MEASUREMENT REPORT
of
Wireless Pocket PC

Applicant	**:**	FUJITSU LIMITED
EUT	**:**	POCKET PC
Model	**:**	POCKET LOOX 610
FCC ID	**:**	EJE-PLWB001
Report No.	**:**	A5415886

Tested by :

Training Research Co., Ltd.

TEL : 886-2-26935155 FAX : 886-2-26934440

No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

CERTIFICATION

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 (1992) as a reference. All test were conducted by ***Training Research Co., Ltd.***, No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart B (Declaration of Conformity) and C Section 15.247.

Applicant	:	FUJITSU LIMITED
Applicant address	:	1405 Ohmaru, Inagi-shi, Tokyo 206-8503, Japan
Product Name	:	FPC2303xxxx
Model Name	:	POCKET LOOX 610
FCC ID	:	EJE-PLWB001
Report No.	:	A5415886
Test Date	:	August 13, 2003

Prepared by: Jack Tsai *Jack Tsai* **Approved by:** Frank Tsai *Frank Tsai*

Conditions of issue :

(1) ***This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.***

(2) ***This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.***

★ ***NVLAP LAB CODE: 200174-0***

Federal Communications Commission
Declaration of Conformity
(DoC)

For the Following Equipment:

Product name : FPC2303xxxx

Model name : POCKET LOOX 610

Trade name : Fujitsu-Siemens

Is herewith confirmed and found to comply with the requirements of CFR 47 part15 Subpart B - Unintentional Radiators regulation. The results of electromagnetic mission evaluation are shown in the report number : A5415886

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation

Manufacturer	*USA local representative*
Company name: **ASUSTeK Computer Inc.**	**To be determined**
Computer address: **4/F, 150, Li-Te Rd., Peitou, Taipei, Taiwan**	
ZIP / Postal code **112**	
Contact person: **Lawrence Yu**	
Title: **Manager**	
Internet e-mail address: **Lawrence_yu@asus.com.tw**	
Tel / Fax: **886-2-28943447 / 886-2-28950113**	

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Ⅰ. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of applicant in support that the certification in accordance with Part 2 Subpart J and Part 15 Subpart A, B and C of the Commission's Rules and Regulations.

1.2 Description of EUT

FCC ID	:	EJE-PLWB001
Product Name	:	FPC2303xxxx
Model Name	:	POCKET LOOX 610
Frequency Range	:	2402MHz to 2480MHz
Support Channel	:	79 Channels
Channel Spacing	:	1 MHz
Modulation Skill	:	GFSK
Power Type	:	(1) Battery-powered by the client' s device, or (2) Power adapter Mfg.: PEI Model: AD3110 I/P: 100-240VAC, 50-60Hz, 0.36-0.2A； O/P: 5VDC, 2.4A Power cable: (between AC source and adapter) 175cm length, non-shielded, no ferrite core Power cable: (between adapter and cradle) 150cm length, non-shielded, no ferrite core
Data Cable	:	USB cable: 124cm length, shielded, no ferrite core RS232 cable: 121cm length, shielded, no ferrite core

1.3 Test method

PDA with Cradle:

(1) The POWER jack of cradle is connected with the AC power source via a power adaptor.
(2) The USB/RS232 jack of cradle is connected with the USB/RS232 cable unterminal.
(3) Put the PDA into the cradle.
(4) The headphone jack of PDA is connected with the earphone.

PDA without Cradle:

(5) The POWER jack of PDA body is connected with the AC power source via a power adaptor.
(6) The USB/RS232 jack of PDA body is connected with the USB/RS232 cable unterminal.
(7) The headphone jack of PDA body is connected with the earphone.

(8) Using PC and software provided by the applicant to linking EUT. The software is operated under the Windows to linking the EUT in the unintentional test.
(9) Set different channel being tested and repeat the procedures above.
    (a) Radiated for intentional test: making EUT to the mode of continuous TX or RX
    (b) Conducted and radiated for unintentional test: making EUT to the linking mode with another PDA

1.4 Description of Support Equipment

PC	**:**	**IBM 6840**
Model No.	:	6840MJV
Serial No.	:	96CC 0C1
FCC ID	:	N/A, DoC (Declaration of Confirmation) Approved
檢磁	:	3892I279
Power type	:	100 ~ 127/ 200 ~ 240VAC, 4A/2A 50/60 Hz, Switching
Power cord	:	Non-shielded, 182cm length, Plastic hood, No ferrite core
Monitor	**:**	**HP 15' Color Monitor**
Model No.	:	D2827A
Serial No.	:	KR91161719
FCC ID	:	C5F7NFCMC1518X
檢磁	:	3872B039
Power type	:	110 ~ 240 VAC / 50 ~ 60 Hz, Switching
Power cord	:	Shielded, 1.83m long, No ferrite core
Data cable	:	Shielded, 1.46m long, with two ferrite cores
Keyboard	**:**	**HP**
Model No.	:	5181
Serial No.	:	BE21700405
FCC ID	:	Doc Approved
檢磁	:	3892C981
Power type	:	By PC
Data cable	:	Shielded, 1.70m length, with ferrite core
Mouse	**:**	**HP**
Model No.	:	M-UR89
Serial No.	:	LZS21750238
FCC ID	:	Doc Approved
檢磁	:	3892D767
Power type	:	By PC
Power cord	:	Shielded, 1.80m length, No ferrite core

USB

Gamepad	**:**	**Rockfire**
Model No.	:	QF-337uv
Serial No.	:	10600545, KR91379759
FCC ID	:	None (CE approval)
檢磁	:	3862A574
Power type	:	By computer
Data Cable	:	Shielded, 1.81m long, Plastic, with ferrite core

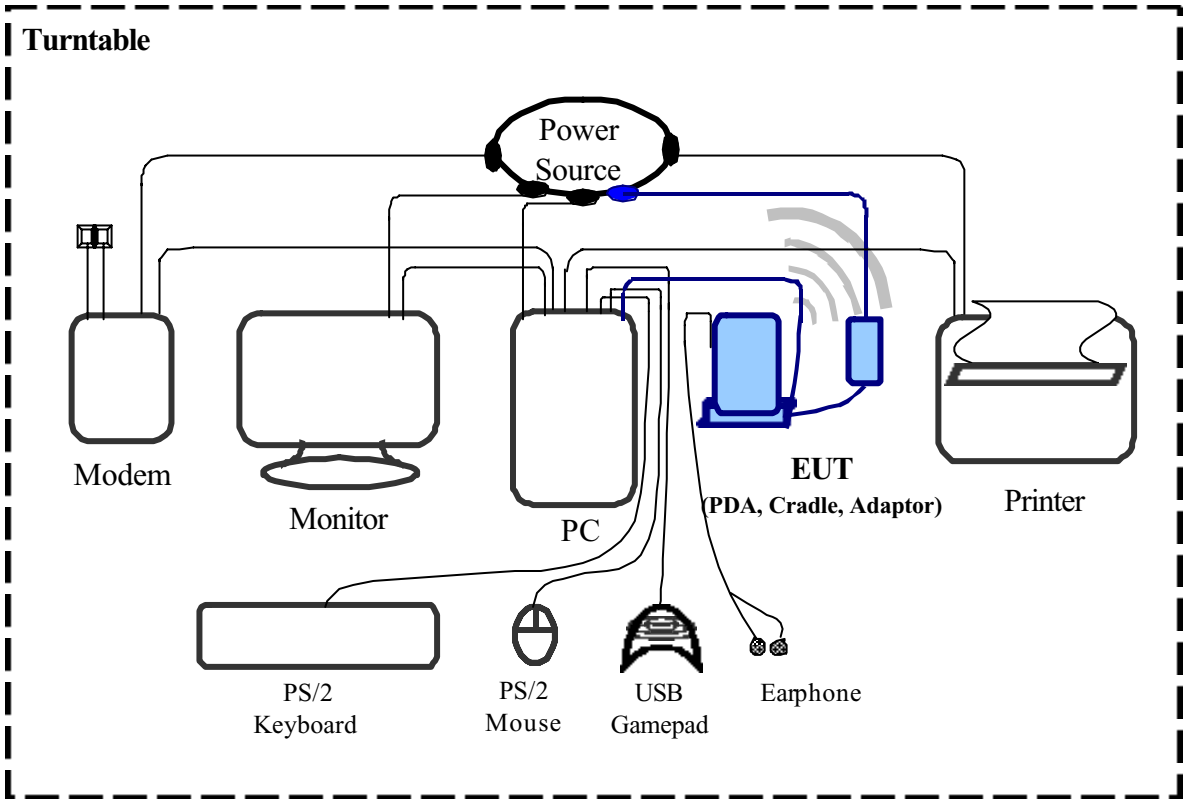
Fax/Modem	**:**	**Aceex**
Model No.	:	DM-1414
Serial No.	:	9010582
FCC ID	:	IFAXDM1414
Power type	:	110 VAC / 50 ~ 60 Hz, Switching
Power Cord	:	Non-shielded, 1.90m long, Plastic hoods, and no ferrite bead
Data Cable	:	RS-232→Shielded, 1.30m long, Metal hoods , No bead RJ-11Cx2→Non-shielded, 7’ long, Plastic hoods, No bead

Printer	**:**	**HP**
Model No.	:	C6464A
Serial No.	:	TH16LEB5PK
FCC ID	:	N/A, DoC Approved
檢磁	:	3892H381
Power type	:	Switching adaptor
Power cord	:	Non-shielded, 173cm long, No ferrite core (between adaptor and AC source) Non-shielded, 180cm long, with ferrite core (between printer and adaptor)
Data cable	:	Shielded, 1.70m long, No ferrite core

Earphone	**:**	**God Information Technology Co., Ltd.**
Model No.	:	MIC-A01
Serial No.	:	GIT-2001A001
FCC ID	:	None (CE approval)
Power type	:	By PDA
Data Cable	:	Non-Shielded, 1.18m length, no ferrite core

1.5 Configuration of System Under Test

(Conducted and Radiated of Unintentional, with Cradle)



Connections of Equipment

PC:
*VGA Port --- a monitor
*Serial A-Port --- an external modem
*Parallel Port --- a printer
*PS/2 Ports --- a PS/2 keyboard and PS/2 mouse
*USB A-Port --- a USB gamepad
*USB B-Port --- **EUT** or *Serial B-Port --- **EUT**

EUT:

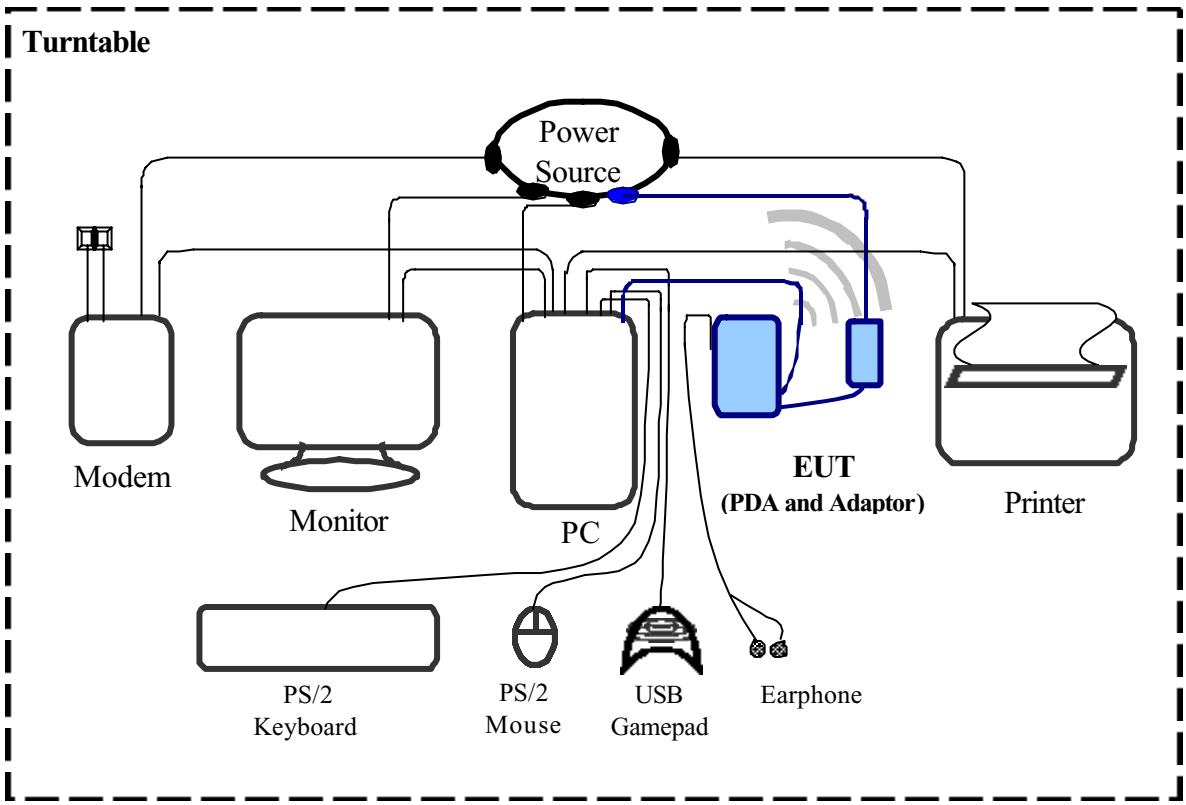
USB Cradle *USB Cable x 1 --- 124cm length, shielded, no ferrite core

RS232 Cradle *RS232 Cable x 1 --- 121cm length, shielded, no ferrite core

Switching Adaptor *Power Cable (between AC source and adapter) x 1 --- 175cm length, non-shielded, no ferrite core
*Power Cable (between adapter and cradle) x 1 --- 150cm length, non-shielded, no ferrite core

Earphone: *Data cable x 1 --- 118cm length, non-shielded, no ferrite core

(Conducted and Radiated of Unintentional, without Cradle)



Connections of Equipment

PC: *VGA Port --- a monitor
*Serial A-Port --- an external modem
*Parallel Port --- a printer
*PS/2 Ports --- a PS/2 keyboard and PS/2 mouse
*USB A-Port --- a USB gamepad
*USB B-Port --- **EUT** or *Serial B-Port --- **EUT**

EUT:

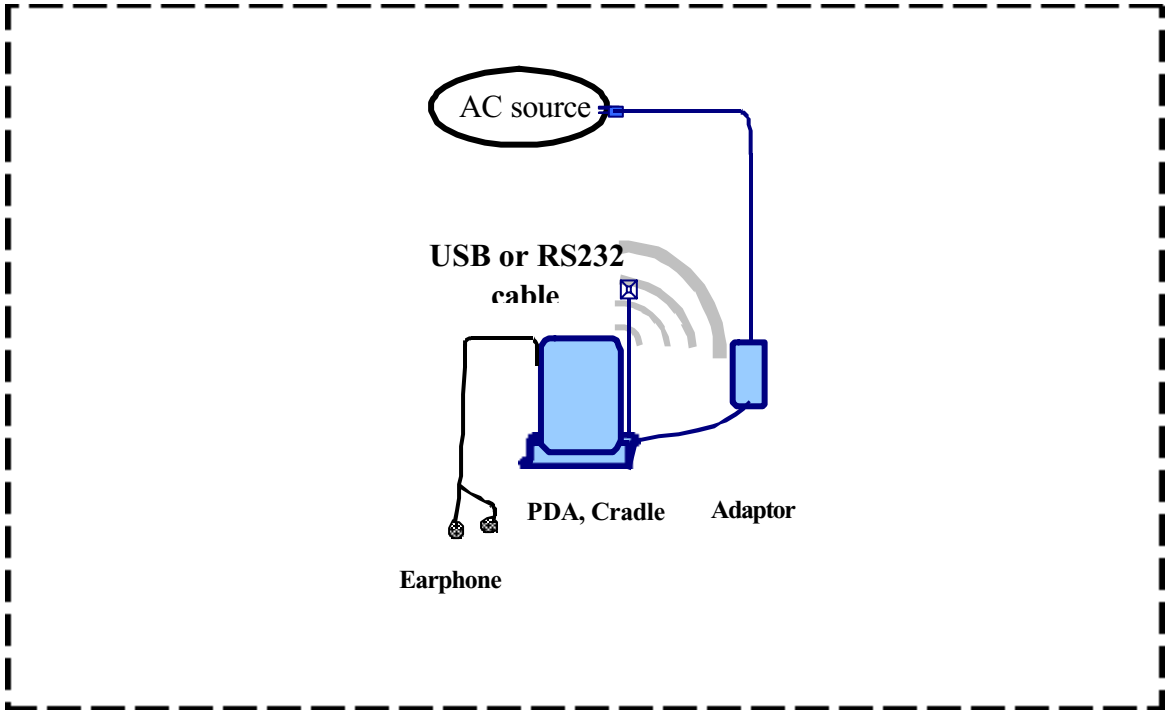
USB Cradle *USB Cable x 1 --- 124cm length, shielded, no ferrite core

RS232 Cradle *RS232 Cable x 1 --- 121cm length, shielded, no ferrite core

Switching Adaptor *Power Cable (between AC source and adapter) x 1 --- 175cm length, non-shielded, no ferrite core
*Power Cable (between adapter and cradle) x 1 --- 150cm length, non-shielded, no ferrite core

Earphone: *Data cable x 1 --- 118cm length, non-shielded, no ferrite core

(Radiated of Intentional)



1.6 Test Procedure

All measurements contained in this report were performed mainly according to the techniques described in ANSI C63.4 (1992) and the pre-setup was written 1.3 test method, the detail setup was written on each test item.

1.7 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter**, **Anechoic Chamber (Registration Number: 93906)** maintained by *Training Research Co., Ltd.* – No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in an anechoic chamber also located at Training Research Co., Ltd.

255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C., *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

1.8 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions, which the EUT was considered likely to encounter in normal uses were investigated.

There is a test condition apply in this test item, the test procedure description as <1.3 test method>. Three channels were tested, one in the top (CH1), one in the middle (CH39) and the other in bottom (CH79).

II. Section 15.101(a): Equipment authorization of unintentional radiators

The EUT equipped with a USB/RS232 interface and should be operated with the computer. It was categorized to *Class B personal computers and peripherals* as cannot be operated stand-alone. The authorization requires **Declaration of Conformity (DoC)** and the items required such as Sect.15.107 (Conducted limits) and Sect.15.109 (Radiated emission limits) is same as Sect.15.207 and 15.247(C).

III. Section 15.203: Antenna requirement

The EUT can be equipped with detachable antenna. The detachable external antenna is affixed to the EUT using a unique connector, which allows for replacement of a broken antenna, but does not use a standard antenna jack or electrical connector.

The custom antenna specification of list as below:

Manufacturer	:	INPAQ TECHNOLOGY CO., LTD.
Part No	:	DAMK1B000000000
Connector Type	:	DAM
Antenna Type	:	Dipole Antenna
Antenna Gain	:	3.27dBi (Max.)

IV. Section 15.207: Power Line Conducted Emissions for AC Powered Units

4.1 Test Condition & Setup

The power line conducted emission measurements were performed in an anechoic chamber. The EUT was assembled on a wooden table, which is 80 centimeters high, was placed 40 centimeters from the backwall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and Line Impedance Stabilization Networks (LISNs). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer (or EMI receiver) was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPER quasi-peak and average detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.3

There is a test condition apply in this test item, the test procedure description as <1.3 test method>. Three channels were tested, one in the top (CH1), one in the middle (CH39) and the other in bottom (CH79).

4.2 List of Test Instruments

				Calibration Date	
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
EMI Receiver	8546A	HP	3520A00242	07/28/03	07/28/04
RF Filter Section	85460A	HP	3448A00217	07/28/03	07/28/04
LISN (EUT)	LISN-01	TRC	9912-03,04	07/21/03	07/21/04
LISN (Support E.)	LISN-01	TRC	9912-05	06/21/03	06/21/04
Auto Switch Box (< 30MHz)	ASB-01	TRC	9904-01	11/20/02	11/20/03

The level of confidence of 95%, the uncertainty of measurement of conducted emission is ± 2.02 dB.

4.3 Test Results of Conducted Emissions

The following table shows a summary of the highest emissions of power line conducted emissions on the LIVE and NETURAL conductors of the EUT power cord. The test data only recorded worst case in report.

Test Conditions: Temperature : 25.0 °C Humidity : 73.0 % RH

Test mode: EUT includes Cradle for USB interface, Standby mode

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	205.000	47.11	---	---	64.43	54.43	-7.32
	355.000	39.97	---	---	60.14	50.14	-10.17
	409.000	37.26	---	---	58.60	48.60	-11.34
	767.000	25.85	---	---	56.00	46.00	-20.15
	6870.000	31.07	---	---	60.00	50.00	-18.93
	8970.000	31.10	---	---	60.00	50.00	-18.90
Line 2	206.000	46.66	---	---	64.40	54.40	-7.74
	355.000	39.46	---	---	60.14	50.14	-10.68
	456.000	35.43	---	---	57.26	47.26	-11.83
	3477.000	29.47	---	---	56.00	46.00	-16.53
	7080.000	36.63	---	---	60.00	50.00	-13.37
	8870.000	35.22	---	---	60.00	50.00	-14.78

NOTE:

(1) Margin = Peak Amplitude – Limit.

(2) A "+" sign in the margin column means the emission is OVER the Class B Limit and "–" sign of means UNDER the Class B limit, *The reading amplitudes are all under limit.*

Test mode: EUT includes Cradle for RS232 interface, Standby mode

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	203.000	46.15	---	---	64.49	54.49	-8.34
	355.000	40.26	---	---	60.14	50.14	-9.88
	452.000	34.73	---	---	57.37	47.37	-12.64
	7190.000	35.94	---	---	60.00	50.00	-14.06
	8270.000	34.40	---	---	60.00	50.00	-15.60
	8690.000	34.47	---	---	60.00	50.00	-15.53
Line 2	201.000	47.01	---	---	64.54	54.54	-7.53
	370.000	39.53	---	---	59.71	49.71	-10.18
	3317.000	31.60	---	---	56.00	46.00	-14.40
	7190.000	37.15	---	---	60.00	50.00	-12.85
	8190.000	34.59	---	---	60.00	50.00	-15.41
	10090.000	28.60	---	---	60.00	50.00	-21.40

Test mode: EUT includes Cradle for USB interface, RX

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	205.000	47.59	---	---	64.43	54.43	-6.84
	355.000	39.44	---	---	60.14	50.14	-10.70
	456.000	34.63	---	---	57.26	47.26	-12.63
	695.000	25.80	---	---	56.00	46.00	-20.20
	7190.000	34.80	---	---	60.00	50.00	-15.20
	8650.000	33.33	---	---	60.00	50.00	-16.67
Line 2	206.000	48.32	---	---	64.40	54.40	-6.08
	366.000	40.99	---	---	59.83	49.83	-8.84
	461.000	34.28	---	---	57.11	47.11	-12.83
	7080.000	34.30	---	---	60.00	50.00	-15.70
	8390.000	36.27	---	---	60.00	50.00	-13.73
	8780.000	36.29	---	---	60.00	50.00	-13.71

Test mode: EUT includes Cradle for RS232 interface, RX

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	205.000	46.71	---	---	64.43	54.43	-7.72
	370.000	41.06	---	---	59.71	49.71	-8.65
	461.000	35.66	---	---	57.11	47.11	-11.45
	745.000	25.22	---	---	56.00	46.00	-20.78
	6670.000	29.40	---	---	60.00	50.00	-20.60
	7360.000	33.10	---	---	60.00	50.00	-16.90
Line 2	203.000	47.82	---	---	64.49	54.49	-6.67
	355.000	39.53	---	---	60.14	50.14	-10.61
	456.000	35.66	---	---	57.26	47.26	-11.60
	3381.000	30.96	---	---	56.00	46.00	-15.04
	7080.000	37.31	---	---	60.00	50.00	-12.69
	7890.000	37.05	---	---	60.00	50.00	-12.95

Test mode: EUT includes Cradle for USB interface, TX

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	205.000	47.72	---	---	64.43	54.43	-6.71
	359.000	39.55	---	---	60.03	50.03	-10.48
	405.000	38.10	---	---	58.71	48.71	-10.61
	452.000	35.24	---	---	57.37	47.37	-12.13
	674.000	26.70	---	---	56.00	46.00	-19.30
	9150.000	32.46	---	---	60.00	50.00	-17.54
Line 2	203.000	47.06	---	---	64.49	54.49	-7.43
	359.000	41.24	---	---	60.03	50.03	-8.79
	3670.000	30.78	---	---	56.00	46.00	-15.22
	6870.000	35.73	---	---	60.00	50.00	-14.27
	8270.000	35.45	---	---	60.00	50.00	-14.55
	8870.000	34.58	---	---	60.00	50.00	-15.42

Test mode: EUT includes Cradle for RS232 interface, TX

Power Connected Emissions					*Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	201.000	46.71	---	---	64.54	54.54	-7.83
	355.000	39.18	---	---	60.14	50.14	-10.96
	409.000	37.54	---	---	58.60	48.60	-11.06
	509.000	31.97	---	---	56.00	46.00	-14.03
	6980.000	34.61	---	---	60.00	50.00	-15.39
	8190.000	34.47	---	---	60.00	50.00	-15.53
Line 2	203.000	46.71	---	---	64.49	54.49	-7.78
	359.000	39.04	---	---	60.03	50.03	-10.99
	461.000	36.80	---	---	57.11	47.11	-10.31
	3780.000	31.46	---	---	56.00	46.00	-14.54
	6980.000	37.15	---	---	60.00	50.00	-12.85
	8470.000	36.63	---	---	60.00	50.00	-13.37

Test mode: EUT without cradle for USB interface, Standby mode

Power Connected Emissions					*Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	206.000	47.89	---	---	64.40	54.40	-6.51
	384.000	38.34	---	---	59.31	49.31	-10.97
	475.000	35.68	---	---	56.71	46.71	-11.03
	610.000	30.04	---	---	56.00	46.00	-15.96
	662.000	27.99	---	---	56.00	46.00	-18.01
	7150.000	33.38	---	---	60.00	50.00	-16.62
Line 2	203.000	47.78	---	---	64.49	54.49	-6.71
	380.000	38.59	---	---	59.43	49.43	-10.84
	409.000	38.64	---	---	58.60	48.60	-9.96
	461.000	35.96	---	---	57.11	47.11	-11.15
	6770.000	36.31	---	---	60.00	50.00	-13.69
	7150.000	38.48	---	---	60.00	50.00	-11.52

Test mode: EUT without cradle for RS232 interface, Standby mode

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	203.000	46.54	---	---	64.49	54.49	-7.95
	359.000	38.55	---	---	60.03	50.03	-11.48
	384.000	38.10	---	---	59.31	49.31	-11.21
	471.000	34.81	---	---	56.83	46.83	-12.02
	509.000	33.35	---	---	56.00	46.00	-12.65
	7050.000	30.20	---	---	60.00	50.00	-19.80
Line 2	203.000	47.31	---	---	64.49	54.49	-7.18
	355.000	38.10	---	---	60.14	50.14	-12.04
	405.000	39.23	---	---	58.71	48.71	-9.48
	499.000	35.89	---	---	56.03	46.03	-10.14
	7570.000	32.90	---	---	60.00	50.00	-17.10
	7960.000	32.71	---	---	60.00	50.00	-17.29

Test mode: EUT without cradle for USB interface, RX

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμV)***	***QP (dBμV)***	***Average (dBμV)***	***QP-limit (dBμV)***	***AVG-limit (dBμV)***	***Margin (dB)***
Line 1	205.000	47.15	---	---	64.43	54.43	-7.28
	359.000	39.53	---	---	60.03	50.03	-10.50
	409.000	38.24	---	---	58.60	48.60	-10.36
	456.000	36.34	---	---	57.26	47.26	-10.92
	7080.000	31.67	---	---	60.00	50.00	-18.33
	8690.000	32.46	---	---	60.00	50.00	-17.54
Line 2	205.000	46.80	---	---	64.43	54.43	-7.63
	352.000	40.33	---	---	60.23	50.23	-9.90
	377.000	38.48	---	---	59.51	49.51	-11.03
	461.000	34.19	---	---	57.11	47.11	-12.92
	6980.000	36.36	---	---	60.00	50.00	-13.64
	8650.000	35.80	---	---	60.00	50.00	-14.20

Test mode: EUT without cradle for RS232 interface, RX

Power Connected Emissions					*Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	203.000	47.89	---	---	64.49	54.49	-6.60
	359.000	40.94	---	---	60.03	50.03	-9.09
	373.000	39.67	---	---	59.63	49.63	-9.96
	413.000	36.65	---	---	58.49	48.49	-11.84
	461.000	36.12	---	---	57.11	47.11	-10.99
	6900.000	36.24	---	---	60.00	50.00	-13.76
Line 2	206.000	47.59	---	---	64.40	54.40	-6.81
	359.000	39.60	---	---	60.03	50.03	-10.43
	405.000	37.62	---	---	58.71	48.71	-11.09
	1017.000	30.99	---	---	56.00	46.00	-15.01
	7190.000	37.64	---	---	60.00	50.00	-12.36
	7890.000	39.51	---	---	60.00	50.00	-10.49

Test mode: EUT without cradle for USB interface, TX

Power Connected Emissions					*Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	203.000	48.22	---	---	64.49	54.49	-6.27
	355.000	38.27	---	---	60.14	50.14	-11.87
	409.000	38.55	---	---	58.60	48.60	-10.05
	504.000	36.05	---	---	56.00	46.00	-9.95
	604.000	30.55	---	---	56.00	46.00	-15.45
	668.000	27.49	---	---	56.00	46.00	-18.51
Line 2	205.000	48.31	---	---	64.43	54.43	-6.12
	377.000	39.16	---	---	59.51	49.51	-10.35
	456.000	35.96	---	---	57.26	47.26	-11.30
	610.000	30.08	---	---	56.00	46.00	-15.92
	6670.000	34.97	---	---	60.00	50.00	-15.03
	7460.000	34.81	---	---	60.00	50.00	-15.19

Test mode: EUT without cradle for RS232 interface, TX

Power Connected Emissions					*Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	203.000	47.64	---	---	64.49	54.49	-6.85
	352.000	38.12	---	---	60.23	50.23	-12.11
	387.000	39.00	---	---	59.23	49.23	-10.23
	456.000	36.03	---	---	57.26	47.26	-11.23
	509.000	34.69	---	---	56.00	46.00	-11.31
	7150.000	32.99	---	---	60.00	50.00	-17.01
Line 2	203.000	47.45	---	---	64.49	54.49	-7.04
	363.000	38.93	---	---	59.91	49.91	-10.98
	409.000	38.17	---	---	58.60	48.60	-10.43
	456.000	36.10	---	---	57.26	47.26	-11.16
	3445.000	29.32	---	---	56.00	46.00	-16.68
	6670.000	34.43	---	---	60.00	50.00	-15.57

V. Section 15.247 (a): Technical description of the EUT

Based on the Section 2.1, *Frequency Hopping Spectrum System* is a spread spectrum system in which the carrier has been modulated by a *high speed spreading code* and an *information data stream* with its *known hopping algorithm* and *avoidance method.* The high speed code sequence dominates the "modulating function" and is the direct cause of the wide spreading of the transmitted signal. In the *operational description* demonstrates the operation principles of the base-band processor employed by the EUT, shows that which is a complete FHSS base-band processor and meets the definition of the *Frequency Hopping Spectrum System.*

Ⅵ. Section 15.247(a)(1): Carrier Frequency Separation

6.1 Test Condition

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

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

Resolution (or IF) bandwidth (RBW) ≧ 1% of the span

Video (or Average) Bandwidth (VBW) ≧ RBW

Sweep = Auto

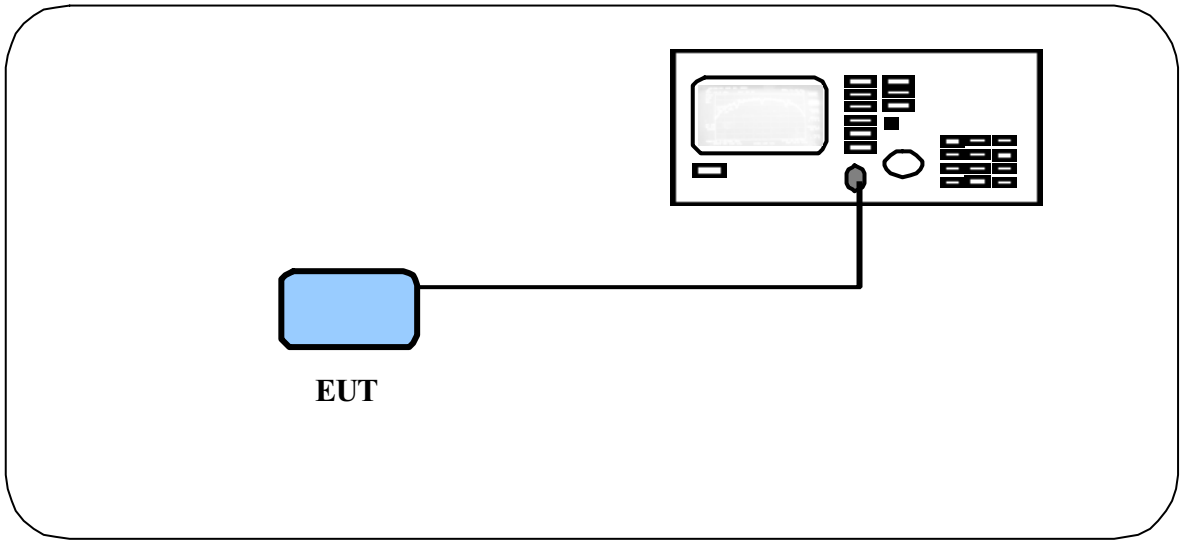
Detector Function = peak

Trace = max hold

Setting up procedure is written on 1.3 test method.

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channel. The limit is specified in one of the subparagraphs of this section. Submit this plot.

6.2 Test Instruments Configuration



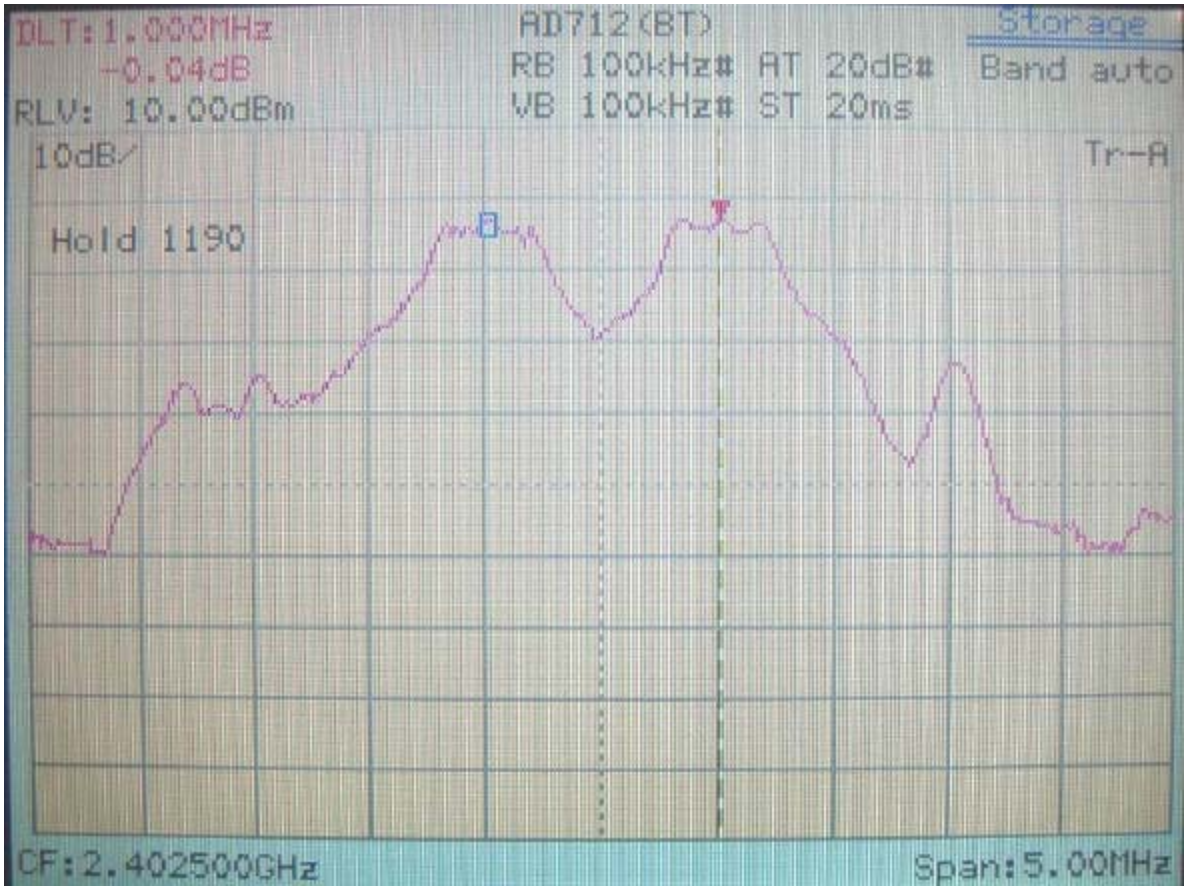
Test Configuration of carrier frequency separation

6.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
Spectrum Analyzer	8594EM	HP	3710A00279	12/26/02	12/26/03

6.4 Test Results

Channel Separation: 1MHz



Ⅶ. Section 15.247(a)(1)(ii) Number of Hopping Frequencies

7.1 Test Condition

The EUT must have its Hopping function enabled. Use the following spectrum analyzer setting:

Span = the frequency band of operation

RBW ≧ 1% of the span

VBW ≧ RBW

Sweep = auto

Detector function = peak

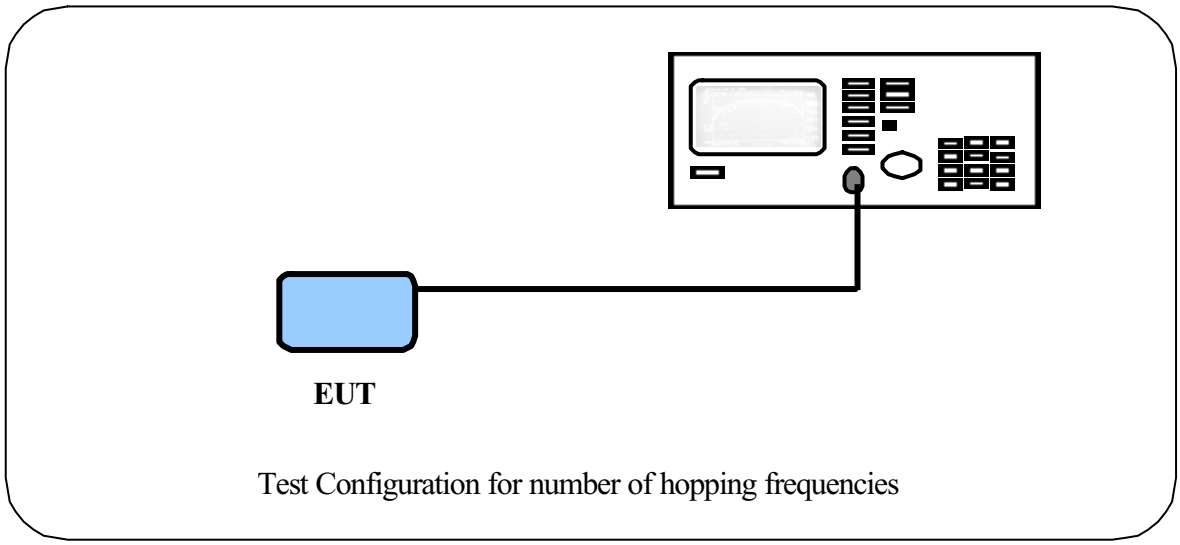
Trace = max hold

Allow the trace to stabilize. It may prove necessary to break the span up to sections. In order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this section. Submit this plots.

7.2 List of Test Instruments

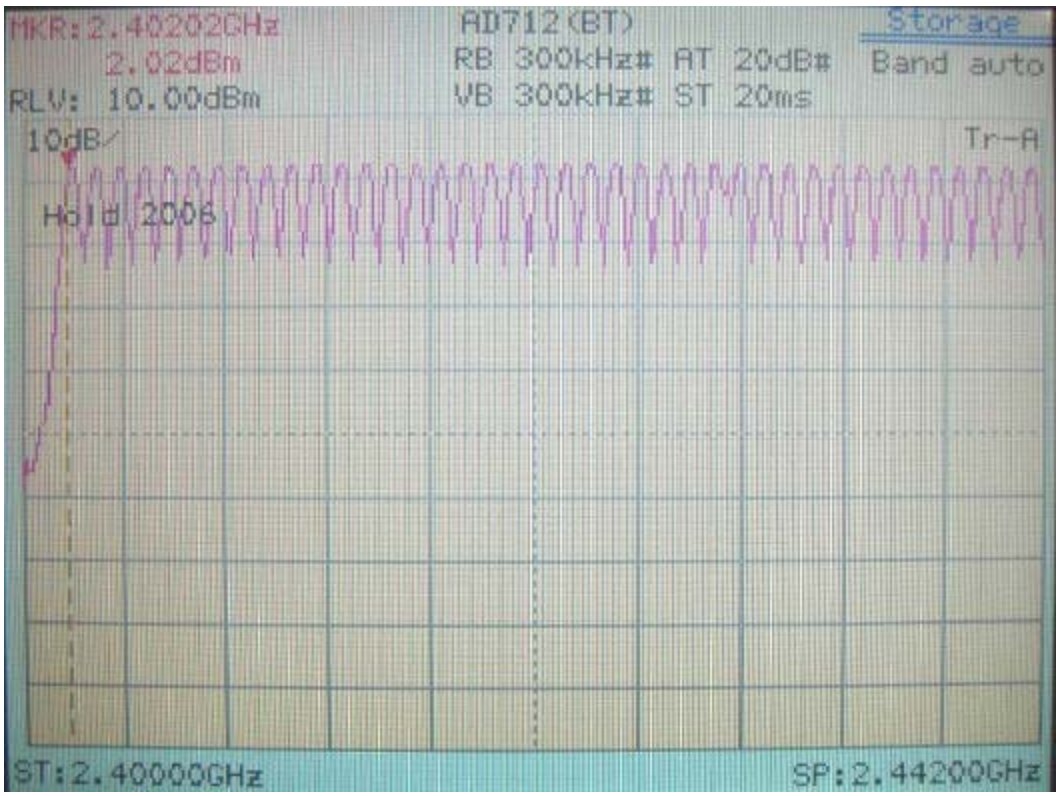
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	09/11/02	09/11/03
Spectrum Analyzer	8594EM	HP	3710A00279	12/26/02	12/26/03

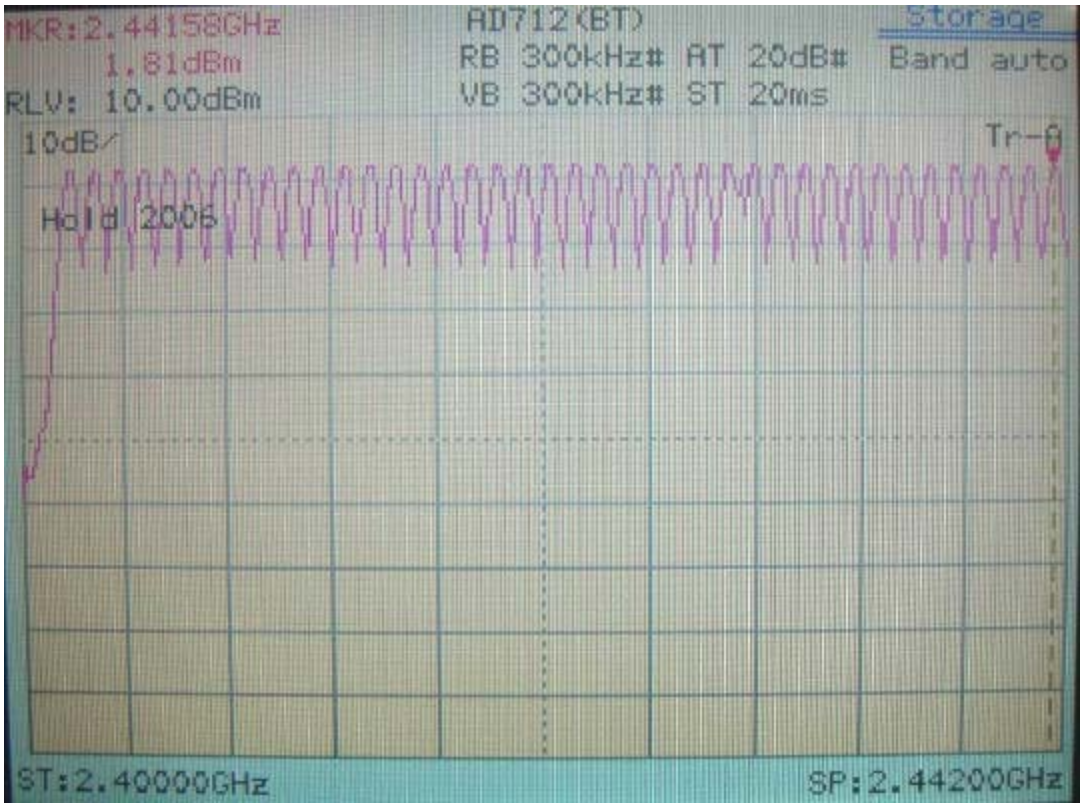
7.3 Test Instruments Configuration

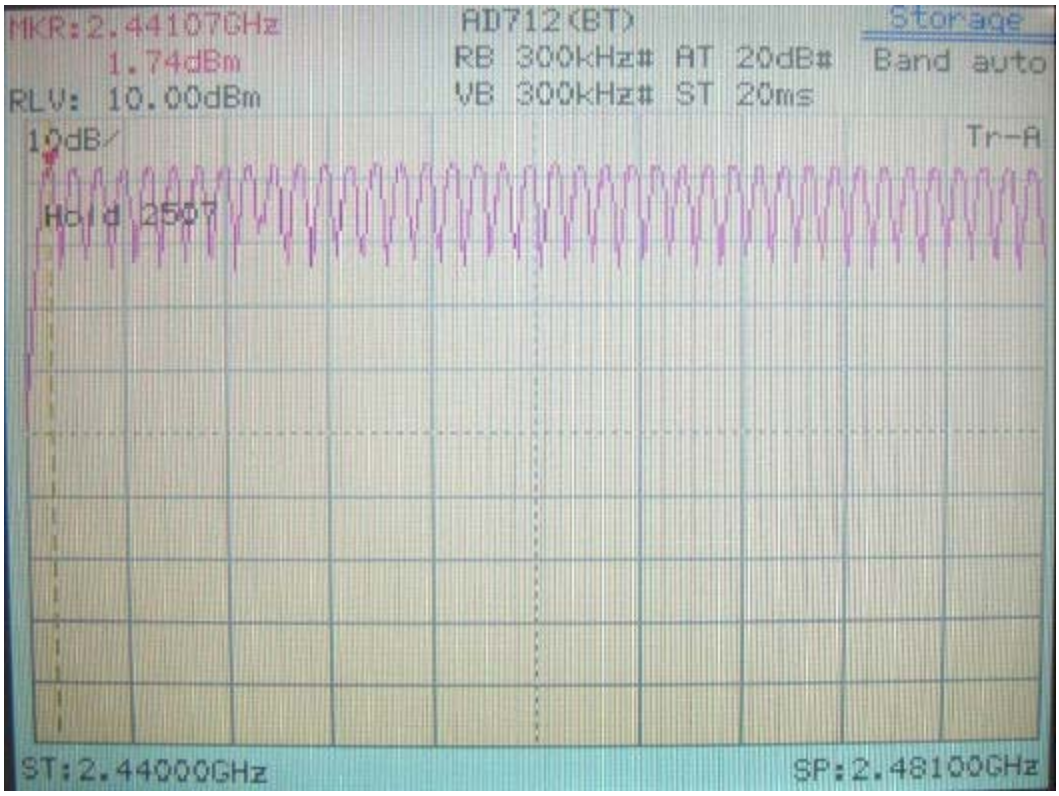


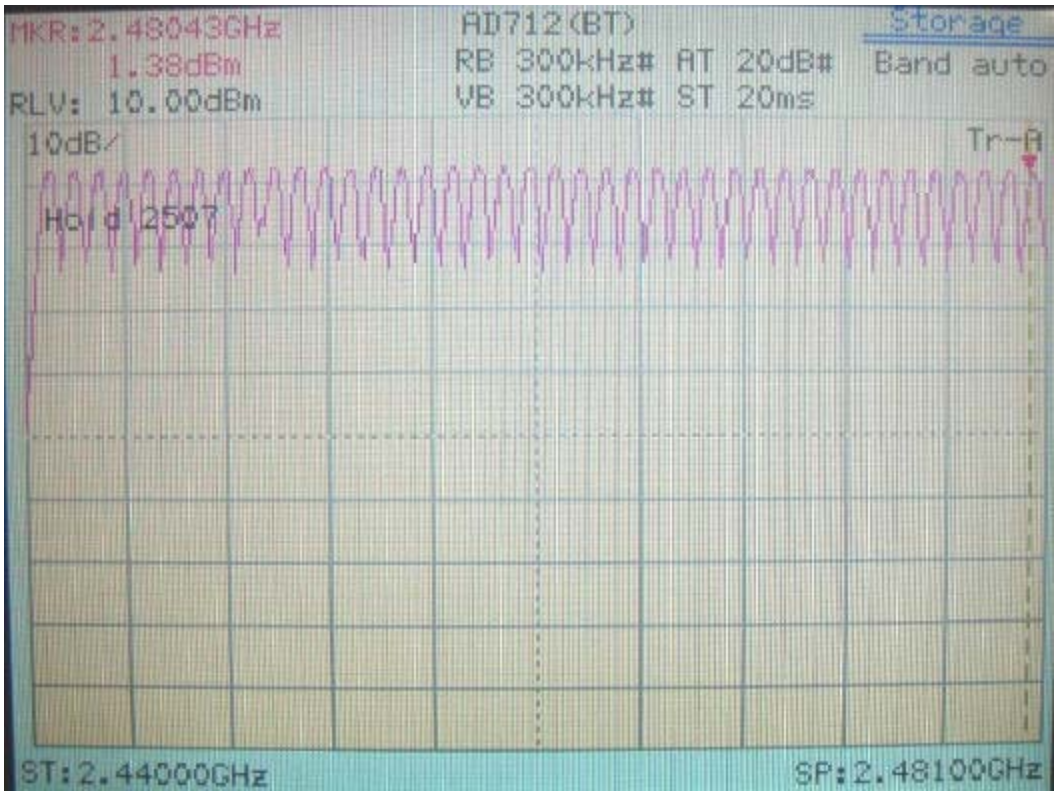
Test Configuration for number of hopping frequencies

7.4 Test Results






MKR:2.44107GHz
1.74dBm
RLV: 10.00dBm
AD712(BT)
RB 300kHz# AT 20dB#
VB 300kHz# ST 20ms
Storage
Band auto
10dB/
Tr-A
Hold 2507
ST:2.44000GHz
SP:2.48100GHz


MKR:2.48043GHz
1.38dBm
RLV: 10.00dBm
AD712(BT)
RB 300kHz# AT 20dB#
VB 300kHz# ST 20ms
Storage
Band auto
10dB/
Tr-A
Hold 2507
ST:2.44000GHz
SP:2.48100GHz

VIII. Section 15.247(a)(1)(ii) Time of Occupancy (Dwell Time)

8.1 Test Condition

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

Span = zero span, centered on a hopping channel

RBW = 1M

VBW ≧ RBW

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

Detector function = peak

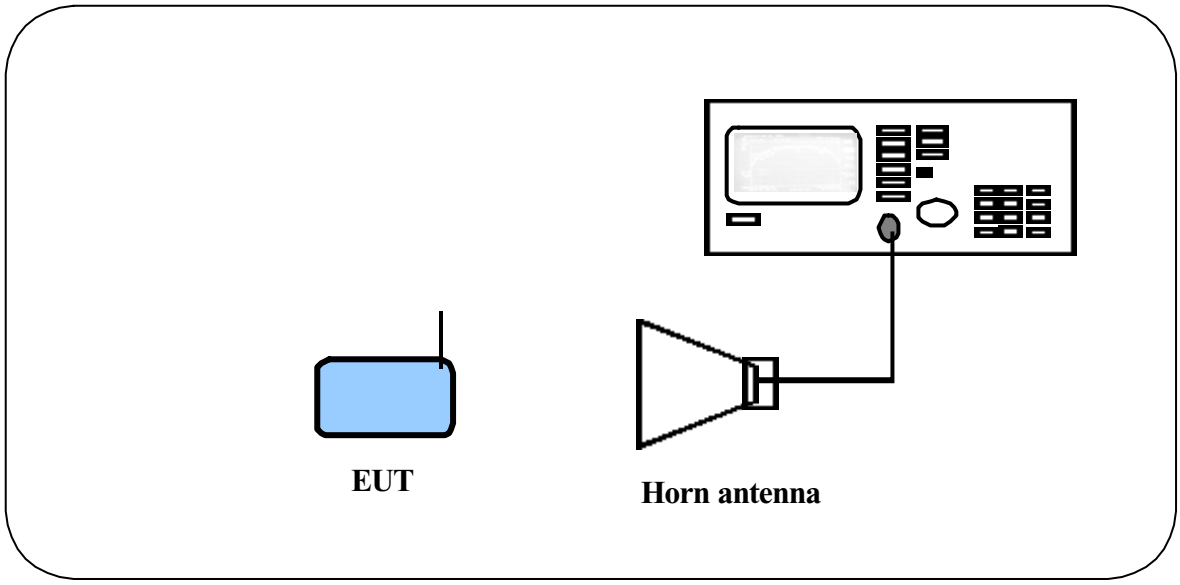
Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this section. Submit this plot(s). An oscilloscope may be used instead of a spectrum analyzer.

8.2 List of Test Instruments

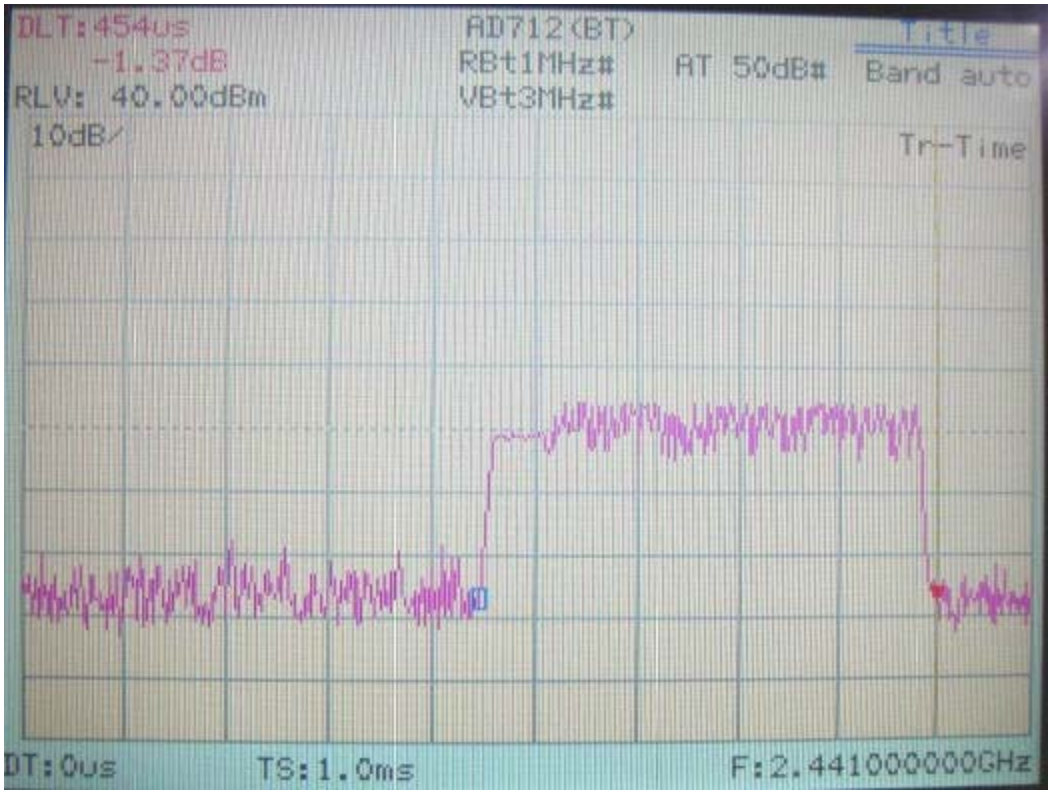
Instrument Name	Model No	Brand	Serial No.	Last time	Next time
Spectrum Analyzer	8564E	H P	US36433002	07/23/03	07/23/04
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	09/11/02	09/11/03
Microwave Preamplifier	83051A	H P	3232A00347	07/30/03	07/30/04
Horn Antenna	3115	EMCO	9704 – 5178	12/24/02	12/24/03

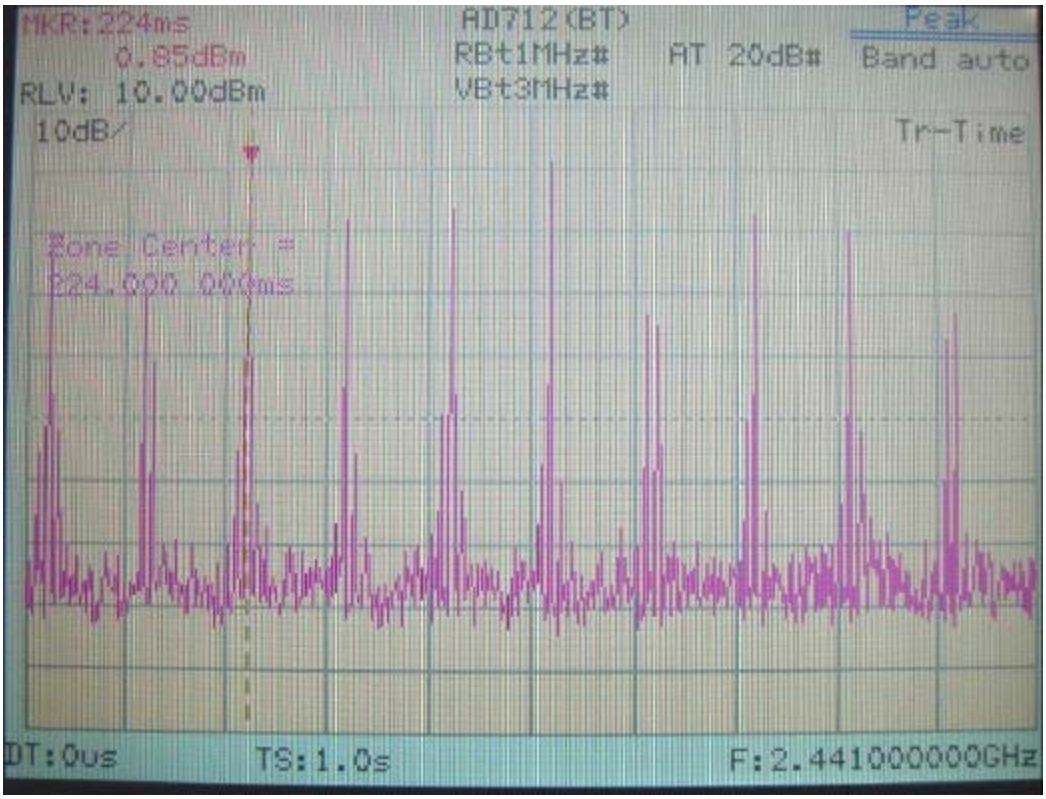
8.3 Test Instruments Configuration



8.4 Test Results

1. Pulse width of one slot measurement:
   Results: 454 μSec
2. Dwell time measurement
   Time period of each burst is 454μSec in 1.0mSec sweep time.
   There are 10-bursts in 1-second.
   So, the occupancy time within 30 second is (30/1) * 10 * 454 = 13.620mSec
   Results: 0.0137 second
3. Limits: The average time of occupancy is less than 0.4 second within a 30 second period.
4. Show as following page.


DLT:454us
-1.37dB
RLV: 40.00dBm
10dB/
AD712(BT)
RBt1MHz#
VBt3MHz#
AT 50dB#
Title
Band auto
Tr-Time
DT:0us
TS:1.0ms
F:2.441000000GHz


MKR:224ms
0.85dBm
RLV: 10.00dBm
10dB/
AD712(BT)
RBt1MHz#
VBt3MHz#
AT 20dB#
Peak
Band auto
Tr-Time
Zone Center =
224.000 000ms
DT:0us
TS:1.0s
F:2.441000000GHz

IX. Section 15.247(a)(1)(ii) 20dB Bandwidth

9.1 Test Condition

Use the following spectrum analyzer setting:

Span = the frequency band of operation

RBW ≧ 1% of the emission bandwidth

VBW ≧ RBW

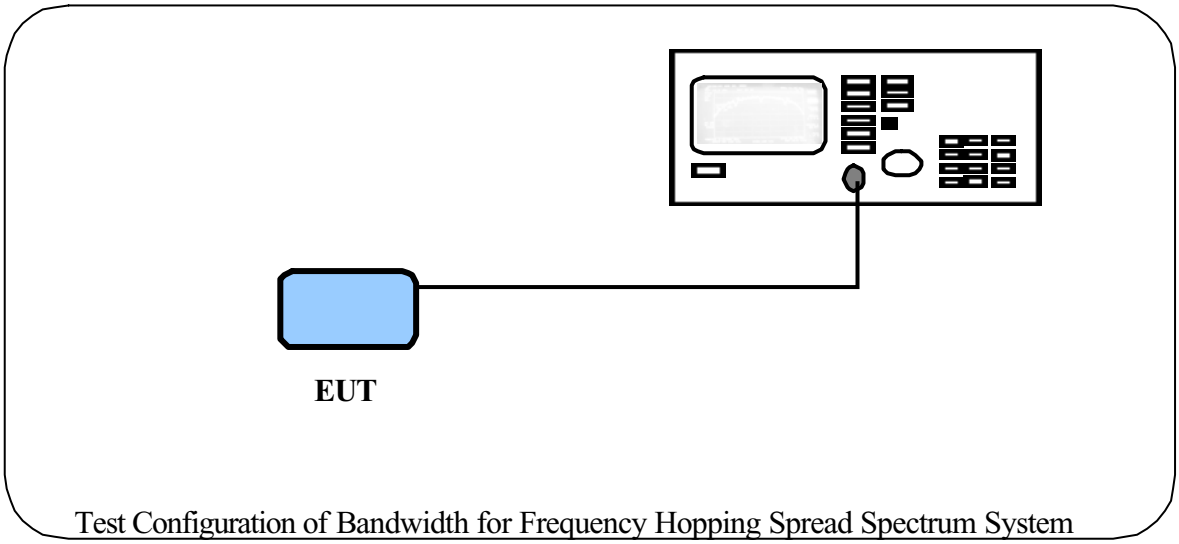
Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of emission. Use the marker-delta function to measure 20dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this section. Submit this plot(s).

9.2 Test Instruments Configuration



Test Configuration of Bandwidth for Frequency Hopping Spread Spectrum System

9.3 List of Test Instruments

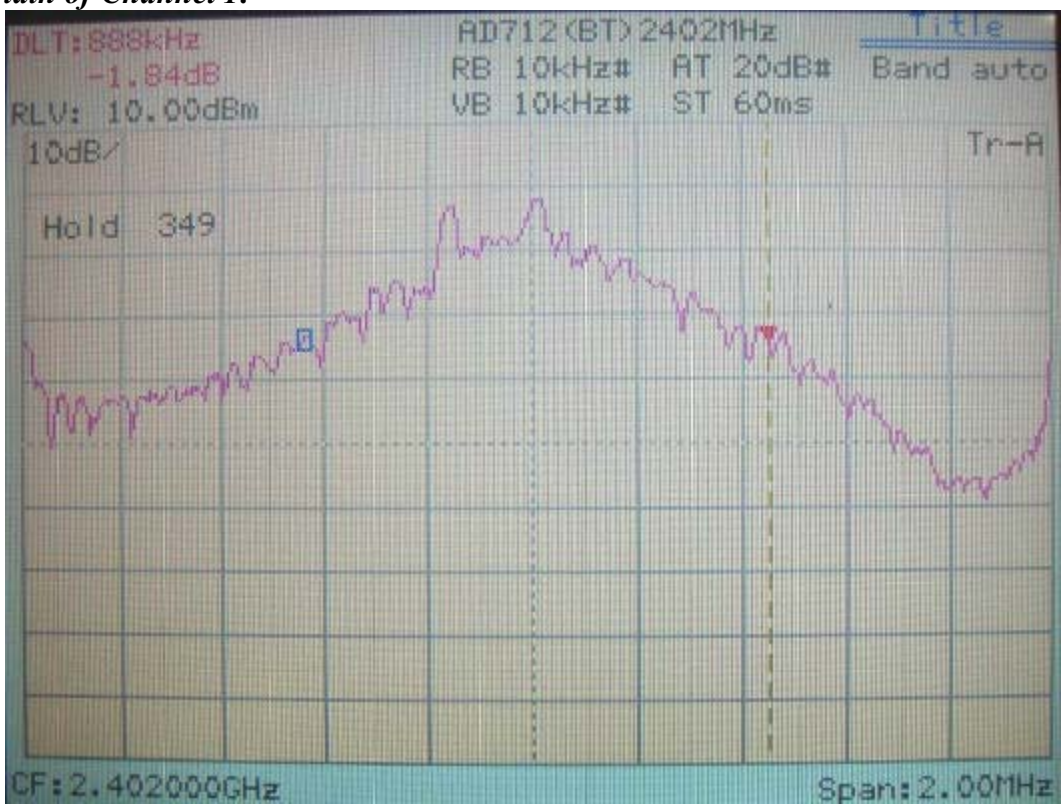
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	09/11/02	09/11/03
Spectrum Analyzer	8594EM	HP	3710A00279	12/26/02	12/26/03

9.4 Test Results

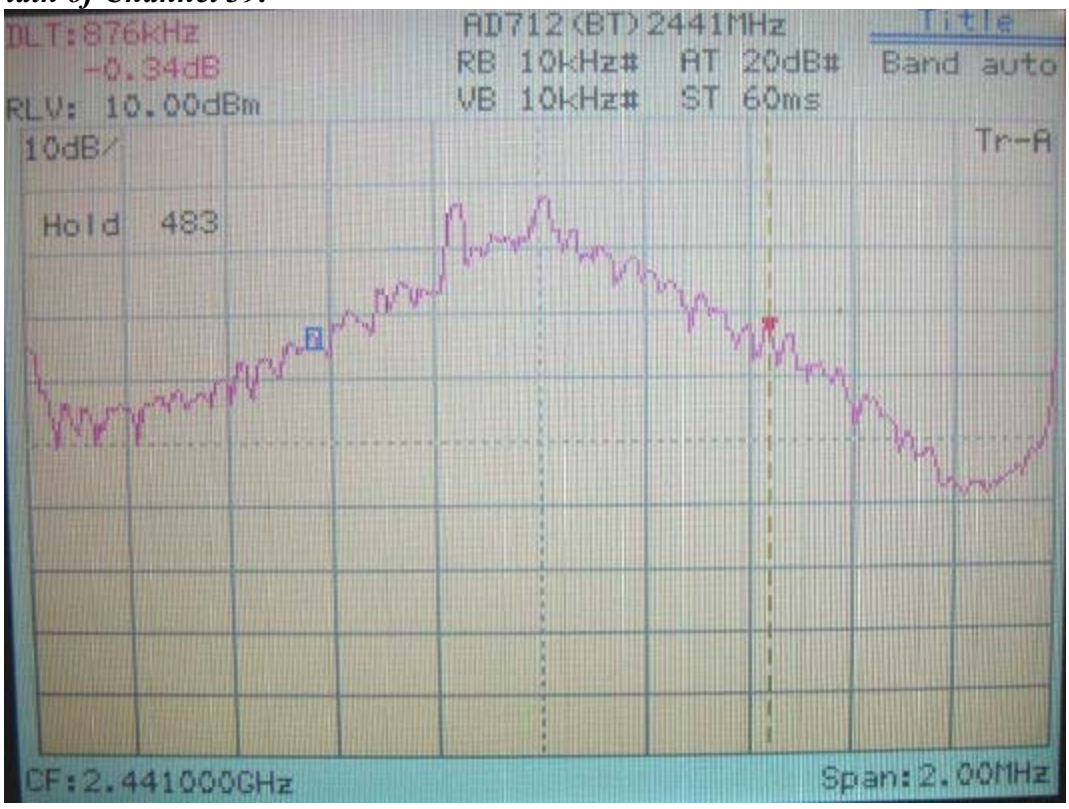
Channel	Bandwidth
Channel 01	888 kHz
Channel 39	876 kHz
Channel 79	964 kHz

Note: The data in the above table are summarizing the following attachment spectrum analyzer.

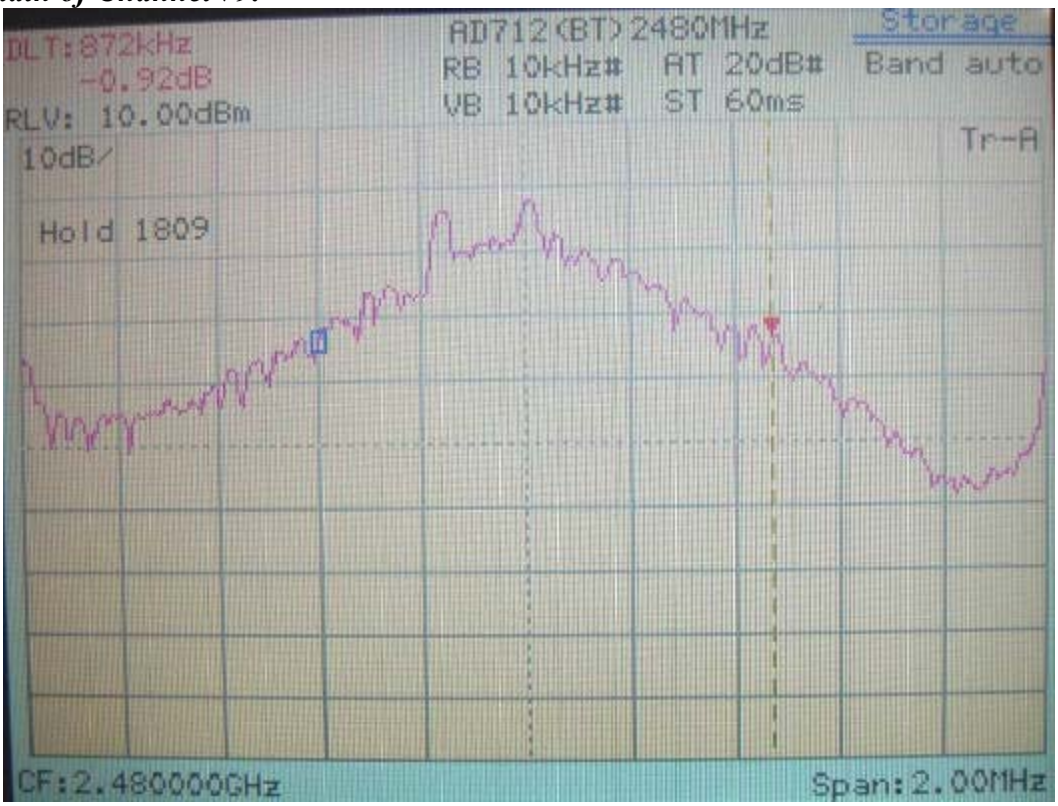
Bandwidth of Channel 1:



Bandwidth of Channel 39:

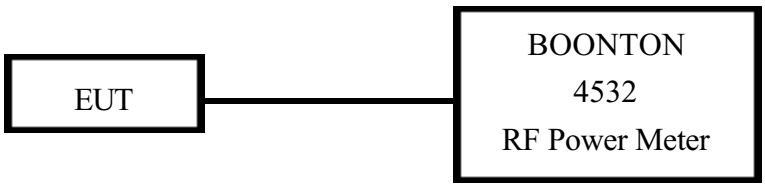


Bandwidth of Channel 79:



X. Section 15.247(b) Peak Output Power

10.1 Test Condition & Setup



1. The output of the transmitter is connected to the BOONTON RF Power Meter.
2. The calibration is performed before every test. The values of the output power of the EUT will shown in the dBm directly are the transmitter output peak power. Recording as follows.

10.2 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.
RF Power Meter	4532	BOONTON	117501

10.3 Test Result

Formula:

Signal generator + |Cable loss| = Output peak power

Channel	Signal Generator	Cable Loss	Output peak power	
	dBm	dBm	dBm	mW
CH 01	2.99	0.70	3.69	2.339
CH 39	2.96	0.70	3.66	2.323
CH 79	2.66	0.70	3.36	2.168

XI. Section 15.247(c) Band-edge Compliance

11.1 Test Condition

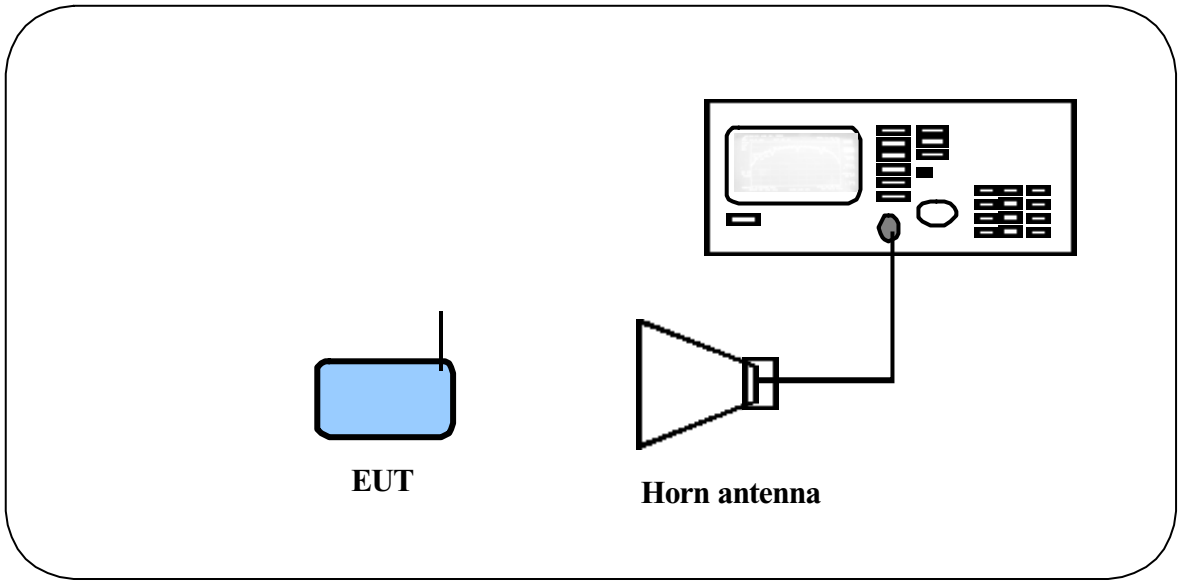
If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified id § 15.209(a)*,

We perform this section by the *radiated manner*, the RBW is set to 100kHz and VBW>RBW. We' d made the observation *up to 10th harmonics and the criterion is all the harmonic/spurious emissions must be 20dB below the highest emission level measured.* If the emissions fall in the restricted bands stated in the Part15.205(a) must also *comply with the radiated emission limits specified in Part15.209(a). (Peak mode: RBW=VBW=1MHz, Average mode: RBW=1MHz; VBW=10Hz)*

11.2 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	09/11/02	09/11/03
Spectrum Analyzer	8594EM	HP	3710A00279	12/26/02	12/26/03
RF Filter Section	85460A	H P	3448A00217	10/18/02	10/18/03
Horn Antenna	3115	EMCO	9704 – 5178	08/15/02	08/15/03

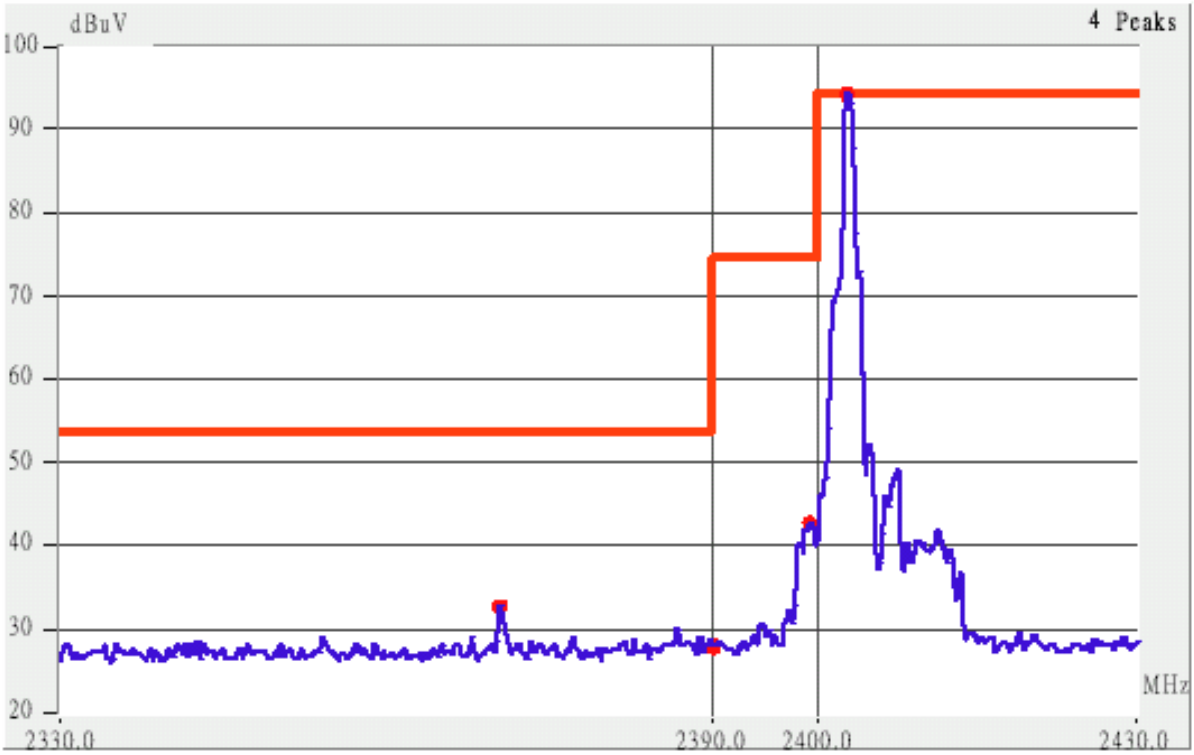
11.3 Test Instruments Configuration



11.4 Test Result of the Bandedge

The following pages show our observations referring to the channel 1 and 79 respectively.

Channel 1

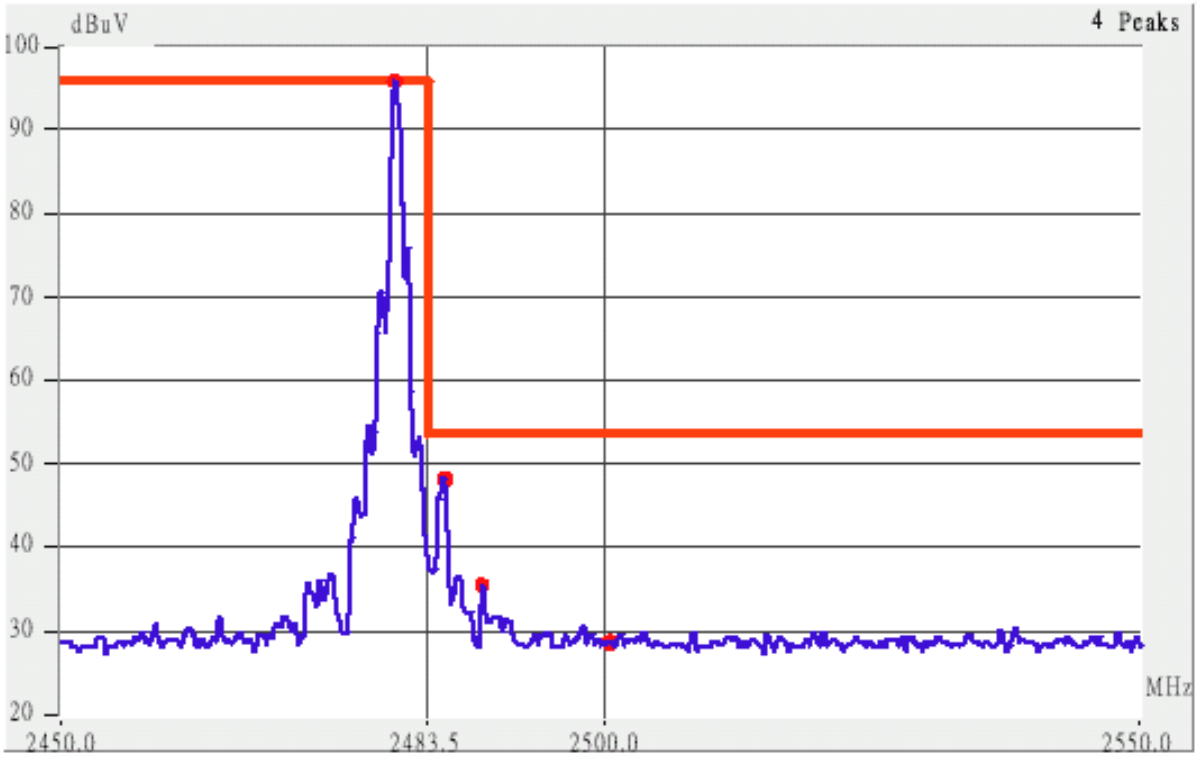


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*FCC Class B*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table (°)*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Ave.*	*Margin (dB)*
2370.56	Hor	1.00	24	3.07	39.61	---	74.00	53.96	-14.35
2384.53	Hor	1.00	113	3.12	38.90	---	74.00	53.96	-15.06
2386.55	Hor	1.00	251	3.12	39.18	---	74.00	53.96	-14.78
2370.56	Ver	1.00	204	3.07	37.83	---	74.00	53.96	-16.13
2384.53	Ver	1.00	11	3.12	37.84	---	74.00	53.96	-16.12
2386.55	Ver	1.00	176	3.13	35.52	---	74.00	53.96	-18.44

Channel 79



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 79.

3. The lobe left by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*FCC Class B*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table (°)*	*Factors (dB)*			*Limit (dBμV/m)*		*Margin (dB)*
					Peak	*Average*	*Peak*	*Ave.*	
2484.79	Hor	1.00	117	3.45	49.95	---	74.00	53.96	-4.01
2486.76	Hor	1.00	124	3.46	44.53	---	74.00	53.96	-9.43
2502.06	Hor	1.00	59	3.50	37.57	---	74.00	53.96	-16.39
2484.65	Ver	1.00	220	3.45	48.41	---	74.00	53.96	-5.55
2487.58	Ver	1.00	162	3.46	41.68	---	74.00	53.96	-12.28
2504.03	Ver	1.00	327	3.51	36.98	---	74.00	53.96	-16.98

XII. Section 15.247(c) Spurious Radiated Emissions

12.1 Test Condition and Setup

We' d performed the test by the *radiated emission* skill: The EUT was placed in an anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we' d set the spectrum analyzer' s 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT. Final radiation measurements were made on a three-meter, anechoic chamber. The EUT system was placed on a nonconductive turntable, which is 0.8 meters height, top surface 1.0 x 1.5 meter.

The spectrum was examined from 30 MHz to 1000 MHz using an Hewlett Packard 8546A EMI Receiver, CHASE whole range Bi-log antenna (Model No.: CBL 6141A) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/CMT Horn Antenna (Model 3115 / RA42-K-F-4B-C) for 1G - 25GHz.

At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 25GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the top (CH1), one in the middle (CH39) and the other in bottom (CH79). The setting up procedure is recorded on <1.3 test method>

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the 2400 ~ 2483.5 MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter (dBμV/m) is determined by algebraically adding the measured reading in dBμV, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

For frequency between 30MHz to 1000MHz

FIa (dBuV/m) = FIr (dBμV) + Correction Factors

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

For frequency between 1GHz to 25GHz

FIa (dBμV/m) = FIr (dBμV) + Correction Factor

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

12.2 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
EMI Receiver	8546A	HP	3520A00242	07/28/03	07/28/04
RF Filter Section	85460A	HP	3448A00217	07/28/03	07/28/04
Bi-log Antenna	CBL 6141A	CHASE	4206	05/27/03	05/27/04
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	11/20/02	11/20/03
Spectrum Analyzer	8564E	HP	3720A00840	07/23/03	07/23/04
Microwave Preamplifier	84125C	HP	US36433002	07/30/03	07/30/04
Horn Antenna	3115	EMCO	9104-3668	12/24/02	12/24/03
Horn Antenna	RA42-K-F-4B-C	CMT	961505-003	02/01/03	02/01/04
Anechoic Chamber (cable calibrated together)				05/20/03	05/20/04

The level of confidence of 95% , the uncertainty of measurement of radiated emission is ± 3.44dB.

12.3 Test Result of Spurious Radiated Emissions

EUT's transmit only

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following.

Test Conditions: Temperature : 25.0 ° C Humidity : 73.0 % RH

30MHz to 1GHz, EUT for USB interface, Standby mode [Horizontal]

Radiated Emission				*Correction Factors*	*Corrected Amplitude*	*Class B (3 m)*	
Frequency (MHz)	*Amplitude (dBμV)*	*Ant. H. (m)*	*Table (°)*	*(dB)*	*(dBμV/m)*	*Limit (dBμV/m)*	*Margin (dB)*
300.39	40.48	1.00	243	-2.35	38.13	46.00	-7.87
330.70	37.57	1.00	293	-1.75	35.82	46.00	-10.18
409.51	33.51	1.00	263	0.88	34.39	46.00	-11.61
432.55	32.77	1.00	334	1.95	34.72	46.00	-11.28
454.37	30.78	1.00	334	2.92	33.70	46.00	-12.30
499.24	30.84	1.00	268	4.53	35.37	46.00	-10.63

30MHz to 1GHz for USB interface, Standby mode [Vertical]

Radiated Emission				*Correction Factors*	*Corrected Amplitude*	*Class B (3 m)*	
Frequency (MHz)	*Amplitude (dBμV)*	*Ant. H. (m)*	*Table (°)*	*(dB)*	*(dBμV/m)*	*Limit (dBμV/m)*	*Margin (dB)*
157.31	28.52	1.00	213	-2.34	26.18	43.50	-17.32
207.02	29.70	1.00	168	-2.69	27.01	43.50	-16.49
256.74	30.09	1.00	333	-2.82	27.27	46.00	-18.73
300.39	34.48	1.00	295	-2.35	32.13	46.00	-13.87
499.24	27.63	1.00	224	4.53	32.16	46.00	-13.84
597.45	24.82	1.00	193	8.62	33.44	46.00	-12.56

Note:

1. Margin = Amplitude – limit, *if margin is minus means under limit.*
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction factor = Antenna factor + (Cable Loss – Amplitude gain)

30MHz to 1GHz for RS232 interface, Standby mode [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
300.39	46.71	1.00	5	-2.35	44.36	46.00	-1.64
307.66	40.28	1.00	314	-2.21	38.07	46.00	-7.93
330.70	39.67	1.00	314	-1.75	37.92	46.00	-8.08
341.61	38.13	1.00	314	-1.53	36.60	46.00	-9.40
455.59	33.01	1.00	286	2.96	35.97	46.00	-10.03
499.24	30.75	1.00	300	4.53	35.28	46.00	-10.72

30MHz to 1GHz for RS232 interface, Standby mode [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
45.76	30.94	1.00	335	5.13	36.07	40.00	-3.93
207.02	30.28	1.00	45	-2.69	27.59	43.50	-15.91
300.39	36.31	1.00	276	-2.35	33.96	46.00	-12.04
433.76	28.97	1.00	193	2.01	30.98	46.00	-15.02
499.24	26.64	1.00	217	4.53	31.17	46.00	-14.83
597.45	26.01	1.00	173	8.62	34.63	46.00	-11.37

30MHz to 1GHz, EUT includes cradle for USB interface, TX [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
152.46	39.16	1.00	30	-2.22	36.94	43.50	-6.56
170.65	33.34	1.00	290	-2.61	30.73	43.50	-12.77
208.24	35.48	1.00	165	-2.70	32.78	43.50	-10.72
301.60	36.92	1.00	354	-2.33	34.59	46.00	-11.41
388.90	32.34	1.00	320	0.04	32.38	46.00	-13.62
458.01	30.04	1.00	339	3.05	33.09	46.00	-12.91

30MHz to 1GHz, EUT includes cradle for USB interface, TX [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
120.94	30.23	1.00	52	-1.30	28.93	43.50	-14.57
202.17	37.17	1.00	95	-2.68	34.49	43.50	-9.01
387.69	33.39	1.00	18	0.00	33.39	46.00	-12.61
401.02	31.48	1.00	226	0.49	31.97	46.00	-14.03
547.74	25.55	1.00	19	6.77	32.32	46.00	-13.68
797.51	23.33	1.00	3	13.68	37.01	46.00	-8.99

30MHz to 1GHz, EUT includes cradle for RS232 interface, TX [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
101.54	31.50	1.00	297	-0.38	31.12	43.50	-12.38
202.17	35.21	1.00	17	-2.68	32.53	43.50	-10.97
301.60	37.32	1.00	322	-2.33	34.99	46.00	-11.01
388.90	35.99	1.00	335	0.04	36.03	46.00	-9.97
410.72	33.43	1.00	326	0.94	34.37	46.00	-11.63
456.80	29.67	1.00	326	3.00	32.67	46.00	-13.33

30MHz to 1GHz, EUT includes cradle for RS232 interface, TX [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
202.17	32.26	1.00	110	-2.68	29.58	43.50	-13.92
211.87	32.40	1.00	324	-2.71	29.69	43.50	-13.81
301.60	34.77	1.00	155	-2.33	32.44	46.00	-13.56
390.11	32.57	1.00	6	0.08	32.65	46.00	-13.35
401.02	33.88	1.00	249	0.49	34.37	46.00	-11.63
547.74	27.16	1.00	16	6.77	33.93	46.00	-12.07

30MHz to 1GHz, EUT without cradle for USB interface, TX [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
300.39	42.12	1.00	254	-2.35	39.77	46.00	-6.23
307.66	38.82	1.00	308	-2.21	36.61	46.00	-9.39
330.70	38.21	1.00	303	-1.75	36.46	46.00	-9.54
399.81	35.53	1.00	266	0.43	35.96	46.00	-10.04
409.51	36.16	1.00	276	0.88	37.04	46.00	-8.96
664.14	25.53	1.00	199	10.68	36.21	46.00	-9.79

30MHz to 1GHz, EUT without cradle for USB interface, TX [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
157.31	29.01	1.00	171	-2.34	26.67	43.50	-16.83
251.89	33.02	1.00	306	-2.74	30.28	46.00	-15.72
300.39	34.53	1.00	296	-2.35	32.18	46.00	-13.82
499.24	29.22	1.00	222	4.53	33.75	46.00	-12.25
598.66	22.96	1.00	179	8.66	31.62	46.00	-14.38
751.44	23.82	1.00	19	12.76	36.58	46.00	-9.42

30MHz to 1GHz, EUT without cradle for RS232 interface, TX [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
300.39	45.36	1.00	356	-2.35	43.01	46.00	-2.99
307.66	40.02	1.00	302	-2.21	37.81	46.00	-8.19
331.91	39.16	1.00	303	-1.72	37.44	46.00	-8.56
432.55	33.81	1.00	277	1.95	35.76	46.00	-10.24
499.24	31.19	1.00	230	4.53	35.72	46.00	-10.28
666.56	25.33	1.00	191	10.75	36.08	46.00	-9.92

30MHz to 1GHz, EUT without cradle for RS232 interface, TX [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
44.55	29.63	1.00	350	5.34	34.97	40.00	-5.03
300.39	34.71	1.00	277	-2.35	32.36	46.00	-13.64
307.66	30.51	1.00	280	-2.21	28.30	46.00	-17.70
330.70	29.33	1.00	281	-1.75	27.58	46.00	-18.42
500.45	26.22	1.00	250	4.58	30.80	46.00	-15.20
698.09	22.66	1.00	138	11.69	34.35	46.00	-11.65

Channel 1, 1GHz to 25GHz [Antenna polarity Horizontal]

Radiated Emission				*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. H. (m)*	*Table (°)*	*Correction Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Ave.*	*Margin (dB)*
4809.83	1.00	55	-24.30	43.66	---	74.00	53.96	-10.30
5389.83	1.00	214	-22.24	43.55	---	74.00	53.96	-10.41
10600.17	1.00	220	-15.96	47.80	---	74.00	53.96	-6.16
13152.17	1.00	176	-17.03	47.21	---	74.00	53.96	-6.75

Channel 1, 1GHz to 25GHz [Antenna polarity Vertical]

Radiated Emission				*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. H. (m)*	*Table (°)*	*Correction Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Ave.*	*Margin (dB)*
4809.83	1.00	85	-24.30	44.67	---	74.00	53.96	-9.29
8328.50	1.00	164	-14.60	46.57	---	74.00	53.96	-7.39
8739.33	1.00	227	-15.18	46.88	---	74.00	53.96	-7.08
11769.83	1.00	109	-15.40	46.80	---	74.00	53.96	-7.16

Note:

1. Margin = Corrected - Limit.
2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the *20dBc limit* both at its bandedges and other spurious emissions.
3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.

Channel 39, 1GHz to 25GHz [Antenna polarity Horizontal]

Radiated Emission				Corrected Amplitude (dBμV/m)		Class B (3m)		
Frequency (MHz)	Ant. H. (m)	Table (°)	Correction Factors (dB)	Peak	Average	Limit (dBμV/m) Peak	Ave.	Margin (dB)
4892.00	1.00	25	-23.84	44.89	---	74.00	53.96	-9.07
5781.33	1.00	160	-20.50	44.59	---	74.00	53.96	-9.37
8405.83	1.00	89	-14.57	46.64	---	74.00	53.96	-7.32

Channel 39, 1GHz to 25GHz [Antenna polarity Vertical]

Radiated Emission				Corrected Amplitude (dBμV/m)		Class B (3m)		
Frequency (MHz)	Ant. H. (m)	Table (°)	Correction Factors (dB)	Peak	Average	Limit (dBμV/m) Peak	Ave.	Margin (dB)
4892.00	1.00	251	-23.84	43.58	---	74.00	53.96	-10.38
6583.67	1.00	176	-18.69	44.41	---	74.00	53.96	-9.55
13089.33	1.00	280	-17.33	48.25	---	74.00	53.96	-5.71

Channel 79, 1GHz to 25GHz [Antenna polarity Horizontal]

Radiated Emission				Corrected Amplitude (dBμV/m)		Class B (3m)		
Frequency (MHz)	Ant. H. (m)	Table (°)	Correction Factors (dB)	Peak	Average	Limit (dBμV/m) Peak	Ave.	Margin (dB)
4969.33	1.00	289	-23.64	46.79	---	74.00	53.96	-7.17
7429.50	1.00	117	-16.95	45.12	---	74.00	53.96	-8.84

Channel 79, 1GHz to 25GHz [Antenna polarity Vertical]

Radiated Emission				Corrected Amplitude (dBμV/m)		Class B (3m)		
Frequency (MHz)	Ant. H. (m)	Table (°)	Correction Factors (dB)	Peak	Average	Limit (dBμV/m) Peak	Ave.	Margin (dB)
4969.33	1.00	108	-23.64	42.68	---	74.00	53.96	-11.28
7448.83	1.00	267	-17.00	42.53	---	74.00	53.96	-11.43
9933.17	1.00	124	-15.40	46.53	---	74.00	53.96	-7.43
12422.33	1.00	294	-16.47	47.58	---	74.00	53.96	-6.38