



FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment : Pocket PC Phone
Trade Name : glofiish
Model No. : X650 / X600
FCC ID : SPUX650
Filing Type : Certification
Applicant : E-TEN Information Systems Co., Ltd.
9F., No. 256, Yangguang Street, Neihu Chiu, Taipei,
Taiwan 114, R.O.C.

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- The data shown in this test report were carried out on Nov. 16, 2007 at **Sporton International Inc. Lab.**
- Report No.: FR790604D, Report Version: Rev. 02.

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History of this test report

Report Issue Date: Dec. 14, 2007

Report No.	Description



1. General Description of Equipment under Test

1.1 Applicant

E-TEN Information Systems Co., Ltd.

9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan 114, R.O.C.

1.2 Manufacturer

E-TEN Information Systems Co., Ltd.

9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan 114, R.O.C.

1.3 Basic Description of Equipment under Test

Equipment		Pocket PC Phone
Trade Name		glofiish
Model Name		X650 / X600
FCC ID		SPUX650
AC Adapter	Brand Name	Phihong
	Model Name	PSC05R-050 PH
	Power Rating	I/P:AC 100-240V, 0.2A, 50-60Hz, 14-19VA; O/P: DC 5V, 1A
	AC Power Cord Type	1.9 meter shielded core cable
Battery	Brand Name	Foxlink
	Model Name	AHL03716016
	Rating	3.7V, 1530mAh
	Type	Li-ion
Earphone	Brand Name	Merry
	Model Name	EMC147-018-01
	Signal Line Type	1.3 meter non-shielded cable without ferrite core
USB Cable	Brand Name	Golden Bridge
	Model Name	AS52-07080050
	Signal Line Type	0.9 meter shielded cable without ferrite core

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. Type of Modulation	DSSS / OFDM			
2. Number of Channels	11 Channels			
3. Frequency Band	2400MHz~2483.5MHz			
4. Carrier Frequency of each channel	2412+(n-1) * 5MHz; n=1-11			
5. Channel Spacing	5MHz			
6. Maximum Output Power to Antenna (Normal Condition)	802.11b : 16.36 dBm 802.11g: 15.90 dBm			
7. Type of Antenna Connector	N/A			
8. Antenna Type	Bluetooth : Chip Antenna WLAN : PIFA Antenna			
9. Antenna Gain	BT : 0 dBi WLAN : -4 dBi			
10. HW Version	1.0			
11. SW Version	VER A42 CHT V030 170 (for X650) VER A42 CHT V030 170ET (for X600)			
12. Function Type	Transmitter		Transceiver	V
13. DUT Stage	Identical Prototype			



2. Test Configuration of Equipment under Test

2.1 Test Manner

- 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.
- The EUT is programmed to transmit signal continuously for all testings.
- Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.
- For radiated measurements, the results were the maximum of those obtained in 3 orthogonal axes and only showed the worst data in this report.

2.2 Test Mode

Application		
Radiated Emission / RF Conducted	802.11b	802.11g
	Mode1: CH01_2412MHz	Mode4: CH01_2412MHz
	Mode2: CH06_2437MHz	Mode5: CH06_2437MHz
	Mode3: CH11_2462MHz	Mode6: CH11_2462MHz
Conducted Emission	Mode 1: GSM850 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + Adapter	
	Mode 2: GSM850 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link	
	Mode 3: EDGE Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link	
	Mode 4: PCS1900 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link	
	Mode 5: TMC Rx + 98MHz + Earphone + Adapter	

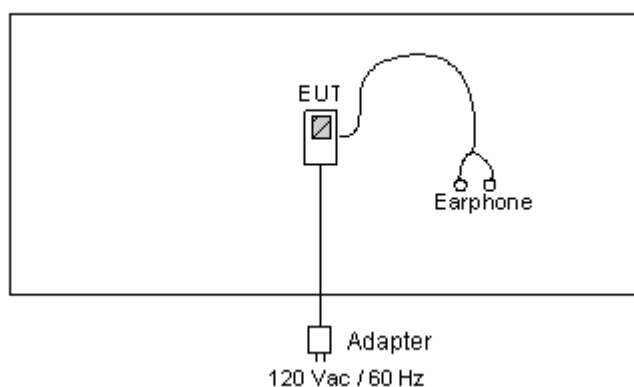
2.3 Ancillary Equipment List

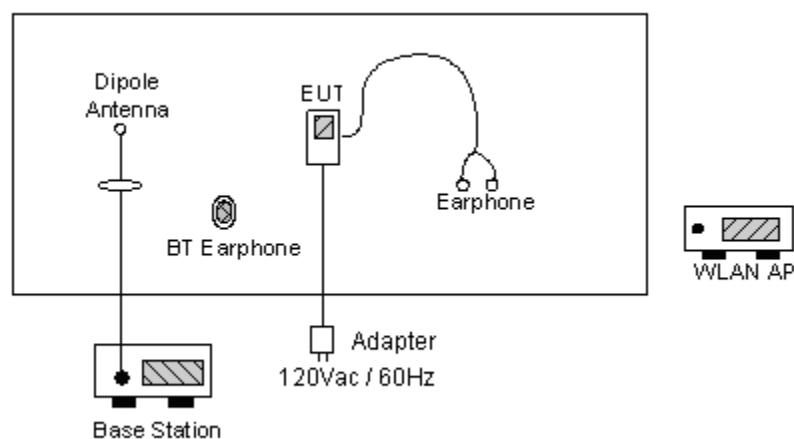
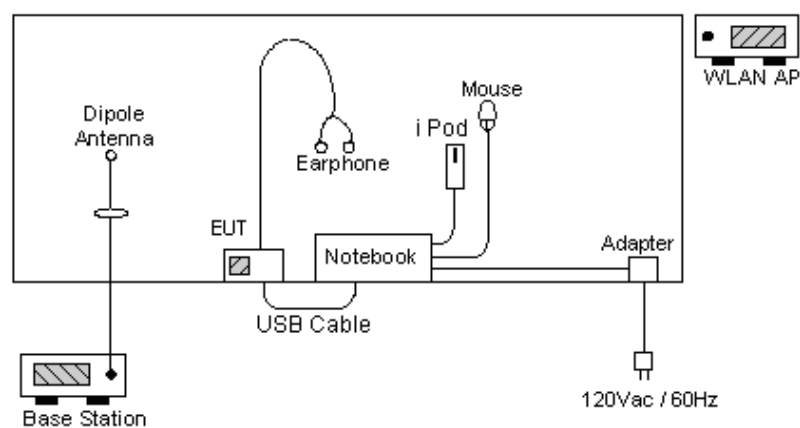
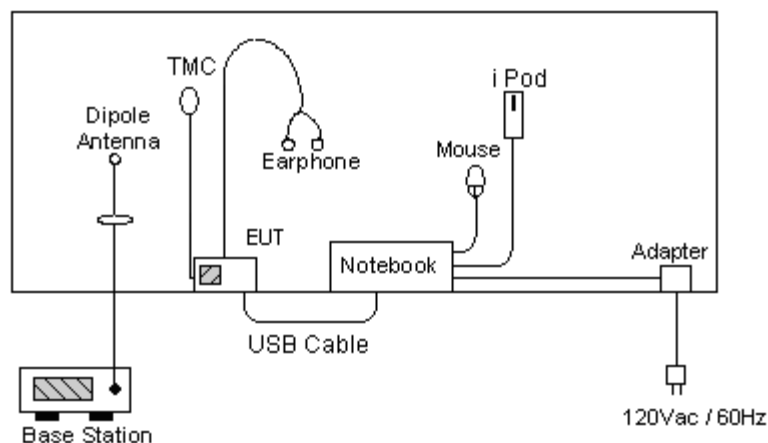
Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable / Power Cord
1.	Base Station	R&S	CMU200	N/A	Unshielded, 1.8m
2.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	Unshielded, 1.8m
3.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A
4.	Notebook	DELL	D400	R33002	N/A
5.	(USB)Mouse	Microsoft	B75-00093`	FCC DoC	Shielded, 1.2m
6.	iPod	Apple	A1199	DoC	Shielded, 1.2m

2.4 Connection Diagram of Test System

<Radiated Emission>

WLAN Tx Mode



<Conducted Emission>
EUT with Adapter Mode

EUT with USB Link Mode

TMC Rx Mode




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 testings.



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, 03CH06-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: Wireless LAN

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.209(a)	Radiated Emission	Pass
15.247 (c)	100kHz Bandwidth of Frequency	Pass
15.247(d)	Power Spectral Density	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

5.2 6dB Bandwidth Measurement

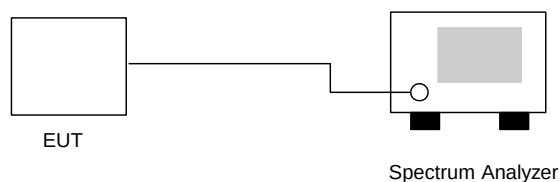
5.2.1 Measuring Instruments

As described in chapter 6 of this test report.

5.2.2 Test Procedure

- The transmitter output was connected to the spectrum analyzer directly.
- Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
- The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

5.2.3 Test Setup Layout



5.2.4 Test Result

Application Type : WLAN 802.11b/g

Temperature : 26~28°C

Relative Humidity : 51~52%

Test Enginner : Sun

802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	10.06	> 0.5MHz	Mode 1
06	2437	10.00	> 0.5MHz	Mode 2
11	2462	10.06	> 0.5MHz	Mode 3

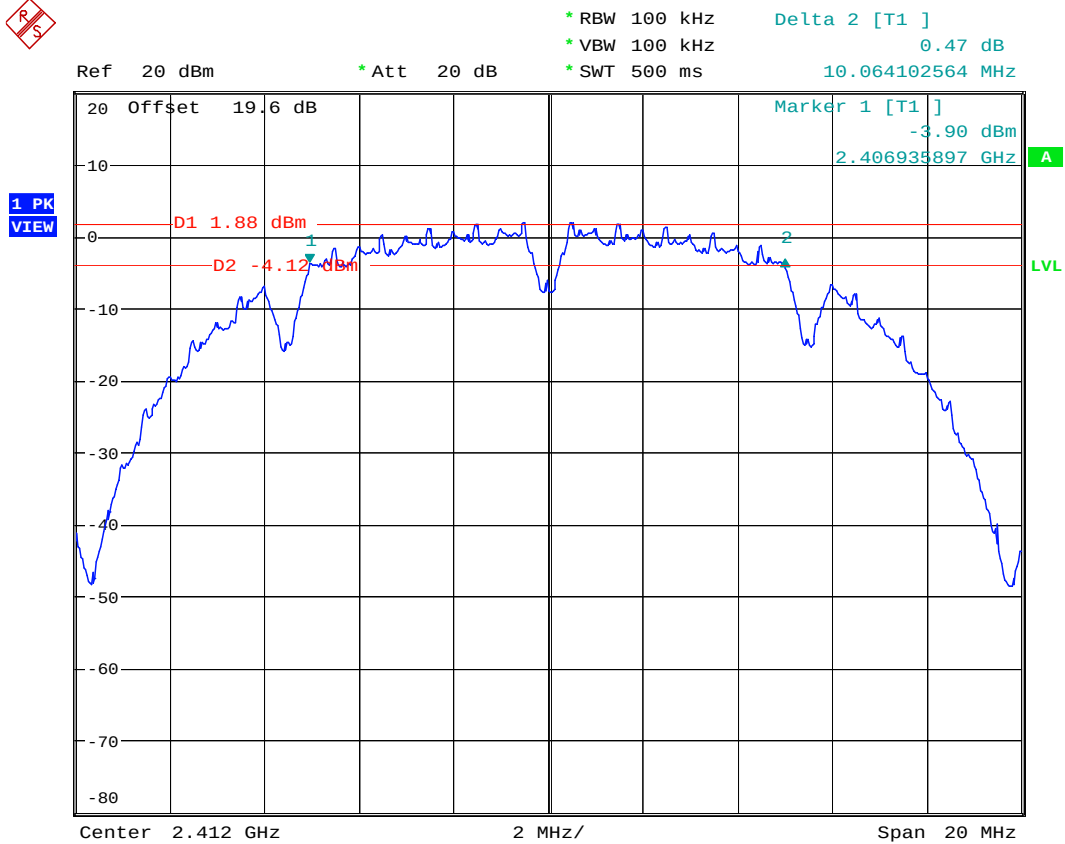
802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.44	> 0.5MHz	Mode 4
06	2437	16.41	> 0.5MHz	Mode 5
11	2462	16.51	> 0.5MHz	Mode 6



5.2.5 6dB Bandwidth

Mode 1

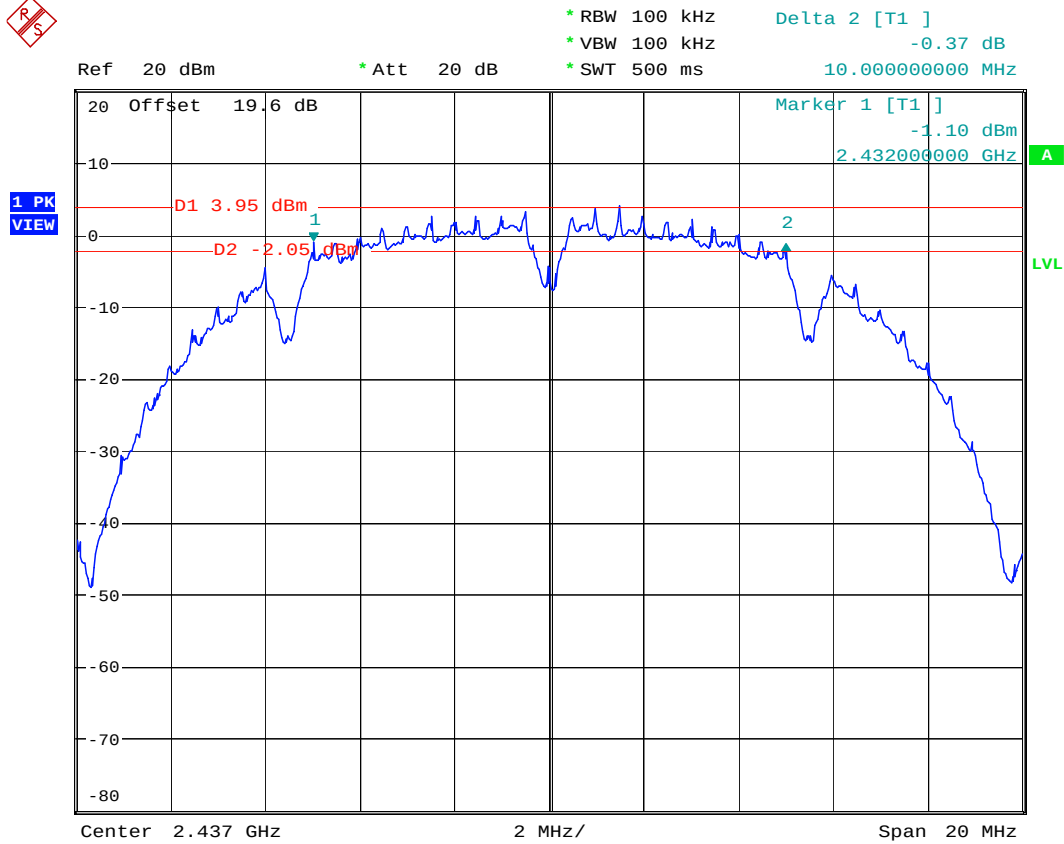


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Mode 2

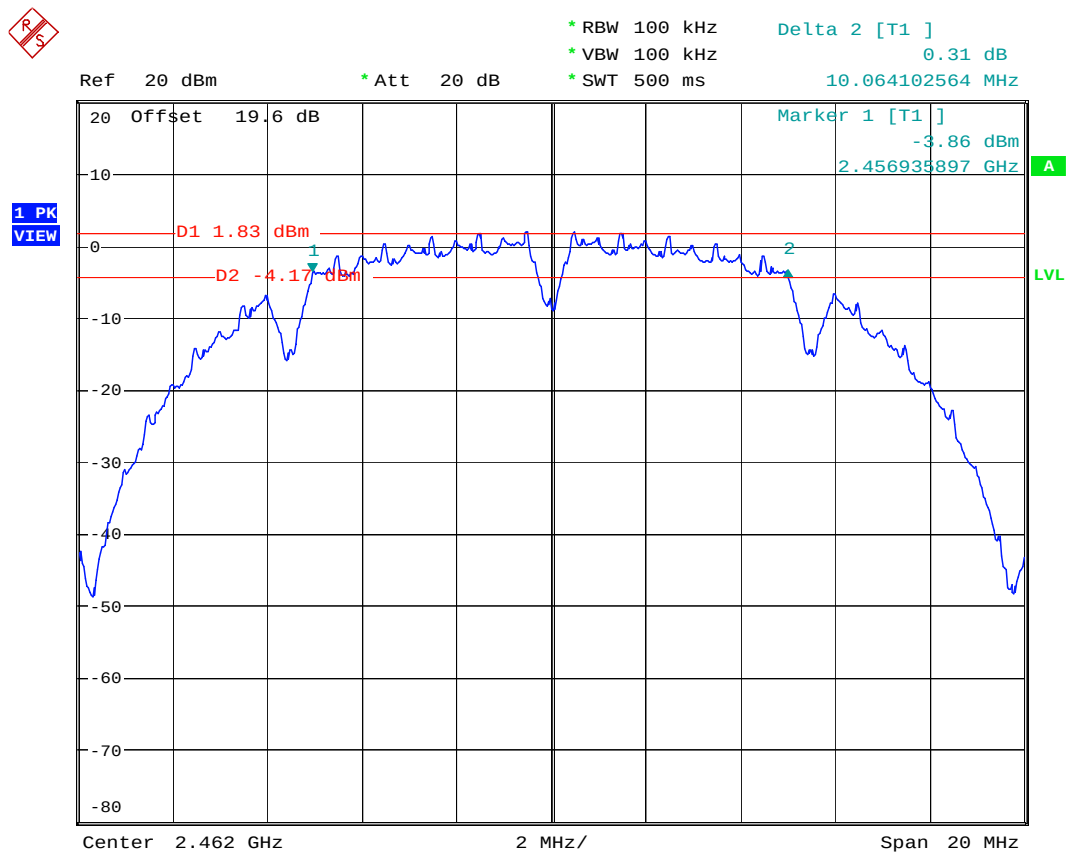


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Mode 3

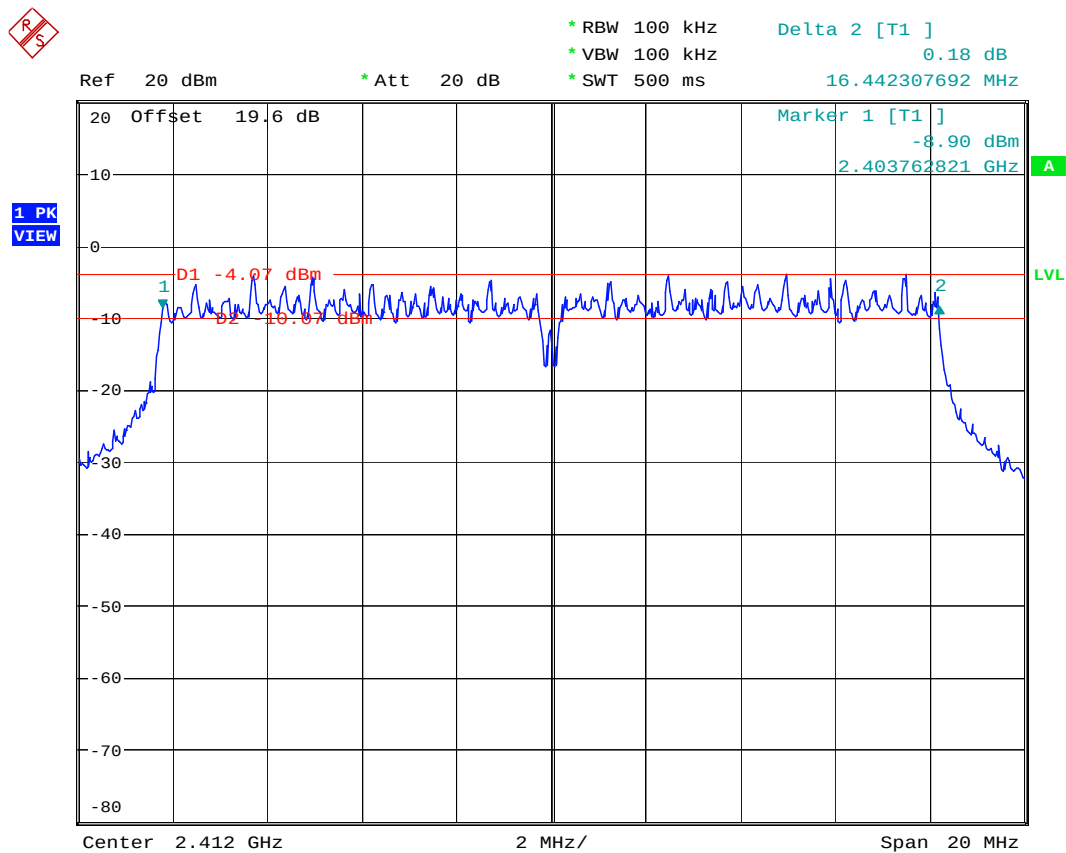


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Mode 4

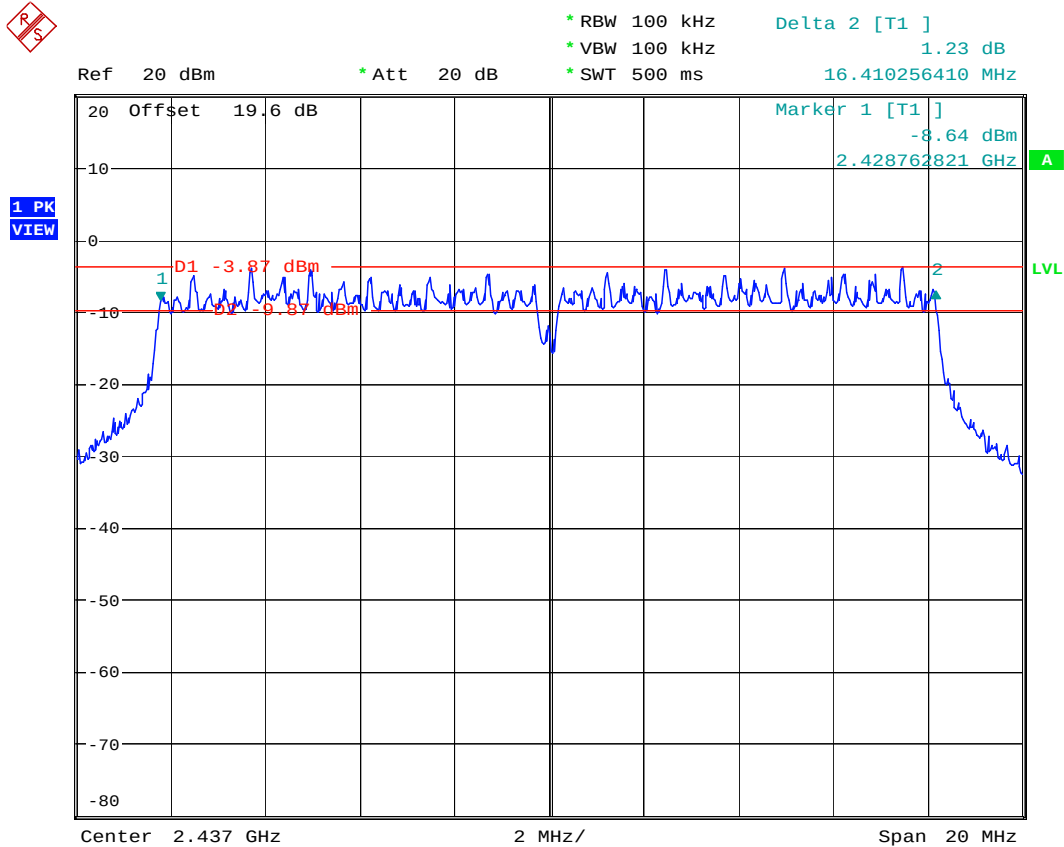


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Date: 24.SEP.2007 18:18:48



Mode 5

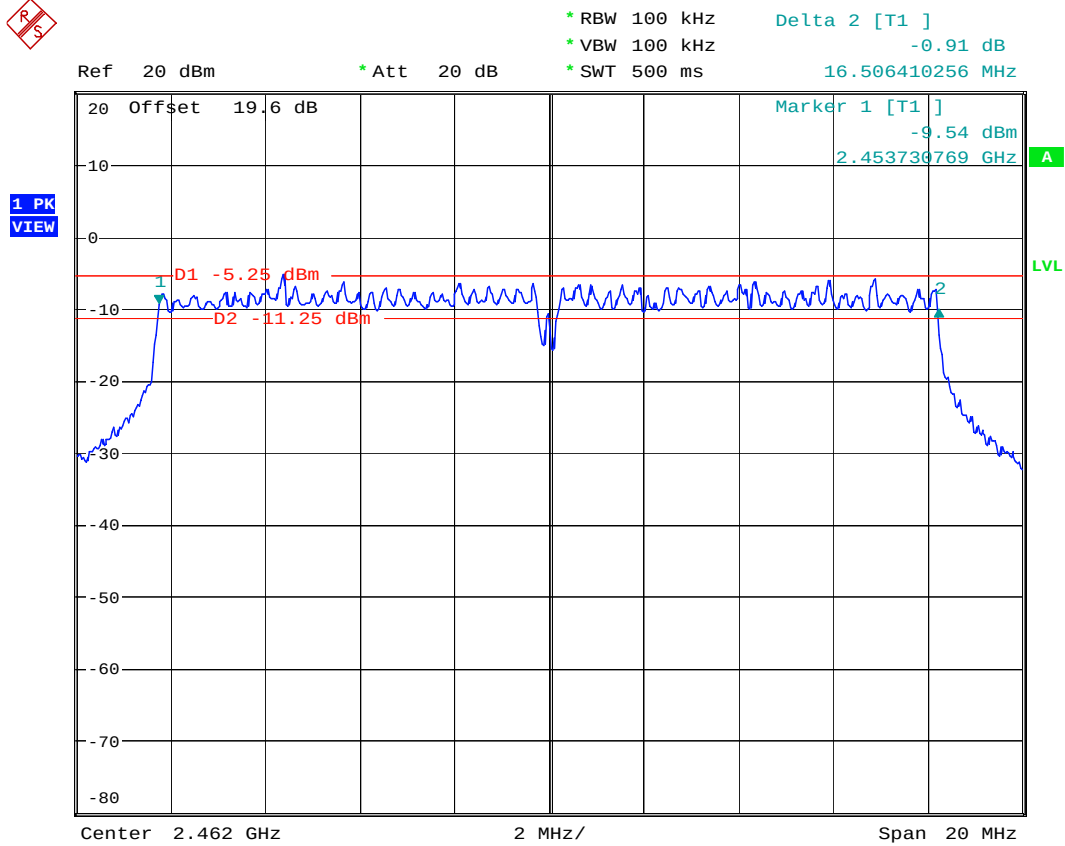


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Mode 6



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5.3 Power Spectral Density Measurement

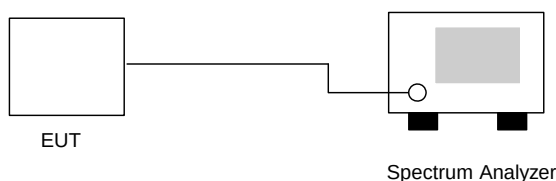
5.3.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.3.2 Test Procedure :

- a. The transmitter output was connected to spectrum analyzer directly.
- b. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
- c. The power spectral density was measured and recorded.
- d. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.3.3 Test Setup Layout :



**5.3.4 Test Result :**

Application Type : 802.11b/g

Temperature : 26~28°C

Relative Humidity : 51~52%

Test Enginner : Sun**802.11b**

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-15.85	8	Mode 1
06	2437	-15.23	8	Mode 2
11	2462	-15.34	8	Mode 3

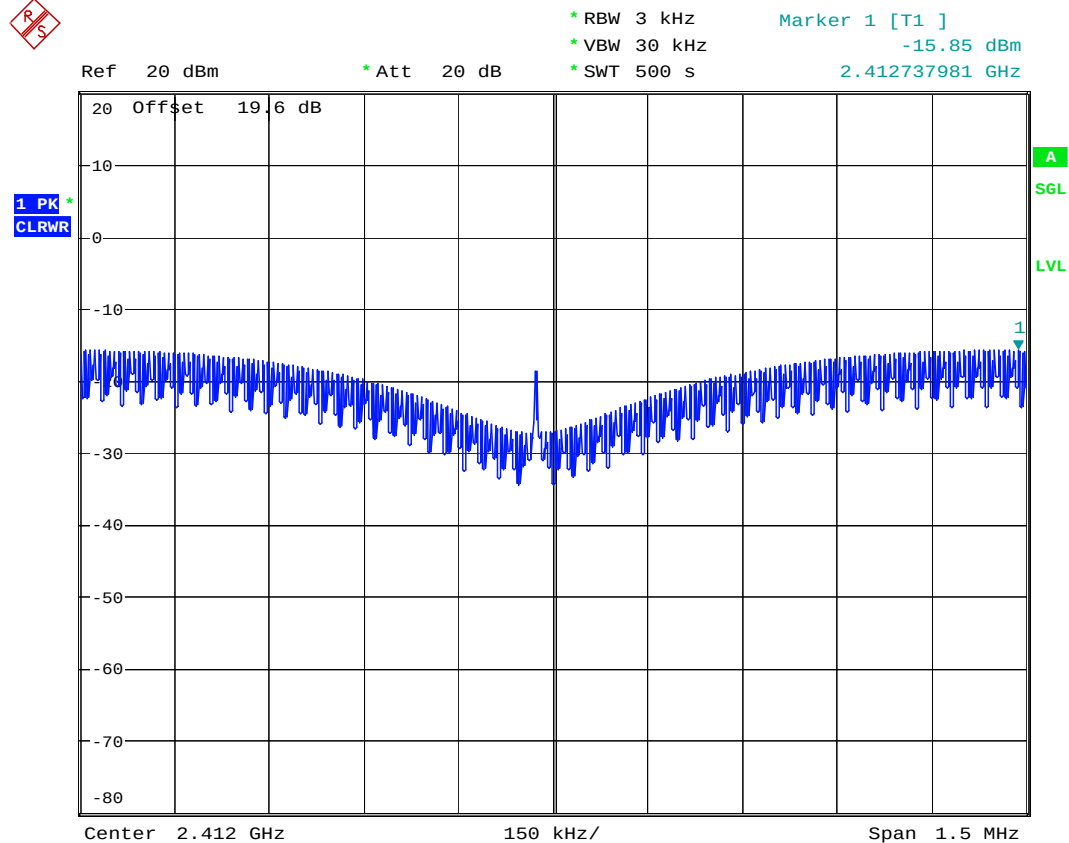
802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-17.57	8	Mode 4
06	2437	-17.38	8	Mode 5
11	2462	-16.28	8	Mode 6



5.3.5 Power Spectral Density :

Mode 1



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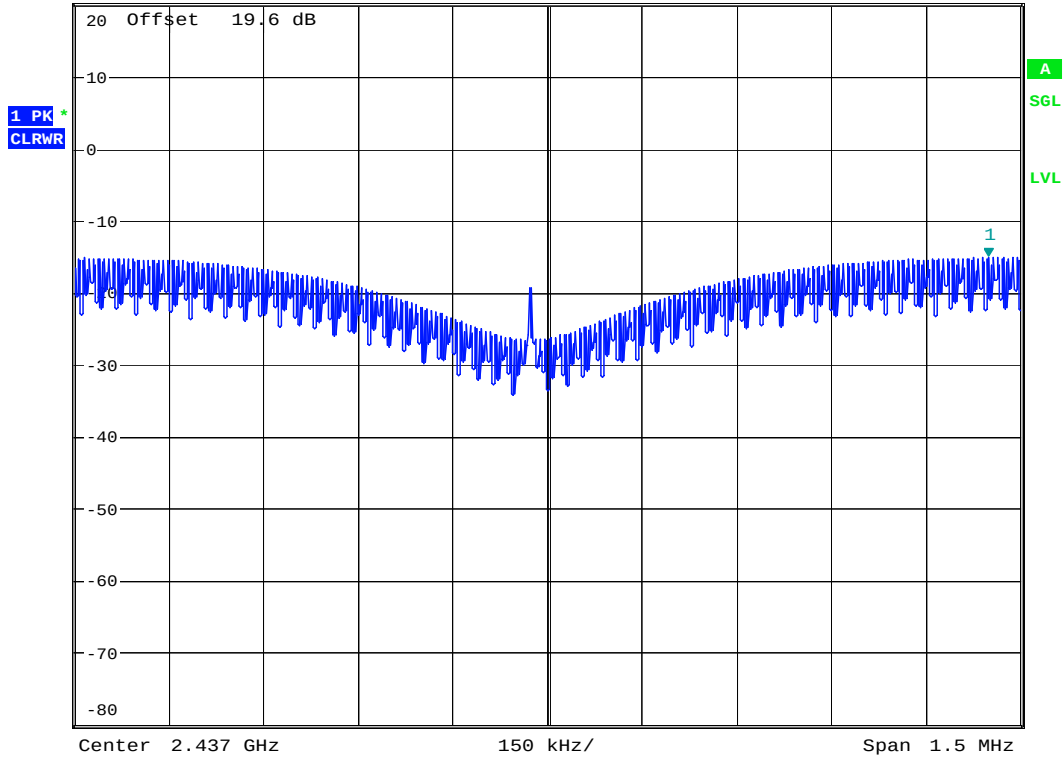
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Mode 2



Ref 20 dBm * Att 20 dB * RBW 3 kHz * VBW 30 kHz * SWT 500 s Marker 1 [T1] -15.23 dBm 2.437699519 GHz



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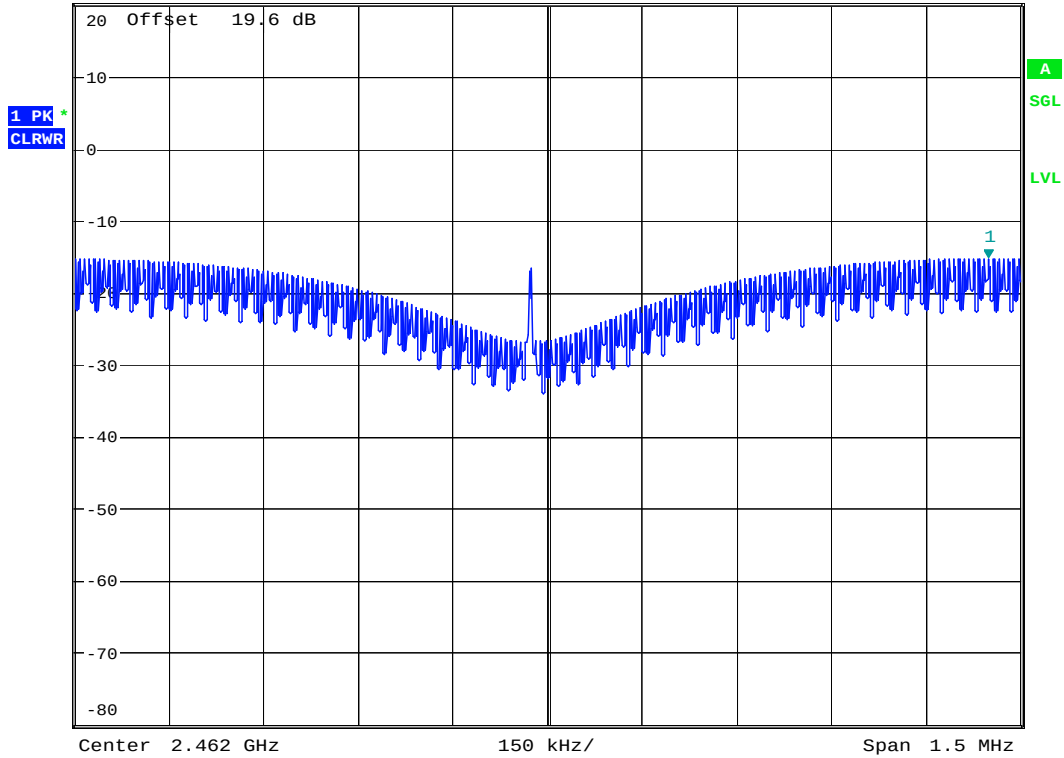
Date: 24.SEP.2007 17:33:36



Mode 3



Ref 20 dBm * Att 20 dB * RBW 3 kHz * VBW 30 kHz * SWT 500 s Marker 1 [T1] -15.34 dBm 2.462699519 GHz

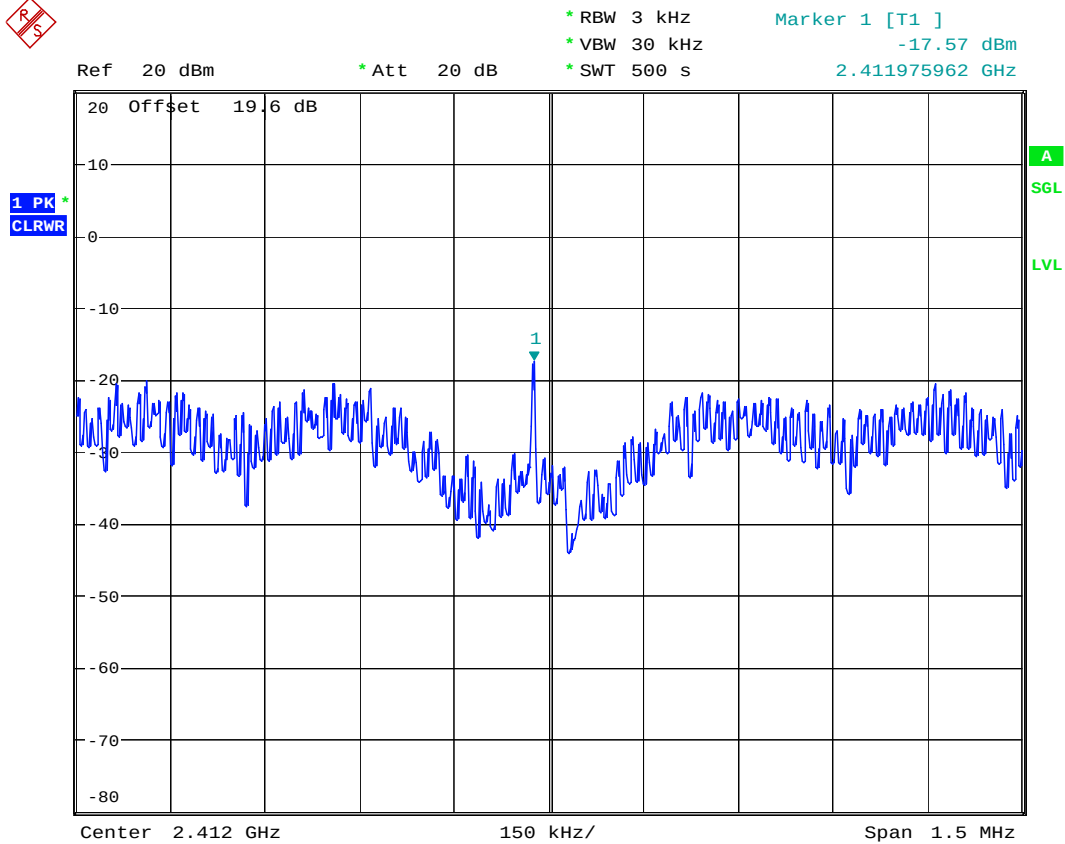


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Date: 24.SEP.2007 18:55:33



Mode 4

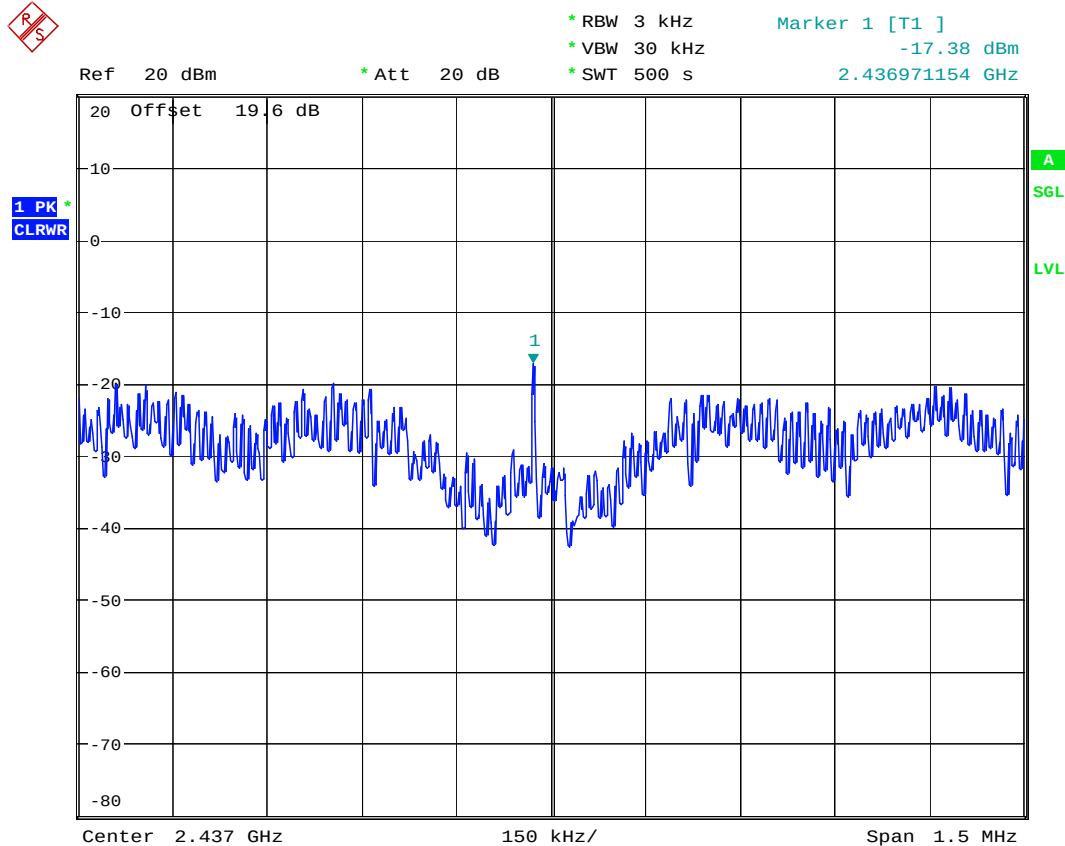


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Date: 24.SEP.2007 19:40:23



Mode 5

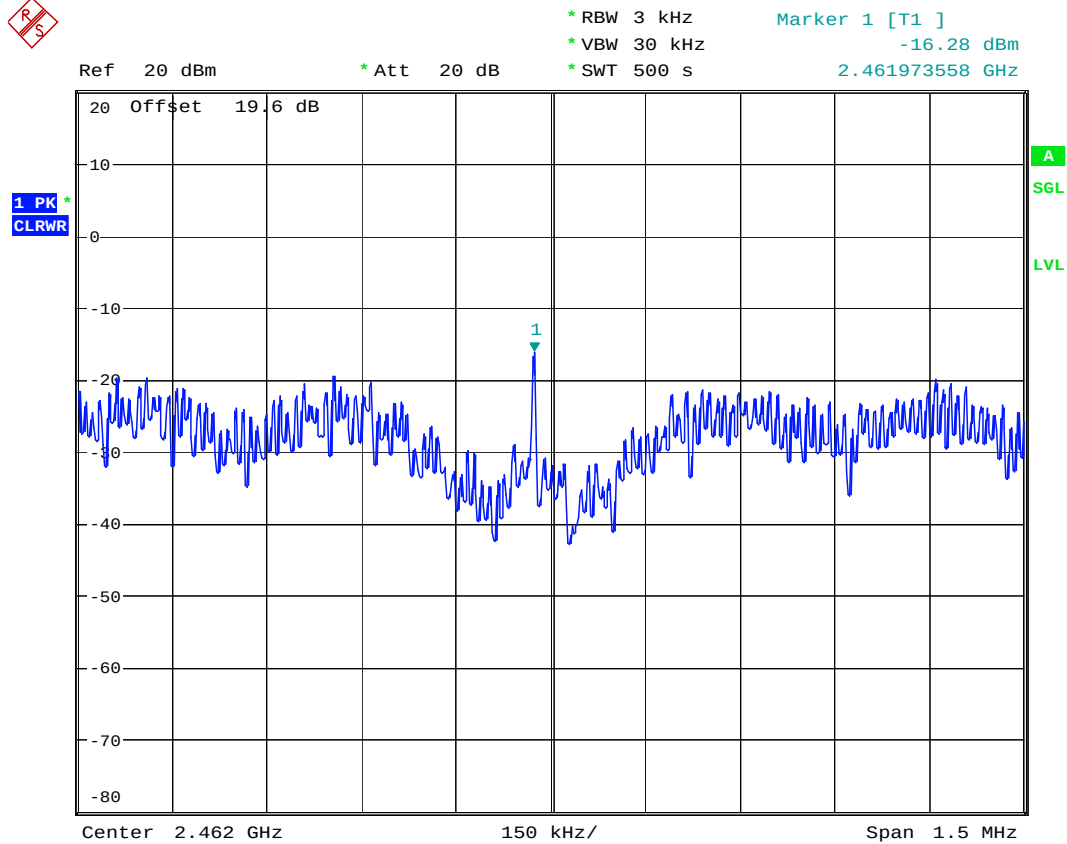


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Date: 24.SEP.2007 18:34:58



Mode 6



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Date: 24.SEP.2007 18:45:09



5.4 Band Edges Measurement

5.4.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.4.2 Test Procedure :

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

5.4.3 Test Result :

Application Type : WLAN 802.11b/g and BT

Temperature : 26~28°C

Relative Humidity : 51~52%

Test Enginner : Sun

Test Result in WLAN lower band (802.11b/g) : PASS

Test Result in WLAN higher band (802.11b/g) : PASS

5.4.4 Note on Band Edge Emission :

➤WLAN 802.11b

CH01 (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
2387.3	50.87	-23.13	74.00	52.30	30.26	3.75	35.44	100	0	Peak
2387.3	41.18	-12.82	54.00	42.61	30.26	3.75	35.44	125	53	Average

CH01 (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
2386.8	53.00	-21.00	74.00	54.43	30.26	3.75	35.44	100	0	Peak
2386.8	43.21	-10.79	54.00	44.64	30.26	3.75	35.44	100	34	Average



CH11 (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
2487.1	49.83	-24.17	74.00	51.19	30.29	3.86	35.51	100	0	Peak
2487.1	40.30	-13.70	54.00	41.66	30.29	3.86	35.51	100	66	Average

CH11 (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
2488.0	51.00	-23.00	74.00	52.35	30.30	3.86	35.51	100	0	Peak
2488.0	41.17	-12.83	54.00	42.52	30.30	3.86	35.51	100	282	Average

➤WLAN 802.11g

CH01 (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
2390.0	52.65	-21.35	74.00	54.10	30.26	3.75	35.46	100	0	Peak
2390.0	40.62	-13.38	54.00	42.07	30.26	3.75	35.46	125	53	Average

CH01 (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
2390.0	53.35	-20.65	74.00	54.850	30.26	3.75	35.46	100	0	Peak
2390.0	41.08	-12.92	54.00	42.53	30.26	3.75	35.46	100	33	Average

CH11 (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
2483.5	48.91	-25.09	74.00	50.27	30.29	3.86	35.51	100	0	Peak
2483.5	39.44	-14.56	54.00	40.80	30.29	3.86	35.51	130	65	Average

CH11 (Vertical)

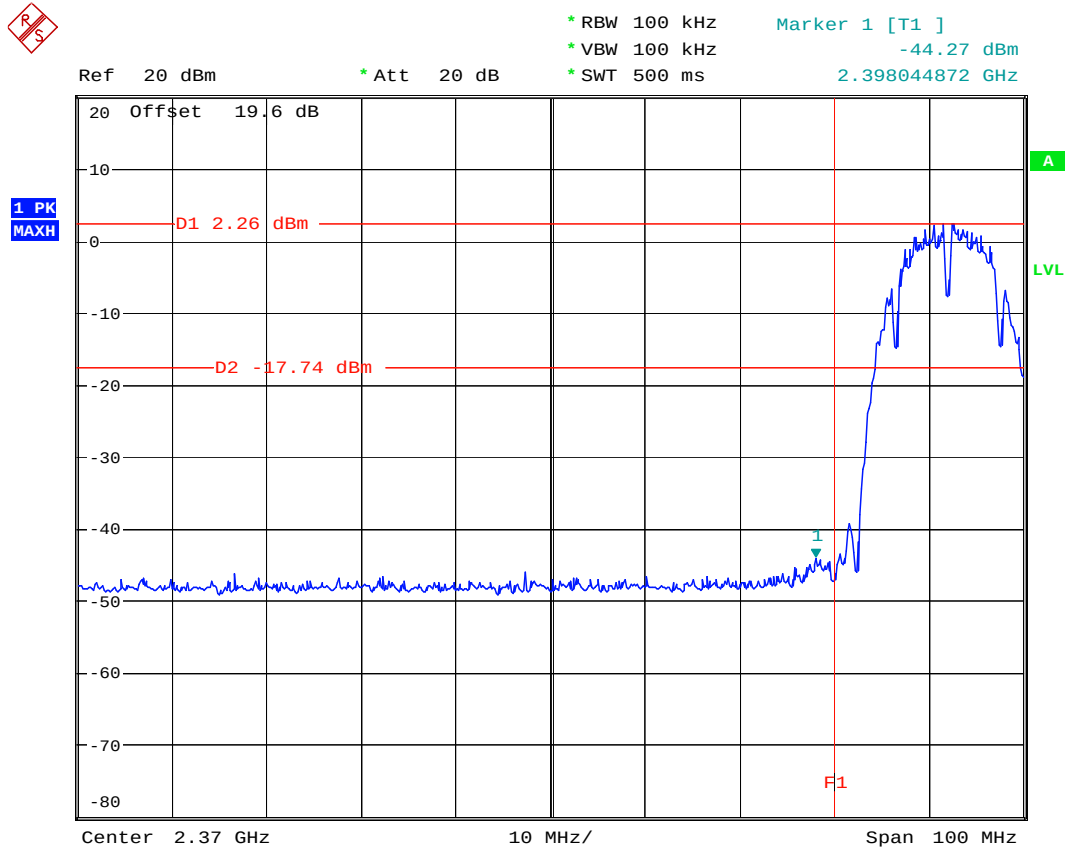
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	50.47	-23.53	74.00	51.83	30.29	3.86	35.51	100	0	Peak
2483.5	40.15	-13.85	54.00	41.51	30.29	3.86	35.51	100	34	Average



5.4.5 Band Edge :

WLAN 802.11b

CH01



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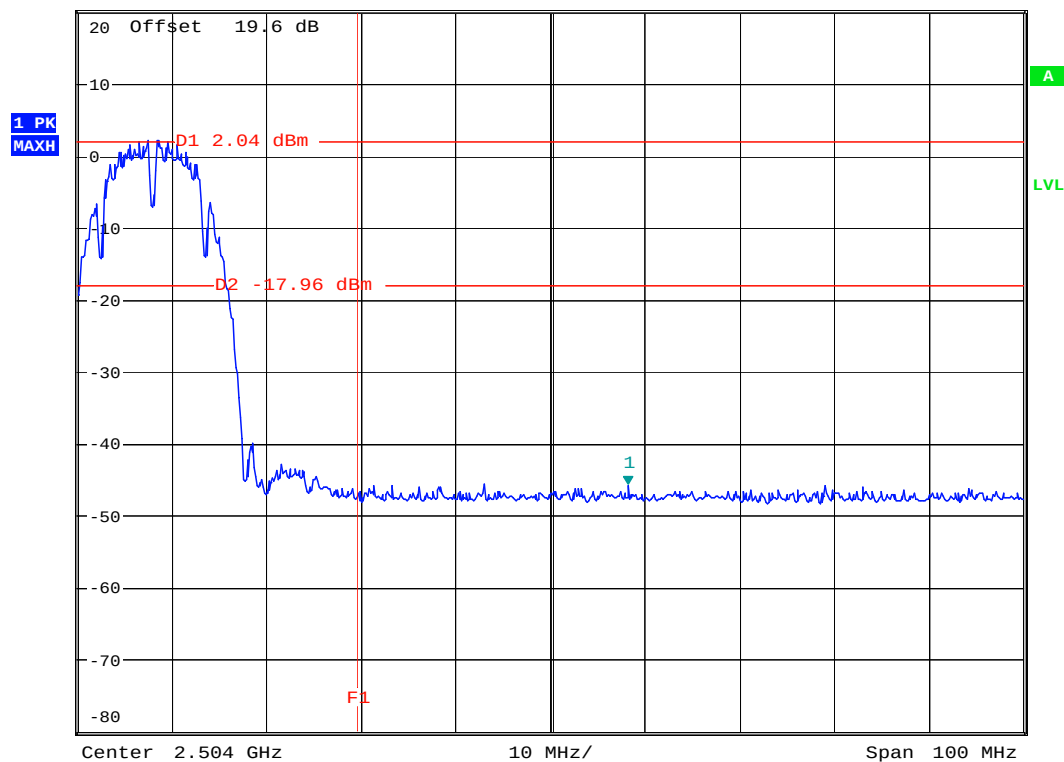


WLAN 802.11b

CH11



Ref 20 dBm * Att 20 dB * RBW 100 kHz * VBW 100 kHz * SWT 500 ms Marker 1 [T1] -45.84 dBm 2.512173077 GHz



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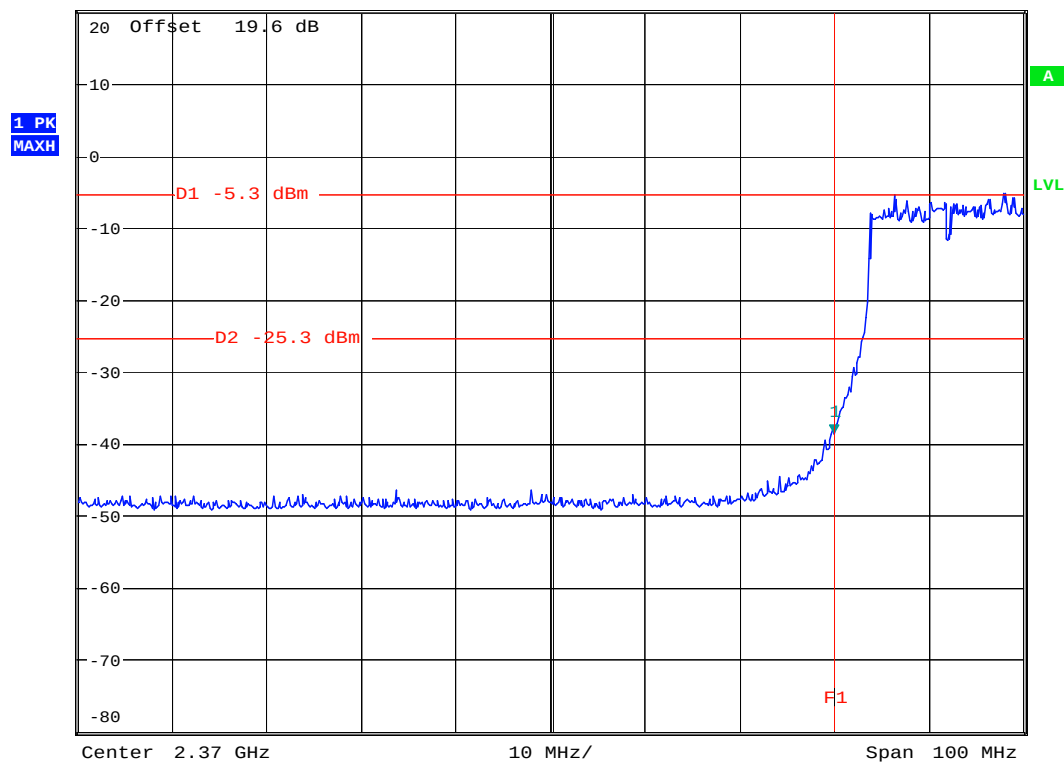


WLAN 802.11g

CH01



Ref 20 dBm * Att 20 dB * RBW 100 kHz * VBW 100 kHz * SWT 500 ms Marker 1 [T1] -38.66 dBm 2.399967949 GHz



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Date: 24.SEP.2007 18:00:46

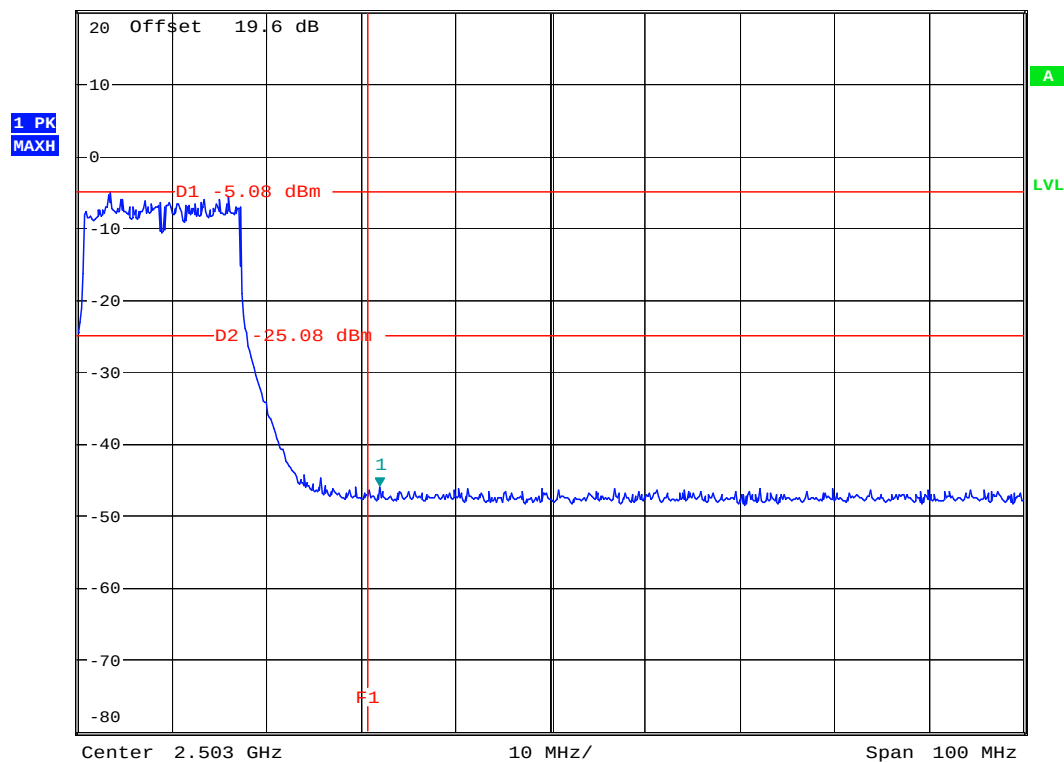


WLAN 802.11g

CH11



Ref 20 dBm * Att 20 dB * RBW 100 kHz * VBW 100 kHz * SWT 500 ms Marker 1 [T1] -46.08 dBm 2.484891026 GHz



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5.5 Peak Output Power Measurement

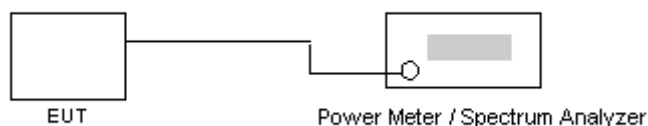
5.5.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.5.2 Test Procedure :

- 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.
- 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.

5.5.3 Test Setup Layout :



5.5.4 Test Result :

Application Type : WLAN 802.11b/g and BT

Temperature : 26~28°C

Relative Humidity : 51~52%

Test Enginner : Sun

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	16.10	1W/30 dBm
06	2437	15.88	1W/30 dBm
11	2462	16.36	1W/30 dBm

WLAN 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	15.09	1W/30 dBm
06	2437	15.41	1W/30 dBm
11	2462	15.90	1W/30 dBm



5.6 Conducted Emission

5.6.1 Measuring Instruments

As described in chapter 6 of this test Report.

The receiver setting :

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

5.6.2 Test Procedures

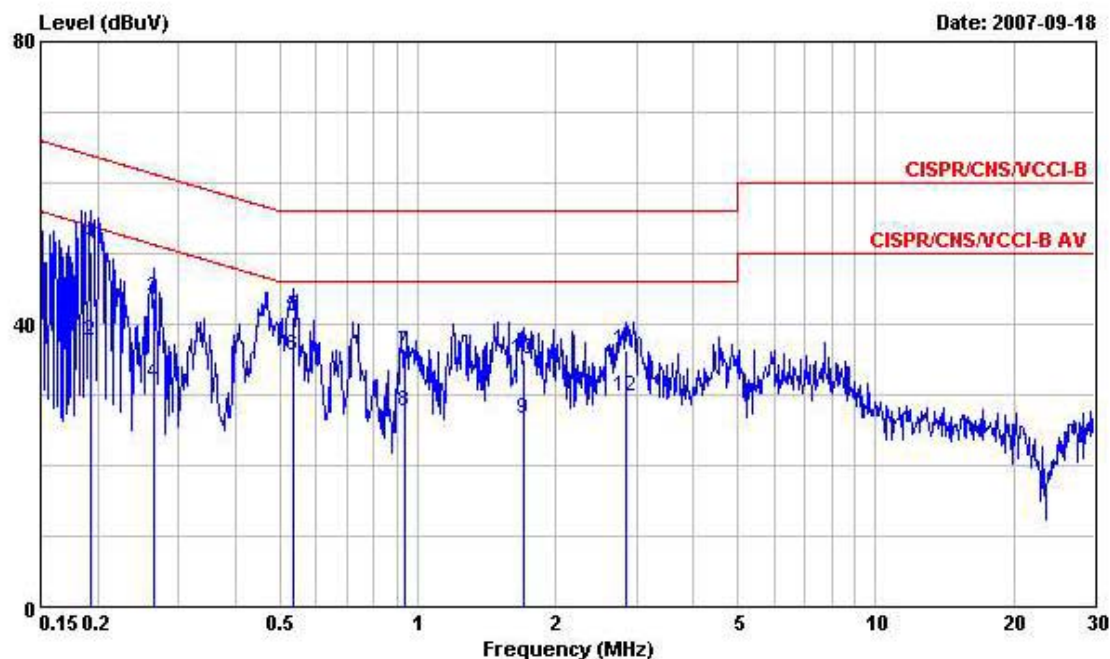
- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power port of a line impedance stabilization network (LISN).
- All the support units are connected to the other LISN.
- The LISN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



5.6.7 Test Data

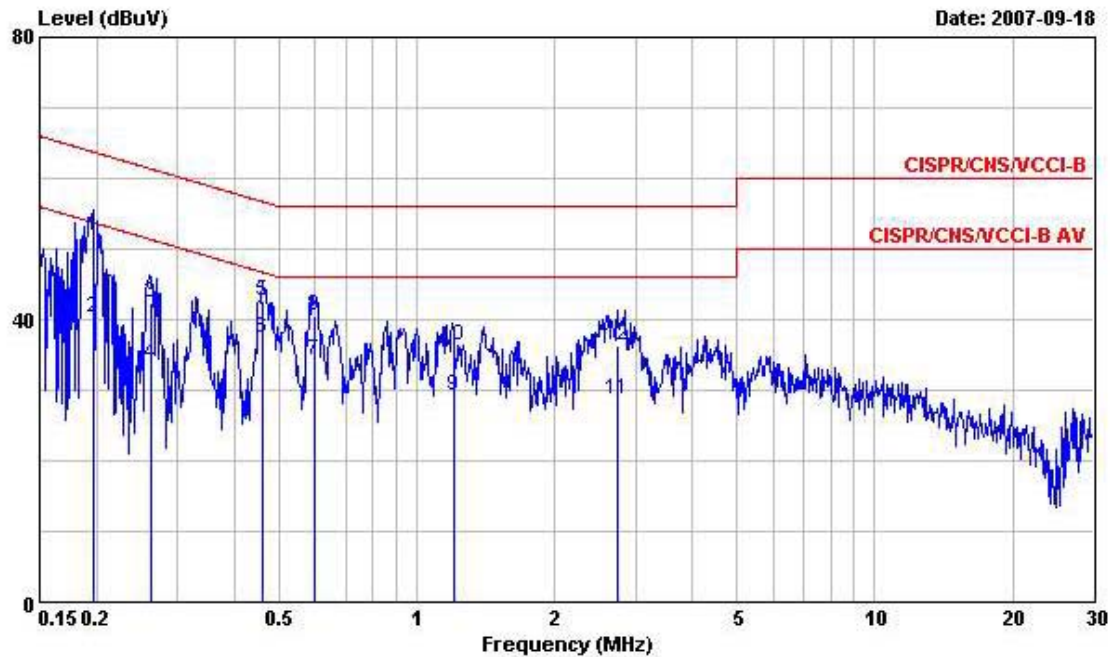
Temperature : 26~28°C
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 1

■ 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 : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1935700	50.35	-13.53	63.88	50.11	0.10	0.14	QP
2	0.1935700	37.60	-16.28	53.88	37.36	0.10	0.14	Average
3	0.2644340	43.59	-17.70	61.29	43.11	0.10	0.38	QP
4	0.2644340	31.58	-19.71	51.29	31.10	0.10	0.38	Average
5	0.5349810	41.14	-14.86	56.00	40.40	0.10	0.64	QP
6	0.5349810	35.46	-10.54	46.00	34.72	0.10	0.64	Average
7	0.9352200	36.10	-19.90	56.00	35.54	0.10	0.46	QP
8	0.9352200	27.52	-18.48	46.00	26.96	0.10	0.46	Average
9	1.703	26.70	-19.30	46.00	26.17	0.10	0.43	Average
10	1.703	35.11	-20.89	56.00	34.58	0.10	0.43	QP
11	2.850	36.26	-19.74	56.00	35.79	0.10	0.37	QP
12	2.850	29.81	-16.19	46.00	29.34	0.10	0.37	Average



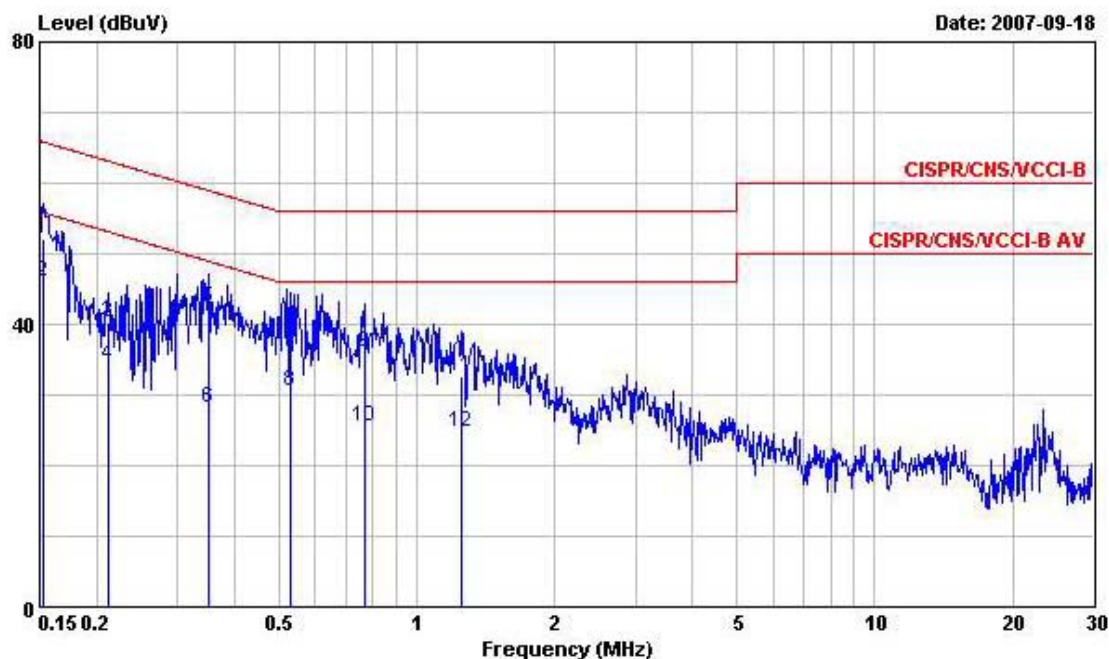
Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1965370	51.95	-11.81	63.76	51.71	0.10	0.14	QP
2	0.1965370	40.31	-13.45	53.76	40.07	0.10	0.14	Average
3	0.2630950	42.40	-18.93	61.33	41.93	0.10	0.37	QP
4	0.2630950	33.56	-17.77	51.33	33.09	0.10	0.37	Average
5	0.4612220	42.71	-13.96	56.67	41.92	0.10	0.69	QP
6	0.4612220	37.31	-9.36	46.67	36.52	0.10	0.69	Average
7	0.5967930	34.23	-11.77	46.00	33.53	0.10	0.60	Average
8	0.5967930	40.53	-15.47	56.00	39.83	0.10	0.60	QP
9	1.200	29.17	-16.83	46.00	28.63	0.10	0.44	Average
10	1.200	36.25	-19.75	56.00	35.71	0.10	0.44	QP
11	2.743	28.67	-17.33	46.00	28.14	0.15	0.38	Average
12	2.743	36.23	-19.77	56.00	35.70	0.15	0.38	QP



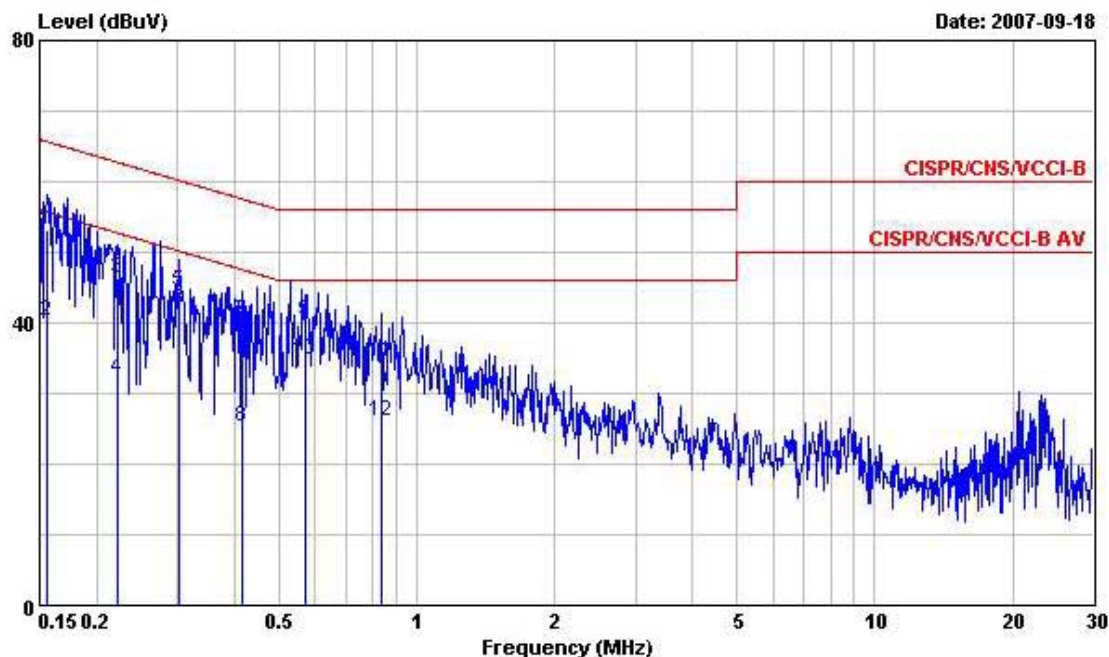
Temperature : 26~28℃
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 2

■ 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 : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1524030	52.22	-13.65	65.87	51.98	0.10	0.14	QP
2	0.1524030	45.98	-9.89	55.87	45.74	0.10	0.14	Average
3	0.2126870	40.27	-22.83	63.10	39.98	0.10	0.19	QP
4	0.2126870	34.12	-18.98	53.10	33.83	0.10	0.19	Average
5	0.3501520	42.41	-16.55	58.96	41.70	0.10	0.61	QP
6	0.3501520	28.23	-20.73	48.96	27.52	0.10	0.61	Average
7	0.5293420	38.60	-17.40	56.00	37.86	0.10	0.64	QP
8	0.5293420	30.57	-15.43	46.00	29.83	0.10	0.64	Average
9	0.7670230	36.12	-19.88	56.00	35.50	0.10	0.52	QP
10	0.7670230	25.54	-20.46	46.00	24.92	0.10	0.52	Average
11	1.250	32.70	-23.30	56.00	32.16	0.10	0.44	QP
12	1.250	24.85	-21.15	46.00	24.31	0.10	0.44	Average



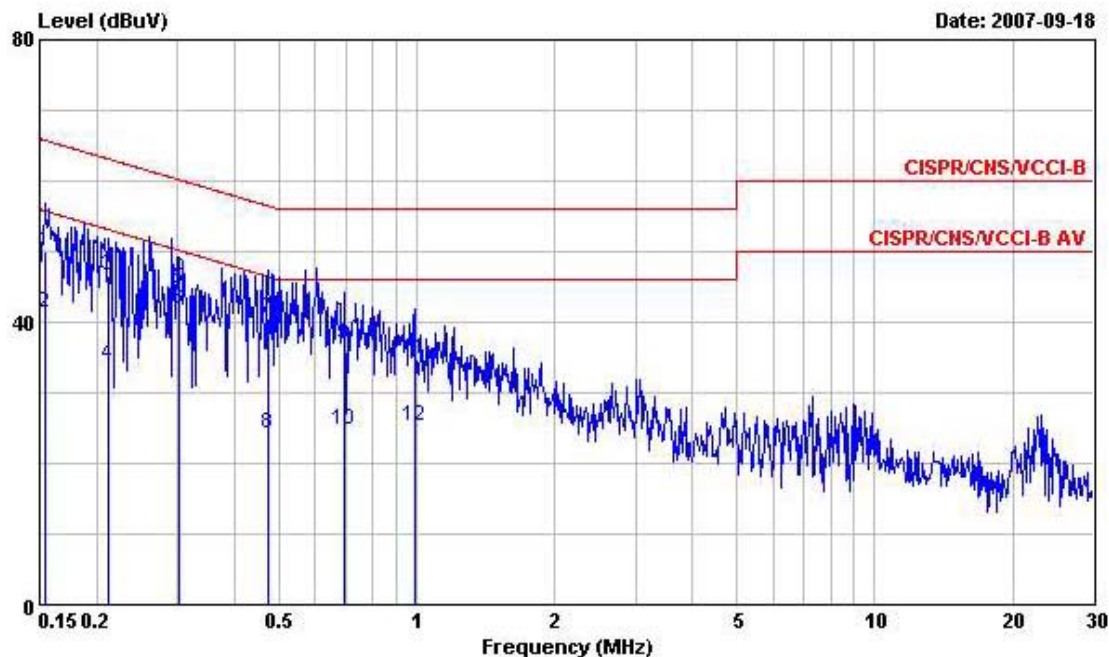
Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1556680	53.06	-12.63	65.69	52.82	0.10	0.14	QP
2	0.1556680	40.36	-15.33	55.69	40.12	0.10	0.14	Average
3	0.2220070	46.40	-16.34	62.74	46.07	0.10	0.23	QP
4	0.2220070	32.10	-20.64	52.74	31.77	0.10	0.23	Average
5	0.3034790	44.38	-15.77	60.15	43.78	0.10	0.50	QP
6	0.3034790	41.97	-8.18	50.15	41.37	0.10	0.50	Average
7	0.4148480	40.34	-17.21	57.55	39.52	0.10	0.72	QP
8	0.4148480	25.34	-22.21	47.55	24.52	0.10	0.72	Average
9	0.5731280	40.30	-15.70	56.00	39.58	0.10	0.62	QP
10	0.5731280	34.71	-11.29	46.00	33.99	0.10	0.62	Average
11	0.8348820	34.46	-21.54	56.00	33.86	0.10	0.50	QP
12	0.8348820	26.14	-19.86	46.00	25.54	0.10	0.50	Average



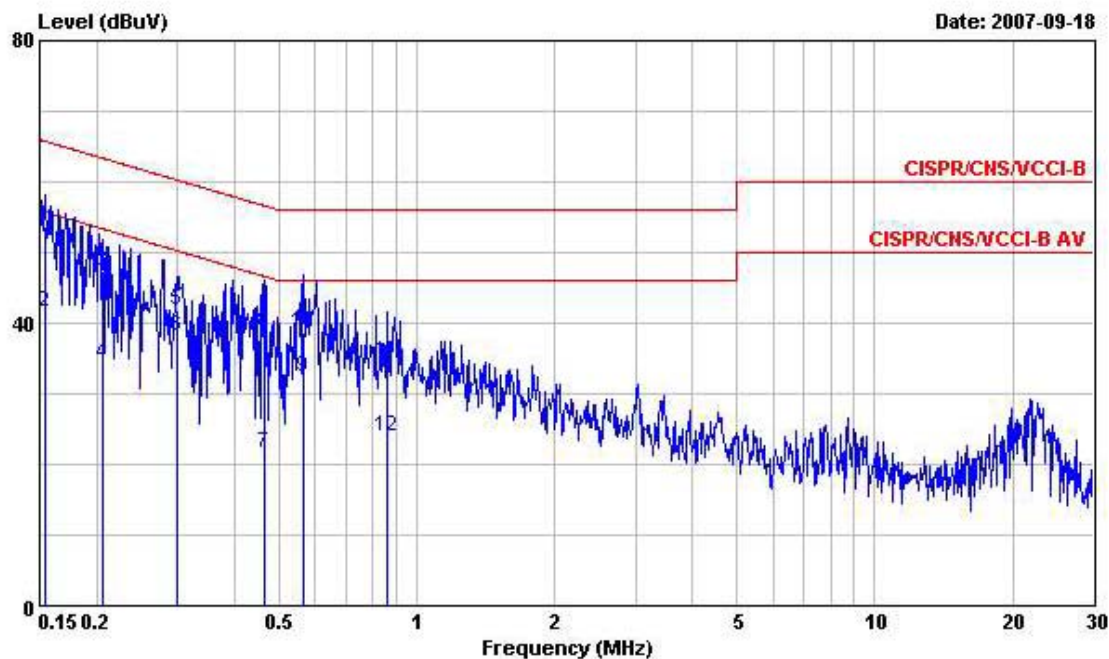
Temperature : 26~28℃
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 3

■ 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 : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : EDGE Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	50.12	-15.66	65.78	49.88	0.10	0.14	QP
2	0.1540270	41.21	-14.57	55.78	40.97	0.10	0.14	Average
3	0.2116700	46.50	-16.64	63.14	46.21	0.10	0.19	QP
4	0.2116700	34.03	-19.11	53.14	33.74	0.10	0.19	Average
5	0.3034790	44.66	-15.49	60.15	44.06	0.10	0.50	QP
6	0.3034790	41.89	-8.26	50.15	41.29	0.10	0.50	Average
7	0.4736030	40.44	-16.01	56.45	39.66	0.10	0.68	QP
8	0.4736030	24.25	-22.20	46.45	23.47	0.10	0.68	Average
9	0.6972520	36.74	-19.26	56.00	36.08	0.10	0.56	QP
10	0.6972520	24.72	-21.28	46.00	24.06	0.10	0.56	Average
11	0.9891400	34.67	-21.33	56.00	34.12	0.10	0.45	QP
12	0.9891400	25.22	-20.78	46.00	24.67	0.10	0.45	Average



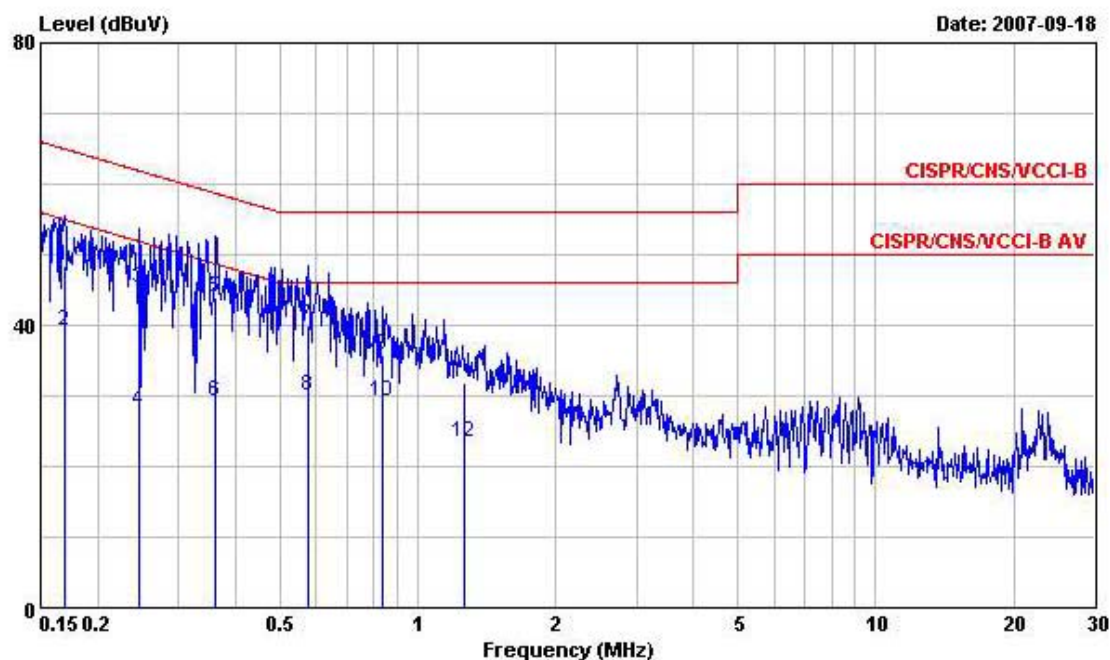
Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : EDGE Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	53.66	-12.12	65.78	53.42	0.10	0.14	QP
2	0.1540270	41.61	-14.17	55.78	41.37	0.10	0.14	Average
3	0.2061360	47.26	-16.10	63.36	46.99	0.10	0.17	QP
4	0.2061360	34.24	-19.12	53.36	33.97	0.10	0.17	Average
5	0.2986930	41.85	-18.43	60.28	41.27	0.10	0.48	QP
6	0.2986930	38.13	-12.15	50.28	37.55	0.10	0.48	Average
7	0.4661350	21.62	-24.96	46.58	20.84	0.10	0.68	Average
8	0.4661350	38.56	-18.02	56.58	37.78	0.10	0.68	QP
9	0.5640910	32.32	-13.68	46.00	31.60	0.10	0.62	Average
10	0.5640910	38.68	-17.32	56.00	37.96	0.10	0.62	QP
11	0.8572950	34.49	-21.51	56.00	33.90	0.10	0.49	QP
12	0.8572950	23.84	-22.16	46.00	23.25	0.10	0.49	Average



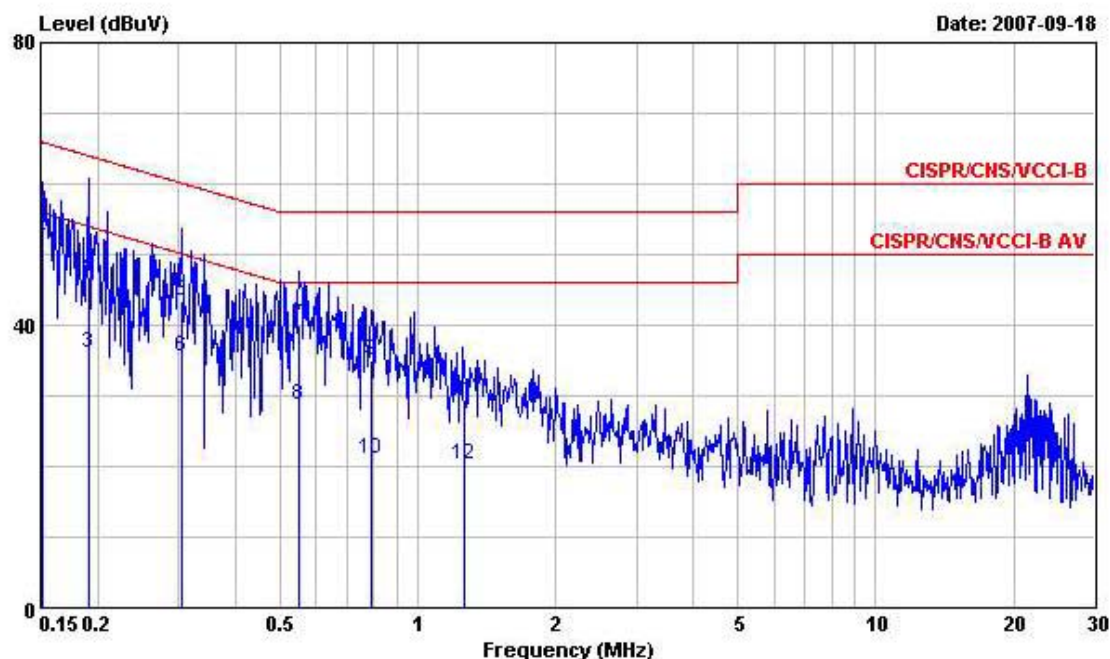
Temperature : 26~28℃
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 4

■ 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 : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : PCS190 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1694400	48.44	-16.55	64.99	48.20	0.10	0.14	QP
2	0.1694400	39.28	-15.71	54.99	39.04	0.10	0.14	Average
3	0.2468240	45.21	-16.65	61.86	44.79	0.10	0.32	QP
4	0.2468240	27.84	-24.02	51.86	27.42	0.10	0.32	Average
5	0.3614620	44.07	-14.62	58.69	43.33	0.10	0.64	QP
6	0.3614620	29.11	-19.58	48.69	28.37	0.10	0.64	Average
7	0.5761730	40.11	-15.89	56.00	39.40	0.10	0.61	QP
8	0.5761730	29.93	-16.07	46.00	29.22	0.10	0.61	Average
9	0.8393170	35.76	-20.24	56.00	35.16	0.10	0.50	QP
10	0.8393170	29.26	-16.74	46.00	28.66	0.10	0.50	Average
11	1.260	31.88	-24.12	56.00	31.34	0.10	0.44	QP
12	1.260	23.30	-22.70	46.00	22.76	0.10	0.44	Average



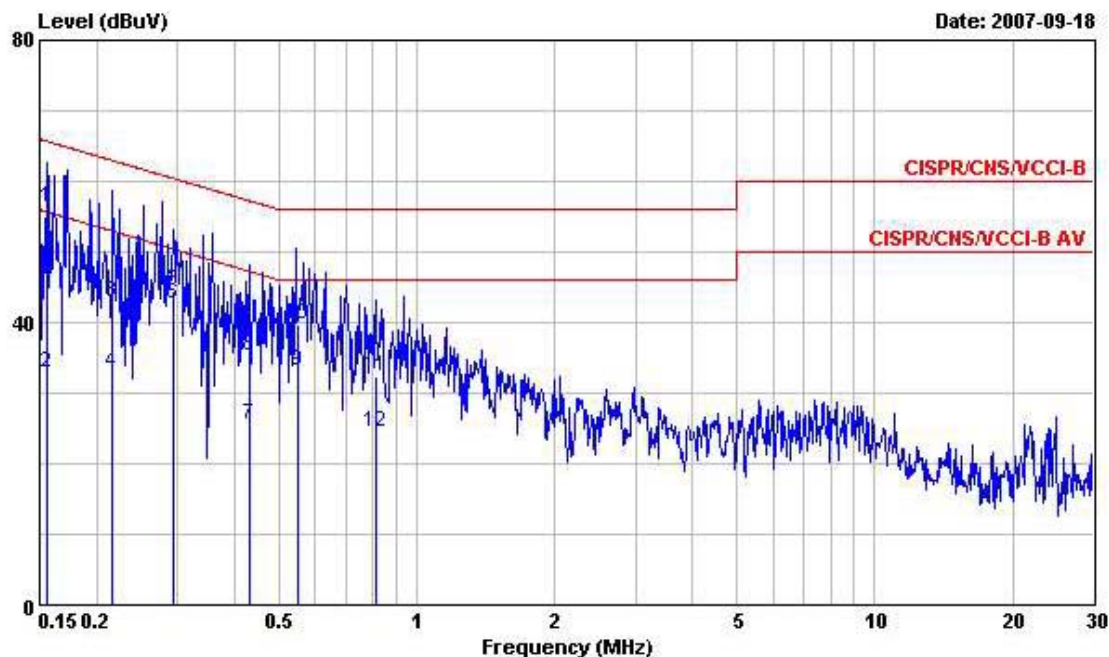
Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : From System
 Model : FR 790604
 Memo : PCS190 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1515980	38.08	-17.83	55.91	37.84	0.10	0.14	Average
2	0.1515980	52.74	-13.17	65.91	52.50	0.10	0.14	QP
3	0.1903870	36.10	-17.92	54.02	35.86	0.10	0.14	Average
4	0.1903870	46.97	-17.05	64.02	46.73	0.10	0.14	QP
5	0.3050910	43.45	-16.65	60.10	42.85	0.10	0.50	QP
6	0.3050910	35.54	-14.56	50.10	34.94	0.10	0.50	Average
7	0.5493430	40.05	-15.95	56.00	39.32	0.10	0.63	QP
8	0.5493430	28.61	-17.39	46.00	27.88	0.10	0.63	Average
9	0.7917990	34.89	-21.11	56.00	34.28	0.10	0.51	QP
10	0.7917990	20.98	-25.02	46.00	20.37	0.10	0.51	Average
11	1.260	29.59	-26.41	56.00	29.05	0.10	0.44	QP
12	1.260	20.32	-25.68	46.00	19.78	0.10	0.44	Average



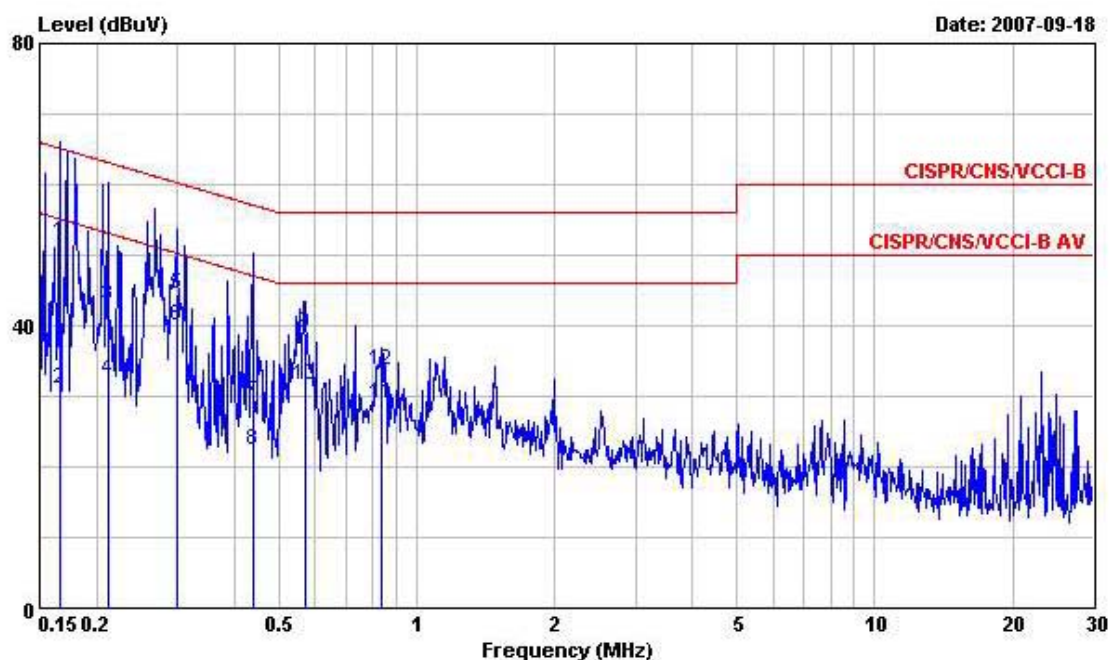
Temperature : 26~28℃
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 5

■ 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 : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class 10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Memo : TMC Rx+98MHz+Earphone+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1556680	56.34	-9.35	65.69	56.10	0.10	0.14	QP
2	0.1556680	32.90	-22.79	55.69	32.66	0.10	0.14	Average
3	0.2162030	43.02	-19.94	62.96	42.71	0.10	0.21	QP
4	0.2162030	32.90	-20.06	52.96	32.59	0.10	0.21	Average
5	0.2936320	44.40	-16.02	60.42	43.83	0.10	0.47	QP
6	0.2936320	42.55	-7.87	50.42	41.98	0.10	0.47	Average
7	0.4305230	25.40	-21.84	47.24	24.59	0.10	0.71	Average
8	0.4305230	35.37	-21.87	57.24	34.56	0.10	0.71	QP
9	0.5517430	33.16	-12.84	46.00	32.43	0.10	0.63	Average
10	0.5517430	39.67	-16.33	56.00	38.94	0.10	0.63	QP
11	0.8130550	32.38	-23.62	56.00	31.77	0.10	0.51	QP
12	0.8130550	24.45	-21.55	46.00	23.84	0.10	0.51	Average



Site : CO04-HY

Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL

EUT : GSM/EDGE 850/900/1800/1900 Smart Phone

:(Class 10)

Power : 120Vac/60Hz

Model : FR 790604

Memo : TMC Rx+98MHz+Earphone+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1658860	51.96	-13.20	65.16	51.72	0.10	0.14	QP
2	0.1658860	31.13	-24.03	55.16	30.89	0.10	0.14	Average
3	0.2116700	42.97	-20.17	63.14	42.68	0.10	0.19	QP
4	0.2116700	32.31	-20.83	53.14	32.02	0.10	0.19	Average
5	0.2986930	44.44	-15.84	60.28	43.86	0.10	0.48	QP
6	0.2986930	40.12	-10.16	50.28	39.54	0.10	0.48	Average
7	0.4374210	29.13	-27.98	57.11	28.33	0.10	0.70	QP
8	0.4374210	22.36	-24.75	47.11	21.56	0.10	0.70	Average
9	0.5701000	38.84	-17.16	56.00	38.12	0.10	0.62	QP
10	0.5701000	31.52	-14.48	46.00	30.80	0.10	0.62	Average
11	0.8393170	28.83	-17.17	46.00	28.23	0.10	0.50	Average
12	0.8393170	33.76	-22.24	56.00	33.16	0.10	0.50	QP

5.7 Radiated Emission Measurement

5.7.1 Measuring Instruments :

As described in chapter 6 of this Report.

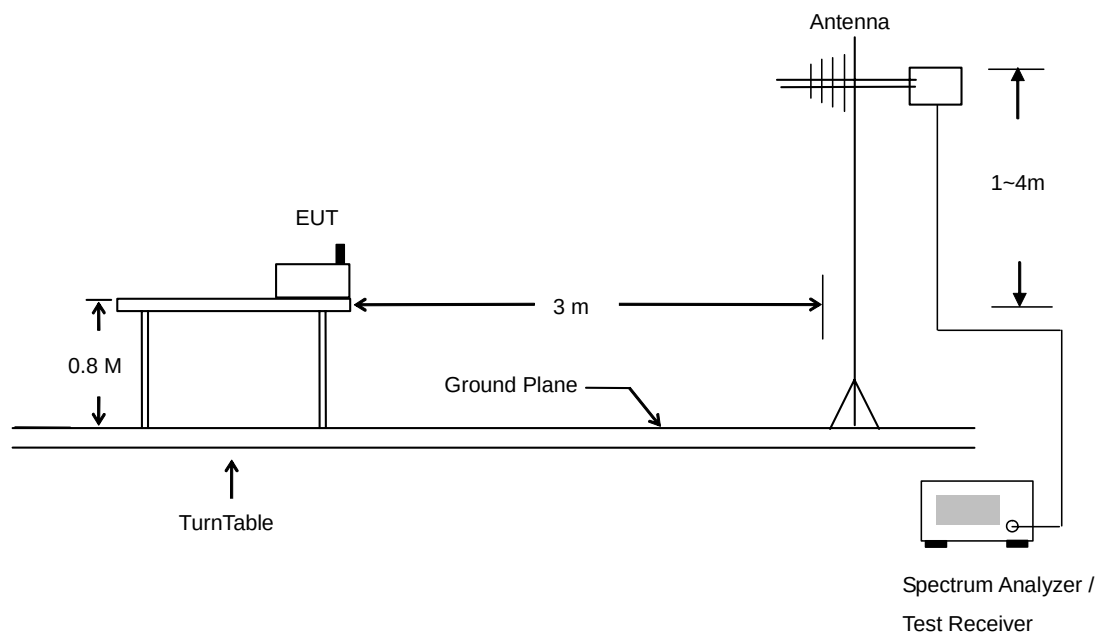
The spectrum analyzer setting :

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

5.7.2 Test Procedures :

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 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.
- 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.

5.7.3 Typical Test Setup Layout of Radiated Emission





5.7.4 Test Data

Temperature : 25~26°C

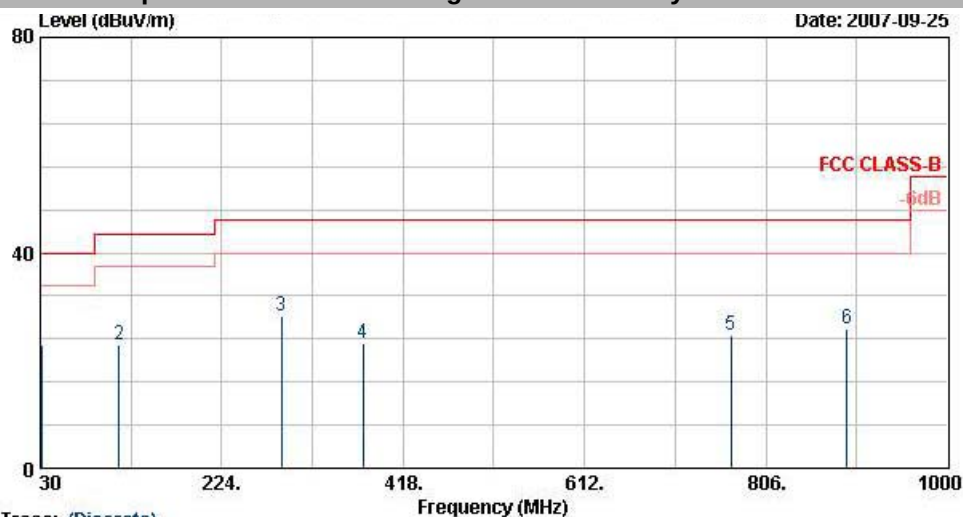
Relating Humidity : 54~55%

Test Enginner : Andrew

Test Mode : Mode 1

Polarization : Horizontal

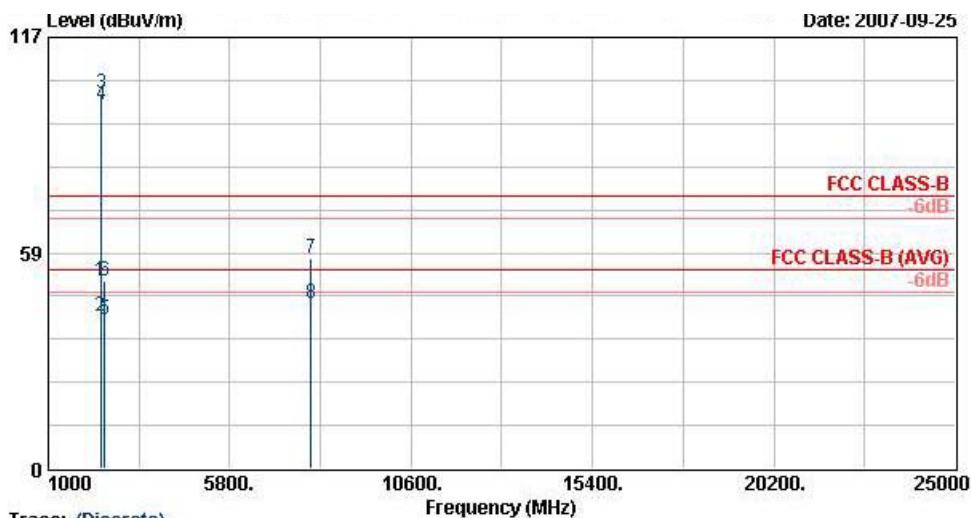
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 08CH06-HY
 Condition : LF-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH01:2412MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1 @	31.6	22.79	-17.21	40.00	35.28	18.25	0.65	31.39	100	225 Peak
2	114.2	22.90	-20.60	43.50	40.68	12.13	1.14	31.06	---	Peak
3	287.6	28.35	-17.65	46.00	44.44	12.99	1.89	30.96	---	Peak
4	374.9	23.08	-22.92	46.00	36.66	15.14	2.17	30.88	---	Peak
5	768.3	24.75	-21.25	46.00	32.39	19.52	3.36	30.52	---	Peak
6	892.9	25.88	-20.12	46.00	31.98	20.48	3.79	30.38	---	Peak



Trace: (Discrete)

Site : 03CHD6-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH01_2412MHz
 Plane : E1
 Data Rate : 1

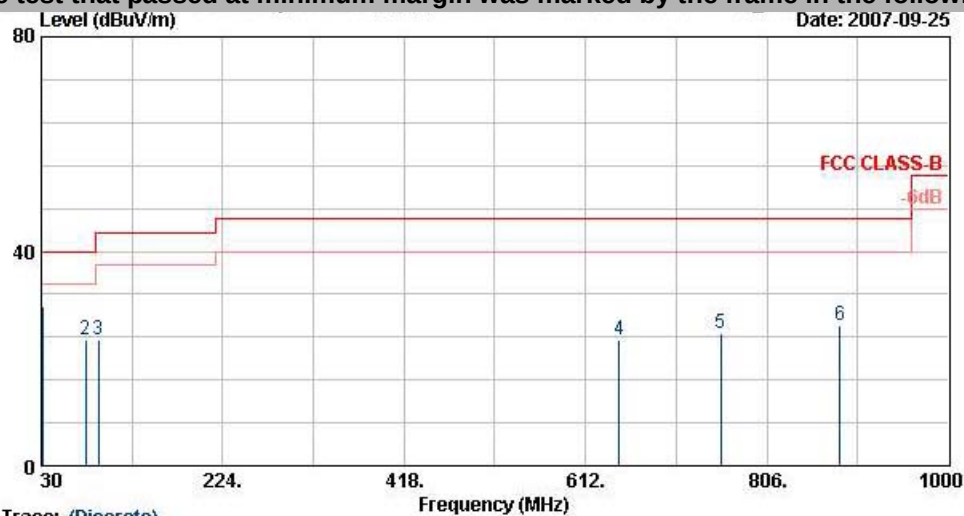
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2387.3	50.87	-23.13	74.00	52.30	30.26	3.75	35.44	100	0 Peak
2 @	2387.3	41.18	-12.82	54.00	42.61	30.26	3.75	35.44	125	53 Average
3 @	2412.0	101.79			103.21	30.27	3.77	35.46	100	0 Peak
4 @	2412.0	98.58			100.00	30.27	3.77	35.46	125	53 Average
5 @	2488.0	40.24	-13.76	54.00	41.59	30.30	3.86	35.51	125	53 Average
6	2488.0	51.07	-22.93	74.00	52.43	30.30	3.86	35.51	100	0 Peak
7 @	7947.0	56.90	-17.10	74.00	45.47	39.53	7.78	35.87	100	0 Peak
8 @	7947.0	44.84	-9.16	54.00	33.40	39.53	7.78	35.87	100	285 Average

Remark: #3 and #4 Fundamental Signal



Polarization : Vertical

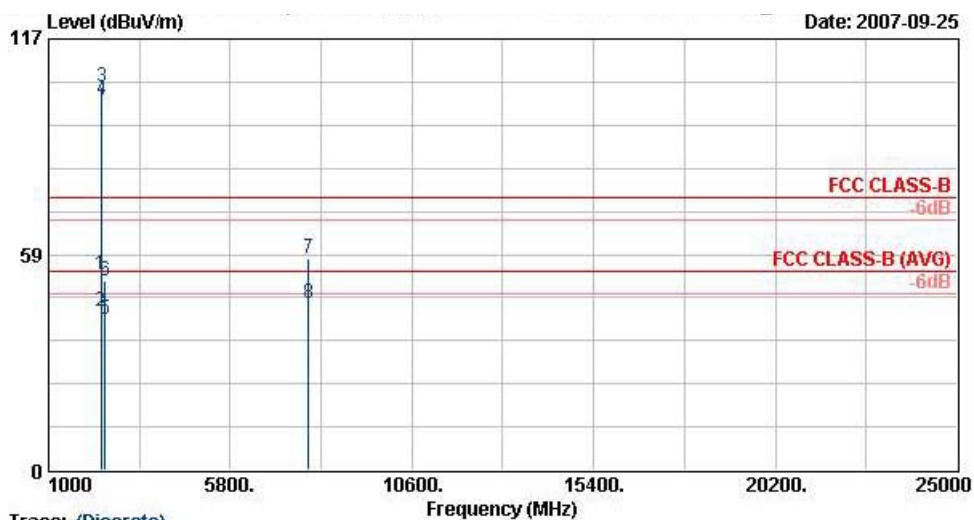
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 09CH06-HY
 Condition : LP-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH01,2412MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna 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 @	31.1	29.79	-10.21	40.00	41.63	18.95	0.64	31.43	100	332	Peak
2 @	77.8	23.35	-16.65	40.00	46.17	7.35	0.96	31.12	---	---	Peak
3	91.3	23.40	-20.10	43.50	44.25	9.23	1.04	31.12	---	---	Peak
4	647.9	23.49	-22.51	46.00	32.37	18.67	3.10	30.65	---	---	Peak
5	756.4	24.57	-21.43	46.00	32.34	19.41	3.34	30.53	---	---	Peak
6	883.8	26.08	-19.92	46.00	32.30	20.41	3.75	30.39	---	---	Peak



Trace: (Discrete)

Site : 08CH06-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH01,2412MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2386.8	53.00	-21.00	74.00	54.43	30.26	3.75	35.44	100	0 Peak
2 @	2386.8	43.21	-10.79	54.00	44.64	30.26	3.75	35.44	100	34 Average
3 @	2412.0	103.93			105.35	30.27	3.77	35.46	100	0 Peak
4 @	2412.0	100.58			102.00	30.27	3.77	35.46	100	34 Average
5 @	2484.0	40.83	-13.17	54.00	42.19	30.29	3.86	35.51	100	34 Average
6	2484.0	51.18	-22.82	74.00	52.54	30.29	3.86	35.51	100	0 Peak
7 @	7866.0	57.49	-16.51	74.00	46.24	39.41	7.74	35.90	100	0 Peak
8 @	7866.0	45.05	-8.95	54.00	33.80	39.41	7.74	35.90	100	302 Average

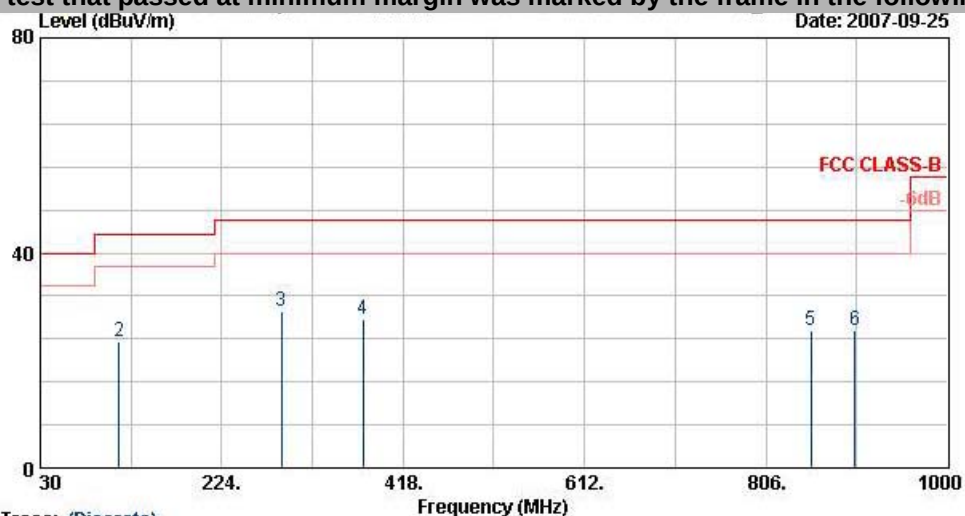
Remark: #3 and #4 Fundamental Signal



Test Mode : Mode 2

Polarization : Horizontal

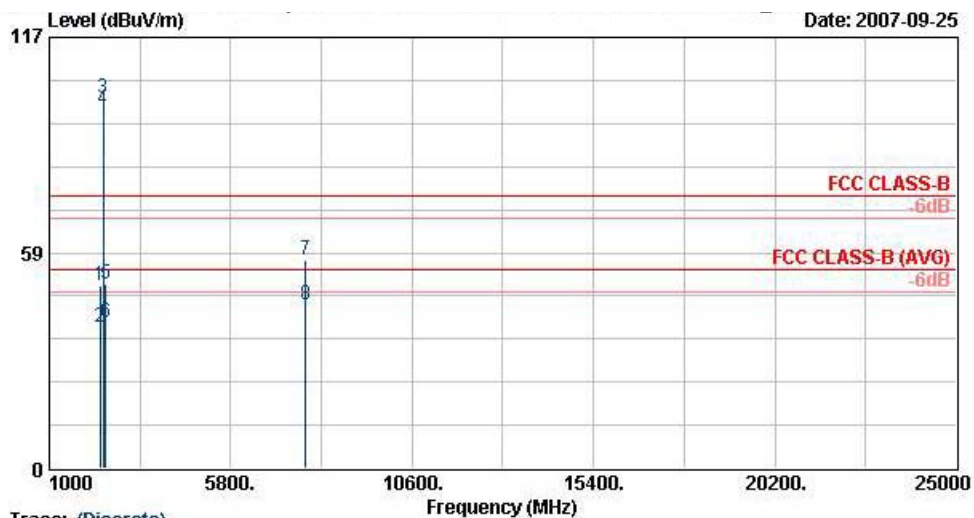
The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
 Condition : LF-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH06,2437MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	30.5	23.69	-16.31	40.00	35.52	18.95	0.64	31.43	100	265
2	114.2	23.41	-20.09	43.50	41.19	12.13	1.14	31.06	---	---
3	287.6	29.16	-16.84	46.00	45.25	12.99	1.89	30.96	---	---
4	374.9	27.80	-18.20	46.00	41.38	15.14	2.17	30.88	---	---
5	854.4	25.67	-20.33	46.00	32.25	20.21	3.63	30.42	---	---
6	901.3	25.58	-20.42	46.00	31.59	20.54	3.82	30.37	---	---



Trace: (Discrete)

Site : 03CH06-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH06,2437MHz
 Plane : E1
 Data Rate : 1

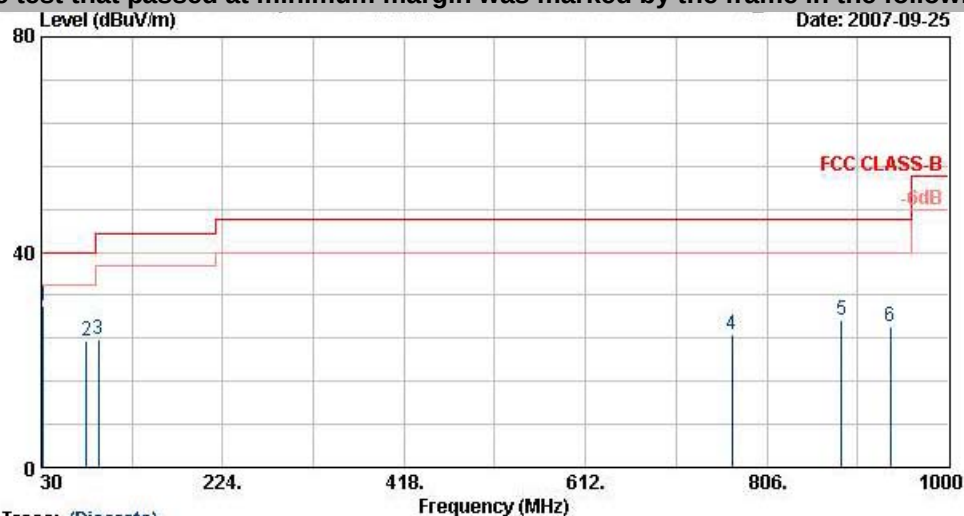
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2338.0	49.61	-24.39	74.00	51.09	30.24	3.69	35.40	100	0 Peak
2 @	2338.0	38.47	-15.53	54.00	39.95	30.24	3.69	35.40	131	66 Average
3 @	2437.0	100.62			102.00	30.28	3.82	35.47	100	0 Peak
4 @	2437.0	97.49			98.87	30.28	3.82	35.47	131	66 Average
5	2494.0	50.11	-23.89	74.00	51.46	30.30	3.88	35.53	100	0 Peak
6 @	2494.0	39.56	-14.44	54.00	40.91	30.30	3.88	35.53	131	66 Average
7	7791.0	56.73	-17.27	74.00	45.66	39.30	7.71	35.94	100	0 Peak
8 @	7791.0	44.17	-9.83	54.00	33.10	39.30	7.71	35.94	100	236 Average

Remark: #3 and #4 Fundamental Signal



Polarization : Vertical

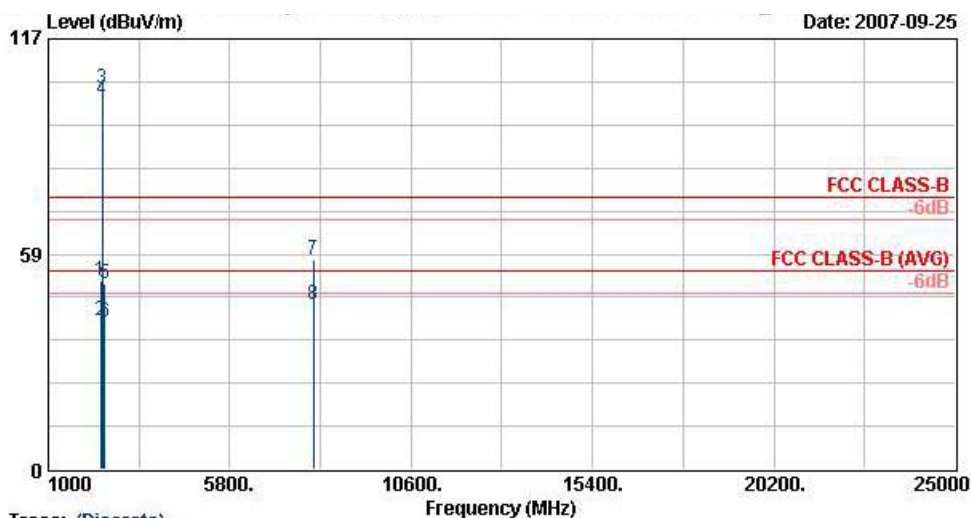
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 08CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class10)
 Power : 120Wac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH06:2437MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	32.4	30.18	-9.82	40.00	43.33	17.54	0.66	31.36	100	320
2	78.3	23.41	-16.59	40.00	46.15	7.41	0.96	31.10	---	---
3	91.3	23.83	-19.67	43.50	44.69	9.23	1.04	31.12	---	---
4	768.3	24.62	-21.38	46.00	32.26	19.52	3.36	30.52	---	---
5	885.9	27.30	-18.70	46.00	33.50	20.43	3.76	30.39	---	---
6	938.4	26.10	-19.90	46.00	31.71	20.80	3.90	30.30	---	---



Trace: (Discrete)

Site : 03CH06-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH06,2437MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2384.0	51.19	-22.81	74.00	52.63	30.25	3.75	35.44	100	0 Peak
2 @	2384.0	40.46	-13.54	54.00	41.90	30.25	3.75	35.44	100	33 Average
3 @	2437.0	103.57			104.95	30.28	3.82	35.47	100	0 Peak
4 @	2437.0	100.42			101.80	30.28	3.82	35.47	100	33 Average
5	2488.0	50.34	-23.66	74.00	51.69	30.30	3.86	35.51	100	0 Peak
6 @	2488.0	40.04	-13.96	54.00	41.39	30.30	3.86	35.51	100	33 Average
7	8007.0	56.84	-17.16	74.00	45.29	39.60	7.81	35.86	100	0 Peak
8 @	8007.0	44.75	-9.25	54.00	33.20	39.60	7.81	35.86	100	213 Average

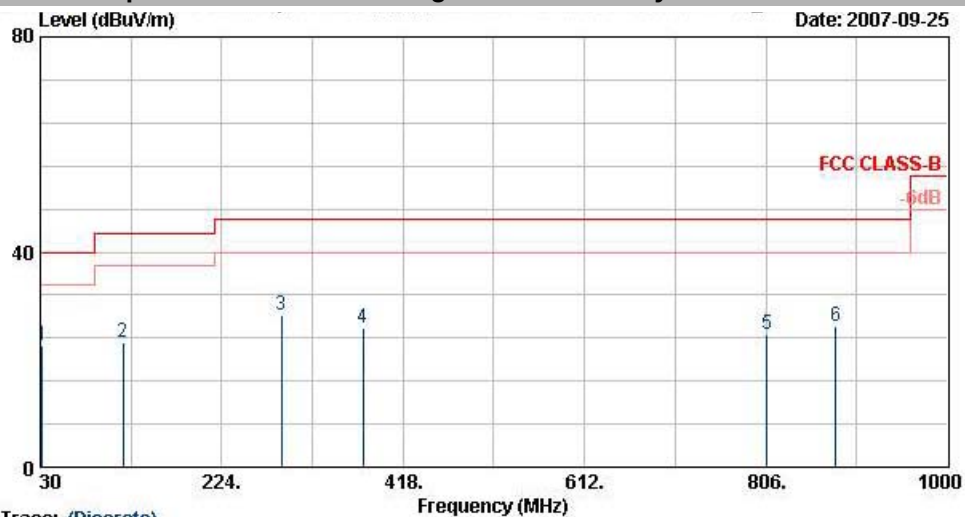
Remark: #3 and #4 Fundamental Signal



Test Mode : Mode 3

Polarization : Horizontal

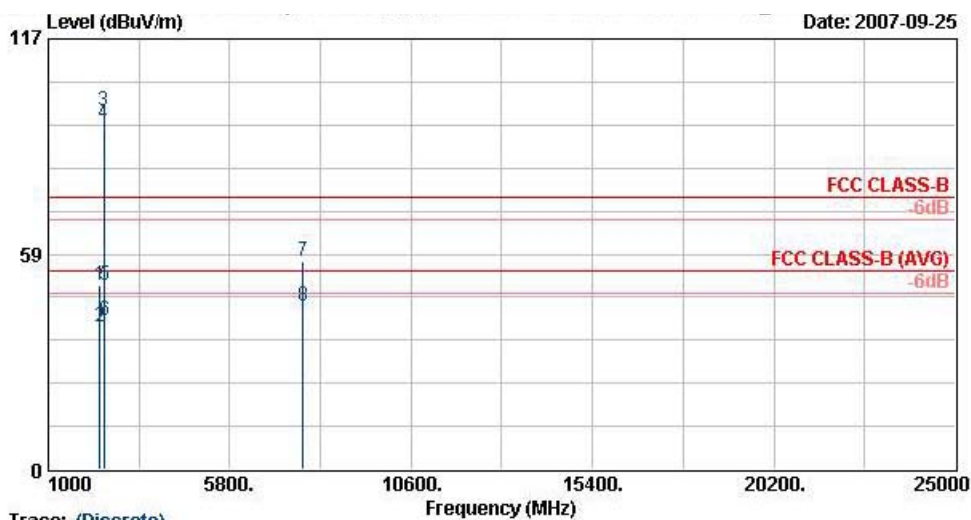
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
 Condition : LF-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH11,2462MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable Preamp	Ant Table			
	MHz	dBuV/m	dB	dBuV/m	Level	Loss Factor	dB	dB	cm	deg
1 @	32.4	22.70	-17.30	40.00	35.85	17.54	0.66	31.36	100	285 Peak
2	118.3	23.19	-20.31	43.50	40.67	12.43	1.17	31.08	---	---
3	287.6	28.23	-17.77	46.00	44.31	12.99	1.89	30.96	---	---
4	374.9	25.81	-20.19	46.00	39.39	15.14	2.17	30.88	---	---
5	806.8	24.75	-21.25	46.00	31.92	19.87	3.44	30.48	---	---
6	880.3	26.30	-19.70	46.00	32.56	20.39	3.74	30.39	---	---



Trace: (Discrete)

Site : 03CH06-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH11.2462MHz
 Plane : E1
 Data Rate : 1

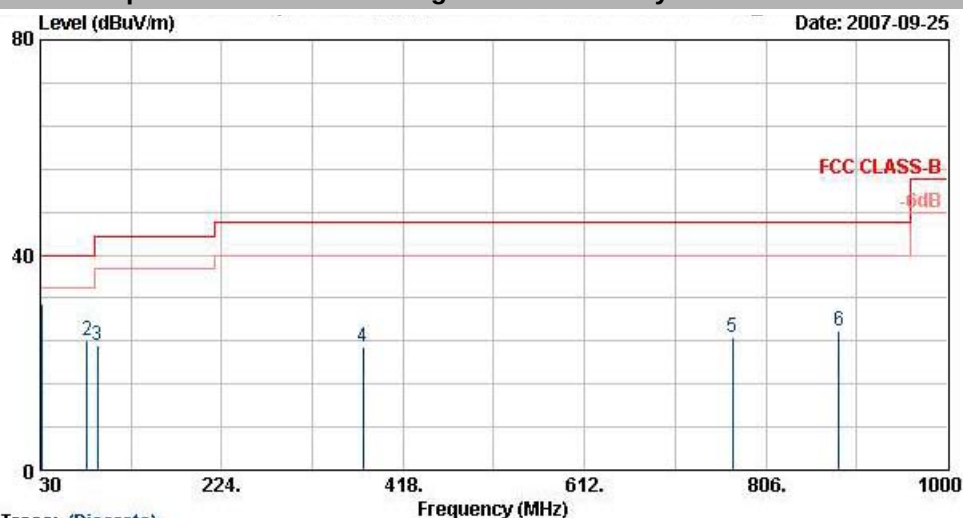
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2358.0	50.10	-23.90	74.00	51.57	30.24	3.71	35.42	100	0 Peak
2 @	2358.0	38.70	-15.30	54.00	40.17	30.24	3.71	35.42	100	66 Average
3 @	2462.0	97.31			98.68	30.29	3.84	35.49	100	0 Peak
4 @	2462.0	93.96			95.33	30.29	3.84	35.49	100	66 Average
5	2487.1	49.83	-24.17	74.00	51.19	30.29	3.86	35.51	100	0 Peak
6 @	2487.1	40.30	-13.70	54.00	41.66	30.29	3.86	35.51	100	66 Average
7	7746.0	56.68	-17.32	74.00	45.68	39.25	7.70	35.95	100	0 Peak
8 @	7746.0	44.20	-9.80	54.00	33.20	39.25	7.70	35.95	100	265 Average

Remark: #3 and #4 Fundamental Signal



Polarization : Vertical

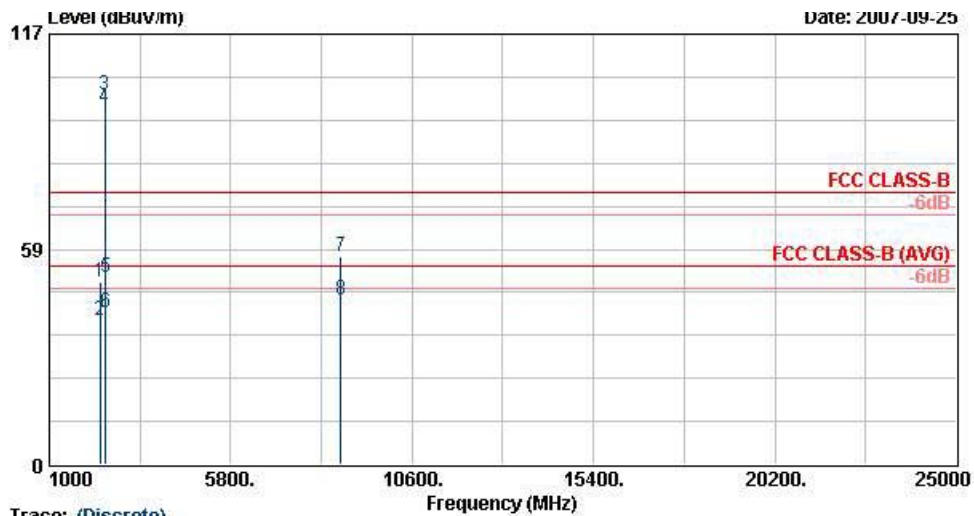
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 08CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH11:2462MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	31.1	30.99	-9.01	40.00	42.82	18.95	0.64	31.43	100	350
2 @	79.7	24.13	-15.87	40.00	46.79	7.46	0.97	31.09	---	---
3	91.3	23.26	-20.24	43.50	44.12	9.23	1.04	31.12	---	---
4	374.9	22.87	-23.13	46.00	36.44	15.14	2.17	30.88	---	---
5	770.4	24.74	-21.26	46.00	32.35	19.54	3.36	30.51	---	---
6	883.8	26.00	-20.00	46.00	32.23	20.41	3.75	30.39	---	---



Trace: (Discrete)

Site : 03CHD6-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class1D)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11b Tx_CH11:2462MHz
 Plane : E1
 Data Rate : 1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV		dB		deg	
1	2334.0	49.47	-24.53	74.00	50.95	30.23	3.69	35.40	100	0 Peak
2 @	2334.0	39.19	-14.81	54.00	40.68	30.23	3.69	35.40	100	282 Average
3 @	2462.0	100.33			101.70	30.29	3.84	35.49	100	0 Peak
4 @	2462.0	97.19			98.56	30.29	3.84	35.49	100	282 Average
5	2488.0	51.00	-23.00	74.00	52.35	30.30	3.86	35.51	100	0 Peak
6 @	2488.0	41.17	-12.83	54.00	42.52	30.30	3.86	35.51	100	282 Average
7	8712.0	56.56	-17.44	74.00	45.24	38.90	8.69	36.26	100	0 Peak
8 @	8712.0	44.73	-9.27	54.00	33.40	38.90	8.69	36.26	100	247 Average

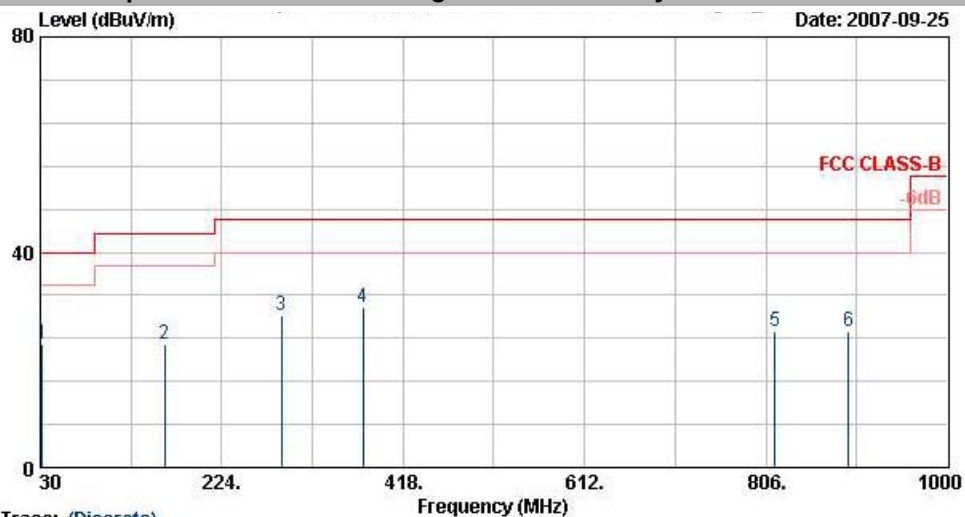
Remark: #3 and #4 Fundamental Signal



Test Mode : Mode 4

Polarization : Horizontal

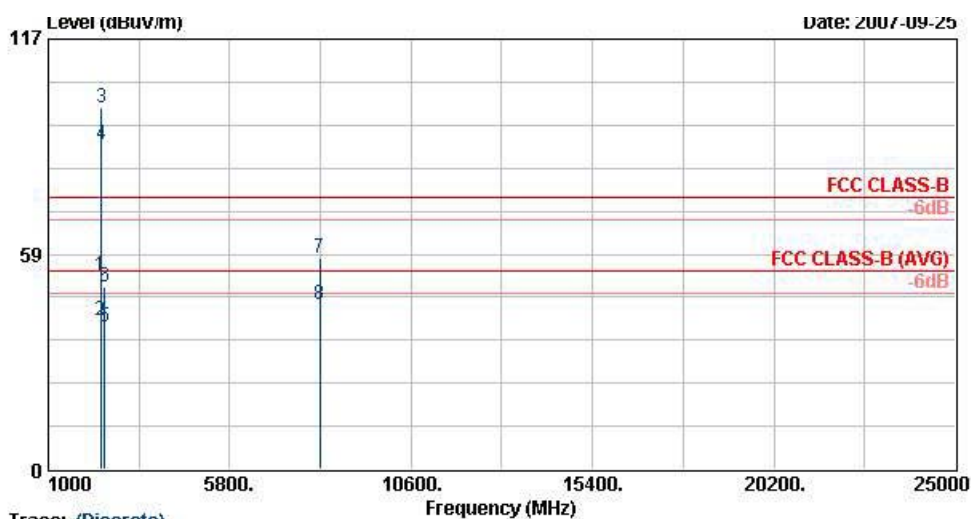
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
 Condition : LF-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH01,2412MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	31.9	22.82	-17.18	40.00	35.31	18.25	0.65	31.39	---	Peak
2	163.4	22.94	-20.56	43.50	42.51	10.05	1.40	31.02	---	Peak
3	287.6	28.35	-17.65	46.00	44.43	12.99	1.89	30.96	---	Peak
4 @	374.9	29.63	-16.37	46.00	43.21	15.14	2.17	30.88	100	265 Peak
5	815.9	25.13	-20.87	46.00	32.20	19.93	3.47	30.47	---	Peak
6	894.3	25.41	-20.59	46.00	31.51	20.49	3.80	30.38	---	Peak



Trace: (Discrete)

Site : 03CHD6-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 : (Class10)
 Power : 120V_{ac}/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH01,2412MHz
 Plane : E1
 Data Rate : 54

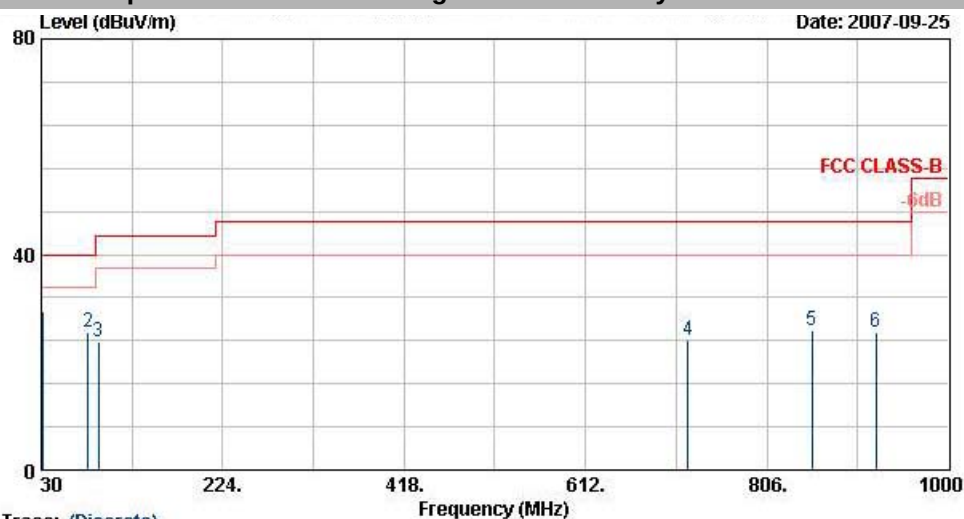
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.0	52.65	-21.35	74.00	54.10	30.26	3.75	35.46	100	0 Peak
2 @	2390.0	40.62	-13.38	54.00	42.07	30.26	3.75	35.46	125	53 Average
3 @	2412.0	98.46			99.87	30.27	3.77	35.46	100	0 Peak
4 @	2412.0	88.46			89.88	30.27	3.77	35.46	125	53 Average
5 @	2488.0	38.77	-15.23	54.00	40.12	30.30	3.86	35.51	125	53 Average
6	2488.0	49.72	-24.28	74.00	51.07	30.30	3.86	35.51	100	0 Peak
7	8187.0	57.30	-16.70	74.00	45.81	39.45	8.00	35.96	100	0 Peak
8 @	8187.0	44.99	-9.01	54.00	33.50	39.45	8.00	35.96	100	288 Average

Remark: #3 and #4 Fundamental Signal



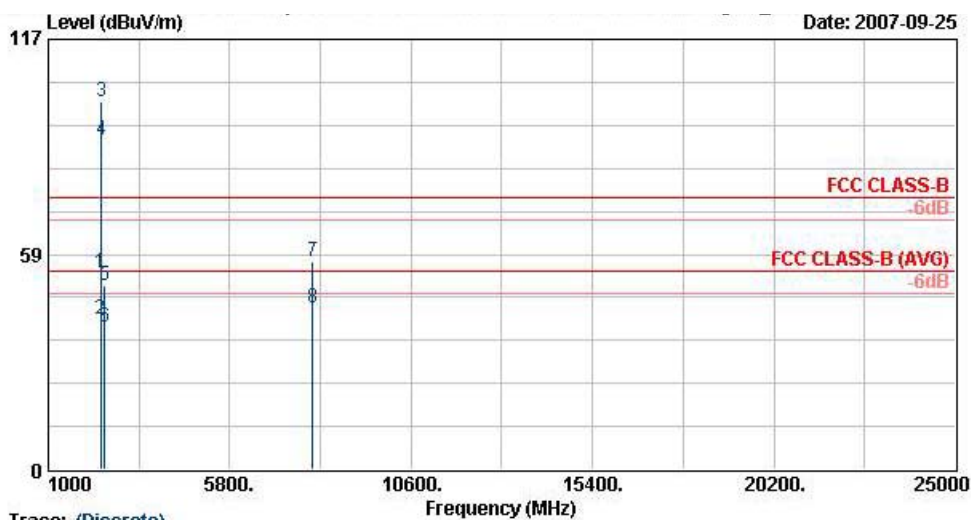
Polarization : Vertical

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



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH01,2412MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over Limit	Limit Line	ReadAntenna 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 @	31.6	29.54	-10.46	40.00	42.03	18.25	0.65	31.39	100	320	Peak
2 @	79.7	25.65	-14.35	40.00	48.31	7.46	0.97	31.09	---	---	Peak
3	91.3	23.86	-19.64	43.50	44.72	9.23	1.04	31.12	---	---	Peak
4	721.4	24.15	-21.85	46.00	32.34	19.09	3.28	30.56	---	---	Peak
5	854.4	25.82	-20.18	46.00	32.41	20.21	3.63	30.42	---	---	Peak
6	922.3	25.57	-20.43	46.00	31.35	20.69	3.86	30.33	---	---	Peak



Trace: (Discrete)

Site : 03CHD6-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH01_2412MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2390.0	53.35	-20.65	74.00	54.80	30.26	3.75	35.46	100	0 Peak
2 @	2390.0	41.08	-12.92	54.00	42.53	30.26	3.75	35.46	100	33 Average
3 @	2412.0	100.10			101.52	30.27	3.77	35.46	100	0 Peak
4 @	2412.0	89.70			91.12	30.27	3.77	35.46	100	33 Average
5	2494.0	50.06	-23.94	74.00	51.41	30.30	3.88	35.53	100	0 Peak
6 @	2494.0	38.89	-15.11	54.00	40.24	30.30	3.88	35.53	100	33 Average
7	7992.0	56.75	-17.25	74.00	45.23	39.58	7.79	35.85	100	0 Peak
8 @	7992.0	44.02	-9.98	54.00	32.50	39.58	7.79	35.85	100	266 Average

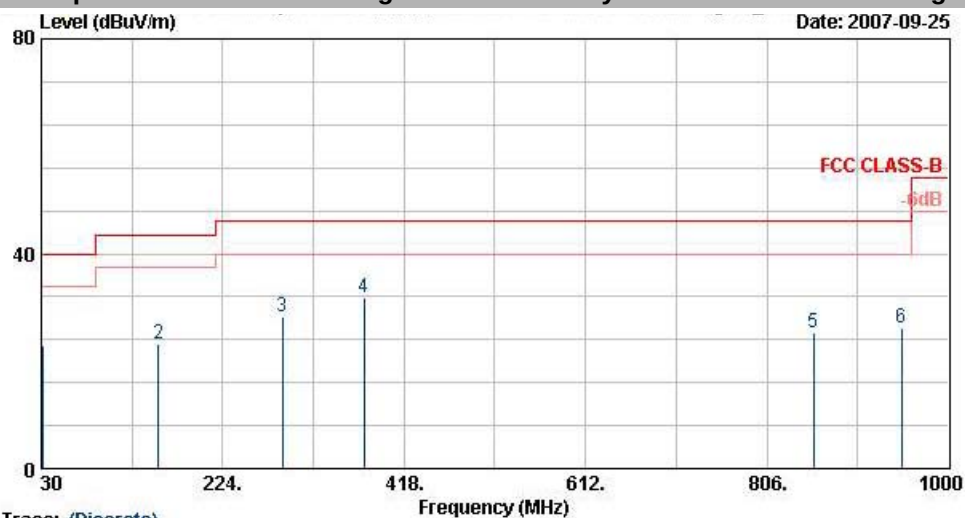
Remark: #3 and #4 Fundamental Signal



Test Mode : Mode 5

Polarization : Horizontal

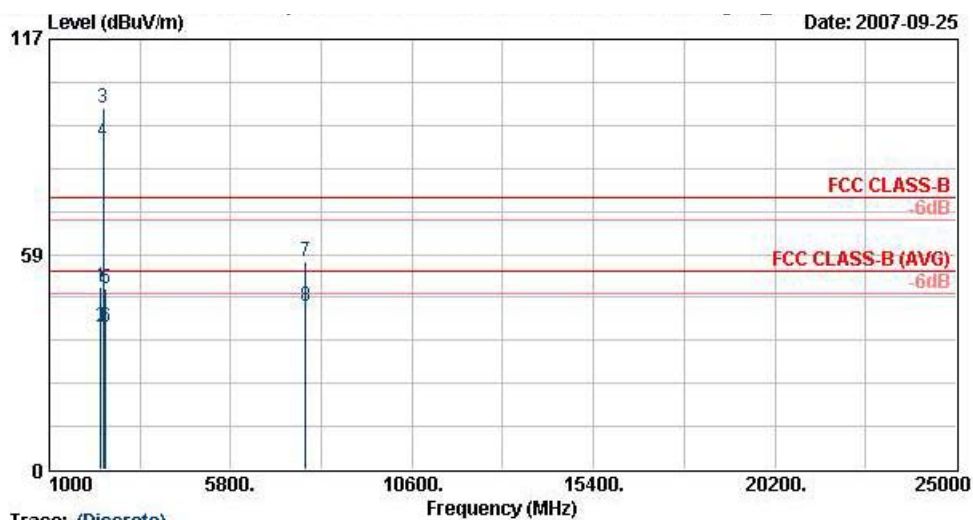
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
 Condition : LP-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH06/2437MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	31.1	22.92	-17.08	40.00	34.75	18.95	0.64	31.43	100	295 Peak
2	155.3	23.25	-20.25	43.50	42.67	10.27	1.37	31.05	---	---
3	287.6	28.26	-17.74	46.00	44.35	12.99	1.89	30.96	---	---
4 @	374.9	31.88	-14.12	46.00	45.45	15.14	2.17	30.88	---	---
5	855.8	25.38	-20.62	46.00	31.96	20.21	3.64	30.42	---	---
6	950.3	26.17	-19.83	46.00	31.64	20.89	3.92	30.28	---	---



Trace: (Discrete)

Site : 08CH06-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH06,2437MHz
 Plane : E1
 Data Rate : 54

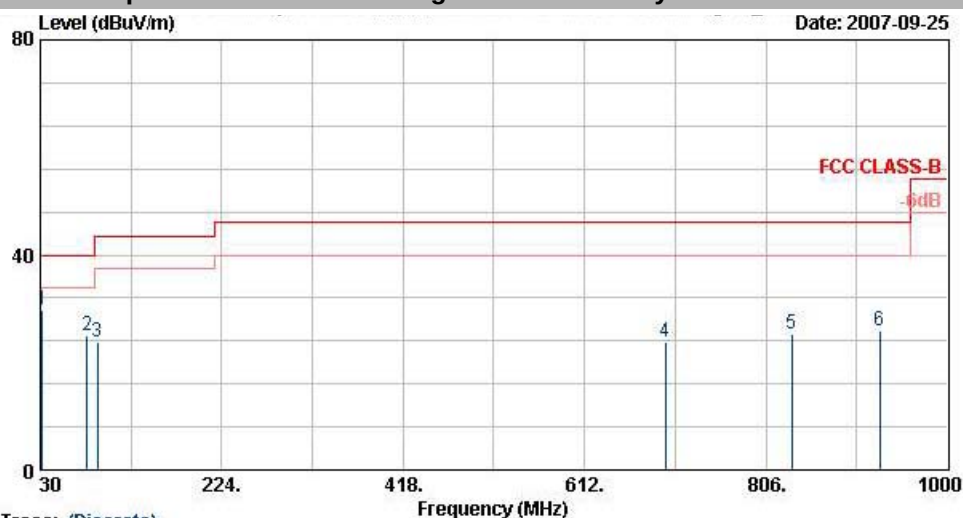
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2368.0	49.75	-24.25	74.00	51.22	30.24	3.73	35.44	100	0
2	2368.0	38.56	-15.44	54.00	40.02	30.24	3.73	35.44	124	50
3 @	2437.0	98.26			99.66	30.28	3.82	35.49	100	0
4 @	2437.0	89.02			90.40	30.28	3.82	35.47	124	50
5	2488.0	48.99	-25.01	74.00	50.34	30.30	3.86	35.51	100	0
6	2488.0	38.81	-15.19	54.00	40.16	30.30	3.86	35.51	124	50
7	7776.0	56.70	-17.30	74.00	45.62	39.30	7.71	35.94	100	0
8 @	7776.0	44.47	-9.53	54.00	33.40	39.30	7.71	35.94	100	236
										Average

Remark: #3 and #4 Fundamental Signal



Polarization : Vertical

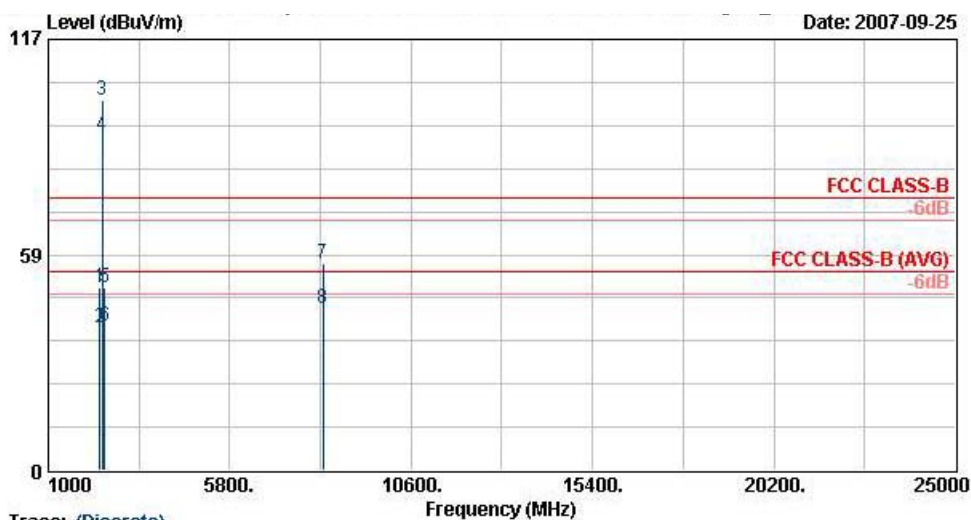
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 08CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH06:2437MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1 @	31.9	29.71	-10.29	40.00	42.21	18.25	0.65	31.39	100	360 Peak
2	79.7	25.06	-14.94	40.00	47.73	7.46	0.97	31.09	---	Peak
3	91.3	23.70	-19.80	43.50	44.55	9.23	1.04	31.12	---	Peak
4	698.3	23.82	-22.18	46.00	32.28	18.88	3.24	30.59	---	Peak
5	833.4	25.25	-20.75	46.00	32.10	20.05	3.55	30.45	---	Peak
6	927.9	25.78	-20.22	46.00	31.50	20.73	3.88	30.32	---	Peak



Trace: (Discrete)

Site : 03CH06-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH06,2437MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2364.0	49.76	-24.24	74.00	51.21	30.24	3.73	35.42	100	0 Peak
2	2364.0	38.79	-15.21	54.00	40.24	30.24	3.73	35.42	100	33 Average
3 @	2437.0	100.26			101.65	30.28	3.82	35.49	100	0 Peak
4 @	2437.0	90.87			92.25	30.28	3.82	35.47	100	33 Average
5	2484.0	49.58	-24.42	74.00	50.94	30.29	3.86	35.51	100	0 Peak
6	2484.0	39.05	-14.95	54.00	40.41	30.29	3.86	35.51	100	33 Average
7	8271.0	56.26	-17.74	74.00	44.78	39.38	8.10	36.00	100	0 Peak
8 @	8271.0	43.88	-10.12	54.00	32.40	39.38	8.10	36.00	100	220 Average

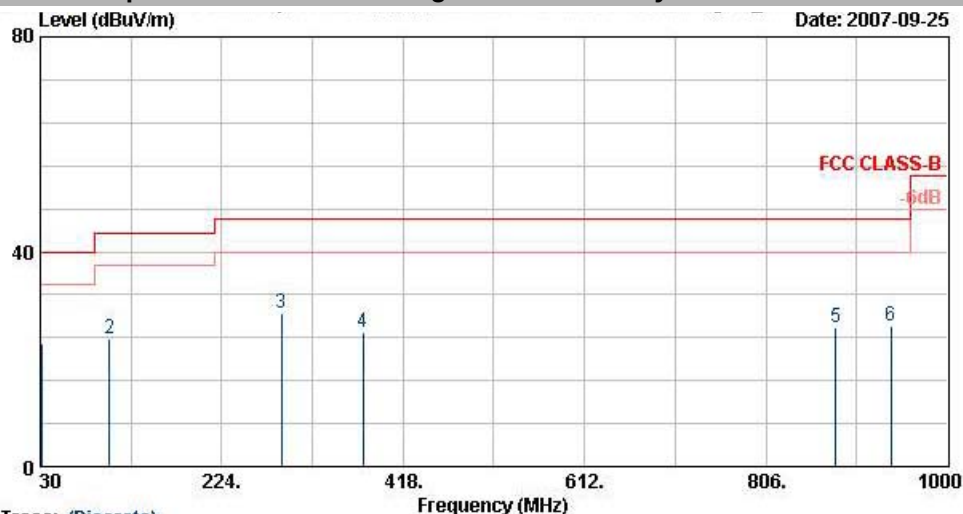
Remark: #3 and #4 Fundamental Signal



Test Mode : Mode 6

Polarization : Horizontal

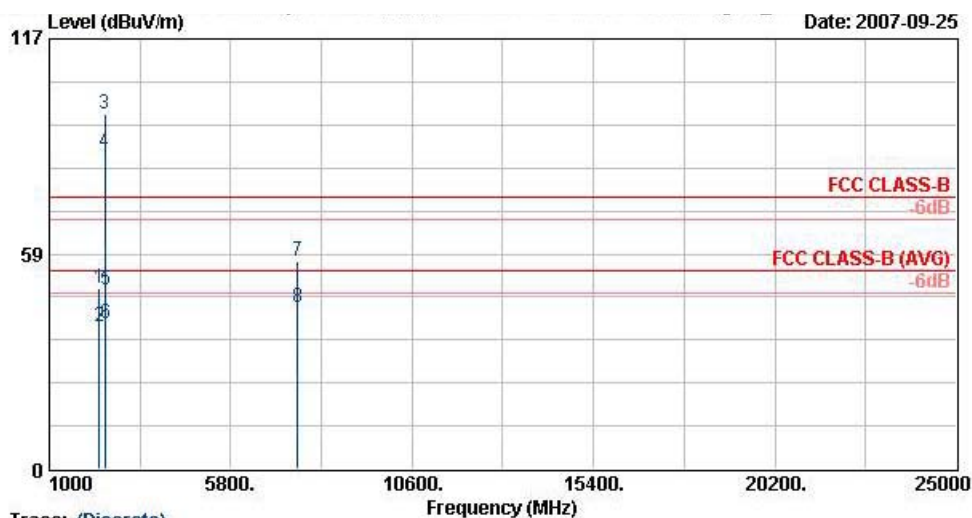
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
 Condition : LF-ANT(951121) HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH11_2462MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	31.1	22.99	-17.01	40.00	34.82	18.95	0.64	31.43	100	305
2	104.0	23.75	-19.75	43.50	42.48	11.29	1.08	31.11	---	---
3	287.6	28.54	-17.46	46.00	44.62	12.99	1.89	30.96	---	---
4	374.9	24.88	-21.12	46.00	38.46	15.14	2.17	30.88	---	---
5	880.3	25.86	-20.14	46.00	32.13	20.39	3.74	30.39	---	---
6	939.8	26.08	-19.92	46.00	31.67	20.81	3.90	30.30	---	---



Trace: (Discrete)

Site : 03CHD6-HY
 Condition : SHF-EHF HORN HORIZONTAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH11_2462MHz
 Plane : E1
 Data Rate : 54

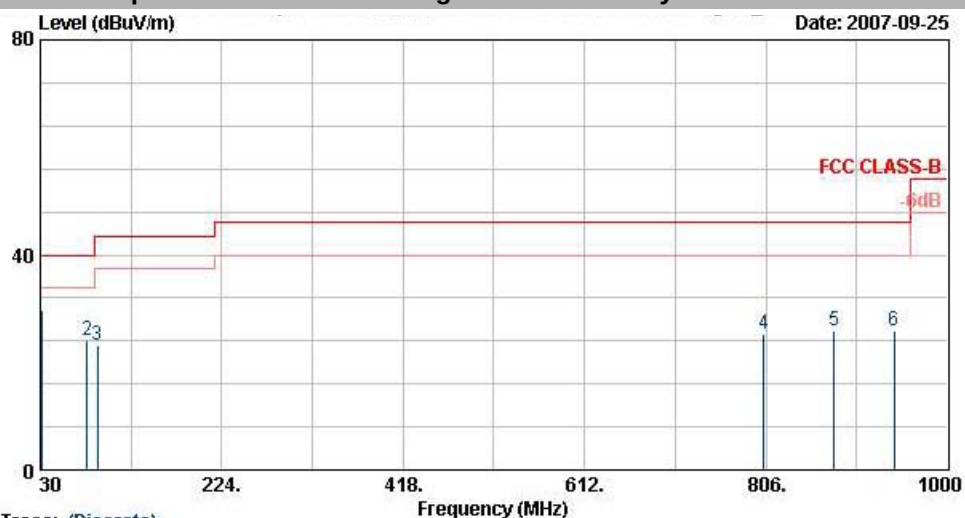
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2324.0	49.32	-24.68	74.00	50.81	30.23	3.69	35.40	100	0 Peak
2 @	2324.0	38.64	-15.36	54.00	40.13	30.23	3.69	35.40	130	65 Average
3 @	2462.0	96.35			97.72	30.29	3.84	35.49	100	0 Peak
4 @	2462.0	86.17			87.54	30.29	3.84	35.49	130	65 Average
5	2483.5	48.91	-25.09	74.00	50.27	30.29	3.86	35.51	100	0 Peak
6 @	2483.5	39.44	-14.56	54.00	40.80	30.29	3.86	35.51	130	65 Average
7	7566.0	56.76	-17.24	74.00	46.16	38.99	7.64	36.04	100	0 Peak
8 @	7566.0	44.00	-10.00	54.00	33.40	38.99	7.64	36.04	100	210 Average

Remark: #3 and #4 Fundamental Signal



Polarization : Vertical

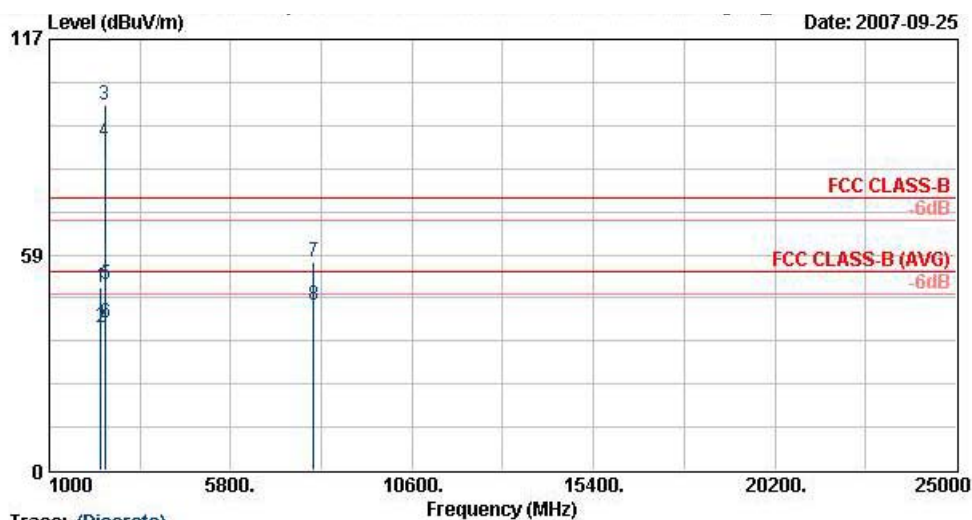
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 08CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Wac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH11,2462MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1 @	31.1	29.67	-10.33	40.00	41.50	18.95	0.64	31.43	100	354 Peak
2 @	79.7	24.06	-15.94	40.00	46.73	7.46	0.97	31.09	---	---
3	91.3	23.07	-20.43	43.50	43.93	9.23	1.04	31.12	---	---
4	803.3	25.42	-20.58	46.00	32.64	19.84	3.42	30.49	---	---
5	878.9	26.01	-19.99	46.00	32.29	20.38	3.73	30.39	---	---
6	943.3	25.81	-20.19	46.00	31.35	20.84	3.91	30.29	---	---



Trace: (Discrete)

Site : 03CH06-HY
 Condition : SHF-EHF HORN VERTICAL
 EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
 (Class10)
 Power : 120Vac/60Hz
 Model : FR 790604
 Mode : 11g Tx_CH11,2462MHz
 Plane : E1
 Data Rate : 54

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2358.0	49.60	-24.40	74.00	51.06	30.24	3.71	35.42	100	0 Peak
2 @	2358.0	38.59	-15.41	54.00	40.06	30.24	3.71	35.42	100	34 Average
3 @	2462.0	99.00			100.37	30.29	3.84	35.49	100	0 Peak
4 @	2462.0	89.09			90.46	30.29	3.84	35.49	100	34 Average
5	2483.5	50.47	-23.53	74.00	51.83	30.29	3.86	35.51	100	0 Peak
6 @	2483.5	40.15	-13.85	54.00	41.51	30.29	3.86	35.51	100	34 Average
7	8001.0	56.70	-17.30	74.00	45.17	39.60	7.79	35.86	100	0 Peak
8 @	8001.0	44.73	-9.27	54.00	33.20	39.60	7.79	35.86	100	254 Average

Remark: #3 and #4 Fundamental Signal



5.8 Antenna Requirements

5.8.1 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.

5.8.2 Antenna Connected Construction

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

5.8.3 Antenna Gain

The antenna gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power 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)
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz-26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2892	30MHz -2GHz	Jul. 19, 2007	Jul. 18, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	106656	WCDMA	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-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		$u(x_i)$	C_i	$C_i * u(x_i)$
	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 $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty $U_c(y)$	2.36				
Measuring uncertainty for a level of confidence of 95% $U = 2U_c(y)$	4.72				

The measured result is : $y \text{ dBuV} \pm U \text{ dB}$

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