FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment	:	**Notebook PC**
Trade Name	:	**MTC; GETAC**
Model No.	:	**B300**
FCC ID	:	**MAU301**
Filing Type	:	**Certification**
Applicant	:	**MiTAC Technology Corp.** 9th. FL., No.75, Ming Sheng E. Rd., Sec.3, Taipei, Taiwan

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- The data shown in this test report were carried out on Nov. 17, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR7O1819-02A, Report Version: Rev. 01.

Roy Wu
Manager

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

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History of this test report

Report Issue Date: Mar. 26, 2008

Report No.	Description
FR7O1819-02A	Update original Sporton Report No. FR7O1819-C issued on Nov. 28, 2007 for FCC ID change. In addition, add photographs of GSM module.

1. General Description of Equipment under Test

1.1 Applicant

MiTAC Technology Corp.
9th. FL., No.75, Ming Sheng E. Rd., Sec.3, Taipei, Taiwan

1.2 Manufacturer

GeTAC Technology(Kunshan) LTD.
No.269, 2nd Road, Export Processing Zone, Changjiang South Road, Kunshan, Jiangsu, P.R.C

1.3 Basic Description of Equipment under Test

Equipment		Notebook PC
Trade Name		MTC; GETAC
Model Name		B300
FCC ID		MAU301
AC Adapter	**Brand Name**	Delta
	Model Name	ADP-90SB BB
	Power Rating	I/P : 100-240Vac, 1.5A, 50-60Hz; O/P : 19Vdc, 4.74A
	AC Power Cord Type	1.73meter shielded with ferrite core
Battery	**Brand Name**	SAYNO
	Model Name	BP3S3P2550(P)
	Rating	10.8Vdc, 7.65Ah
	Type	Li-ion

Remark: Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.

1.4 Feature of Equipment under Test

Product Feature & Specification				
1. DUT Type	Notebook PC			
2. Trade Name	MTC; GETAC			
3. Model Name	B300			
4. FCC ID	MAU301			
5. Type of Modulation	WLAN : DSSS / OFDM Bluetooth : GFSK			
6. Number of Channels	802.11a : 8 (Band I and II) / 5 Channels (Band III) 802.11b/g : 11 Channels 802.11n : 36-48 Channels, 149-165 Channels Bluetooth : 79 Channels			
7. Frequency Band	802.11a : 5150 ~ 5350MHz (Band I,II) / 5725MHz ~ 5850MHz (Band III) 802.11b/g : 2400MHz ~ 2483.5MHz 802.11n : 5150 ~ 5350MHz (Band I,II) / 5725MHz ~ 5850MHz (Band III) Bluetooth : 2400MHz ~ 2483.5MHz			
8. Carrier Frequency of each channel	802.11a,11n Band I : 5000+n*5 MHz, n=36, 40, 44, 48 802.11a,11n Band II : 5000+n*5 MHz, n=52, 56, 60, 64 802.11a,11n Band III : 5000+n*5 MHz, n=149, 153, 157, 161, 165 802.11b/g : 2412MHz+(n-1)*5MHz, n=1~11 Bluetooth : 2402MHz+n*1MHz, n=0~78			
9. Channel Spacing	802.11a : 5 MHz 802.11b/g : 5 MHz Bluetooth : 1 MHz			
10. Maximum Output Power to Antenna (Normal Condition)	802.11b : 14.66 dBm 802.11g : 21.66 dBm 802.11a : 16.98 dBm (Band I) / 17.86 dBm (Band II) / 21.09 dBm (Band III) 802.11n (g) : 23.94 dBm 802.11n (a) : 16.77 dBm (Band I, BW 20M) 16.84 dBm (Band I, BW 40M) 19.55 dBm (Band II, BW 20M) 16.81 dBm (Band II, BW 40M) 24.83 dBm (Band III, BW 20M) 21.89 dBm (Band III, BW 40M) Bluetooth : -0.21 dBm			
11. HW Version :	R01			
12. Type of Antenna Connector	N/A			
13. Antenna Type	WLAN : PIFA Antenna Bluetooth : PIFA Antenna			
14. Antenna Gain	WLAN : 1.55 dBi Bluetooth : -1.09 dBi			
15. Function Type	Transmitter		Transceiver	V

1.5 Specification of Notebook

	Mode 1 (E100)	Mode 2 (E100N)
LCD	L5S30348P01, 13.1" XGA, ESPON	Sanyo Panel + Sunlight readable L5S30348P01, 13.3", EPSON,
CPU	L7300	L7500
ODD	SUPER MULIT DVD R9 DEVICE;UJ850UPK-AG,CS F/W:1.6,W/O BEZEL,KME	
HDD	MHY2080BH,2.5",80GB,5400RPM,SATA, FUJITSU	MHY2120BH,2.5",120GB,5400RPM,SATA,FUJITSU
Memory	1GB,HYS64T128021EDL-3S-B2,QIMONDA	HYMP512S64CP8-Y5,DDR2 667 1G,HYNIX (x 2)
Battery	BP3S3P2550(P) LI-ION,10.8V/7.65AH,BQ20z90,PAN,9CELLS,3S3P	
ADP	Delta ADP-90SB BB	Delta ADP-90SB BB
MDC	RD02-D330,AZALIA,BILLIONTON	
WLAN	Intel wireless 4965 802.11a/g/n (MOW1)	Intel wireless 4965 802.11a/g/n (MOW2)
Bluetooth	Billionton GUBTCR42M	
GPS	ET313,GPS ENGINE BOARD,GLOBALSAT,GPI	

2. Test Configuration of Equipment under Test

2.1 Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

b. The highest RF output power's test modes were chosen for testing .

2.2 Test Mode

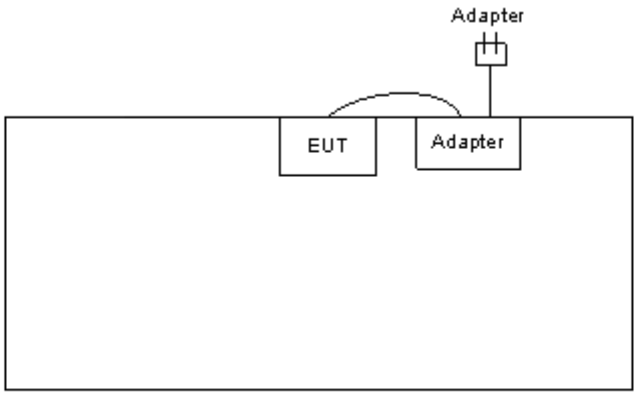
Application	
Radiated Emission / RF Conducted	**BT**
	Mode 1:CH00_2402MHz Mode 2:CH39_2441MHz Mode 3:CH78_2480MHz
	Co-location
	Mode 4 : 802.11n(a) (BW 20M) Tx_Ch165 + BT Tx_Ch78
Conducted Emission	Mode 1: BT Link + WLAN Link + Adapter

2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A	N/A

2.4 Connection Diagram of Test System

<Radiated Emission>



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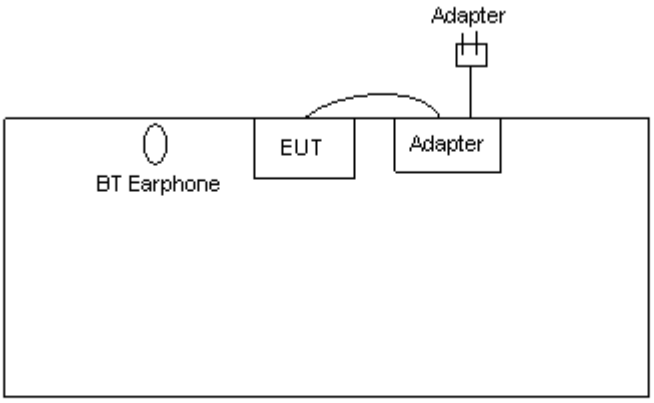


3. RF Utility

The programmed RF Utility is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing.

4. General Information of Test

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-328-4978
Test Site No	:	CO04-HY, 03CH04-HY

4.1 Test Voltage

AC 120V / 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test Compliance

47 CFR Part 15 Subpart C

4.4 Frequency Range

a. Conduction: from 150 kHz to 30 MHz
b. Radiation: from 30 MHz to 25000 MHz

4.5 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.

5. Test Data and Test Result

5.1 List of Measurements and Examinations

The Emission Mode: Bluetooth

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a) (1)	Hopping Channel Bandwidth	Pass
15.247(a)(1)	Hopping Channel Separation	Pass
15.247(a)(1)(iii)	Number of Hopping Frequency Used	Pass
15.247(a)(1)(iii)	Dwell Time of Each Frequency	Pass
15.247(b)	Output Power	Pass
15.247(c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.209(a)	Radiated Emission	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

5.2 Band Edges Measurement

5.2.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.2.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

5.2.3 Test Result：

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Engineer : Ken

- Test Result in BT lower band : PASS
- Test Result in BT higher band : PASS

5.2.4 Note on Band Edge Emission：

➢ **BT**

CH00 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.000	44.31	-29.69	74.00	41.81	32.54	3.74	33.78	100	0	Peak
2390.000	33.50	-20.50	54.00	31.00	32.54	3.74	33.78	100	312	Average

CH00 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.000	44.74	-29.26	74.00	42.24	32.54	3.74	33.78	100	0	Peak
2390.000	33.08	-20.92	54.00	30.58	32.54	3.74	33.78	131	247	Average

CH78 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.500	57.51	-16.49	74.00	54.88	32.59	3.84	33.80	100	0	Peak
2483.500	48.29	-5.71	54.00	45.66	32.59	3.84	33.80	144	196	Average

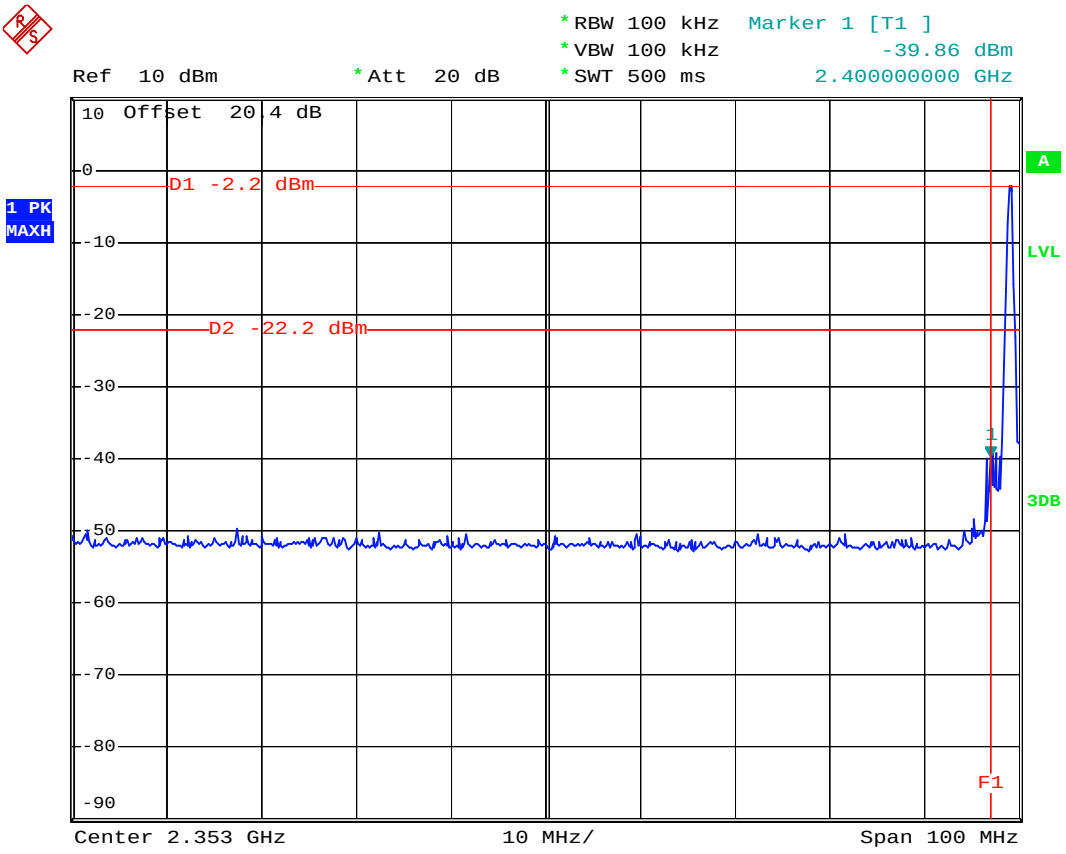
CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.500	59.88	-14.12	74.00	57.25	32.59	3.84	33.80	100	0	Peak
2483.500	50.14	-3.86	54.00	47.51	32.59	3.84	33.80	144	150	Average

5.2.5 Band Edge

BT

CH00



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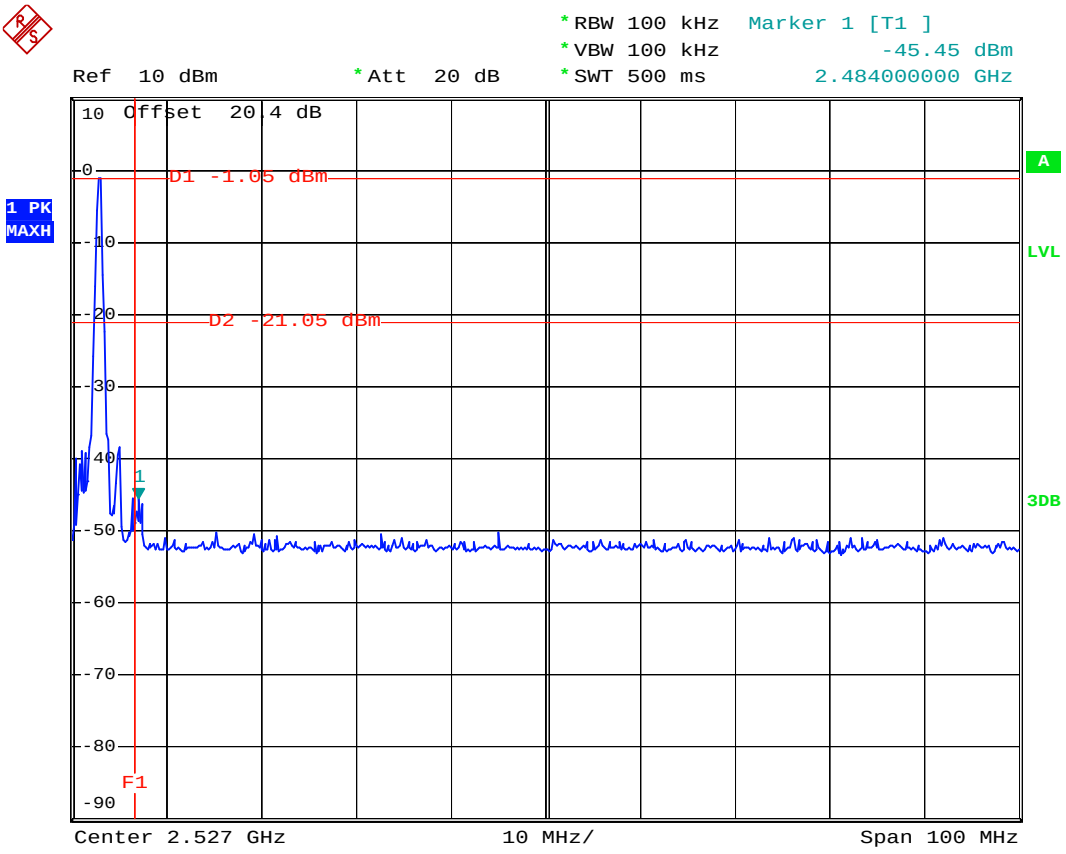
BT

CH78



Date: 9.NOV.2007 17:51:56

5.3 Hopping Channel Separation

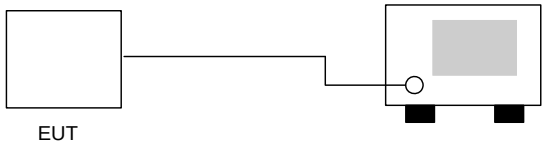
5.3.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.3.2 Test Procedure：

1. The output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to ≧1% of the span and VBW ≧ RBW.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.3.3 Test Setup Layout：



5.3.4 Test Result：The spectrum analyzer plots are attached as below

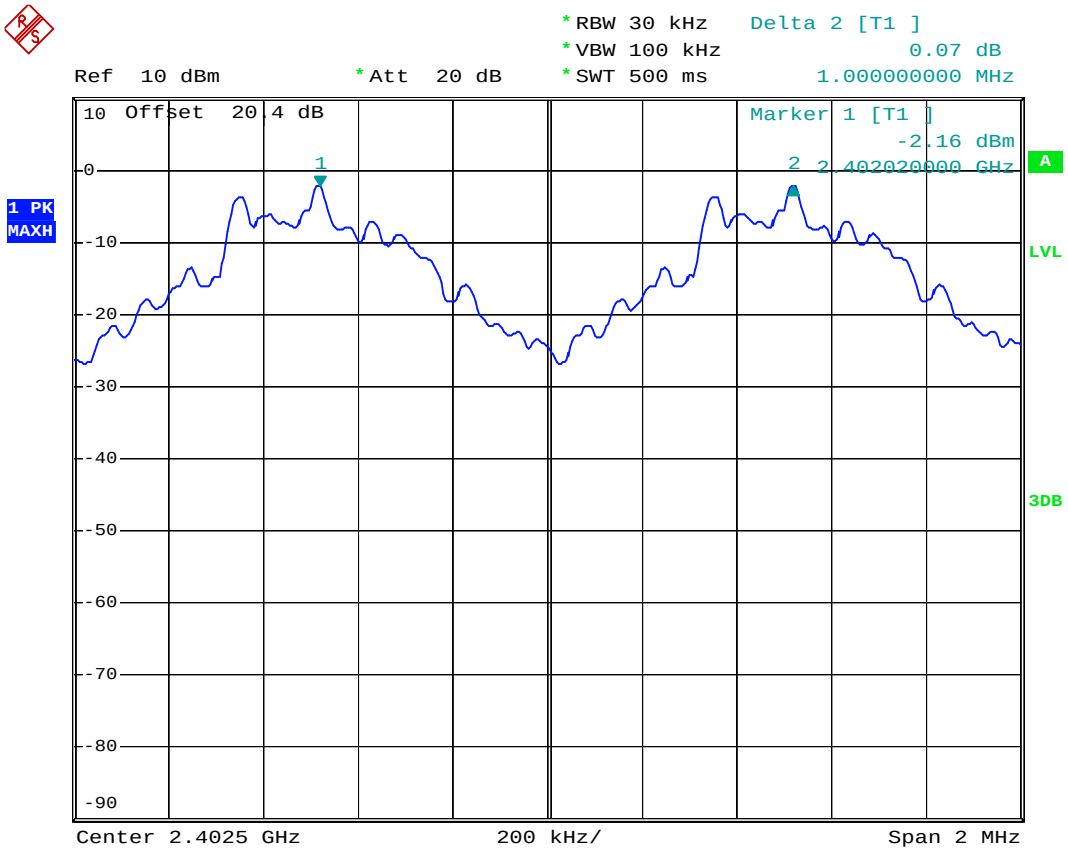
- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.546	Mode 1
39	2441	1.004	0.548	Mode 2
78	2480	1.004	0.556	Mode 3

Note: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth. Refer the result of 20dB bandwidth to section 5.7.

5.3.5 Hopping Channel Seperation

Mode 1



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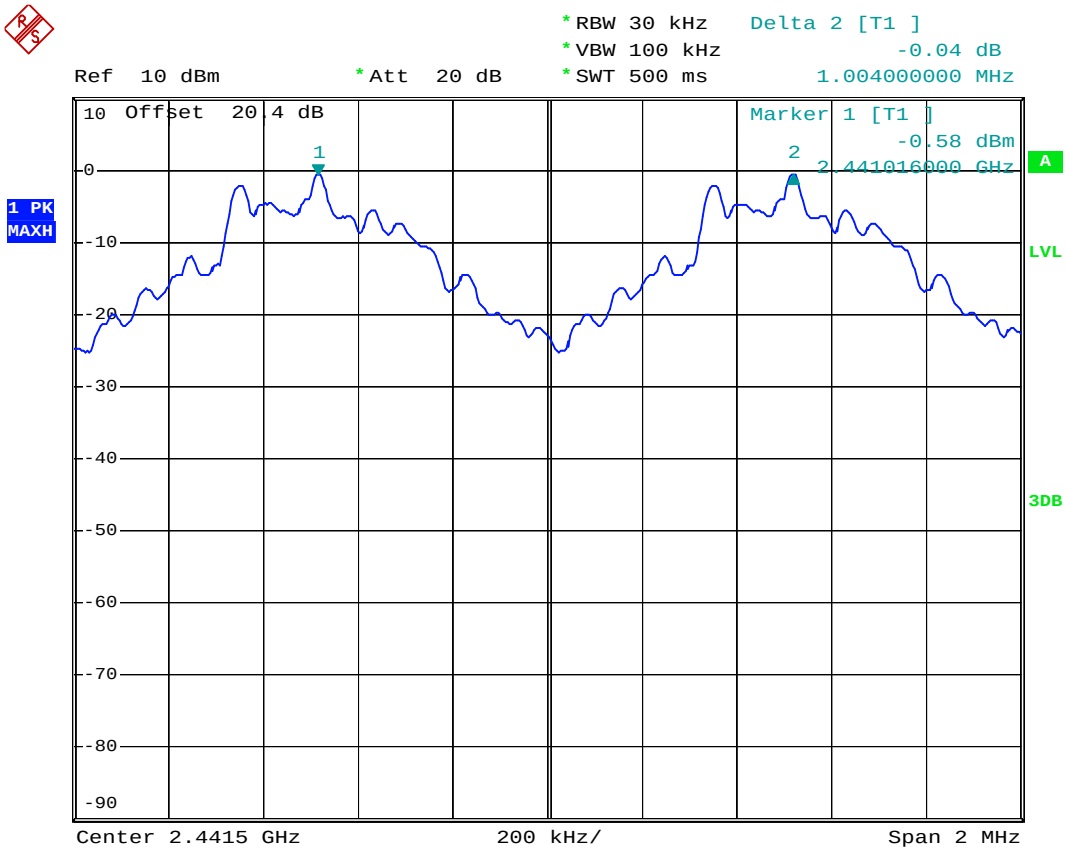
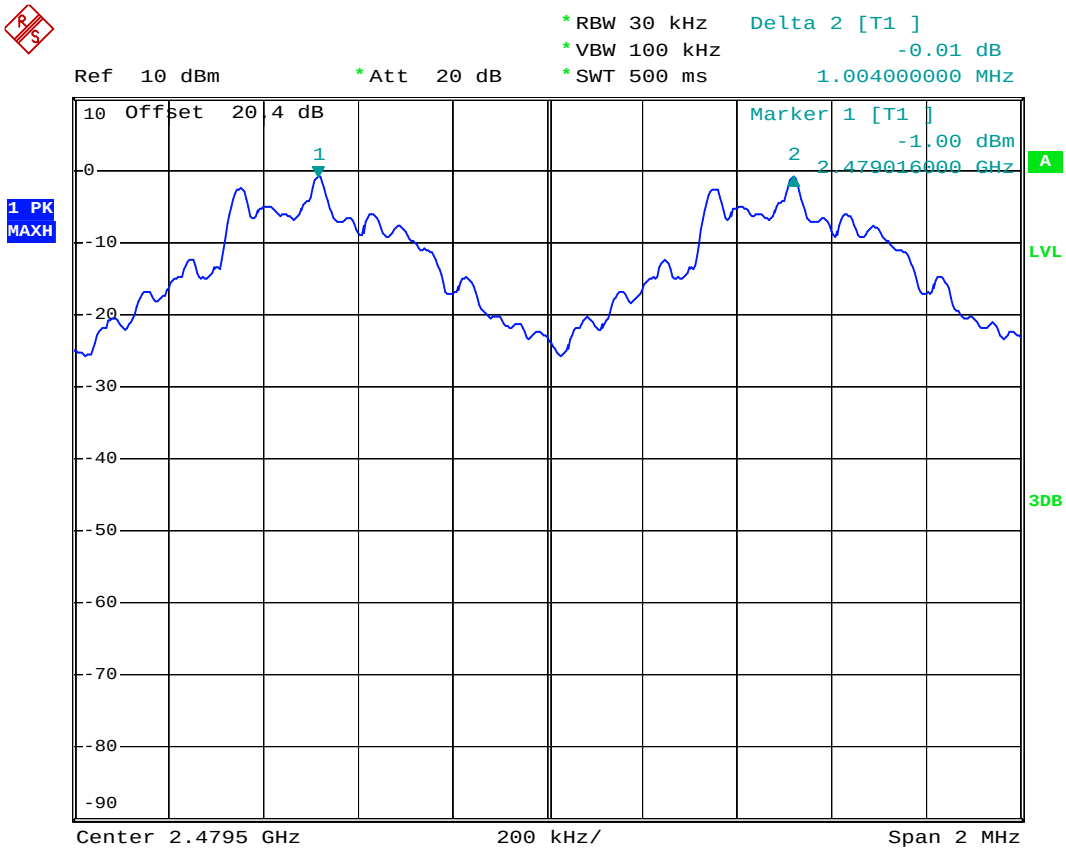
Mode 2



Date: 9.NOV.2007 17:56:39

Mode 3



Date: 9.NOV.2007 17:58:33

5.4 Number of Hopping Frequency

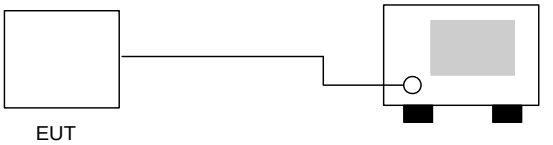
5.4.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.4.2 Test Procedure：

1. The output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The number of hopping frequency used is defined as the device has the numbers of total channel.

5.4.3 Test Setup Layout：



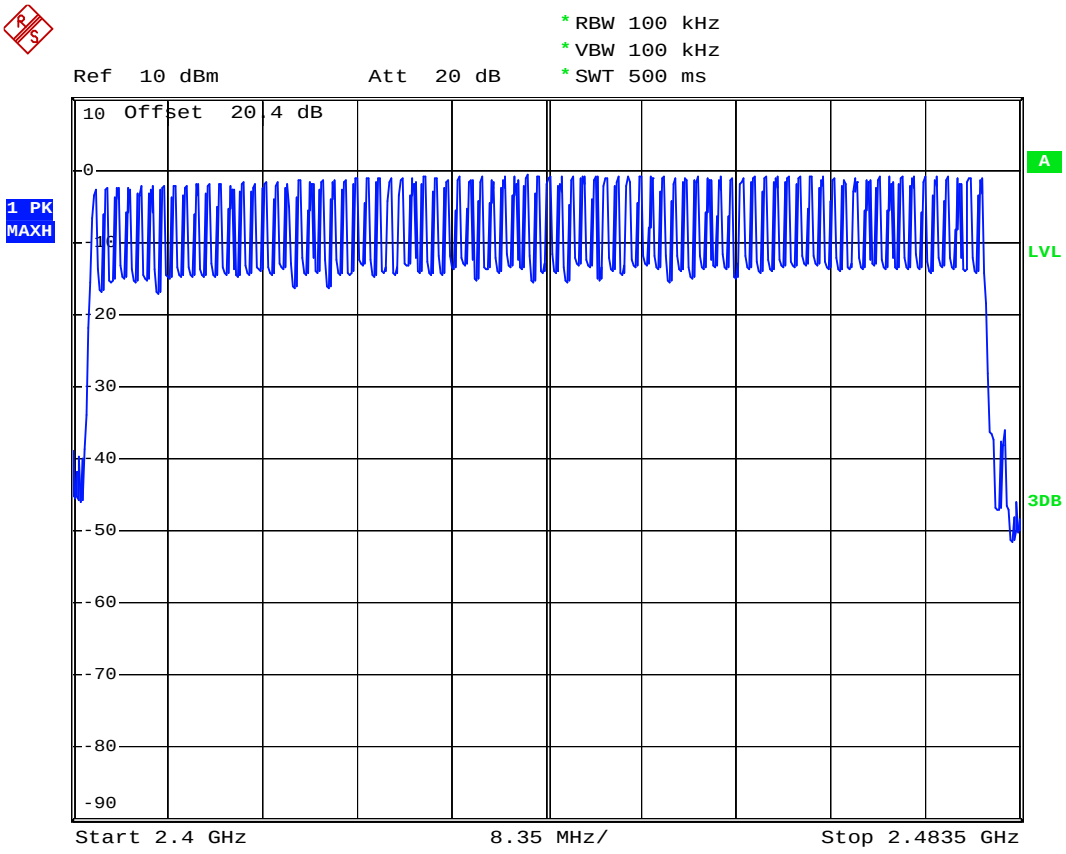
5.4.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken

Number of Hopping Frequency (Channel)	Limits (Channel)
79	15

5.4.5 Number of Hopping Frequency

BT



Date: 9.NOV.2007 19:58:08

5.5 Hopping Channel Bandwidth

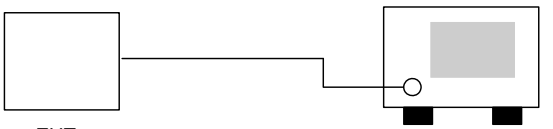
5.5.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.5.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.
3. The Hopping Channel bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

5.5.3 Test Setup Layout：



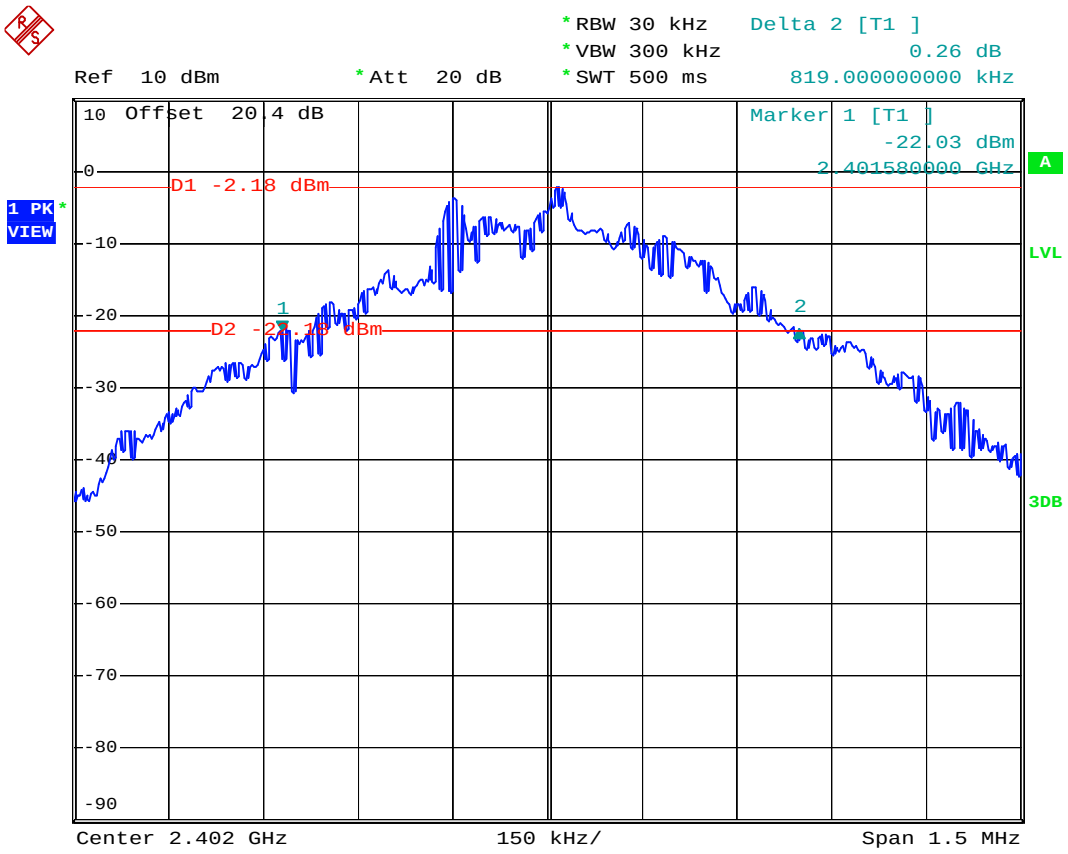
5.5.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken

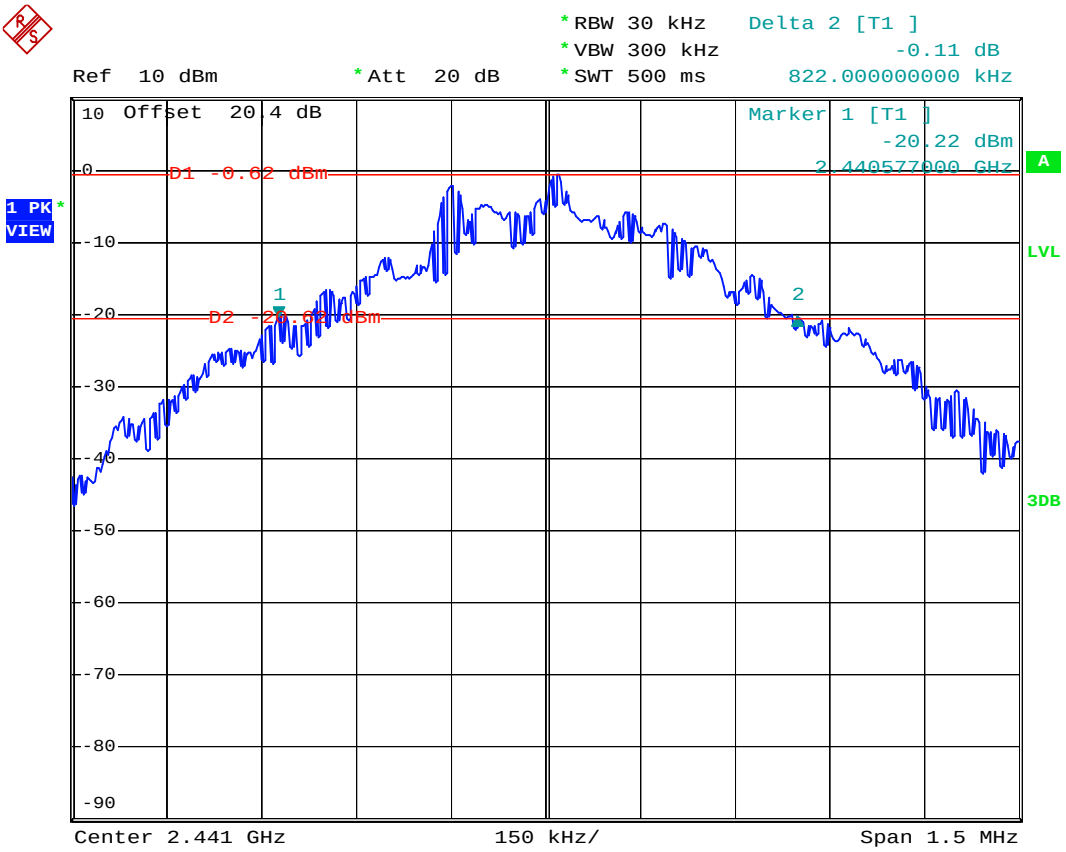
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.819	Mode 1
39	2441	0.822	Mode 2
78	2480	0.834	Mode 3

5.5.5 Hopping Channel Bandwidth

Mode 1



Mode 2



Date: 9.NOV.2007 17:38:19

Mode 3

Date: 9.NOV.2007 20:01:12

5.6 Dwell Time of Each Frequency

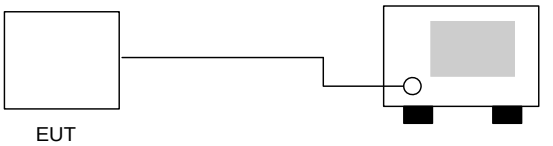
5.6.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.6.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
4. The calculate equals 79 * 0.4 * (1600/79) * t (t = the time duration of one single pulse)

5.6.3 Test Setup Layout：



5.6.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken

CH39

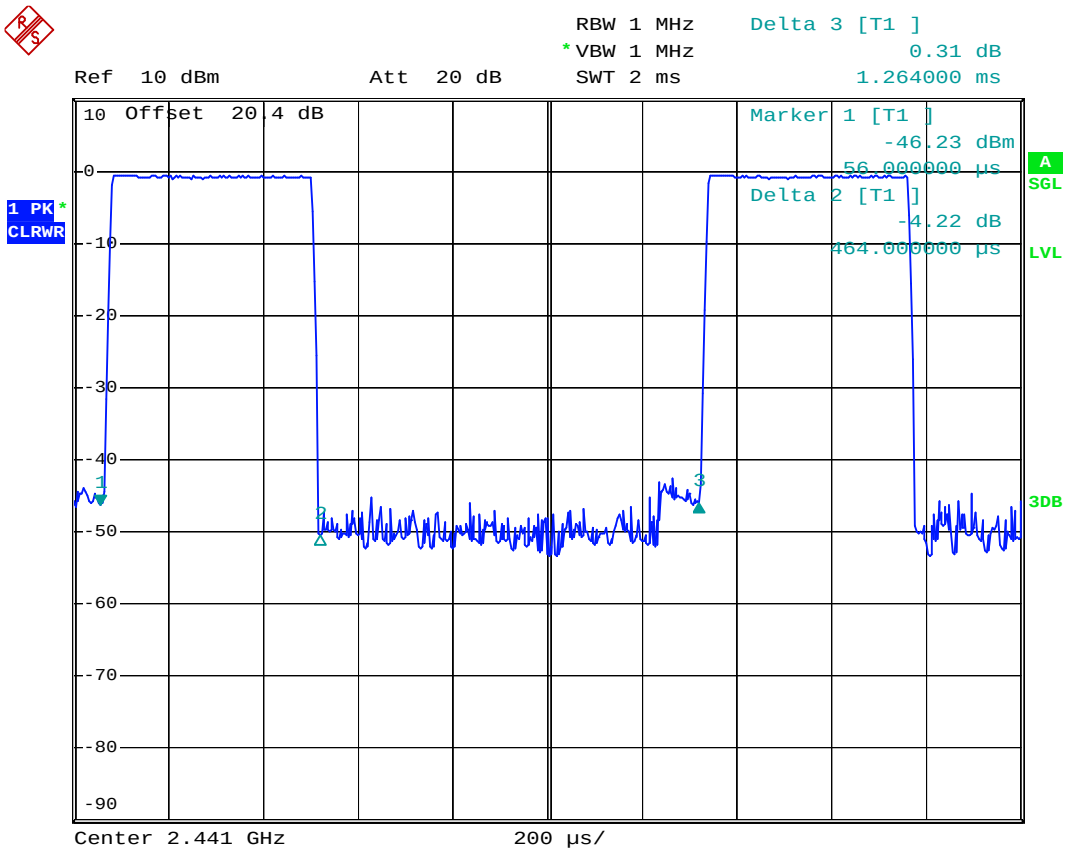
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	10	464	0.147	0.4
DH3	5	1730	0.273	0.4
DH5	3.4	3020	0.324	0.4

※ Remark:

1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.6.5 Dwell Time

BT_DH1 (CH39)



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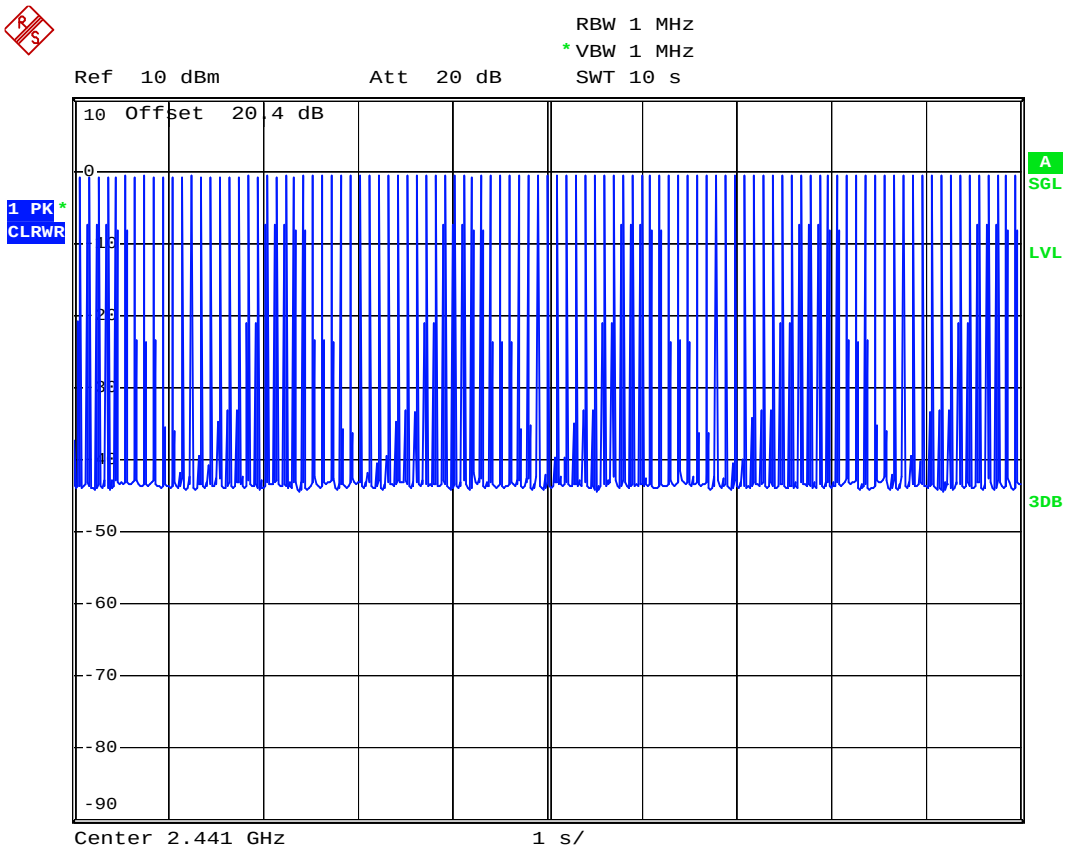

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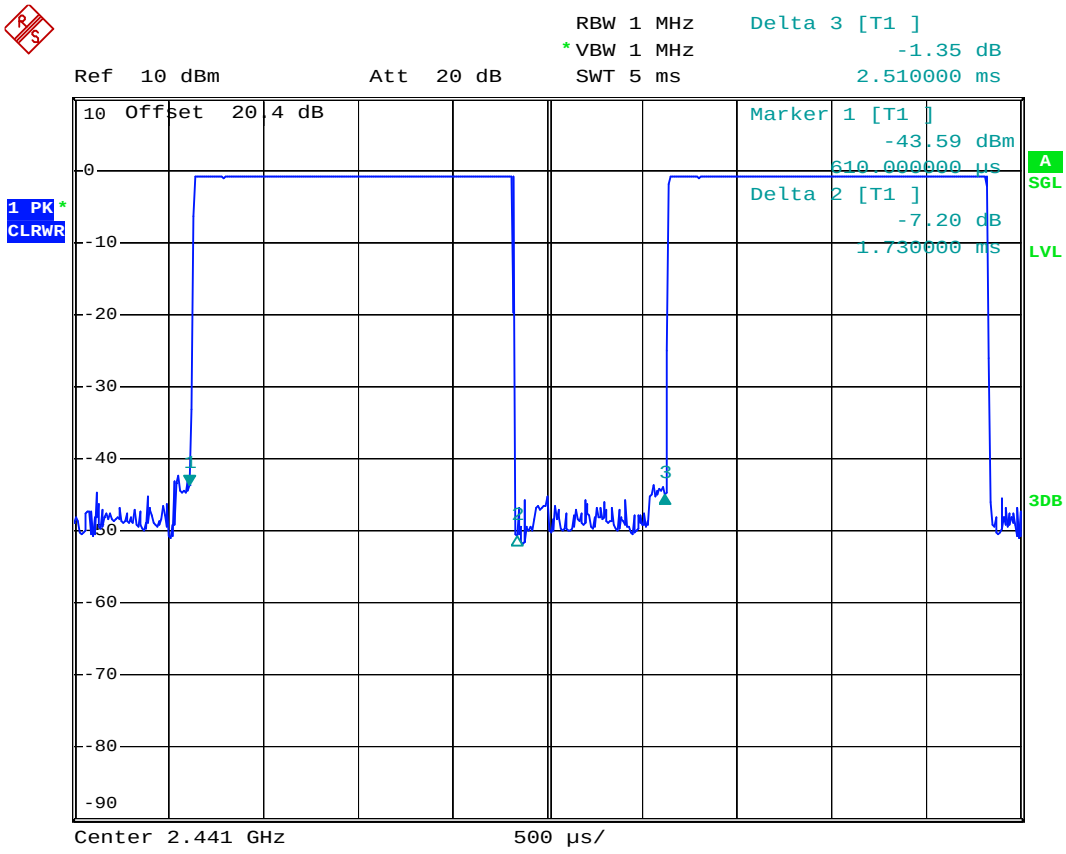
BT_DH3 (CH39)



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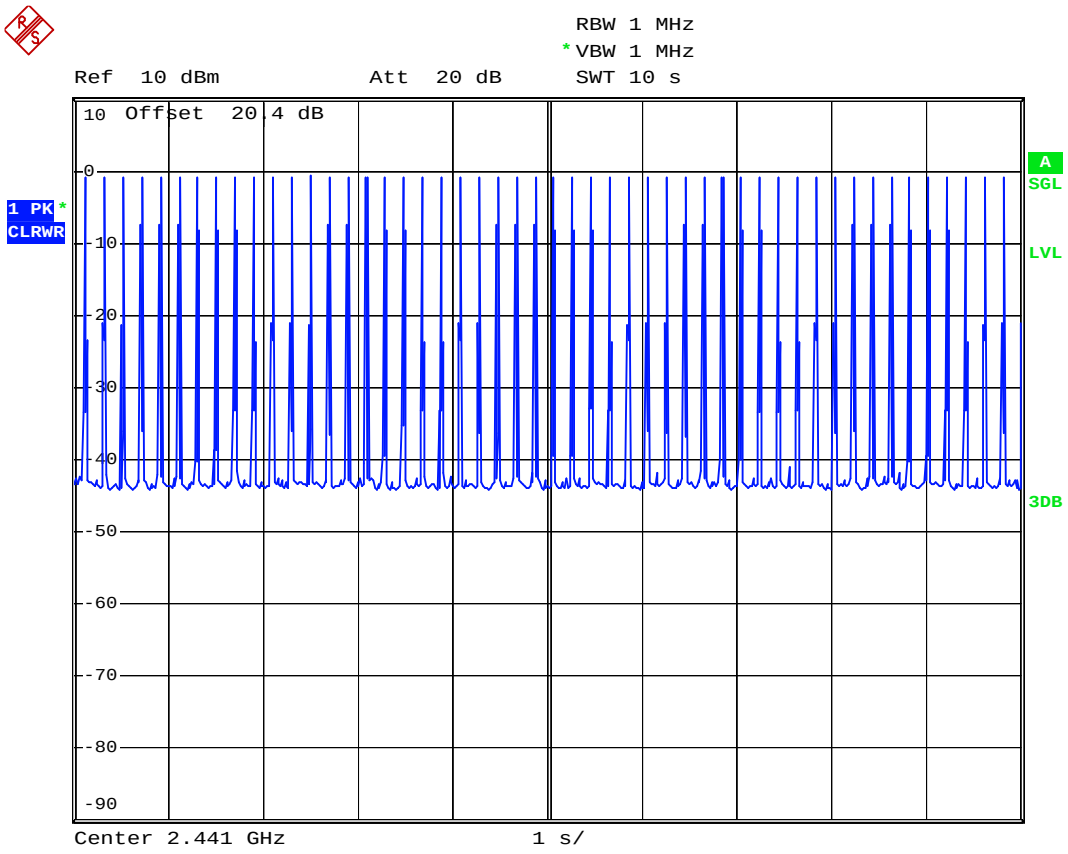

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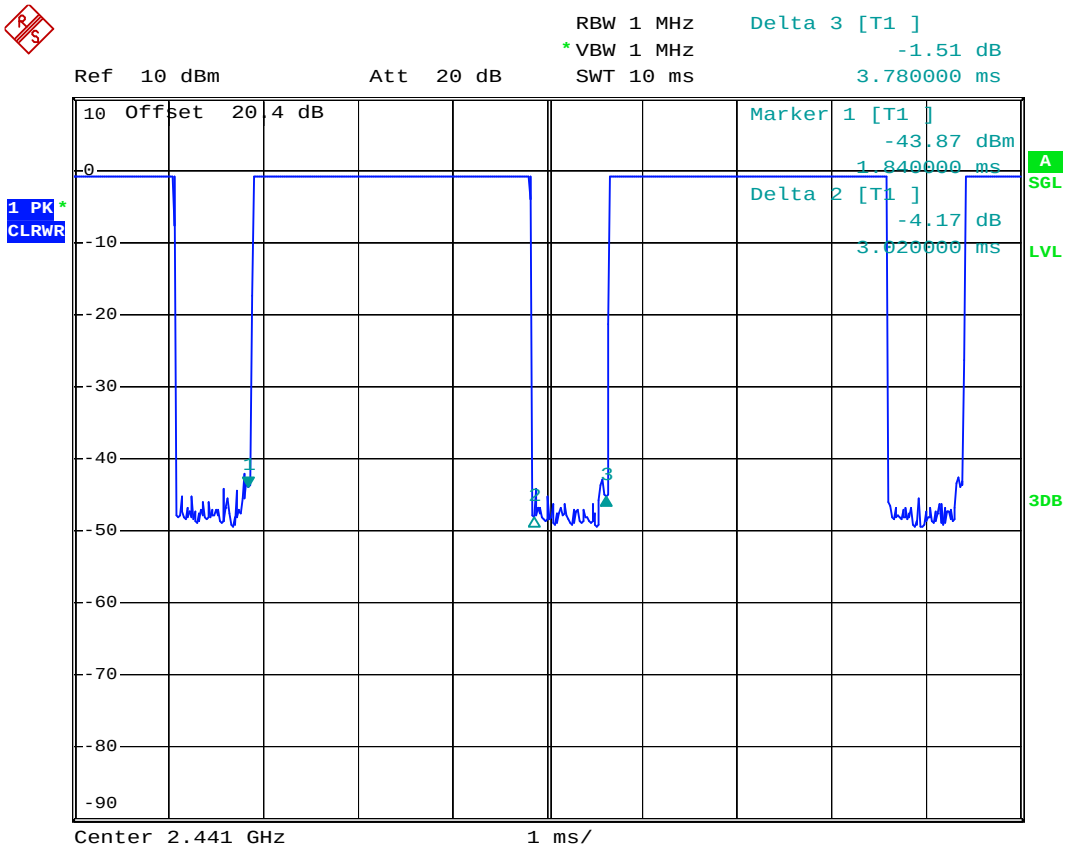
BT_DH5 (CH39)



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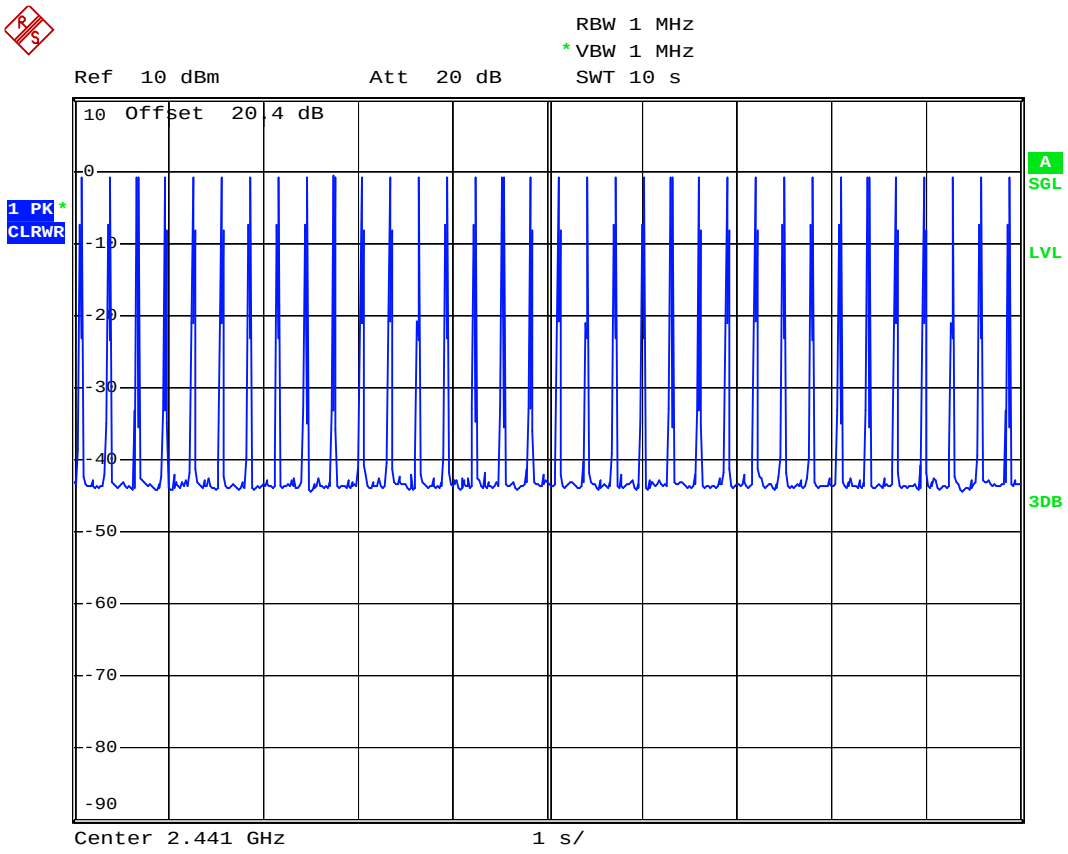


Date: 9.NOV.2007 19:49:48

5.7 Peak Output Power Measurement

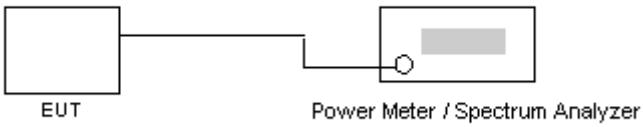
5.7.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.7.2 Test Procedure：

1. The antenna port（RF output） of the EUT was connected to the input（RF input）of a power meter for WLAN measurement. The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.
2. The antenna port(RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. The cable loss has been offset before testing.

5.7.3 Test Setup Layout：



5.7.4 Test Result：

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken

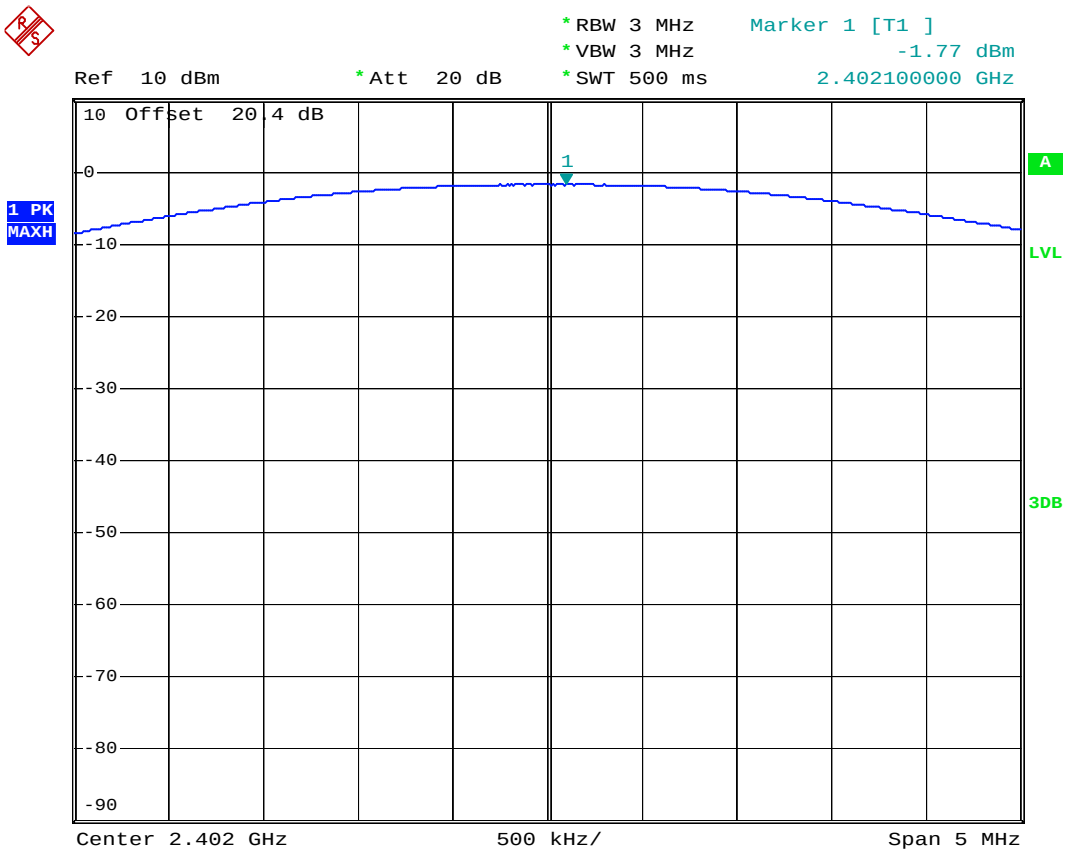
BT

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	-1.77	1W/30 dBm
39	2441	-0.21	1W/30 dBm
78	2480	-0.69	1W/30 dBm

5.7.5 Output Power

BT

Mode : CH00 (2402MHz)



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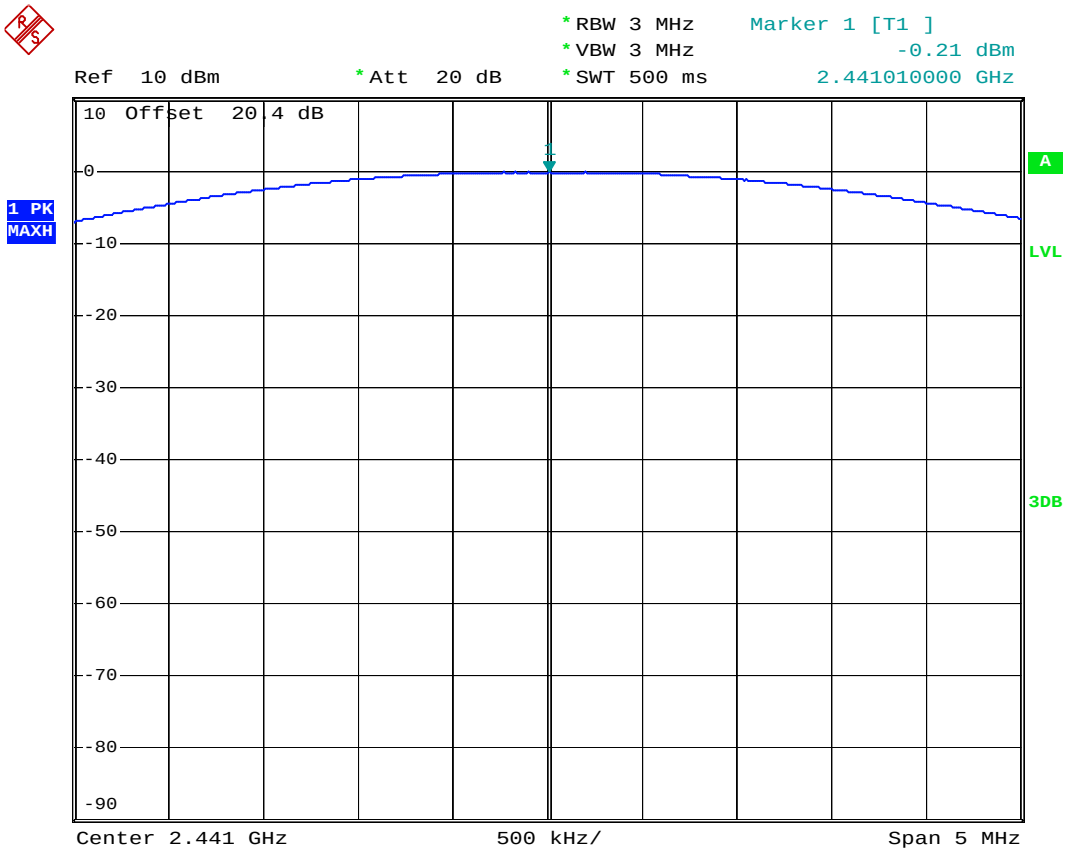
BT

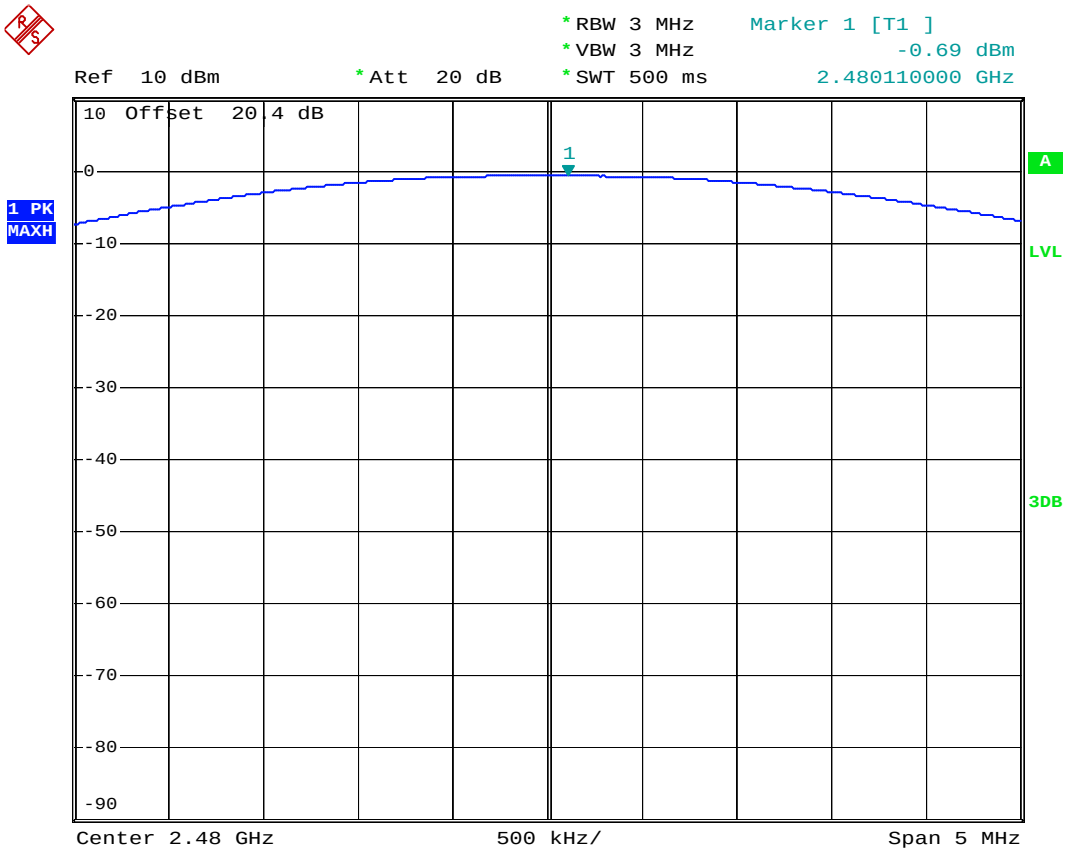
Mode : CH39 (2441MHz)



Date: 9.NOV.2007 17:30:10

BT

Mode : CH78 (2480MHz)



Date: 9.NOV.2007 17:32:45

5.8 Conducted Emission

5.8.1 Measuring Instruments

As describ ed in chapter 6 of this test Report.

The receiver setting :

150 KHz ~ 30 MHz	Detector : Quasi – Peak and Average Bandwidth : 9 KHz

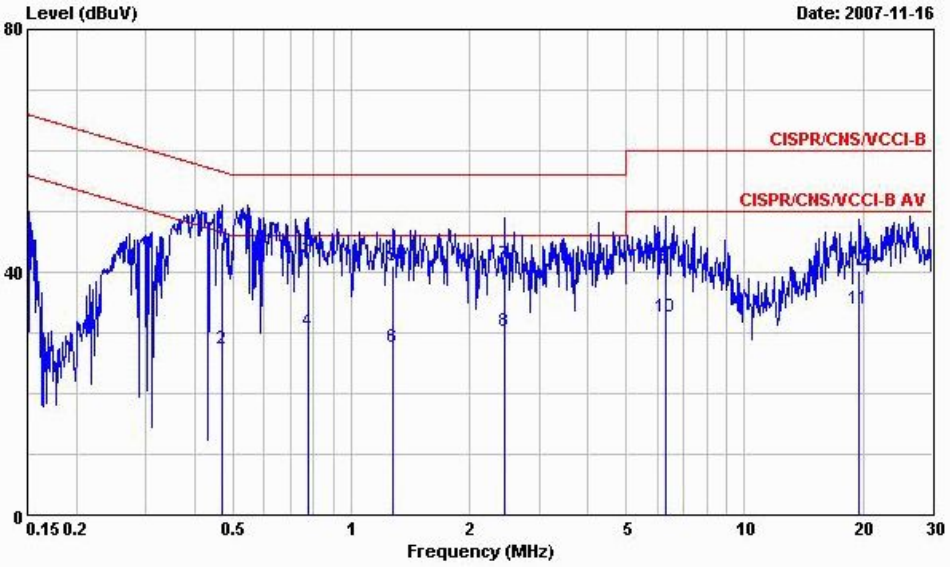
5.8.2 Test Procedures：

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power port of a line impedance stabilization network (LISN).
c. All the support units are connected to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

5.8.3 Test Data

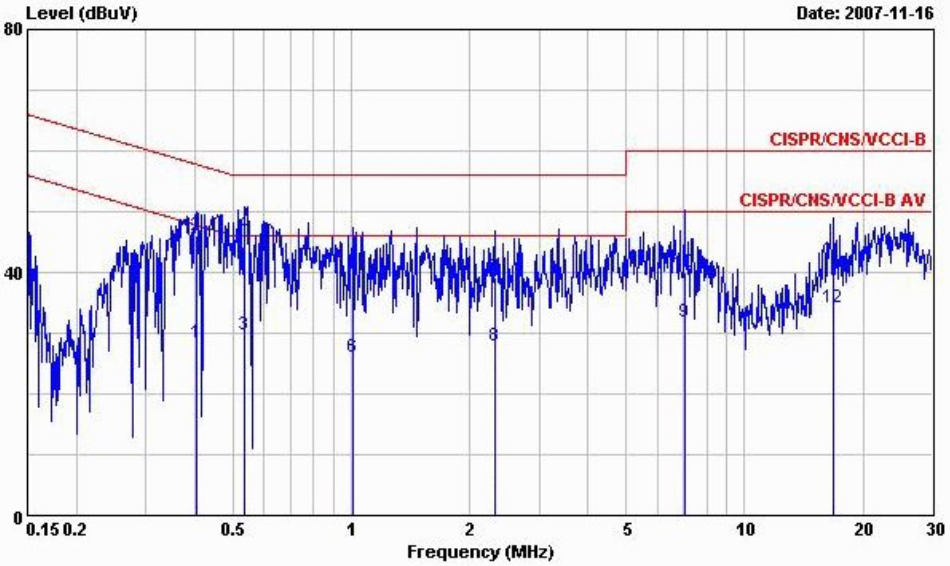
- Temperature : 25~26℃
- Relative Humidity : 49~51%
- Test Enginner : Ken
- Test Mode : Mode 1

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : N/B
POWER: 120V/60Hz
Model : FR7O1819
Memo : WLAN Link+BT Link+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.4686110	45.06	-11.48	56.54	44.28	0.10	0.68	QP
2	@0.4686110	27.40	-19.14	46.54	26.62	0.10	0.68	Average
3	@0.7751940	43.30	-12.70	56.00	42.68	0.10	0.52	QP
4	@0.7751940	30.23	-15.77	46.00	29.61	0.10	0.52	Average
5	@ 1.280	41.04	-14.96	56.00	40.50	0.10	0.44	QP
6	@ 1.280	27.56	-18.44	46.00	27.02	0.10	0.44	Average
7	@ 2.460	41.28	-14.72	56.00	40.78	0.10	0.40	QP
8	@ 2.460	30.33	-15.67	46.00	29.83	0.10	0.40	Average
9	@ 6.290	41.15	-18.85	60.00	40.73	0.15	0.27	QP
10	@ 6.290	32.76	-17.24	50.00	32.34	0.15	0.27	Average
11	@ 19.530	33.87	-16.13	50.00	33.59	0.23	0.05	Average
12	@ 19.530	40.17	-19.83	60.00	39.89	0.23	0.05	QP



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : N/B
POWER: 120V/60Hz
Model : FR7O1819
Memo : WLAN Link+BT Link+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.4040020	28.40	-19.37	47.77	27.57	0.10	0.73	Average
2	@0.4040020	46.07	-11.70	57.77	45.24	0.10	0.73	QP
3	@0.5349810	29.63	-16.37	46.00	28.89	0.10	0.64	Average
4	@0.5349810	46.41	-9.59	56.00	45.67	0.10	0.64	QP
5	@ 1.010	40.07	-15.93	56.00	39.53	0.10	0.44	QP
6	@ 1.010	26.15	-19.85	46.00	25.61	0.10	0.44	Average
7	@ 2.310	39.29	-16.71	56.00	38.76	0.12	0.41	QP
8	@ 2.310	28.02	-17.98	46.00	27.49	0.12	0.41	Average
9	@ 7.020	31.84	-18.16	50.00	31.32	0.26	0.26	Average
10	@ 7.020	40.10	-19.90	60.00	39.58	0.26	0.26	QP
11	@ 16.840	41.99	-18.01	60.00	41.59	0.30	0.10	QP
12	@ 16.840	34.32	-15.68	50.00	33.92	0.30	0.10	Average

5.9 Radiated Emission Measurement

5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

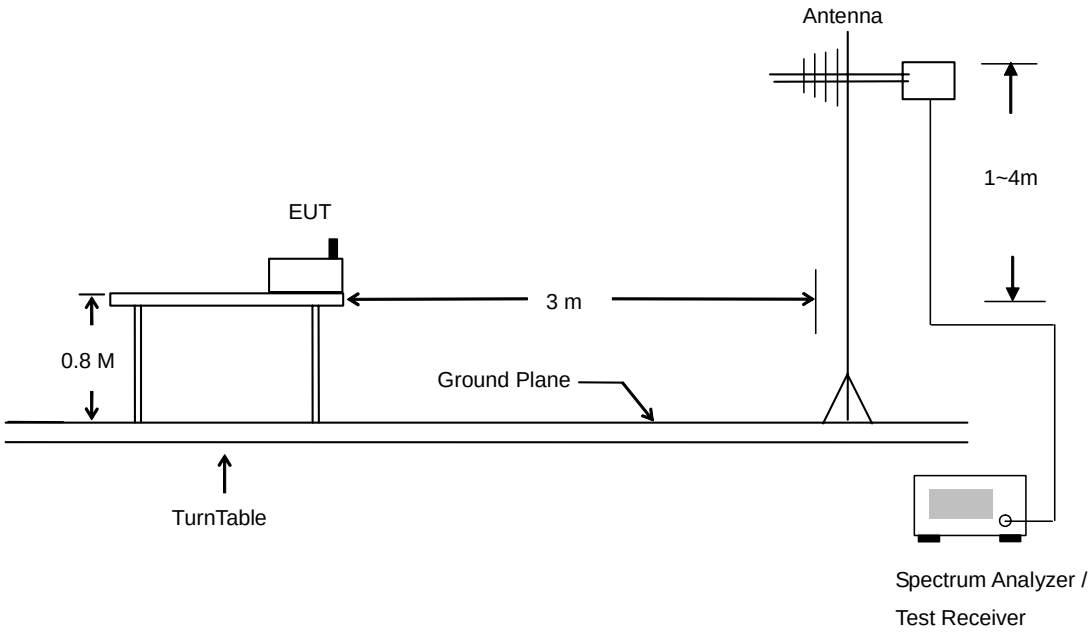
The spectrum analyzer setting :

30 ~ 1000 MHz	Detector : Quasi – Peak Bandwidth : 120 KHz
1 ~ 25 GHz	Detector : Peak and Average Bandwidth : 1 MHz

5.9.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
e. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

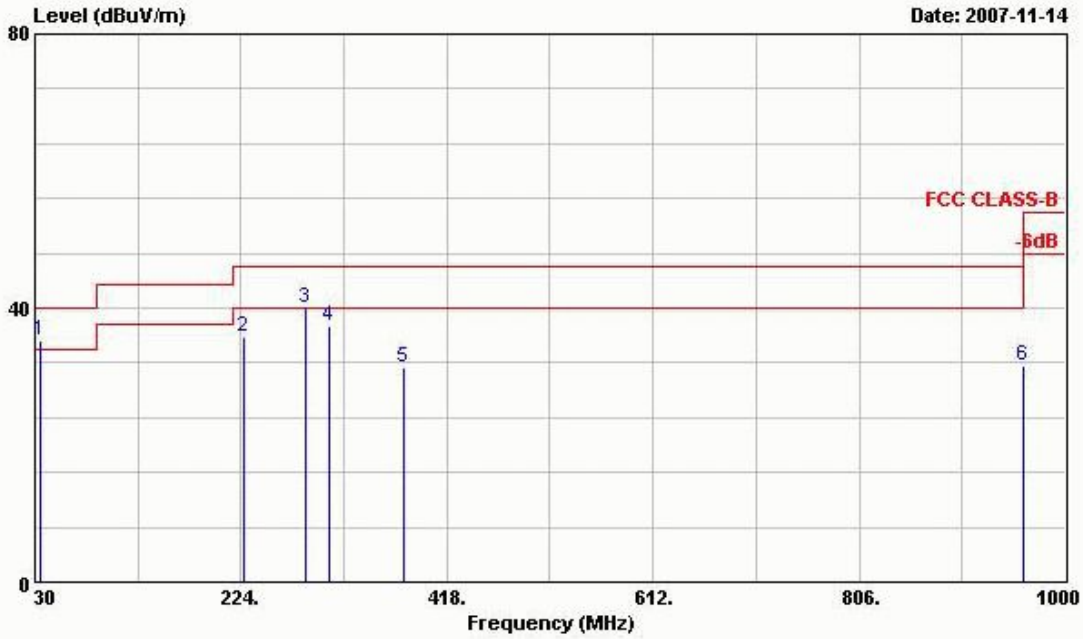
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

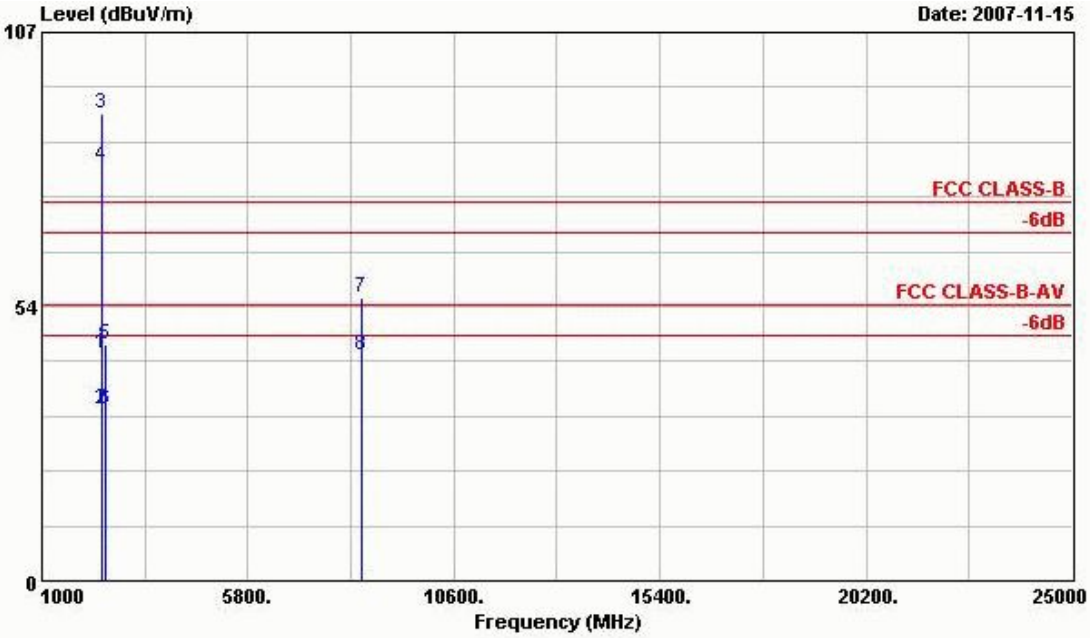
- Temperature : 25~26℃
- Relating Humidity : 49~51%
- Test Enginner : Derek
- Test Mode : Mode 1
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 7O1819
MEMO : Bluetooth Tx_Ch00;2402MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 !	35.130	35.39	-4.61	40.00	46.45	16.29	0.91	28.26	100	157	Peak
2	226.020	35.82	-10.18	46.00	50.88	10.72	1.97	27.75	---	---	Peak
3 !	284.340	40.06	-5.94	46.00	53.12	12.39	2.18	27.63	---	---	Peak
4	307.000	37.33	-8.67	46.00	50.14	12.58	2.26	27.65	---	---	Peak
5	377.000	31.24	-14.76	46.00	41.90	14.98	2.49	28.14	---	---	Peak
6	960.100	31.71	-22.29	54.00	31.37	25.04	3.99	28.68	---	---	Peak



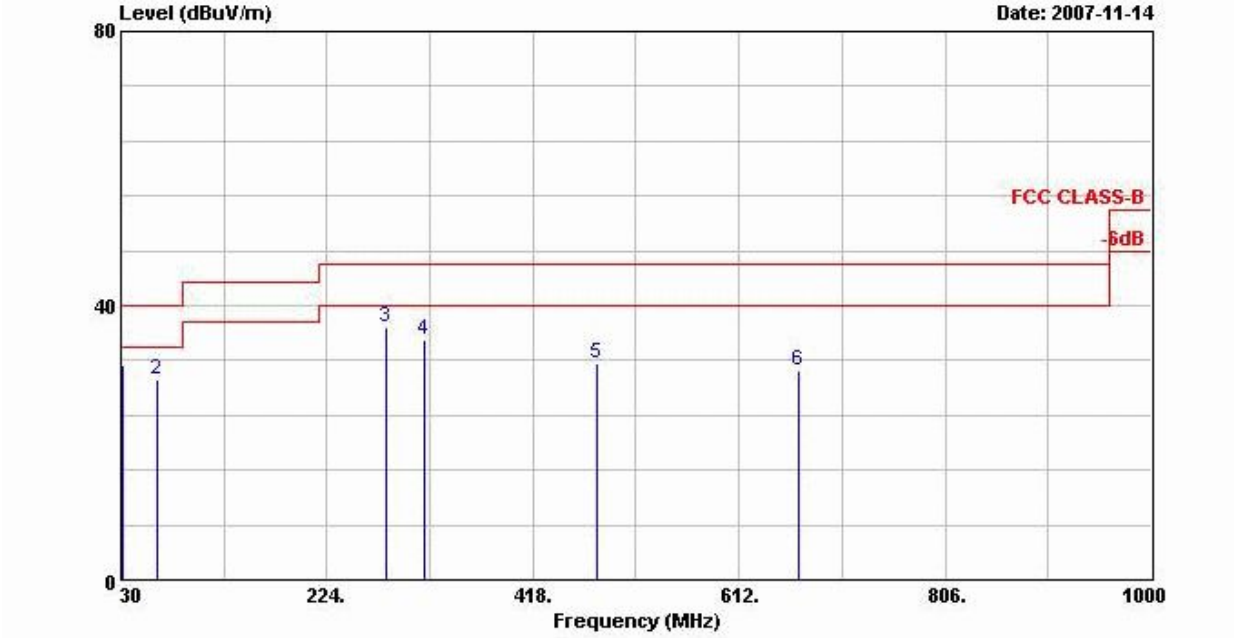
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 HORIZONTAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch00;2402MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	44.31	-29.69	74.00	41.81	32.54	3.74	33.78	100	0	Peak
2	2390.000	33.50	-20.50	54.00	31.00	32.54	3.74	33.78	100	312	Average
3 X	2402.000	91.23			88.73	32.54	3.74	33.78	100	0	Peak
4 X	2402.000	81.11			78.61	32.54	3.74	33.78	100	312	Average
5	2500.000	46.20	-27.80	74.00	43.56	32.60	3.84	33.80	100	0	Peak
6	2500.000	33.30	-20.70	54.00	30.66	32.60	3.84	33.80	100	312	Average
7	8469.000	55.38	-18.62	74.00	45.29	37.45	7.00	34.36	100	0	Peak
8	8469.000	44.10	-9.90	54.00	34.01	37.45	7.00	34.36	100	252	Average

Remark: #3 and #4 Fundamental Signal

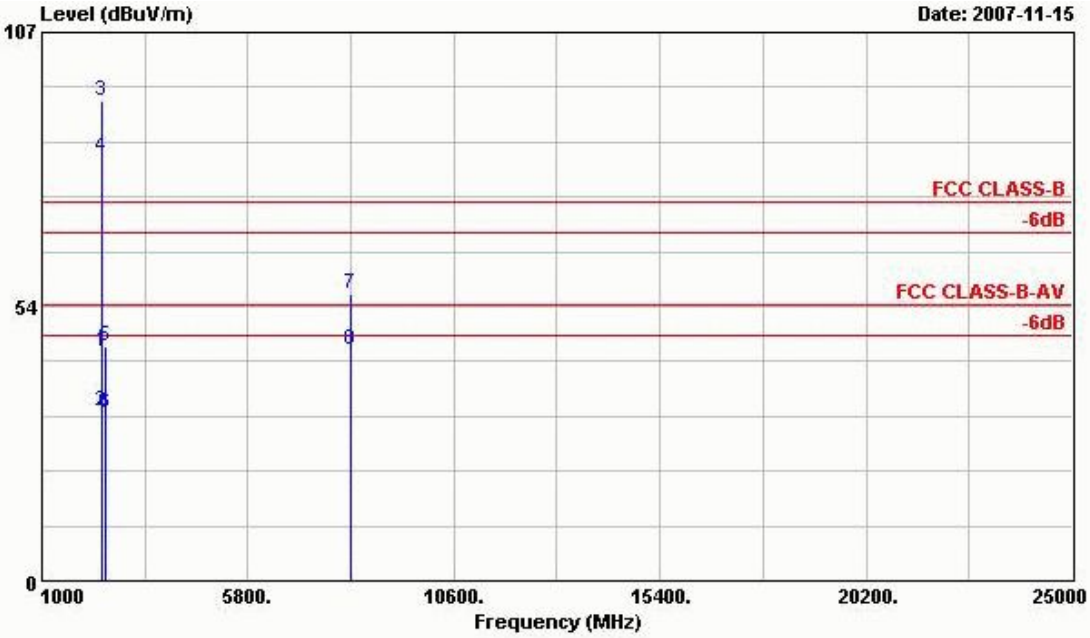
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 701819
MEMO : Bluetooth Tx_Ch00;2402MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	31.080	31.26	-8.74	40.00	42.27	16.36	0.88	28.25	100	58	Peak
2	64.020	29.21	-10.79	40.00	52.05	4.29	1.14	28.27	---	---	Peak
3	280.020	36.87	-9.13	46.00	49.93	12.41	2.17	27.64	---	---	Peak
4	315.400	34.97	-11.03	46.00	47.54	12.84	2.29	27.70	---	---	Peak
5	478.500	31.61	-14.39	46.00	41.03	16.65	2.77	28.85	---	---	Peak
6	668.200	30.63	-15.37	46.00	36.22	20.06	3.45	29.10	---	---	Peak



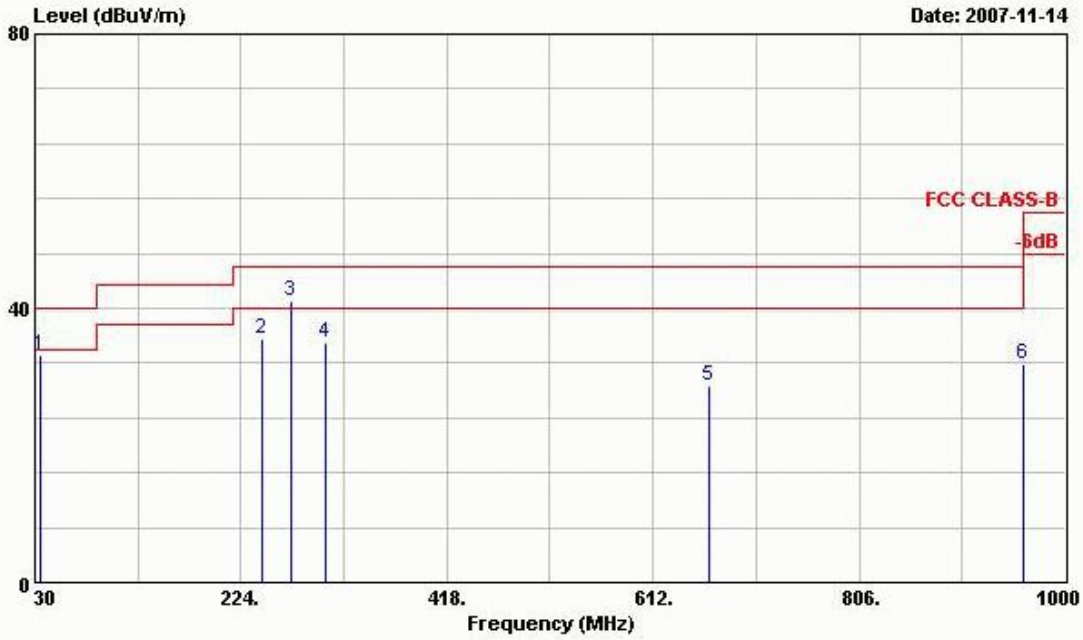
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 VERTICAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch00;2402MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	44.74	-29.26	74.00	42.24	32.54	3.74	33.78	100	0	Peak
2	2390.000	33.08	-20.92	54.00	30.58	32.54	3.74	33.78	131	247	Average
3 X	2402.000	93.47			90.97	32.54	3.74	33.78	100	0	Peak
4 @	2402.000	82.86			80.36	32.54	3.74	33.78	131	247	Average
5	2486.000	45.77	-28.23	74.00	43.13	32.60	3.84	33.80	100	0	Peak
6	2486.000	32.75	-21.25	54.00	30.11	32.60	3.84	33.80	131	247	Average
7	8214.000	55.93	-18.07	74.00	45.91	37.09	6.87	33.94	100	0	Peak
8	8214.000	45.12	-8.88	54.00	35.10	37.09	6.87	33.94	100	110	Average

Remark: #3 and #4 Fundamental Signal

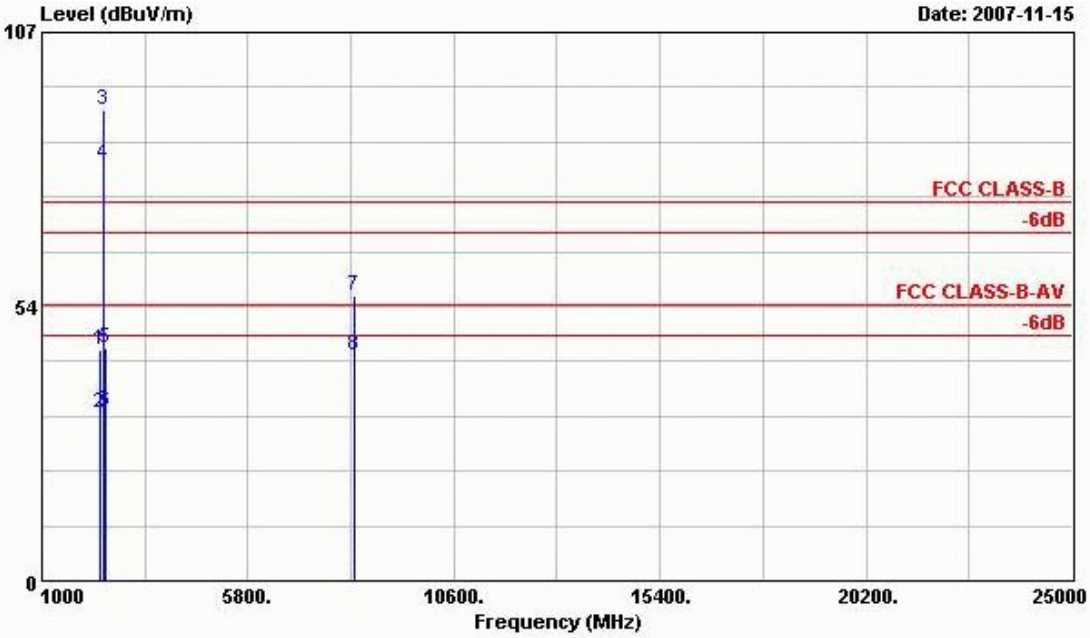
- Test Mode : Mode 2
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 7O1819
MEMO : Bluetooth Tx_Ch39;2441MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.940	33.28	-6.72	40.00	45.22	15.40	0.93	28.27	---	---	Peak
2	243.300	35.54	-10.46	46.00	49.17	12.05	2.03	27.71	---	---	Peak
3 !	271.650	40.93	-5.07	46.00	53.99	12.46	2.13	27.66	100	254	Peak
4	304.200	35.01	-10.99	46.00	47.91	12.48	2.25	27.63	---	---	Peak
5	665.400	28.77	-17.23	46.00	34.37	20.06	3.45	29.10	---	---	Peak
6	960.100	31.90	-22.10	54.00	31.56	25.04	3.99	28.68	---	---	Peak



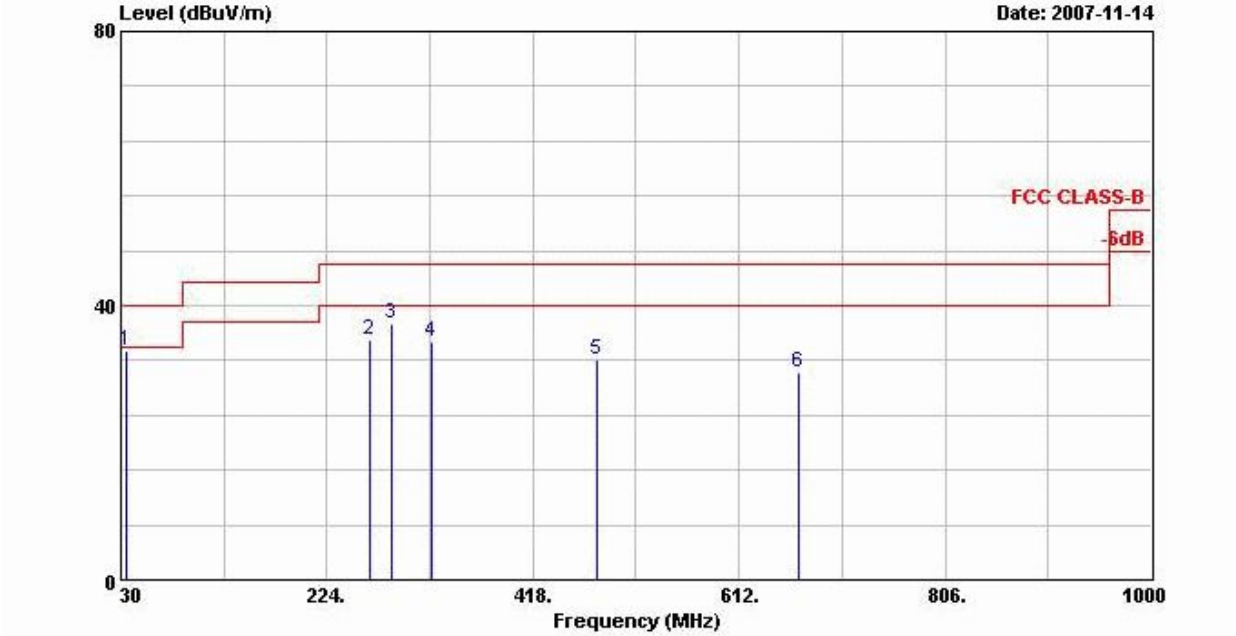
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 HORIZONTAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch39;2441MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2364.000	44.94	-29.06	74.00	42.48	32.52	3.71	33.77	100	0	Peak
2	2364.000	32.83	-21.17	54.00	30.37	32.52	3.71	33.77	100	180	Average
3 X	2441.000	91.83			89.26	32.57	3.79	33.79	100	0	Peak
4 X	2441.000	81.42			78.85	32.57	3.79	33.79	100	180	Average
5	2486.000	45.28	-28.72	74.00	42.65	32.59	3.84	33.80	100	0	Peak
6	2486.000	33.01	-20.99	54.00	30.38	32.59	3.84	33.80	100	180	Average
7	8298.000	55.66	-18.34	74.00	45.60	37.21	6.91	34.06	100	0	Peak
8	8298.000	44.12	-9.88	54.00	34.06	37.21	6.91	34.06	100	48	Average

Remark: #3 and #4 Fundamental Signal

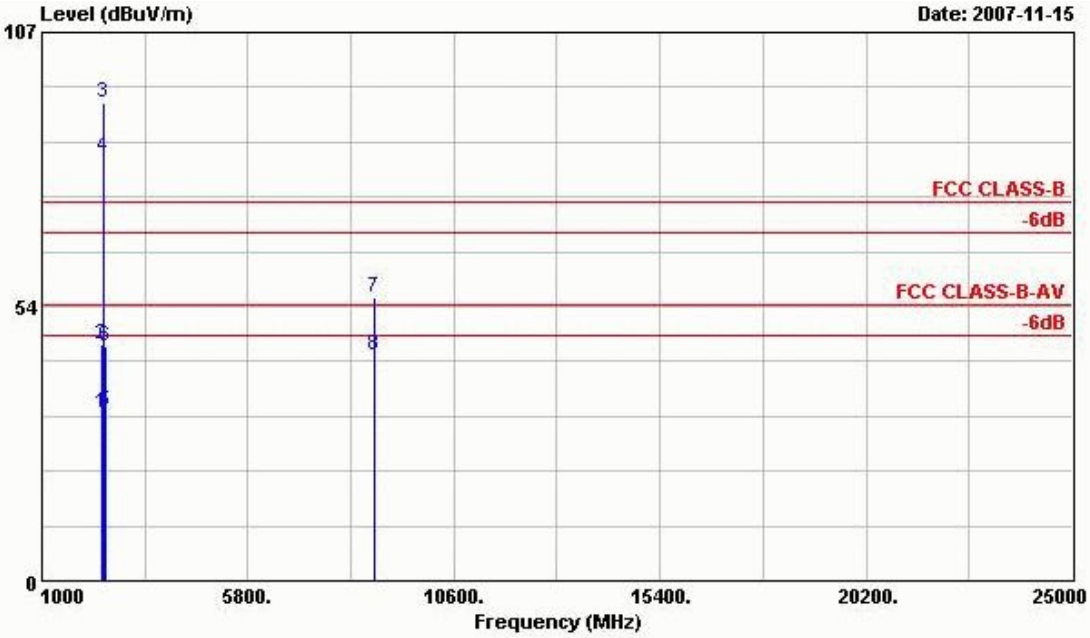
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 701819
MEMO : Bluetooth Tx_Ch39;2441MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.130	33.35	-6.65	40.00	44.41	16.29	0.91	28.26	100	46	Peak
2	263.820	35.07	-10.93	46.00	48.14	12.50	2.10	27.67	---	---	Peak
3	285.420	37.35	-8.65	46.00	50.41	12.39	2.19	27.63	---	---	Peak
4	321.700	34.64	-11.36	46.00	47.00	13.08	2.31	27.75	---	---	Peak
5	478.500	32.17	-13.83	46.00	41.59	16.65	2.77	28.85	---	---	Peak
6	668.200	30.21	-15.79	46.00	35.80	20.06	3.45	29.10	---	---	Peak



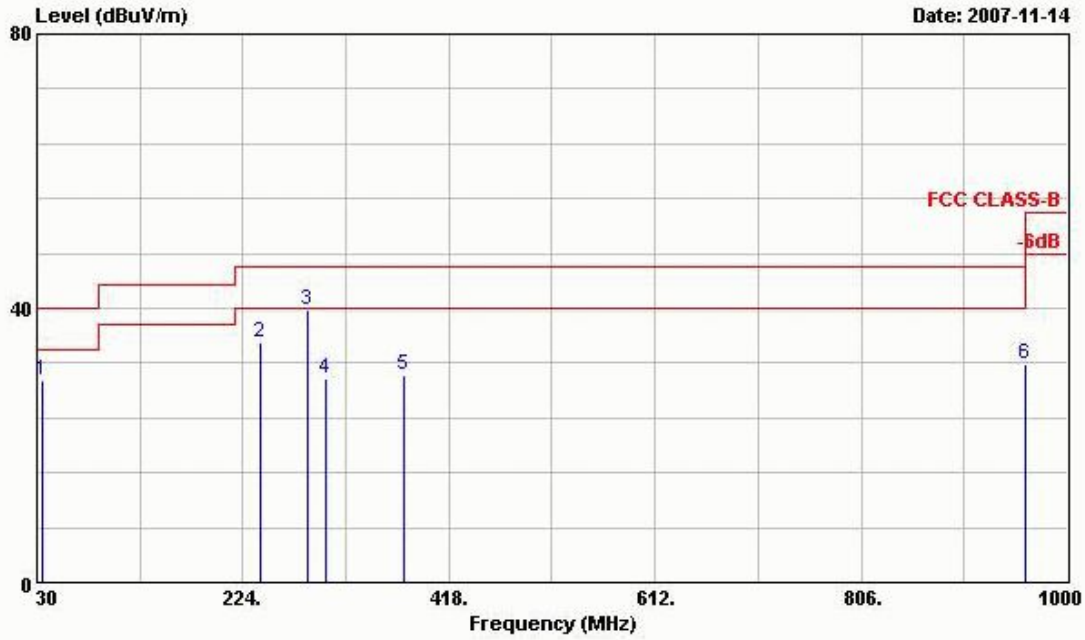
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 VERTICAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch39;2441MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	32.87	-21.13	54.00	30.37	32.54	3.74	33.78	102	94	Average
2	2390.000	46.23	-27.77	74.00	43.73	32.54	3.74	33.78	100	0	Peak
3 X	2441.000	93.41			90.84	32.57	3.79	33.79	100	0	Peak
4 @	2441.000	82.58			80.01	32.57	3.79	33.79	102	94	Average
5	2492.000	32.95	-21.05	54.00	30.31	32.60	3.84	33.80	102	94	Average
6	2492.000	45.93	-28.07	74.00	43.29	32.60	3.84	33.80	100	0	Peak
7	8754.000	55.37	-18.63	74.00	45.02	37.80	7.15	34.60	100	0	Peak
8	8754.000	43.84	-10.16	54.00	33.49	37.80	7.15	34.60	100	247	Average

Remark: #3 and #4 Fundamental Signal

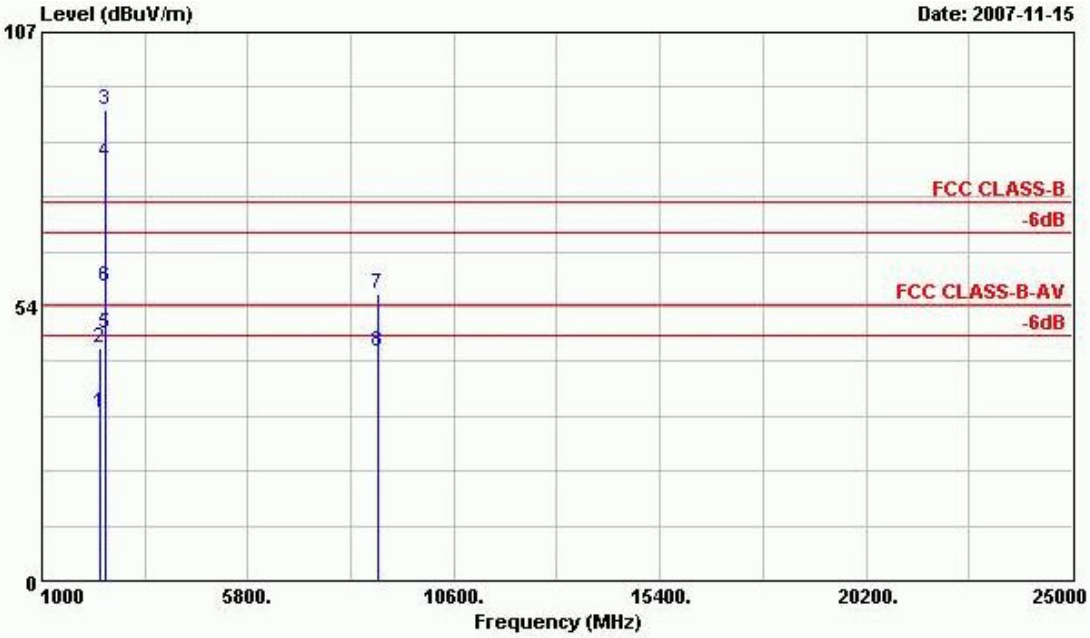
- Test Mode : Mode 3
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 7O1819
MEMO : Bluetooth Tx_Ch78;2480MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.940	29.57	-10.43	40.00	41.51	15.40	0.93	28.27	---	---	Peak
2	240.330	34.95	-11.05	46.00	48.82	11.83	2.02	27.72	---	---	Peak
3 @	285.690	39.66	-6.34	46.00	52.72	12.38	2.19	27.63	100	121	Peak
4	302.100	29.78	-16.22	46.00	42.74	12.41	2.25	27.61	---	---	Peak
5	374.900	30.31	-15.69	46.00	41.03	14.92	2.49	28.13	---	---	Peak
6	960.100	31.91	-22.09	54.00	31.57	25.04	3.99	28.68	---	---	Peak



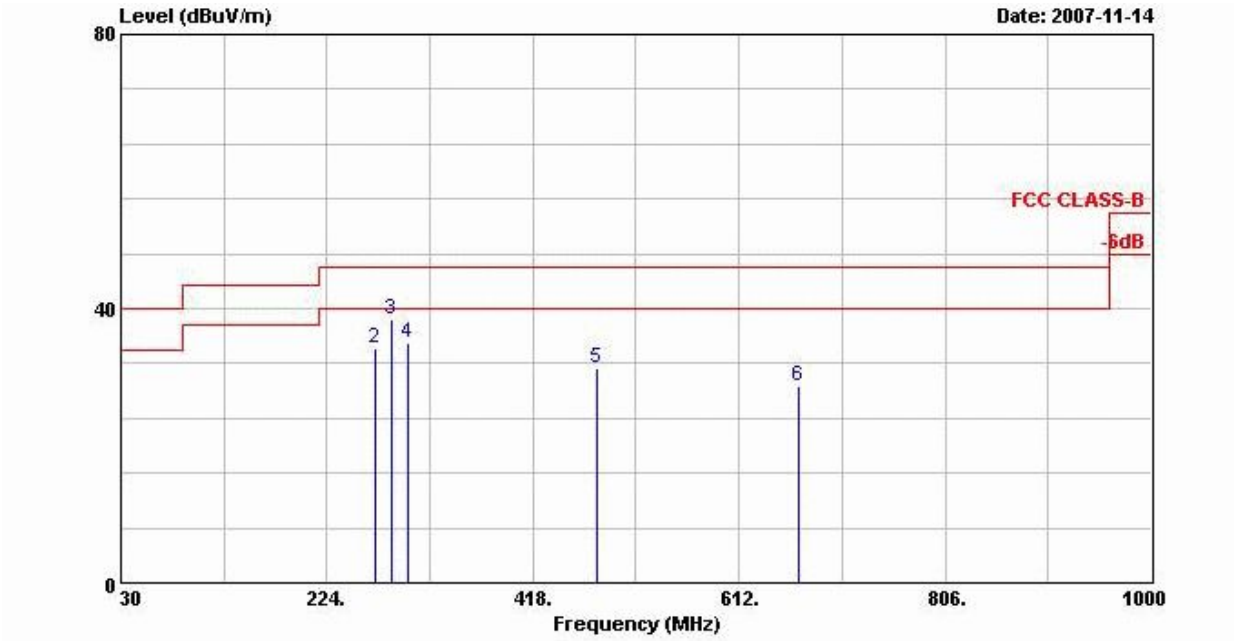
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 HORIZONTAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch78;2480MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2358.000	32.81	-21.19	54.00	30.35	32.52	3.71	33.77	144	186	Average
2	2358.000	45.33	-28.67	74.00	42.87	32.52	3.71	33.77	100	0	Peak
3 @	2480.000	91.87			89.24	32.59	3.84	33.80	100	0	Peak
4 @	2480.000	81.54			78.91	32.59	3.84	33.80	144	186	Average
5 @	2483.500	48.29	-5.71	54.00	45.66	32.59	3.84	33.80	144	186	Average
6	2483.500	57.51	-16.49	74.00	54.88	32.59	3.84	33.80	100	0	Peak
7	8817.000	55.99	-18.01	74.00	45.59	37.88	7.18	34.66	100	0	Peak
8	8817.000	44.58	-9.42	54.00	34.18	37.88	7.18	34.66	100	178	Average

Remark: #3 and #4 Fundamental Signal

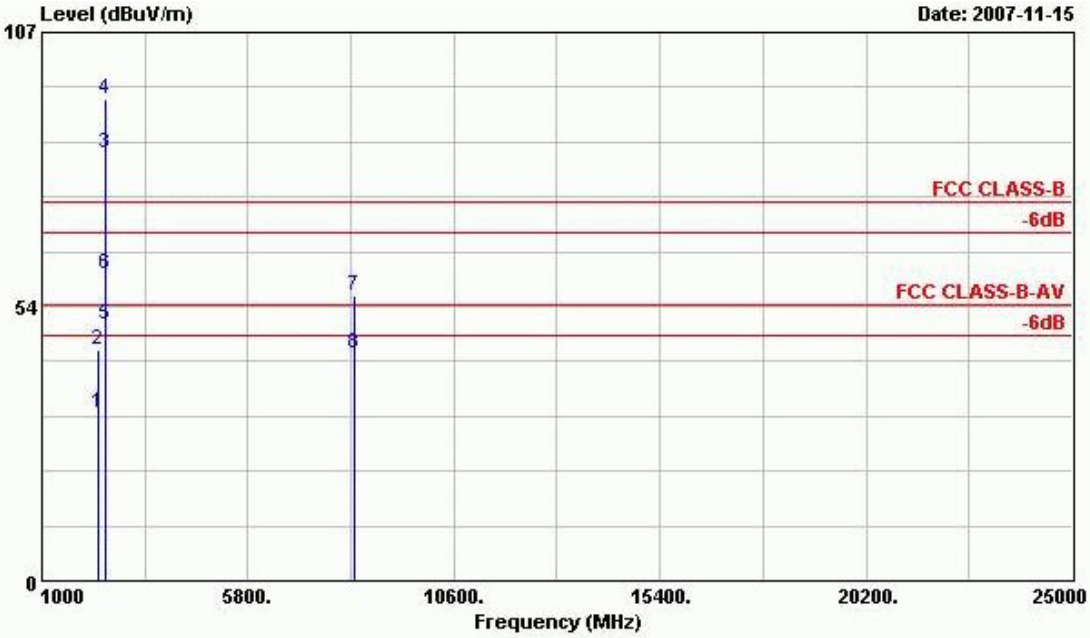
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : N/B
POWER : 120Vac/60Hz
MODEL : FR 701819
MEMO : Bluetooth Tx_Ch78;2480MHz
Data Rate: DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.540	32.43	-7.57	40.00	43.45	16.36	0.87	28.25	100	174	Peak
2	269.490	34.33	-11.67	46.00	47.40	12.47	2.13	27.66	---	---	Peak
3	284.610	38.31	-7.69	46.00	51.37	12.39	2.18	27.63	---	---	Peak
4	300.000	35.02	-10.98	46.00	48.07	12.31	2.24	27.60	---	---	Peak
5	478.500	31.27	-14.73	46.00	40.69	16.65	2.77	28.85	---	---	Peak
6	668.200	28.60	-17.40	46.00	34.19	20.06	3.45	29.10	---	---	Peak



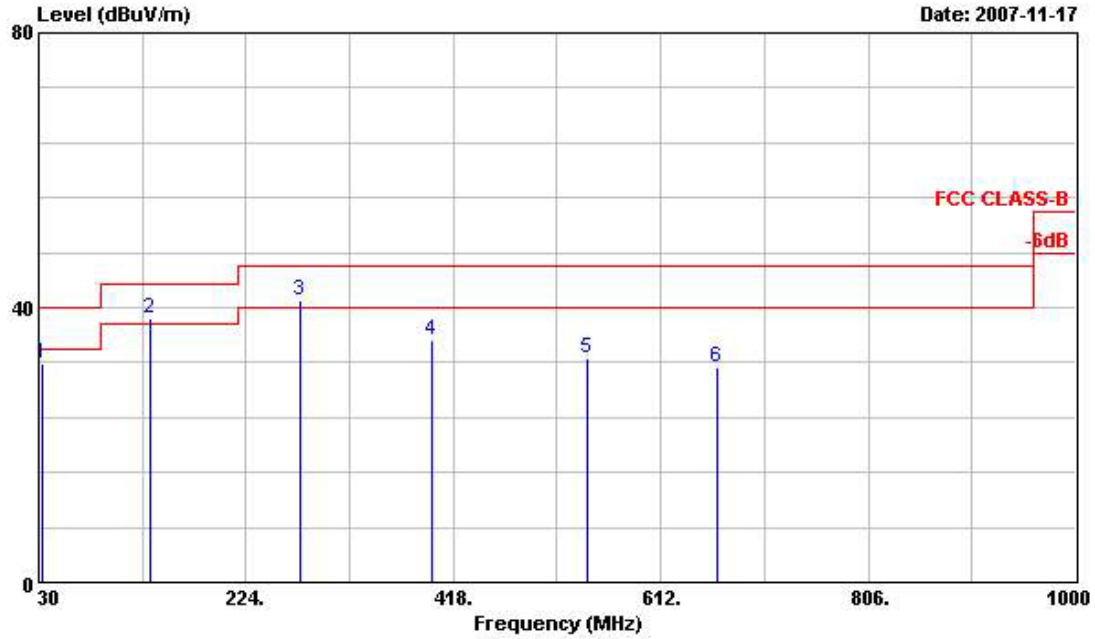
Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-3117 VERTICAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :Bluetooth Tx_Ch78;2480MHz
Data Rate:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2326.000	32.80	-21.20	54.00	30.41	32.50	3.66	33.77	114	150	Average
2	2326.000	45.22	-28.78	74.00	42.83	32.50	3.66	33.77	100	0	Peak
3 @	2480.000	83.27			80.64	32.59	3.84	33.80	114	150	Average
4 @	2480.000	94.08			91.45	32.59	3.84	33.80	100	0	Peak
5 @	2483.500	50.14	-3.86	54.00	47.51	32.59	3.84	33.80	114	150	Average
6	2483.500	59.88	-14.12	74.00	57.25	32.59	3.84	33.80	100	0	Peak
7	8265.000	55.50	-18.50	74.00	45.46	37.16	6.90	34.02	100	0	Peak
8	8265.000	44.46	-9.54	54.00	34.42	37.16	6.90	34.02	100	154	Average

Remark: #3 and #4 Fundamental Signal

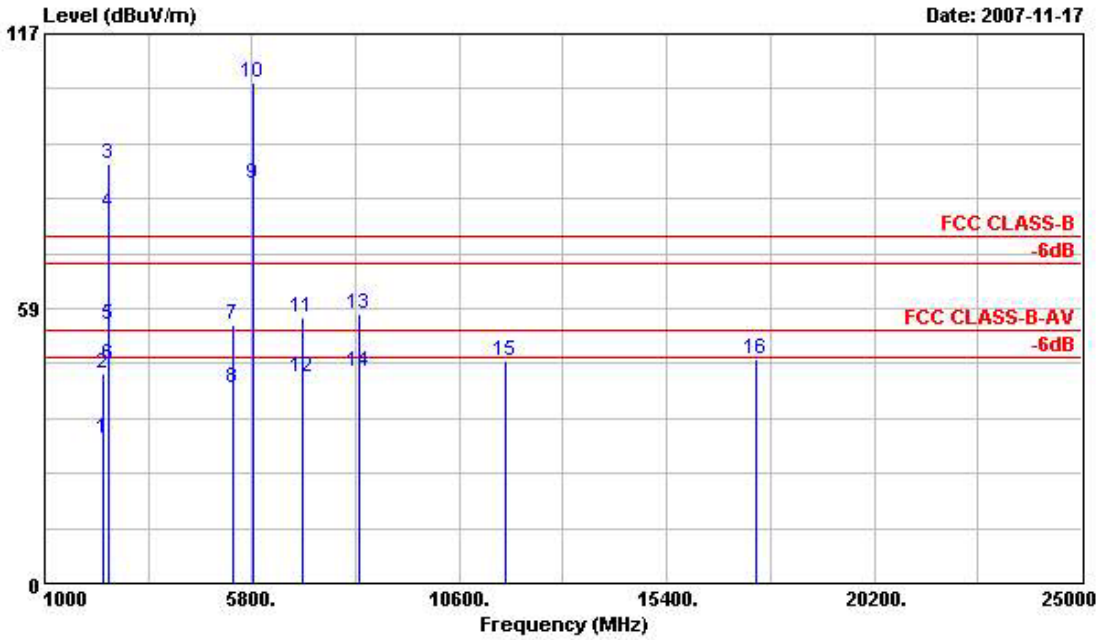
- Test Mode : Mode 4
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.




```
Site      :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT       :N/B
POWER     :120Vac/60Hz
MODEL     :FR 7O1819
MEMO      :11n(a)Tx(20M)_Ch165+BT Tx_Ch78 + Adaptor
Data Rate:    WLAN:36            BT:DH5
```

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.970	31.87	-8.13	40.00	42.91	16.33	0.90	28.26	---	---	Peak
2 !	134.490	38.29	-5.21	43.50	53.74	11.02	1.59	28.06	---	---	Peak
3 !	273.810	40.97	-5.03	46.00	54.03	12.45	2.14	27.65	100	184	Peak
4	397.300	35.29	-10.71	46.00	45.32	15.68	2.57	28.28	---	---	Peak
5	542.900	32.52	-13.48	46.00	40.40	18.19	2.97	29.04	---	---	Peak
6	665.400	31.31	-14.69	46.00	36.91	20.06	3.45	29.10	---	---	Peak



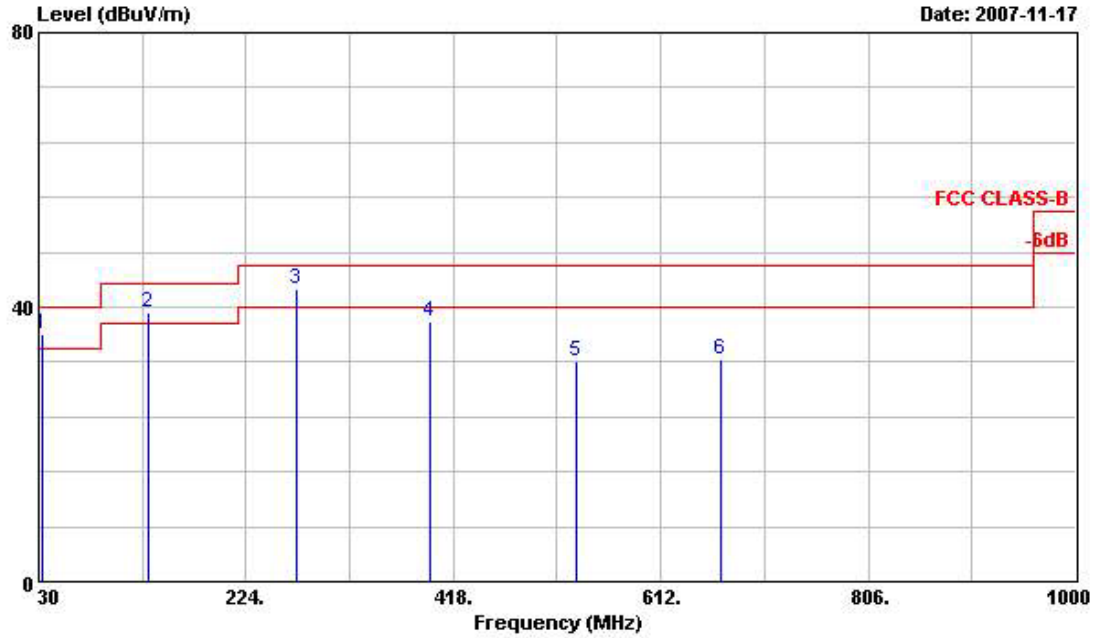
Site :03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-10094 HORIZONTAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :11n(a)Tx(20M)_Ch165+BT Tx_Ch78 + Adaptor
Data Rate: WLAN:36 BT:DH5

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		2340.000	30.70	-23.30	54.00	30.26	30.52	3.69	33.77	100	97	Average
2		2340.000	44.68	-29.32	74.00	44.24	30.52	3.69	33.77	100	0	Peak
3	X	2480.000	89.36			88.99	30.32	3.84	33.80	100	0	Peak
4	X	2480.000	79.03			78.66	30.32	3.84	33.80	100	97	Average
5		2483.500	55.07	-18.93	74.00	54.70	30.32	3.84	33.80	100	0	Peak
6		2483.500	46.53	-7.47	54.00	46.16	30.32	3.84	33.80	100	97	Average
7		5340.000	54.92	-19.08	74.00	47.58	35.50	6.00	34.16	100	0	Peak
8		5340.000	41.72	-12.28	54.00	34.38	35.50	6.00	34.16	100	61	Average
9	X	5825.000	84.89			77.01	35.90	6.02	34.04	100	61	Average
10	X	5825.000	106.45			98.57	35.90	6.02	34.04	100	0	Peak
11		6966.000	56.56	-17.44	74.00	43.71	39.02	6.35	32.52	100	0	Peak
12		6966.000	44.03	-9.97	54.00	31.18	39.02	6.35	32.52	100	61	Average
13		8278.000	57.49	-16.51	74.00	45.11	39.50	6.90	34.02	100	0	Peak
14		8278.000	45.11	-8.89	54.00	32.73	39.50	6.90	34.02	100	145	Average
15		11658.000	47.22	-26.78	74.00	84.82	-11.10	7.86	34.36	100	0	Peak
16		17481.000	47.91	-26.09	74.00	84.09	-12.12	9.64	33.71	100	0	Peak

Remark: #3, #4, #9 and #10 Fundamental Signal

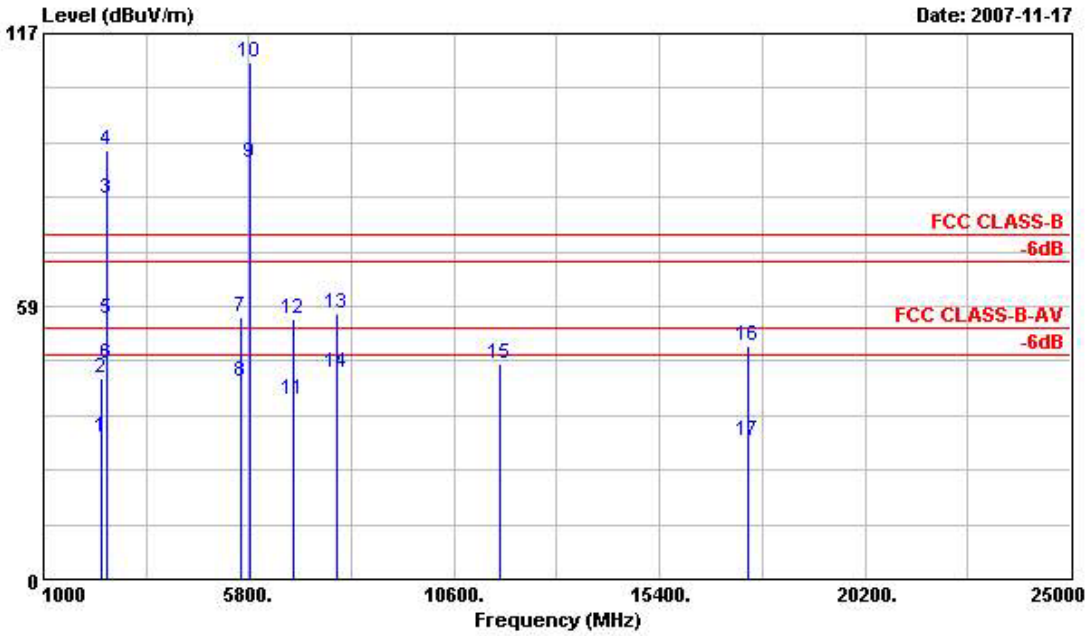
- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site :03CH04-HY
Condition:FCC CLASS-B 3m ANT2724 VERTICAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :1ln(a)Tx(20M)_Ch165+BT Tx_Ch78 + Adaptor
Data Rate: WLAN:36 BT:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 !	32.970	36.01	-3.99	40.00	47.05	16.33	0.90	28.26	---	---	Peak
2 !	133.140	39.15	-4.35	43.50	54.44	11.20	1.58	28.07	---	---	Peak
3 !	270.570	42.60	-3.40	46.00	55.67	12.46	2.13	27.66	100	214	Peak
4	396.600	37.82	-8.18	46.00	47.88	15.65	2.57	28.28	---	---	Peak
5	533.800	32.04	-13.96	46.00	40.24	17.90	2.94	29.03	---	---	Peak
6	668.200	32.39	-13.61	46.00	37.98	20.06	3.45	29.10	---	---	Peak



Site :03CH04-HY
Condition:FCC CLASS-B 3m HF-ANT-10094 VERTICAL
EUT :N/B
POWER :120Vac/60Hz
MODEL :FR 701819
MEMO :11n(a)Tx(20M)_Ch165+BT Tx_Ch78 + Adaptor
Data Rate: WLAN:36 BT:DH5

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2350.000	30.60	-23.40	54.00	30.16	30.52	3.69	33.77	100	88	Average
2	2350.000	42.98	-31.02	74.00	42.54	30.52	3.69	33.77	100	0	Peak
3 X	2480.000	81.55			81.18	30.32	3.84	33.80	100	88	Average
4 X	2480.000	92.03	-----	-----	91.66	30.32	3.84	33.80	100	0	Peak
5	2483.500	55.77	-18.23	74.00	55.40	30.32	3.84	33.80	100	0	Peak
6	2483.500	46.25	-7.75	54.00	45.88	30.32	3.84	33.80	100	88	Average
7	5622.000	56.13	-17.87	74.00	48.42	35.77	6.02	34.08	100	0	Peak
8	5622.000	42.17	-11.83	54.00	34.46	35.77	6.02	34.08	100	13	Average
9 X	5825.000	89.30			81.42	35.90	6.02	34.04	100	13	Average
10 @	5825.000	110.83			102.95	35.90	6.02	34.04	100	0	Peak
11	6854.000	38.39	-15.61	54.00	30.51	35.90	6.02	34.04	100	13	Average
12	6854.000	55.85	-18.15	74.00	43.75	38.39	6.31	32.61	100	0	Peak
13	7878.000	56.94	-17.06	74.00	44.40	39.48	6.71	33.65	100	0	Peak
14	7878.000	44.40	-9.60	54.00	31.86	39.48	6.71	33.65	100	284	Average
15	11649.000	46.37	-27.63	74.00	84.02	-11.14	7.86	34.36	100	0	Peak
16	17469.000	49.90	-24.10	74.00	86.06	-12.07	9.62	33.71	100	0	Peak
17	17469.000	29.62	-24.38	54.00	65.78	-12.07	9.62	33.71	100	168	Average

Remark: #3, #4, #9 and # 10 Fundamental Signal

5.10 Antenna Requirements

5.10.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no other antenna except assembled by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

5.10.2 Antenna Connected Construction

The antennas used in this product are PIFA antenna for WLAN and BT without connector and it is considered to meet antenna requirement of FCC.

5.10.3 Antenna Gain

The antenna gain of EUT is less than 6 dBi. Therefore, it is not necessany to reduce maximum peak output powen limit.

6. List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 01, 2007	Feb. 29, 2008	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Mar. 30, 2008	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Mar. 21, 2008	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Apr. 19, 2008	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 09, 2007	Mar. 08, 2008	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	N/A	Conduction (CO04-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH04-HY	30 MHz - 1 GHz 3m	Oct. 29, 2007	Oct. 28, 2008	Radiation (03CH04-HY)
Amplifier	HP	87405A	3950M00135	10MHz - 3 GHz	Mar. 02, 2007	Mar. 01, 2008	Radiation (03CH04-HY)
Spectrum Analyzer	R&S	FSP30	100792	9 kHz – 30GHz	Dec. 13, 2006	Dec. 12, 2007	Radiation (03CH04-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2724	30 MHz - 1 GHz	Aug. 13, 2007	Aug. 12 2008	Radiation (03CH04-HY)
Turn Table	HD	Deis HD 2000	420/610	0 - 360 degree	N/A	N/A	Radiation (03CH04-HY)
Antenna Mast	Chaintek	3000	N/A	1 m - 4 m	N/A	N/A	Radiation (03CH04-HY)
RF Cable-R03m	Suhner Switzerland + RFIDEN	RG223/U +RG8/U	CB024	30 MHz - 1 GHz	Sep. 20, 2007	Sep. 19, 2008	Radiation (03CH04-HY)
Isolation Transformer	Erika FiedLer OHG	D-65396 Walluf	N/A	45 MHz – 2.15 GHz 30dB	N/A	N/A	Radiation (03CH04-HY)

7. Uncertainty Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.10	Normal(k=2)	0.05
Cable loss	0.10	Normal(k=2)	0.05
AMN insertion loss	2.50	Rectangular	0.63
Receiver Spec	1.50	Rectangular	0.43
Site imperfection	1.39	Rectangular	0.80
Mismatch	+0.34/-0.35	U-shape	0.24
Combined standard uncertainty Uc(y)	**1.13**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.26**		

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.11	Normal(k=2)	0.06
Antenna factor calibration	0.91	Normal(k=2)	0.46
Cable loss calibration	0.12	Normal(k=2)	0.06
Pre Amplifier Gain calibration	0.15	Normal(k=2)	0.08
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.52	Rectangular	0.88
Mismatch	+0.45/-0.48	U-shaped	0.33
Combined standard uncertainty Uc(y)	**1.30**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.60**		

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2*Γ3)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Ue(y)	**4.72**				

The measured result is ：y dBuV ± U dB

for a level of confidence of approximately 95%，(k= 2)