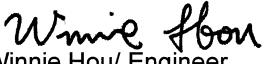
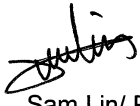


Prüfbericht - Nr.: 17009697 001 <i>Test Report No.:</i>			Seite 1 von 59 <i>Page 1 of 59</i>						
Auftraggeber: <i>Client:</i>			Namtai Electronic (Shenzhen) Co., Ltd. Gusu Industrial Estate, Xixiang, Baoan, Shenzhen Guangdong 518126, P.R. China						
Gegenstand der Prüfung: Wireless Headset <i>Test item:</i>									
Bezeichnung: <i>Identification:</i>		CECHYA-0075		Serien-Nr.: <i>Serial No.:</i>					
Wareneingangs-Nr.: <i>Receipt No.:</i>		163038725		Eingangsdatum: <i>Date of receipt:</i>					
Prüfört: <i>Testing location:</i>		TÜV Rheinland (Guangdong) Ltd. EMC Laboratory Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China FCC Registration No.: 833845							
Prüfgrundlage: <i>Test specification:</i>		FCC CFR47 Part 15: Subpart C Section 15.247 FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart B Section 15.107 FCC CFR47 Part 15: Subpart B Section 15.109							
Prüfergebnis: <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specification(s).</i>							
Prüflaboratorium: <i>Testing Laboratory:</i>		TÜV Rheinland (Shenzhen) Co., Ltd.							
geprüft/ tested by:			kontrolliert/ reviewed by:						
 2008-07-04 Winnie Hou/ Engineer			 2008-07-08 Sam Lin/ Project Engineer						
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>				
Sonstiges/ Other Aspects:									
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Abkürzungen: </td> <td style="width: 50%; vertical-align: top;"> Abbreviations: </td> </tr> <tr> <td> P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet </td> <td> P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested </td> </tr> </table>						Abkürzungen:	Abbreviations:	P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet	P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested
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Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>									

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT*RESULT: Passed***5.1.2 PEAK OUTPUT POWER***RESULT: Passed***5.1.3 20dB BANDWIDTH***RESULT: Passed***5.1.4 100KHZ BANDWIDTH OF FREQUENCY BAND EDGE***RESULT: Passed***5.1.5 SPURIOUS EMISSION***RESULT: Passed***5.1.6 FREQUENCY SEPARATION***RESULT: Passed***5.1.7 NUMBER OF HOPPING FREQUENCY***RESULT: Passed***5.1.8 TIME OF OCCUPANCY***RESULT: Passed***5.1.9 PEAK POWER DENSITY***RESULT: Passed***5.1.10 CONDUCTED EMISSIONS***RESULT: Passed***5.1.11 RADIATED EMISSIONS***RESULT: Passed*

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1. General Remarks

1.1 Complementary Materials

None

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.
EMC Laboratory

Guangzhou Auto Market,
Yuan Gang Section of Guangshan Road,
Guangzhou, P.R. China

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
EMI Test Receiver	Rohde & Schwarz	ESCI-3	100216	2008-11-26
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2008-08-24
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2009-11-07
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2009-08-18
Pre-amplifier	MITEQ	AFS42-00101800-25-S-42	1101599	2008-07-31
Standard Gain Horn Antenna	EMCO	3160-09	21642	N/A
Pre-amplifier	MITEQ	AFS33-18002650-30-8P-44	1108282	2009-07-31
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2009-04-16
Radio Test Suite				
EMI Test Receiver	Rohde & Schwarz	ESCI	100178	2008-09-27
Universal radio communication tester	Rohde & Schwarz	CMU200	1100.0008.02	2008-09-27
Conducted Emission				
EMI Test Receiver	Rohde & Schwarz	ESCS30	100316	2009-03-27
Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100114	2009-03-27

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are $\pm 3\text{dB}$.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix 1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. test facility located at Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is headset with Bluetooth technology. The Wireless headset is only designed for SONY PlayStation® 3. It operates at 2.4GHz ISM frequency band. For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Wireless Headset
Type Designation:	CECHYA-0075
FCC ID	VZVHEADSET

Table 3: Technical Specification of EUT

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-20°C to +60°C
Operation Voltage	DC 3.7V via re-chargeable Li-ion battery
Modulation	Frequency Hopping Spread Spectrum
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	0.25dBi
RF Output Power	0.0023W (3.68dBm)
External Ports	USB port for charging and data transfer

Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	Hereby we declare that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification V2.1+EDR for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E).
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73,07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56,69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43,15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,
Receiver input bandwidth	<p>The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master.</p> <p>Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.</p> <p>Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case.</p> <p>That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.</p>

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Receiving
- C. Standby
- D. Data transferring
- E. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

4.3 Special Accessories and Auxiliary Equipment

Kind of Equipment	Manufacturer	Type	S/N
Notebook	IBM	X60	L3-BZ383

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

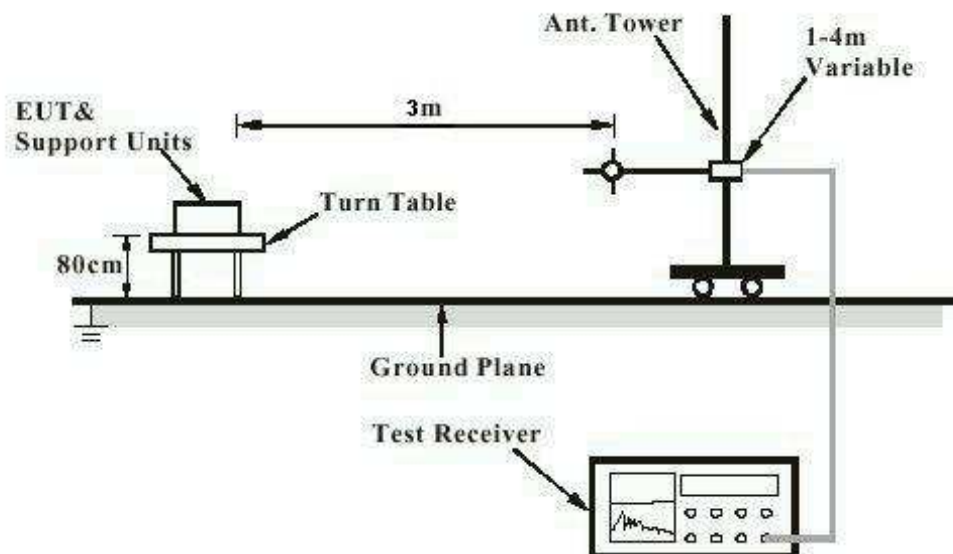


Diagram of Measurement Equipment Configuration for Conduction Measurement

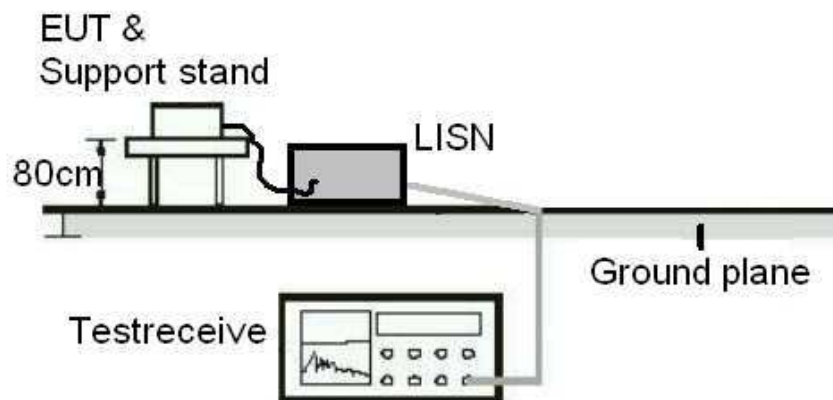
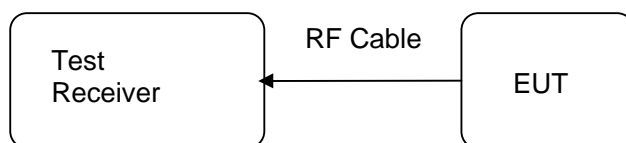


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2008-06-13
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 0.25dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply the provision.

Refer to EUT photo for details.

5.1.2 Peak Output Power

RESULT:**Passed**

Test date : 2008-06-13
Test standard : FCC Part 15.247(b)(1)
Basic standard : ANSI C63.4: 2003
Limit : 1 Watt
Kind of test site : Shielded room

Test setup

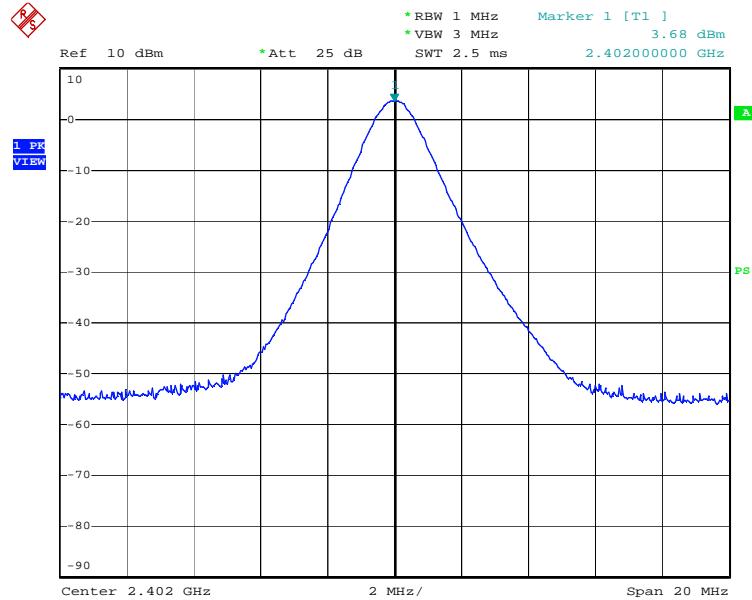
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 54%
Atmospheric pressure : 101 kPa

Table 5: Test result of Peak Output Power

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	3.68	0.0023	1
Middle Channel	2441	3.13	0.0021	1
High Channel	2480	2.23	0.0017	1

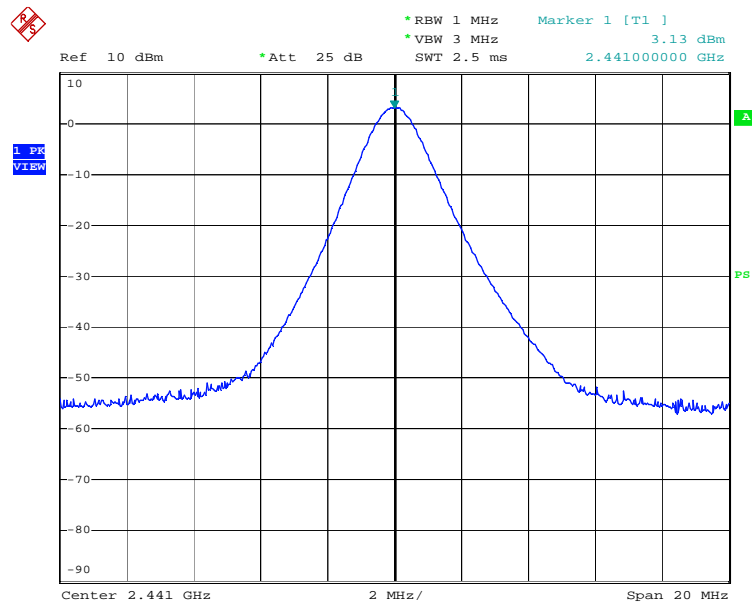
Test Plot of Peak Output Power

Low Channel



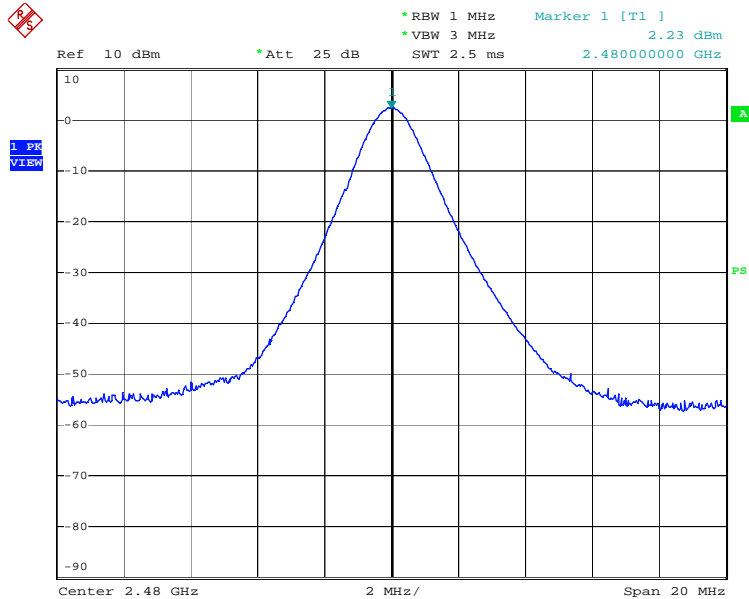
Date: 13.JUN.2008 11:10:15

Middle Channel



Date: 13.JUN.2008 11:09:27

High Channel



Date: 13.JUN.2008 11:08:23

5.1.3 20dB Bandwidth

RESULT:**Passed**

Date of testing : 2008-06-13
Test standard : FCC Part 15.247(a)(1)
Basic standard : ANSI C63.4: 2003
Requirement : According to Bluetooth technical specification,
bandwidth shall not exceed 1MHz
Kind of test site : Shielded room

Test setup

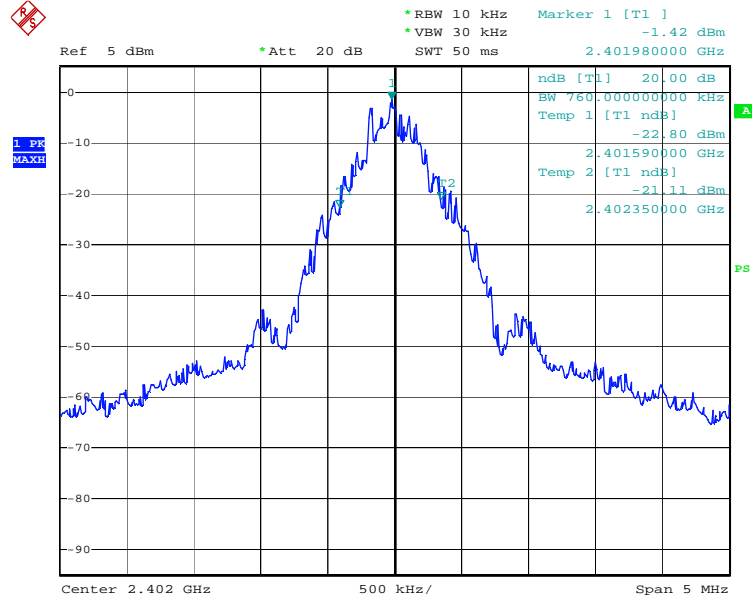
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 54%
Atmospheric pressure : 101 kPa

Table 6: Test result of 20dB Bandwidth

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	760	/	Pass
Mid Channel	2441	810	/	Pass
High Channel	2480	800	/	Pass

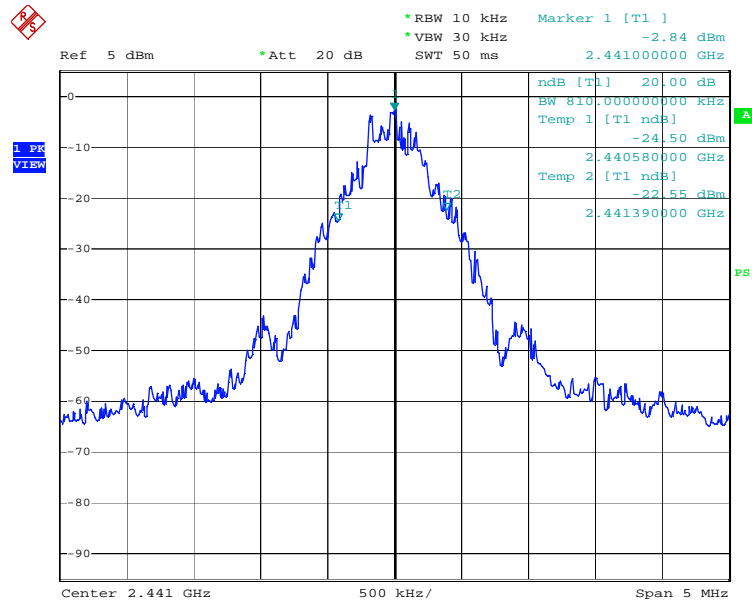
Test Plot of 20dB Bandwidth

Low Channel



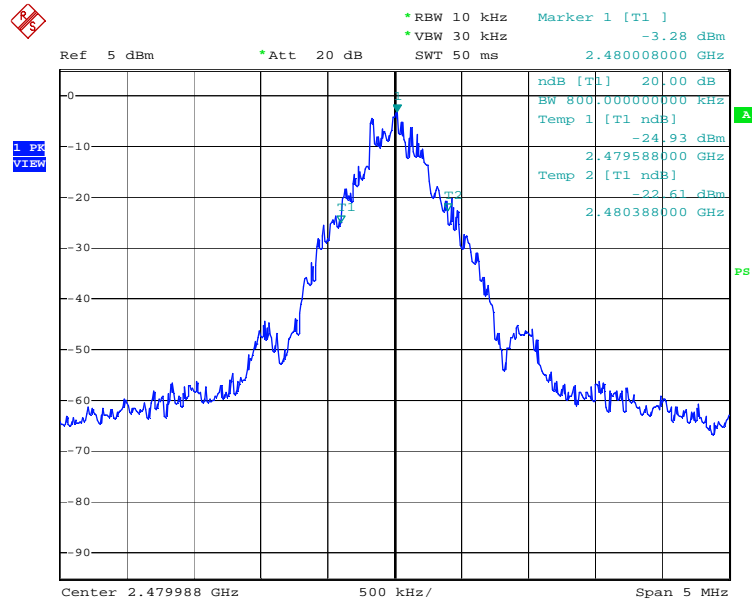
Date: 13.JUN.2008 11:06:40

Middle Channel



Date: 13.JUN.2008 11:05:33

High Channel



Date: 13.JUN.2008 11:03:55

5.1.4 100kHz Bandwidth of Frequency Band Edge

RESULT:**Passed**

Date of testing	:	2008-06-13
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

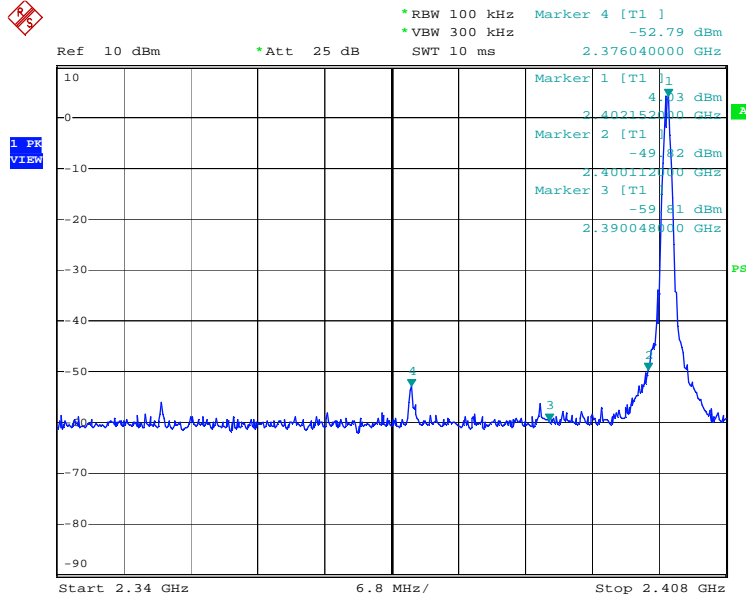
Test setup

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	25°C
Relative humidity	:	54%
Atmospheric pressure	:	101 kPa

All emissions are more than 20dB below fundamental, therefore radiated measurement is not applicable. Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to following test plot, and compliance is achieved as well.

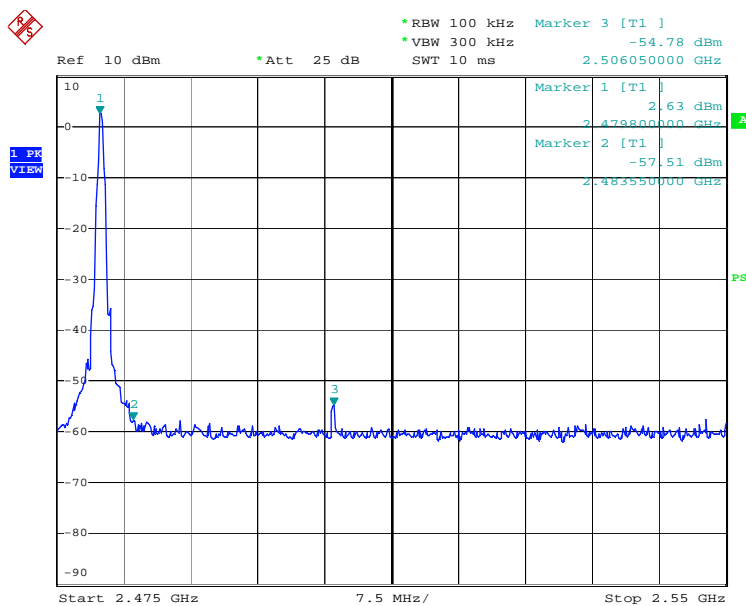
Test Plot of 100kHz Bandwidth of Frequency Band Edge

Low Channel



Date: 13.JUN.2008 11:15:38

High Channel



Date: 13.JUN.2008 11:20:27

5.1.5 Spurious Emission

RESULT:**Passed**

Date of testing : 2008-06-13 to 2008-06-18
Test standard : FCC part 15.247(d)
Basic standard : ANSI C63.4: 2003
Limits : Refer to 15.209(a)
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
Operation mode : A, B
Ambient temperature : 23°C
Relative humidity : 53%
Atmospheric pressure : 101 kPa

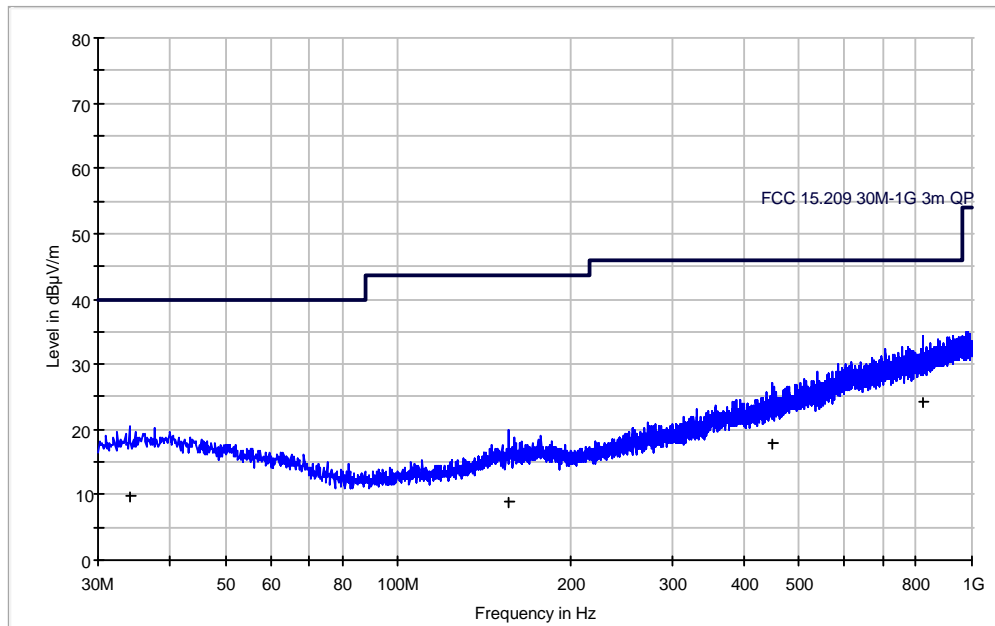
Table 7: Test result of Spurious Emission

A.1							
Frequency (MHz)	Polarity (V/H)	Level Peak (dBuV/m)	Level Average (dBuV/m)	Limit Peak (dBuV/m)	Limit Average (dBuV/m)	Margin Peak (dB)	Margin Average (dB)
1602.000	V	38.0	32.7	74.0	54.0	36.0	21.3
4804.000	V	59.9	47.5	74.0	54.0	14.1	6.5
7206.000	V	44.2	33.2	74.0	54.0	29.8	20.8
9608.000	V	45.3	33.6	74.0	54.0	28.7	20.4
1602.000	H	38.2	32.9	74.0	54.0	35.8	21.1
4804.000	H	53.3	39.4	74.0	54.0	20.7	14.6
7206.000	H	43.6	32.4	74.0	54.0	30.4	21.6
9608.000	H	45.3	33.2	74.0	54.0	28.7	20.8
A.2							
1626.500	V	35.9	29.9	74.0	54.0	38.1	24.1
4882.000	V	58.6	48.5	74.0	54.0	15.4	5.5
7323.000	V	44.7	33.5	74.0	54.0	29.3	20.5
9764.000	V	45.2	33.1	74.0	54.0	28.8	20.9
1626.500	H	37.9	32.5	74.0	54.0	36.1	21.5
4882.000	H	53.3	42.5	74.0	54.0	20.7	11.5
7323.000	H	44.3	32.9	74.0	54.0	29.7	21.1
9764.000	H	44.4	32.9	74.0	54.0	29.6	21.1
A.3							
1652.500	V	36.3	30.3	74.0	54.0	37.7	23.7
4960.000	V	59.0	49.0	74.0	54.0	15.0	5.0
7440.000	V	44.8	33.3	74.0	54.0	29.2	20.7
9920.000	V	44.7	33.3	74.0	54.0	29.3	20.7
1652.500	H	37.6	32.0	74.0	54.0	36.4	22.0
4960.000	H	53.7	42.6	74.0	54.0	20.3	11.4
7440.000	H	45.1	32.9	74.0	54.0	28.9	21.1
9764.000	H	45.3	32.9	74.0	54.0	28.7	21.1
B							
13782.000	V	56.3	44.2	74.0	54.0	17.7	9.8
17454.000	V	57.2	44.8	74.0	54.0	16.8	9.2
6618.500	H	42.2	31.3	74.0	54.0	31.8	22.7
11922.500	H	47.3	35.8	74.0	54.0	26.7	18.2

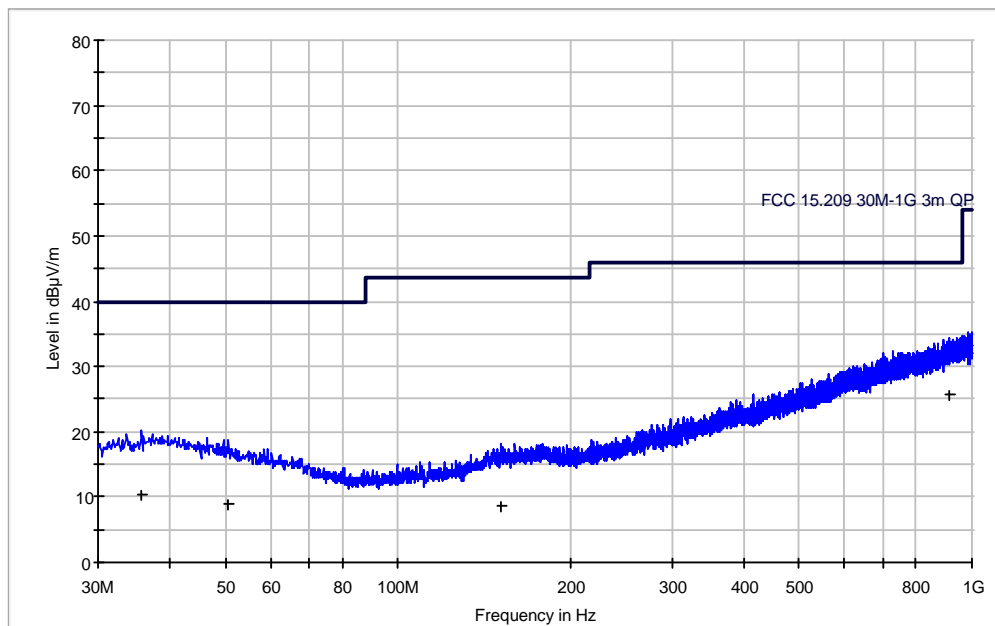
Note:

Testing was carried out within frequency range 30MHz to the tenth harmonics.

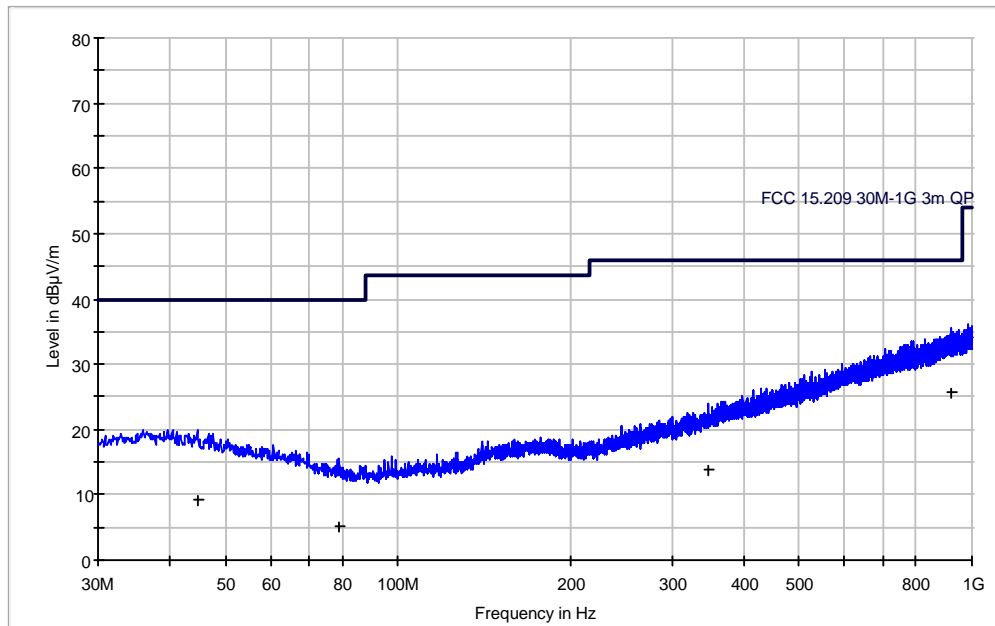
Test Plot of Spurious emission of A.1 – Horizontal (30MHz – 1GHz)



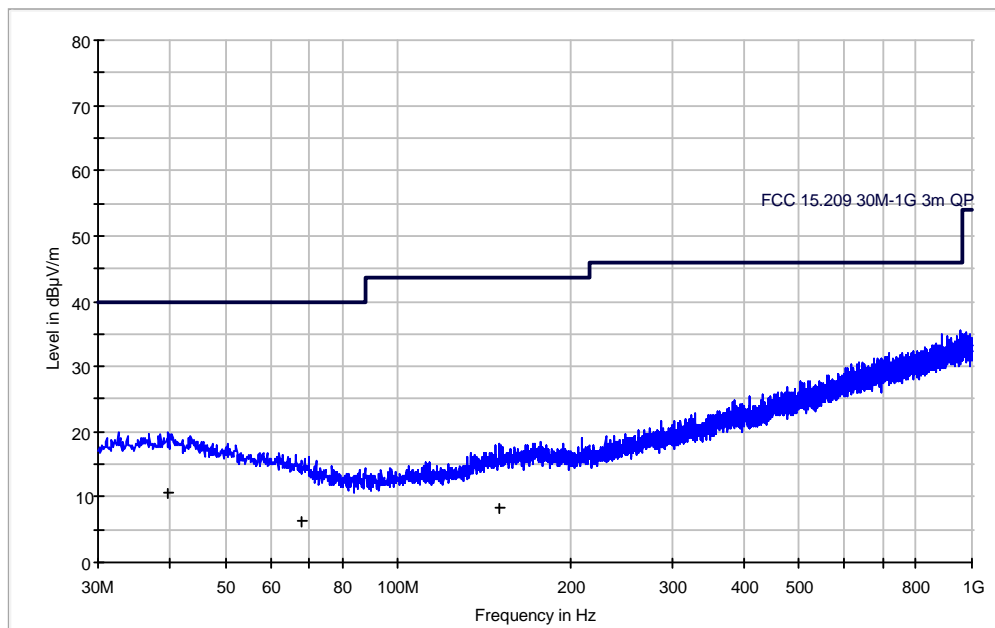
Test Plot of Spurious emission of A.1 – Vertical (30MHz – 1GHz)



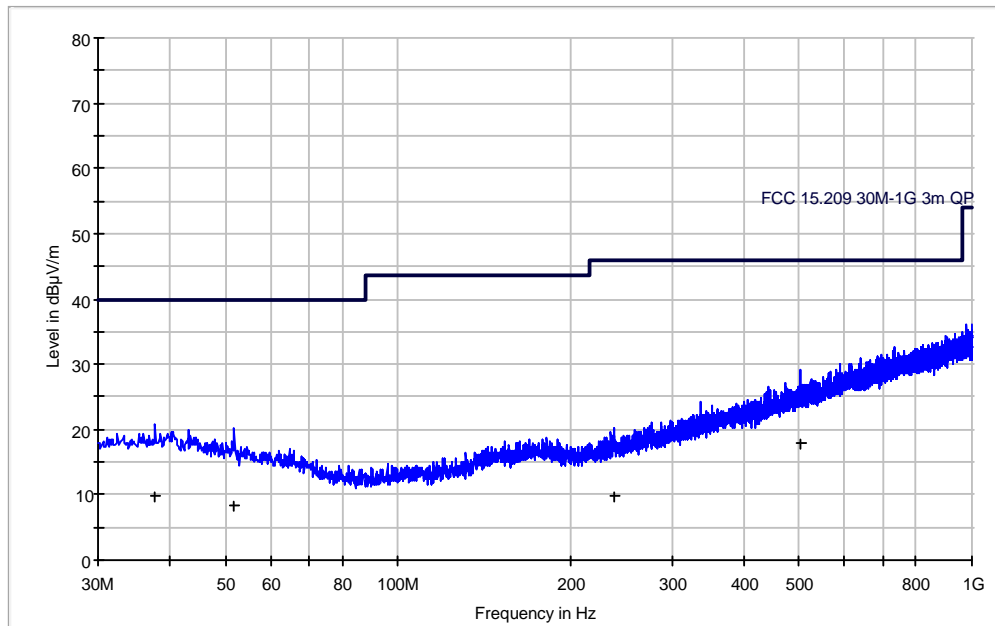
Test Plot of Spurious emission of A.2 – Horizontal (30MHz – 1GHz)



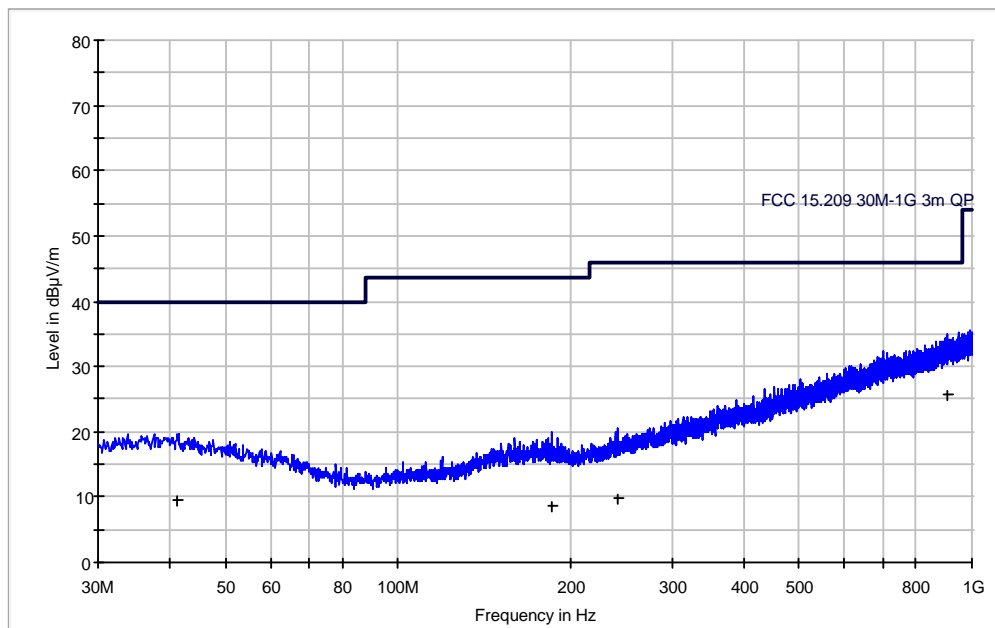
Test Plot of Spurious emission of A.2 – Vertical (30MHz – 1GHz)



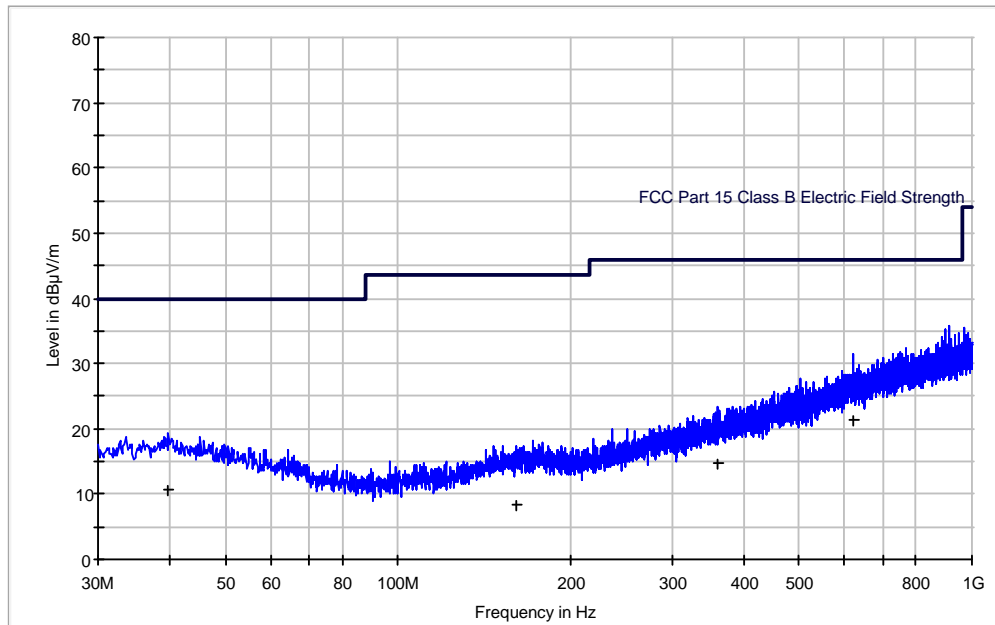
Test Plot of Spurious emission of A.3 – Horizontal (30MHz – 1GHz)



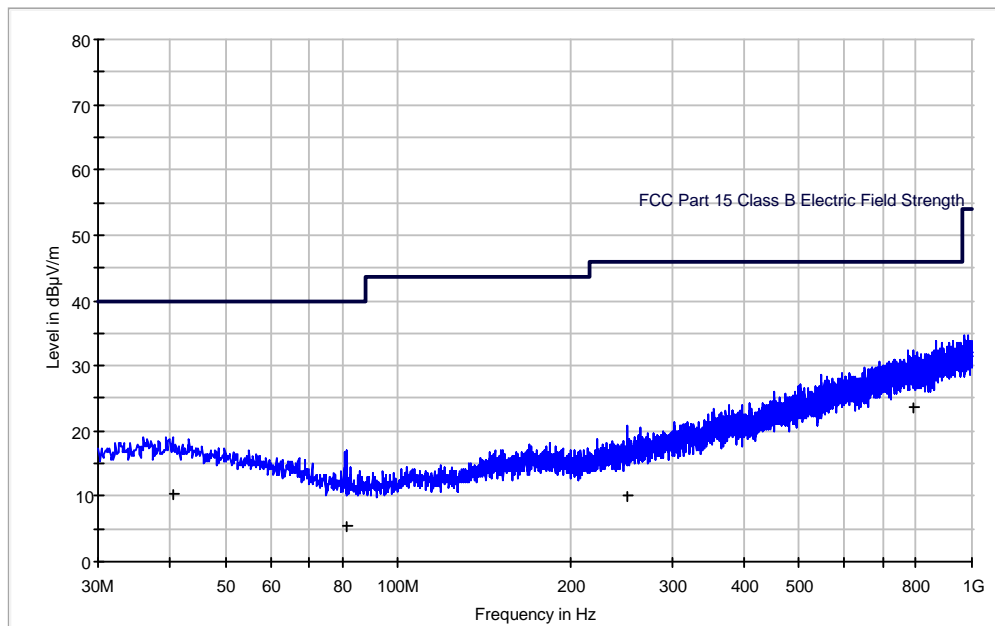
Test Plot of Spurious emission of A.3 – Vertical (30MHz – 1GHz)



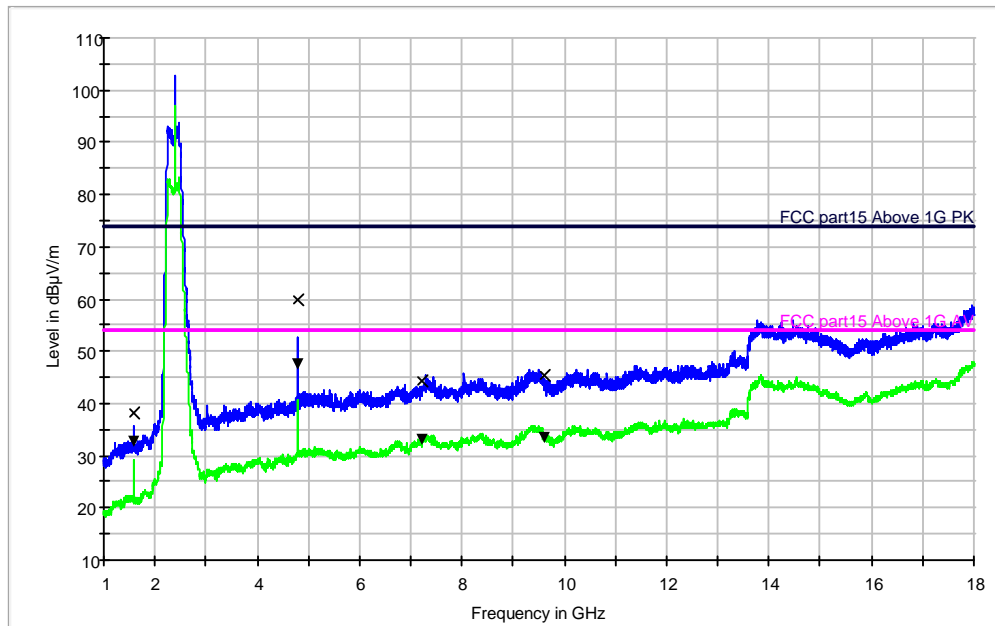
Test Plot of Spurious emission of B – Horizontal (30MHz – 1GHz)



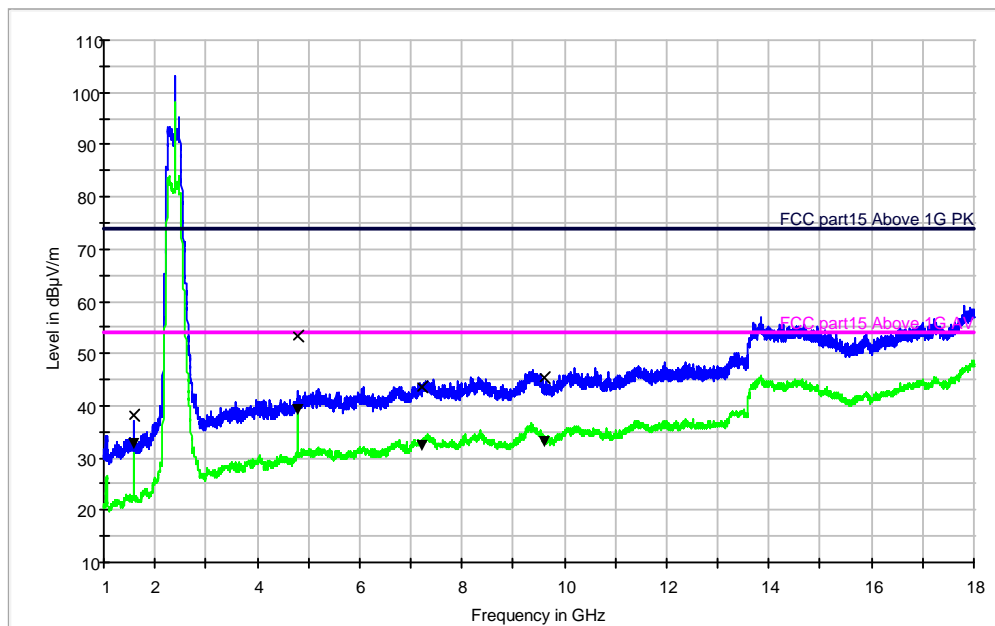
Test Plot of Spurious emission of B – Vertical (30MHz – 1GHz)



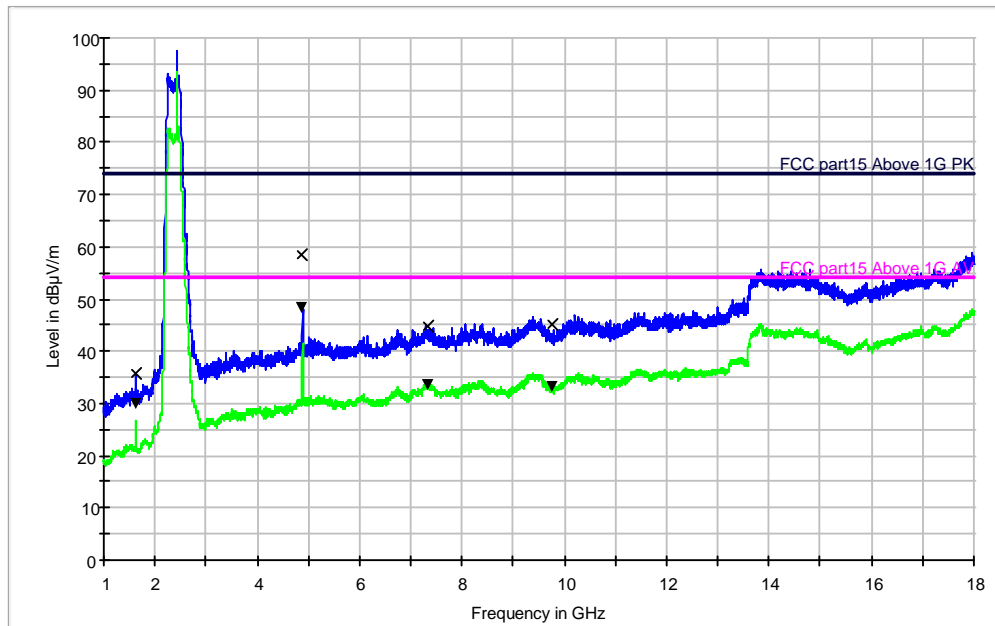
Test Plot of Spurious emission of A.1 – Vertical (1GHz – 18GHz)



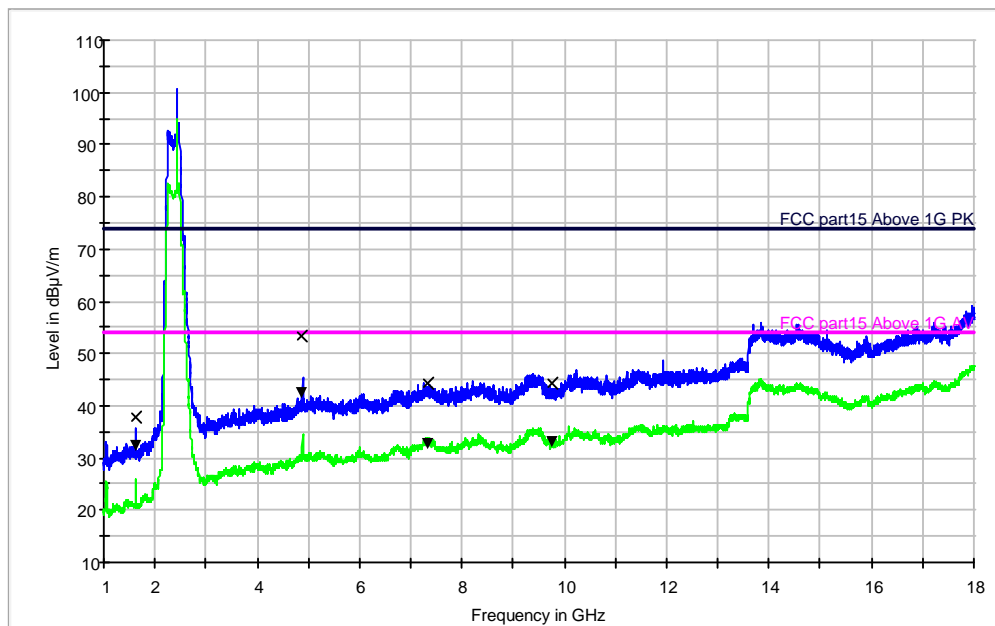
Test Plot of Spurious emission of A.1 – Horizontal (1GHz – 18GHz)



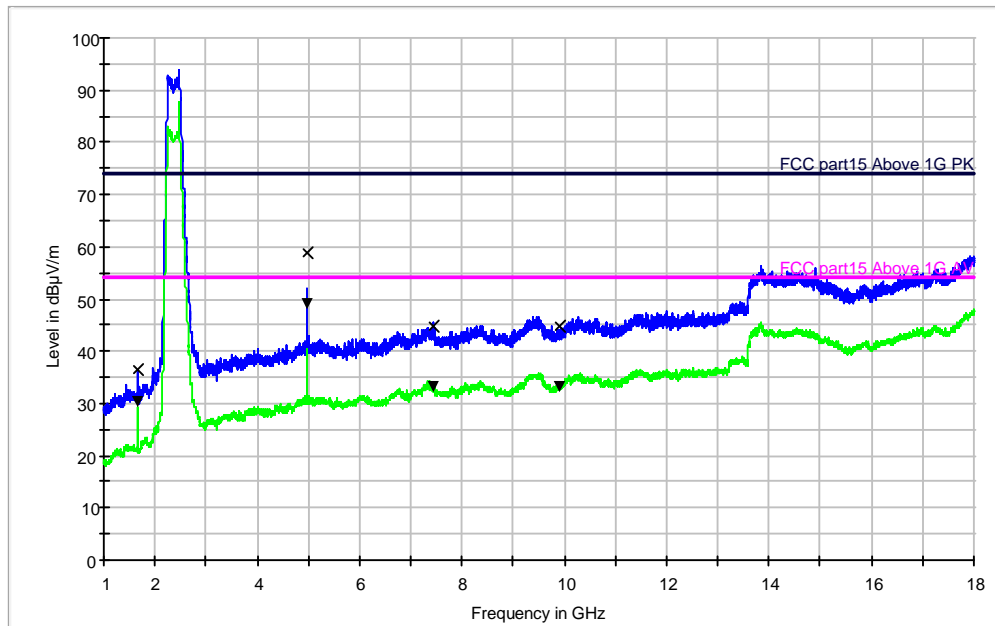
Test Plot of Spurious emission of A.2 – Vertical (1GHz – 18GHz)



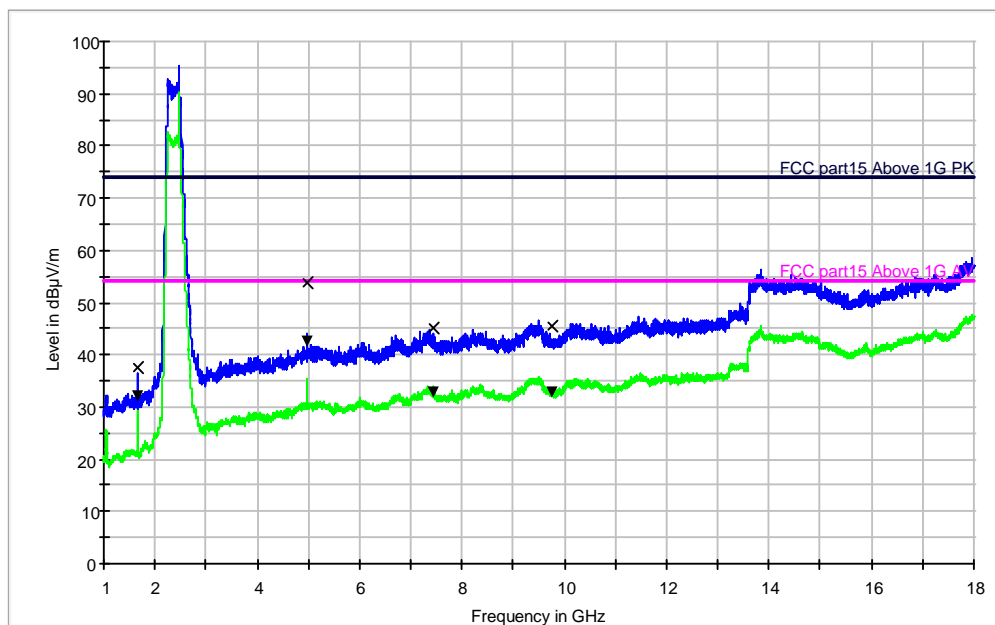
Test Plot of Spurious emission of A.2 – Horizontal (1GHz – 18GHz)



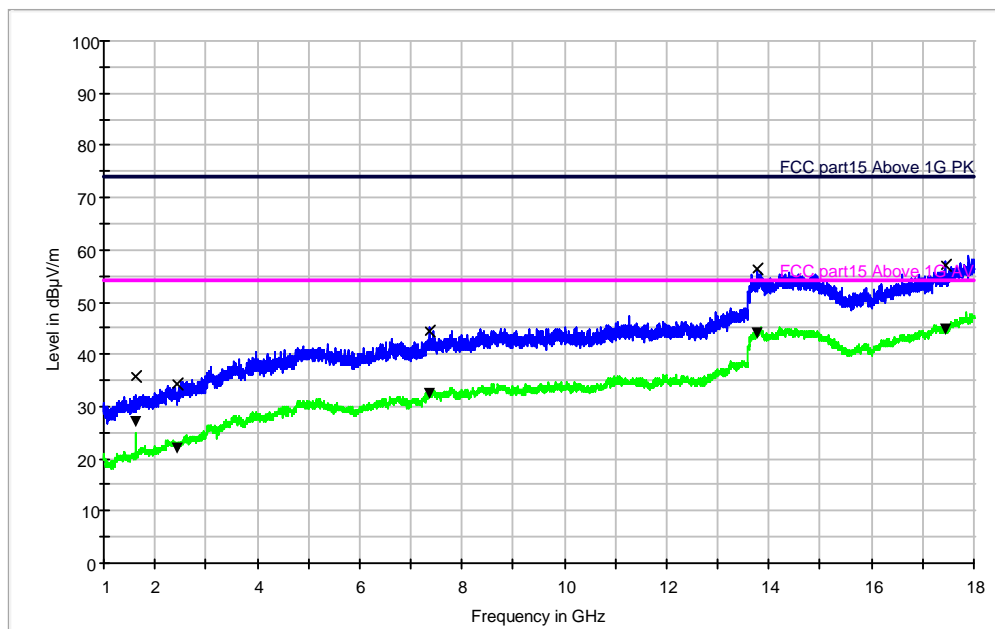
Test Plot of Spurious emission of A.3 – Vertical (1GHz – 18GHz)



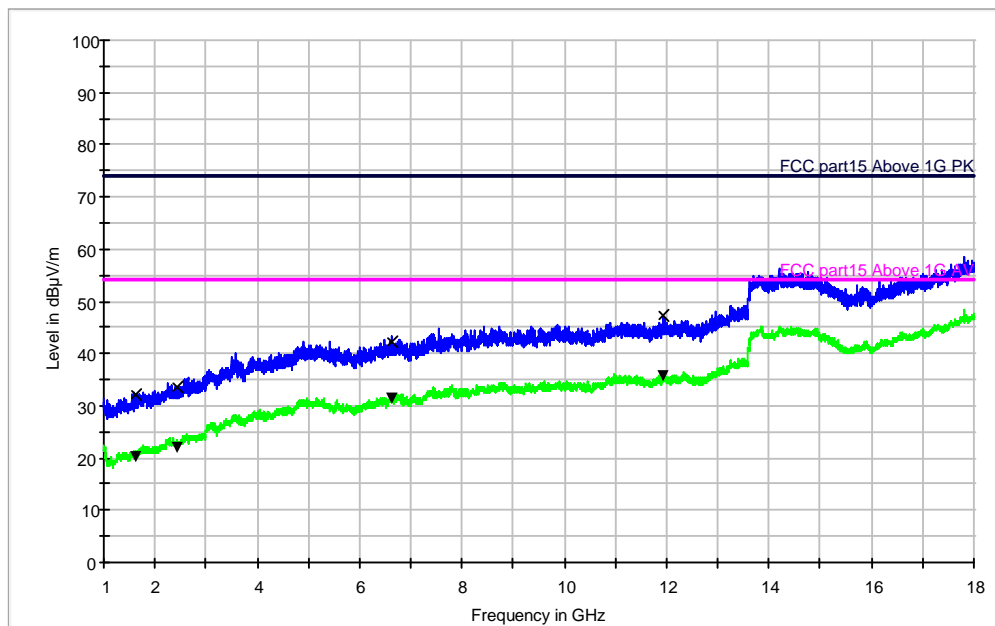
Test Plot of Spurious emission of A.3 – Horizontal (1GHz – 18GHz)

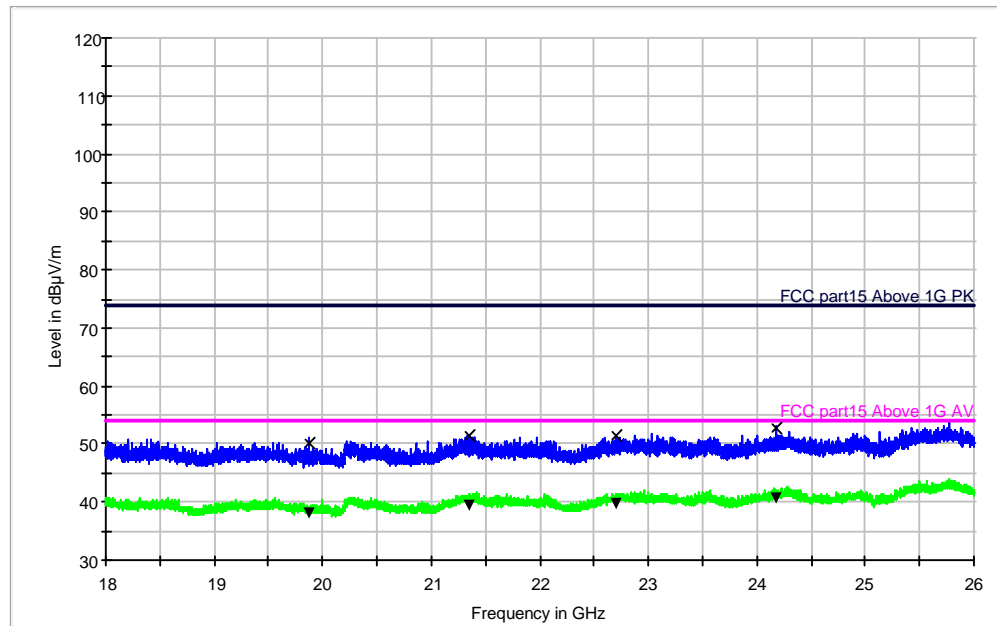
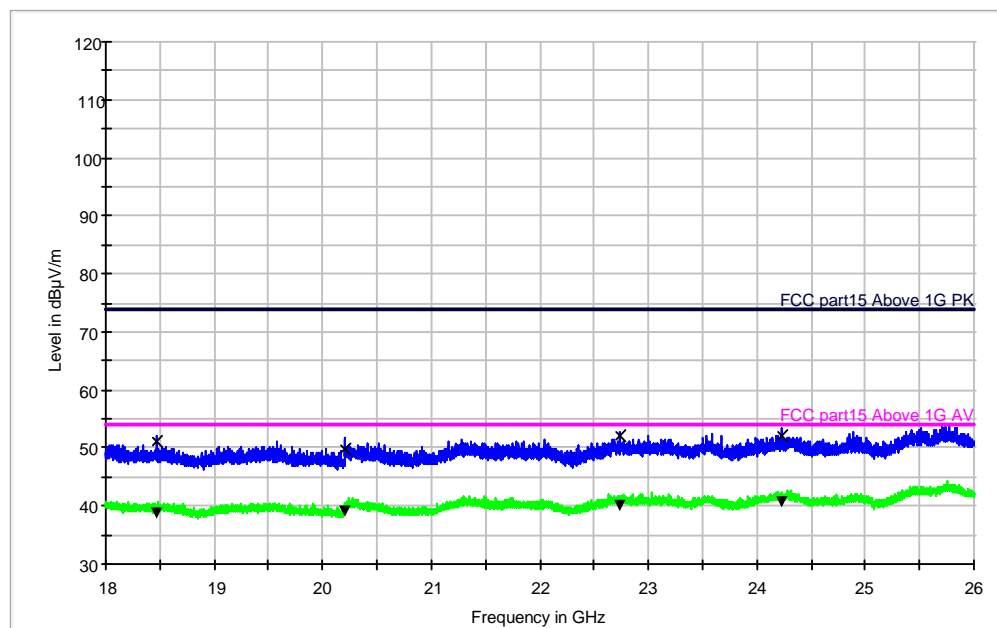


Test Plot of Spurious emission of B – Vertical (1GHz – 18GHz)

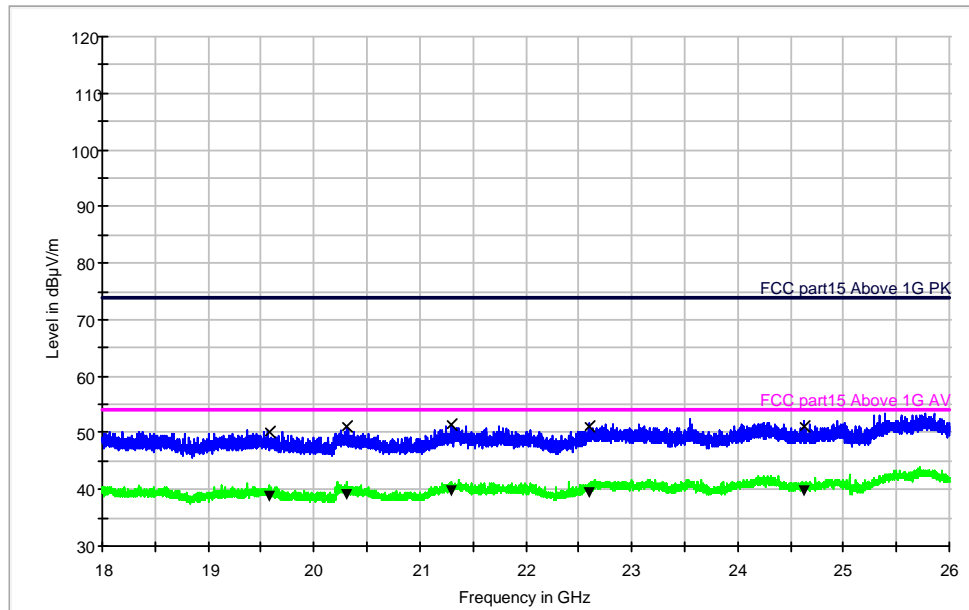


Test Plot of Spurious emission of B – Horizontal (1GHz – 18GHz)

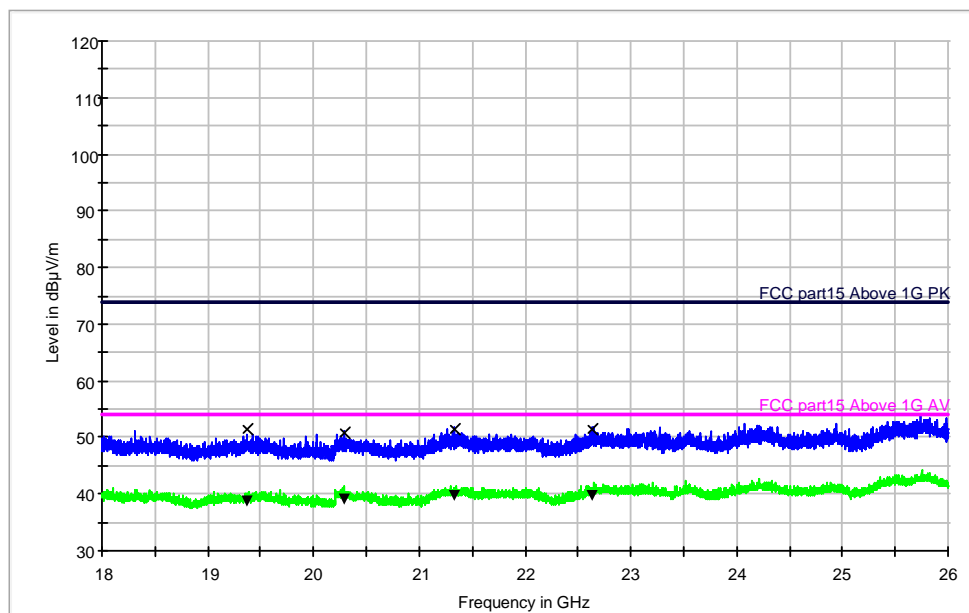


Test Plot of Spurious emission of A.1 – Vertical (18GHz – 26GHz)

Test Plot of Spurious emission of A.1 – Horizontal (18GHz – 26GHz)


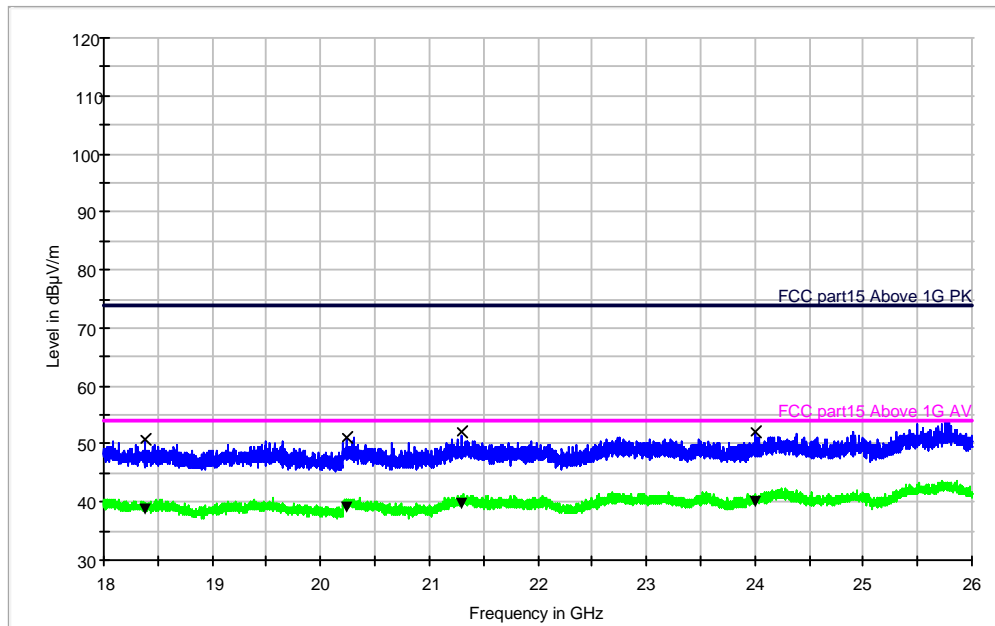
Test Plot of Spurious emission of A.2 – Vertical (18GHz – 26GHz)



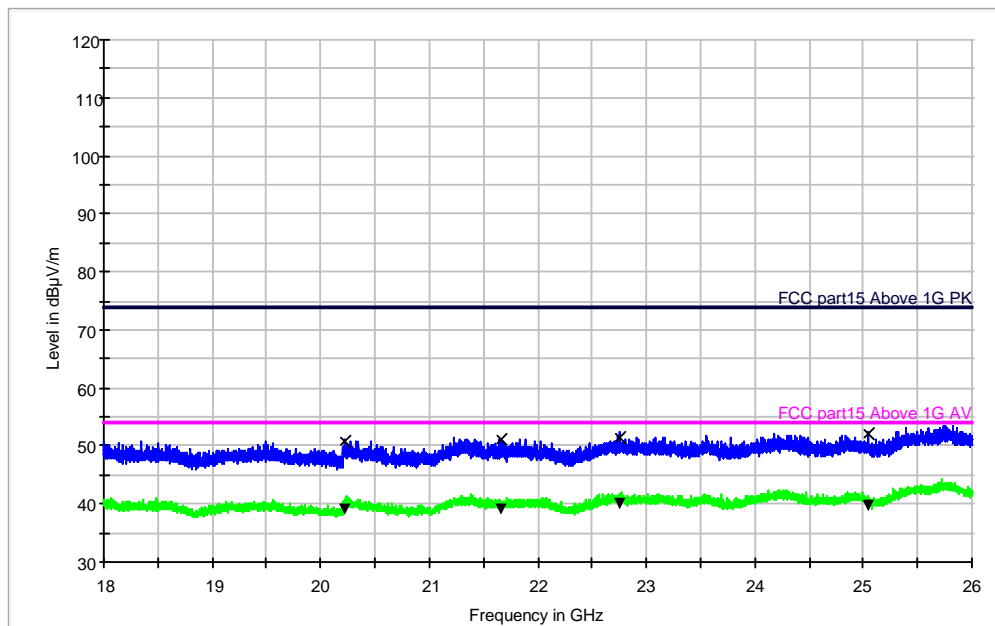
Test Plot of Spurious emission of A.2 – Horizontal (18GHz – 26GHz)

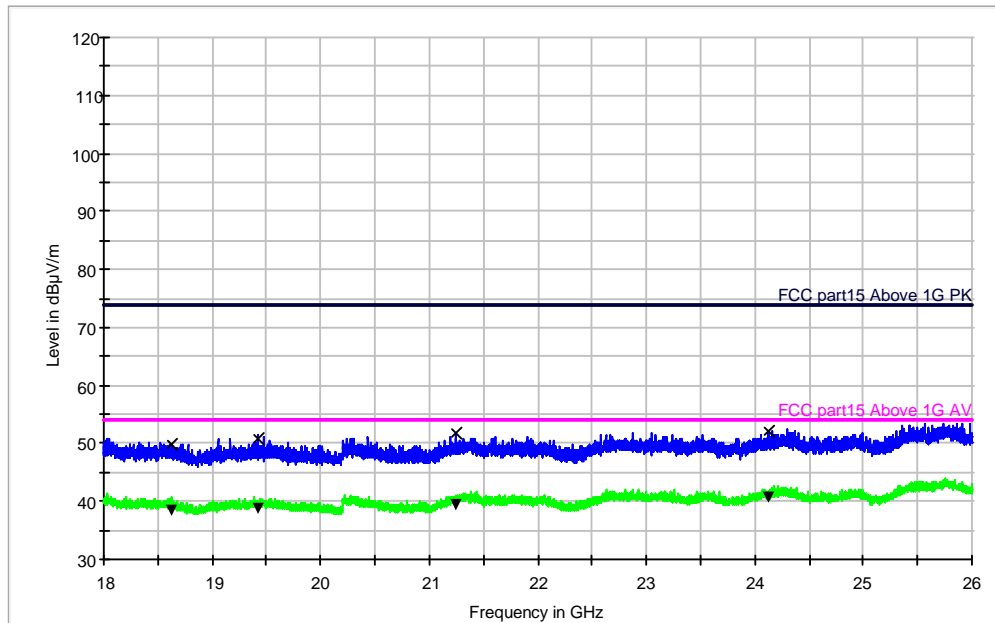
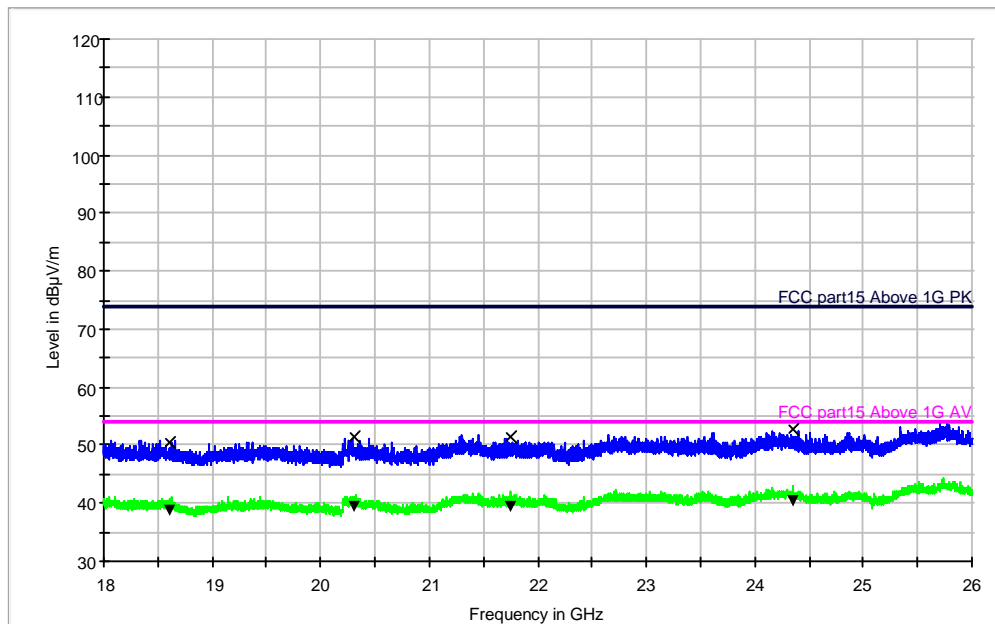


Test Plot of Spurious emission of A.3 – Vertical (18GHz – 26GHz)



Test Plot of Spurious emission of A.3 – Horizontal (18GHz – 26GHz)



Test Plot of Spurious emission of B – Vertical (18GHz – 26GHz)

Test Plot of Spurious emission of B – Horizontal (18GHz – 26GHz)


5.1.6 Frequency Separation

RESULT:**Passed**

Date of testing : 2008-06-13
Test standard : FCC part 15.247(a)(1)
Basic standard : ANSI C63.4: 2003
Limit : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater
Kind of test site : Shield room

Test setup

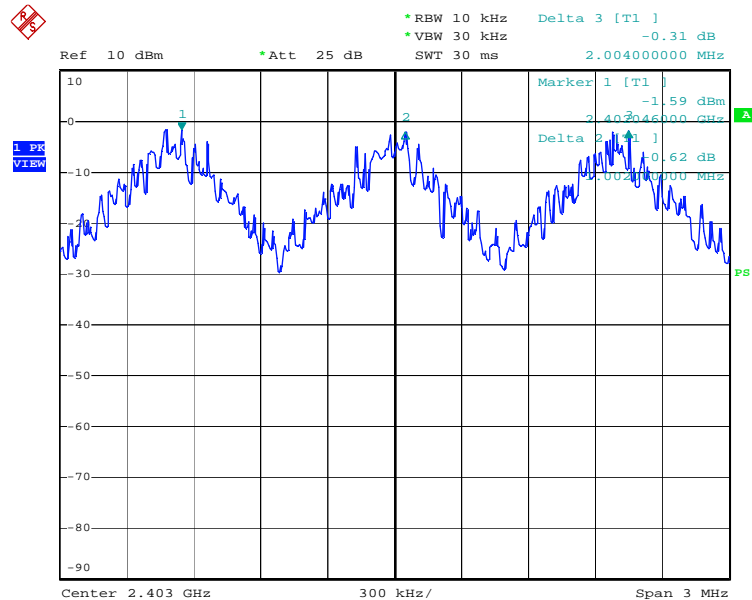
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 54%
Atmospheric pressure : 101 kPa

Table 8: Test result of Frequency Separation

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq 25\text{kHz}$ or 20dB bandwidth	Pass
Adjacency Channel	2479			

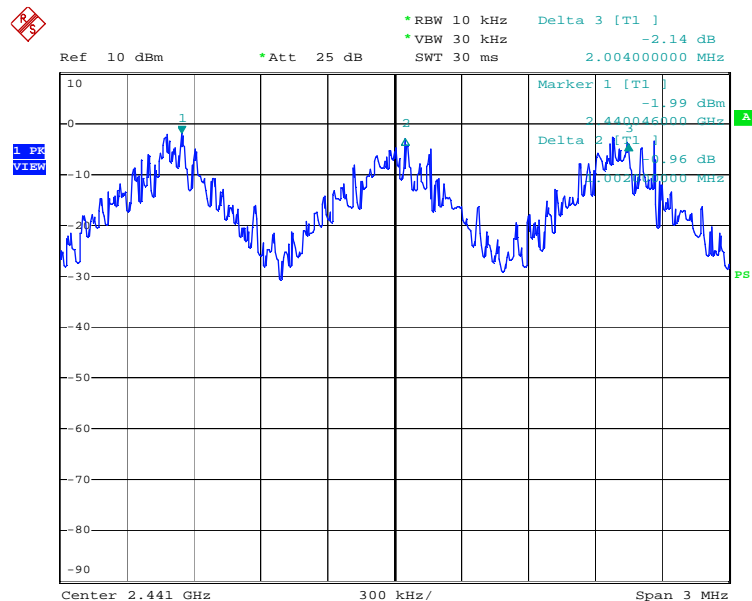
Test Plot of Frequency Separation

Low Channel



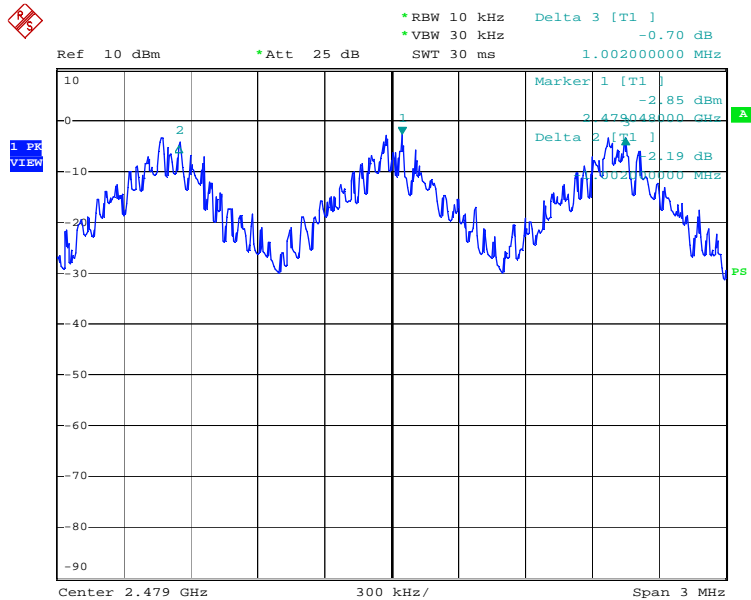
Date: 13.JUN.2008 12:06:03

Middle Channel



Date: 13.JUN.2008 12:34:53

High Channel



Date: 13.JUN.2008 12:07:38

5.1.7 Number of hopping frequency

RESULT:**Passed**

Date of testing : 2008-06-13
Test standard : FCC part 15.247(a)(1)(iii)
Basic standard : ANSI C63.4: 2003
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shield room

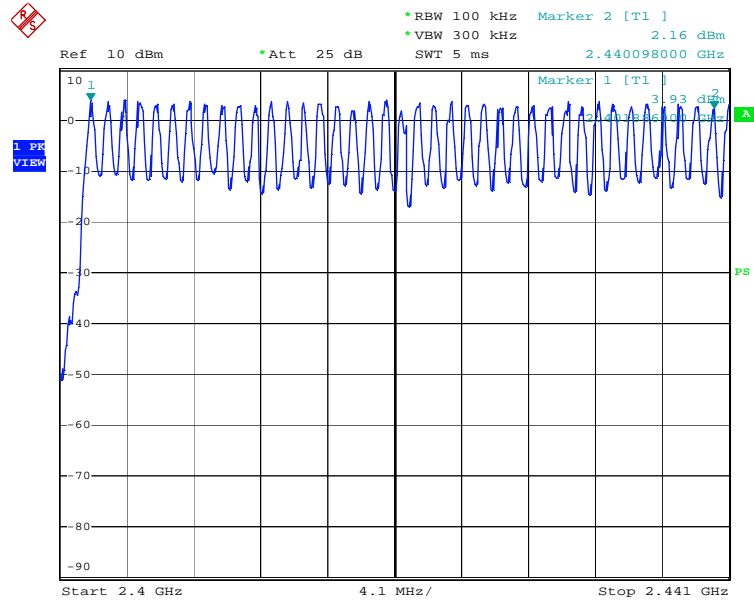
Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 54%
Atmospheric pressure : 101 kPa

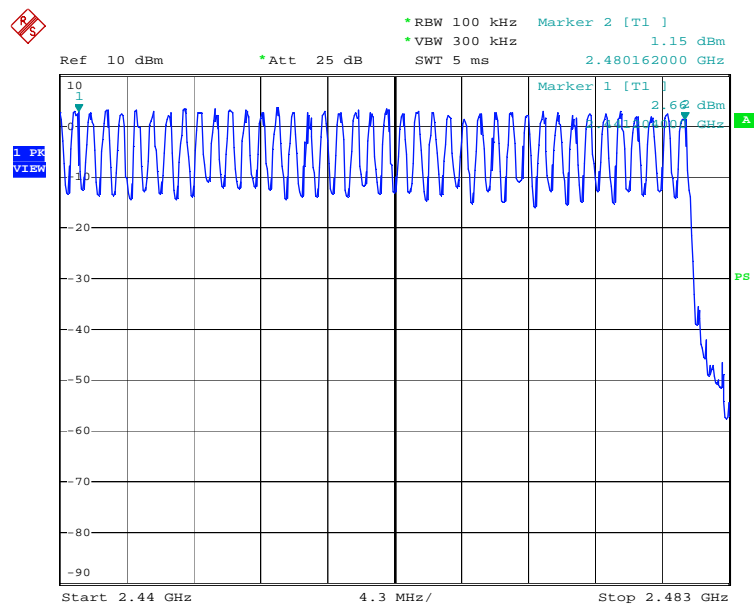
Table 9: Test result of Number of hopping frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	≥ 15	Pass

Test Plot of Number of hopping frequency



Date: 13.JUN.2008 11:57:41



Date: 13.JUN.2008 11:59:19

5.1.8 Time of Occupancy

RESULT:
Passed

Date of testing : 2008-06-13
 Test standard : FCC part 15.247(a)(1)(iii)
 Basic standard : ANSI C63.4: 2003
 Limits : 0.4s
 Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 25°C
 Relative humidity : 54%
 Atmospheric pressure : 101 kPa

Table 10: Test result of Time of Occupancy

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.402	0.129	0.4	Pass
	DH3	1.3	0.208	0.4	Pass
	DH5	2.91	0.310	0.4	Pass
Mid Channel	DH1	0.4	0.128	0.4	Pass
	DH3	1.296	0.207	0.4	Pass
	DH5	2.91	0.310	0.4	Pass
High Channel	DH1	0.395	0.126	0.4	Pass
	DH3	1.296	0.207	0.4	Pass
	DH5	2.91	0.310	0.4	Pass

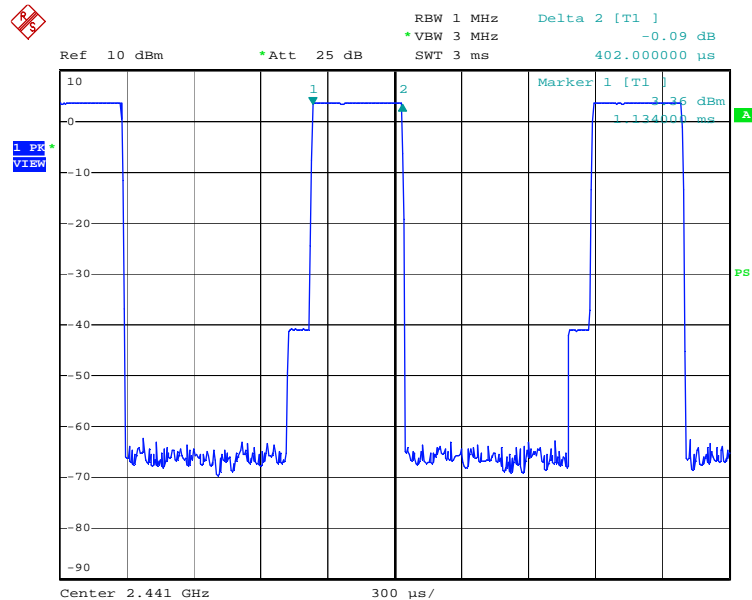
Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

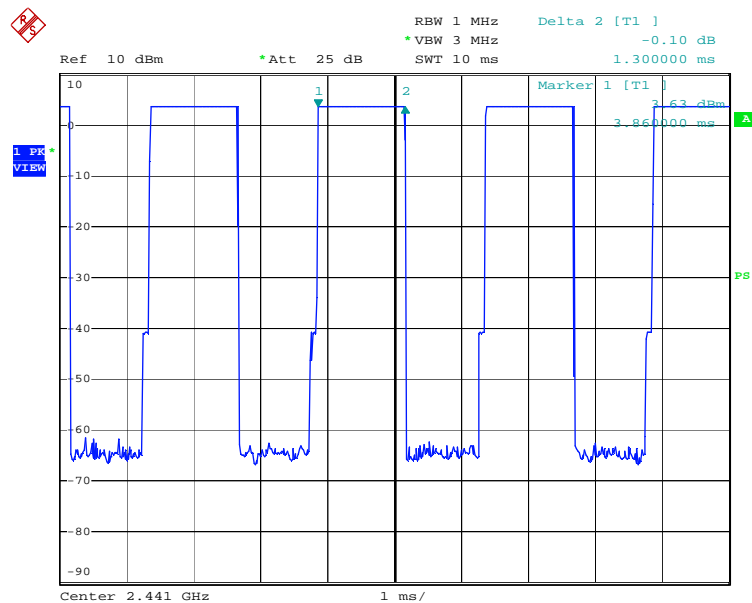
Test Plot of Frequency Separation

Low Channel- DH1

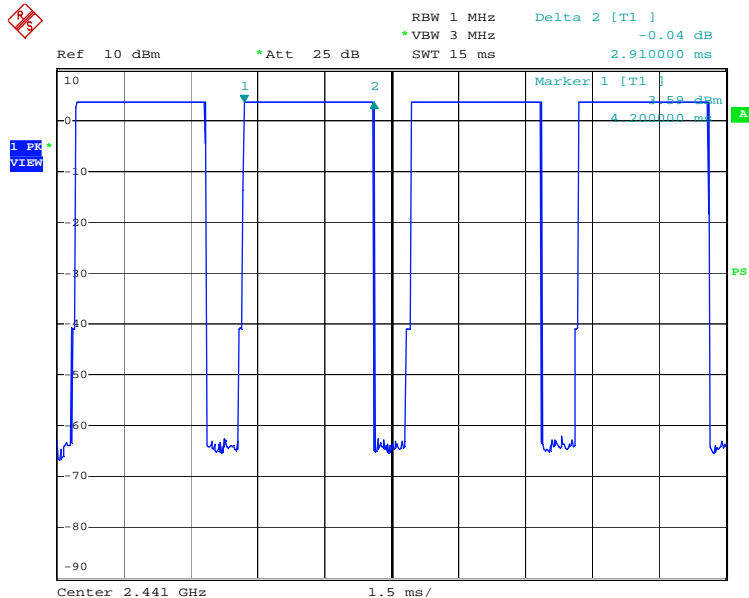


Date: 13.JUN.2008 11:41:37

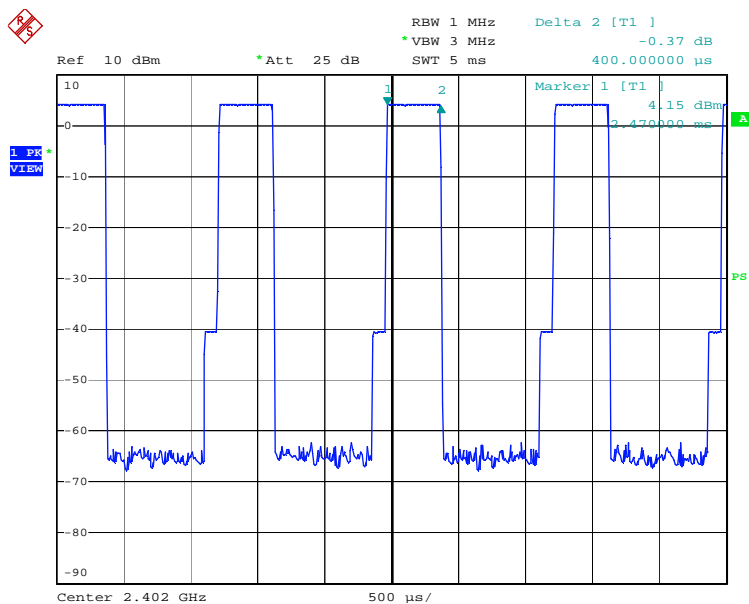
Low Channel- DH3



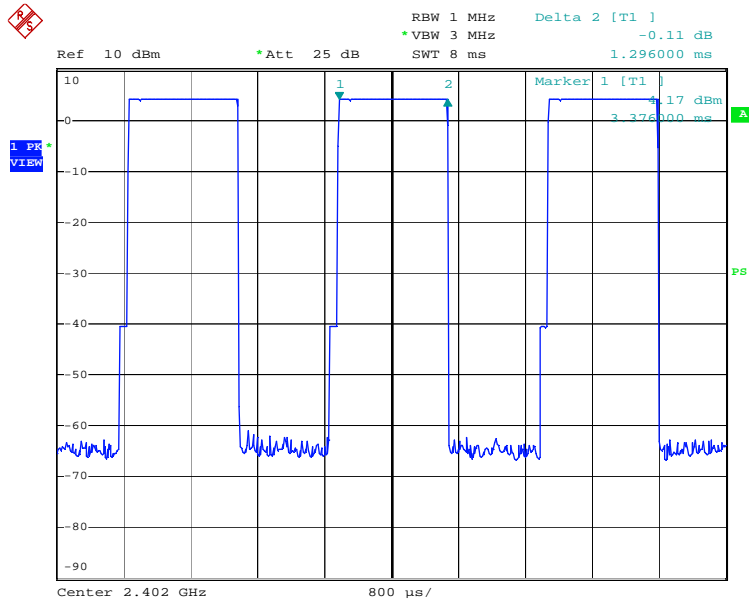
Date: 13.JUN.2008 11:42:27

Low Channel- DH5


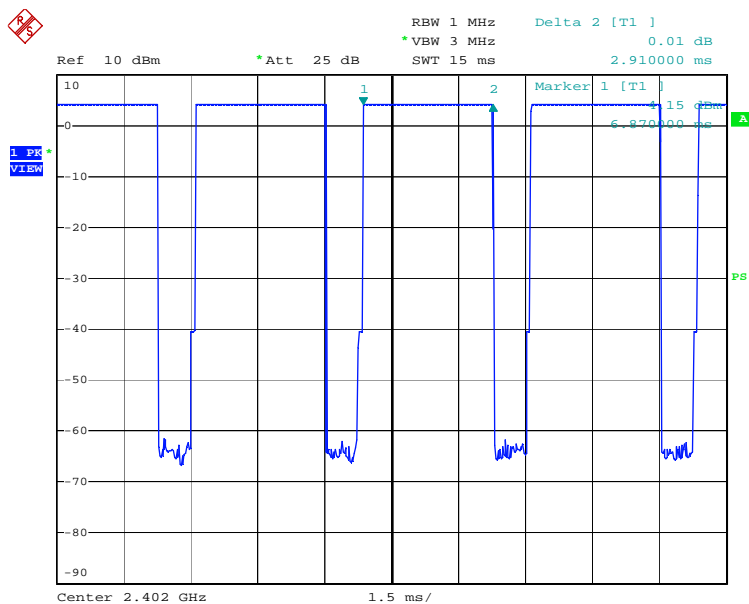
Date: 13.JUN.2008 11:43:16

Middle Channel- DH1


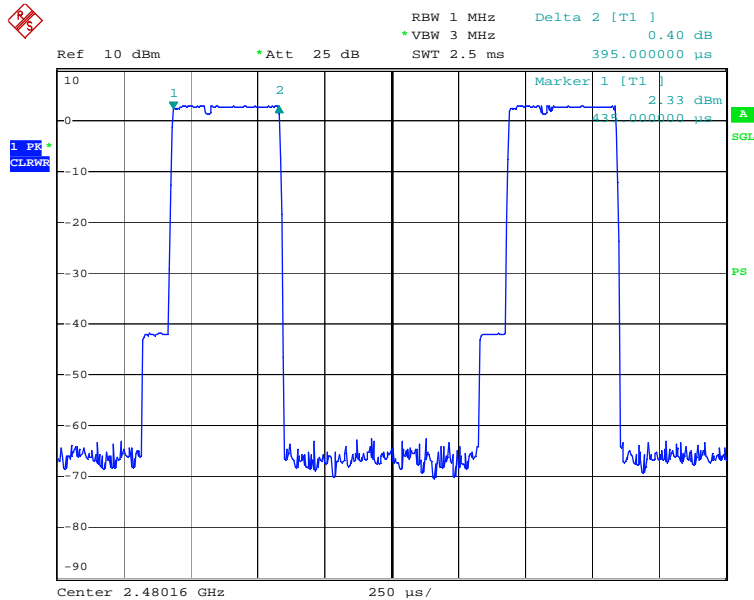
Date: 13.JUN.2008 11:44:26

Middle Channel- DH3


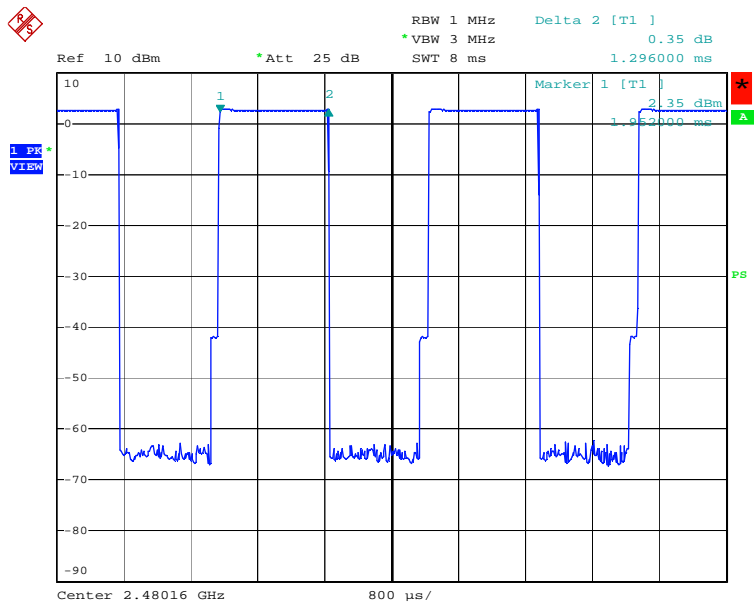
Date: 13.JUN.2008 11:45:22

Middle Channel- DH5


Date: 13.JUN.2008 11:46:28

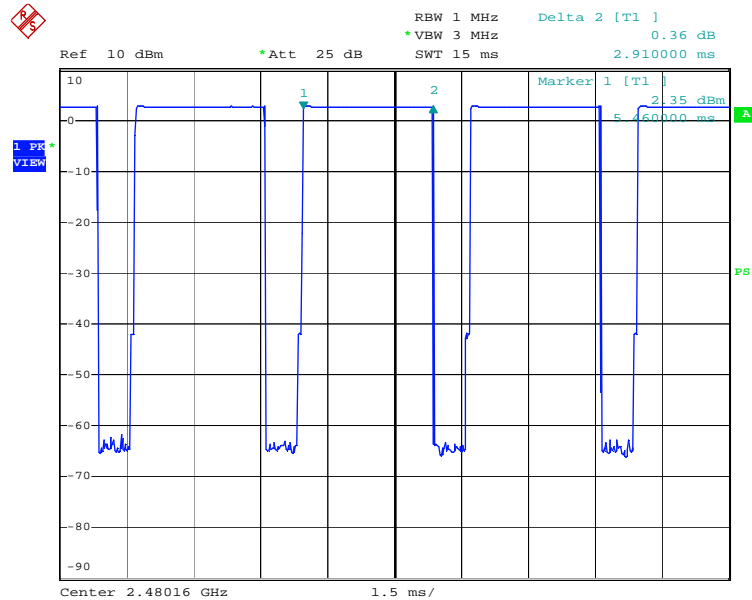
High Channel- DH1


Date: 13.JUN.2008 11:36:23

High Channel- DH3


Date: 13.JUN.2008 11:38:49

High Channel- DH5



Date: 13.JUN.2008 11:39:57

5.1.9 Peak Power Density

RESULT:**Passed**

Date of testing : 2008-06-13
Test standard : FCC part 15.247(e)
Basic standard : ANSI C63.4: 2003
Limits : 8.0 dBm (in any 3kHz band)
Kind of test site : Shield room

Test setup

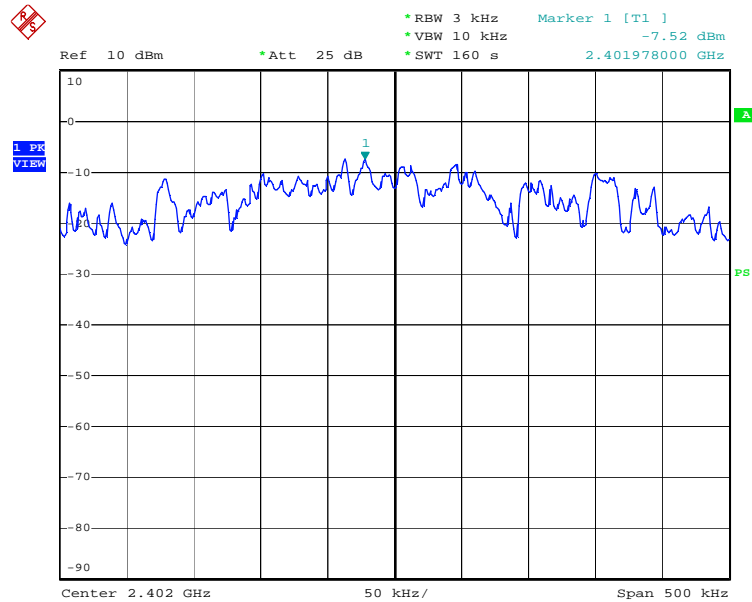
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 25°C
Relative humidity : 54%
Atmospheric pressure : 101 kPa

Table 11: Test result of Peak Power Density

Channel	Channel Frequency (MHz)	Reading Power (dBm)	Limit (dBm)	Result
Low Channel	2402	-7.52	8	Pass
Mid Channel	2441	-8.02	8	Pass
High Channel	2480	-8.5	8	Pass

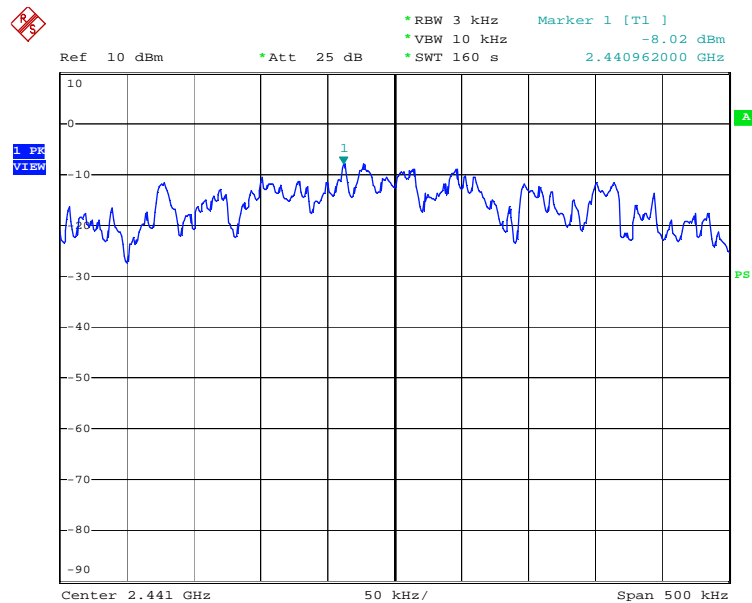
Test Plot of Peak Power Density

Low Channel



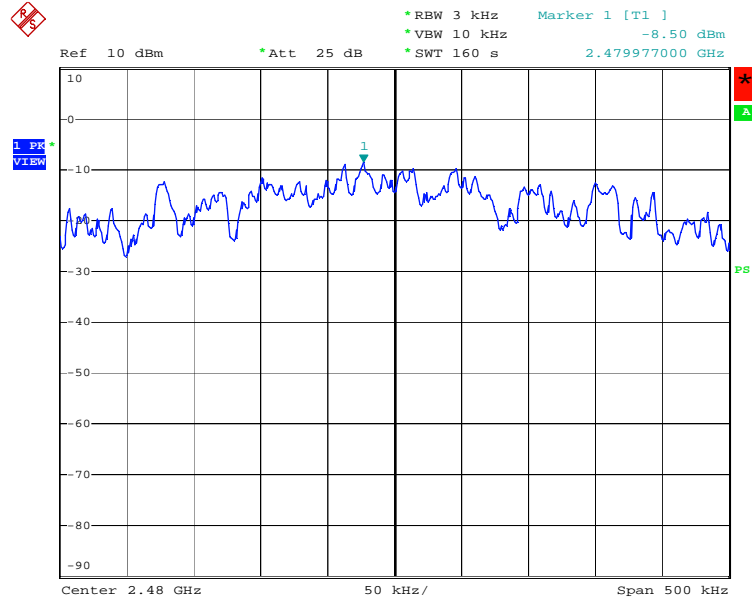
Date: 13.JUN.2008 12:29:41

Middle Channel



Date: 13.JUN.2008 12:33:02

High Channel



Date: 13.JUN.2008 12:25:29

5.1.10 Conducted emissions

RESULT:
Passed

Date of testing : 2008-06-11
 Test standard : FCC Part 15.207(a)
 FCC Part 15.107(a)
 Basic standard : ANSI C63.4: 2003
 Frequency range : 0.15 – 30MHz
 Limits : FCC Part 15.207(a)
 FCC Part 15.107(a)
 Kind of test site : Shield room

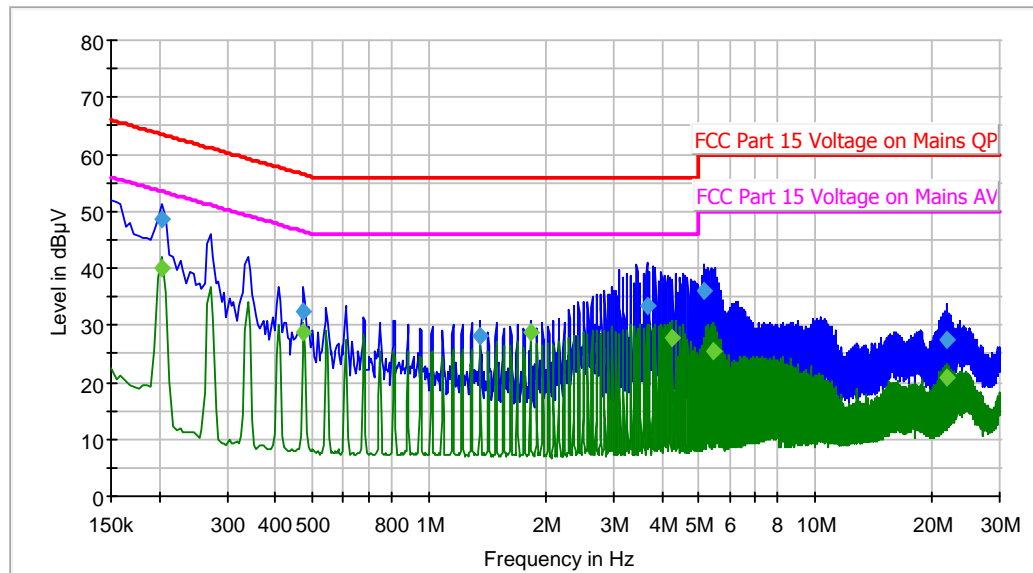
Test setup

Input Voltage (of PC) : AC 120V, 60Hz
 Operation Mode : D
 Earthing : Connected
 Ambient temperature : 22°C
 Relative humidity : 55%
 Atmospheric pressure : 101.1 kPa

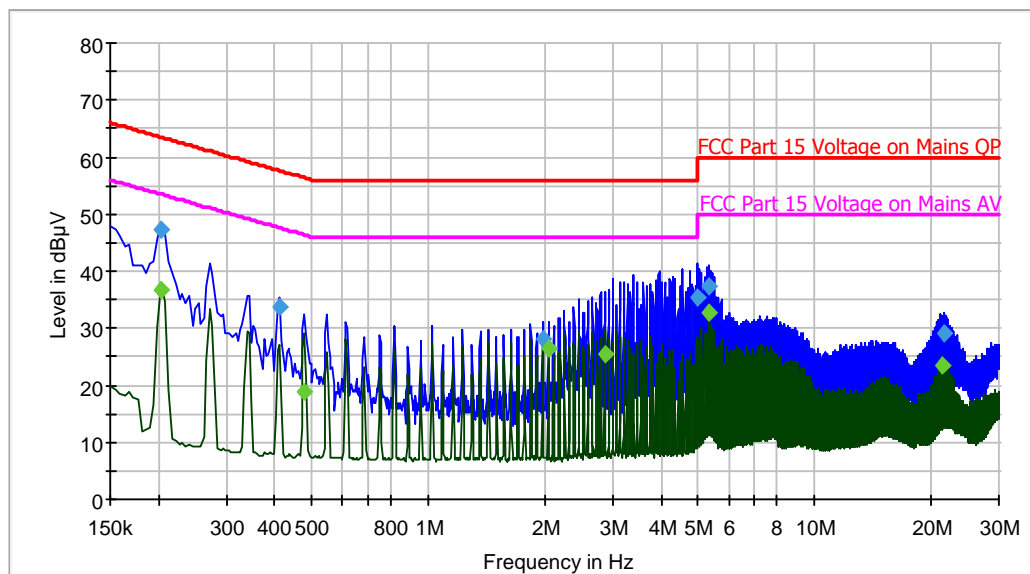
Table 12: Test result of Conducted emissions

Frequency [MHz]	Phase	Level QP [dB(μV)]	Level AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
0.204	L	48.7	39.9	63.4	53.4	14.7	13.5
0.474	L	32.5	28.8	56.4	46.4	23.9	17.7
1.356	L	28.0	28.8	56.0	46.0	28.0	17.2
3.660	L	33.4	27.9	56.0	46.0	22.6	18.1
5.154	L	36.1	25.3	60.0	50.0	23.9	24.7
21.872	L	27.3	20.8	60.0	50.0	32.7	29.2
0.204	N	47.1	36.7	63.4	53.4	16.3	16.7
0.411	N	33.7	19.0	57.6	46.4	23.9	27.4
1.977	N	28.1	26.4	56.0	46.0	27.9	19.6
4.979	N	35.4	25.6	56.0	46.0	20.6	20.4
5.321	N	37.3	32.6	60.0	50.0	22.7	17.4
21.557	N	29.2	23.4	60.0	50.0	30.8	26.6

Test Plot of Conducted emissions – Live



Test Plot of Conducted emissions – Neutral



5.1.11 Radiated emissions

RESULT:
Passed

Date of testing : 2008-06-16
 Test standard : FCC Part 15.209
 FCC Part 15.109
 Basic standard : ANSI C63.4: 2003
 Frequency range : 30 – 1000MHz
 Limits : FCC Part 15.209(a)
 FCC Part 15.109(a)
 Kind of test site : 3m Semi-Anechoic Chamber

Test Setup

Test Channel : Low/ High
 Input Voltage : DC 3.7V
 Operation Mode : A, D
 Earthing : Not Connected
 Ambient temperature : 25°C
 Relative humidity : 54%
 Atmospheric pressure : 101 kPa

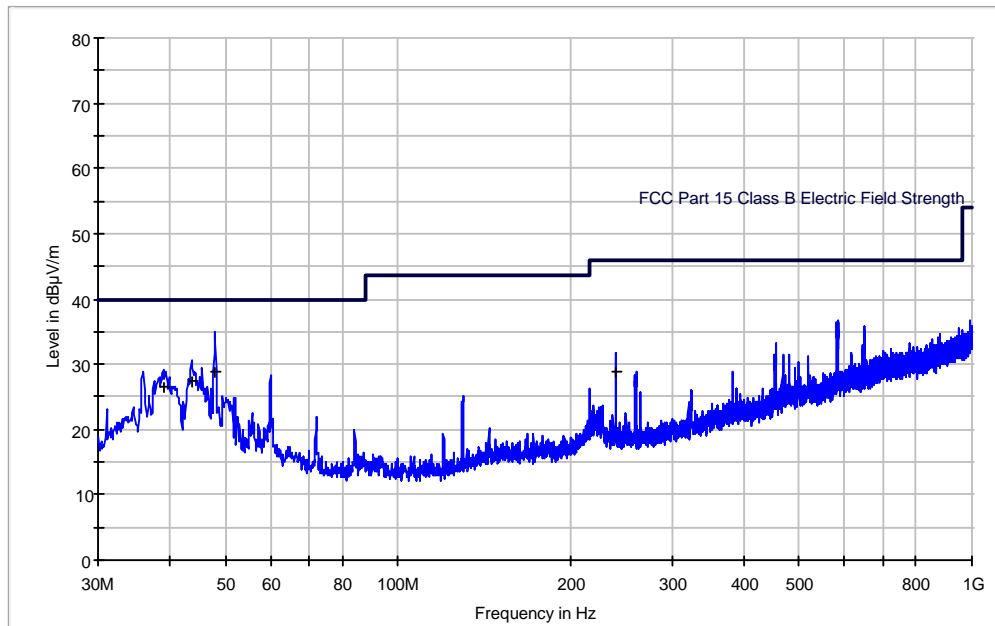
Table 13: Test result of Radiated emissions, Mode D

Frequency (MHz)	Polarity (V/H)	Level Quasi-Peak [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
38.950	Vertical	26.5	40.0	13.5
43.700	Vertical	27.4	40.0	12.6
47.950	Vertical	28.8	40.0	11.2
240.000	Vertical	28.9	46.0	17.1
93.400	Horizontal	15.5	43.5	28.0
227.350	Horizontal	25.9	46.0	20.1
258.800	Horizontal	34.5	46.0	11.5
584.650	Horizontal	33.2	46.0	12.8
584.650	Horizontal	30.7	46.0	15.3
700.050	Horizontal	31.5	46.0	14.5

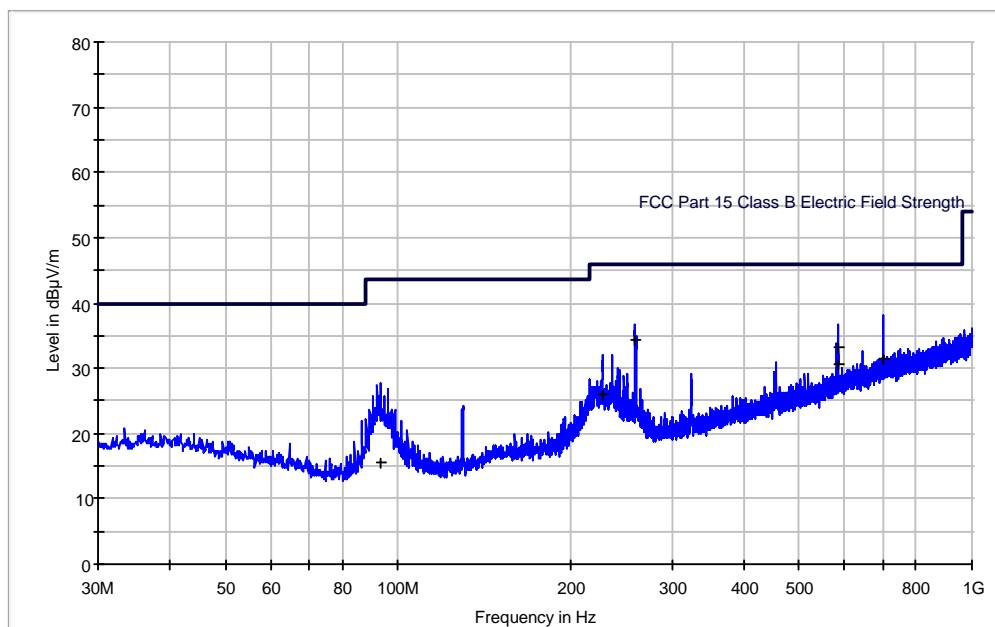
Table 14: Test result of Radiated emissions in restricted bands, Mode A

A.1							
Frequency (MHz)	Polarity (V/H)	Level Peak (dBuV/m)	Level Average (dBuV/m)	Limit Peak (dBuV/m)	Limit Average (dBuV/m)	Margin Peak (dB)	Margin Average (dB)
2382.636	V	55.7	39.5	74.0	54.0	18.3	14.5
2390.002	V	52.1	38.2	74.0	54.0	21.9	15.8
2384.252	H	55.5	41.1	74.0	54.0	18.5	12.9
2390.002	H	51.7	37.7	74.0	54.0	22.3	16.3
A.3							
2483.500	V	53.8	36.8	74.0	54.0	20.2	17.2
2490.345	V	56.3	40.7	74.0	54.0	17.7	13.3
2499.387	V	56.7	41.9	74.0	54.0	17.3	12.1
2483.500	H	53.9	38.3	74.0	54.0	20.1	15.7
2488.744	H	56.5	41.4	74.0	54.0	17.5	12.6
2495.702	H	55.9	41.5	74.0	54.0	18.1	12.5

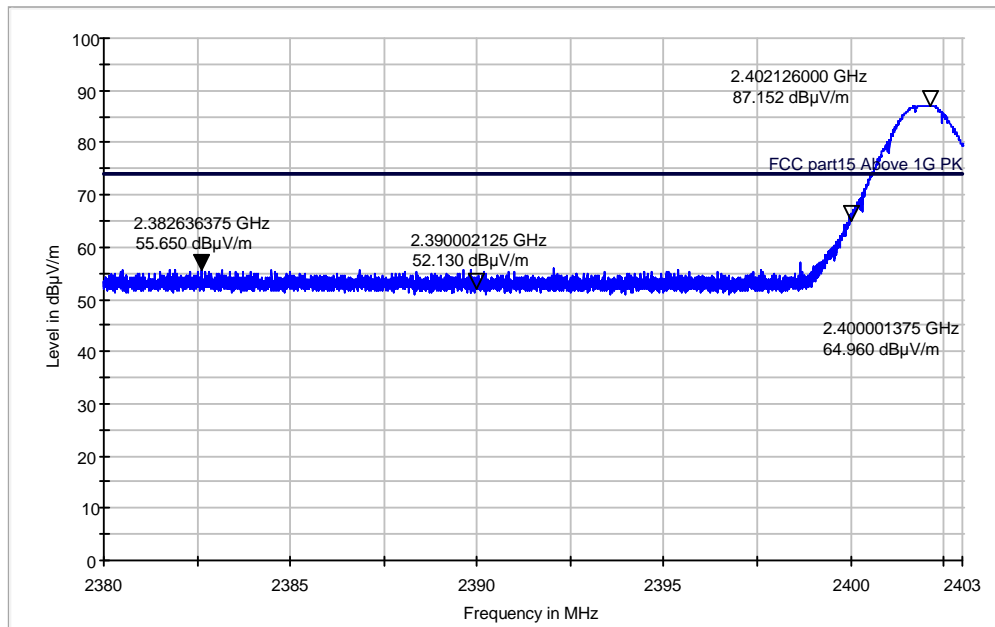
Test Plot of Radiated emissions, Vertical, Mode D



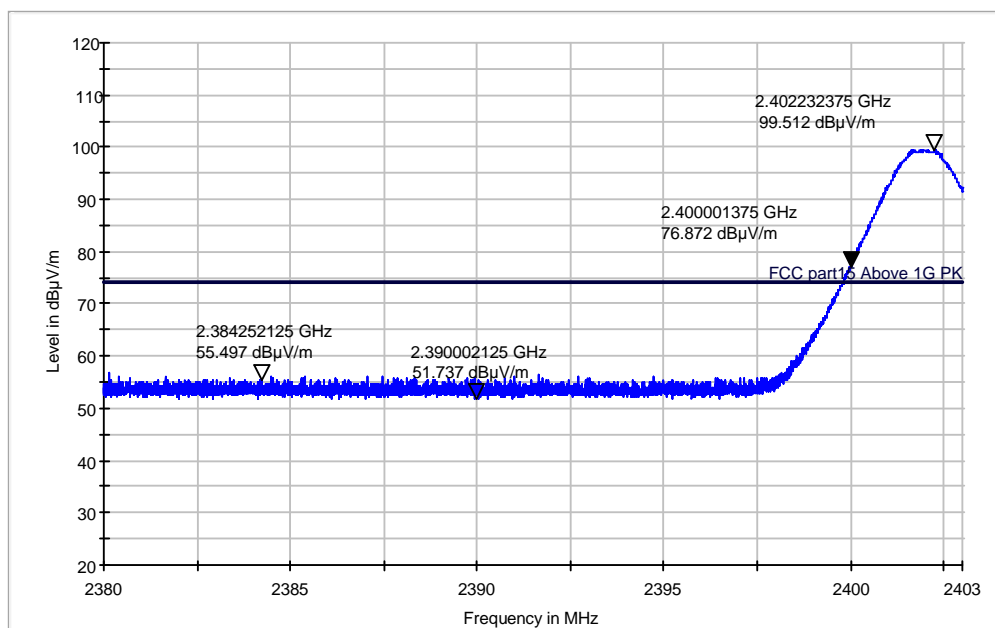
Test Plot of Radiated emissions, Horizontal, Mode D



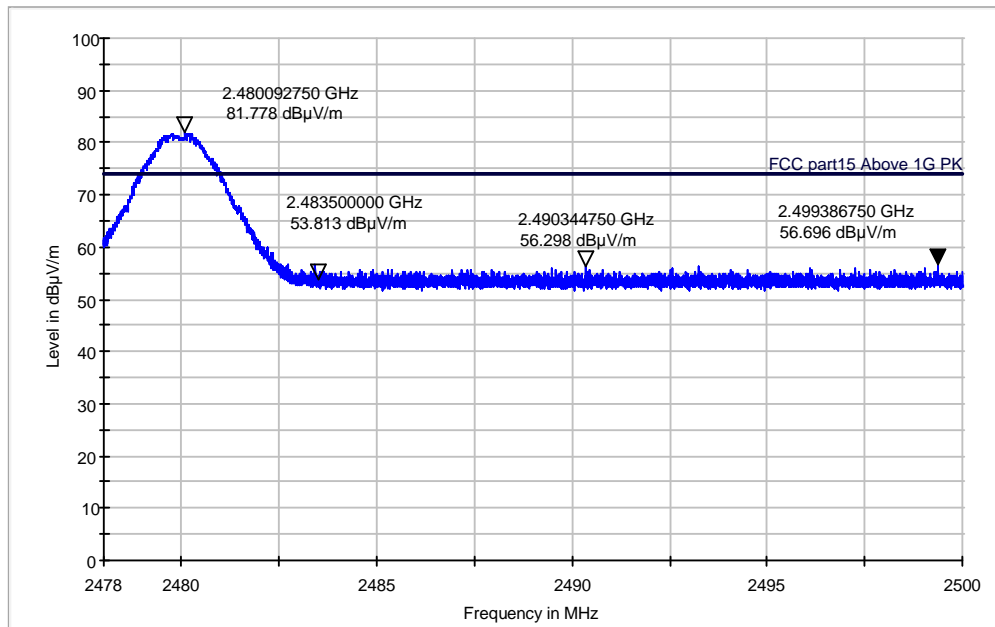
Test Plot of Radiated emissions in restricted bands, Vertical, Mode A.1



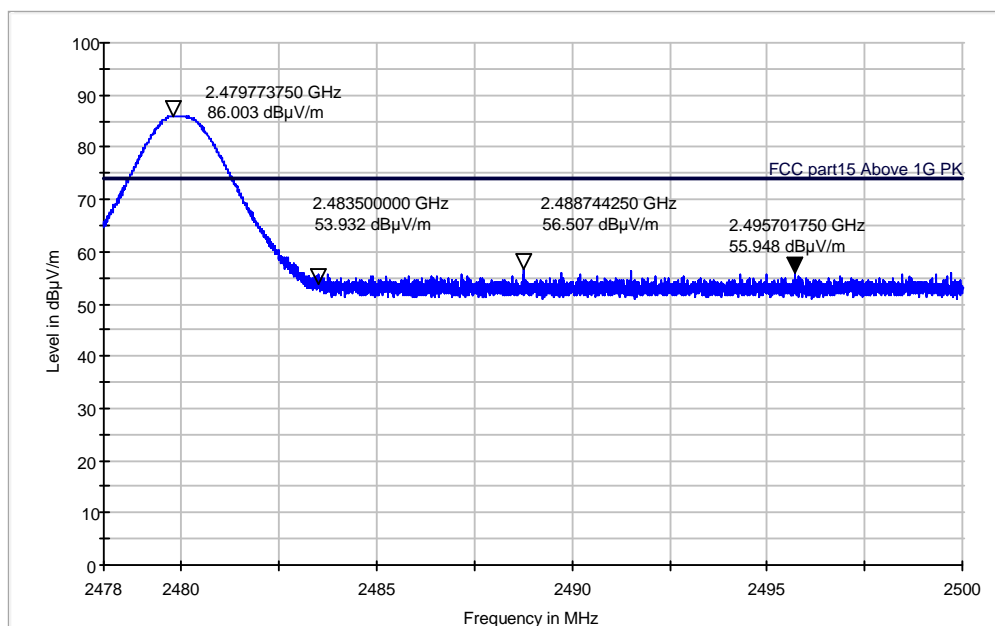
Test Plot of Radiated emissions in restricted bands, Horizontal, Mode A.1



Test Plot of Radiated emissions in restricted bands, Vertical, Mode A.3



Test Plot of Radiated emissions in restricted bands, Horizontal, Mode A.3



6. Photographs of the Test Set-Up

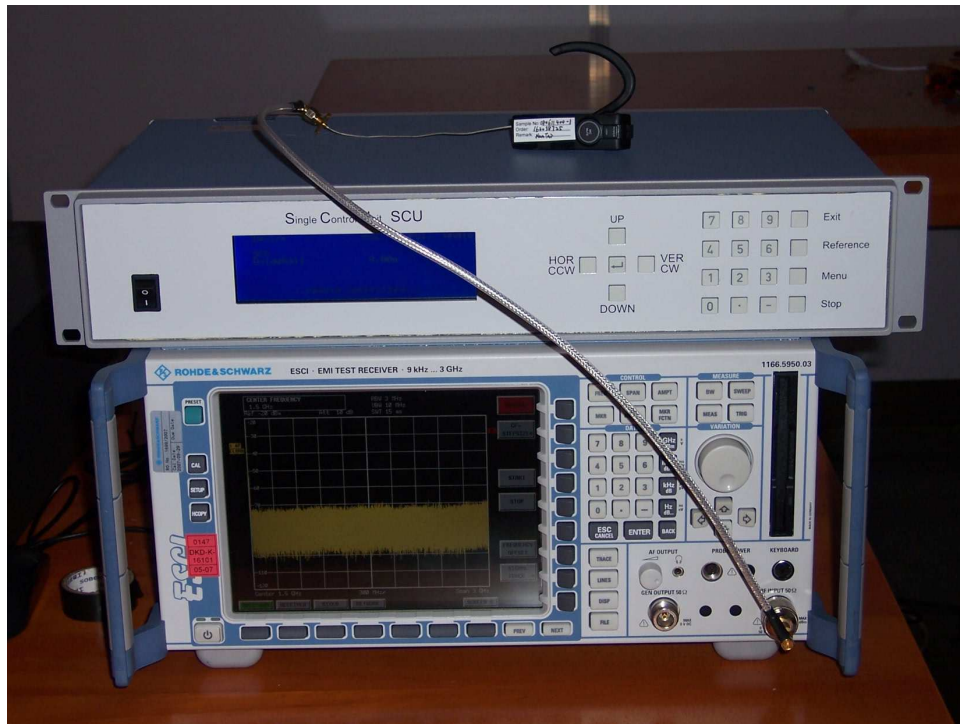
Photograph 1: Set-up for Conducted Emissions



Photograph 2: Set-up for Radiated Emissions



Photograph 3: Set-up for Transmitter test



Photograph 4: Set-up for Spurious Emissions (30MHz-1GHz)



Photograph 5: Set-up for Spurious Emissions (1GHz-18GHz)



Photograph 6: Set-up for Spurious Emissions (18GHz-26GHz)



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