



Test Report

Product Name : BluClip
Model No. : BTHS0500
FCC ID : RQ5BTHS0500

Applicant : Hamg Shing Corp
Address : The Second Ind. Est, Ping Shan Town, Longkong Dist,
Shenzeng, China

Date of Receipt : 2008/09/17
Issued Date : 2008/10/28
Report No. : 08AS005R-RF-US-P06V01

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 CNLA, NVLAP or any agency of the Government.
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Test Report Certification

Issued Date : 2008/10/28

Report No. : 08AS005R-RF-US-P06V01



Product Name : BluClip
 Applicant : Hamg Shing Corp
 Address : The Second Ind. Est, Ping Shan Town, Longkong Dist,
 Shenzhen, China
 Manufacturer : HTK Corporation
 Address : 5218 Rivergrade Road, Irwindale, CA 91706
 Model No. : BTHS0500
 FCC ID : RQ5BTHS0500
 Rated Voltage : AC 120 V / 60 Hz
 EUT Voltage : DC 3.7V
 Trade Name : N/A
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2007
 ANSI C63.4: 2003
 Test Result : Complied
 Performed Location : SuZhou EMC laboratory
 No.99 Hongye Rd., Suzhou Industrial Park Loufeng
 Hi-Tech Development Zone., SuZhou, China
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 FCC Registration Number: 800392

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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 by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
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1. General Information

1.1. EUT Description

Product Name	BluClip
Trade Name	N/A
Model No.	BTHS0500
FCC ID	RQ5BTHS0500
Working Voltage	DC 3.7V
Frequency Range	2402 - 2480 MHz
Channel Number	79
Type of Modulation	FHSS
Data Rate	723 kbps
Channel Control	Auto
Antenna Type	PIFA
Antenna Gain	Refer to the "Antenna List"

Component	
AC Adapter	M/N: HNA050050U Input: 100~240VAC, 50-60Hz, 0.35A MAX LPS Output: 5.0VDC, 0.2A Cable Out: Non-Shielded, 1.8m

Bluetooth Working Frequency of Each Channel:							
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

Antenna List

Antenna	Manufacturer	Model No.	Peak Gain
Bluetooth Antenna	DONGGUAN CHSUX ELECTRONIC. Co., LTD	01-2000-1349	-3.5dBi for 2.4GHz

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: Transmit

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
N/A	N/A	N/A	N/A	N/A	N/A

1.4. Configuration of Tested System

Connection Diagram	
EUT	
Signal Cable Type	Signal cable Description

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above
2	Connect the EUT to PC via a control board and a RS232 cable.
3	Execute the Blue Test program (CSR) on the PC.
4	Setup the test channel and the test mode press ok to start the Continue Transmit.

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
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.209	Yes	No
20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)	Yes	No
Carrier Frequency Separation	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)	Yes	No
Number of Hopping Frequencies	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)(iii)	Yes	No
Time of Occupancy (Dwell Time)	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)(iii)	Yes	No
Peak Output Power	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(b)(1)	Yes	No
Band-edge Compliance of RF Conducted Emissions	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.215(c), 15.247(d)	Yes	No
Spurious RF Conducted Emissions	FCC CFR Title 47 Part 15 Subpart C: 2007 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2007 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. Conducted Emission

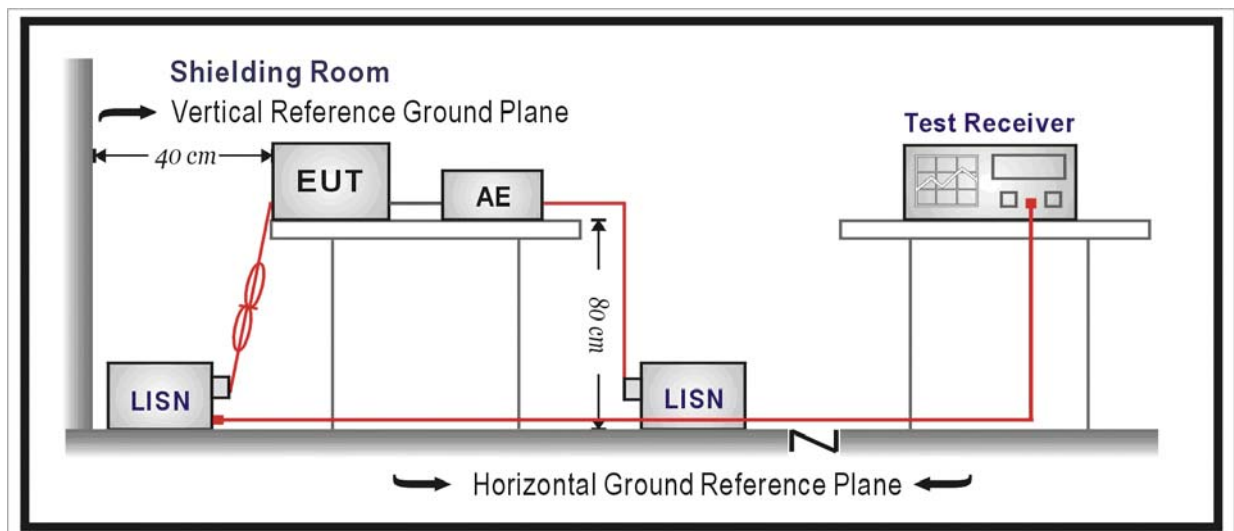
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2008/02/07
Two-Line V-Network	R&S	ENV216	100013	2007/11/15
Two-Line V-Network	R&S	ENV216	100014	2007/11/15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2007/11/25
50ohm Termination	SHX	TF2	07081401	2008/09/29
Coaxial Cable	Luthi	RG214	519358	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2008/03/31

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

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

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

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

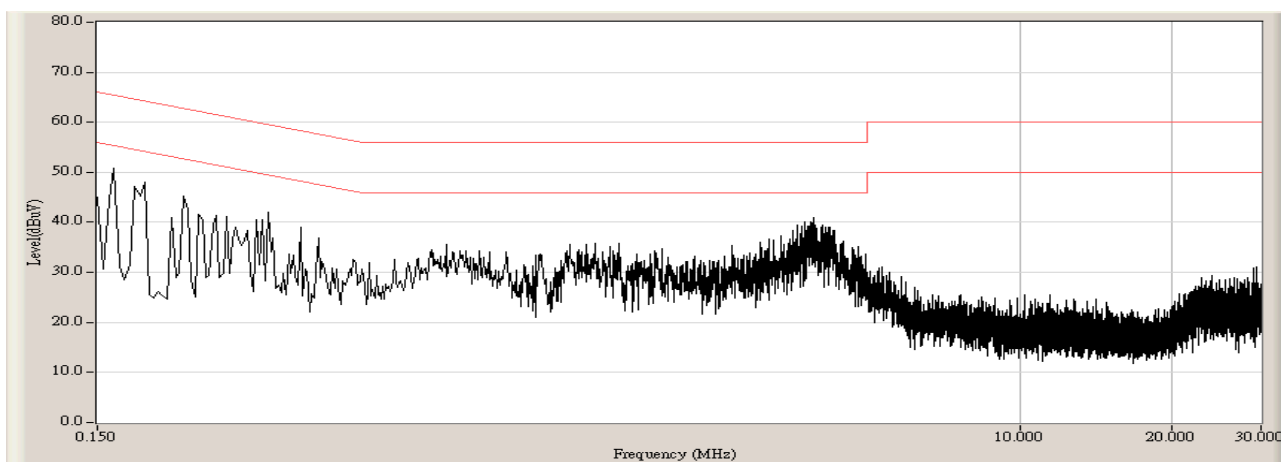
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

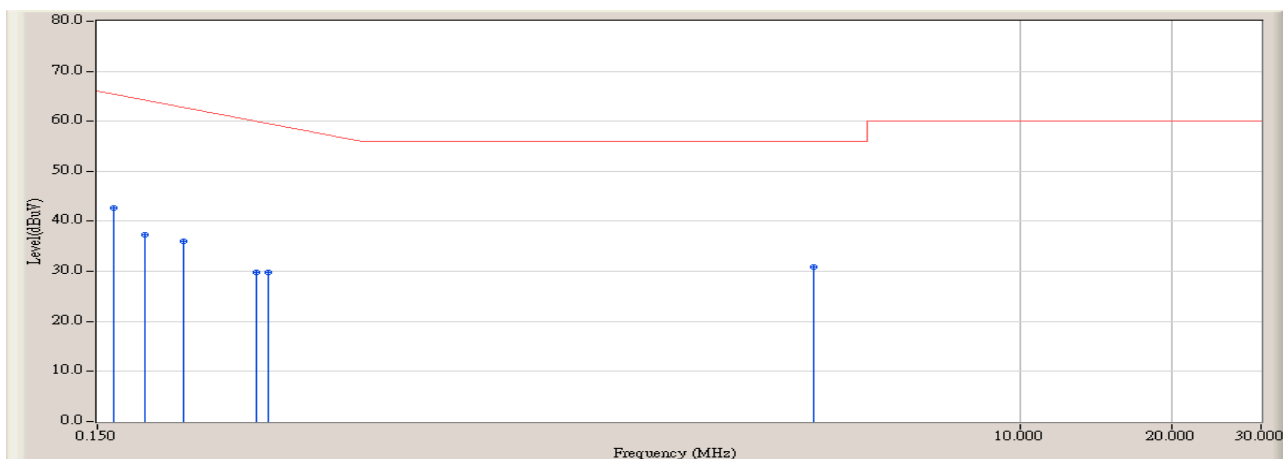
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:23
Limit : FCC_Part15.207_00M_QP	Margin : 10
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz



Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:25
Limit : FCC_Part15.207_00M_QP	Margin : 0
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz

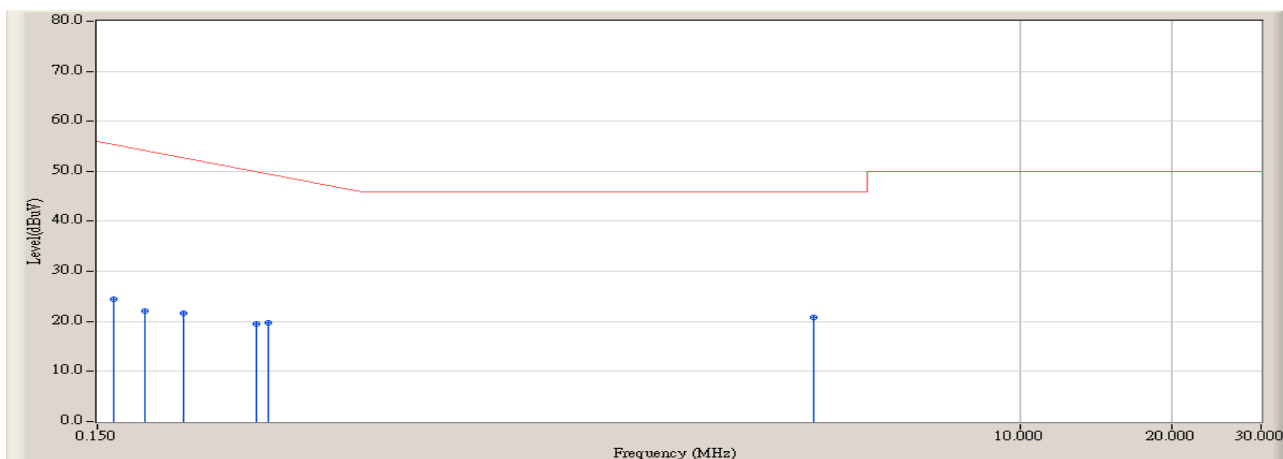


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.162	10.161	32.600	42.761	-22.896	65.657	QUASIPeAK
2		0.186	9.697	27.600	37.297	-27.674	64.971	QUASIPeAK
3		0.222	9.442	26.500	35.942	-28.001	63.943	QUASIPeAK
4		0.310	9.511	20.300	29.811	-31.618	61.429	QUASIPeAK
5		0.326	9.521	20.300	29.821	-31.150	60.971	QUASIPeAK
6		3.922	9.810	21.100	30.910	-25.090	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:25
Limit : FCC_Part15.207_00M_AV	Margin : 0
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz

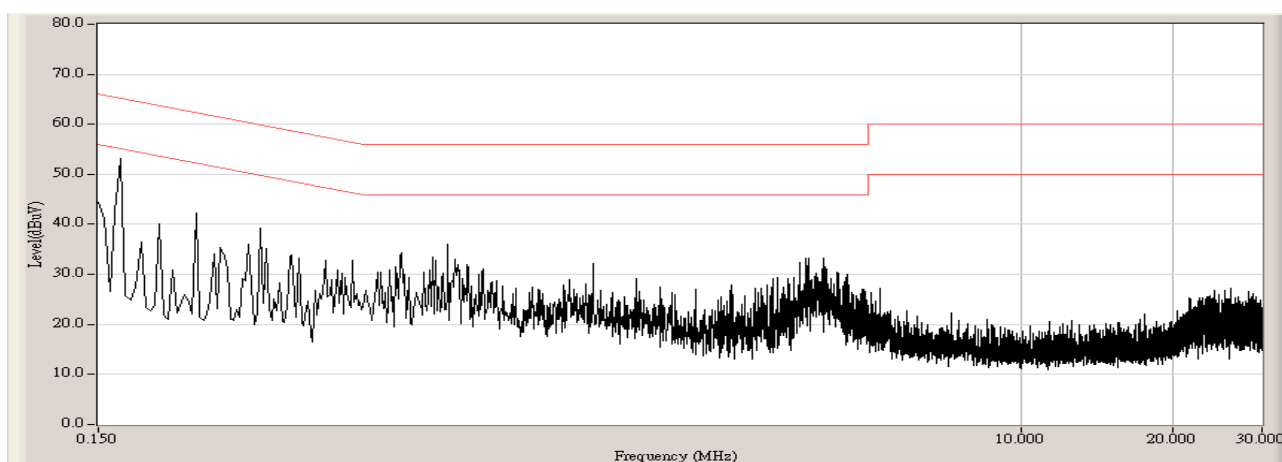


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	10.161	14.300	24.461	-31.196	55.657	AVERAGE
2		0.186	9.697	12.300	21.997	-32.974	54.971	AVERAGE
3		0.222	9.442	12.200	21.642	-32.301	53.943	AVERAGE
4		0.310	9.511	10.000	19.511	-31.918	51.429	AVERAGE
5		0.326	9.521	10.200	19.721	-31.250	50.971	AVERAGE
6	*	3.922	9.810	11.100	20.910	-25.090	46.000	AVERAGE

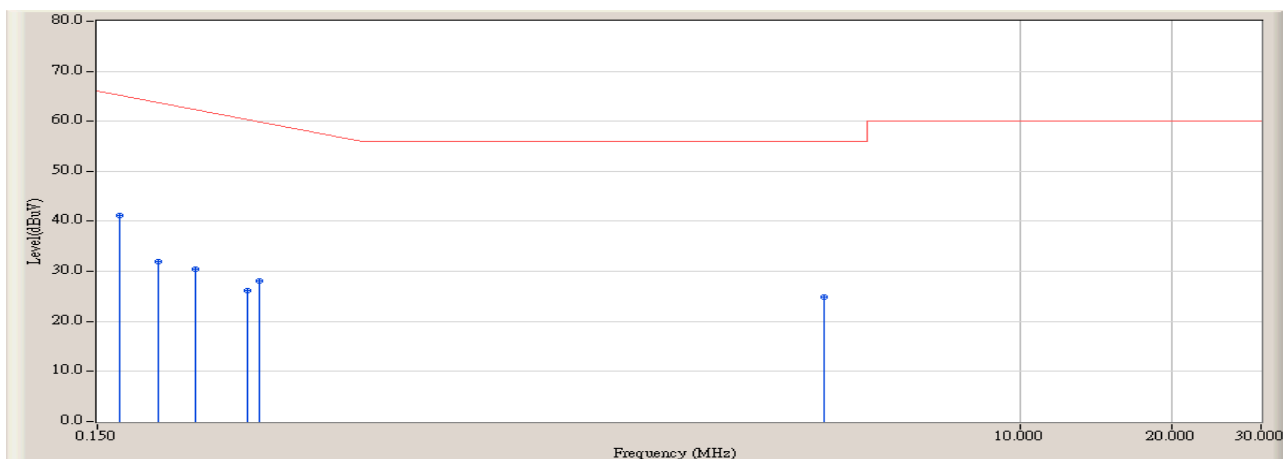
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:27
Limit : FCC_Part15.207_00M_QP	Margin : 10
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz



Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:29
Limit : FCC_Part15.207_00M_QP	Margin : 0
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz

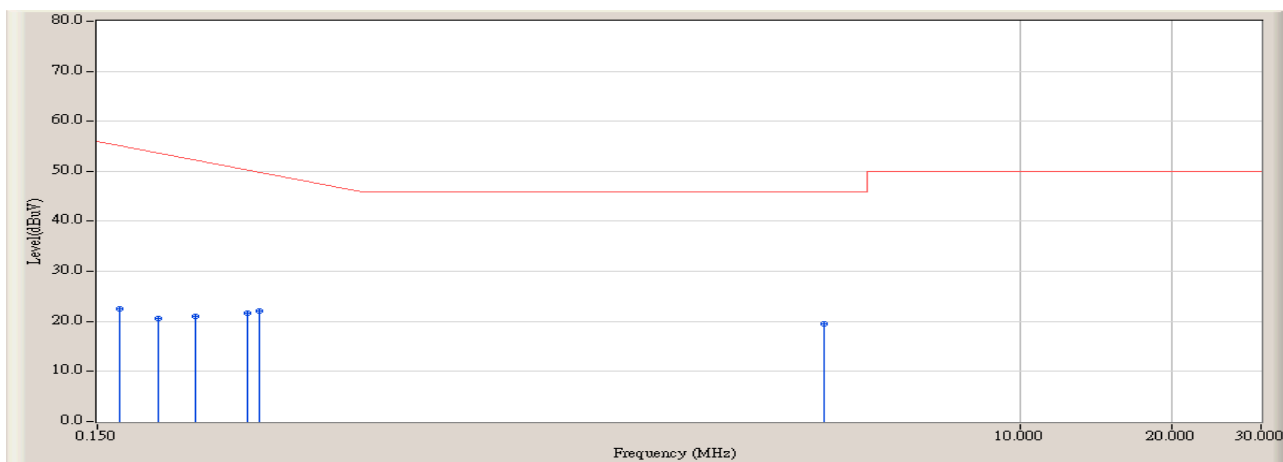


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.166	9.952	31.300	41.252	-24.291	65.543	QUASIPeAK
2		0.198	9.664	22.400	32.064	-32.565	64.629	QUASIPeAK
3		0.234	9.580	20.800	30.380	-33.220	63.600	QUASIPeAK
4		0.298	9.600	16.500	26.100	-35.671	61.771	QUASIPeAK
5		0.314	9.600	18.500	28.100	-33.214	61.314	QUASIPeAK
6		4.090	9.710	15.200	24.910	-31.090	56.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Robin	
Site : SR1 (Shielded Room for Conducted Emission and Power Disturbance Test)	Time : 2008/10/02 - 11:29
Limit : FCC_Part15.207_00M_AV	Margin : 0
EUT : BTHS0500	Probe : ENV216_100014(0.009-30MHz) - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit at channel 2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.166	9.952	12.500	22.452	-33.091	55.543	AVERAGE
2		0.198	9.664	10.900	20.564	-34.065	54.629	AVERAGE
3		0.234	9.580	11.500	21.080	-32.520	53.600	AVERAGE
4		0.298	9.600	12.000	21.600	-30.171	51.771	AVERAGE
5		0.314	9.600	12.500	22.100	-29.214	51.314	AVERAGE
6	*	4.090	9.710	9.800	19.510	-26.490	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4. Radiated Emission

4.1. Test Equipment

☒ Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/06/28
EMI Test Receiver	R&S	ESCI	100573	2008/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2007/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2007/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2007/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2008/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2008/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2008/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2008/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2007/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2008/03/31

☐ Radiated Emission / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2008/04/24
EMI Test Receiver	R&S	ESCI	100176	2007/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2007/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2007/11/25
Bilog Type Antenna	Schaffner	CBL6112D	22254	2007/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2008/03/03
Band Reject Filter	Wainwright	WRCG2400/2485-2375 /2510-60/11SS	SN9	2008/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2008/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2008/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2007/11/25
Coaxial Cable	Huber+Suhner	AC2-C	05	2007/11/25

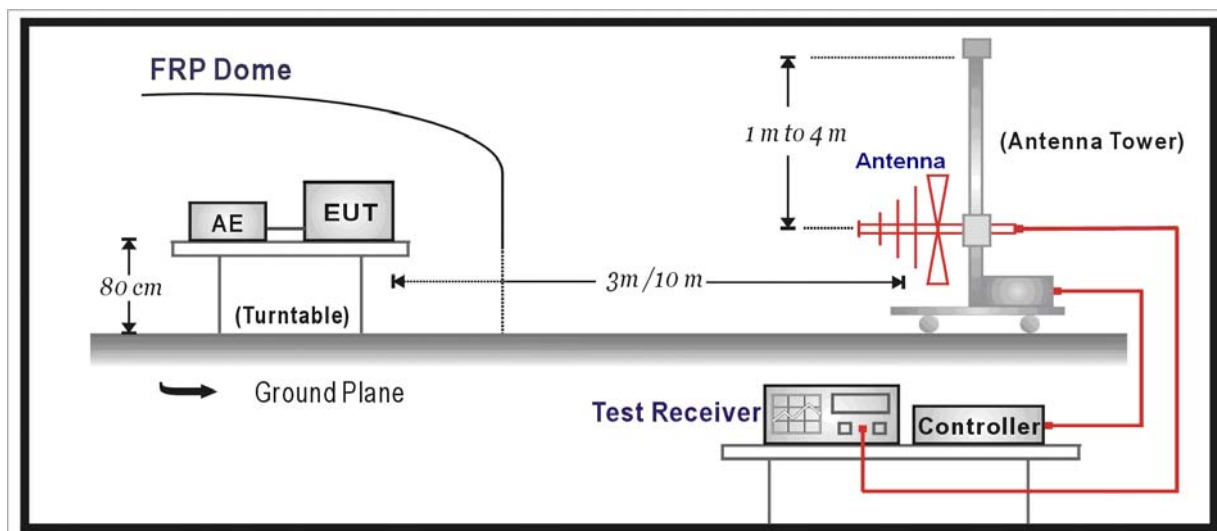
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2008/03/31
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Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

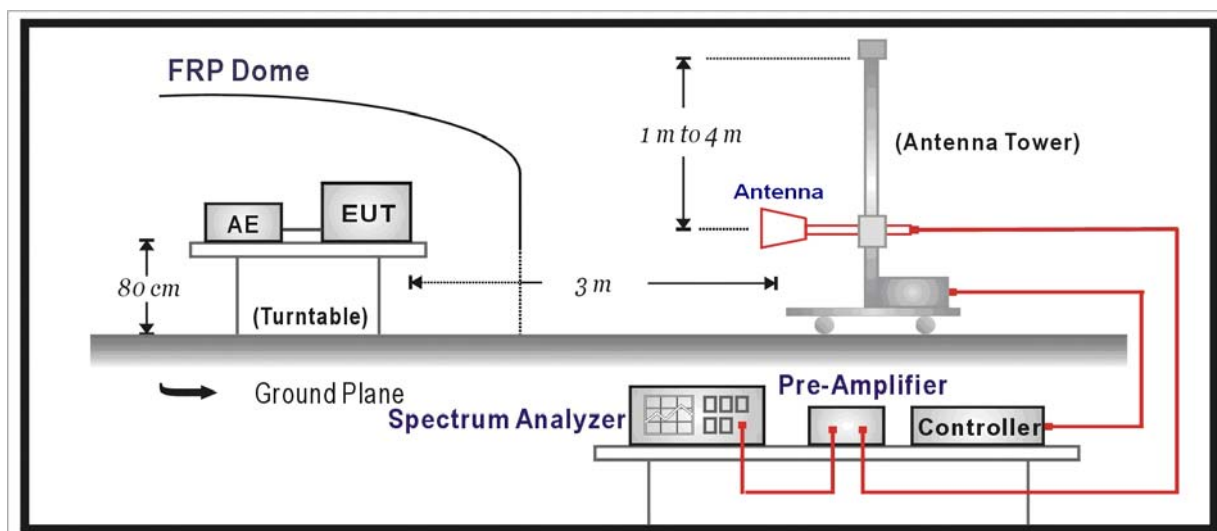
Note 2: The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. 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)

4.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

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 C63.4:2003 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.

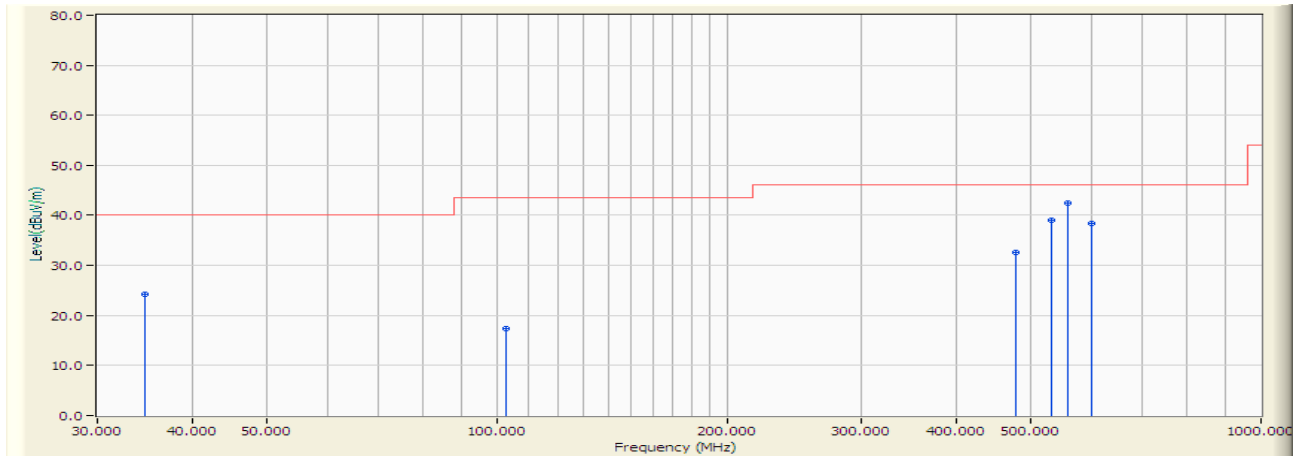
Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

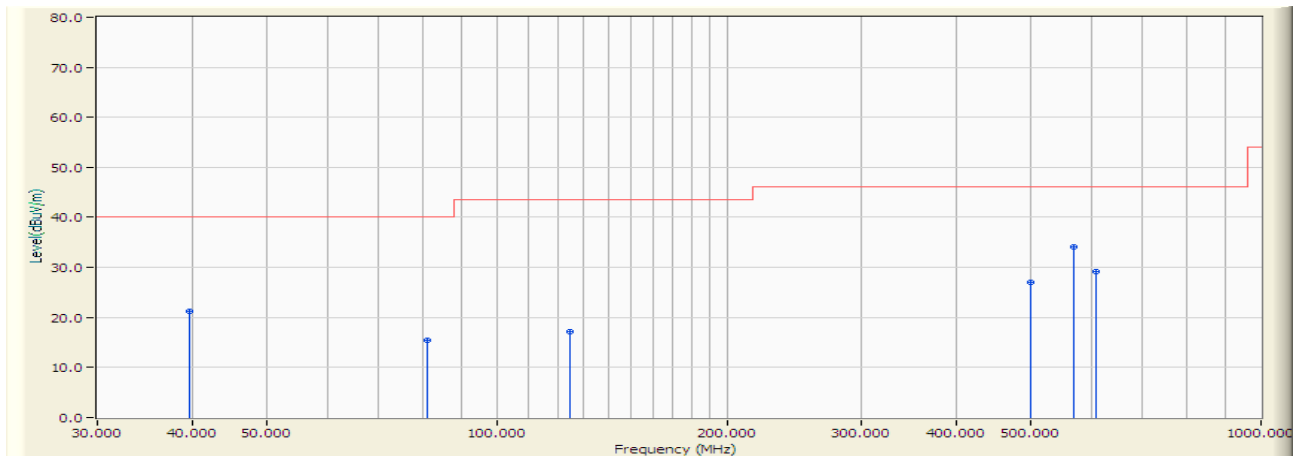
4.6. Test Result

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:50
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



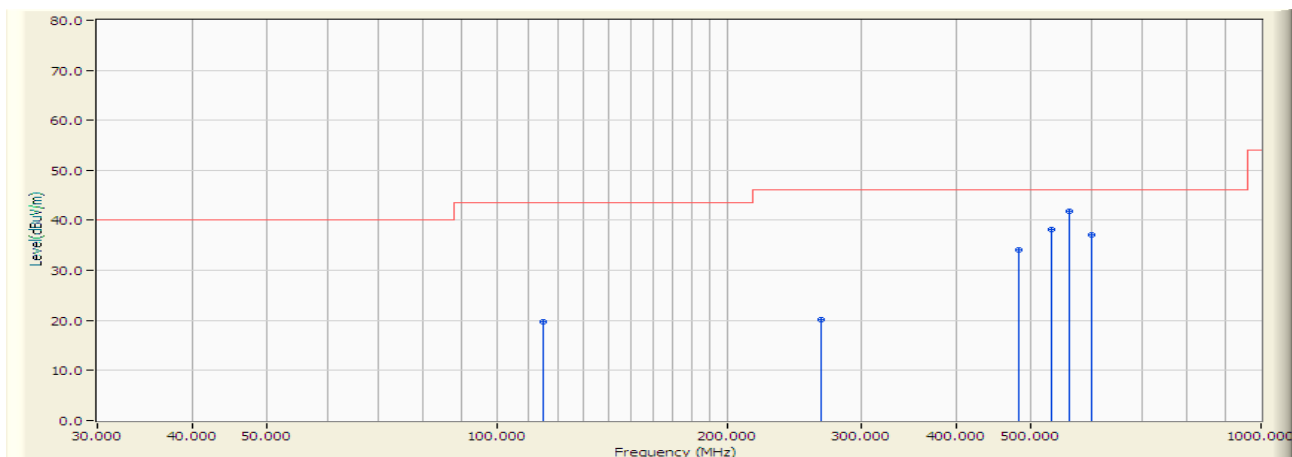
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		34.600	-6.035	30.200	24.165	-15.835	40.000	QUASIPeAK	166.000	24.000
2		103.000	-9.982	27.400	17.419	-26.101	43.520	QUASIPeAK	155.000	85.000
3		478.000	-2.101	34.600	32.498	-13.522	46.020	QUASIPeAK	120.000	106.000
4		531.000	-1.033	40.000	38.967	-7.053	46.020	QUASIPeAK	122.000	112.000
5	*	558.700	-0.029	42.600	42.571	-3.449	46.020	QUASIPeAK	162.000	106.000
6		600.000	0.045	38.400	38.445	-7.575	46.020	QUASIPeAK	142.000	126.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:54
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



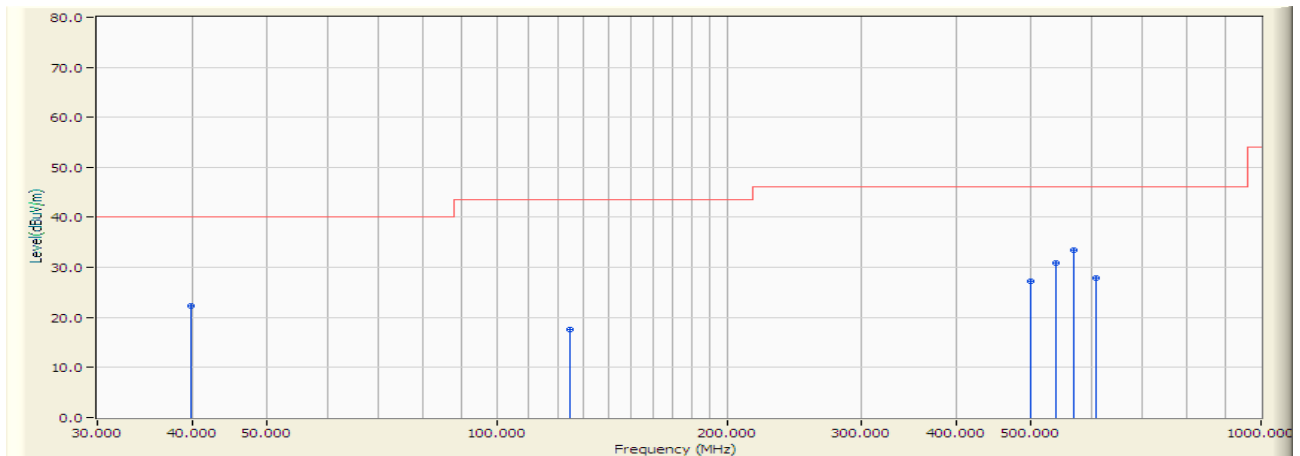
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		39.600	-8.686	30.000	21.314	-18.686	40.000	QUASIPeAK	100.000	26.000
2		81.000	-14.051	29.400	15.349	-24.651	40.000	QUASIPeAK	102.000	112.000
3		124.500	-9.067	26.300	17.233	-26.287	43.520	QUASIPeAK	100.000	29.000
4		500.500	-1.783	28.800	27.016	-19.004	46.020	QUASIPeAK	106.000	192.000
5	*	568.500	-0.108	34.200	34.091	-11.929	46.020	QUASIPeAK	100.000	62.000
6		607.200	0.130	29.000	29.130	-16.890	46.020	QUASIPeAK	100.000	62.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:55
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



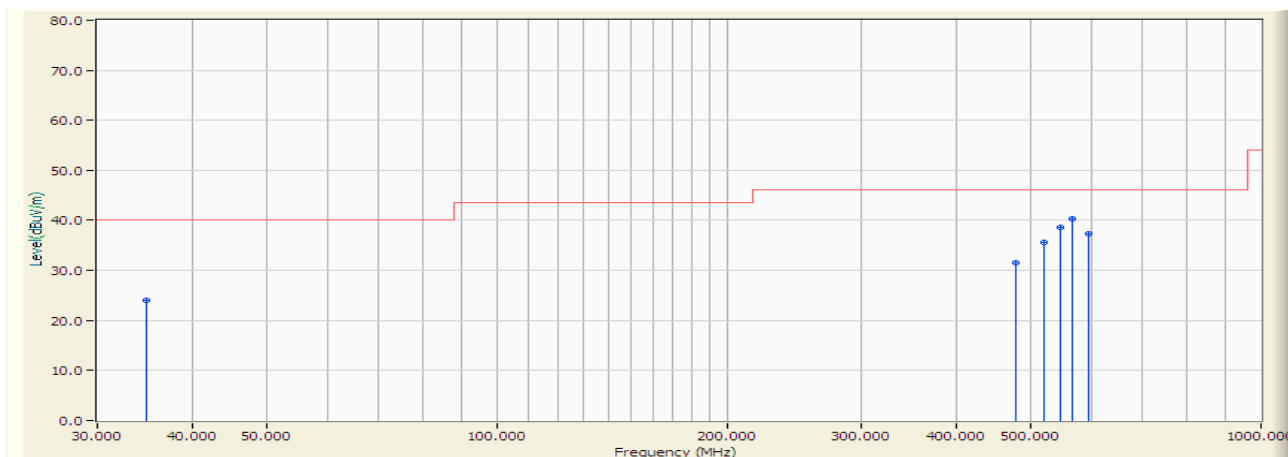
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		114.875	-9.403	29.094	19.691	-23.829	43.520	QUASIPeAK	0.000	0.000
2		265.225	-7.259	27.431	20.172	-25.848	46.020	QUASIPeAK	0.000	0.000
3		481.050	-1.902	36.004	34.102	-11.918	46.020	QUASIPeAK	0.000	0.000
4		531.975	-0.963	39.236	38.273	-7.747	46.020	QUASIPeAK	0.000	0.000
5	*	561.075	-0.164	41.956	41.792	-4.228	46.020	QUASIPeAK	0.000	0.000
6		599.875	0.050	37.053	37.103	-8.917	46.020	QUASIPeAK	0.000	0.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:55
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



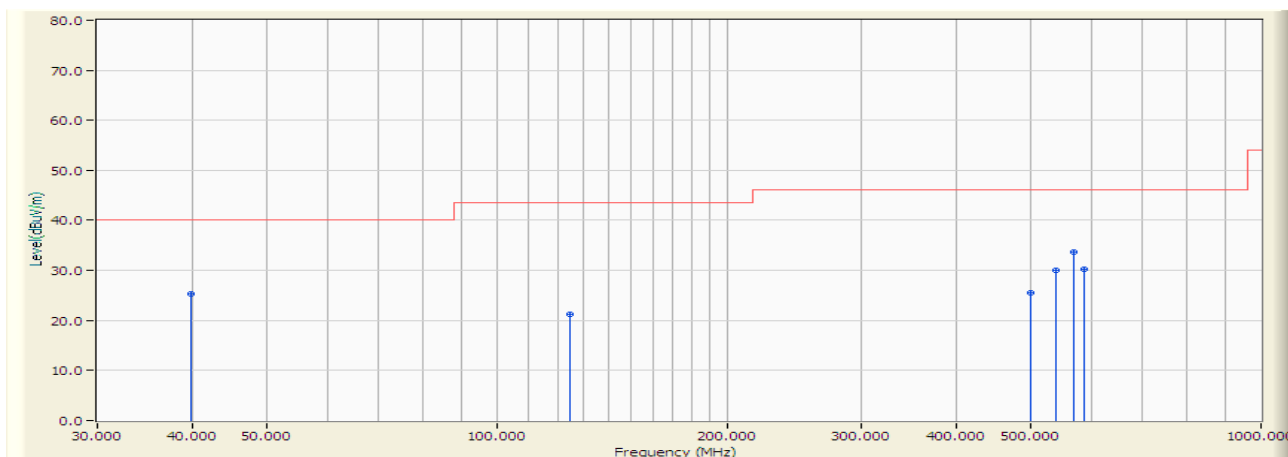
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		39.700	-8.731	30.931	22.200	-17.800	40.000	QUASIPeAK	0.000	0.000
2		124.575	-9.065	26.579	17.514	-26.006	43.520	QUASIPeAK	0.000	0.000
3		500.450	-1.786	29.056	27.270	-18.750	46.020	QUASIPeAK	0.000	0.000
4		539.250	-0.755	31.653	30.898	-15.122	46.020	QUASIPeAK	0.000	0.000
5	*	568.350	-0.117	33.598	33.481	-12.539	46.020	QUASIPeAK	0.000	0.000
6		607.150	0.130	27.751	27.881	-18.139	46.020	QUASIPeAK	0.000	0.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:57
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



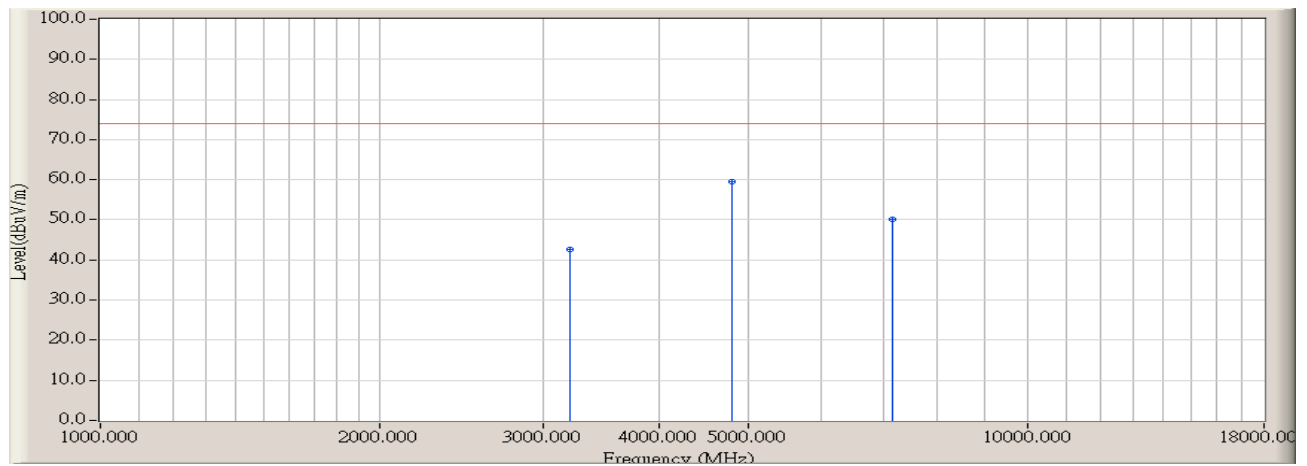
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		34.850	-6.174	30.254	24.080	-15.920	40.000	QUASIPeAK	0.000	0.000
2		478.625	-2.064	33.560	31.496	-14.524	46.020	QUASIPeAK	0.000	0.000
3		519.850	-1.140	36.713	35.573	-10.447	46.020	QUASIPeAK	0.000	0.000
4		546.525	-0.422	38.992	38.570	-7.450	46.020	QUASIPeAK	0.000	0.000
5	*	565.925	-0.330	40.712	40.382	-5.638	46.020	QUASIPeAK	0.000	0.000
6		595.025	0.283	37.116	37.399	-8.621	46.020	QUASIPeAK	0.000	0.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 10:58
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : BTHS0500	Probe : CBL6112B_2932(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



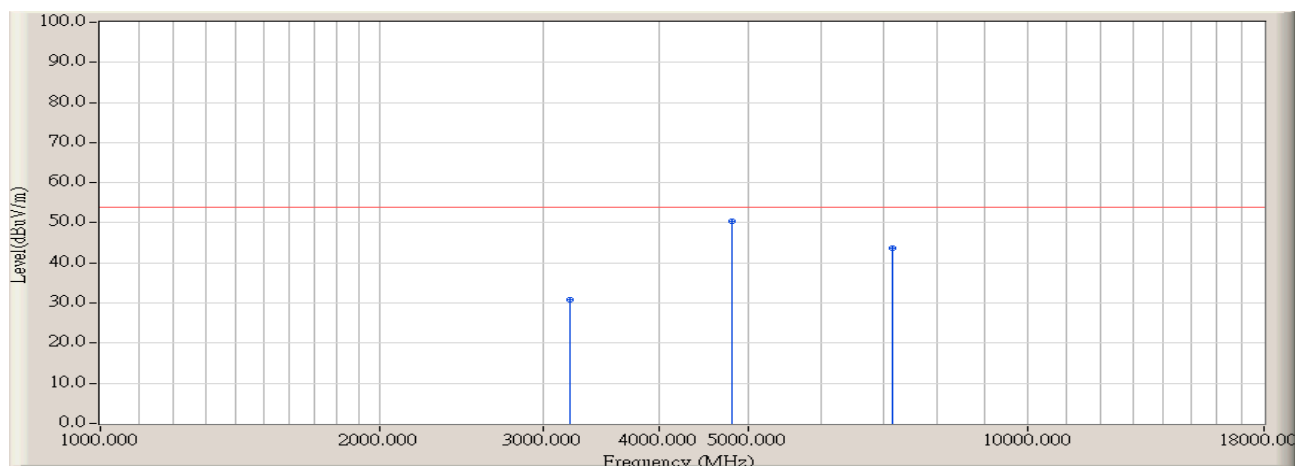
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		39.700	-8.731	34.031	25.300	-14.700	40.000	QUASIPeAK	0.000	0.000
2		124.575	-9.065	30.379	21.314	-22.206	43.520	QUASIPeAK	0.000	0.000
3		500.450	-1.786	27.356	25.570	-20.450	46.020	QUASIPeAK	0.000	0.000
4		539.250	-0.755	30.753	29.998	-16.022	46.020	QUASIPeAK	0.000	0.000
5	*	568.350	-0.117	33.698	33.581	-12.439	46.020	QUASIPeAK	0.000	0.000
6		587.750	-0.120	30.468	30.348	-15.672	46.020	QUASIPeAK	0.000	0.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:29
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



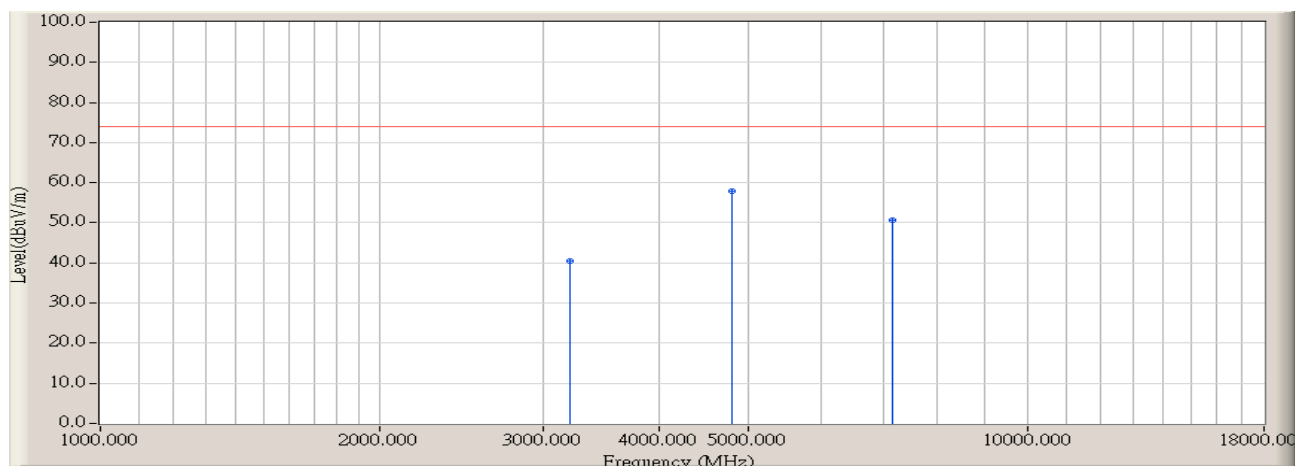
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		3210.000	-1.490	44.194	42.704	-31.266	73.970	PEAK	162.000	36.000
2	*	4796.667	3.490	56.131	59.621	-14.349	73.970	PEAK	185.000	16.000
3		7148.333	13.013	37.240	50.253	-23.717	73.970	PEAK	160.000	102.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:29
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



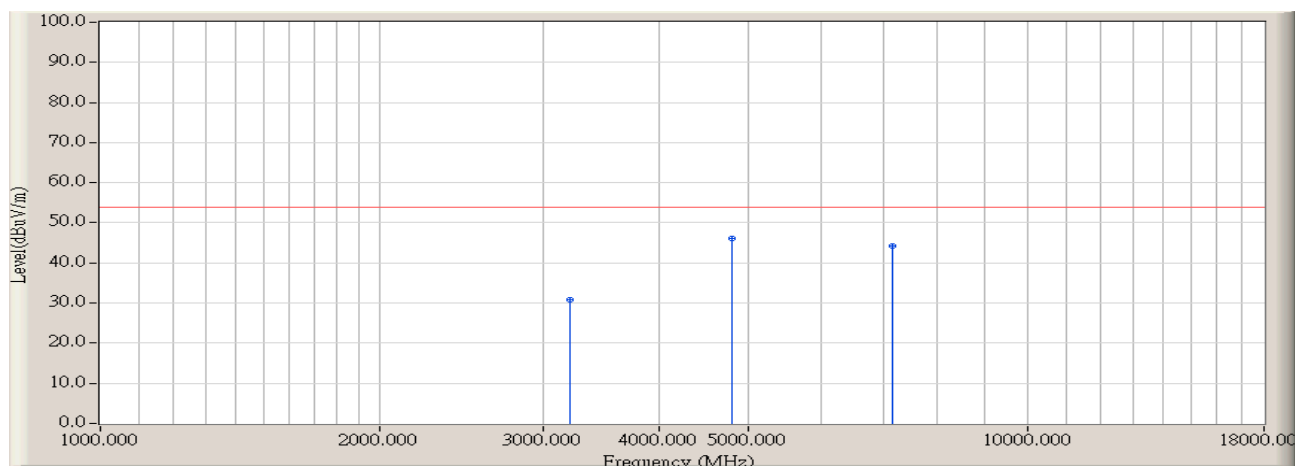
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		3210.000	-1.490	32.300	30.810	-23.160	53.970	AVERAGE	162.000	36.000
2	*	4796.600	3.490	46.800	50.290	-3.680	53.970	AVERAGE	185.000	16.000
3		7148.333	13.013	30.600	43.613	-10.357	53.970	AVERAGE	160.000	102.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:31
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



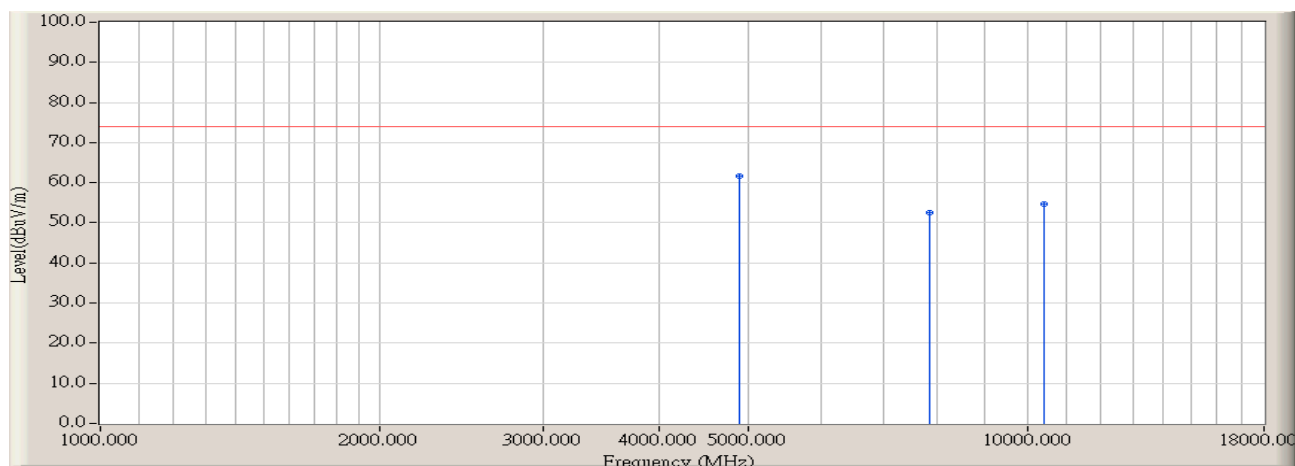
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		3210.000	-1.490	41.929	40.439	-33.531	73.970	PEAK	100.000	29.000
2	*	4796.667	3.490	54.523	58.013	-15.957	73.970	PEAK	105.000	68.000
3		7148.333	13.013	37.679	50.692	-23.278	73.970	PEAK	100.000	206.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:31
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2402MHz



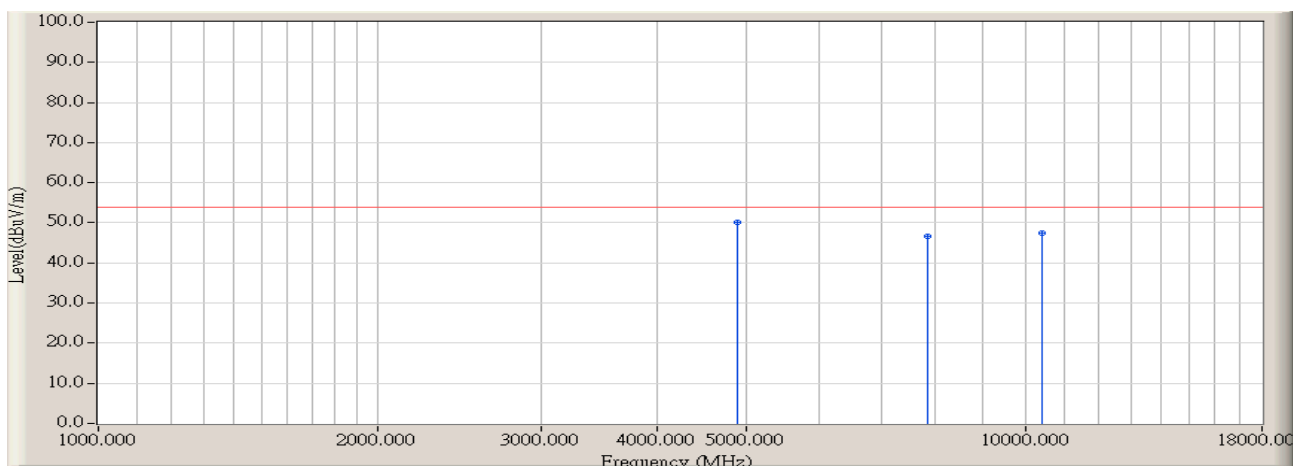
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		3210.000	-1.490	32.200	30.710	-23.260	53.970	AVERAGE	100.000	29.000
2	*	4796.667	3.490	42.600	46.090	-7.880	53.970	AVERAGE	105.000	68.000
3		7148.333	13.013	31.100	44.113	-9.857	53.970	AVERAGE	100.000	206.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:37
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



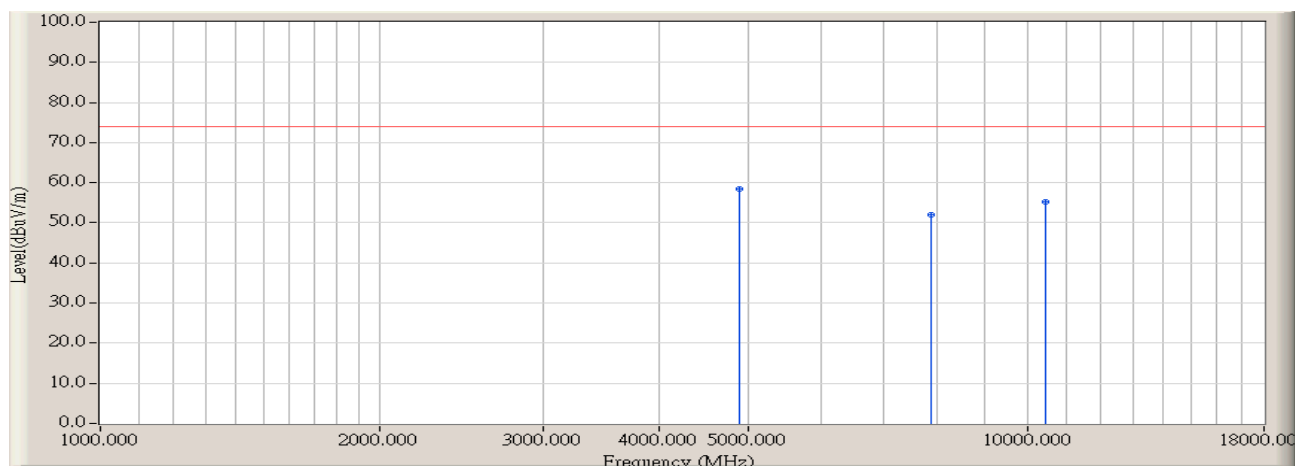
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4881.667	3.633	57.947	61.580	-12.390	73.970	PEAK	142.000	29.000
2		7856.667	14.566	37.877	52.444	-21.526	73.970	PEAK	108.000	42.000
3		10435.000	16.650	37.928	54.578	-19.392	73.970	PEAK	120.000	224.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:37
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



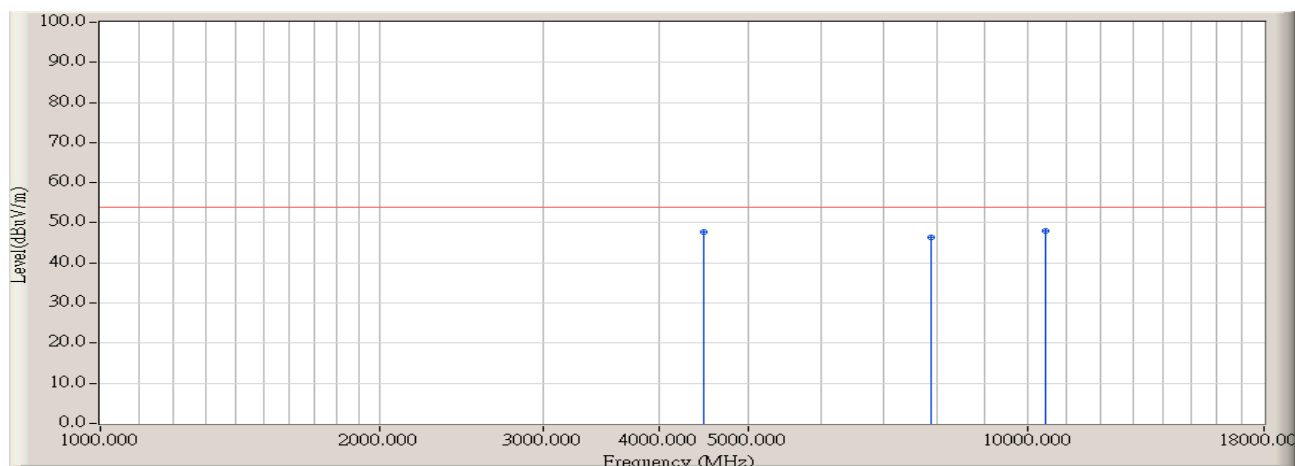
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4881.667	3.633	46.500	50.133	-3.837	53.970	AVERAGE	142.000	29.000
2		7856.667	14.566	32.200	46.767	-7.203	53.970	AVERAGE	108.000	42.000
3		10435.000	16.650	30.900	47.550	-6.420	53.970	AVERAGE	120.000	224.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:38
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



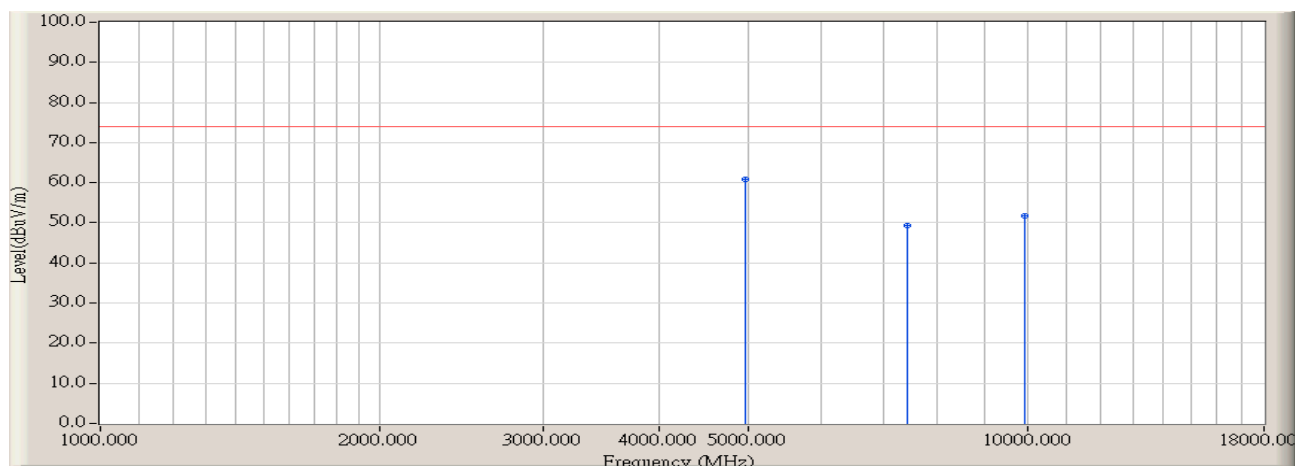
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4881.667	3.633	54.755	58.388	-15.582	73.970	PEAK	100.000	96.000
2		7885.000	13.990	38.080	52.070	-21.900	73.970	PEAK	100.000	95.000
3		10463.333	16.916	38.339	55.256	-18.714	73.970	PEAK	115.000	154.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:38
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2441MHz



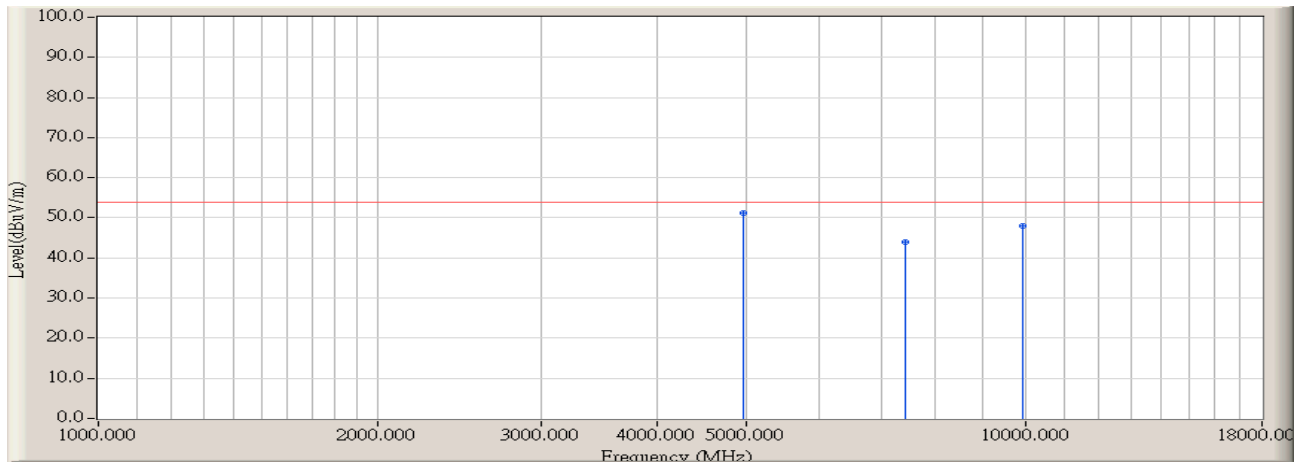
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1		4481.667	2.418	45.200	47.618	-6.352	53.970	AVERAGE	100.000	96.000
2		7885.000	13.990	32.500	46.490	-7.480	53.970	AVERAGE	100.000	95.000
3	*	10463.330	16.916	31.200	48.117	-5.853	53.970	AVERAGE	115.000	154.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:43
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



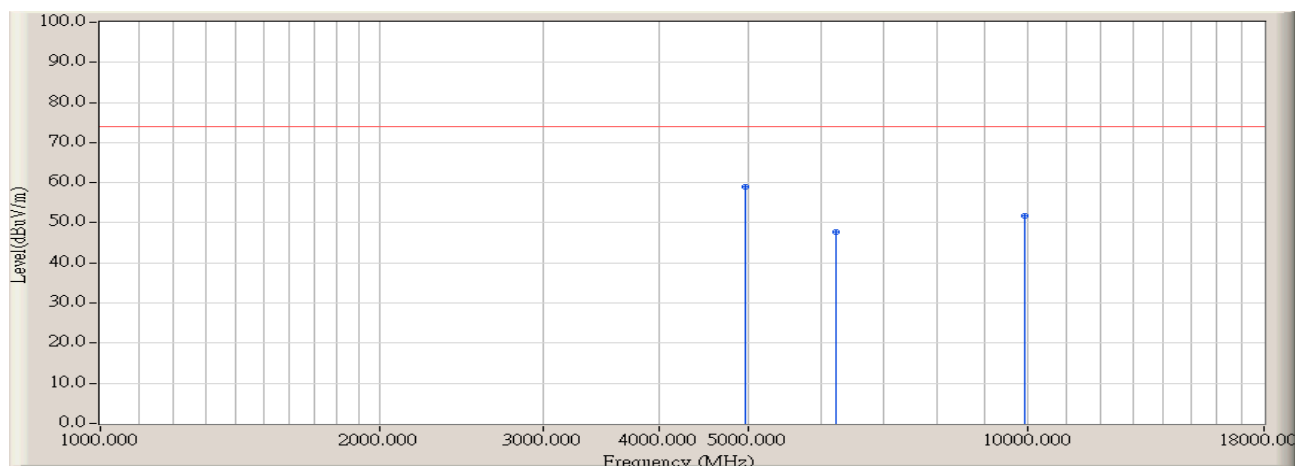
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4966.667	4.073	56.830	60.903	-13.067	73.970	PEAK	162.000	28.000
2		7431.667	11.500	37.820	49.320	-24.650	73.970	PEAK	162.000	108.000
3		9925.000	15.090	36.696	51.786	-22.184	73.970	PEAK	152.000	322.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:43
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



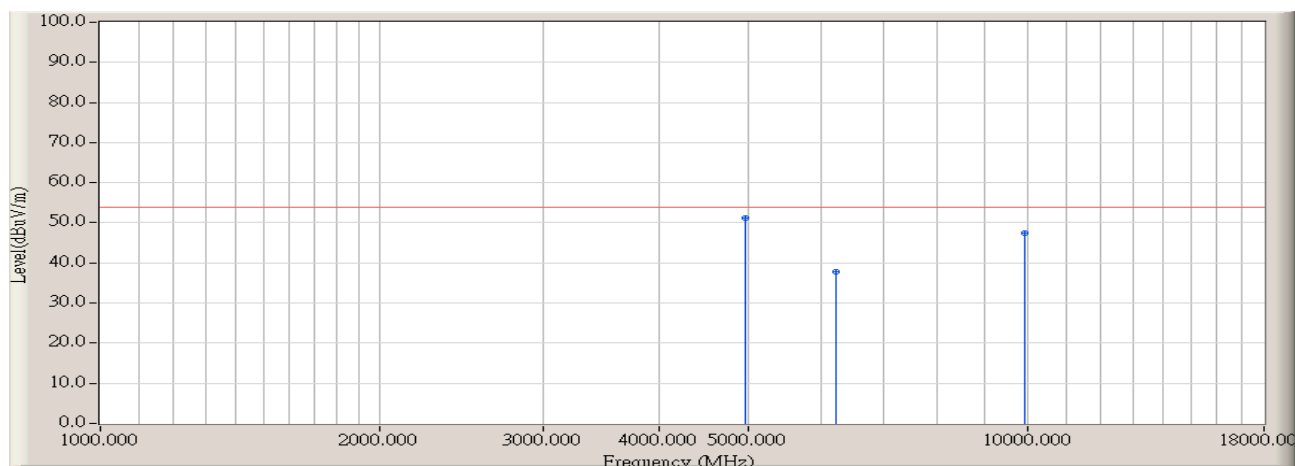
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4966.667	4.073	47.200	51.273	-2.697	53.970	AVERAGE	162.000	28.000
2		7431.667	11.500	32.400	43.900	-10.070	53.970	AVERAGE	162.000	108.000
3		9925.000	15.090	32.800	47.890	-6.080	53.970	AVERAGE	152.000	322.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:46
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4966.667	4.073	54.963	59.036	-14.934	73.970	PEAK	100.000	86.000
2		6213.333	7.690	40.021	47.711	-26.259	73.970	PEAK	0.000	106.000
3		9925.000	15.090	36.525	51.615	-22.355	73.970	PEAK	112.000	176.000

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 13:46
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at channel 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Ant Pos (cm)	Table Pos (deg)
1	*	4966.667	4.073	47.200	51.273	-2.697	53.970	AVERAGE	100.000	86.000
2		6213.333	7.690	30.100	37.790	-16.180	53.970	AVERAGE	0.000	106.000
3		9925.000	15.090	32.400	47.490	-6.480	53.970	AVERAGE	112.000	176.000

5. 20dB Bandwidth

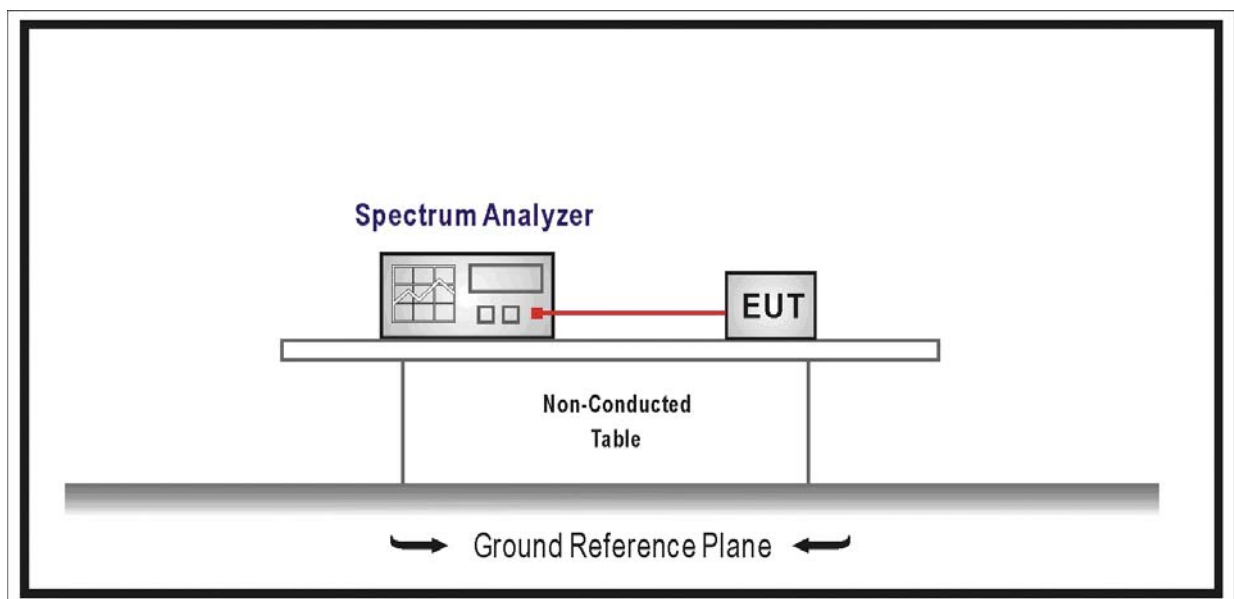
5.1. Test Equipment

20dB Bandwidth / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

5.2. Test Setup



5.3. Limit

- For frequency hopping systems operating in 2400-2483.5 MHz band, no limitation.
- For frequency hopping systems operating in 902-928 MHz band, the maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
- For frequency hopping systems operating in 5725-5850 MHz band, the maximum 20 dB bandwidth of the hopping channel is 1 MHz.

5.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20dB bandwidth, centered on a hopping channel

RBW $\geq$ 1% of the 20dB bandwidth

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize.

Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

5.5. Uncertainty

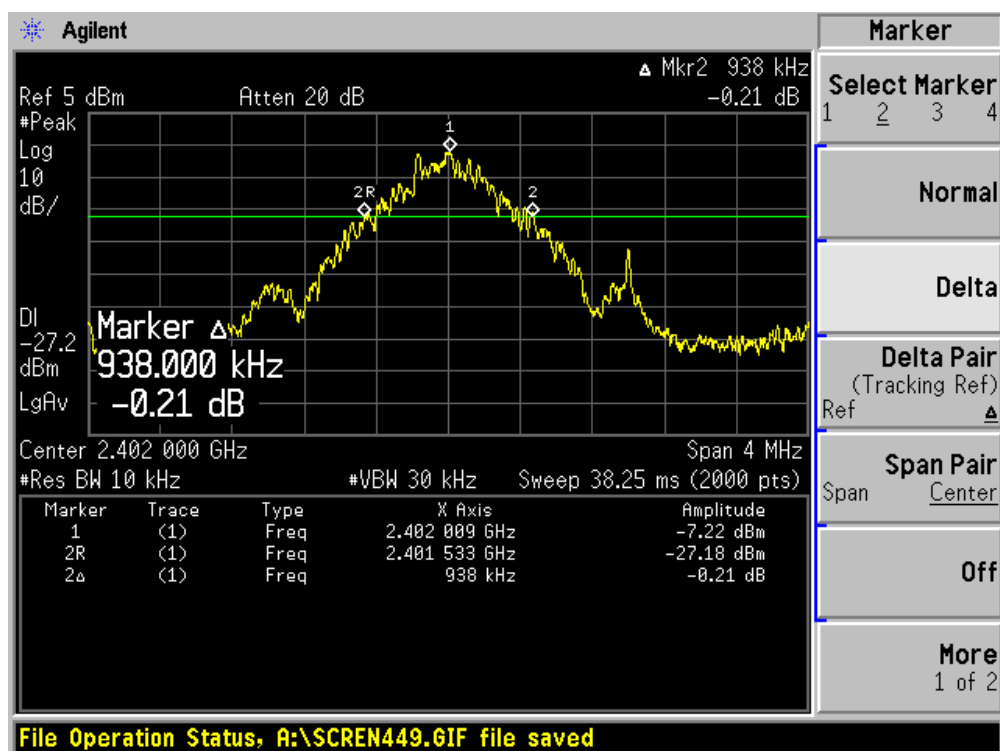
The measurement uncertainty is defined as ± 1 kHz

5.6. Test Result

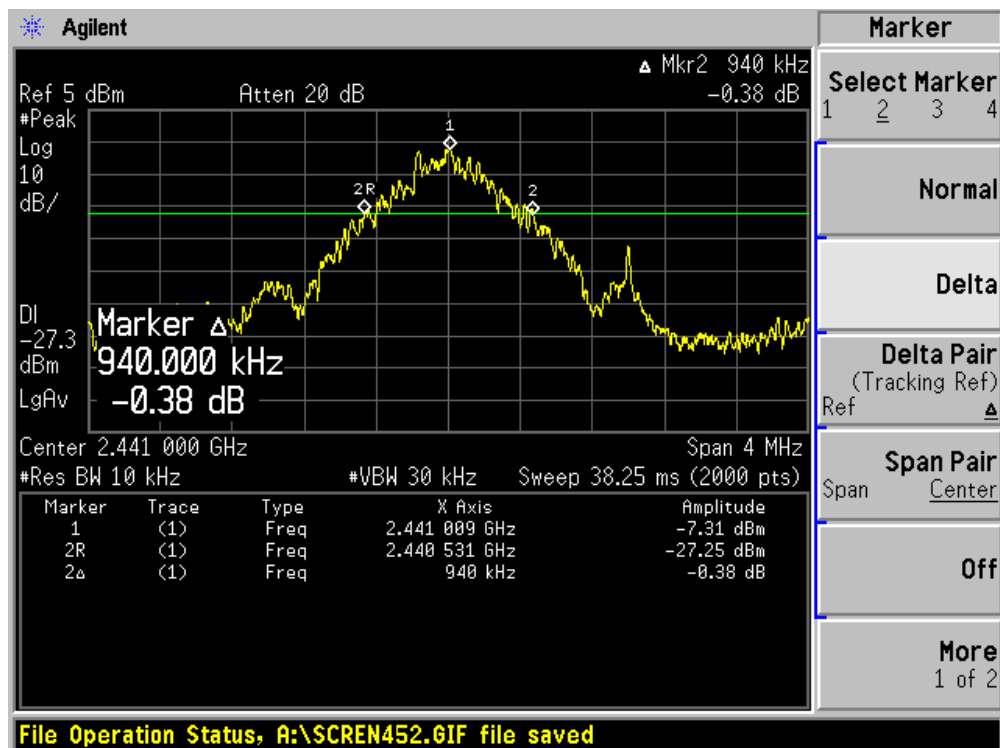
Product	:	BluClip
Test Item	:	20dB Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit

Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)	Result
00	2402	938	N/A	Pass
39	2441	940	N/A	Pass
78	2480	940	N/A	Pass

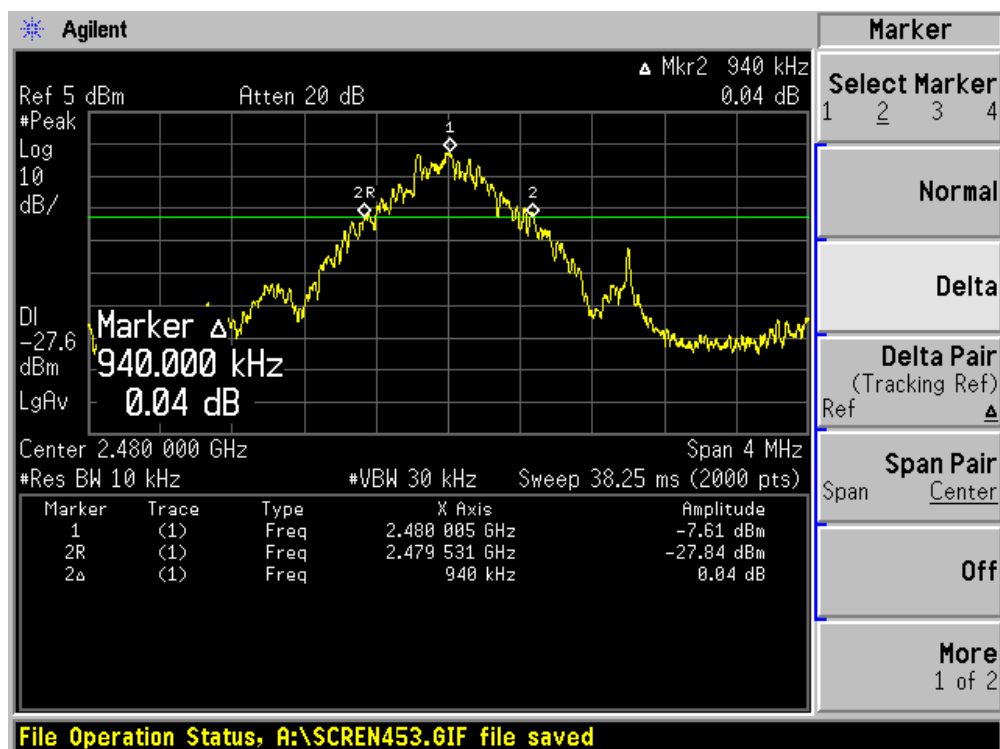
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



6. Carrier Frequency Separation

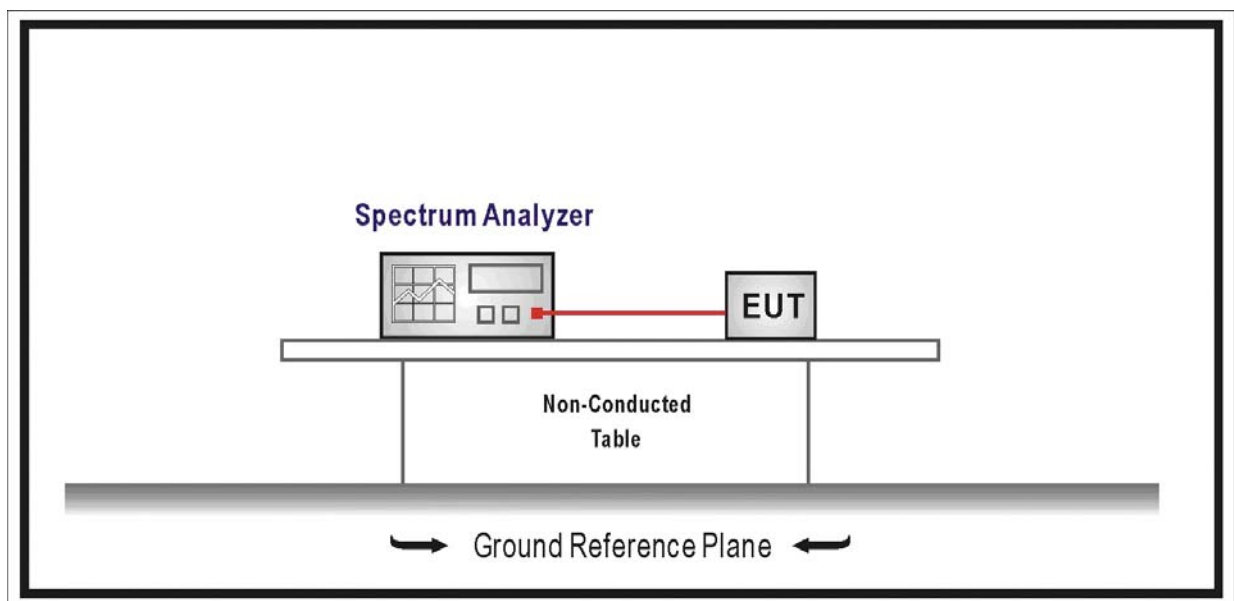
6.1. Test Equipment

Carrier Frequency Separation / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

6.2. Test Setup



6.3. Limit

- Frequency hopping systems shall have hopping 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 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo-randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each

transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

- For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
- Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

6.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) $\geq$ 1% of the span

Video (or Average) Bandwidth VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

6.5. Uncertainty

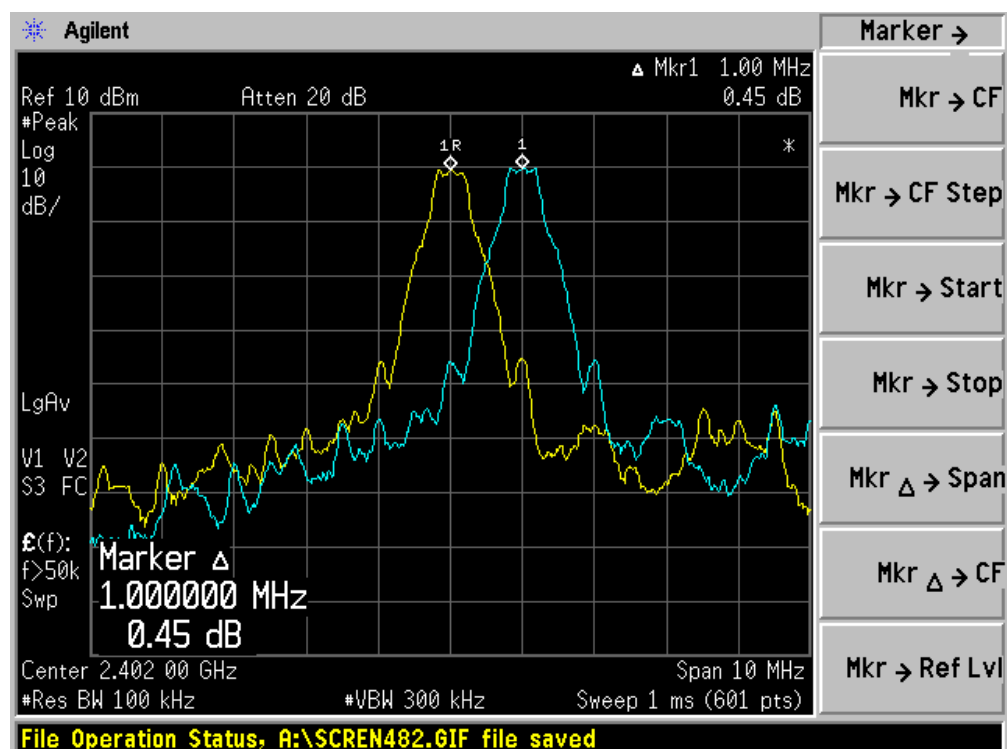
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

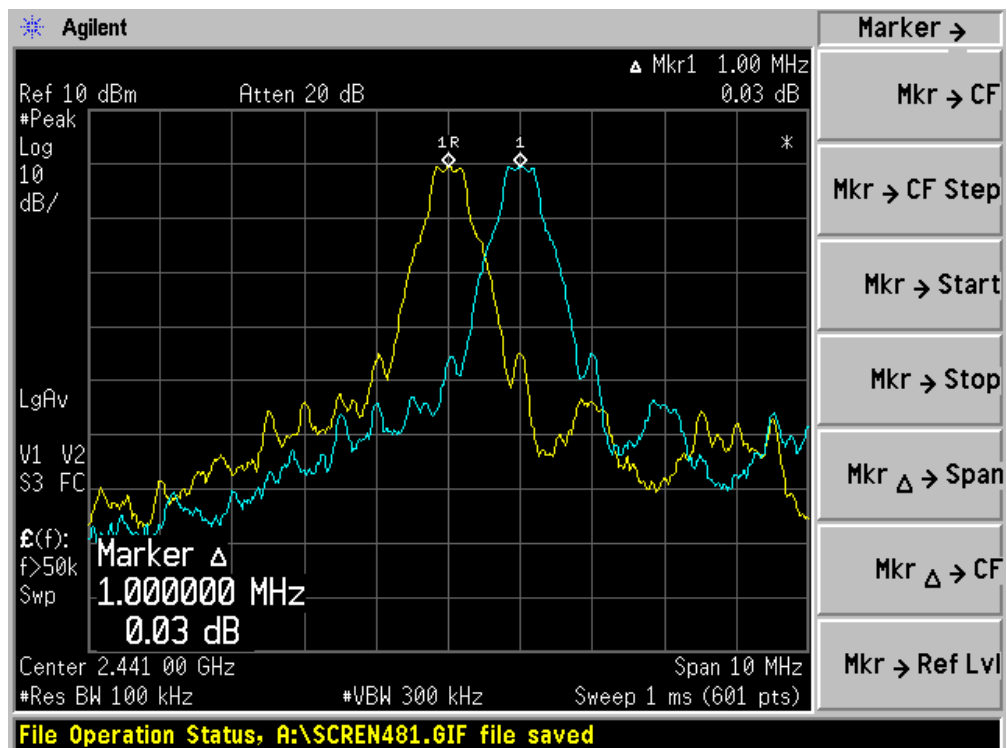
Product	:	BluClip
Test Item	:	Carrier Frequency Separation
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit

Channel No.	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
00	2402	1000	>25 kHz or 2/3 of 20 dB BW	Pass
39	2441	1000	>25 kHz or 2/3 of 20 dB BW	Pass
78	2480	1000	>25 kHz or 2/3 of 20 dB BW	Pass

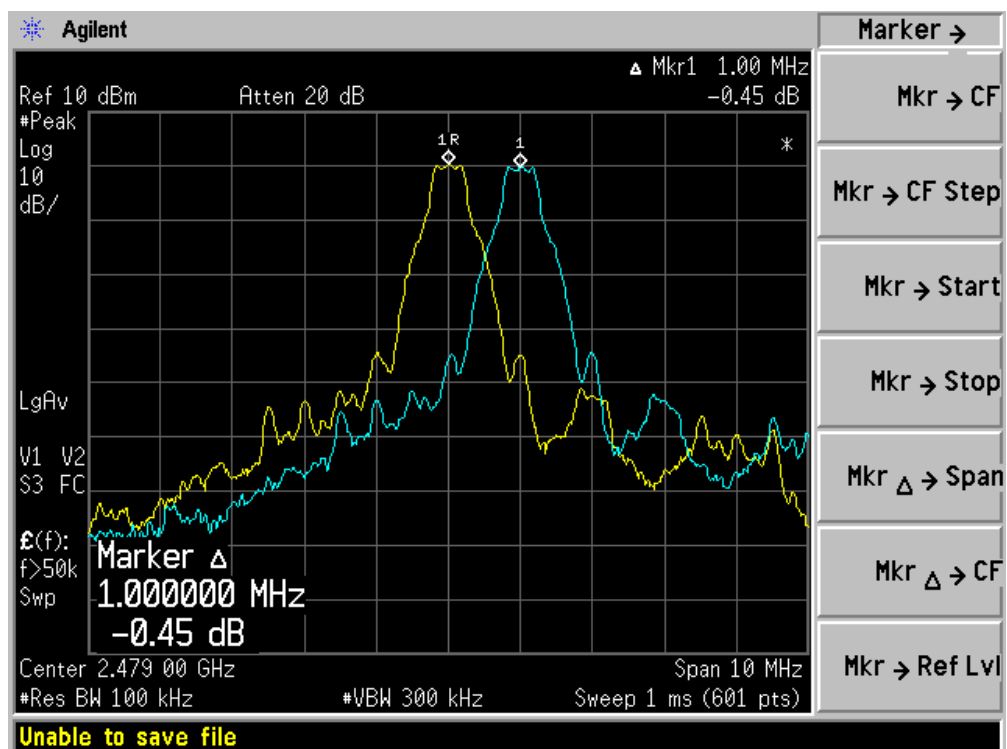
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



7. Number of Hopping Frequencies

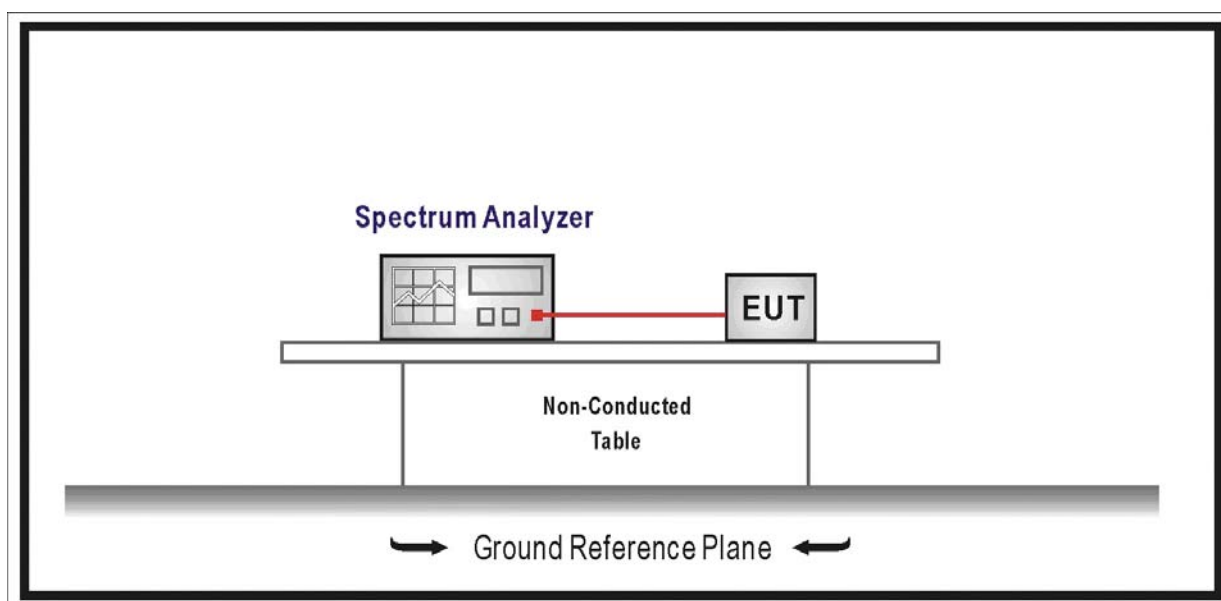
7.1. Test Equipment

Number of Hopping Frequencies / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

7.2. Test Setup



7.3. Limit

- For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
- For frequency hopping systems operating in 902-928 MHz band shall use at least 50 hopping frequencies.
- For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

7.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW $\geq$ 1% of the span

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. It may prove necessary to bread the span up to sections, in order to clearly show all of the hopping frequencies.

7.5. Uncertainty

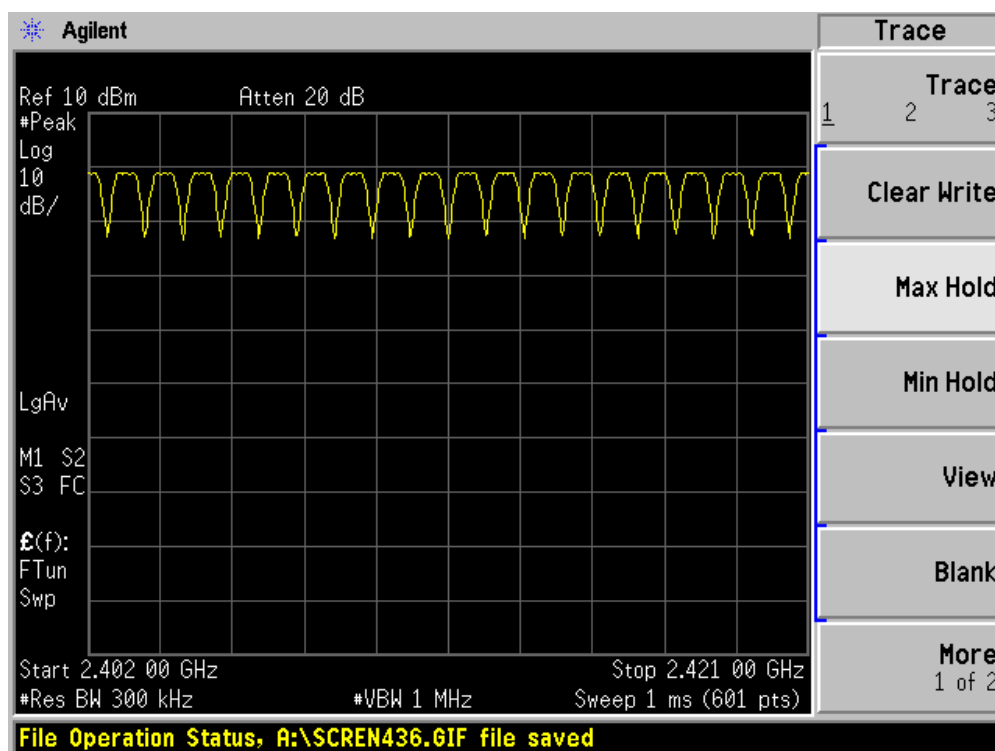
The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

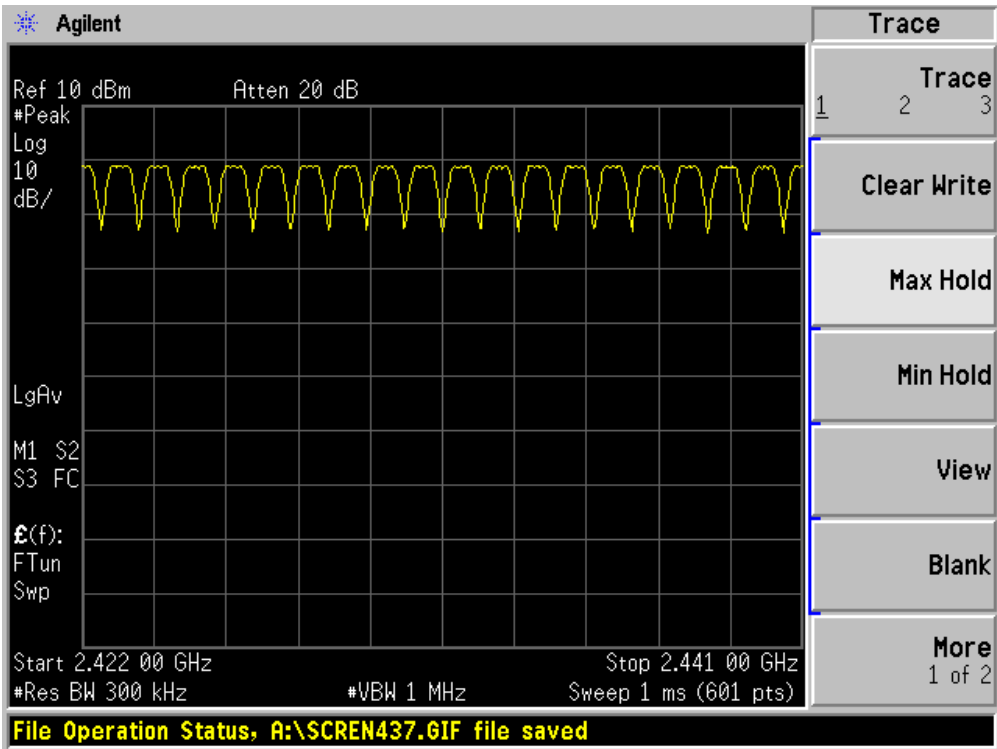
Product	:	BluClip
Test Item	:	Number of Hopping Frequencies
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit

Frequency Band (MHz)	Number of Hopping Frequencies	Limit	Result
2400 - 2483.5	79	>15	Pass

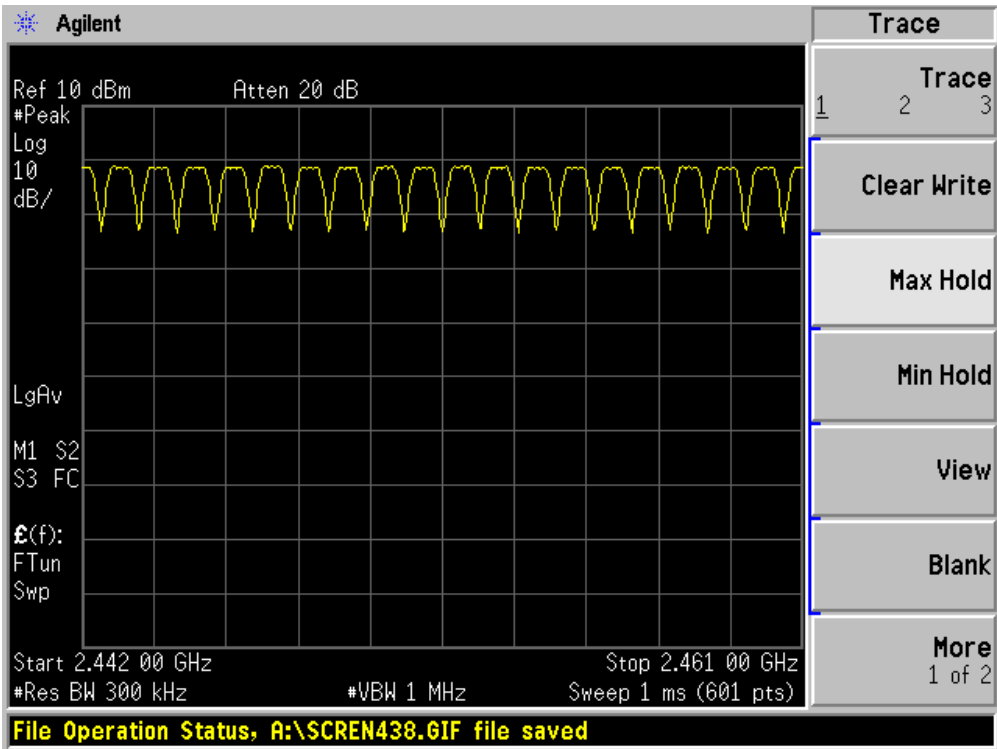
2402 - 2421 MHz



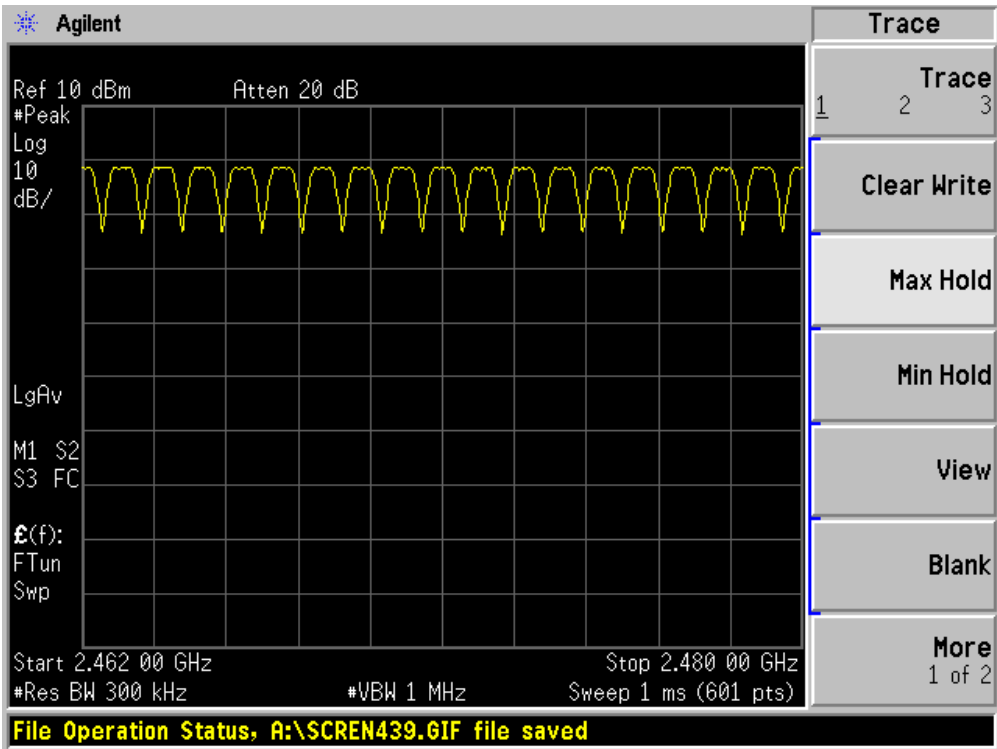
2422 - 2441 MHz



2442 - 2461 MHz



2462 - 2480 MHz



8. Time of Occupancy (Dwell Time)

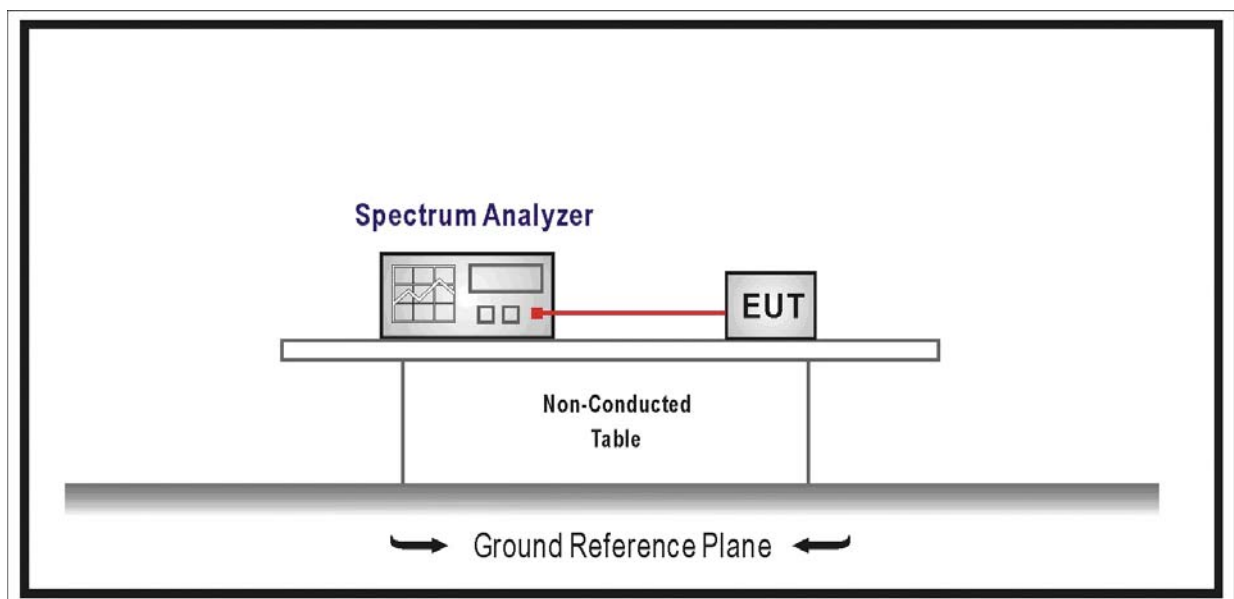
8.1. Test Equipment

Time of Occupancy (Dwell Time) / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

8.2. Test Setup



8.3. Limit

- For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

- Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.
- 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.

8.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = zero span, centered on a hopping channel

RBW = 1MHz

VBW $\geq$ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

Detector function = peak

Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

8.5. Uncertainty

The measurement uncertainty is defined as ± 0.1 us

8.6. Test Result

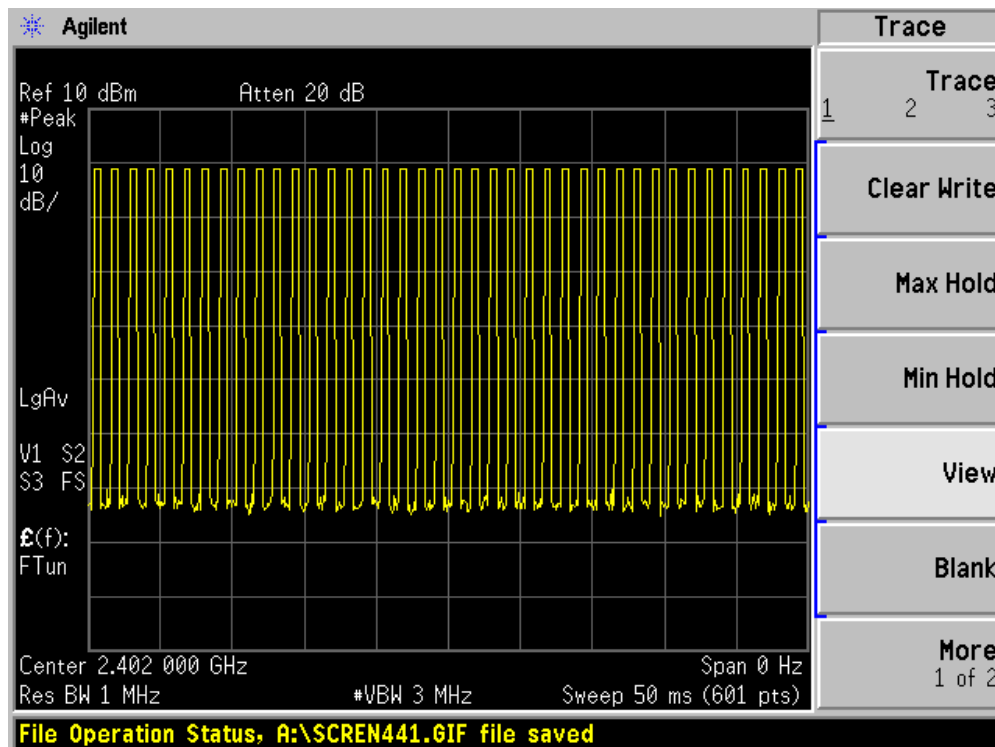
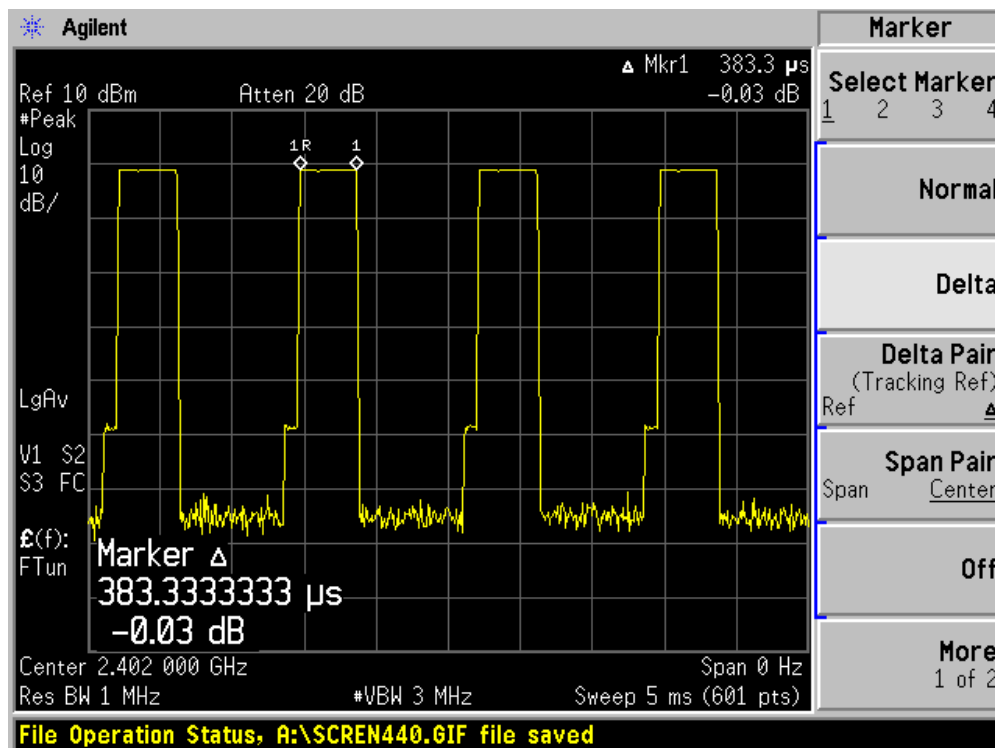
Product	:	BluClip
Test Item	:	Time of Occupancy (Dwell Time)
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit

Channel No.	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
00	2402	122.666	< 400	Pass
39	2441	125.333	< 400	Pass
78	2480	125.333	< 400	Pass

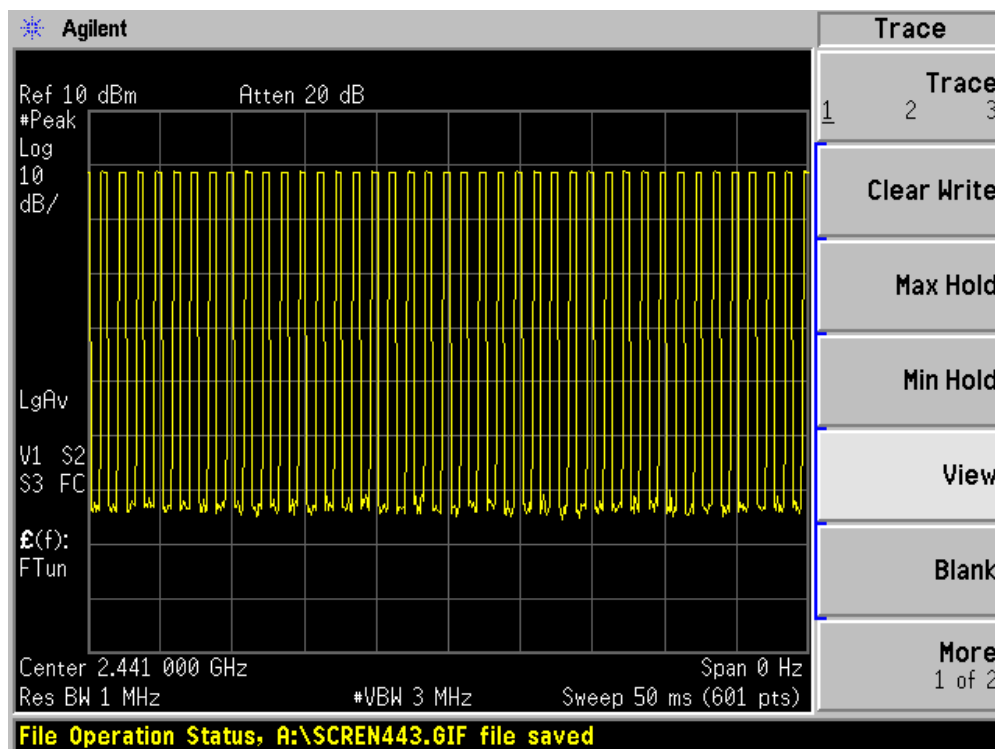
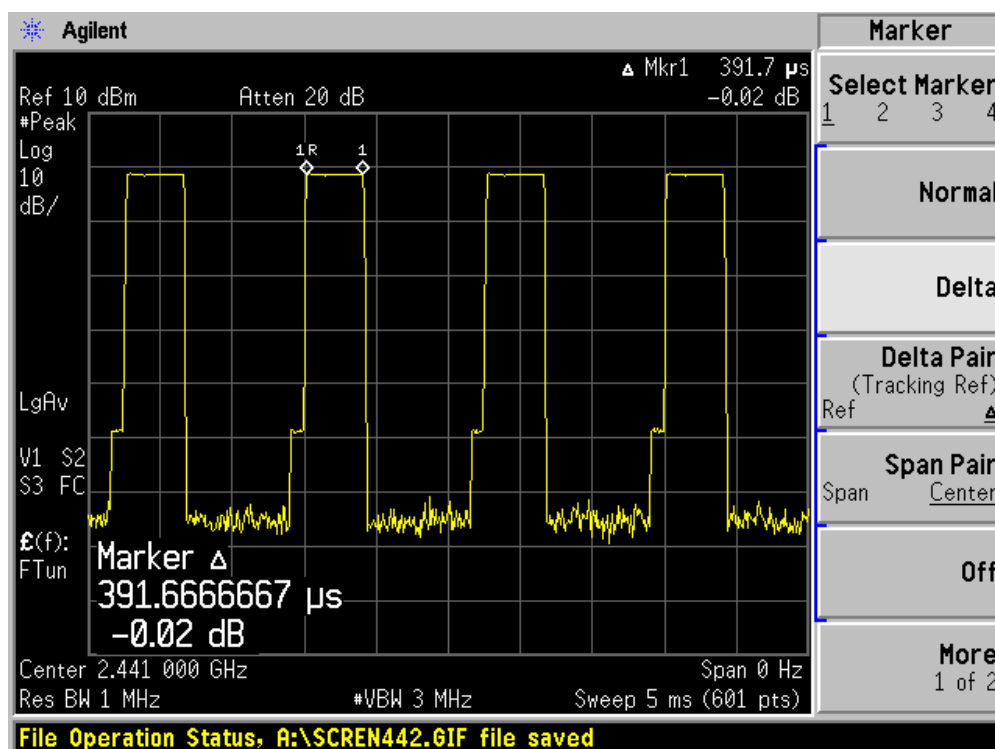
Test Time Period: $0.4 \times 79 = 31.6\text{sec}$, Hopping Times Within 1sec: $40/50\text{msec} = 800\text{hops/sec}$.

- 2402MHz,
The Maximum Occupancy Time Within 31.6sec: $[(391.7 \mu\text{s} \times 800)/79] \times 31.6 = 122.666\text{msec}$
- 2441MHz,
The Maximum Occupancy Time Within 31.6sec: $[(391.7 \mu\text{s} \times 800)/79] \times 31.6 = 125.333\text{msec}$
- 2480MHz,
The Maximum Occupancy Time Within 31.6sec: $[(391.7 \mu\text{s} \times 800)/79] \times 31.6 = 125.333\text{msec}$

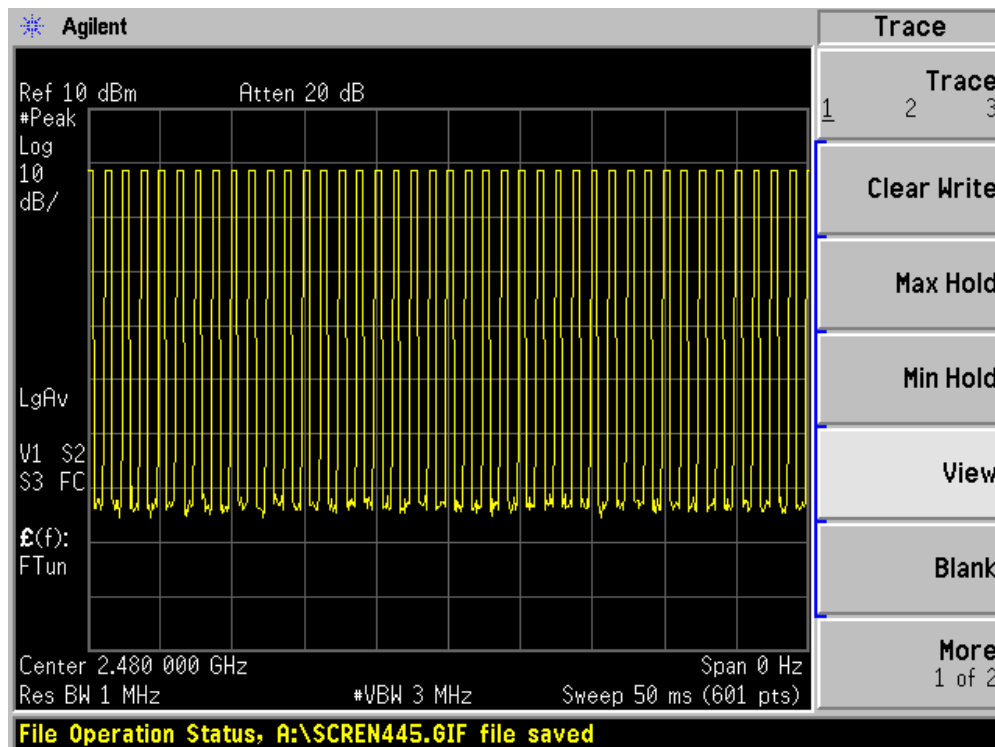
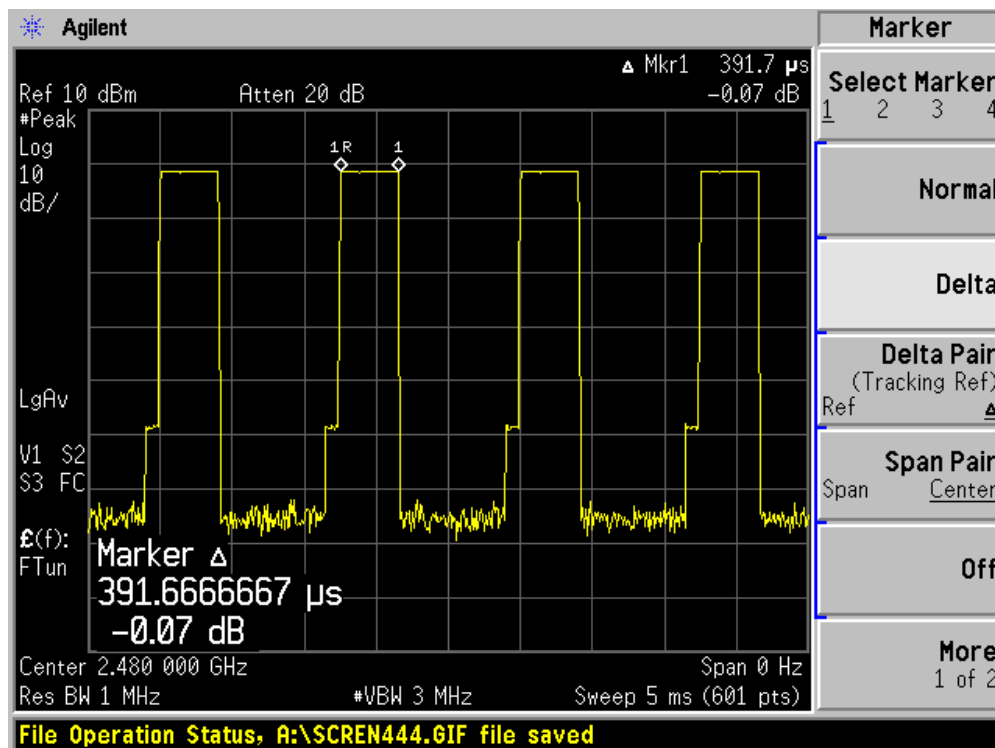
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



9. Peak Output Power

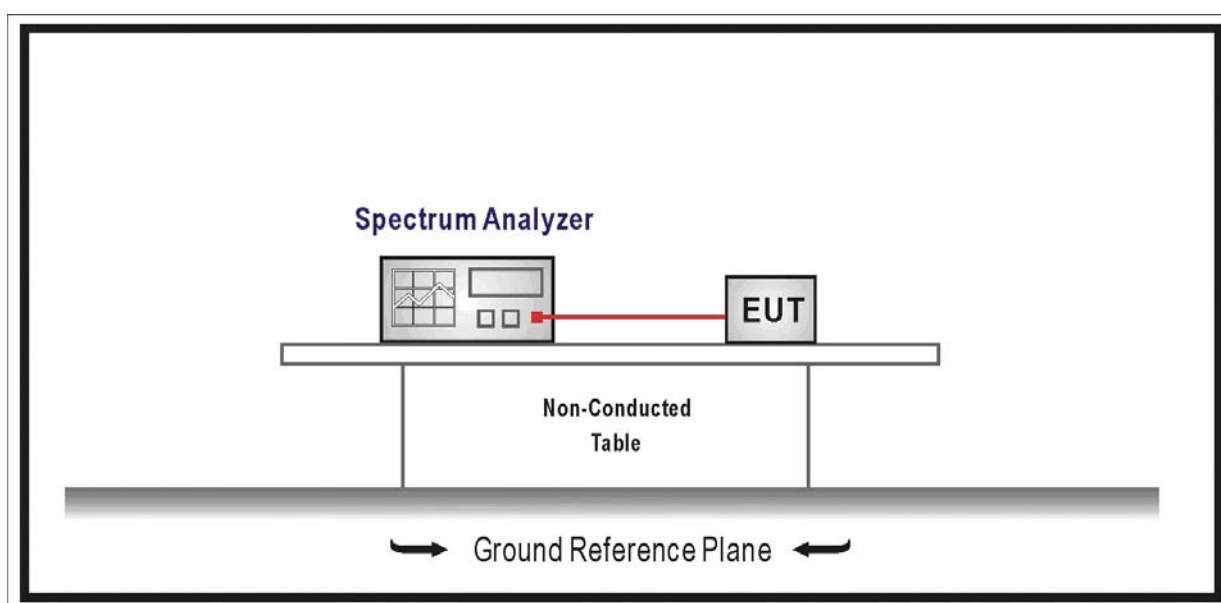
9.1. Test Equipment

Peak Output Power / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

9.2. Test Setup



9.3. 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 6dBi 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 6dBi.

9.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

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 $\geq$ 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).

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.0 dB

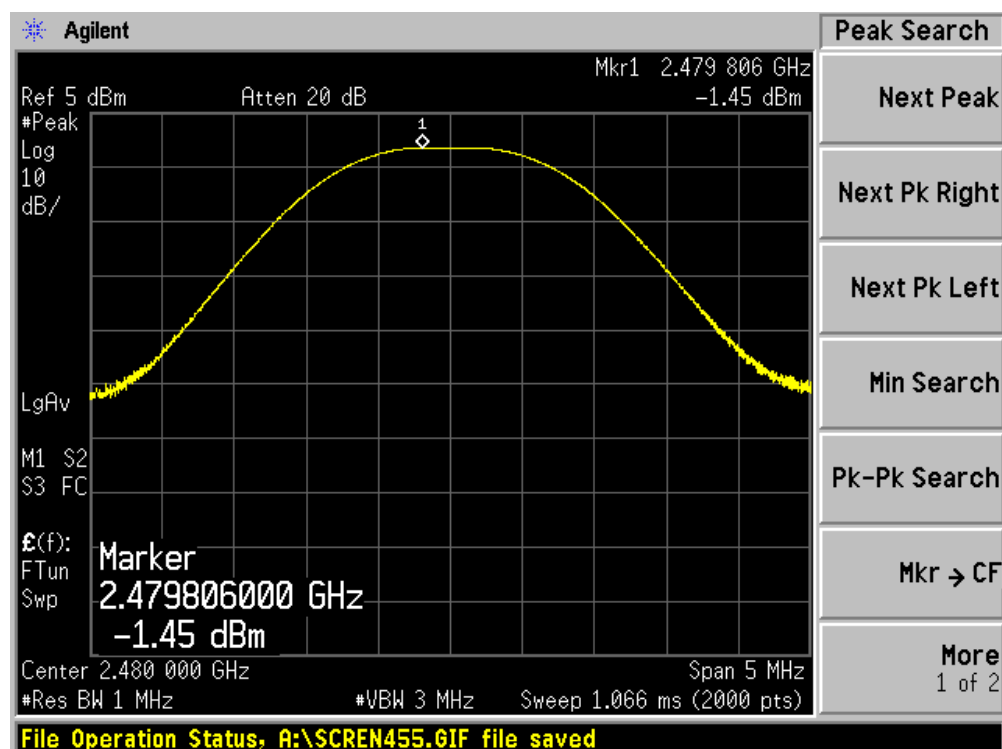
9.6. Test Result

Product	:	BluClip
Test Item	:	Peak Output Power
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit

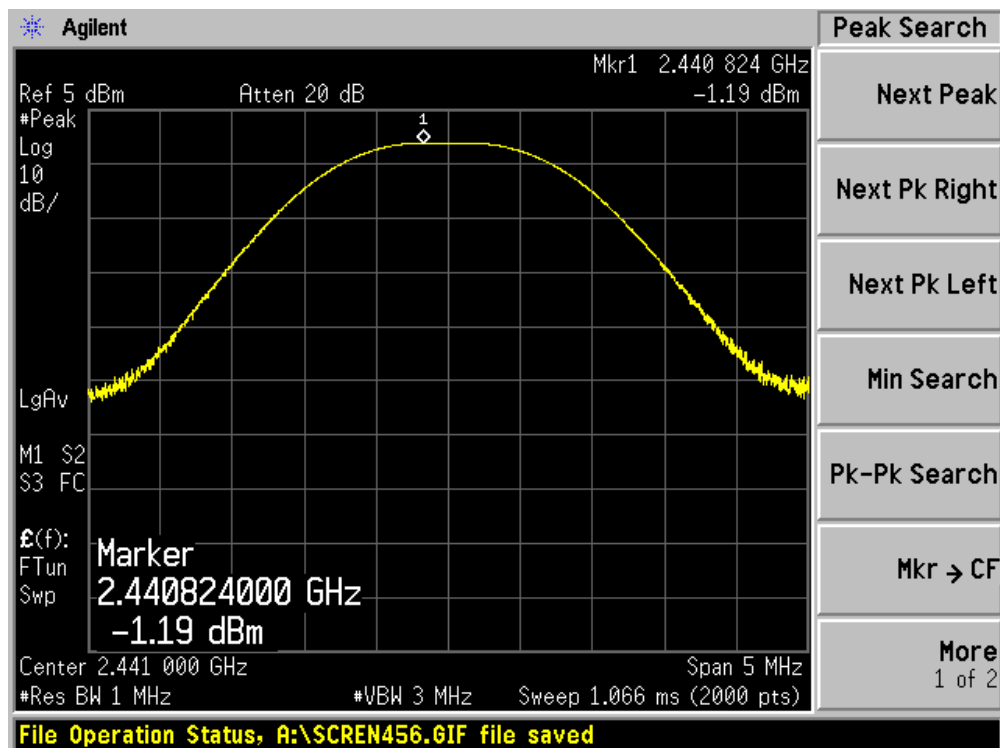
Channel No.	Frequency (MHz)	Measurement Level (dBm)	External Attenuation (dBm)	Peak Output Power (dBm)	Limit (dBm)	Result
00	2402	-1.45	0.32	-1.13	30	Pass
39	2441	-1.19	0.35	-0.84	30	Pass
78	2480	-1.05	0.40	-0.65	30	Pass

Note: The antenna gain of transmitter is less than 6dBi and other than fixed, point-to-point operation, therefore the limit is 30dBm.

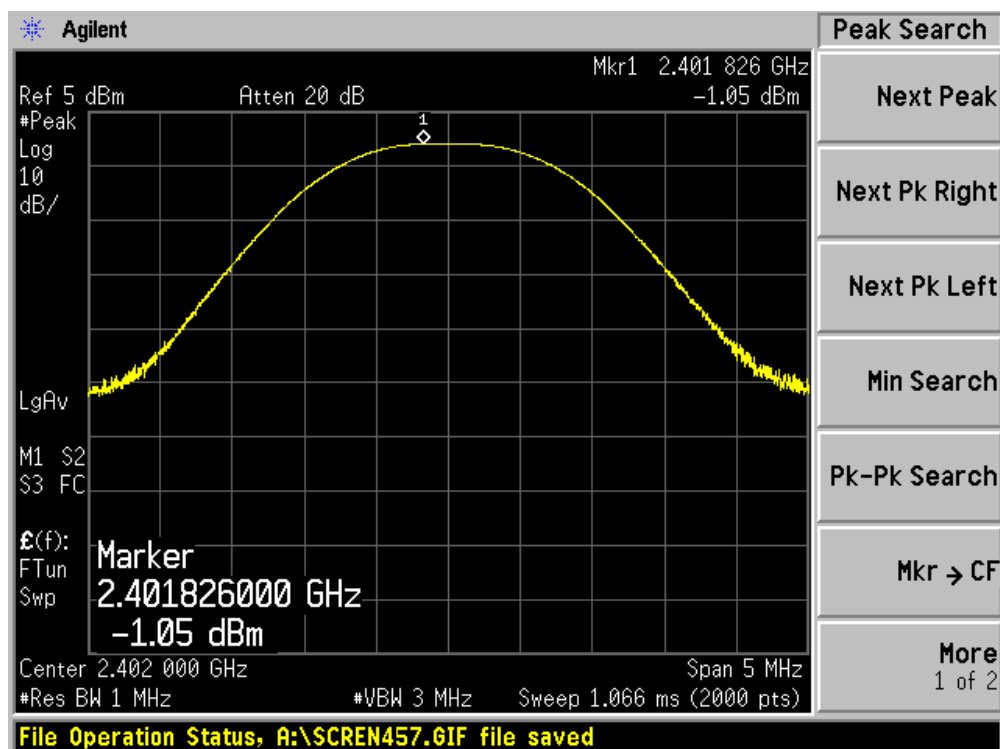
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



10. Band-edge Compliance of RF Conducted Emissions

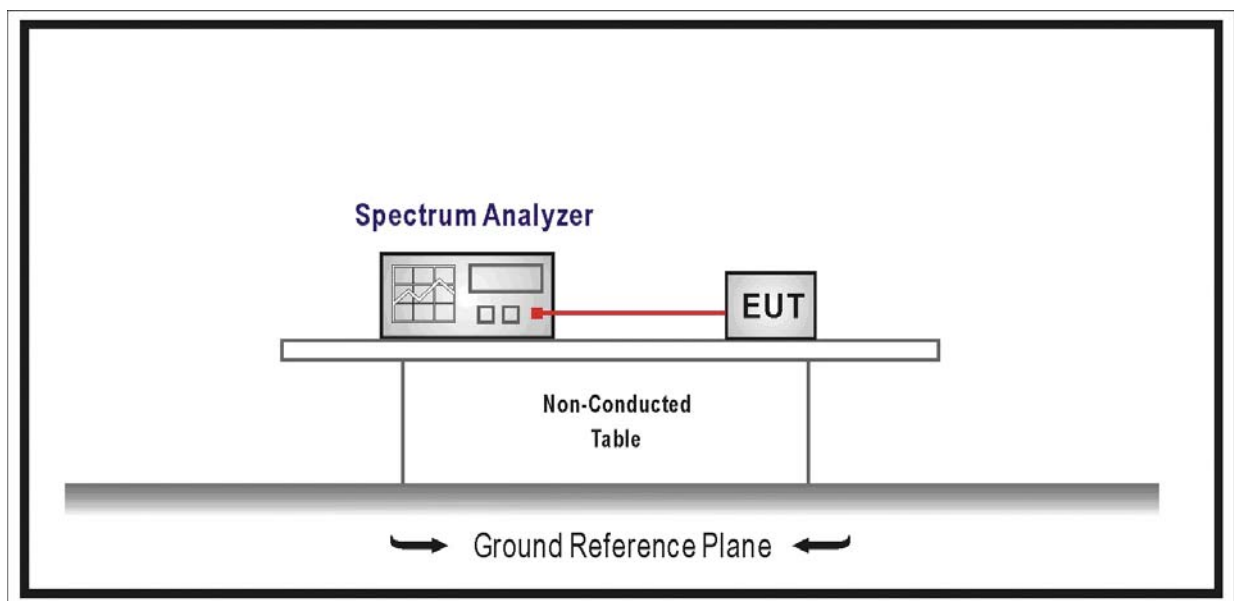
10.1. Test Equipment

Band-edge Compliance of RF Conducted Emissions / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

10.2. Test Setup



10.3. Limit

- Intentional radiators operating under the alternative provisions to the general emission limits as contained in 15.217 through 15.257 and in Subpart E of FCC part 15, must be designed to ensure that 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
- 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 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, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) of FCC part 15 is not required.

10.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation.

RBW $\geq$ 1% of the span

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge.

Enable the marker-delta function, and then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section.

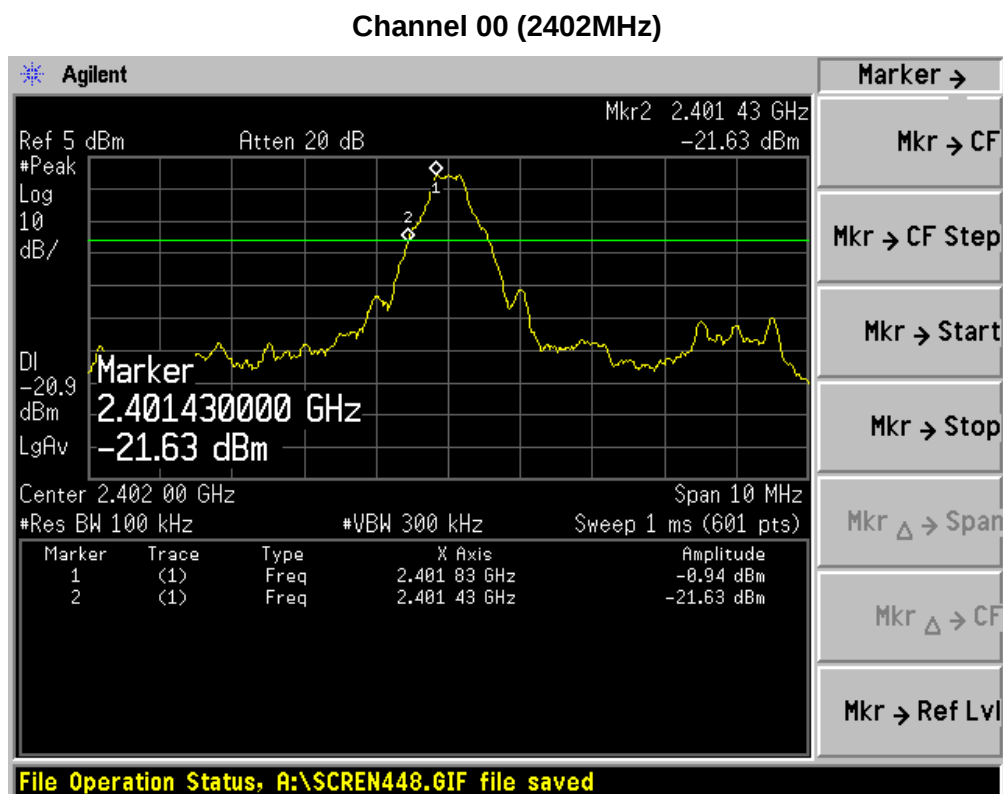
Now, using the same instrument settings, enable the hopping function of the EUT. Allow the trace to stabilize. Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit.

10.5. Uncertainty

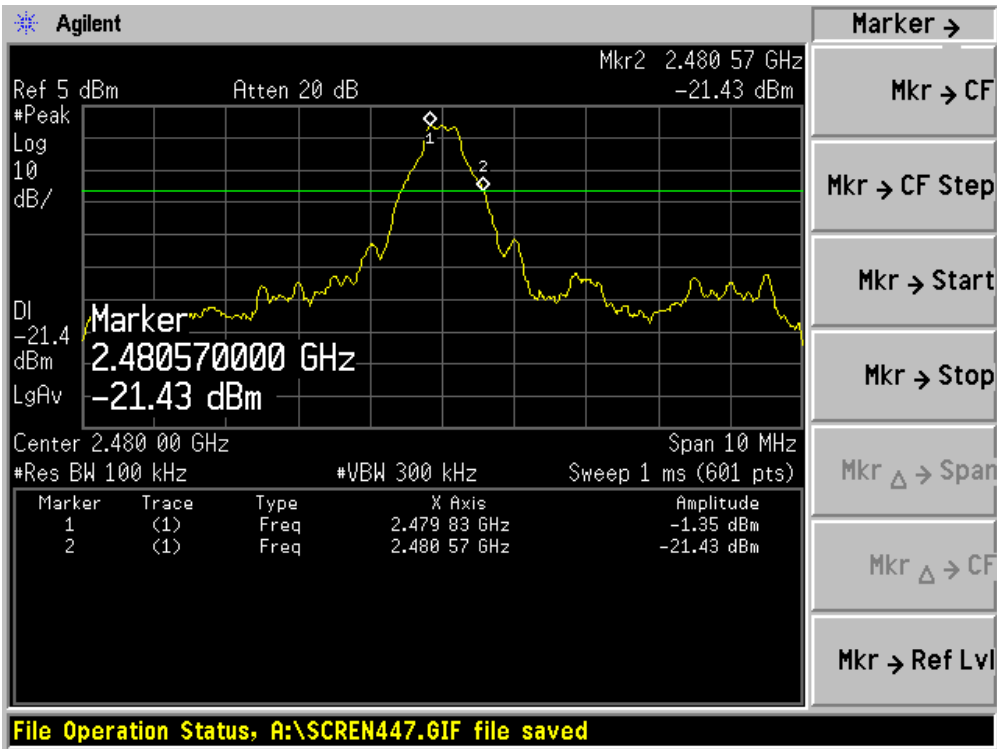
The measurement uncertainty is defined as ± 1.0 dB

10.6. Test Result

Product	:	BluClip
Test Item	:	Band-edge Compliance of RF Conducted Emissions
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit



Channel 78 (2480MHz)



11. Spurious RF Conducted Emissions

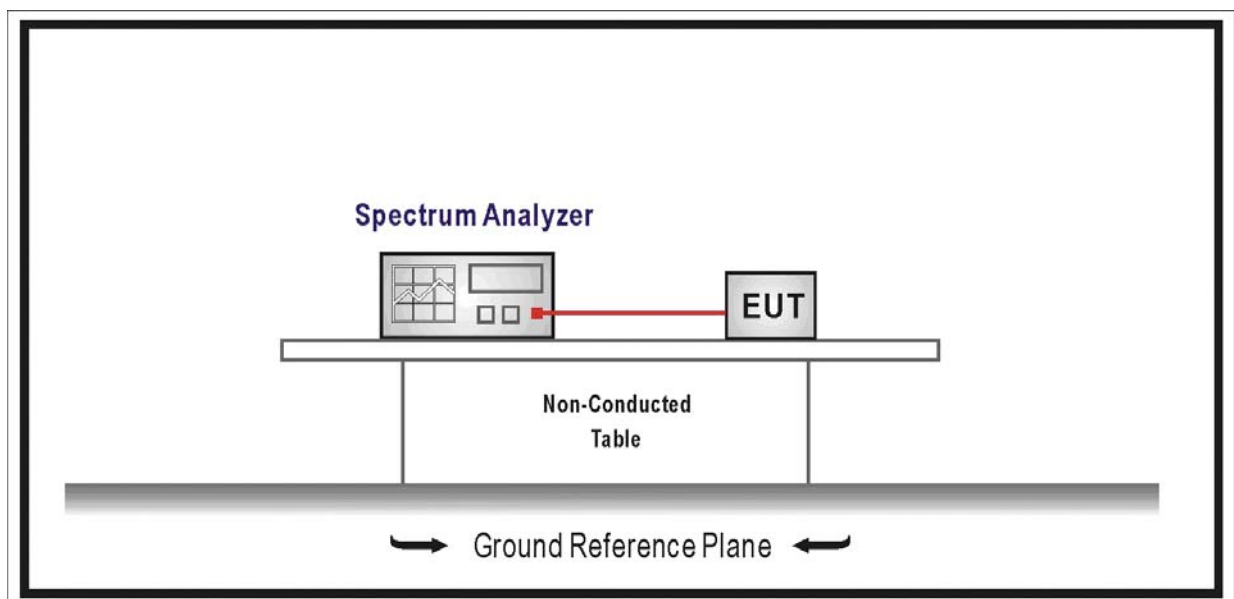
11.1. Test Equipment

Spurious RF Conducted Emissions / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

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

11.2. Test Setup



11.3. Limit

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 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, the attenuation required under this

paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) of FCC part 15 is not required.

11.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100 kHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

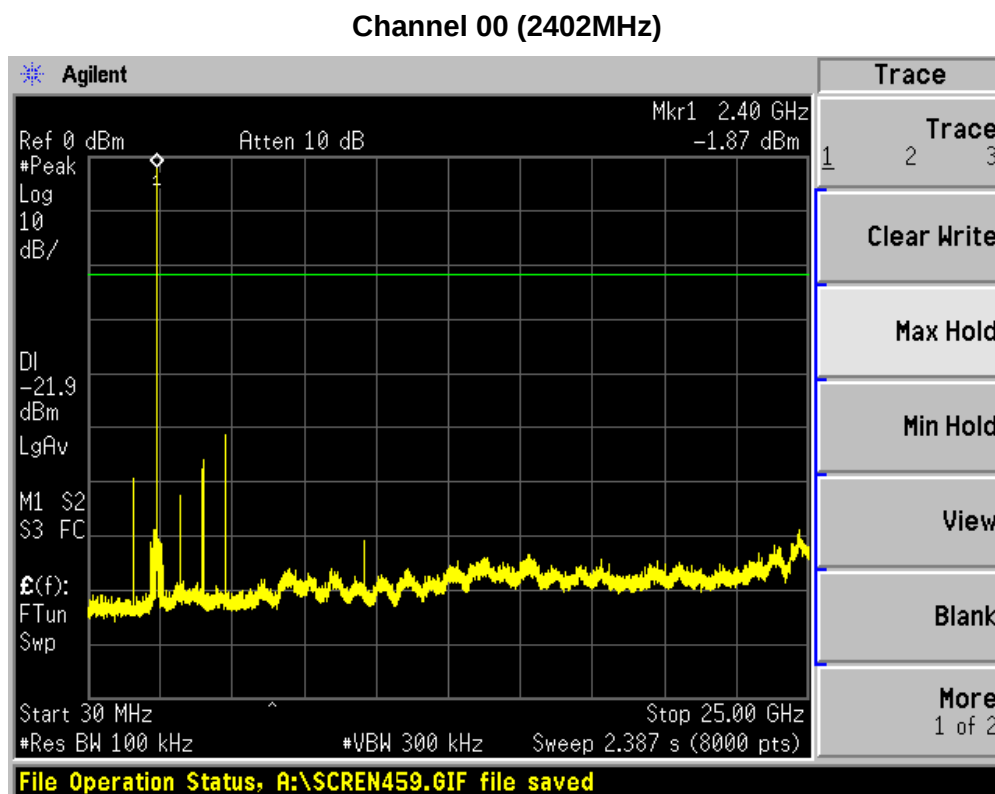
Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this section.

11.5. Uncertainty

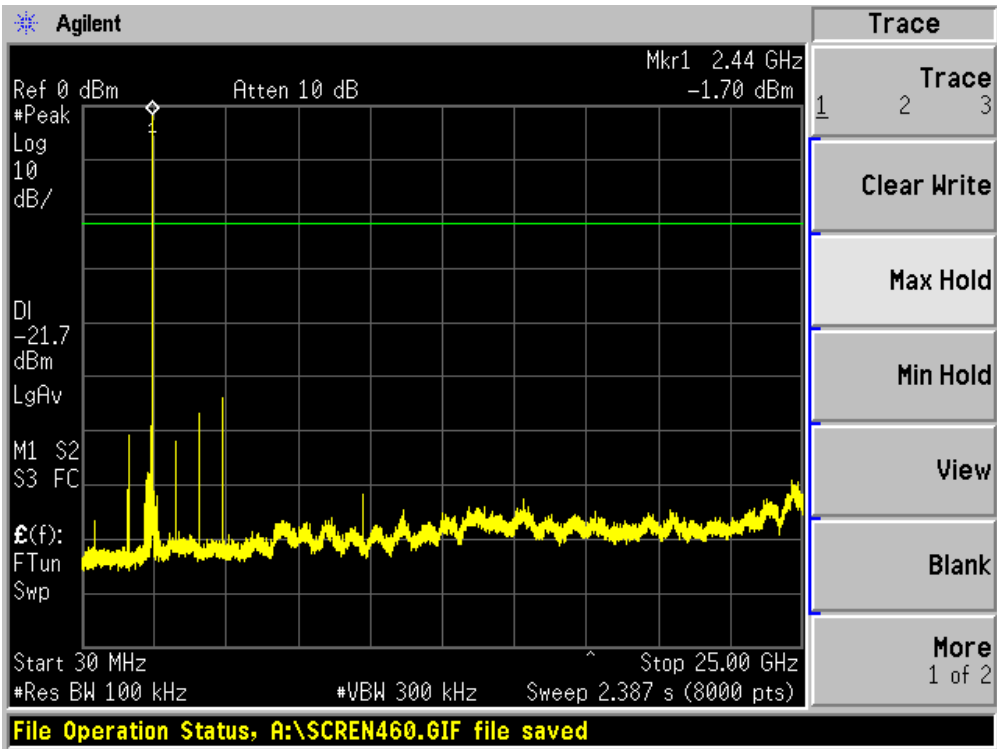
The measurement uncertainty is defined as ± 1.0 dB

11.6. Test Result

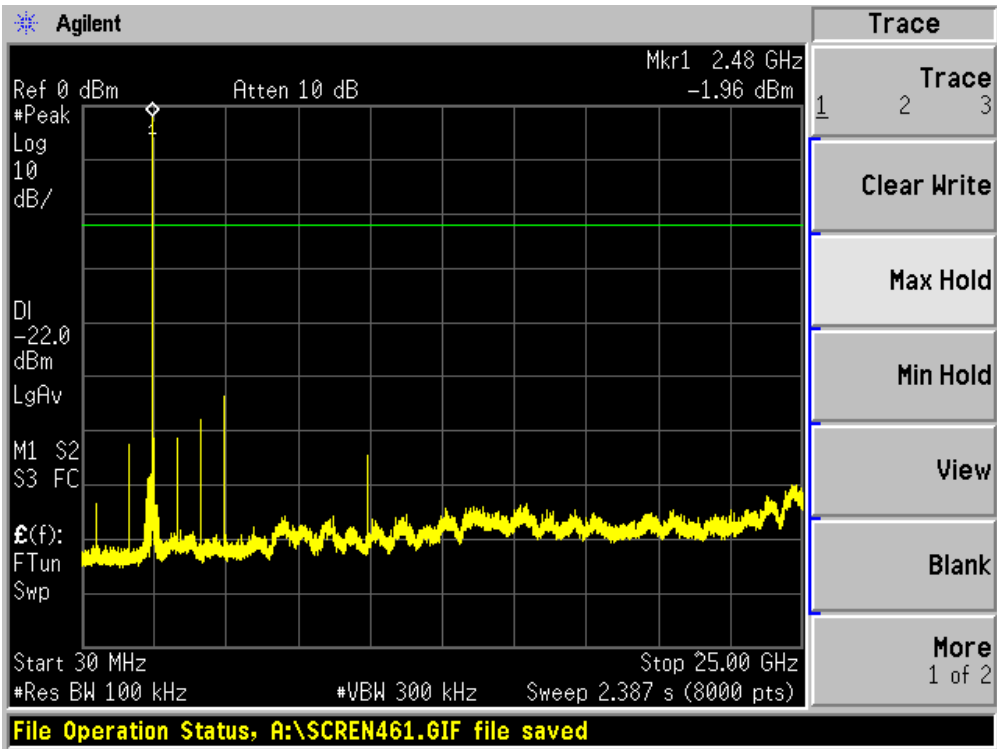
Product	:	BluClip
Test Item	:	Spurious RF Conducted Emissions
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit



Channel 39 (2441MHz)



Channel 78 (2480MHz)



12. Radiated Emission Band Edge

12.1. Test Equipment

☒ Radiated Emission Band Edge / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2008/06/28
EMI Test Receiver	R&S	ESCI	100573	2008/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2007/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2007/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2007/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2007/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2008/03/31

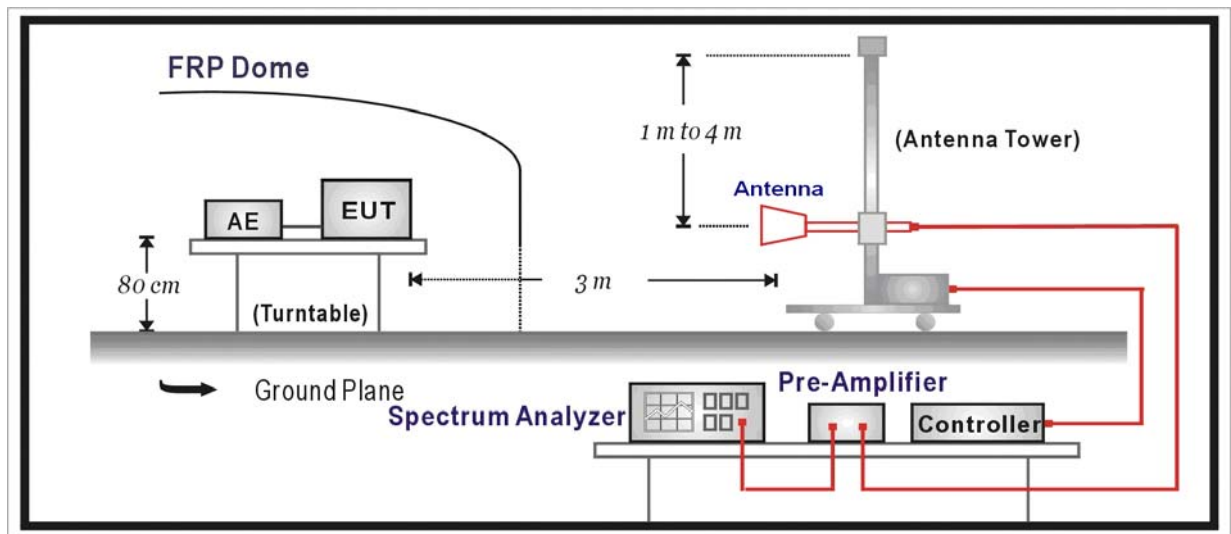
☐ Radiated Emission Band Edge / AC-3

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2008/04/24
EMI Test Receiver	R&S	ESCI	100176	2007/11/15
Preamplifier	Quietek	AP-025C	QT-AP004	2007/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2007/11/25
Bilog Type Antenna	Schaffner	CBL6112D	22254	2007/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464463	2007/11/25
Coaxial Cable	Huber+Suhner	AC2-C	05	2007/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2008/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Note 2: The test instruments marked with "X" are used to measure the final test results.

12.2. Test Setup



12.3. 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.

12.4. Test Procedure

According to FCC Public Notice DA 00-705, March 30, 2000.

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.

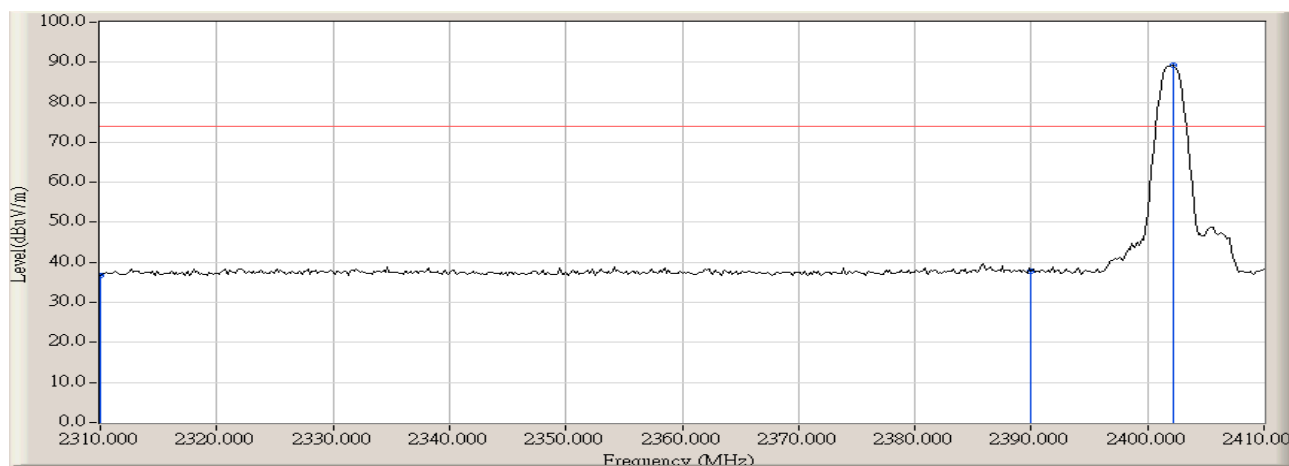
If the emission on which a radiated measurement must be made is located at the edge of the authorized band of operation, then the alternative “marker-delta” method may be employed.

12.5. Uncertainty

The measurement uncertainty above 1G is defined as $\pm 3.9 \text{ dB}$
below 1G is defined as $\pm 3.8 \text{ dB}$

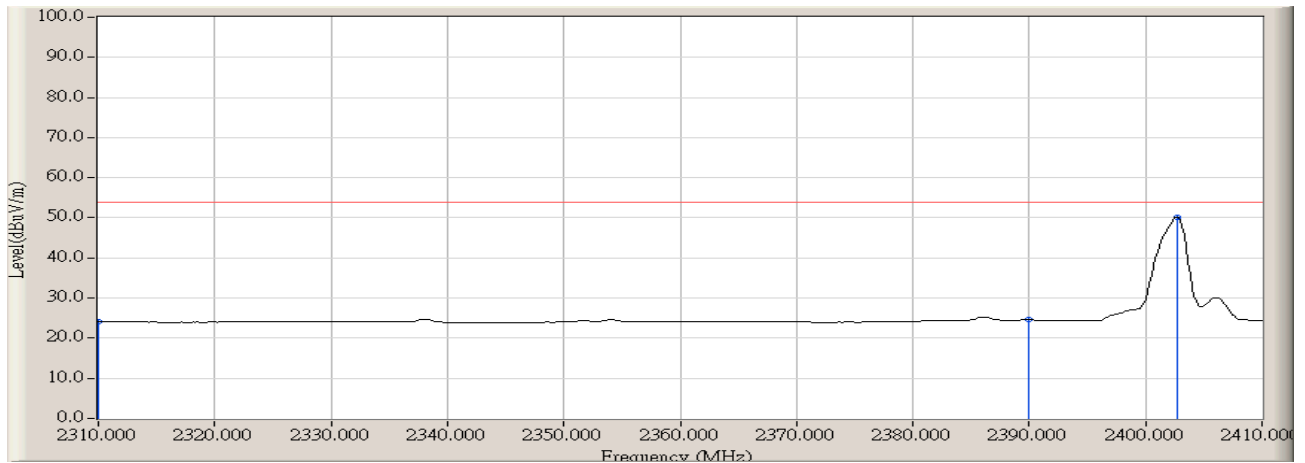
12.6. Test Result

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 14:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2402MHz



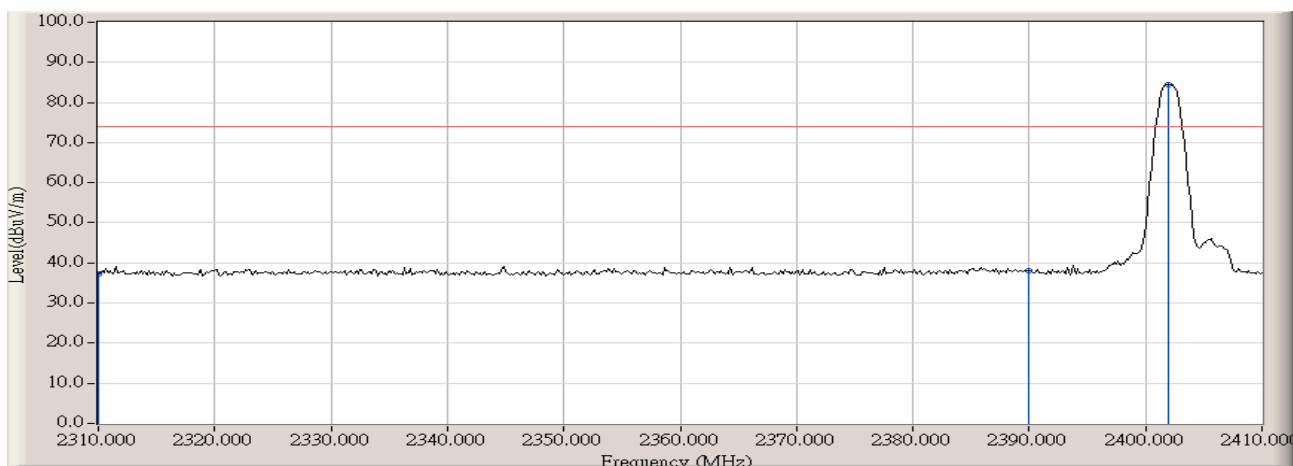
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-3.262	40.087	36.826	-37.144	73.970	PEAK
2		2390.000	-3.202	41.133	37.931	-36.039	73.970	PEAK
3	*	2402.167	-3.199	92.345	89.145	N/A	N/A	PEAK

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 14:53
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2402MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-3.262	27.417	24.156	-29.814	53.970	AVERAGE
2		2390.000	-3.202	27.803	24.601	-29.369	53.970	AVERAGE
3	*	2402.667	-3.200	53.339	50.139	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 14:57
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2402MHz



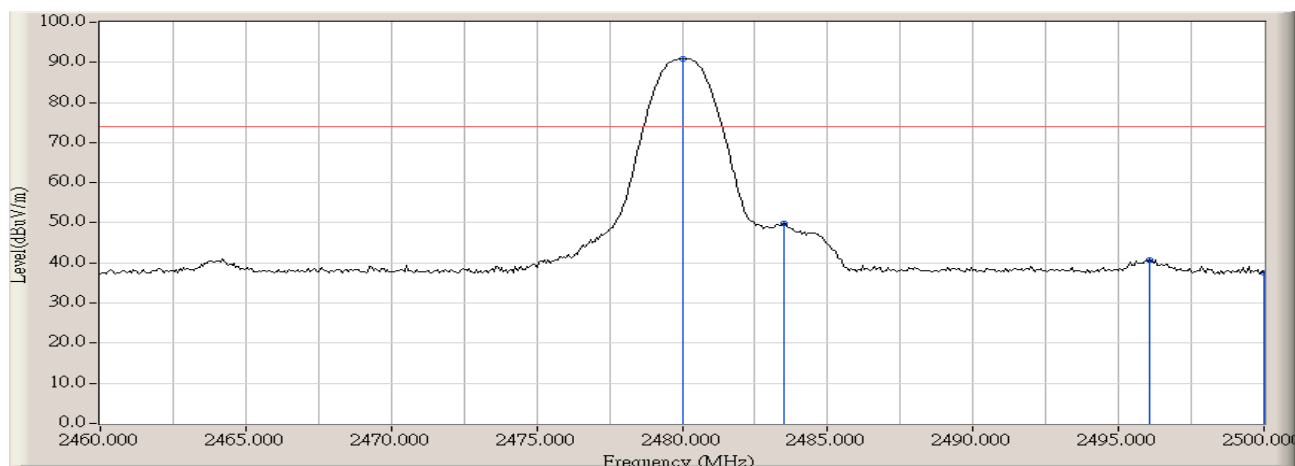
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-3.262	40.562	37.301	-36.669	73.970	PEAK
2		2390.000	-3.202	41.257	38.055	-35.915	73.970	PEAK
3	*	2402.000	-3.200	87.685	84.486	N/A	N/A	PEAK

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 15:08
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2402MHz



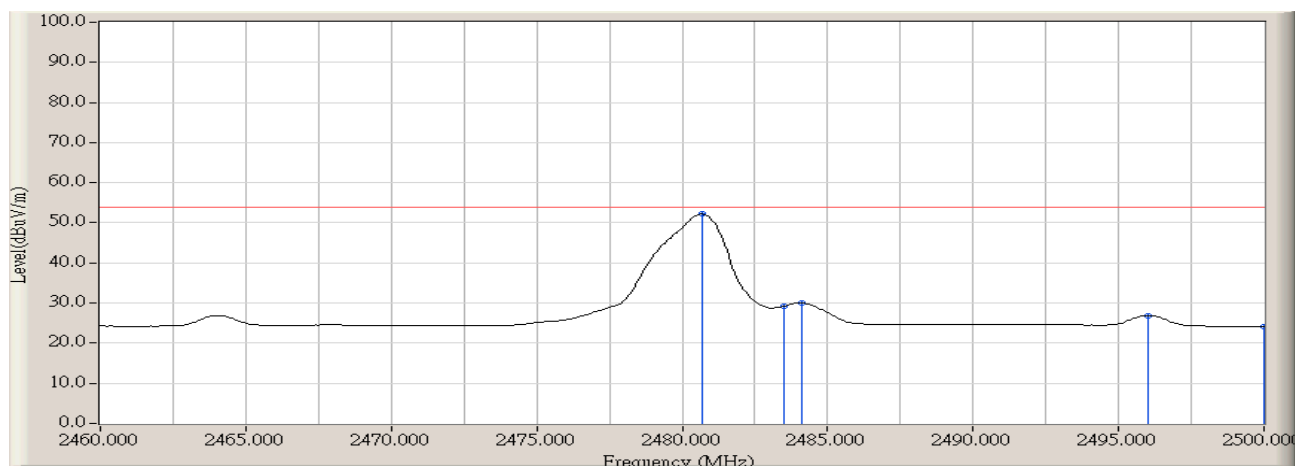
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	-3.262	27.384	24.123	-29.847	53.970	AVERAGE
2		2390.000	-3.202	27.577	24.375	-29.595	53.970	AVERAGE
3	*	2402.500	-3.200	51.384	48.184	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 15:27
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2480MHz



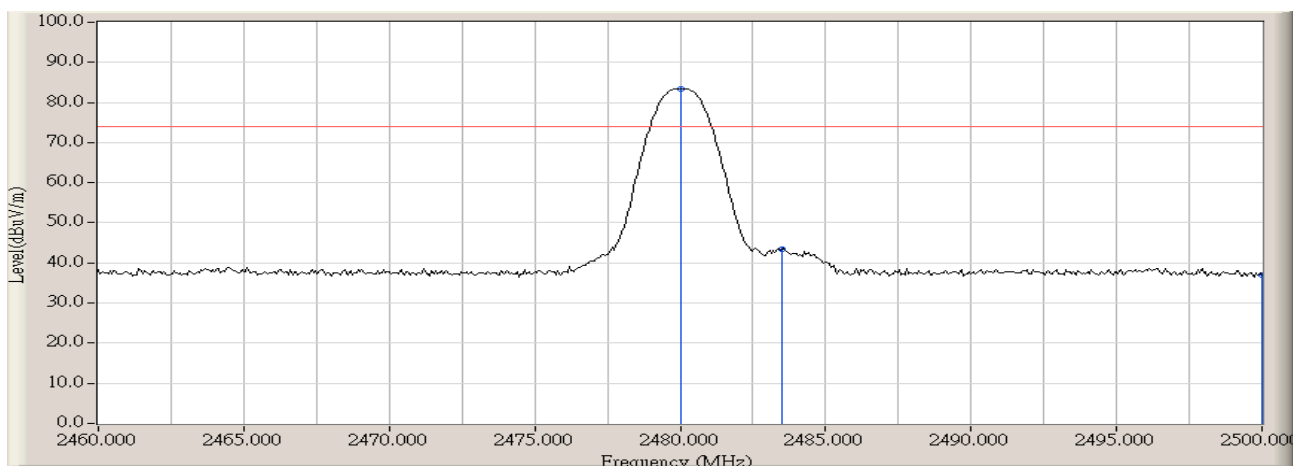
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.000	-3.187	93.976	90.789	N/A	N/A	PEAK
2		2483.500	-3.177	52.935	49.758	-24.212	73.970	PEAK
3		2496.067	-3.140	43.889	40.749	-33.221	73.970	PEAK
4		2500.000	-3.135	40.689	37.554	-36.416	73.970	PEAK

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 15:33
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2480MHz



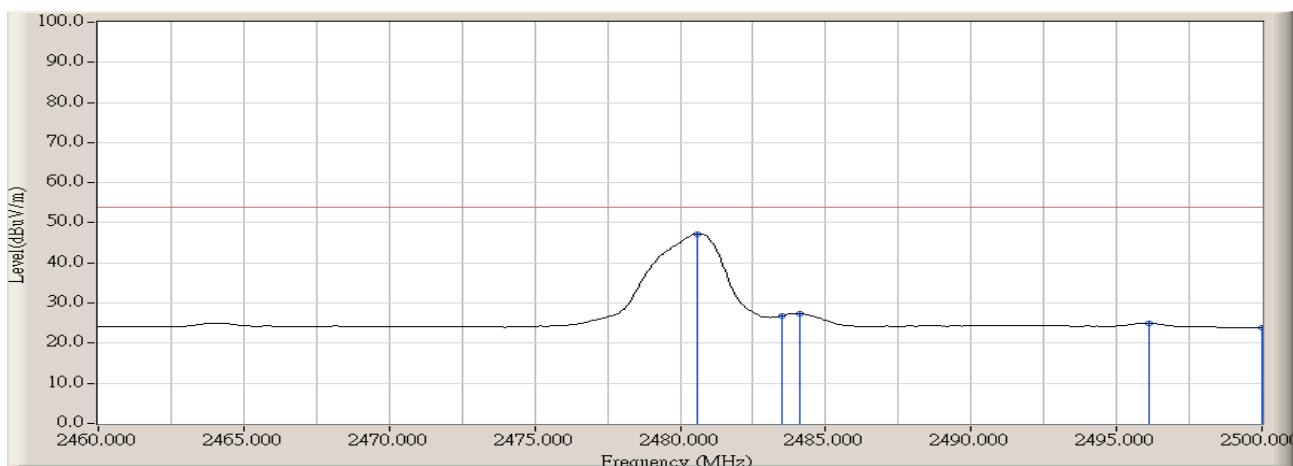
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.667	-3.185	55.331	52.146	N/A	N/A	AVERAGE
2		2483.500	-3.177	32.408	29.231	-24.739	53.970	AVERAGE
3		2484.133	-3.175	33.144	29.969	-24.001	53.970	AVERAGE
4		2496.000	-3.140	30.031	26.891	-27.079	53.970	AVERAGE
5		2500.000	-3.135	27.352	24.217	-29.753	53.970	AVERAGE

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 15:35
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.000	-3.187	86.564	83.377	N/A	N/A	PEAK
2		2483.500	-3.177	46.547	43.370	-30.600	73.970	PEAK
3		2500.000	-3.135	40.187	37.052	-36.918	73.970	PEAK

Engineer : Robin	
Site : AC2 (3m Semi-Anechoic Chamber)	Time : 2008/10/04 - 15:36
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : BTHS0500	Probe : BBHA9120D_499(1-18GHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit at Channel 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.600	-3.185	50.445	47.260	N/A	N/A	AVERAGE
2		2483.500	-3.177	29.987	26.810	-27.160	53.970	AVERAGE
3		2484.133	-3.175	30.530	27.355	-26.615	53.970	AVERAGE
4		2496.133	-3.140	28.111	24.971	-28.999	53.970	AVERAGE
5		2500.000	-3.135	27.092	23.957	-30.013	53.970	AVERAGE