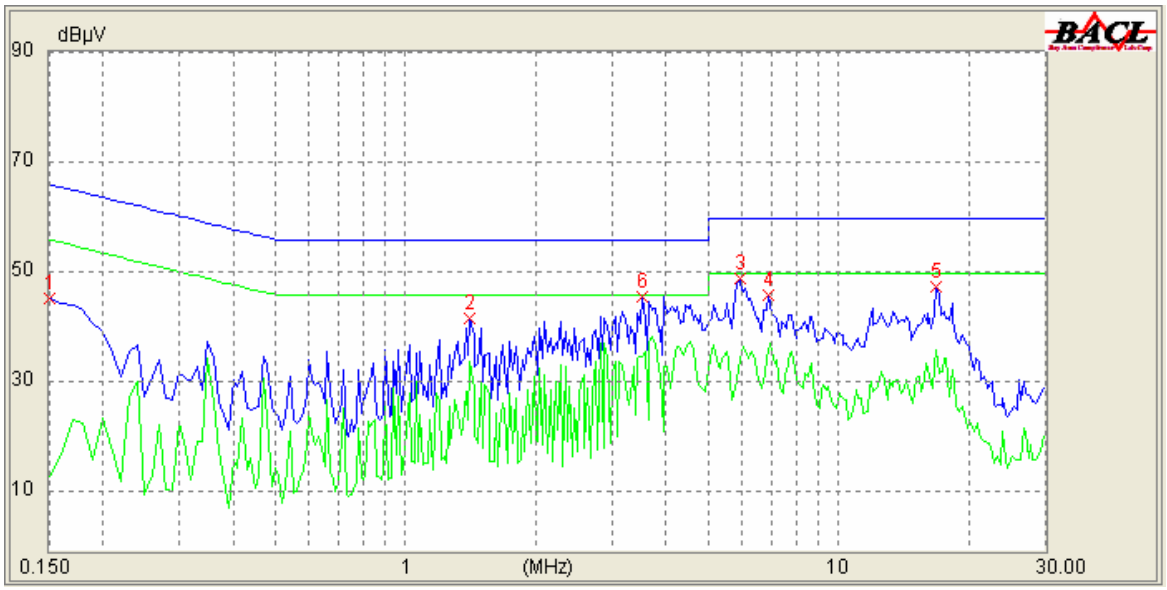
Test Mode: Transmitting & Charging

120 V/60 Hz, Line:



Conducted Emission			FCC Part 15.207		
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector (PK/AV/QP)
1.420	10.10	36.99	46.00	9.01	AV
6.960	10.20	37.15	50.00	12.85	AV
3.180	10.10	32.59	46.00	13.41	AV
16.870	10.30	35.81	50.00	14.19	AV
5.880	10.20	32.84	50.00	17.16	AV
3.180	10.10	38.61	56.00	17.39	QP
5.880	10.20	42.38	60.00	17.62	QP
16.870	10.30	41.96	60.00	18.04	QP
1.420	10.10	37.42	56.00	18.58	QP
6.900	10.20	40.37	60.00	19.63	QP
0.170	10.10	26.41	55.01	28.60	AV
0.170	10.10	32.05	65.01	32.96	QP

120 V/60 Hz, Neutral:



Conducted Emission			FCC Part 15.207		
Frequency (MHz)	Correction Factor (dB)	Cord. Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector (PK/AV/QP)
3.540	10.10	35.08	46.00	10.92	AV
1.410	10.10	34.18	46.00	11.82	AV
6.960	10.20	37.36	50.00	12.64	AV
16.870	10.30	36.11	50.00	13.89	AV
1.410	10.10	41.43	56.00	14.57	QP
3.540	10.10	41.20	56.00	14.80	QP
5.940	10.20	34.54	50.00	15.46	AV
5.940	10.20	42.76	60.00	17.24	QP
16.870	10.30	42.00	60.00	18.00	QP
6.900	10.20	40.07	60.00	19.93	QP
0.150	10.10	36.61	66.00	29.39	QP
0.150	10.10	13.42	56.00	42.58	AV

FCC §15.205, §15.209, §15.109 & §15.247 – RADIATED EMISSIONS

Applicable Standard

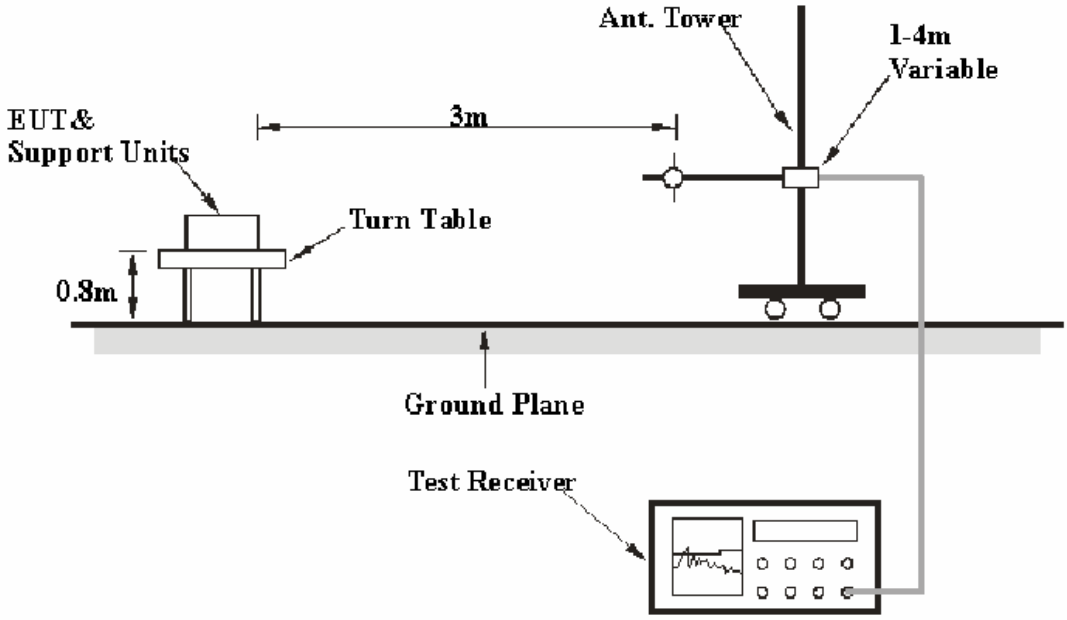
FCC §15.205; §15.209; §15.109; §15.247 (d)

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±4.0 dB.

EUT Setup



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209, FCC 15.109 and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency	RB/W	VB/W	Detector
30 MHz-1 GHz	100 kHz	300 kHz	Quasi-peak
1 GHz- 25 GHz	1 MHz	3 MHz	Peak
1 GHz- 25 GHz	1 MHz	10 Hz	Average

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2009-08-02	2010-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2009-03-11	2010-03-11
HP	Amplifier	8449B	3008A00277	2009-09-12	2010-09-11
Sunol Sciences	Horn Antenna	DRH-118	A052604	2009-05-05	2010-05-04
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2009-07-08	2010-07-07

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz and peak and Average detection modes for frequencies above 1GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit - Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15, section 15.205, 15.109, 15.209 and 15.247, with the worst margin reading of:

Below 1 GHz:

Charging mode: 9.3 dB at **165.938750 MHz** in the **Horizontal** polarization
Transmitting mode: 4.0 dB at **96.131750 MHz** in the **Horizontal** polarization, BDR
Transmitting mode: 4.4 dB at **96.136250 MHz** in the **Horizontal** polarization, EDR

Above 1 GHz:

For BDR:

Transmitting mode: 8.49 dB at **4804 MHz** in the **Vertical** polarization (Low Channel)
Transmitting mode: 8.57 dB at **4882 MHz** in the **Vertical** polarization (Middle Channel)
Transmitting mode: 5.21 dB at **4960 MHz** in the **Vertical** polarization (High Channel)

For EDR:

Transmitting mode: 13.17 dB at **4804 MHz** in the **Vertical** polarization (Low Channel)
Transmitting mode: 12.02 dB at **4882 MHz** in the **Vertical** polarization (Middle Channel)
Transmitting mode: 10.92 dB at **4960 MHz** in the **Vertical** polarization (High Channel)

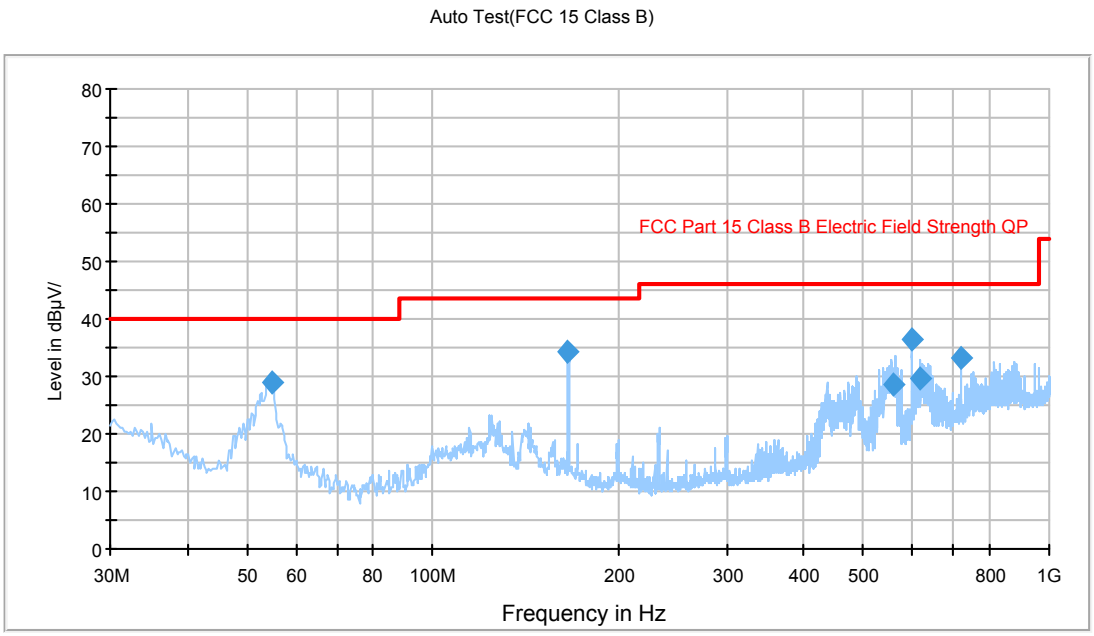
Test Data

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	52 %
ATM Pressure:	100.9 kPa

** The testing was performed by Bruce Zhang on 2010-01-23.*

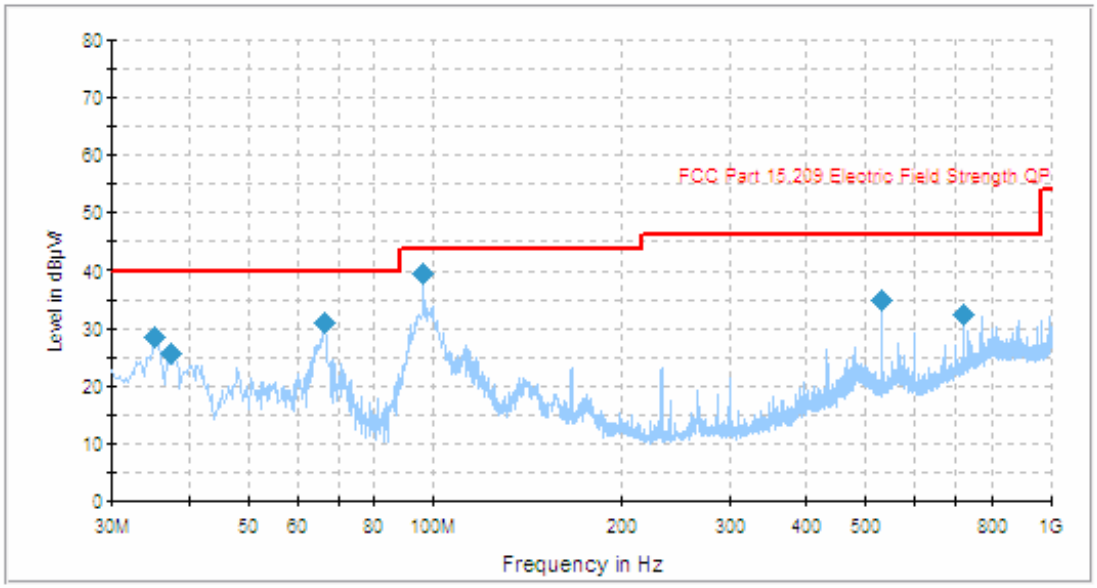
Test Mode: Charging (below 1 GHz)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
165.938750	34.2	156.0	H	147.0	-15.6	43.5	9.3
54.988500	29.1	101.0	V	96.0	-19.5	40.0	10.9
720.093750	33.2	102.0	H	127.0	-3.9	46.0	12.8
597.010000	36.4	102.0	V	206.0	-8.5	46.0	19.6
618.547500	29.7	102.0	H	107.0	-0.5	46.0	22.3
560.891500	28.7	139.0	H	149.0	-9.2	46.0	27.3

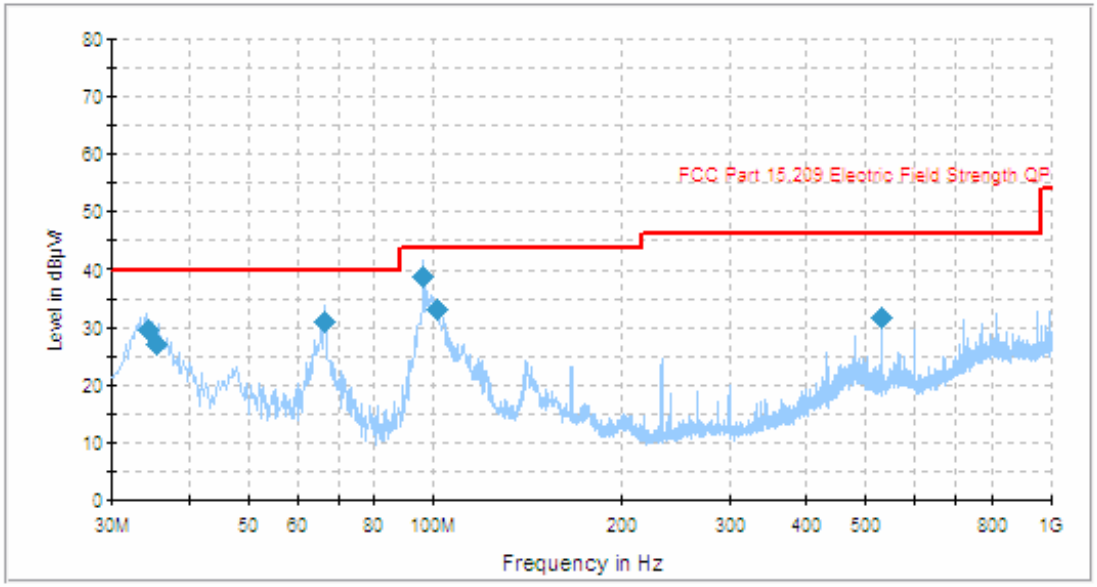
Test Mode: Transmitting (below 1 GHz, worse case)

BDR:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
96.131750	39.5	197.0	H	188.0	-18.3	43.5	4.0
66.580000	31.2	102.0	V	113.0	-19.6	40.0	8.8
528.071250	34.9	116.0	H	129.0	-9.8	46.0	11.1
35.138000	28.6	102.0	V	36.0	-9.9	40.0	11.4
720.155000	32.4	169.0	V	112.0	-0.3	46.0	13.6
37.517500	25.6	119.0	V	26.0	-10.7	40.0	14.4

EDR:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
96.136250	39.1	204.0	H	189.0	-18.3	43.5	4.4
66.604750	31.0	292.0	H	199.0	-19.6	40.0	9.0
101.052500	33.3	262.0	H	188.0	-16.2	43.5	10.2
34.561250	29.6	101.0	V	135.0	-9.5	40.0	10.4
35.415500	27.1	102.0	V	359.0	-10.1	40.0	12.9
528.095000	31.8	304.0	V	196.0	-0.4	46.0	14.2

Test Mode: Transmitting (Above 1 GHz, BDR)

Frequency (MHz)	S.A. Reading (dBμV/m)	Detector PK/QP/AV	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	FCC Part 15.247/209		
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	Remarks
Low Channel (2402 MHz)												
4804	37.26	AV	77	2.0	V	33.5	8.45	33.70	45.51	54	8.49	harmonic
4804	35.43	AV	75	2.0	H	33.8	8.45	33.70	43.98	54	10.02	harmonic
4804	55.32	PK	77	2.0	V	33.5	8.45	33.70	63.57	74	10.43	harmonic
4804	51.58	PK	75	2.0	H	33.8	8.45	33.70	60.13	74	13.87	harmonic
2315.3	33.57	AV	150	1.5	H	28.9	5.60	31.58	36.49	54	17.51	spurious
2312.1	32.89	AV	120	1.5	V	29.1	5.60	31.58	36.01	54	17.99	spurious
2312.1	48.47	PK	120	1.5	V	29.1	5.60	31.58	51.59	74	22.41	spurious
2315.3	47.81	PK	150	1.5	H	28.9	5.60	31.58	50.73	74	23.27	spurious
Middle Channel (2441 MHz)												
4882	57.18	PK	60	1.5	V	33.5	8.45	33.70	65.43	74	8.57	harmonic
4882	36.61	AV	60	1.5	V	33.5	8.45	33.70	44.86	54	9.14	harmonic
4882	34.65	AV	235	1.2	H	33.8	8.45	33.70	43.20	54	10.80	harmonic
4882	52.55	PK	235	1.2	H	33.8	8.45	33.70	61.10	74	12.90	harmonic
1187.9	34.33	AV	210	1.9	H	23.6	3.92	31.72	30.13	54	23.87	spurious
1147.3	34.12	AV	250	1.6	V	23.6	3.92	31.72	29.92	54	24.08	spurious
1187.9	48.40	PK	210	1.9	H	23.6	3.92	31.72	44.20	74	29.80	spurious
1147.3	47.90	PK	250	1.6	V	23.6	3.92	31.72	43.70	74	30.30	spurious
High Channel (2480 MHz)												
4960	60.54	PK	67	1.1	V	33.5	8.45	33.70	68.79	74	5.21	harmonic
4960	39.02	AV	67	1.1	V	33.5	8.45	33.70	47.27	54	6.73	harmonic
4960	36.49	AV	154	1.1	H	33.8	8.45	33.70	45.04	54	8.96	harmonic
4960	53.78	PK	154	1.1	H	33.8	8.45	33.70	62.33	74	11.67	harmonic
2483.5	34.71	AV	80	1.8	V	29.1	5.89	30.58	39.12	54	14.88	spurious
2483.5	34.81	AV	264	1.7	H	28.9	5.89	30.58	39.02	54	14.98	spurious
2483.5	51.22	PK	80	1.8	V	29.1	5.89	30.58	55.63	74	18.37	spurious
2483.5	51.36	PK	264	1.7	H	28.9	5.89	30.58	55.57	74	18.43	spurious

Test Mode: Transmitting (Above 1 GHz, EDR)

Frequency (MHz)	S.A. Reading (dBμV/m)	Detector PK/QP/AV	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	FCC Part 15.247/209		
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	Remarks
Low Channel (2402 MHz)												
4804	32.58	AV	80	1.4	V	33.5	8.45	33.70	40.83	54	13.17	harmonic
4804	32.08	AV	80	1.3	H	33.8	8.45	33.70	40.63	54	13.37	harmonic
4804	49.55	PK	80	1.4	V	33.5	8.45	33.70	57.80	74	16.20	harmonic
4804	48.89	PK	80	1.3	H	33.8	8.45	33.70	57.44	74	16.56	harmonic
2324.3	32.25	AV	260	1.5	V	29.1	5.60	31.83	35.12	54	18.88	spurious
2314.8	32.23	AV	130	1.7	H	28.6	5.60	31.83	34.60	54	19.40	spurious
2324.3	46.84	PK	260	1.5	V	29.1	5.60	31.83	49.71	74	24.29	spurious
2314.8	46.49	PK	130	1.7	H	28.6	5.60	31.83	48.86	74	25.14	spurious
Middle Channel (2441MHz)												
4882	53.73	PK	70	1.3	V	33.5	8.45	33.70	61.98	74	12.02	harmonic
4882	33.30	AV	70	1.3	V	33.5	8.45	33.70	41.55	54	12.45	harmonic
4882	31.61	AV	220	1.2	H	33.8	8.45	33.70	40.16	54	13.84	harmonic
4882	47.12	PK	220	1.2	H	33.8	8.45	33.70	55.67	74	18.33	harmonic
1156.7	34.10	AV	210	1.6	H	23.6	3.92	31.68	29.94	54	24.06	spurious
1153.5	33.82	AV	120	1.5	V	23.6	3.92	31.68	29.66	54	24.34	spurious
1156.7	48.06	PK	210	1.6	H	23.6	3.92	31.68	43.90	74	30.10	spurious
1153.5	47.61	PK	120	1.5	V	23.6	3.92	31.68	43.45	74	30.55	spurious
High Channel (2480 MHz)												
4960	34.83	AV	65	1.2	V	33.5	8.45	33.70	43.08	54	10.92	harmonic
4960	54.33	PK	65	1.2	V	33.5	8.45	33.70	62.58	74	11.42	harmonic
4960	32.86	AV	175	1.2	H	33.8	8.45	33.70	41.41	54	12.59	harmonic
4960	49.55	PK	175	1.2	H	33.8	8.45	33.70	58.10	74	15.90	harmonic
2483.6	31.75	AV	60	1.8	V	29.1	5.89	30.58	36.16	54	17.84	spurious
2483.6	51.35	PK	60	1.8	V	29.1	5.89	30.58	55.76	74	18.24	spurious
2483.6	31.09	AV	72	1.7	H	28.9	5.89	30.58	35.30	54	18.70	spurious
2483.6	48.06	PK	72	1.7	H	28.9	5.89	30.58	52.27	74	21.73	spurious

FCC §15.247(a)(1)-CHANNEL SEPARATION TEST

Applicable Standard

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Set the EUT in transmitting mode, spectrum Bandwidth was set at 100 kHz, maxhold the channel.
2. Set the adjacent channel of the EUT maxhold another truce
3. Measure the channel separation.

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

** The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.*

Test Result: Compliant.

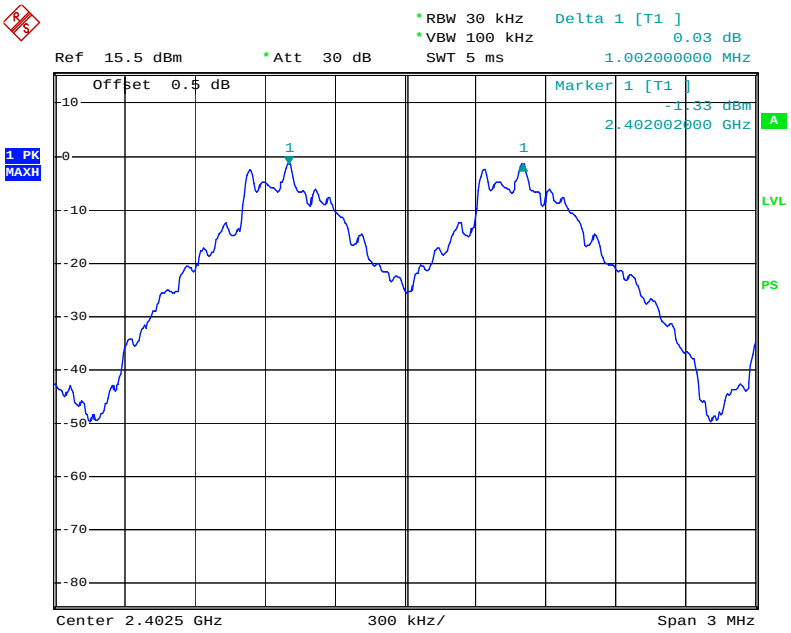
Please refer to following tables and plots

Mode	Channel	Channel Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)	Result
BDR	Low Channel	2402	1.002	0.564	Pass
	Adjacent Channel	2403			
	Mid Channel	2441	1.002	0.564	Pass
	Adjacent Channel	2442			
	High Channel	2480	1.002	0.564	Pass
	Adjacent Channel	2479			
EDR	Low Channel	2402	1.002	0.816	Pass
	Adjacent Channel	2403			
	Mid Channel	2441	1.002	0.816	Pass
	Adjacent Channel	2442			
	High Channel	2480	1.002	0.816	Pass
	Adjacent Channel	2479			

Please refer to the following plots.

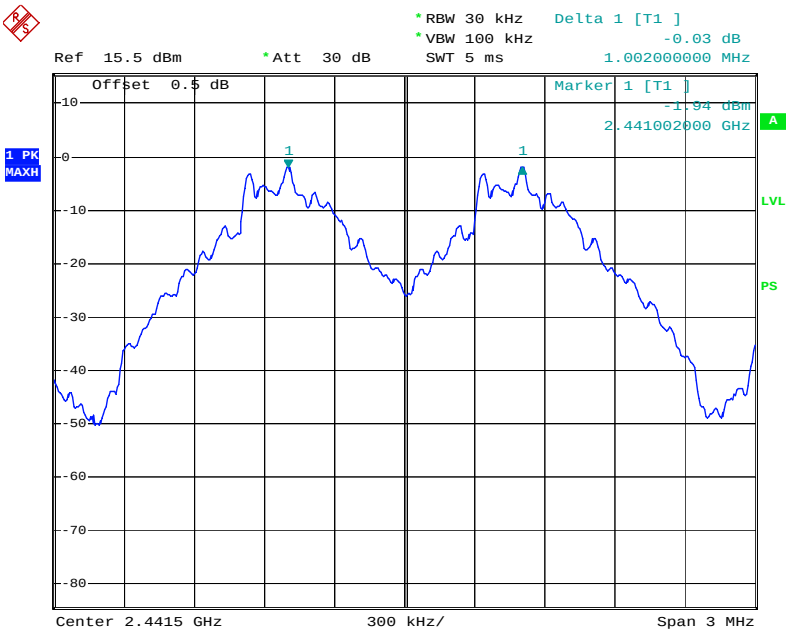
BDR:

Low Channel



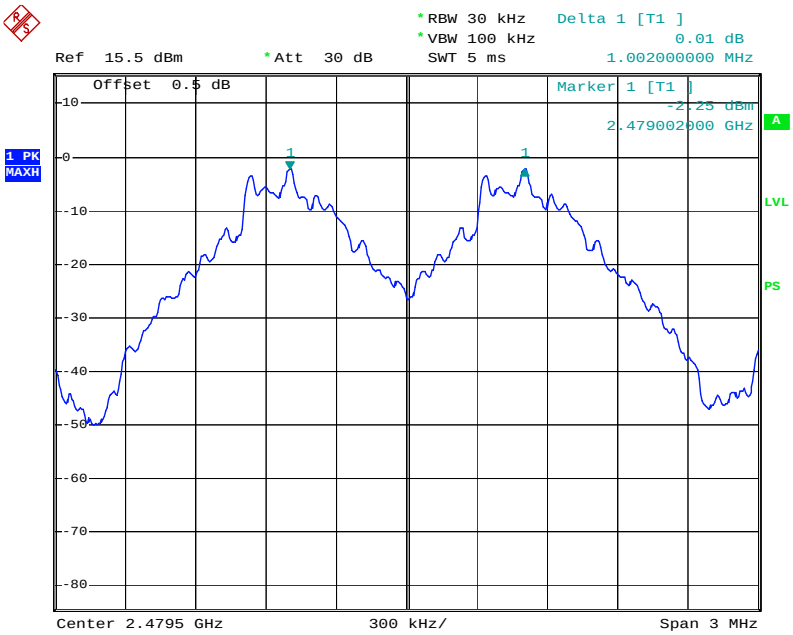
Date: 7.JAN.2010 17:00:05

Middle Channel



Date: 7.JAN.2010 17:01:33

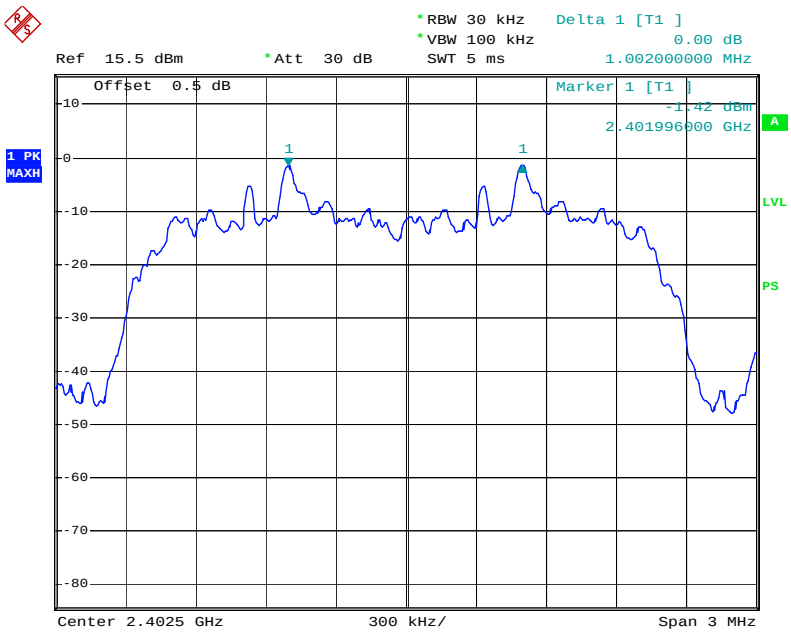
High Channel



Date: 7.JAN.2010 17:03:03

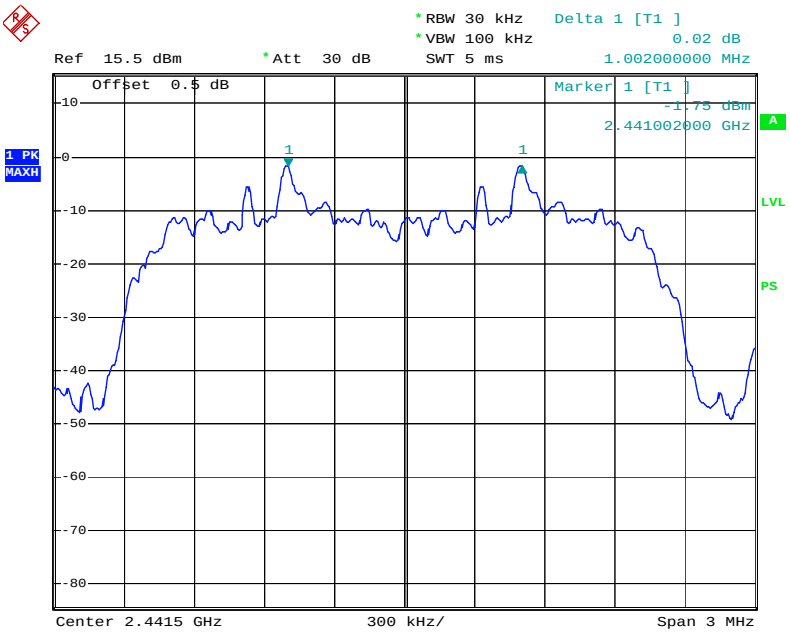
EDR:

Low Channel



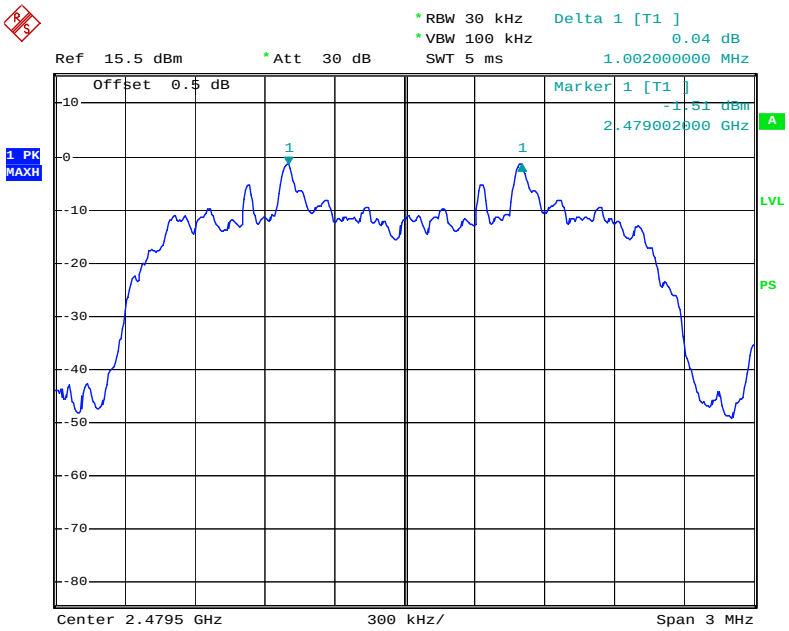
Date: 19.JAN.2010 16:36:09

Middle Channel



Date: 19.JAN.2010 16:38:37

High Channel



Date: 19.JAN.2010 16:39:44

FCC §15.247(a) (1) – 20 dB BANDWIDTH TESTING

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400~2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

** The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.*

Test Result: Compliant.

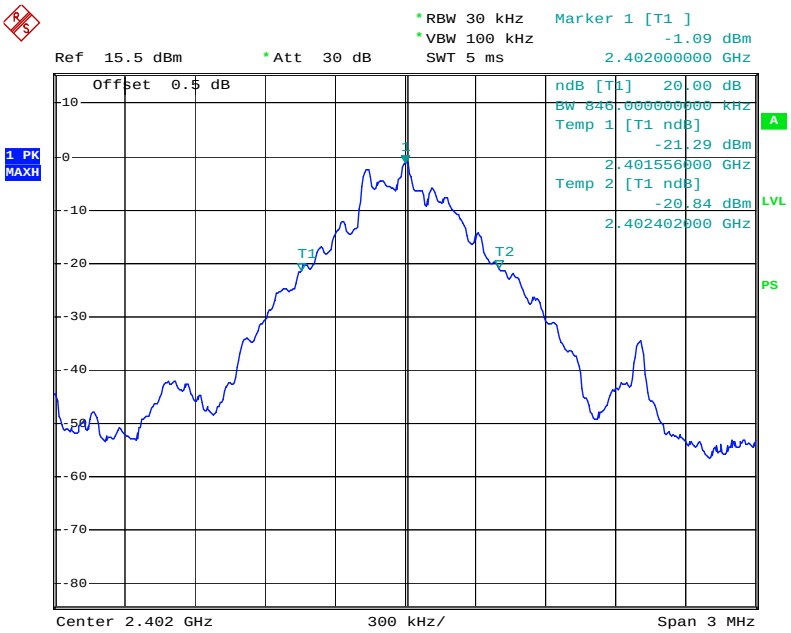
Please refer to following tables and plots

Mode	Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
BDR	Low	2402	0.846
	Middle	2441	0.846
	High	2480	0.846
EDR	Low	2402	1.224
	Middle	2441	1.224
	High	2480	1.224

Please refer to the following plots.

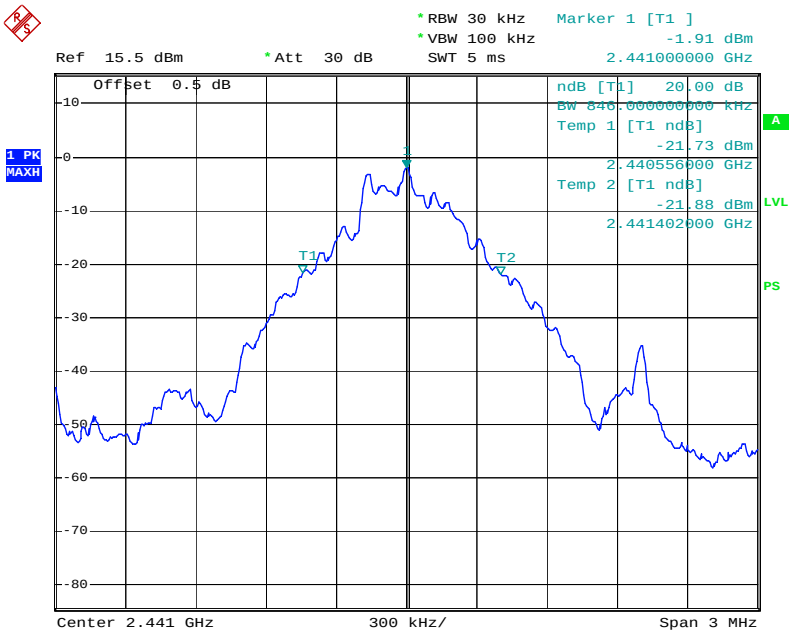
BDR:

Low Channel



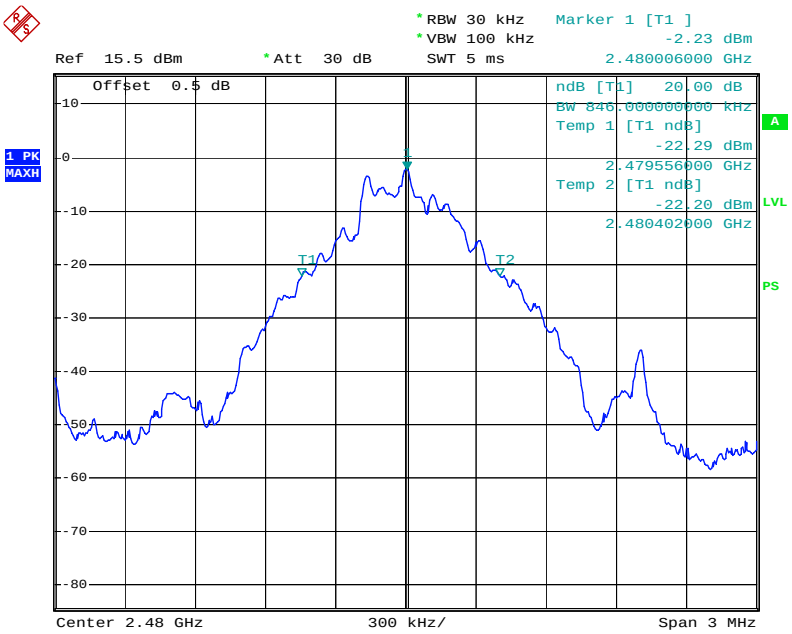
Date: 7.JAN.2010 16:46:57

Middle Channel



Date: 7.JAN.2010 16:58:16

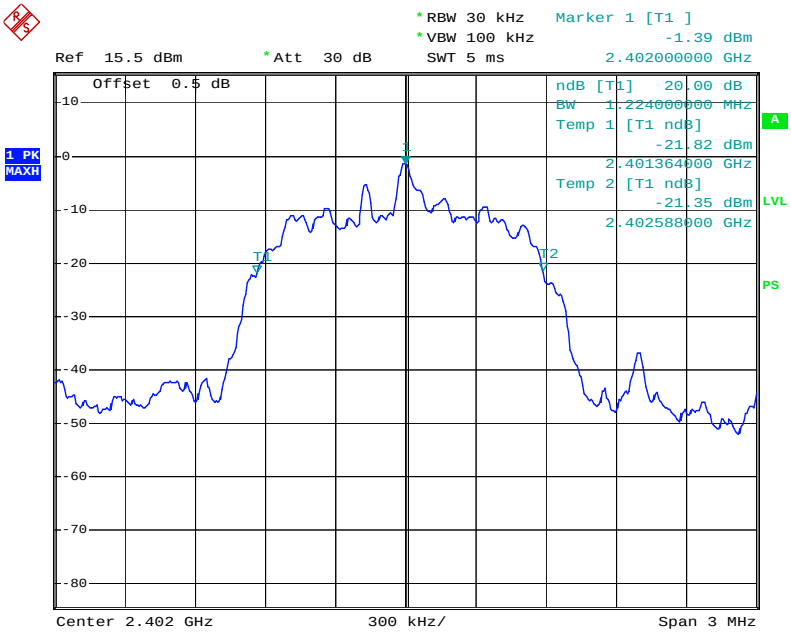
High Channel



Date: 7.JAN.2010 16:56:24

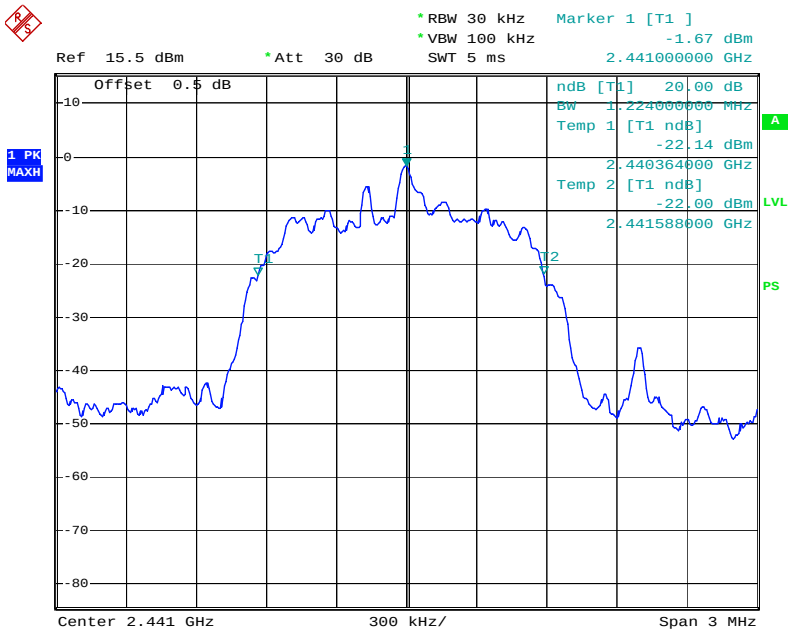
EDR:

Low Channel



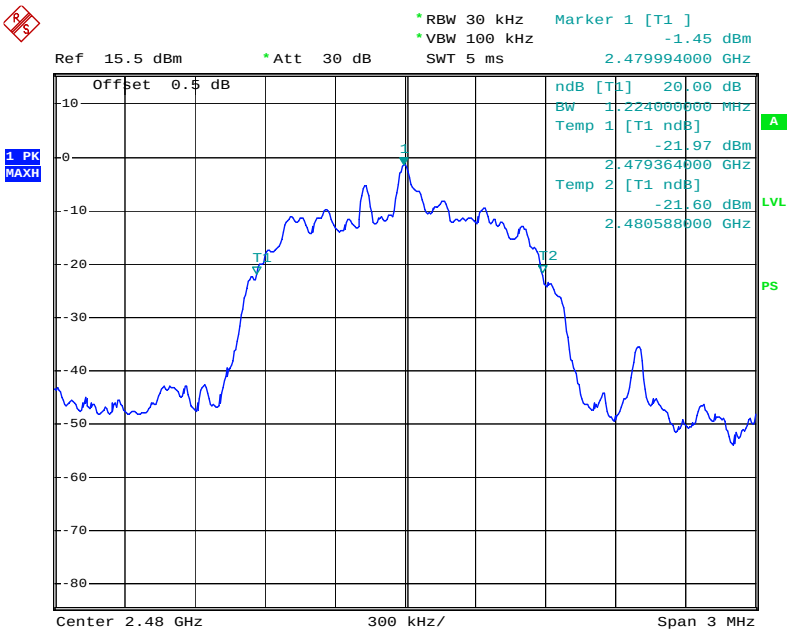
Date: 19.JAN.2010 16:19:14

Middle Channel



Date: 19.JAN.2010 16:20:41

High Channel



Date: 19.JAN.2010 16:21:45

FCC §15.247(a)(1)(iii) - QUANTITY OF HOPPING CHANNEL TEST

Applicable Standard

Frequency hopping systems in the 2400~2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Set the EUT in hopping mode from first channel to last.
3. By using the Max-Hold function record the Quantity of the channel.

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.

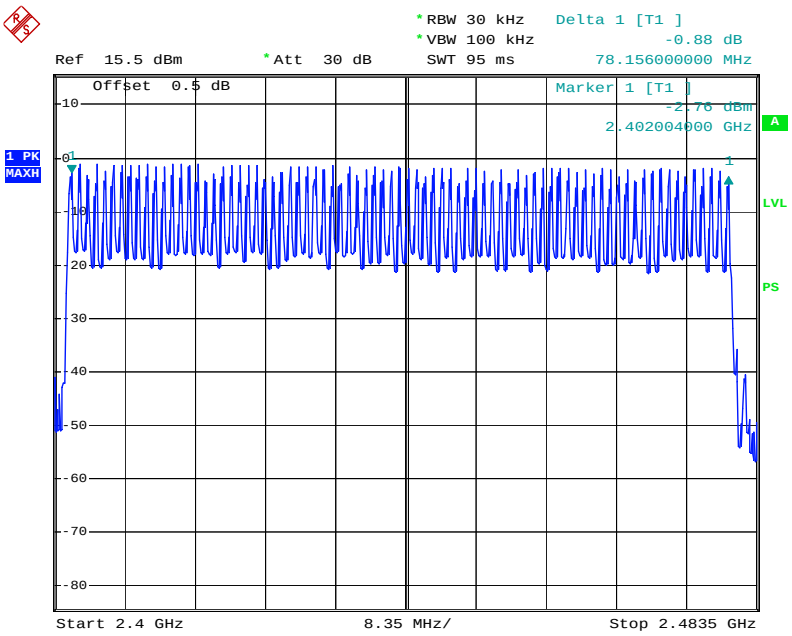
Test Result: Compliant.

Please refer to following tables and plots

Mode	Frequency Range (MHz)	Number of Hopping Channels	Limit
BDR	2400-2483.5	79	≥ 15
EDR	2400-2483.5	79	≥ 15

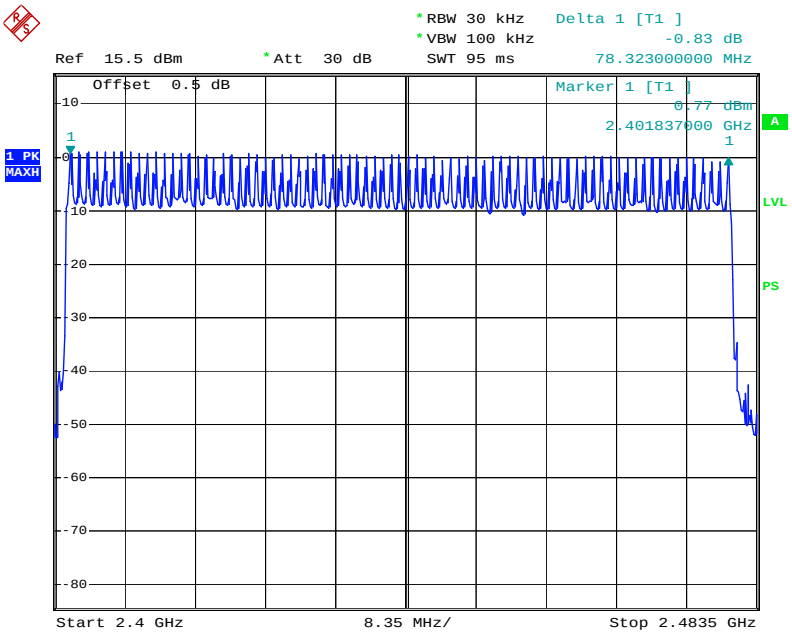
Number of Hopping Channels

BDR



Date: 7.JAN.2010 17:20:32

EDR



Date: 19.JAN.2010 17:24:47

FCC §15.247(a)(1)(iii) -TIME OF OCCUPANCY (DWELL TIME)

Applicable Standard

Frequency hopping systems in the 2400~2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

The EUT was worked in channel hopping; Spectrum SPAN was set as 0. Sweep was set as 0.4 X channel no. (s), the quantity of pulse was get from single sweep. In addition, the time of single pulses was tested.

Dwell Time= time slot length * hope rate/ number of hopping channels * 31.6s
Hop rate=1600/s

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

** The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.*

Test Result: Compliant.

Please refer to following tables and plots

Test Mode: Transmitting (BDR)

Mode	Channel	Pulse Width (ms)	Dwell Time (Sec)	Limit (Sec)	Result
DH 1	Low	0.5232	0.1674	0.4	Pass
	Middle	0.5232	0.1674	0.4	Pass
	High	0.5232	0.1674	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 2 ÷ 79)×31.6 Second				
DH 3	Low	1.7989	0.2878	0.4	Pass
	Middle	1.7989	0.2878	0.4	Pass
	High	1.7952	0.2872	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 4 ÷ 79)×31.6 Second				
DH 5	Low	3.0549	0.3259	0.4	Pass
	Middle	3.0549	0.3259	0.4	Pass
	High	3.0549	0.3259	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 6 ÷ 79)×31.6 Second				

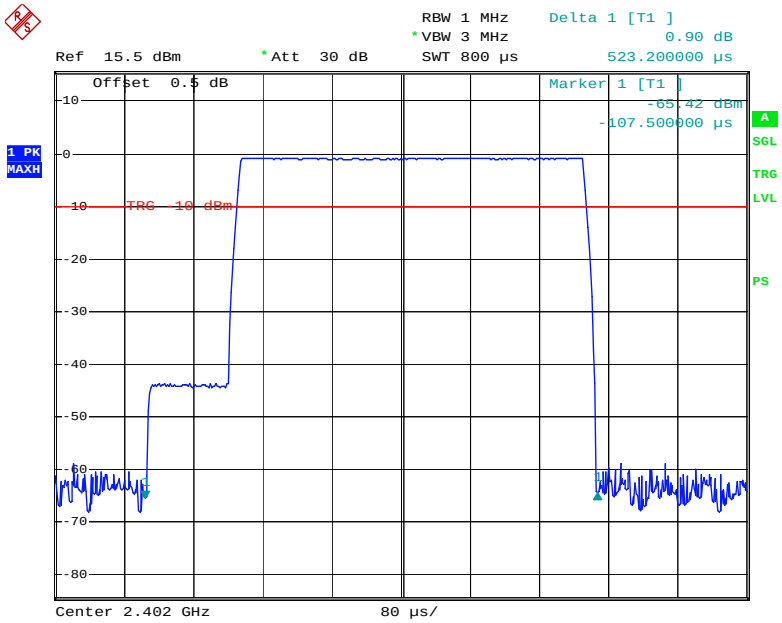
Test Mode: Transmitting (EDR)

Mode	Channel	Pulse Width (ms)	Dwell Time (Sec)	Limit (Sec)	Result
DH 1	Low	0.5408	0.1731	0.4	Pass
	Middle	0.5408	0.1731	0.4	Pass
	High	0.5408	0.1731	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 2 ÷ 79)×31.6 Second				
DH 3	Low	1.8058	0.2889	0.4	Pass
	Middle	1.8058	0.2889	0.4	Pass
	High	1.8058	0.2889	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 4 ÷ 79)×31.6 Second				
DH 5	Low	3.064	0.3268	0.4	Pass
	Middle	3.064	0.3268	0.4	Pass
	High	3.064	0.3268	0.4	Pass
	Note: Dwell time=Pulse width (ms)× (1600 ÷ 6 ÷ 79)×31.6 Second				

Please refer to the following plots.

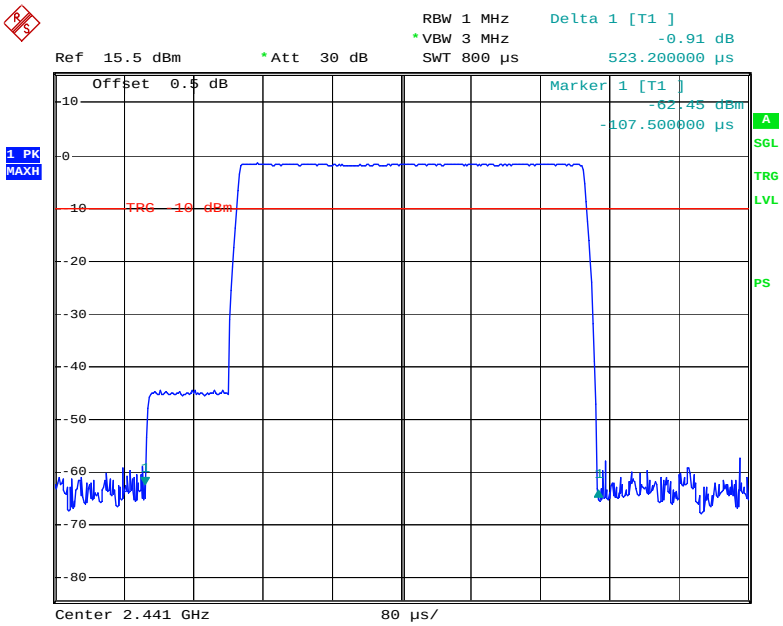
BDR:

Low Channel for DH1



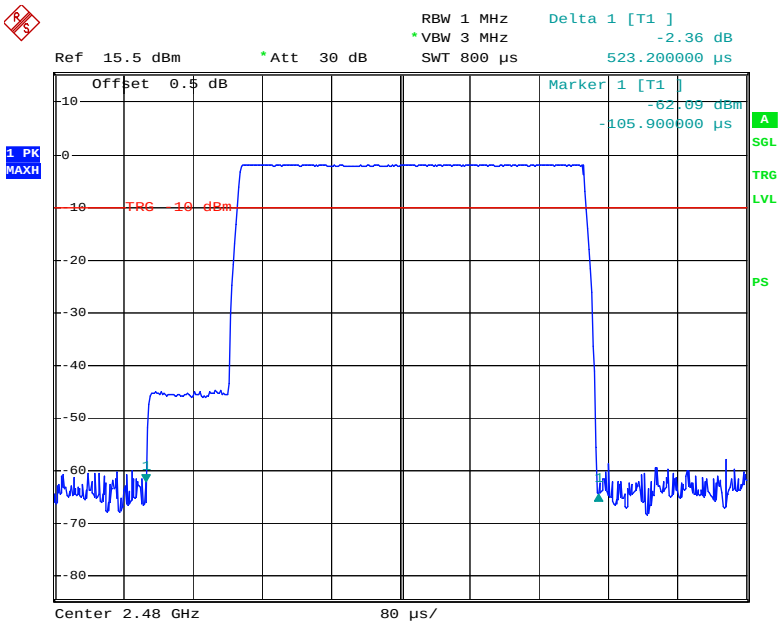
Date: 7.JAN.2010 17:24:26

Middle Channel for DH1



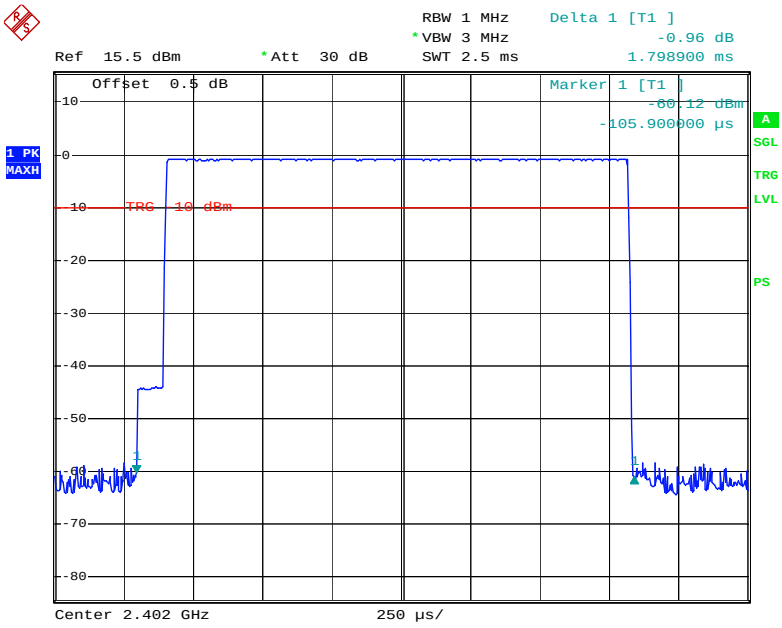
Date: 7.JAN.2010 17:29:01

High Channel for DH1



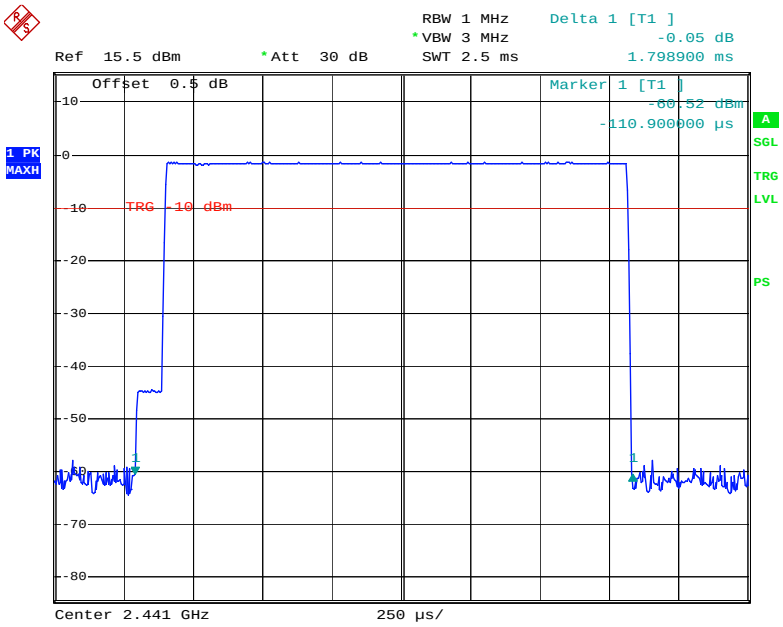
Date: 7.JAN.2010 17:30:15

Low Channel for DH3



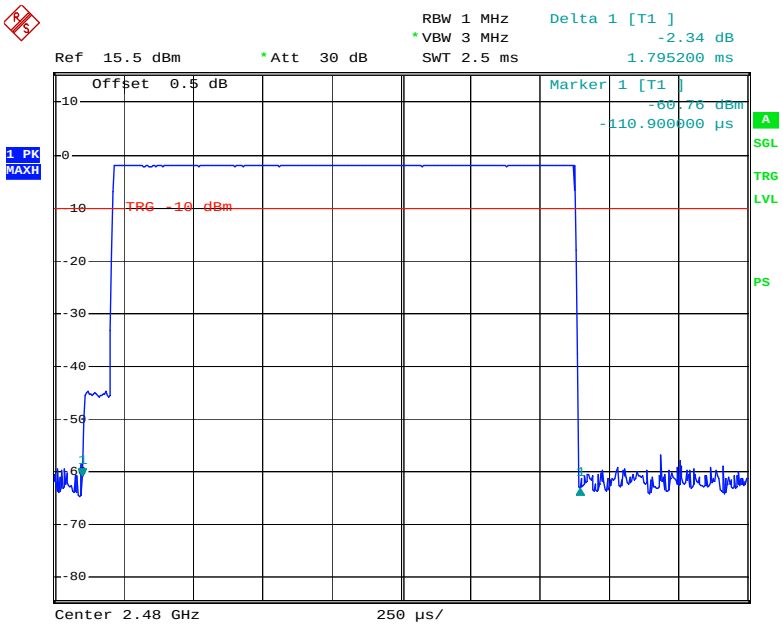
Date: 7.JAN.2010 17:35:44

Middle Channel for DH3



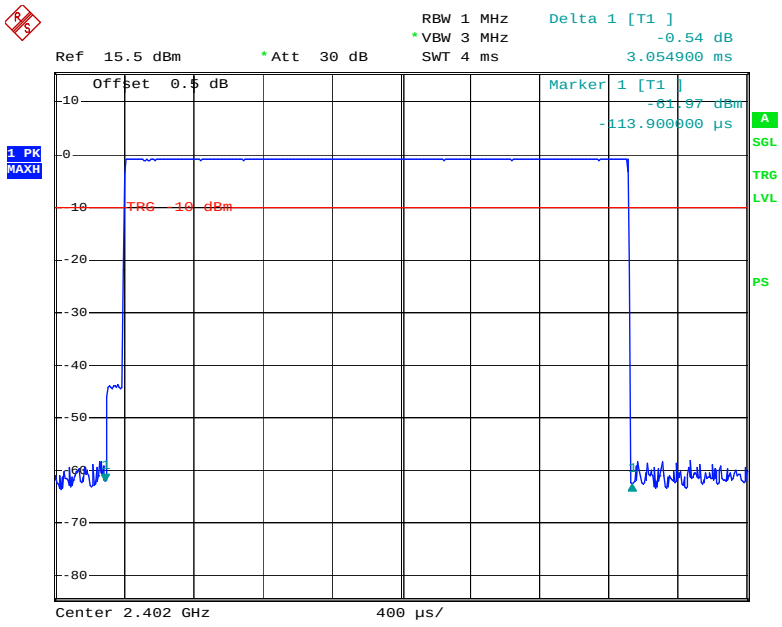
Date: 7.JAN.2010 17:34:54

High Channel for DH3



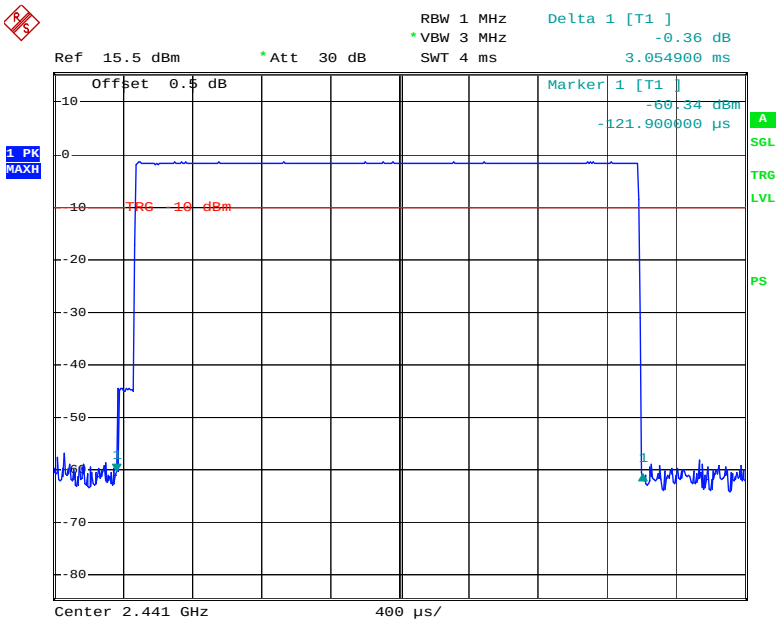
Date: 7.JAN.2010 17:33:31

Low Channel for DH5



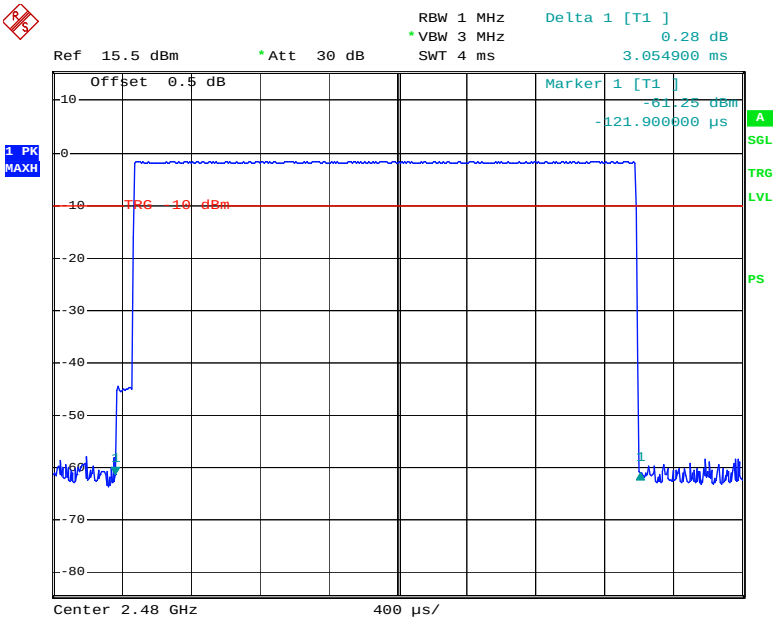
Date: 7.JAN.2010 17:36:47

Middle Channel for DH5



Date: 7.JAN.2010 17:38:16

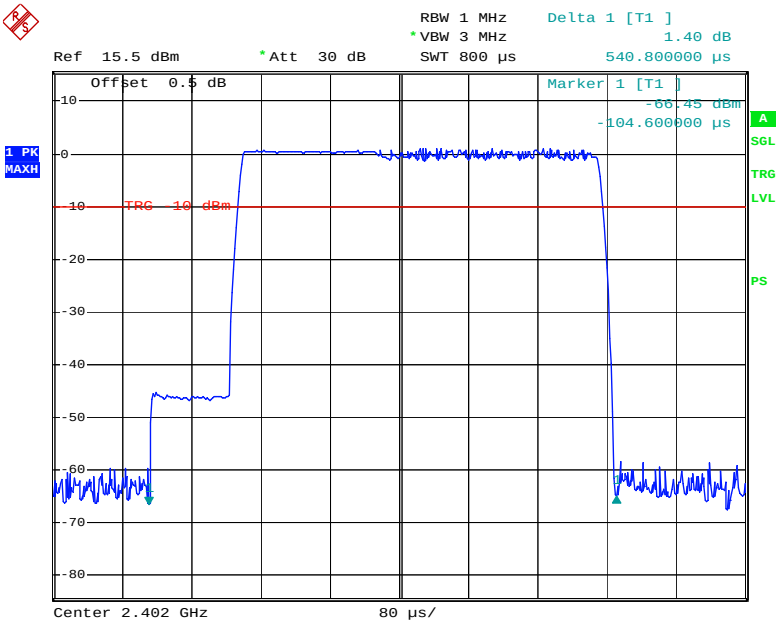
High Channel for DH5



Date: 7.JAN.2010 17:40:01

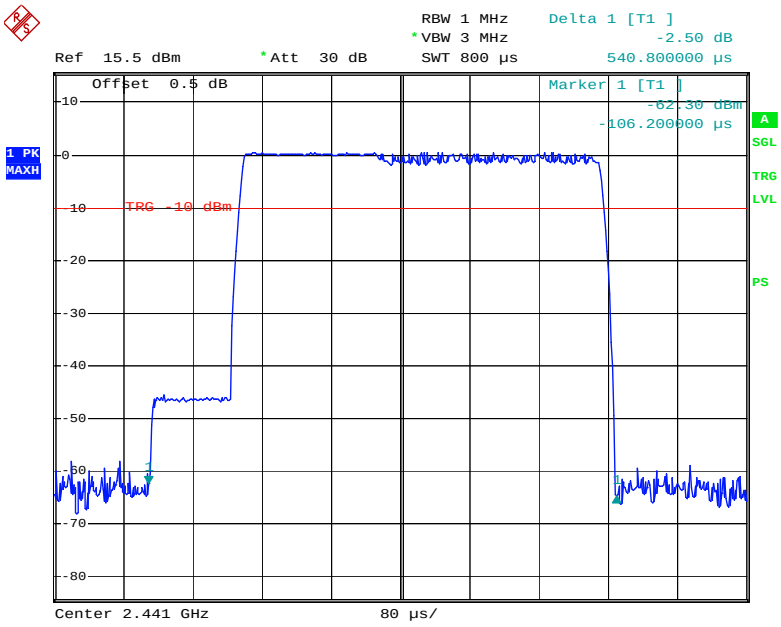
EDR:

Low Channel for DH1



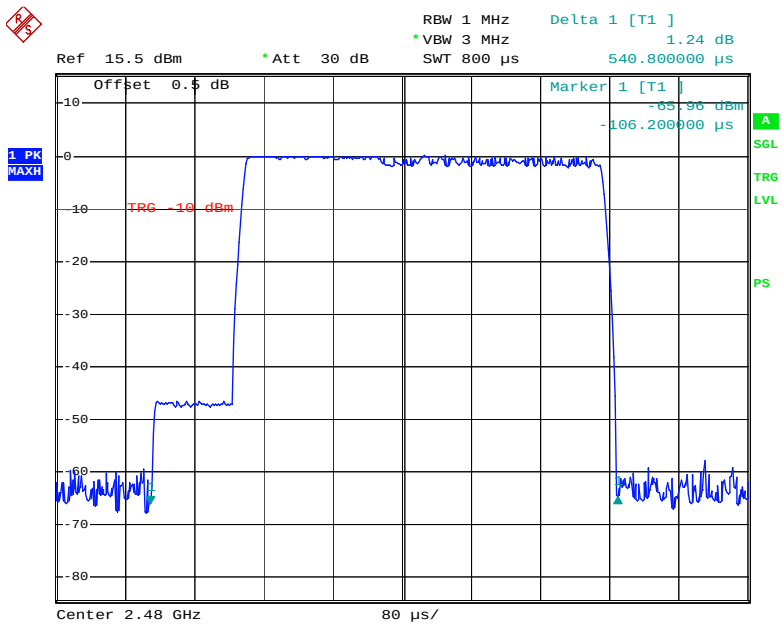
Date: 19.JAN.2010 19:09:06

Middle Channel for DH1



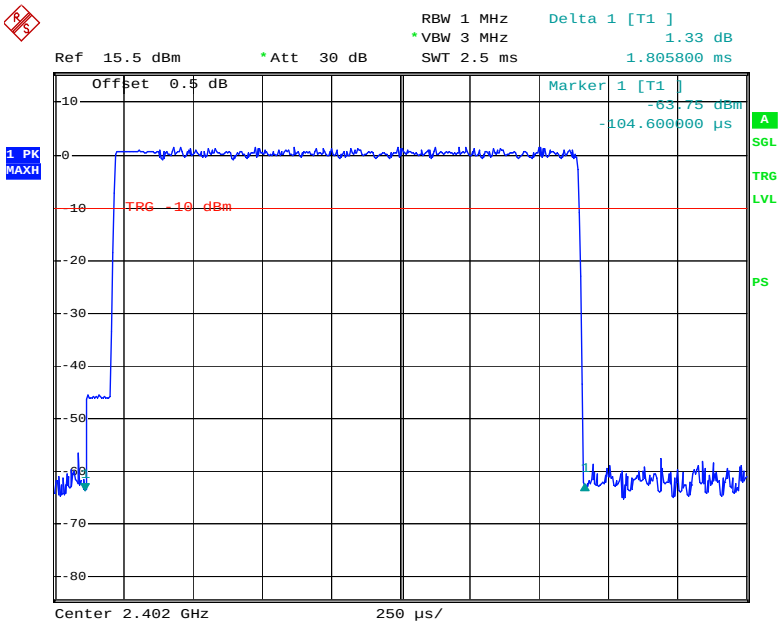
Date: 19.JAN.2010 19:04:30

High Channel for DH1



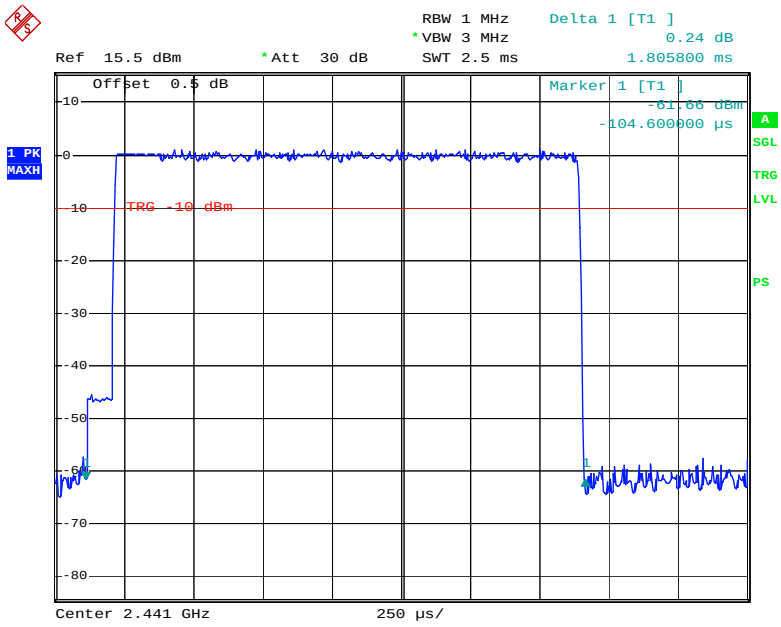
Date: 19.JAN.2010 19:07:04

Low Channel for DH3



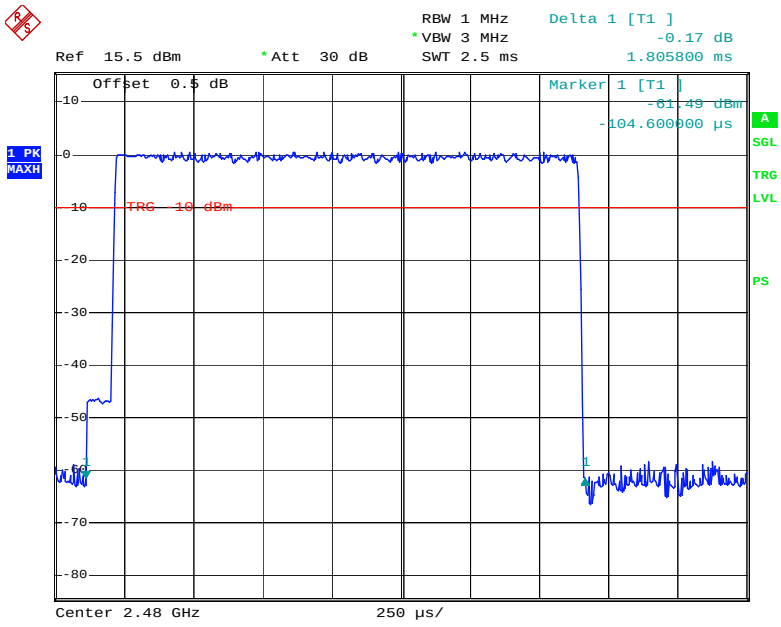
Date: 19.JAN.2010 19:13:44

Middle Channel for DH3



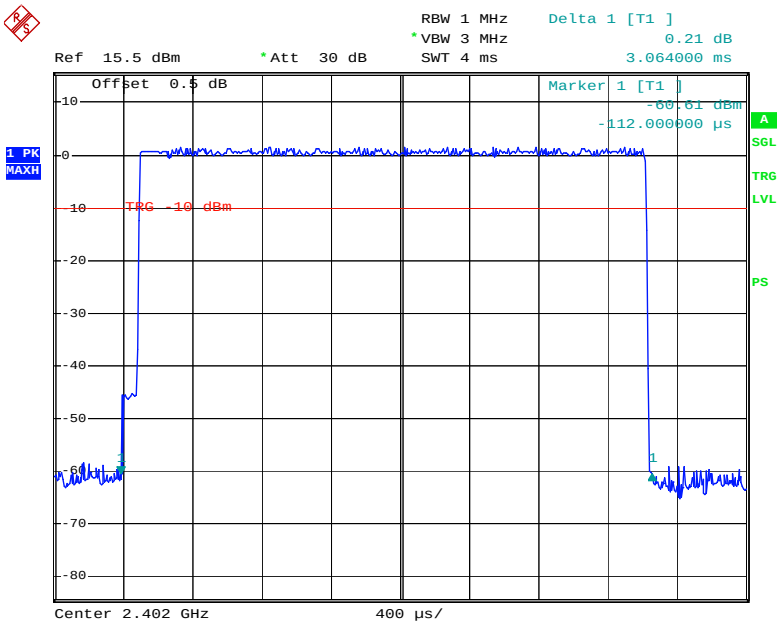
Date: 19.JAN.2010 19:14:32

High Channel for DH3



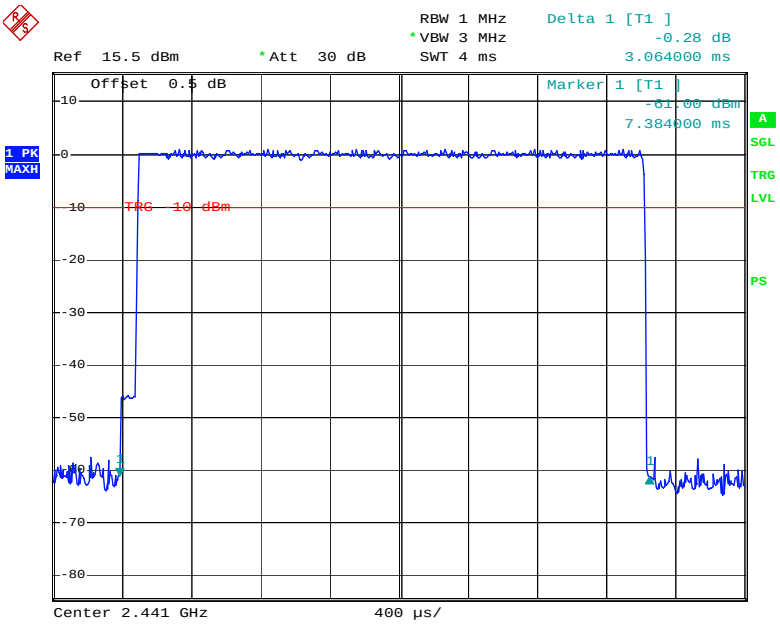
Date: 19.JAN.2010 19:15:12

Low Channel for DH5



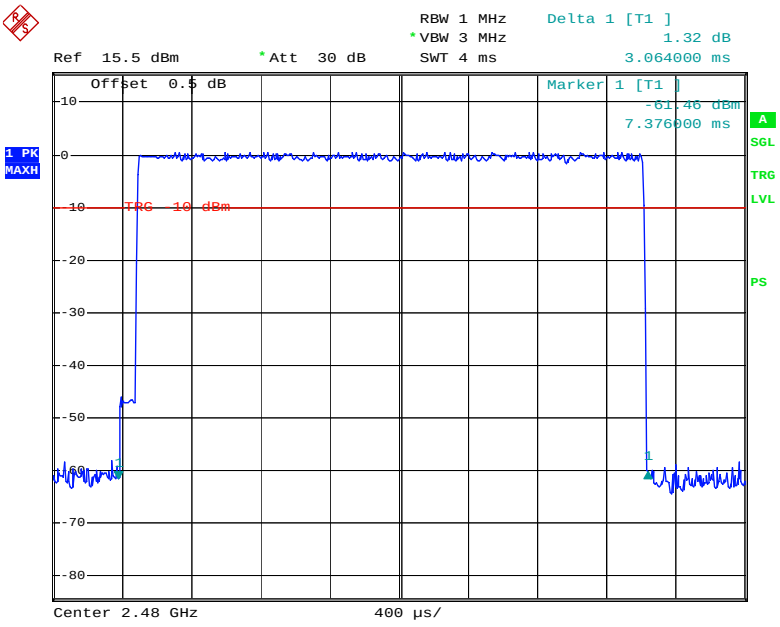
Date: 19.JAN.2010 19:24:03

Middle Channel for DH5



Date: 19.JAN.2010 19:22:12

High Channel for DH5



Date: 19.JAN.2010 19:21:36

FCC §15.247(b)(1) - PEAK OUTPUT POWER MEASUREMENT

Applicable Standard

According to FCC §15.247(b) (1), for frequency hopping systems operating in the 2400~2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725~5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400~2483.5 MHz band: 0.125 watts.

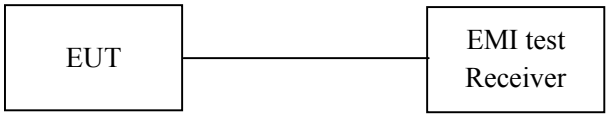
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Place the EUT on a bench and set in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI test receiver.
3. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

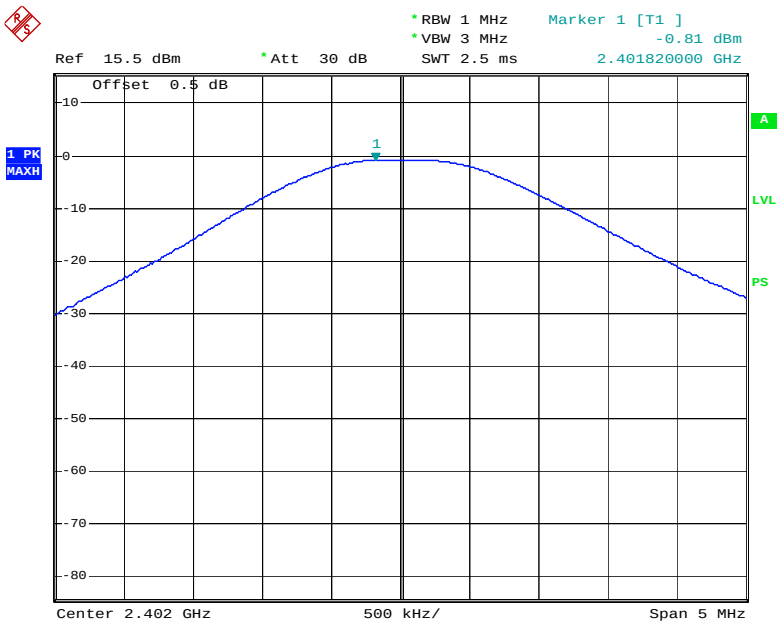
** The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.*

Test Result: Compliant.

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Output Power (dBm)	Limit (mW)
BDR	Low	2402	-0.81	0.830	125
	Middle	2441	-1.50	0.708	125
	High	2480	-1.76	0.667	125
EDR	Low	2402	-0.40	0.912	125
	Middle	2441	-0.58	0.875	125
	High	2480	-0.31	0.931	125

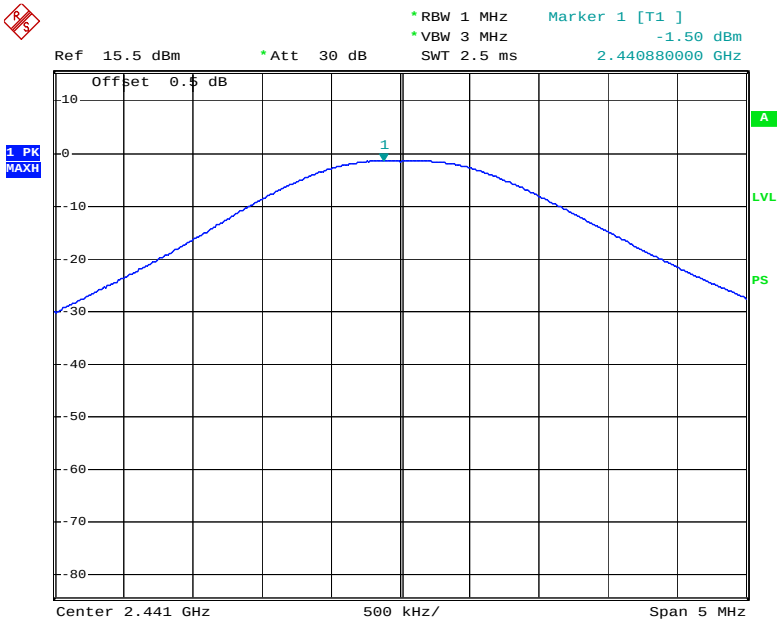
BDR:

Low Channel



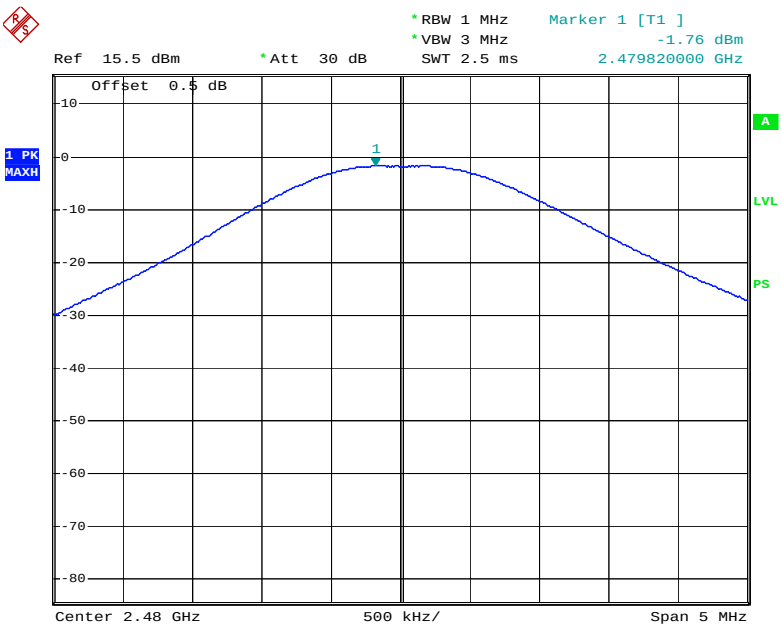
Date: 7.JAN.2010 17:05:17

Middle Channel



Date: 7.JAN.2010 17:04:39

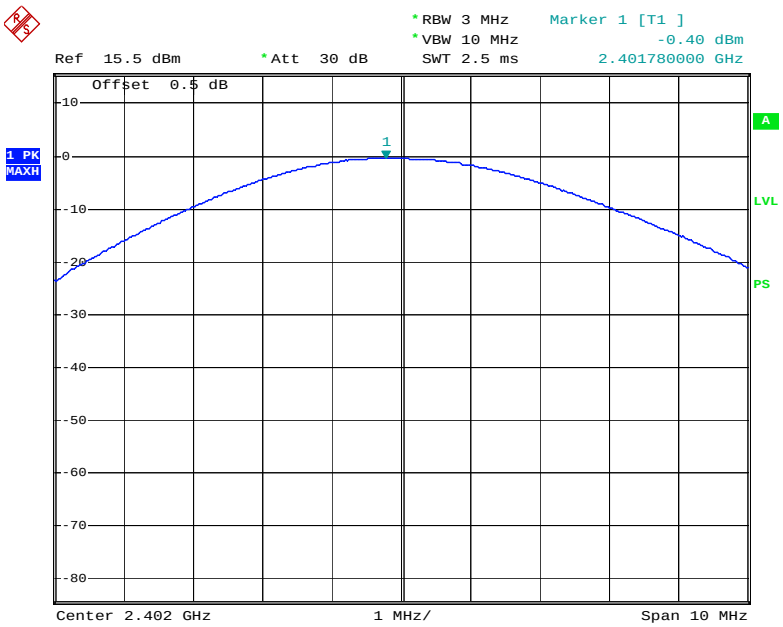
High Chanel



Date: 7.JAN.2010 17:04:03

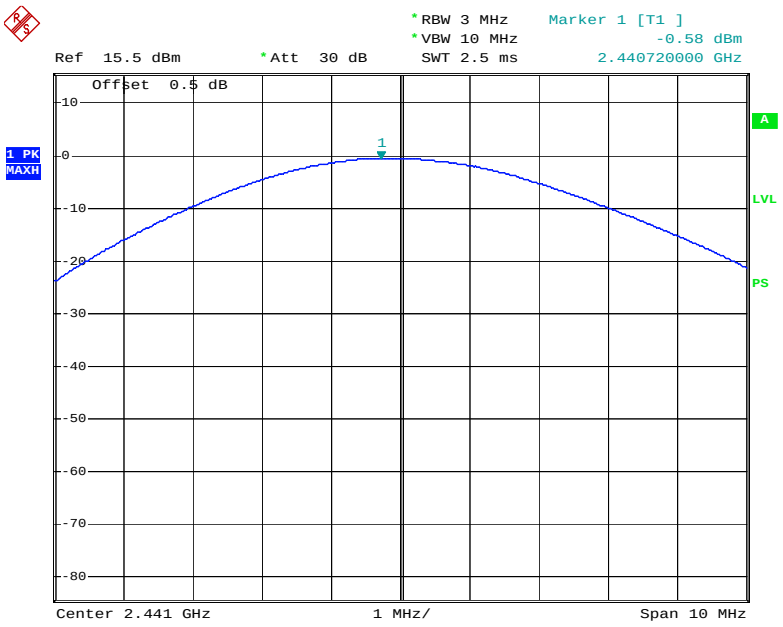
EDR:

Low Channel



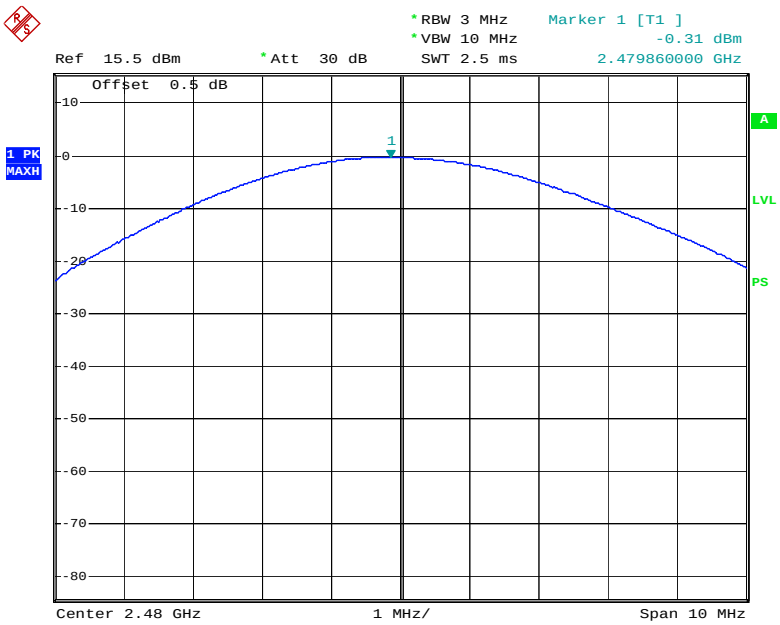
Date: 19.JAN.2010 16:26:27

Middle Channel



Date: 19.JAN.2010 16:25:58

High Chanel



Date: 19.JAN.2010 16:25:08

FCC §15.247(d) - BAND EDGES TESTING

Applicable Standard

Caaording to FCC §15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-11-24	2010-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100 kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1 MHz, VBW=3 MHz.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

**The testing was performed by Bruce Zhang on 2010-01-07 to 2010-01-19.*

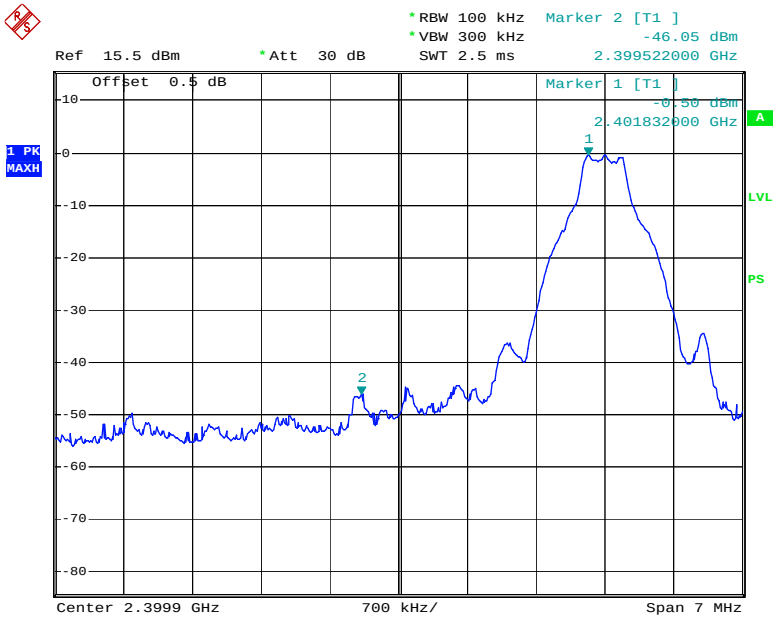
Test Result: Compliant

Mode	Frequency (MHz)	Delta Peak to Band Emission (dBc)	Limit (dBc)
BDR	2399.520	45.55	20
	2484.000	43.16	20
EDR	2399.508	48.65	20
	2483.600	46.11	20

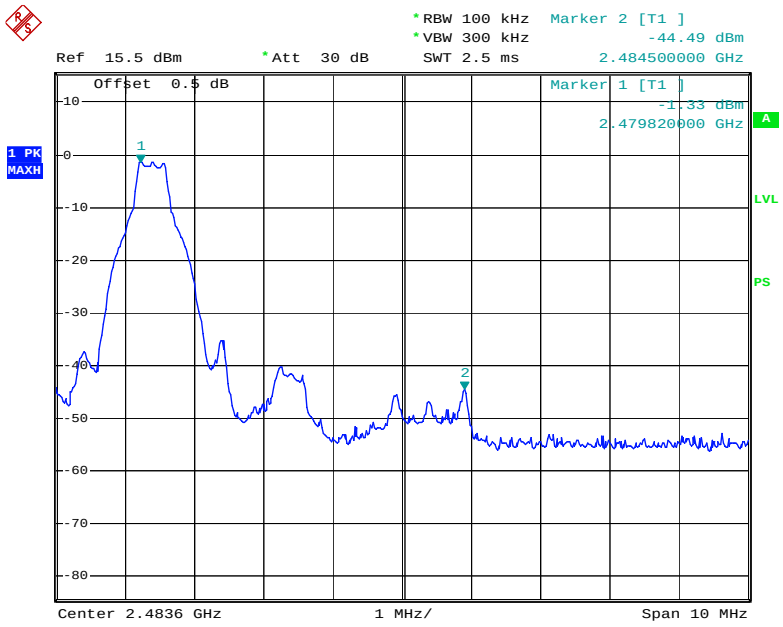
Please refer to follow plots:

BDR:

Band Edge: Left Side



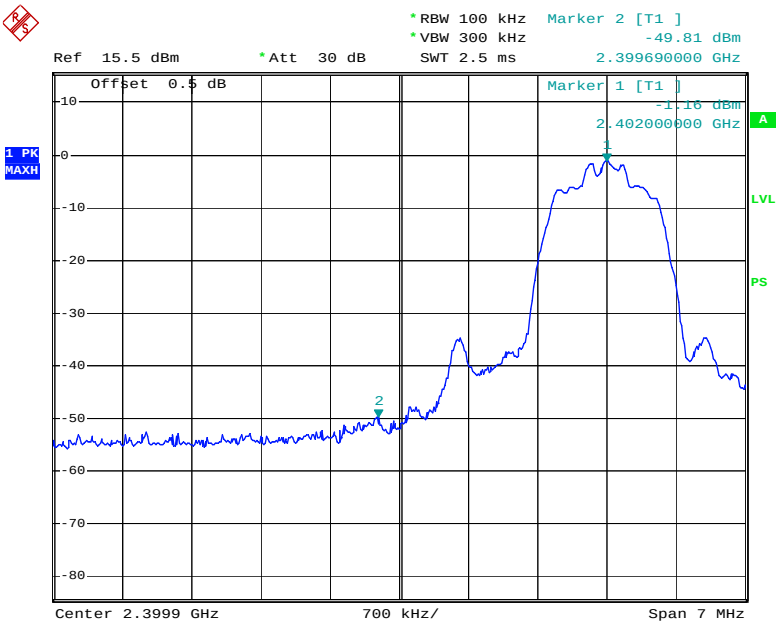
Band Edge: Right Side



Date: 7.JAN.2010 18:14:21

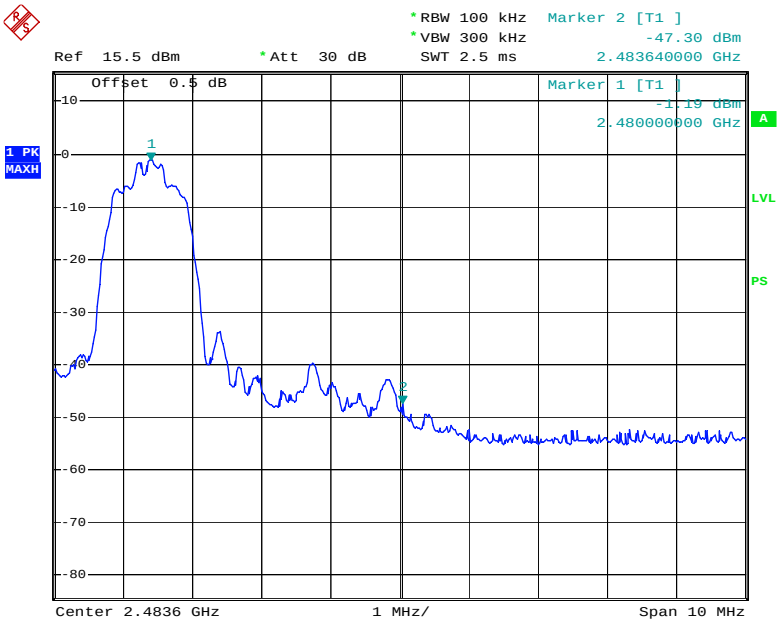
EDR:

Band Edge: Left Side



Date: 19.JAN.2010 16:30:57

Band Edge: Right Side



Date: 19.JAN.2010 16:29:28

APPENDIX A - PRODUCTE SIMILARITY DECALARATION LETTER

广州市凯狮通讯科技有限公司
Kiss Communications Technology Co.,Ltd
Address:Room 13A20,New Asia International Digital Center,No.55 Xi Di Er Road,Li wan District,Guangzhou Tel/Fax:+86-20-2803 9070 2803 9077

Product Similarity Declaration

To Whom It May Concern,

We, **Kiss Communications Technology Co., Ltd**, hereby declare that our Bluetooth headset Model Number: BTK-A52/A53 /A55/A56/A57/A58/A59 are electrically identical with the Model Number: BTK-A51 that was certified by BACL. They are named differently due to marketing purposes.

Please contact me if you have any question.

Signature:

Print Name: Steve Cai

Title:Manager

Date:2010-1-26

******* END OF REPORT *******