



FCC Part15.247 Test Report

Product Name : DECK
Model No. : EQ700
FCC ID : IHDT6PB1

Applicant : Motorola Mobility, LLC.

Address : 8000 W. Sunrise Blvd, Suite A Plantation, FL
33322, USA

Date of Receipt : 09/08/2013
Test Date : 10/08/2013~25/08/2013
Issued Date : 26/08/2013
Report No. : 138S026R-RF-US-P06V01
Report Version : V 1.0

This report was based on Quietek report No: 136S051R
The product has modify the BT antenna match, and substitute some components, so we has
evaluate conducted power and some radiated items.

The test results relate only to the samples tested.

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

This report must not be used to claim product endorsement by TAF, CNAS or any agency of the Government.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : 26/08/2013

Report No. : 138S026R-RF-US-P06V01



Product Name : DECK

Applicant : Motorola Mobility, LLC.

Address : 8000 W. Sunrise Blvd, Suite A Plantation, FL 33322, USA

Manufacturer : Motorola Mobility, LLC.

Address : 8000 W. Sunrise Blvd, Suite A Plantation, FL 33322, USA

Model No. : EQ700

FCC ID : IHDT6PB1

EUT Voltage : DC: 3.7V

Trade Name : Motorola

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2012
ANSI C63.4: 2009; ANSI C63.10: 2009

Test Result : Complied

Performed Location : Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech
Development Zone., Suzhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

Documented By : Alice Ni

Reviewed By : Jackzhong

Approved By : Jame yuan

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC, TAF
Germany	:	TUV Rheinland
Norway	:	Nemko, DNV
USA	:	FCC
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site :<http://www.quietek.com/tw/ctg/cts/accreditations.htm>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site :
<http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yongxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

LinKou Testing Laboratory :

No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

Suzhou Testing Laboratory :

No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China
TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

TABLE OF CONTENTS

Description	Page
1. General Information.....	5
1.1. EUT Description	5
1.2. Mode of Operation	7
1.3. Tested System Details.....	8
1.4. Configuration of Tested System	9
1.5. EUT Exercise Software	9
2. Technical Test.....	12
2.1. Summary of Test Result	12
2.2. Test Environment	13
3. Radiated Emission	14
3.1. Test Equipment	14
3.2. Test Setup	15
3.3. Limit.....	16
3.4. Test Procedure	16
3.5. Uncertainty	17
3.6. Test Result	18
4. Peak Output Power	23
4.1. Test Equipment	23
4.2. Test Setup	23
4.3. Limit.....	23
4.4. Test Procedure	24
4.5. Uncertainty	24
4.6. Test Result	25
5. Radiated Emission Band Edge.....	31
5.1. Test Equipment	31
5.2. Test Setup	32
5.3. Limit.....	32
5.4. Test Procedure	32
5.5. Uncertainty	33
5.6. Test Result	34

1. General Information

1.1. EUT Description

Product	DECK
Brand Name	Motorola
Model No.	EQ700
Working Voltage	DC 3.7V
NFC Function	13.56MHz
Antenna Type	Loop Antenna
Bluetooth Specification	3.0HS + Version 4.0
Frequency Range	2402- 2480 MHz
Channel Number	V3.0+HS: 79 V4.0: 40
Channel Separation	V3.0+HS: 1MHz V4.0: 2MHz
Type of Modulation	V3.0+HS: GFSK, Pi/4 DQPSK, 8DPSK V4.0: GFSK
Data Rate	V3.0+HS: 1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK) V4.0: 1Mbps(GFSK)
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List
Component	
AC Adapter	Manufacturer: Ten Pao Industrial Co., Ltd M/N: S006ABD0500115 Input: 100-240V~50/60Hz 0.2A Output: 5Vdc, 1150mA

Bluetooth Antenna List

Antenna	Manufacturer	Peak Gain
PCB printed antenna	Goertek	2.4GHz: -2.08dBi

Bluetooth Working Frequency of Each Channel: (For V3.0+HS)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2403 MHz	02	2404 MHz	03	2405 MHz
04	2406 MHz	05	2407 MHz	06	2408 MHz	07	2409 MHz
08	2410 MHz	09	2411 MHz	10	2412 MHz	11	2413 MHz
12	2414 MHz	13	2415 MHz	14	2416 MHz	15	2417 MHz
16	2418 MHz	17	2419 MHz	18	2420 MHz	19	2421 MHz
20	2422 MHz	21	2423 MHz	22	2424 MHz	23	2425 MHz
24	2426 MHz	25	2427 MHz	26	2428 MHz	27	2429 MHz
28	2430 MHz	29	2431 MHz	30	2432 MHz	31	2433 MHz
32	2434 MHz	33	2435 MHz	34	2436 MHz	35	2437 MHz
36	2438 MHz	37	2439 MHz	38	2440 MHz	39	2441 MHz
40	2442 MHz	41	2443 MHz	42	2444 MHz	43	2445 MHz
44	2446 MHz	45	2447 MHz	46	2448 MHz	47	2449 MHz
48	2450 MHz	49	2451 MHz	50	2452 MHz	51	2453 MHz
52	2454 MHz	53	2455 MHz	54	2456 MHz	55	2457 MHz
56	2458 MHz	57	2459 MHz	58	2460 MHz	59	2461 MHz
60	2462 MHz	61	2463 MHz	62	2464 MHz	63	2465 MHz
64	2466 MHz	65	2467 MHz	66	2468 MHz	67	2469 MHz
68	2470 MHz	69	2471 MHz	70	2472 MHz	71	2473 MHz
72	2474 MHz	73	2475 MHz	74	2476 MHz	75	2477 MHz
76	2478 MHz	77	2479 MHz	78	2480 MHz	N/A	N/A

Bluetooth Working Frequency of Each Channel: (For V4.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

1.2. Mode of Operation

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

Test Mode
Mode 1: Transmitter-1Mbps(GFSK_DH5)
Mode 2: Transmitter-2Mbps(Pi/4 DQPSK_DH5)
Mode 3: Transmitter-3Mbps(8DPSK_DH5)
Mode 4: Receiver-1Mbps(GFSK_DH5)
Mode 5: Receiver-2Mbps(Pi/4 DQPSK_DH5)
Mode 6: Receiver -3Mbps(8DPSK_DH5)

Note:

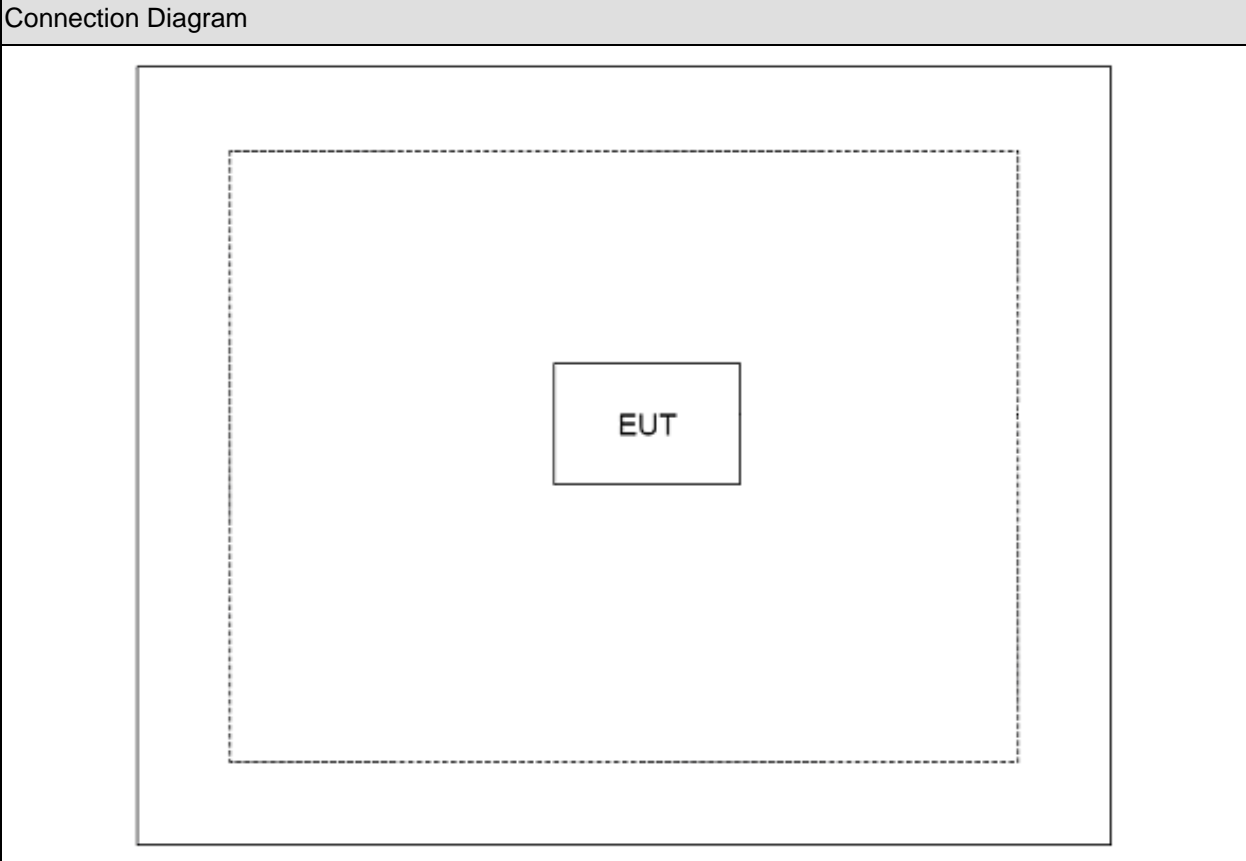
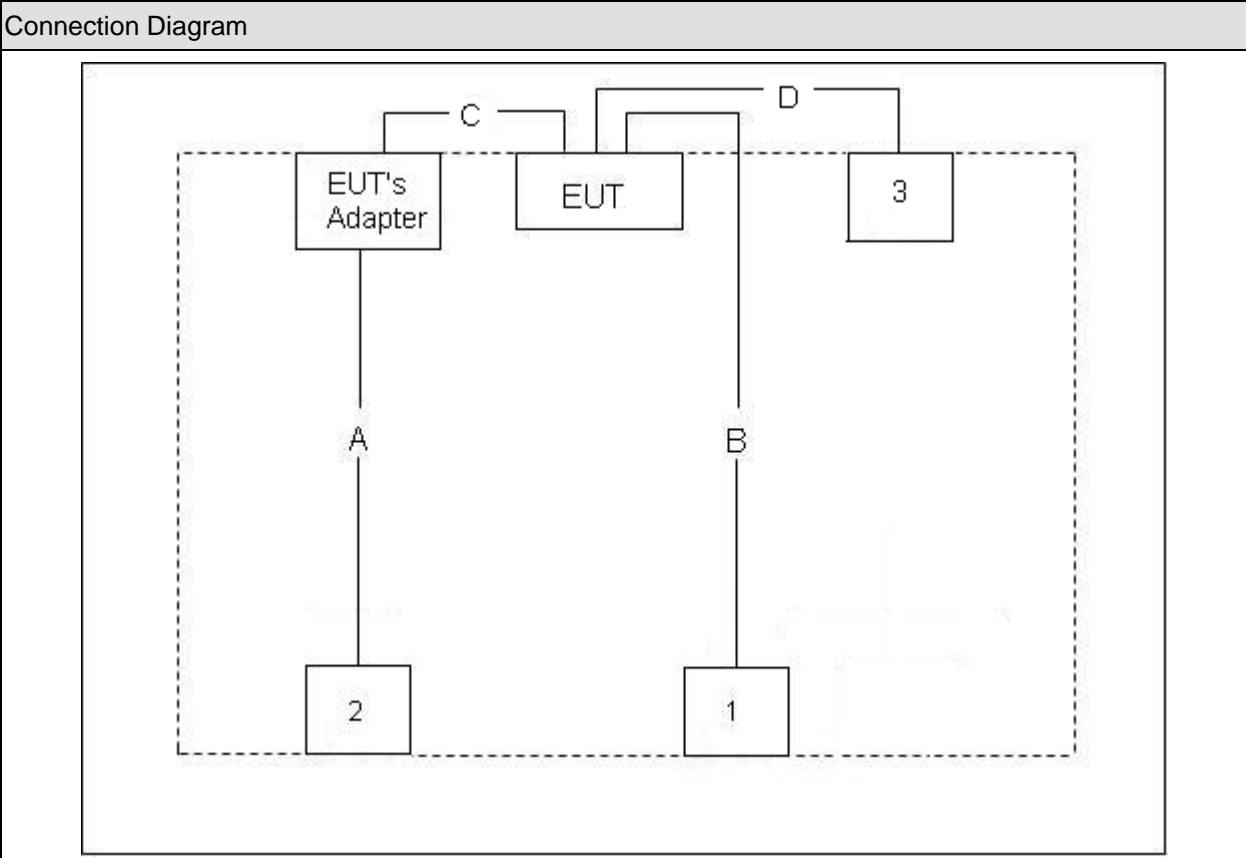
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. For portable device, radiated spurious emission was verified over X, Y, Z Axis, and shown the worst case on this report.

1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 iPod	Apple	A1199	7J71085BVQ5	Power by EUT
2 iPod	Apple	A1199	7J7107WUVQ5	Power by EUT
3 DECK	Motorola	EQ700	N/A	N/A

1.4. Configuration of Tested System



Signal Cable Type		Signal cable Description
A	USB Cable	Shielded, 1.0m
B	USB Cable	Shielded, 1.0m
C	USB Cable	Shielded, 1.0m
D	Audio Cable	Shielded, 1.0m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the software "Bluetest3", then select test mode and channel to test

2. Technical Test

2.1. Summary of Test Result

No deviations from the test standards

Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.209	Yes	No
Peak Output Power	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.247(b)(1)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2012 15.247(d)	Yes	No

2.2. Test Environment

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

3. Radiated Emission

3.1. Test Equipment

Radiated Emission / AC-2

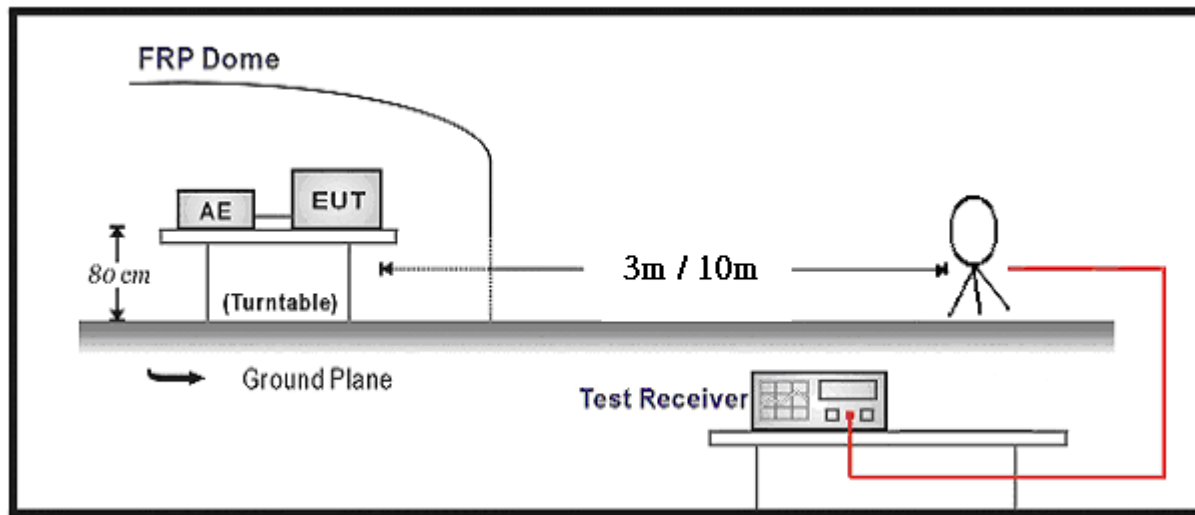
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2014.04.30
Loop Antenna	R&S	HFH2-Z2	833799/003	2013.11.17
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2013.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2014.05.08

Radiated Emission / AC-5

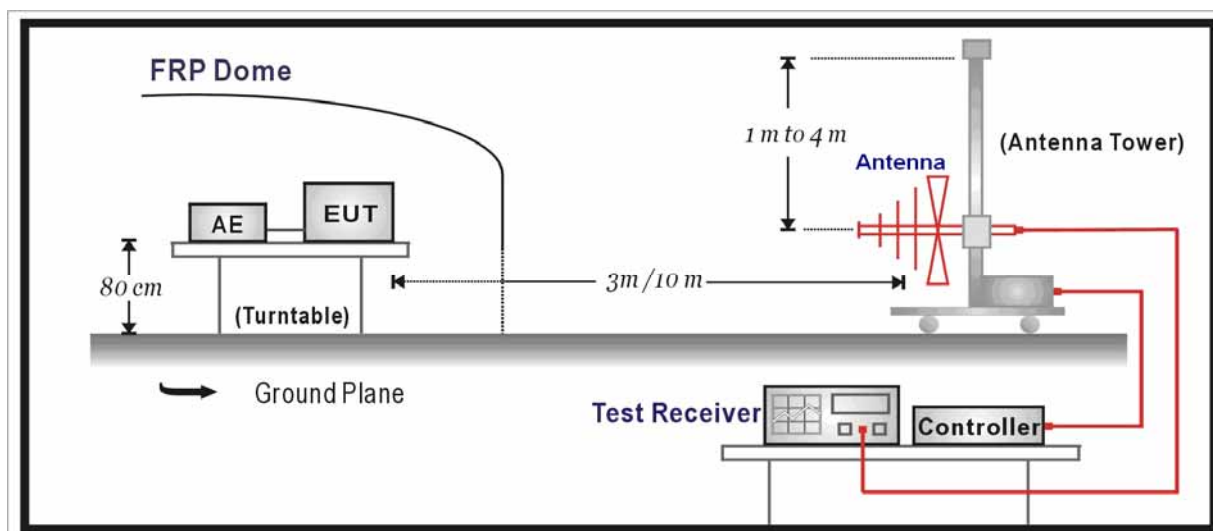
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2014.03.30
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.03
Preamplifier	Quietek	AP-040G	CHM-0906001	2014.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2013.10.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2014.06.08
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2013.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2014.01.11

3.2. Test Setup

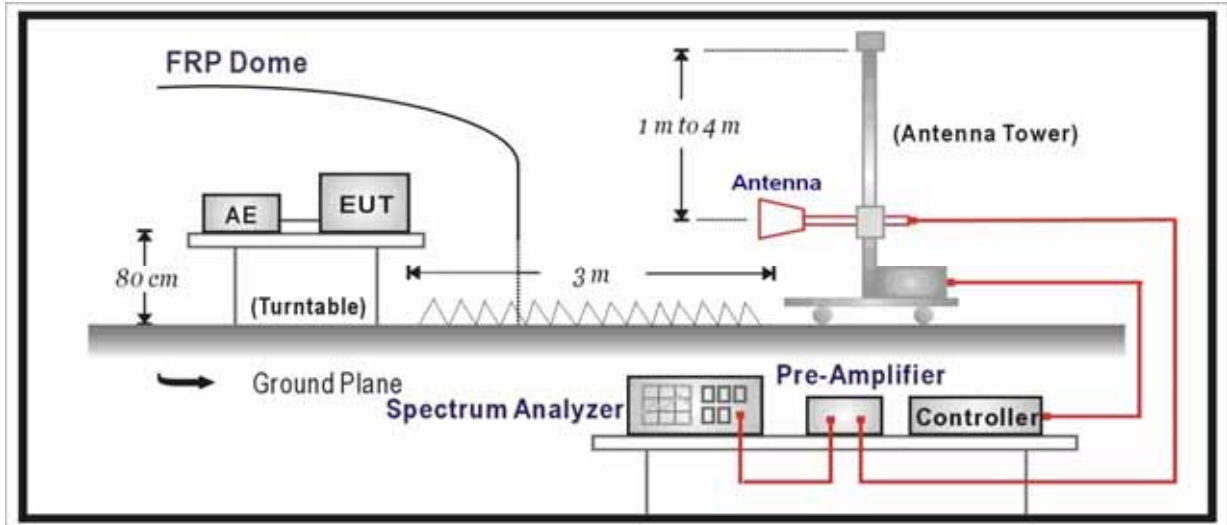
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



3.3. Limit

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

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

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

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

3.4. Test Procedure

According to ANSI C63.10: 2009.

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

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the

maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

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

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

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the "cone of radiation" of EUT. The 3dB beamwidth is 60~10 degrees for H-plane and 90~10 degrees for E-plane.

3.5. Uncertainty

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

below 1G is defined as ± 3.8 dB

3.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Measure Level = Reading Level + Cable Loss + Antenna Factor – Preamplifier Gain

Mode 1: Transmitter-1Mbps(GFSK_DH5)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	H	4799.5	56.6	-7.1	49.5	54(Note2)	-4.5	PK
	V	4808.0	56.2	-7.2	49.0	54(Note2)	-5.0	PK
	H	7205.0	46.6	-1.8	44.8	54(Note2)	-9.2	PK
	V	7206.0	44.3	-1.9	42.4	54(Note2)	-11.6	PK
	H	9608.0	35.3	4.3	39.6	54(Note2)	-14.4	PK
	V	9608.0	35.7	4.4	40.1	54(Note2)	-13.9	PK
39	H	4884.5	53.0	-7.0	46.0	54(Note2)	-8.0	PK
	V	4884.5	55.4	-7.0	48.4	54(Note2)	-5.6	PK
	H	7324.0	44.7	-1.6	43.1	54(Note2)	-10.9	PK
	V	7324.0	44.6	-1.6	43.0	54(Note2)	-11.0	PK
	H	9764.0	37.1	4.5	41.6	54(Note2)	-12.4	PK
	V	9764.0	37.4	4.6	42.0	54(Note2)	-12.0	PK
78	H	4961.0	55.3	-7.1	48.2	54(Note2)	-5.8	PK
	V	4961.0	58.4	-6.9	51.5	54(Note2)	-2.5	PK
	H	7443.0	43.6	-1.2	42.4	54(Note2)	-11.6	PK
	V	7440.0	41.4	-1.2	40.2	54(Note2)	-13.8	PK
	H	9920.0	36.3	5.2	41.5	54(Note2)	-12.5	PK
	V	9920.0	35.9	5.2	41.1	54(Note2)	-12.9	PK

Note 1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 2: Transmitter-2Mbps(Pi/4 DQPSK _DH5)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	H	4799.5	52.8	-7.1	45.7	54(Note2)	-8.3	PK
	V	4808.0	54.9	-7.2	47.7	54(Note2)	-6.3	PK
	H	7206.0	42.5	-1.8	40.7	54(Note2)	-13.3	PK
	V	7206.0	42.1	-1.9	40.2	54(Note2)	-13.8	PK
	H	9608.0	36.3	4.3	40.6	54(Note2)	-13.4	PK
	V	9608.0	35.2	4.4	39.6	54(Note2)	-14.4	PK
39	H	4884.5	52.2	-7.0	45.2	54(Note2)	-8.8	PK
	V	4884.5	55.6	-7.0	48.6	54(Note2)	-5.4	PK
	H	7323.0	43.5	-1.6	41.9	54(Note2)	-12.1	PK
	V	7323.0	43.5	-1.6	41.9	54(Note2)	-12.1	PK
	H	9764.0	36.7	4.5	41.2	54(Note2)	-12.8	PK
	V	9764.0	37.3	4.6	41.9	54(Note2)	-12.1	PK
78	H	4961.0	53.0	-7.1	45.9	54(Note2)	-8.1	PK
	V	4961.0	57.4	-6.9	50.5	54(Note2)	-3.5	PK
	H	7440.0	41.4	-1.2	40.2	54(Note2)	-13.8	PK
	V	7440.0	41.3	-1.2	40.1	54(Note2)	-13.9	PK
	H	9920.0	36.4	5.2	41.6	54(Note2)	-12.4	PK
	V	9920.0	36.2	5.2	41.4	54(Note2)	-12.6	PK

Note 1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 3: Transmitter-3Mbps(8DPSK_DH5)

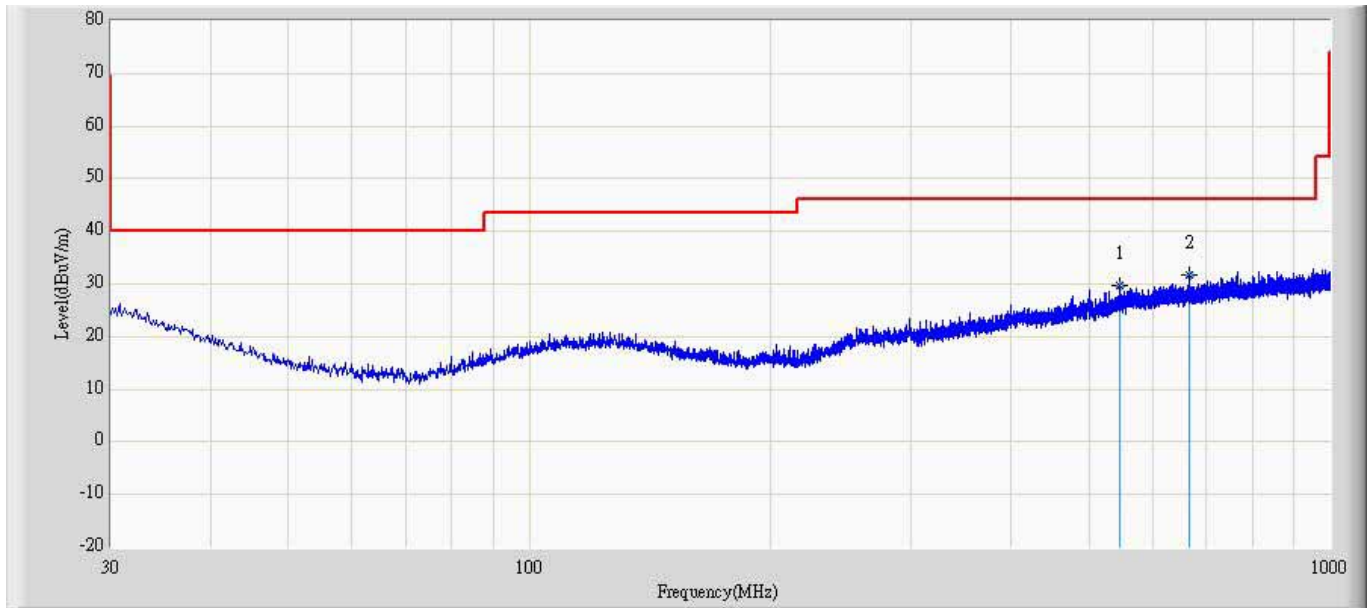
CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	H	4808.0	53.0	-7.1	45.9	54(Note2)	-8.1	PK
	V	4808.0	55.8	-7.2	48.6	54(Note2)	-5.4	PK
	H	7206.0	41.2	-1.8	39.4	54(Note2)	-14.6	PK
	V	7206.0	42.0	-1.9	40.1	54(Note2)	-13.9	PK
	H	9608.0	35.0	4.3	39.3	54(Note2)	-14.7	PK
	V	9608.0	34.7	4.4	39.1	54(Note2)	-14.9	PK
39	H	4884.5	53.5	-7.0	46.5	54(Note2)	-7.5	PK
	V	4884.5	55.6	-7.0	48.6	54(Note2)	-5.4	PK
	H	7323.0	43.0	-1.6	41.4	54(Note2)	-12.6	PK
	V	7323.0	44.1	-1.6	42.5	54(Note2)	-11.5	PK
	H	9764.0	37.5	4.5	42.0	54(Note2)	-12.0	PK
	V	9764.0	36.8	4.6	41.4	54(Note2)	-12.6	PK
78	H	4961.0	53.9	-7.1	46.8	54(Note2)	-7.2	PK
	V	4961.0	57.7	-6.9	50.8	54(Note2)	-3.2	PK
	H	7440.0	42.4	-1.2	41.2	54(Note2)	-12.8	PK
	V	7440.0	41.2	-1.2	40.0	54(Note2)	-14.0	PK
	H	9920.0	36.0	5.2	41.2	54(Note2)	-12.8	PK
	V	9920.0	35.6	5.2	40.8	54(Note2)	-13.2	PK

Note 1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

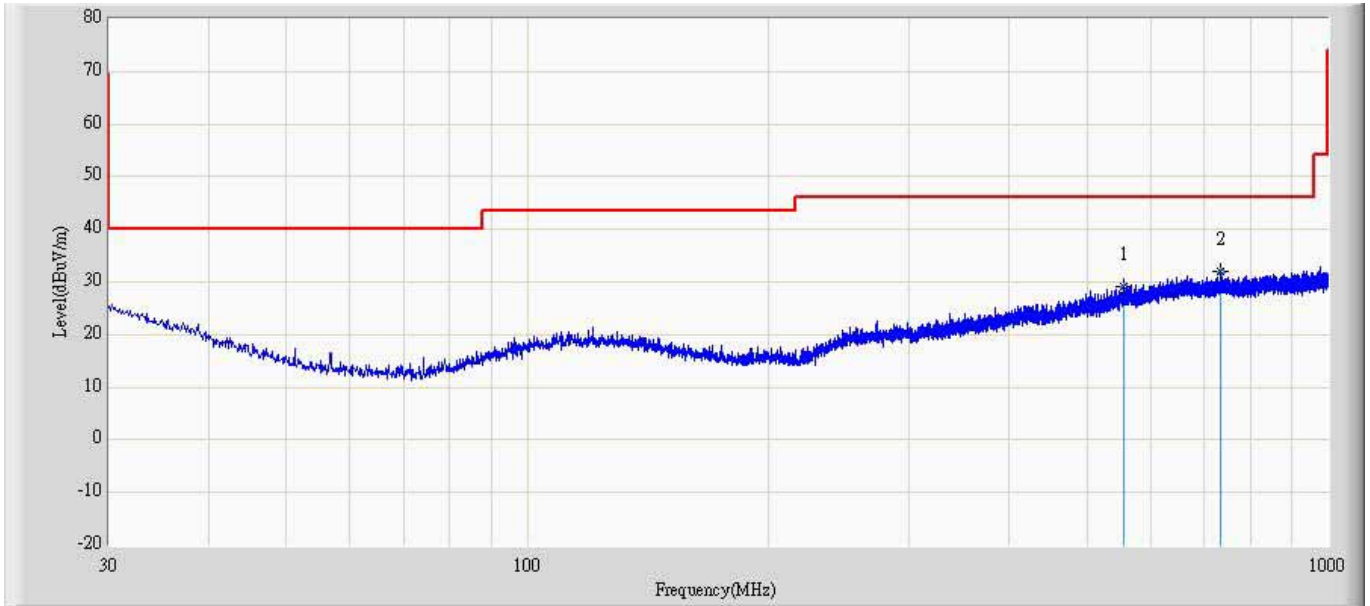
The worst case of Radiated Emission below 1GHz:

Engineer: Milo	
Site: AC2	Time: 2013/08/19 - 09:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode: Transmit at channel 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		546.282	29.739	3.082	-16.261	46.000	26.657	QP
2	*	666.562	31.803	4.295	-14.197	46.000	27.508	QP

Engineer: Milo	
Site: AC2	Time: 2013/08/19 - 09:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode: Transmit at channel 2402MHz by DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		555.982	29.256	2.476	-16.744	46.000	26.780	QP
2	*	733.614	32.077	3.617	-13.923	46.000	28.460	QP

4. Peak Output Power

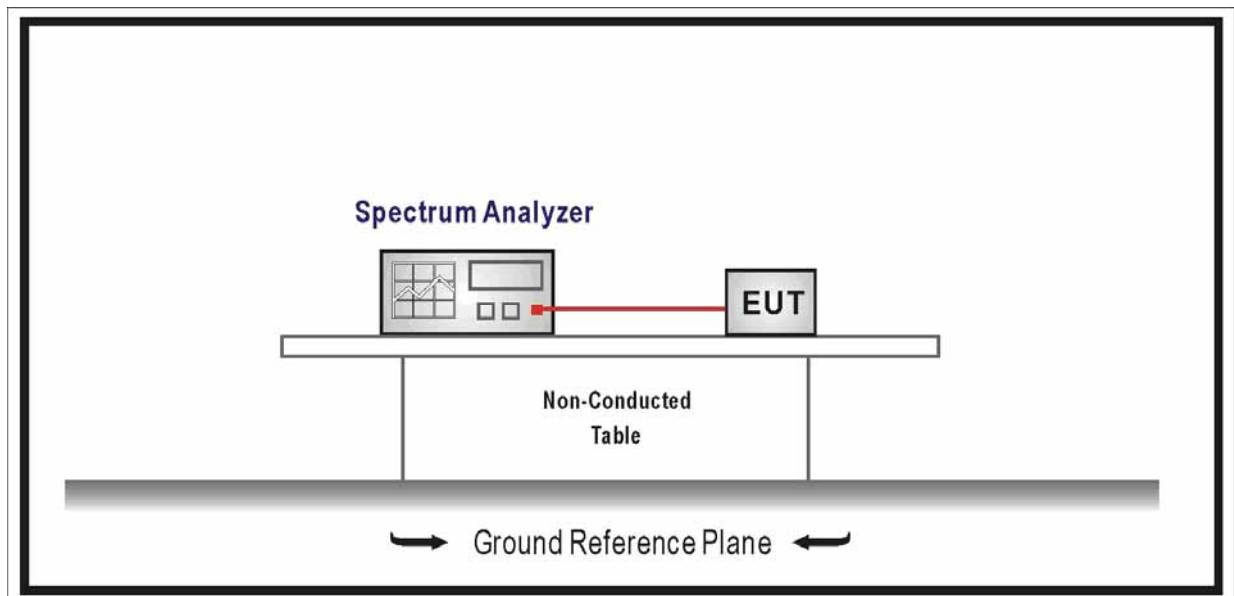
4.1. Test Equipment

Peak Output Power / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.01.21
Temperature/Humidity Meter	Zhicheng	ZC1-2	TR8-TH	2014.05.08

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

4.2. Test Setup



4.3. Limit

- 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.
- For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels.

Note: the conducted output power limit specified above is based on the use the antennas with

directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

4.4. Test Procedure

According to ANSI C63.10: 2009.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20dB bandwidth, centered on a hopping channel

RBW > the 20 dB bandwidth of the emission being measured.

VBW \cong RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power (don't forget added the external attenuation and cable loss).

4.5. Uncertainty

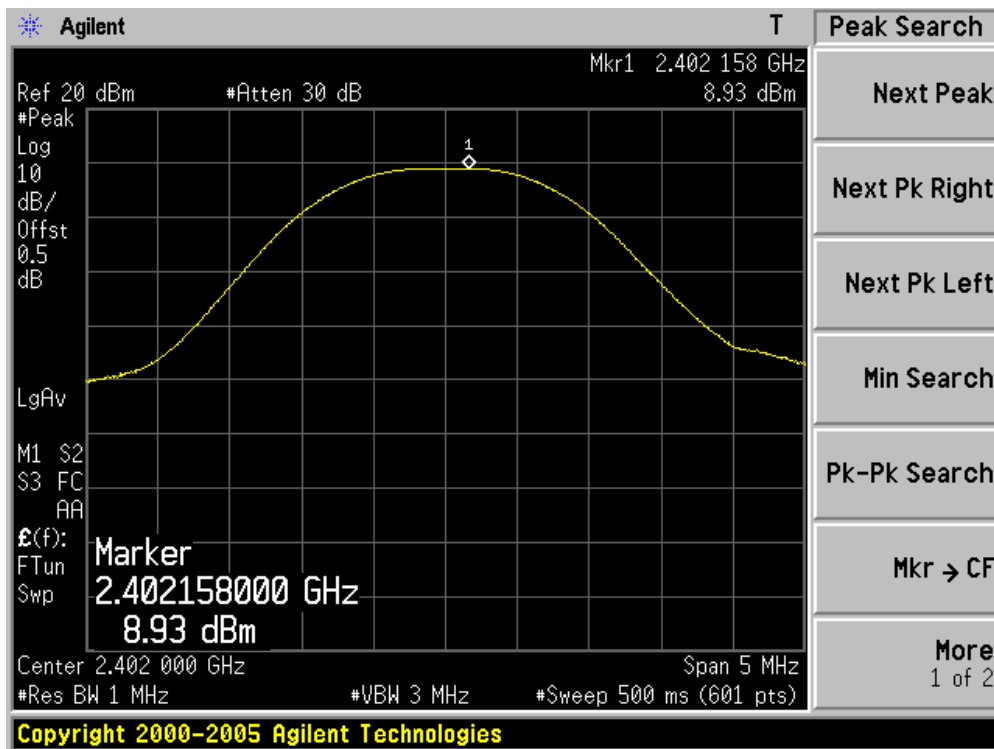
The measurement uncertainty is defined as ± 1.0 dB

4.6. Test Result

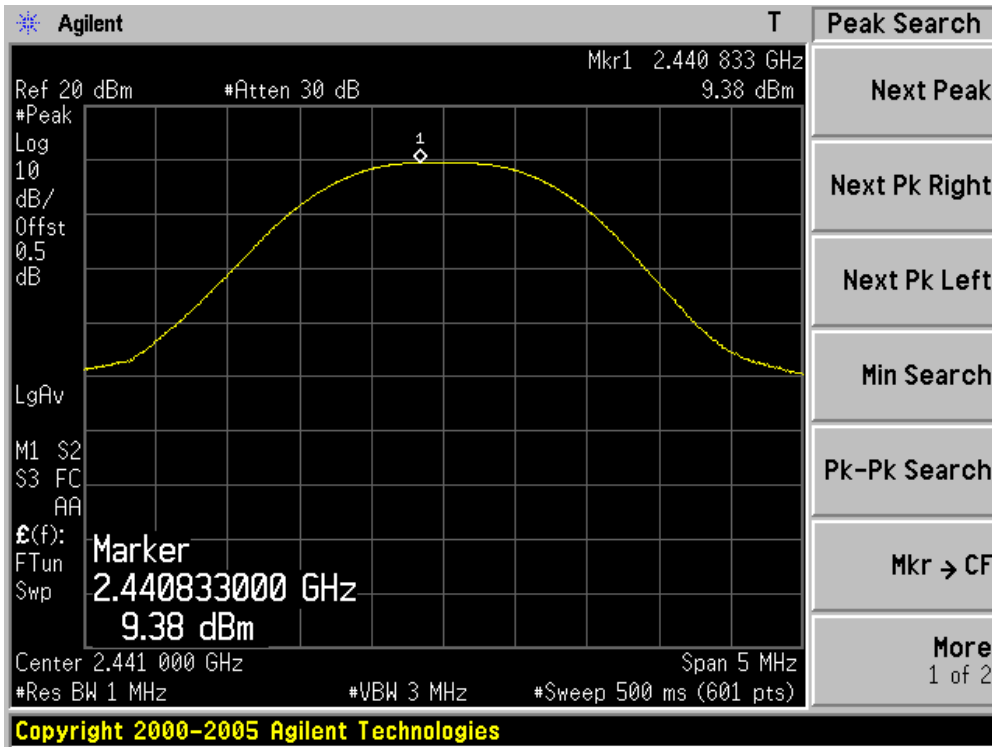
Product	:	DECK
Test Item	:	Power Output
Test Mode	:	Mode 1: Transmitter-1Mbps (GFSK_DH5)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	8.93	30.00	Pass
39	2441	9.38	30.00	Pass
78	2480	9.77	30.00	Pass

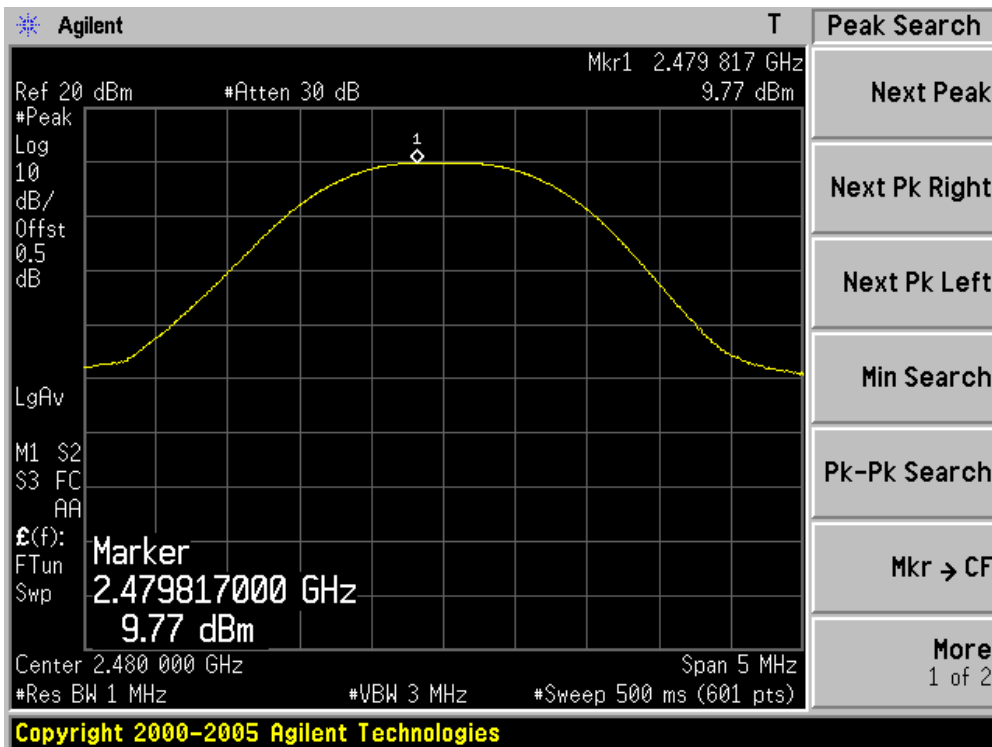
Channel 00 (2402MHz)



Channel 39 (2441MHz)



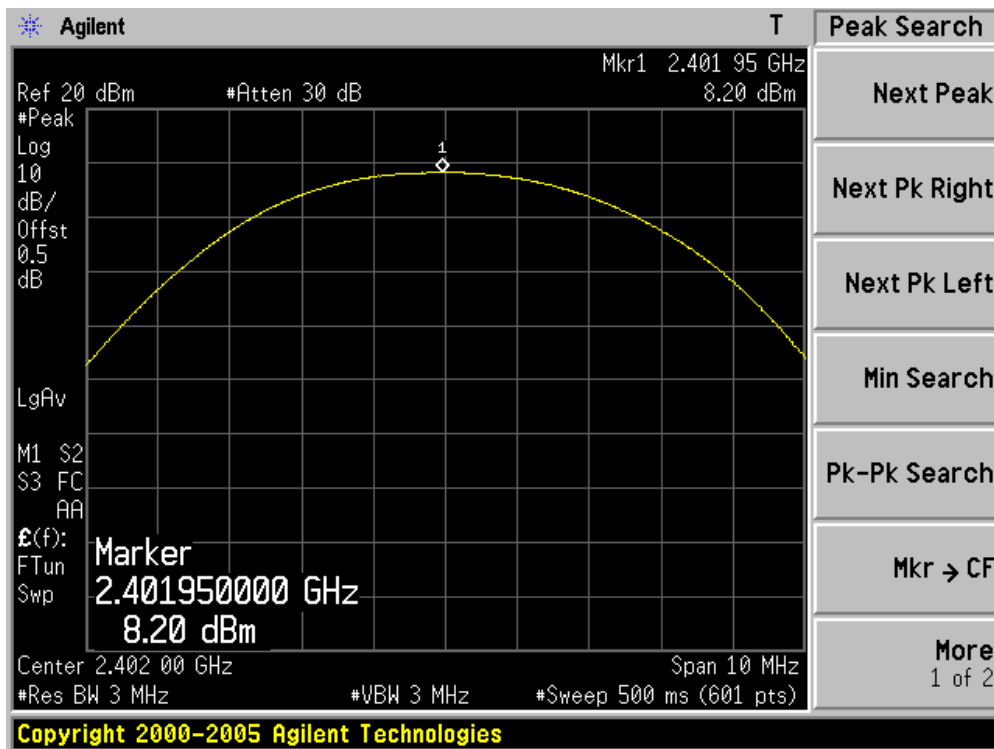
Channel 78 (2480MHz)



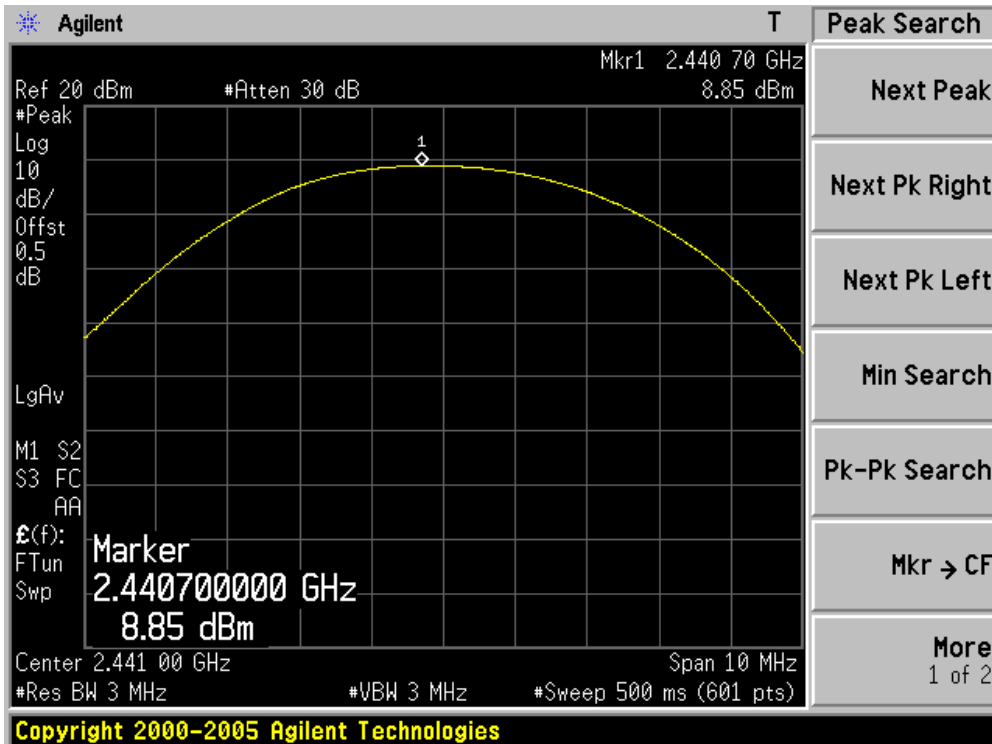
Product	:	DECK
Test Item	:	Power Output
Test Mode	:	Mode 2: Transmitter-2Mbps (Pi/4 DQPSK_DH5)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	8.20	30.00	Pass
39	2441	8.85	30.00	Pass
78	2480	9.18	30.00	Pass

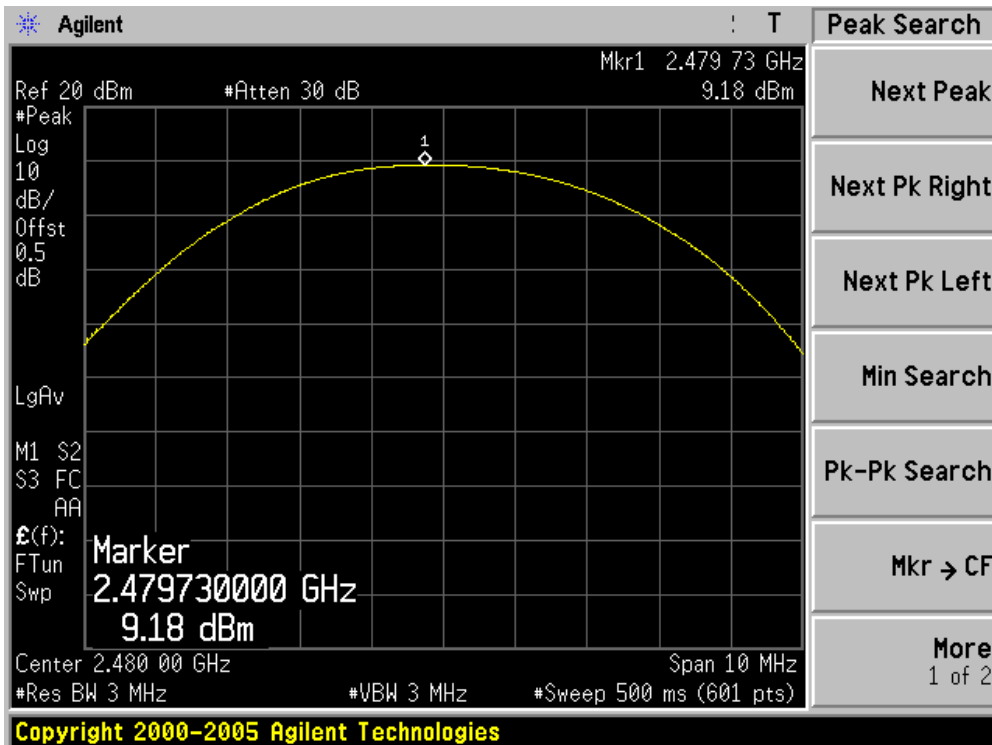
Channel 00 (2402MHz)



Channel 39 (2441MHz)



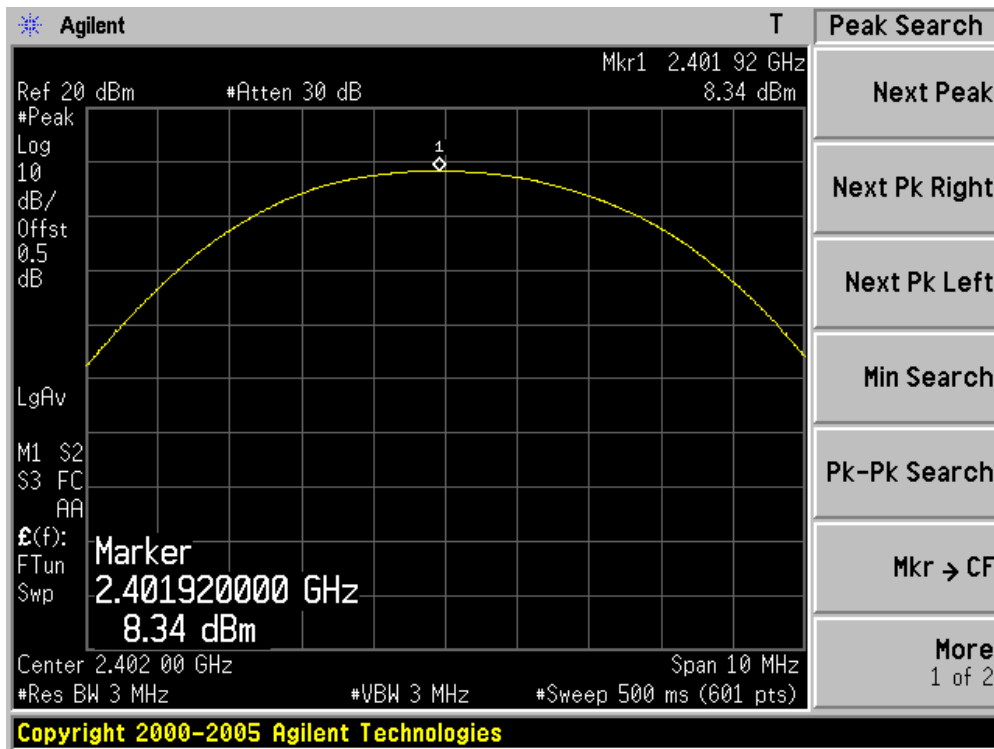
Channel 78 (2480MHz)



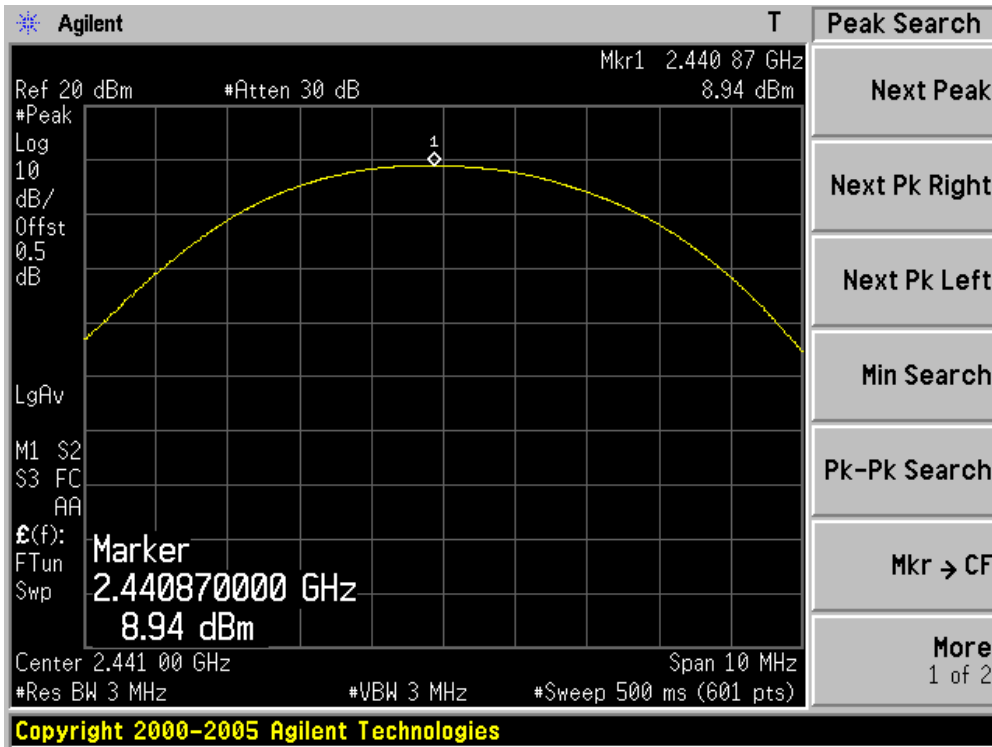
Product	: DECK
Test Item	: Power Output
Test Mode	: Mode 3: Transmitter-3Mbps (8DPSK_DH5)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
0	2402	8.34	30.00	Pass
39	2441	8.94	30.00	Pass
78	2480	9.29	30.00	Pass

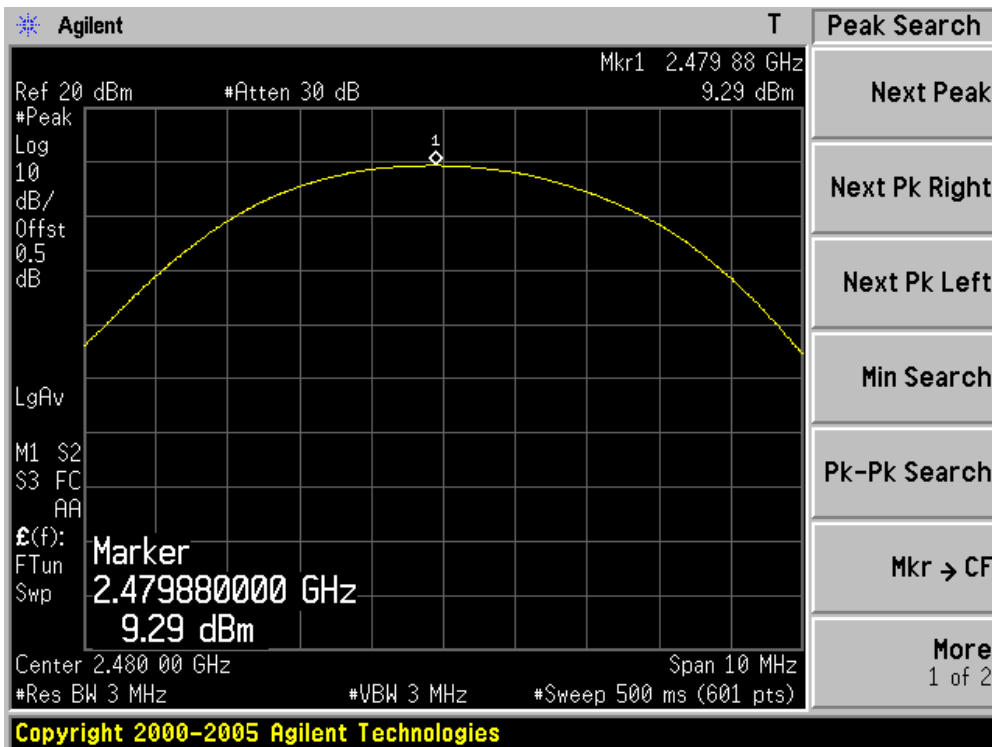
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



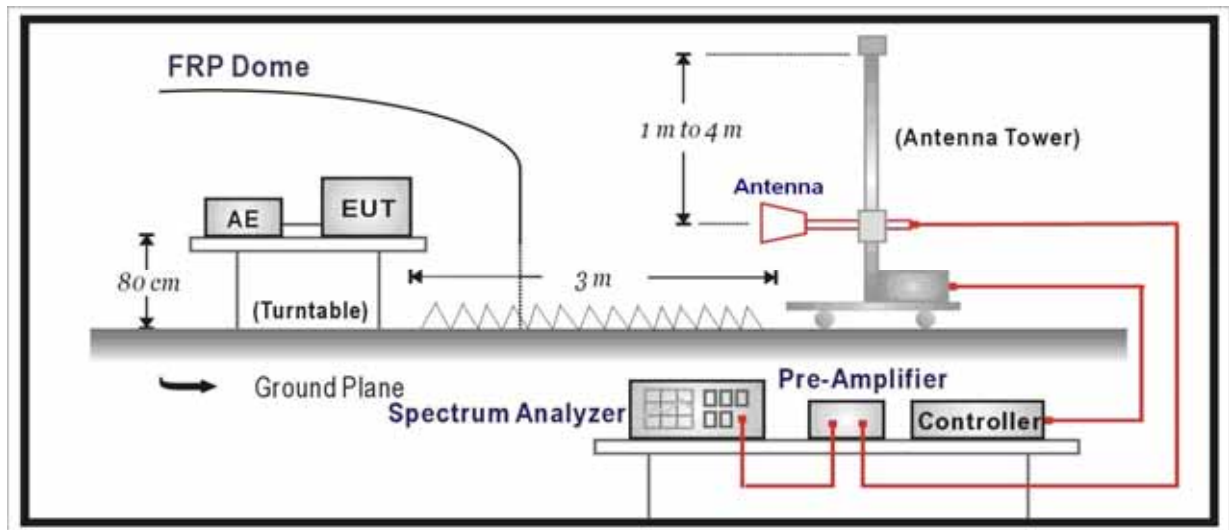
5. Radiated Emission Band Edge

5.1. Test Equipment

Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2014.03.30
EMI Test Receiver	R&S	ESCI	100573	2014.03.30
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.03
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2013.10.15
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2014.06.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2014.03.01
Temperature/Humidity Meter	zhicheng	ZC1-2	AC5-TH	2014.01.11

5.2. Test Setup



5.3. Limit

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

5.4. Test Procedure

According to ANSI C63.10: 2009.

This test is required for any spurious emission or modulation product that falls in a Restricted Band, as defined in Section 15.205 of FCC part 15. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being

corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b) of FCC part 15.

Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209 of FCC Part 15. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit of FCC part 15.

If the emission on which a radiated measurement must be made is located at the edge of the authorized band of operation, then the alternative “marker-delta” method may be employed.

5.5. Uncertainty

The measurement uncertainty above 1G is defined as $\pm 3.9 \text{ dB}$

below 1G is defined as $\pm 3.8 \text{ dB}$

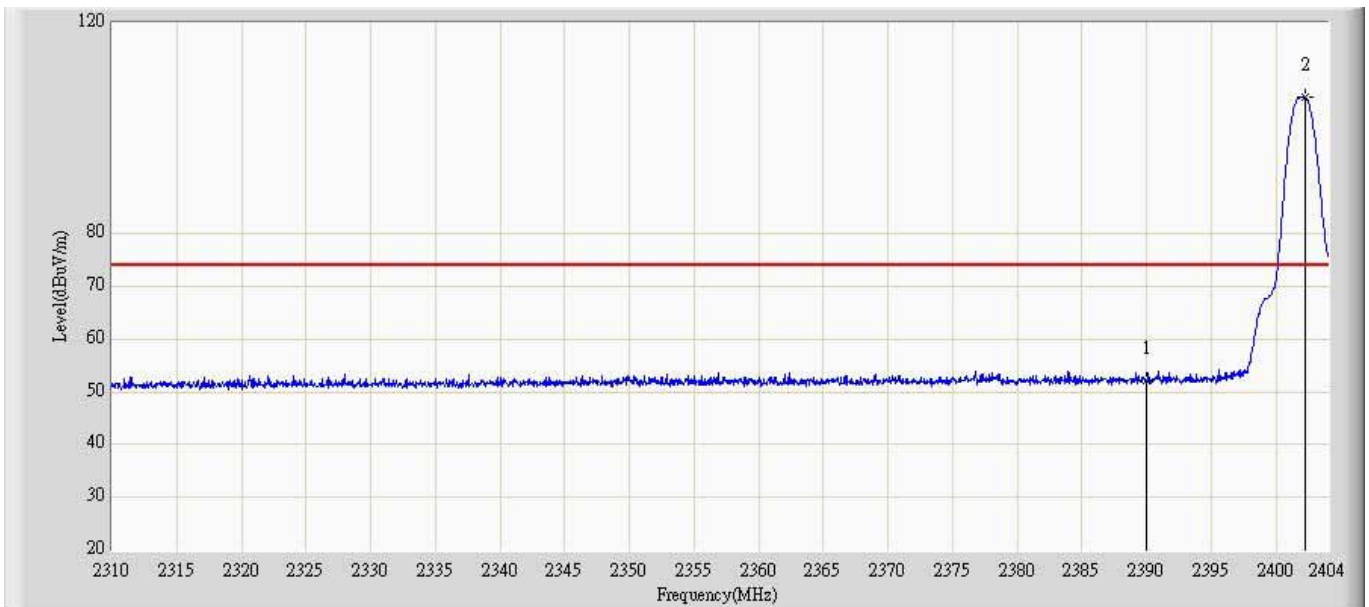
5.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

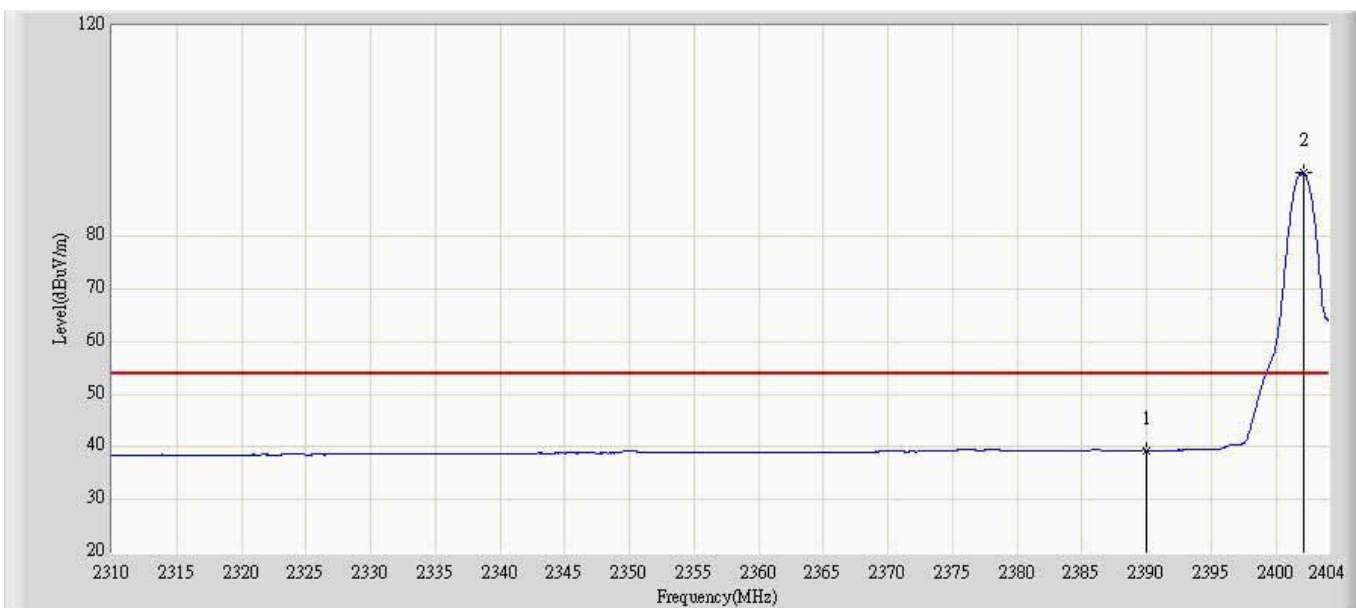
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2402MHz by DH5	



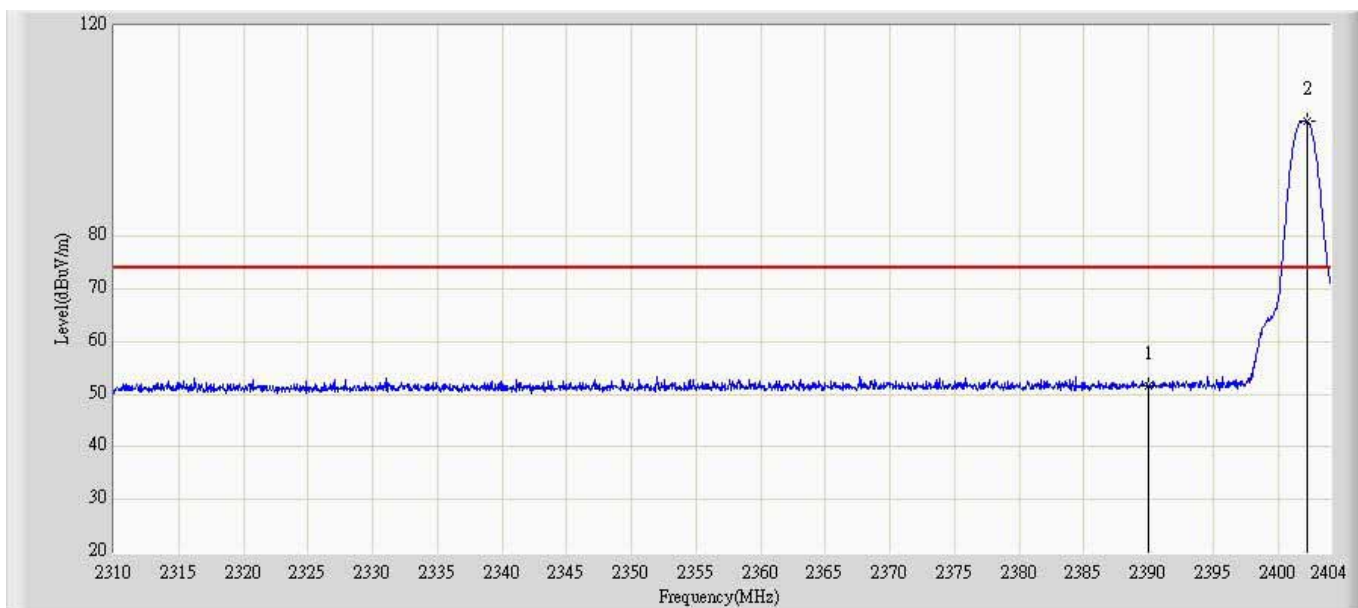
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	52.072	14.913	-21.928	74.000	37.159	PK
2		*	2402.214	105.888	68.622	N/A	N/A	37.267	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2402MHz by DH5	



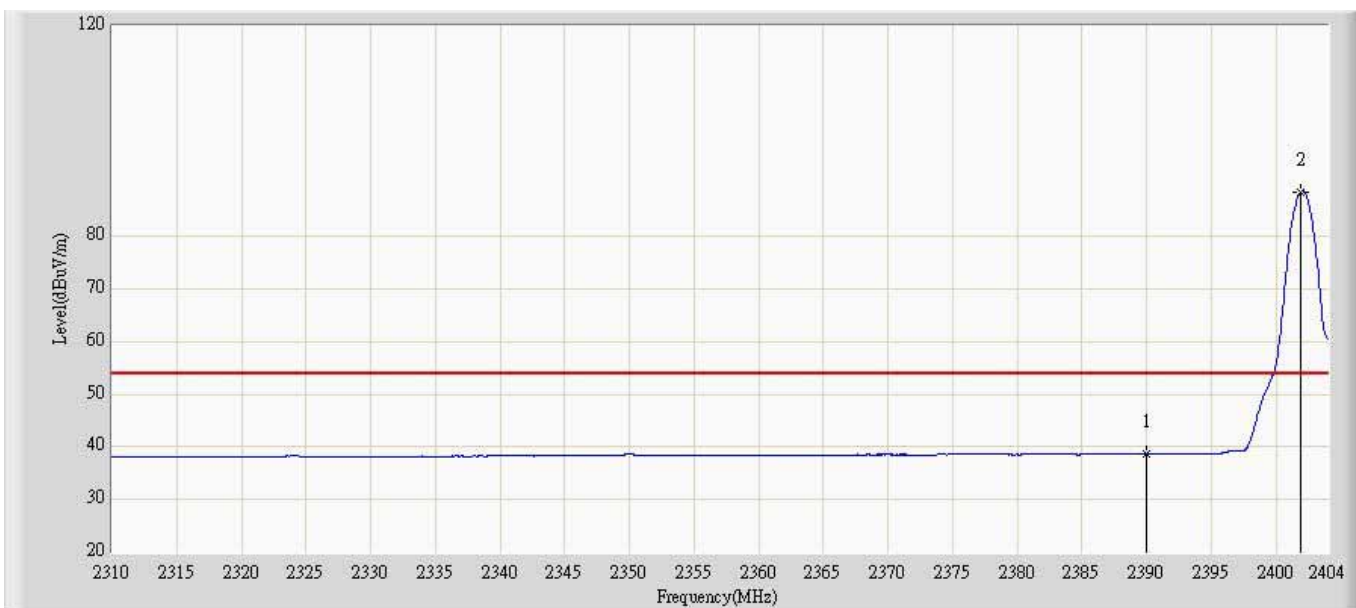
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	39.377	2.218	-14.623	54.000	37.159	AV
2		*	2402.073	92.170	54.905	N/A	N/A	37.265	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2402MHz by DH5	



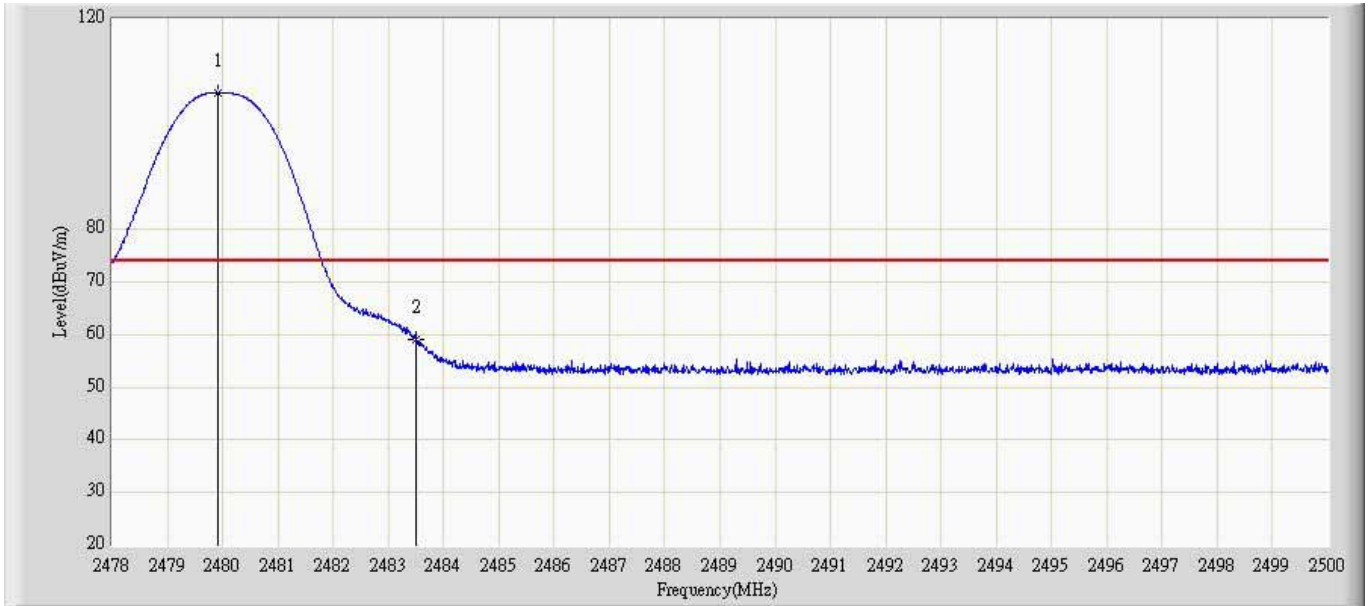
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	51.571	15.072	-22.429	74.000	36.499	PK
2		*	2402.214	101.856	65.298	N/A	N/A	36.558	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2402MHz by DH5	



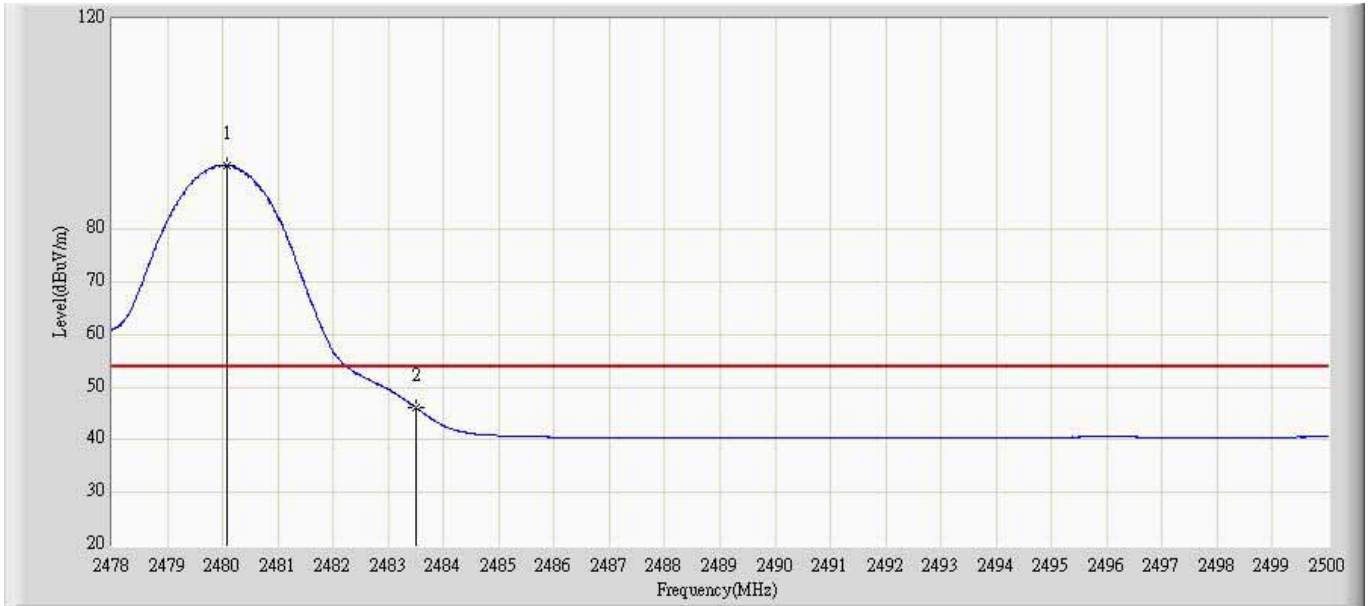
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	38.685	2.186	-15.315	54.000	36.499	AV
2		*	2401.932	88.533	51.977	N/A	N/A	36.556	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2480MHz by DH5	



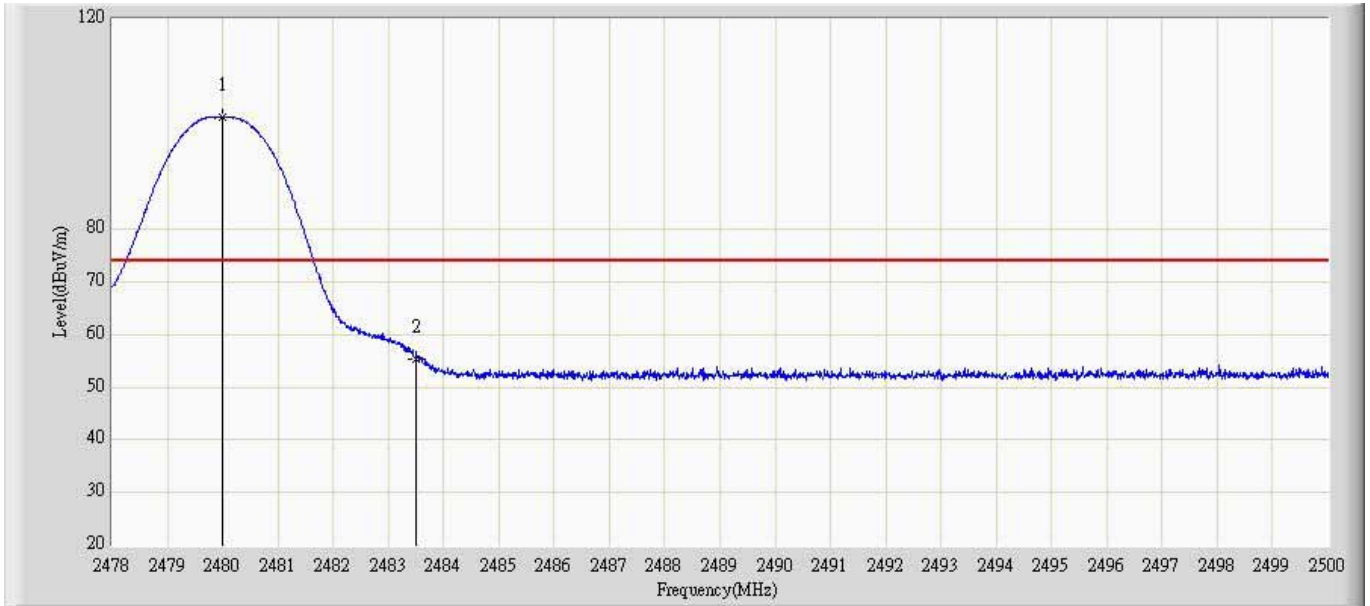
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.903	105.895	67.957	N/A	N/A	37.938	PK
2			2483.500	59.125	21.155	-14.875	74.000	37.969	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2480MHz by DH5	



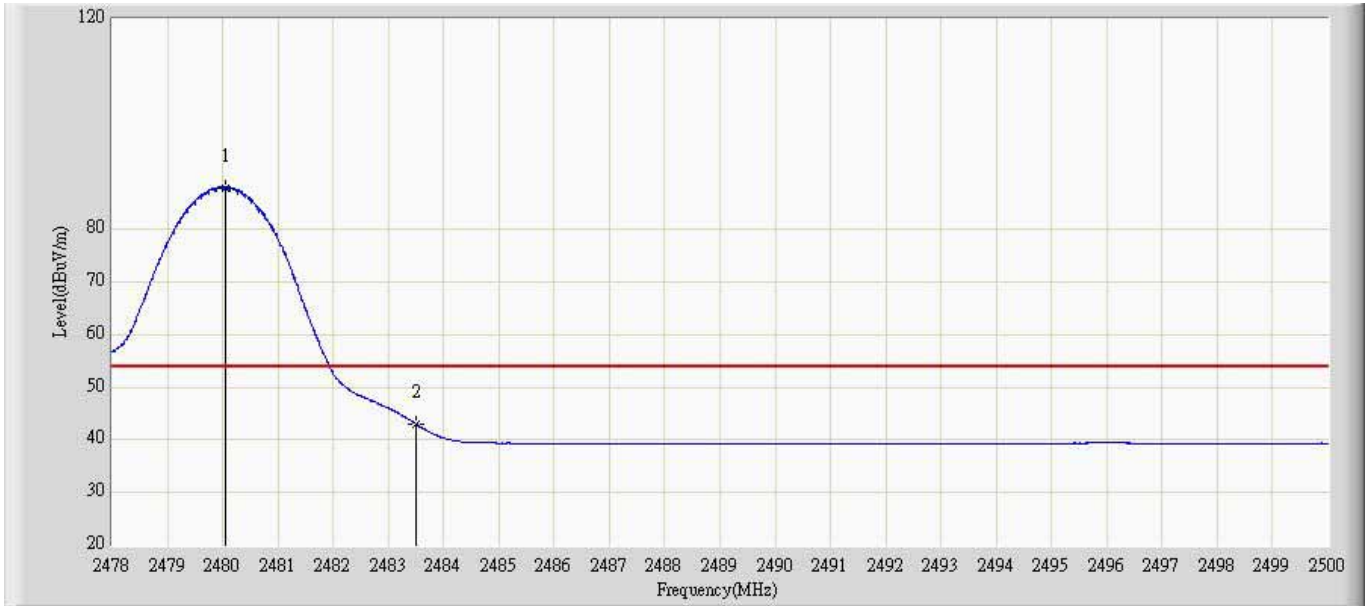
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2480.090	92.211	54.271	N/A	N/A	37.939	AV
2			2483.500	46.088	8.118	-7.912	54.000	37.969	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 11:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2480MHz by DH5	



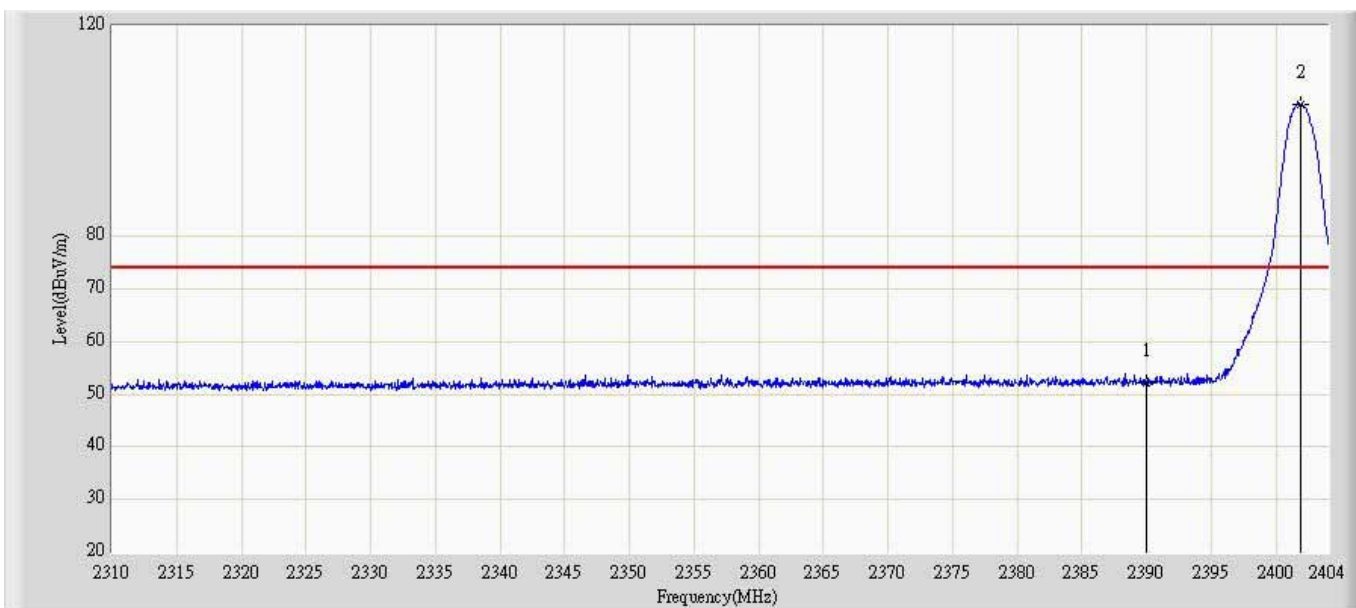
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2480.002	101.246	64.327	N/A	N/A	36.919	PK
2			2483.500	55.412	18.476	-18.588	74.000	36.935	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 12:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode1: Transmit at channel 2480MHz by DH5	



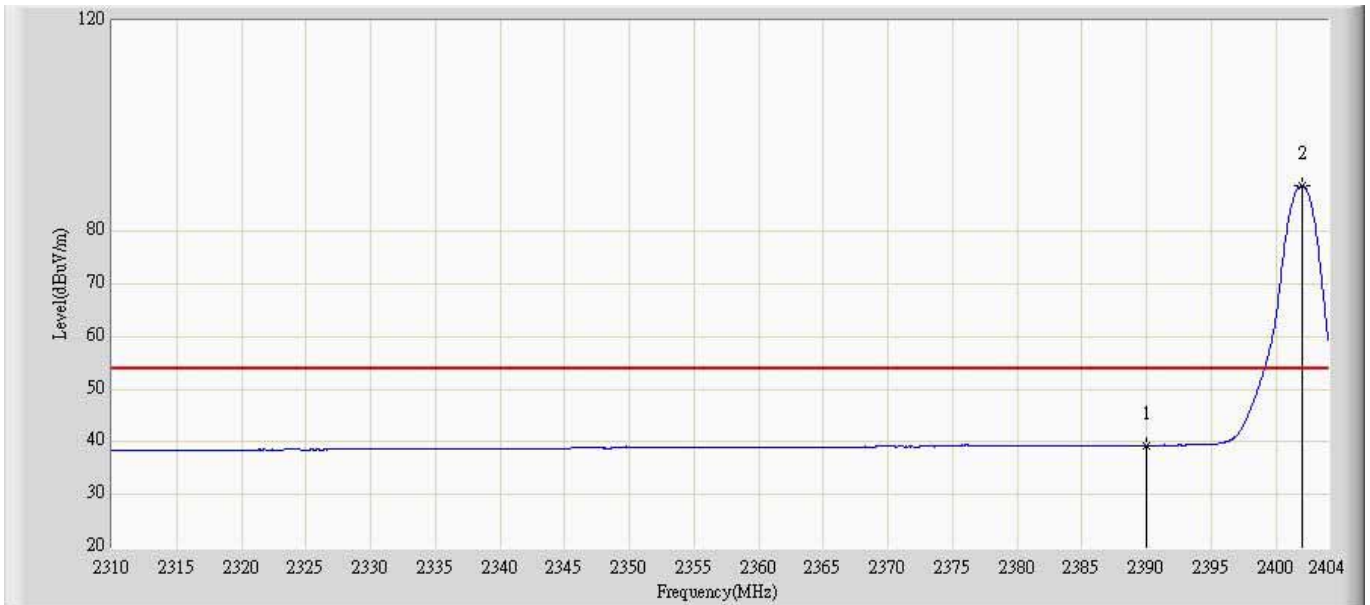
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2480.046	87.932	51.013	N/A	N/A	36.919	AV
2			2483.500	43.010	6.074	-10.990	54.000	36.935	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 12:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2402MHz by 2DH5	



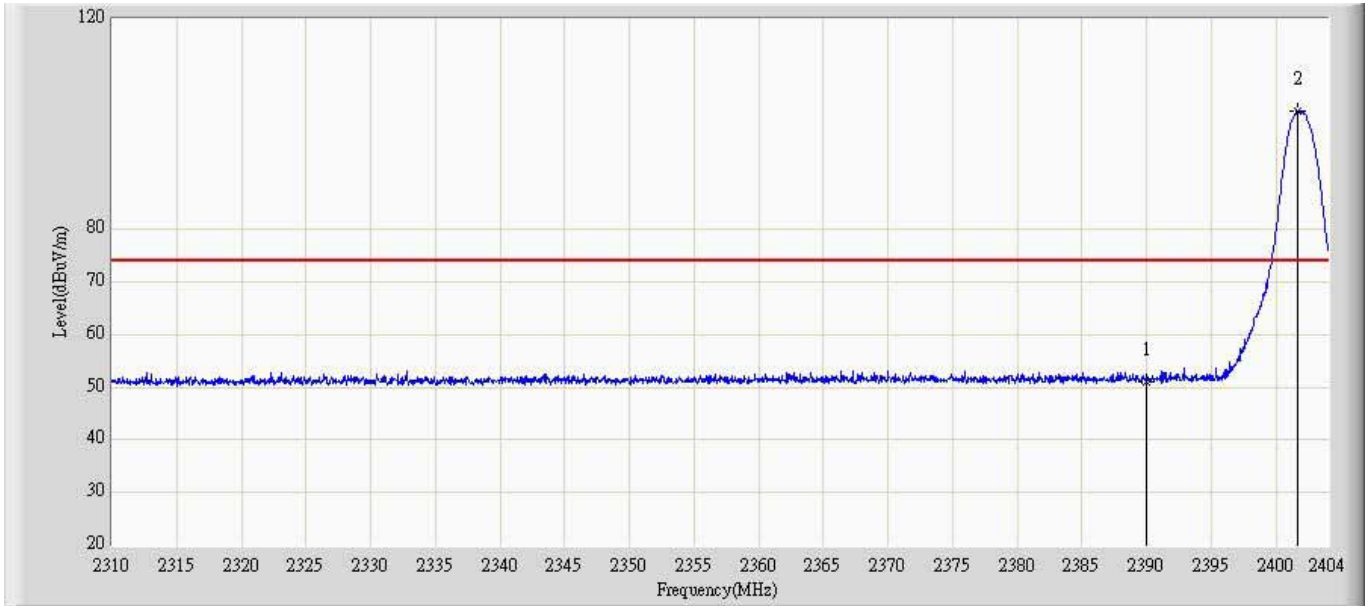
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	52.126	14.967	-21.874	74.000	37.159	PK
2		*	2401.885	105.086	67.822	N/A	N/A	37.263	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 12:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2402MHz by 2DH5	



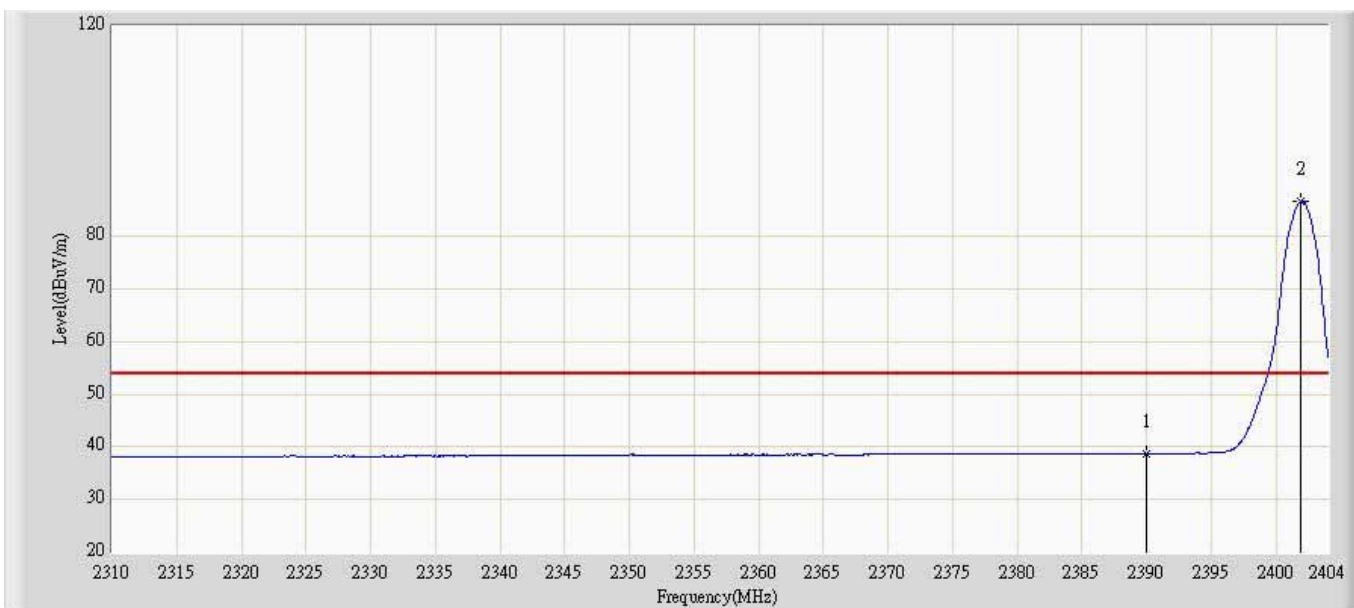
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	39.342	2.183	-14.658	54.000	37.159	AV
2		*	2401.979	88.796	51.532	N/A	N/A	37.264	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 12:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2402MHz by 2DH5	



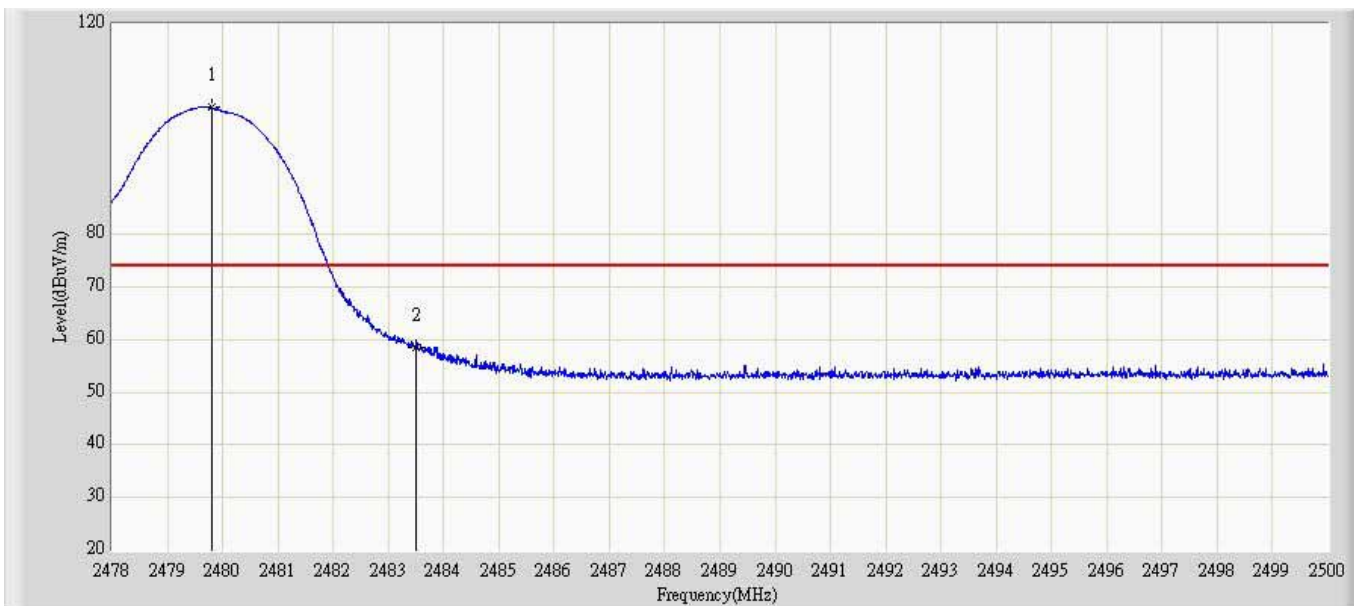
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	50.935	14.436	-23.065	74.000	36.499	PK
2		*	2401.697	102.488	65.933	N/A	N/A	36.555	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2402MHz by 2DH5	



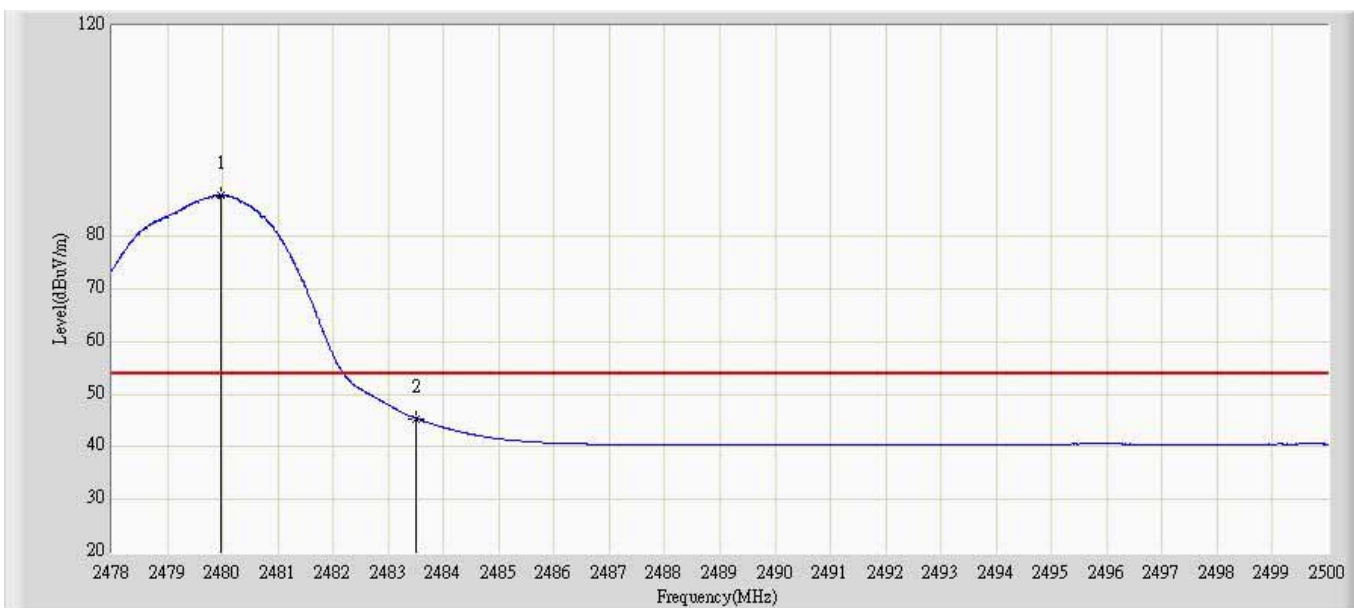
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	38.710	2.211	-15.290	54.000	36.499	AV
2		*	2401.932	86.664	50.108	N/A	N/A	36.556	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2480MHz by 2DH5	



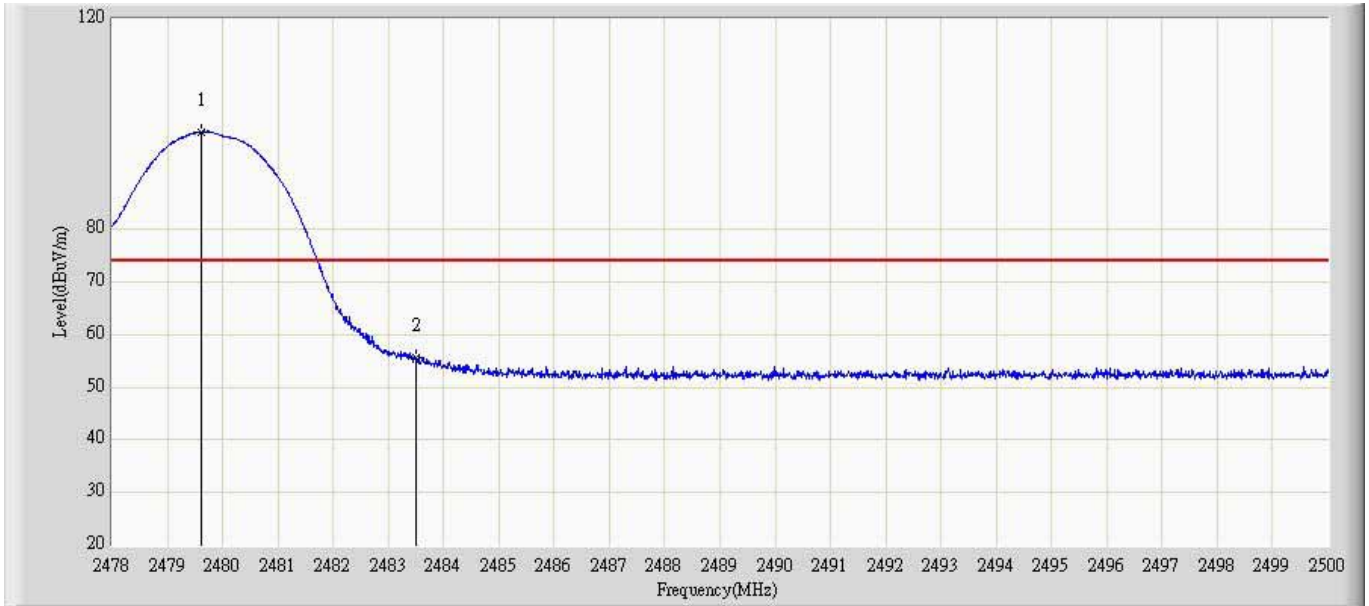
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.804	104.091	66.154	N/A	N/A	37.937	PK
2			2483.500	58.504	20.534	-15.496	74.000	37.969	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2480MHz by 2DH5	



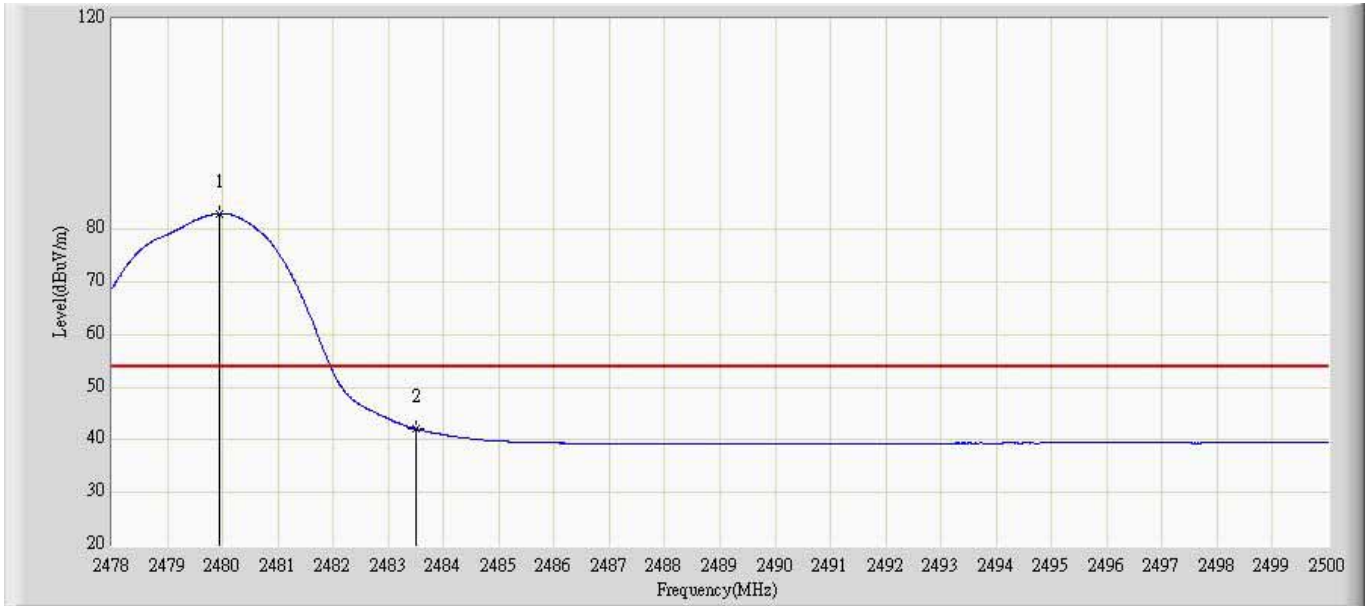
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.969	87.811	49.872	N/A	N/A	37.938	AV
2			2483.500	45.363	7.393	-8.637	54.000	37.969	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2480MHz by 2DH5	



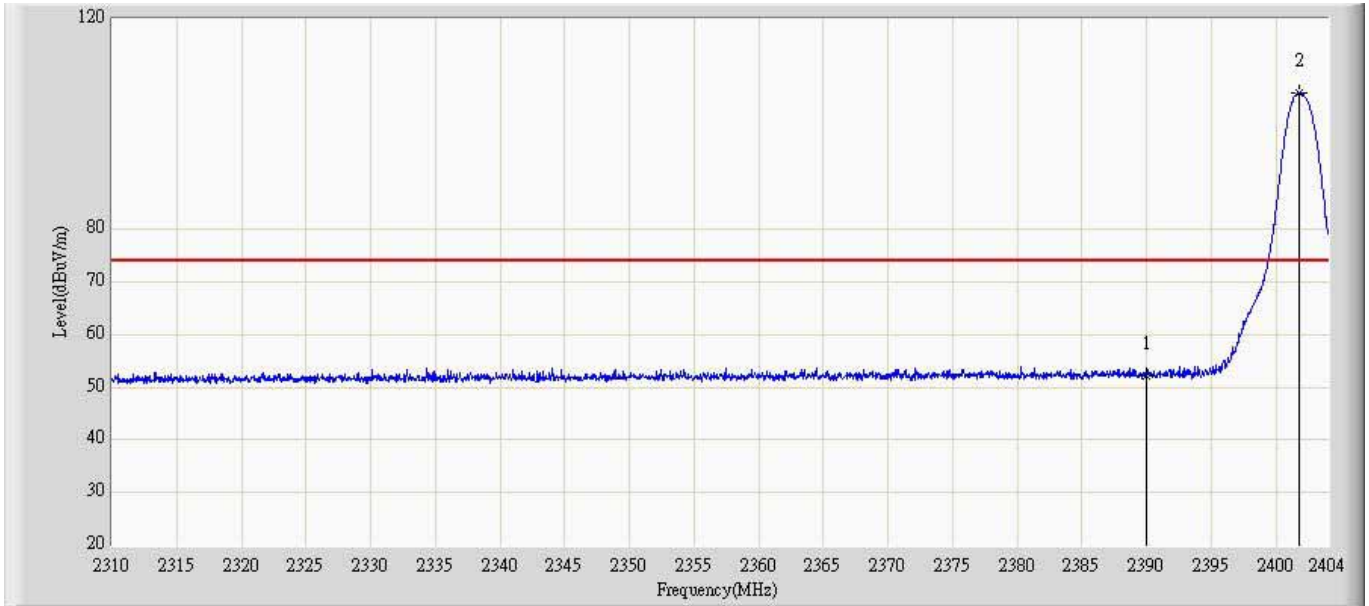
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.628	98.483	61.566	N/A	N/A	36.917	PK
2			2483.500	55.751	18.815	-18.249	74.000	36.935	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode2: Transmit at channel 2480MHz by 2DH5	



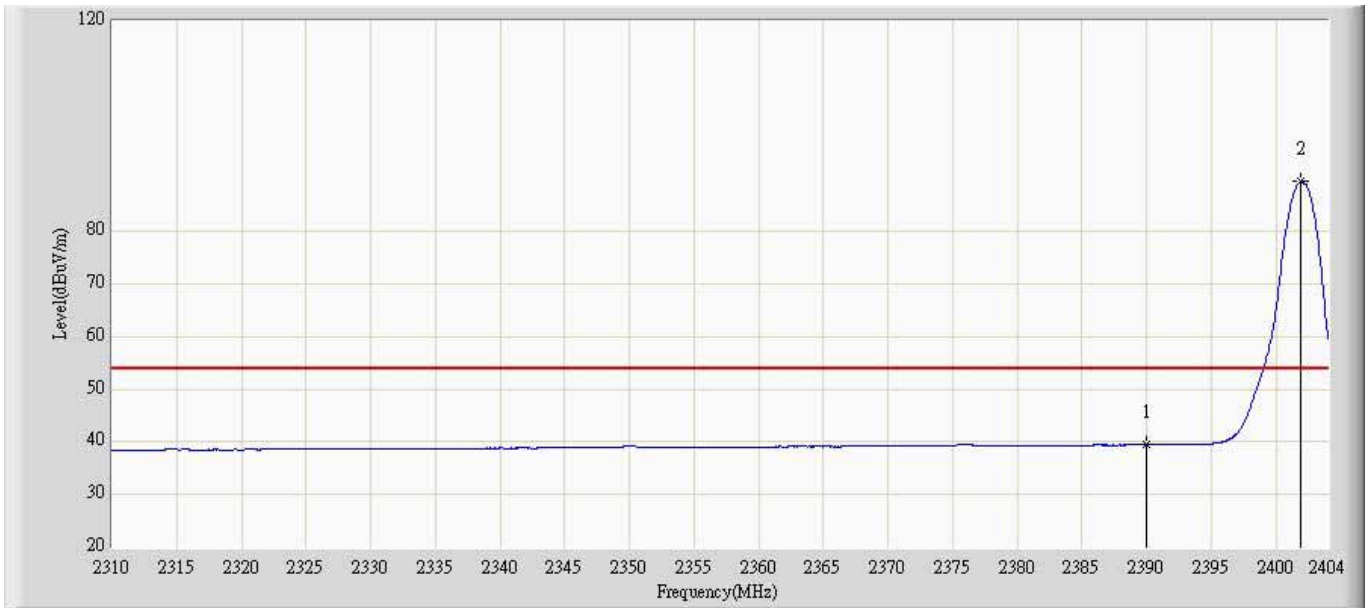
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.936	83.016	46.097	N/A	N/A	36.918	AV
2			2483.500	42.049	5.113	-11.951	54.000	36.935	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2402MHz by 3DH5	



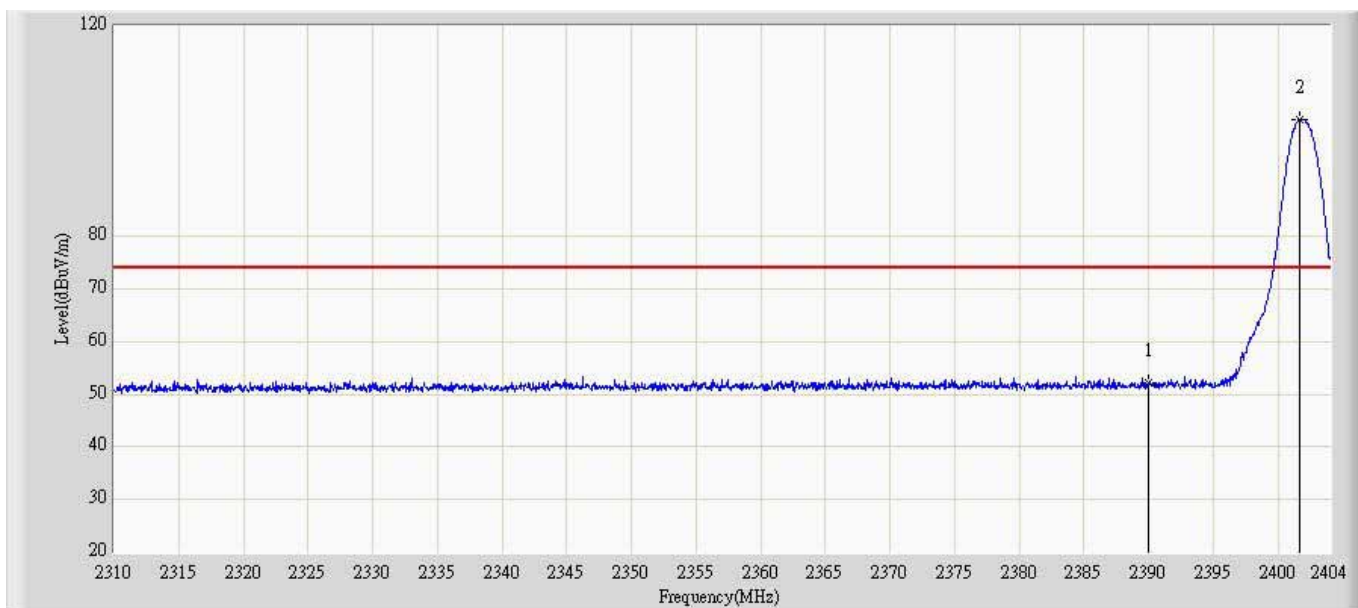
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	52.270	15.111	-21.730	74.000	37.159	PK
2		*	2401.744	105.939	68.677	N/A	N/A	37.262	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2402MHz by 3DH5	



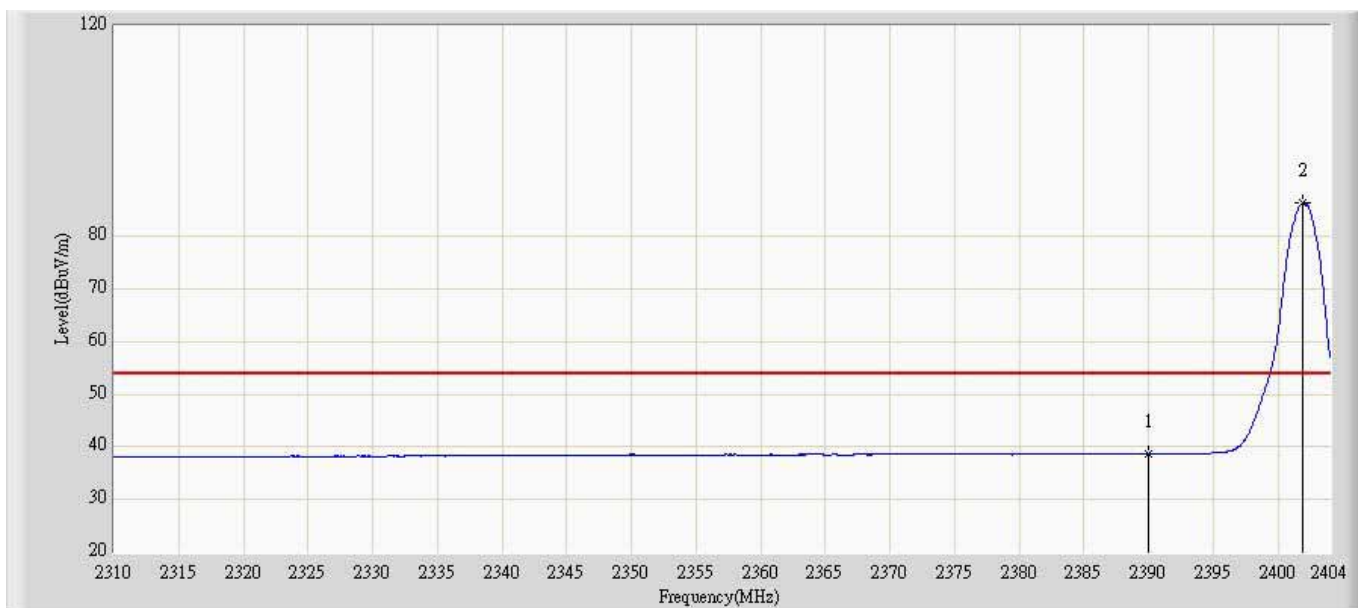
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	39.426	2.267	-14.574	54.000	37.159	AV
2		*	2401.885	89.473	52.209	N/A	N/A	37.263	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2402MHz by 3DH5	



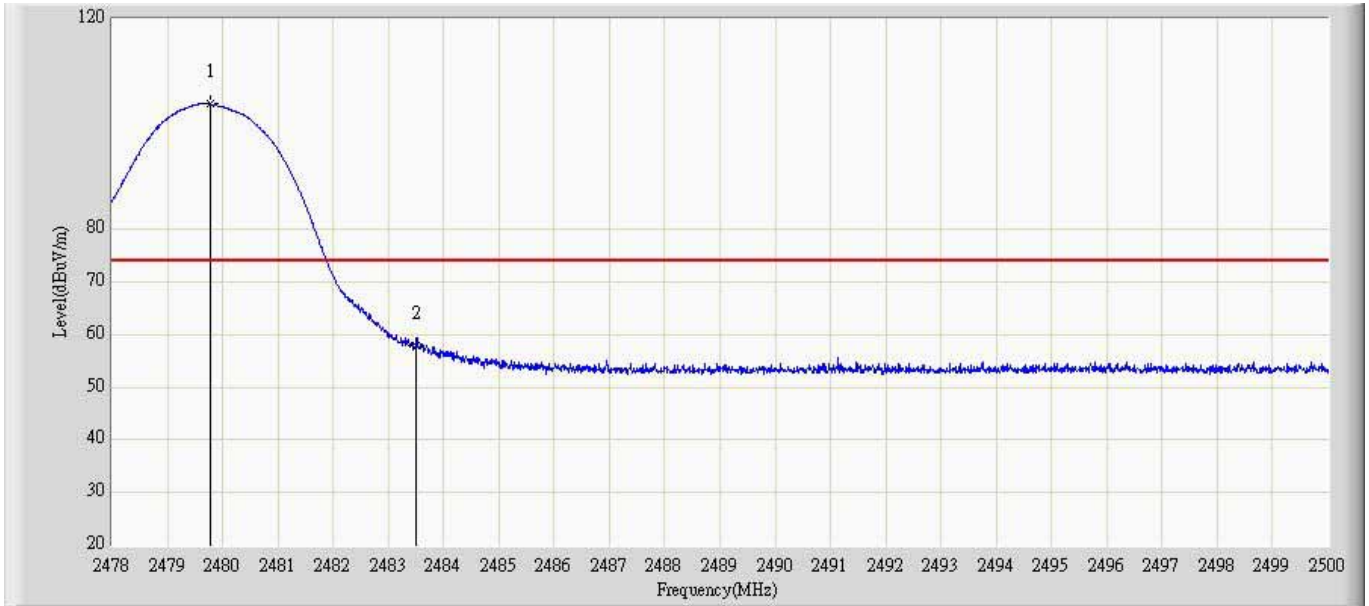
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	52.240	15.741	-21.760	74.000	36.499	PK
2		*	2401.650	102.208	65.653	N/A	N/A	36.555	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2402MHz by 3DH5	



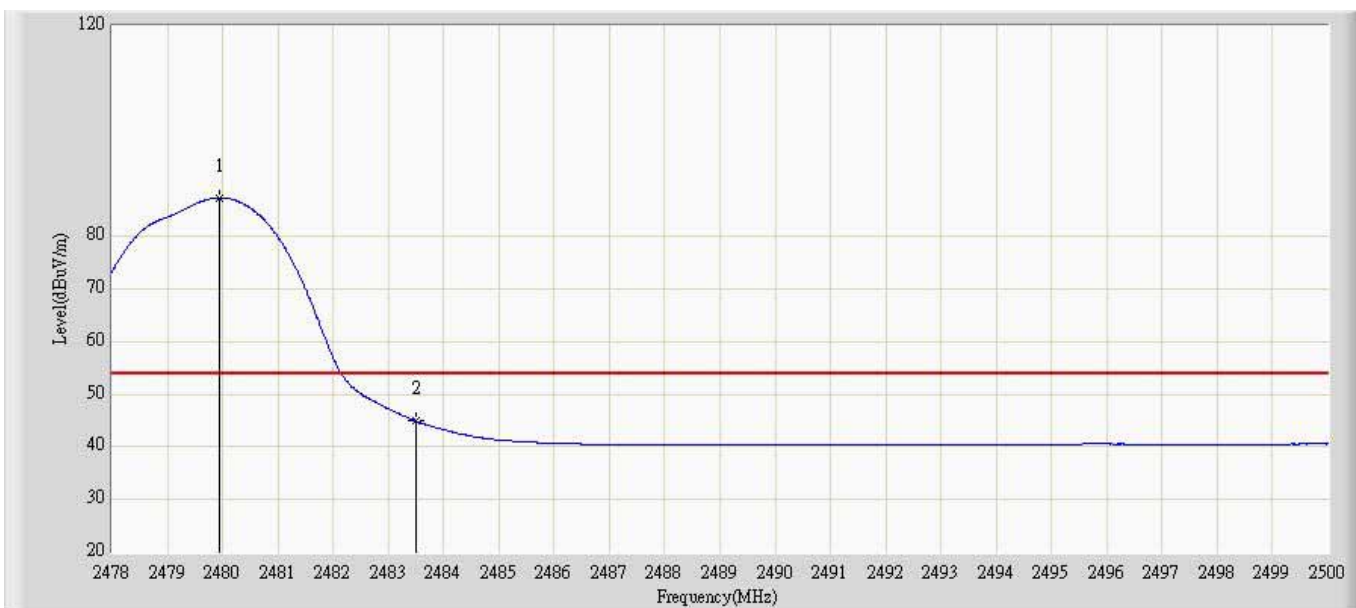
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	38.699	2.200	-15.301	54.000	36.499	AV
2		*	2401.885	86.396	49.840	N/A	N/A	36.556	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2480MHz by 3DH5	



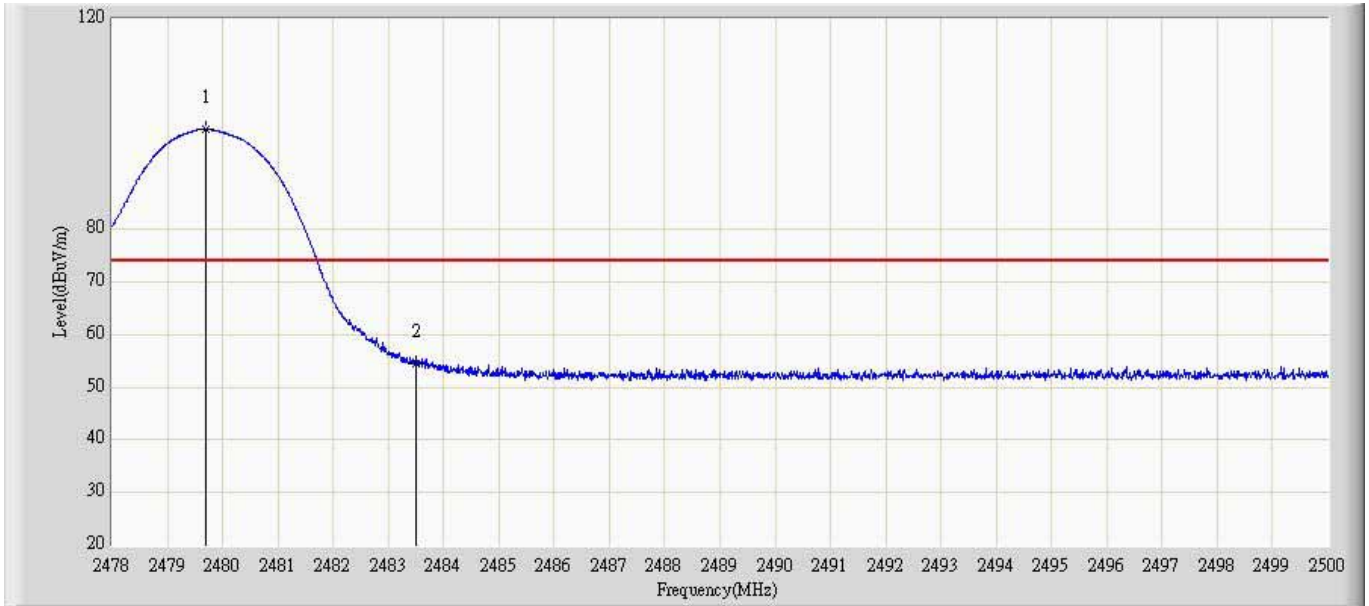
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.771	103.806	65.869	N/A	N/A	37.937	PK
2			2483.500	57.897	19.927	-16.103	74.000	37.969	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2480MHz by 3DH5	



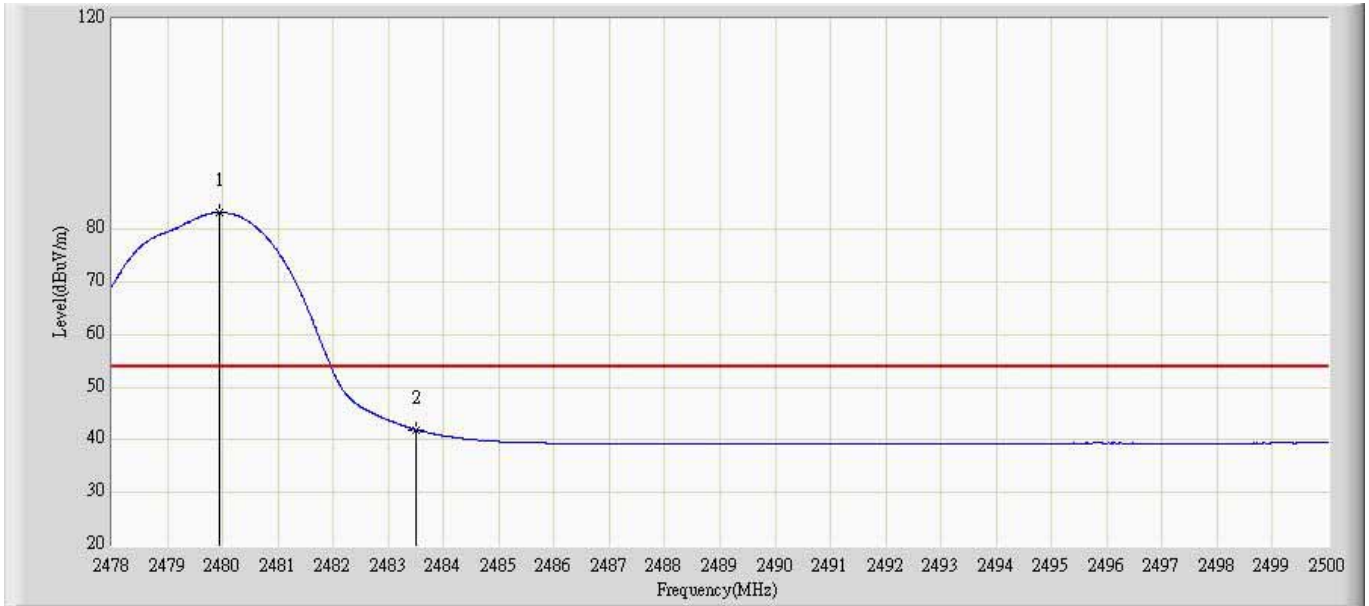
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.936	87.336	49.398	N/A	N/A	37.938	AV
2			2483.500	44.903	6.933	-9.097	54.000	37.969	AV

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2480MHz by 3DH5	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.705	99.043	62.126	N/A	N/A	36.918	PK
2			2483.500	54.573	17.637	-19.427	74.000	36.935	PK

Engineer: Milo	
Site: AC5	Time: 2013/08/17 - 13:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: DECK	Power: DC 3.7V
Note: Mode3: Transmit at channel 2480MHz by 3DH5	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2479.947	83.209	46.290	N/A	N/A	36.918	AV
2			2483.500	41.940	5.004	-12.060	54.000	36.935	AV

The End