SGS-CSTC Standards Technical Services Ltd.

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FCC REPORT

Application No. :	SZEMO091206705RF
Applicant:	MAXWISE PRODUCTION ENTERPRISE LTD.
Product Name:	Wireless Controller for Gamecube and Wii
Operation Frequency:	2402MHz to 2480MHz
FCC ID:	Q2VRFPCMWD04
Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2008
Date of Receipt	01 December 2009
Date of Test	01 to 08 December 2009
Date of Issue	15 December 2009
Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above. This report supersedes our previous report SZEMO09120670502, issued on 09 December 2009, which is hereby deemed null and void.''.

Authorized Signature:

Robinson Lo
Manager

2 Contents

3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Passed
AC Power Line Conducted Emission	15.207	Passed
Field strength of the fundamental signal	15.249 (a)	Passed
Spurious emissions	15.249 /15.209	Passed
Band edge (Radiated Emission)	15.249 /15.205	Passed
20dB Occupied Bandwidth	15.215 (c)	Passed

Remark: Passed: The EUT complies with the essential requirements in the standard.

Failed: The EUT does not comply with the essential requirements in the standard.

4 General Information

4.1 Client Information

Applicant:	MAXWISE PRODUCTION ENTERPRISE LTD.
Address of Applicant:	No.1 Henghai Road, South District, Zhongshan, Guangdong, China
Manufacturer/ Factory:	N/A
Address of Manufacturer/ Factory:	N/A

4.2 General Description of E.U.T.

Product Name:	Wireless Controller for Gamecube and Wii
Trade Name:	N/A
Item No.:	26-1557, MWGCWII-01, MWGCWII-02
Test Item:	26-1557
Operation Frequency:	2402MHz to 2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	0dBi (declare by the manufacturer)
Power supply:	WII unit port supply

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz
6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz
9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2441MHz
The Highest channel	2480MHz

4.3 E.U.T Environment and test modes	
Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 mbar
Test mode:	
WII mode:	The receiver is inseted the WII main unit, and keep communicating with the controller unit.
NGC mode:	The receiver is inseted the the another game machine (Q game machine), and keep communicating with the controller unit.
Transmitting mode:	Keep the EUT in transmitting mode with modulation.
Remark:	
Pre-scan the WII mode and NGC mode, and found the WII mode which it is worse case, the worse case mode is shown in the test report.	

4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

VCCI

The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.

Date of Registration: September 29, 2008. Valid until September 28, 2011.

FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.

Industry Canada (IC)

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.6 Other Information Requested by the Customer

None.

4.7 Test Instruments list:

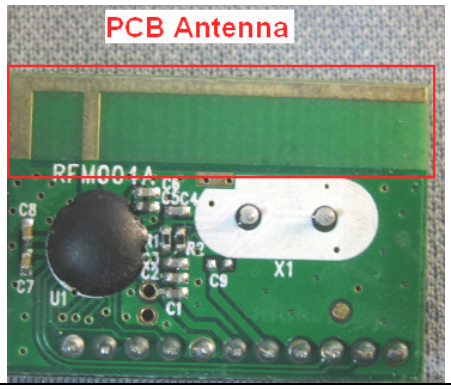
RE in Chamber						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (dd-mm-yy)**	**Cal.Due date (dd-mm-yy)**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2009	15-06-2010
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2008	11-12-2009
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	18-06-2009	17-06-2010
6	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2009	11-08-2010
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0005	12-08-2009	11-08-2010
8	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	12-08-2009	11-08-2010
9	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	18-06-2009	17-06-2010
10	Pre-amplifier (1-18GHz)	Rohde & Schwarz	AFS42-00101 800-25-S-42	SEL0081	18-06-2009	17-06-2010
11	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	18-06-2009	17-06-2010
12	Band filter	Amindeon	82346	SEL0094	18-06-2009	17-06-2010

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (dd-mm-yy)**	**Cal.Due date (dd-mm-yy)**
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	18-06-2009	17-06-2010
3	LISN	Schwarzbeck	NNBM 8125	SEL0119	28-07-2009	28-07-2010
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	18-06-2009	17-06-2010
5	Coaxial Cable	SGS	N/A	SEL0024	18-06-2009	17-06-2010

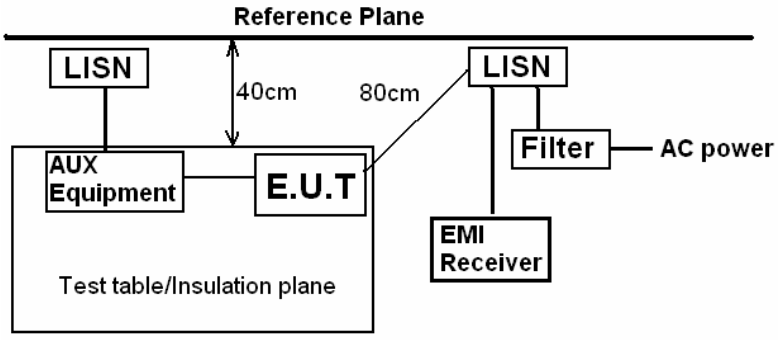
RF conducted						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (dd-mm-yy)**	**Cal.Due date (dd-mm-yy)**
1	Spectrum Analyzer	Rohde & Schwarz	10336/030	EMC0040	16-06-2009	15-06-2010
2	Coaxial cable	SGS	N/A	SEL0029	18-06-2009	17-06-2010

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: *An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.*	
E.U.T Antenna:	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi. 	

5.2 Conducted Emissions

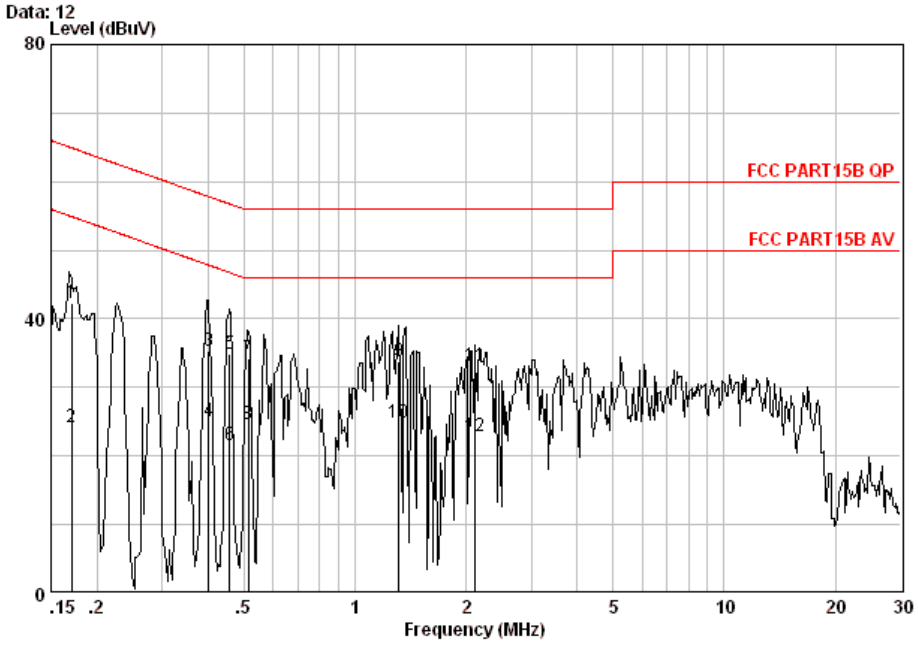
Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.4: 2003
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9KHz, VBW=30KHz
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). The provider a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 4.7 for details
Test mode:	WII mode
Test results:	Passed

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



Site : Shielding Room
Condition : FCC PART15B QP CE NEUTRAL
EUT : GIGAWARE WIRELESS CONTROLER FOR
: GAMECUBE AND WII
Job No. : 6705RF
Mode : On

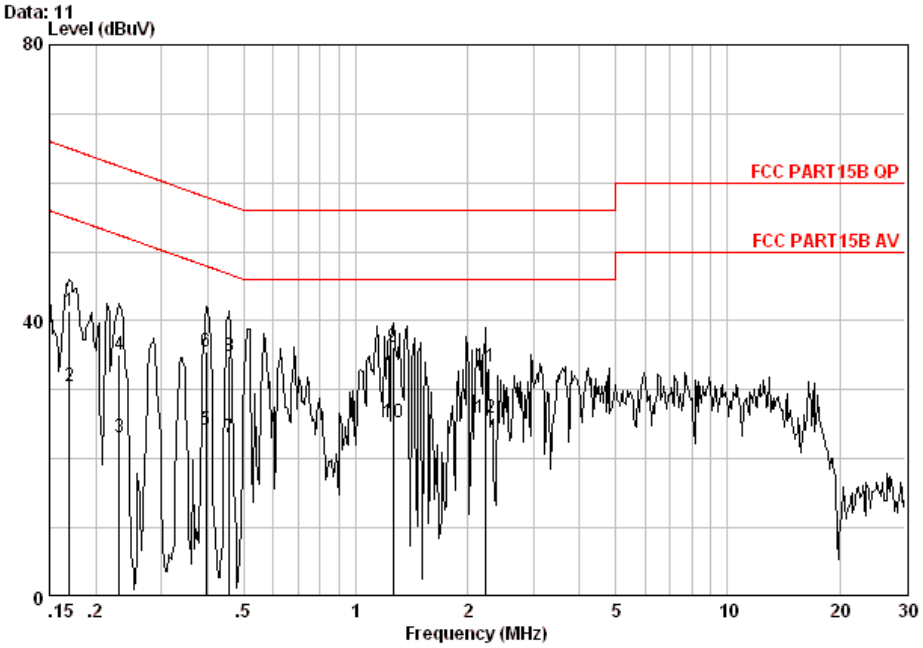
	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.17034	0.04	-0.04	42.20	42.20	64.94	-22.75	QP
2	0.17034	0.04	-0.04	24.10	24.10	54.94	-30.85	Average
3	0.40187	0.06	-0.04	35.20	35.22	57.81	-22.60	QP
4	0.40187	0.06	-0.04	25.10	25.12	47.81	-22.70	Average
5	0.45636	0.06	-0.04	34.80	34.82	56.76	-21.94	QP
6	0.45636	0.06	-0.04	21.60	21.62	46.76	-25.14	Average
7	0.51278	0.06	-0.04	34.10	34.12	56.00	-21.88	QP
8	0.51278	0.06	-0.04	24.60	24.62	46.00	-21.38	Average
9	1.317	0.10	-0.05	33.80	33.84	56.00	-22.16	QP
10	1.317	0.10	-0.05	24.80	24.84	46.00	-21.16	Average
11	2.110	0.12	-0.06	33.10	33.16	56.00	-22.84	QP
12	2.110	0.12	-0.06	22.80	22.86	46.00	-23.14	Average

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Neutral Line:



Site : Shielding Room
Condition : FCC PART15B QP CE NEUTRAL
EUT : GIGAWARE WIRELESS CONTROLER FOR
: GAMECUBE AND WII
Job No. : 6705RF
Mode : On

		Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1		0.16944	0.04	-0.04	41.50	41.50	64.99	-23.49	QP
2		0.16944	0.04	-0.04	30.50	30.50	54.99	-24.49	Average
3		0.23162	0.04	-0.04	23.10	23.10	52.39	-29.29	Average
4		0.23162	0.04	-0.04	35.10	35.10	62.39	-27.29	QP
5		0.39553	0.06	-0.04	24.10	24.12	47.95	-23.83	Average
6		0.39553	0.06	-0.04	35.60	35.62	57.95	-22.33	QP
7		0.45636	0.06	-0.04	23.10	23.12	46.76	-23.64	Average
8		0.45636	0.06	-0.04	34.90	34.92	56.76	-21.84	QP
9	@	1.262	0.09	-0.05	36.10	36.14	56.00	-19.86	QP
10		1.262	0.09	-0.05	25.30	25.34	46.00	-20.66	Average
11		2.237	0.12	-0.06	33.40	33.46	56.00	-22.54	QP
12		2.237	0.12	-0.06	25.80	25.86	46.00	-20.14	Average

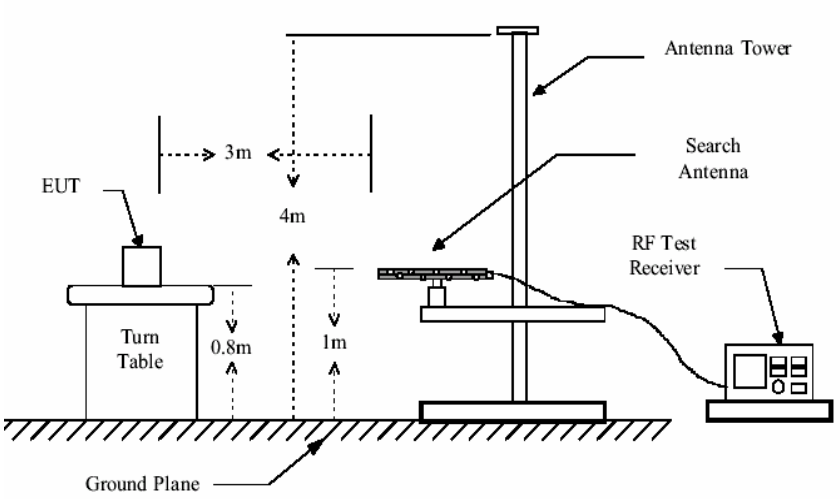
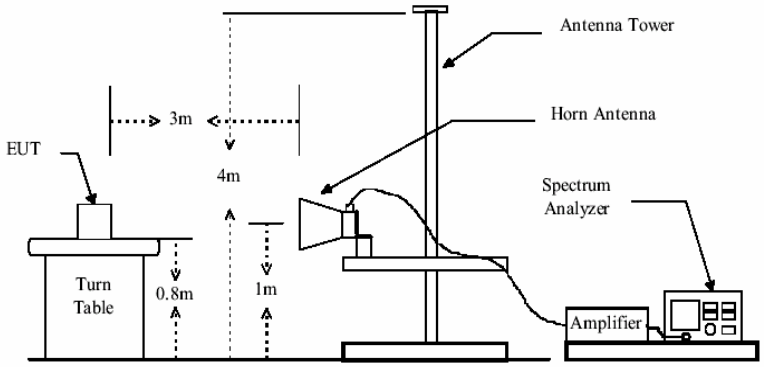
Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

5.3 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.249 and 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2003</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25000MHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>3MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Field strength of the fundamental signal)</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="2">2400MHz-2483.5MHz</td><td>94.0</td><td>Average Value</td></tr>
<tr><td>114.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(band edge)</td><td>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.</td></tr>
<tr><td>Test Procedure:</td><td>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
</table>

Test Instruments:	Refer to section 4.7 for details
Test mode:	WII mode and Transmitting mode
Test results:	Passed
Test setup:	Below 1GHz  Above 1GHz 

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

Measurement Data

5.3.1 Field Strength Of The Fundamental Signal

Peak value:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2402	6.34	30.03	38.87	91.25	88.75	114.00	-25.25	Horizontal
2402	6.34	30.03	38.87	90.00	87.50	114.00	-26.50	Vertical
2441	6.40	30.18	38.59	86.04	84.03	114.00	-29.97	Horizontal
2441	6.40	30.18	38.59	85.75	83.74	114.00	-30.26	Vertical
2480	6.45	30.30	39.72	87.37	84.40	114.00	-29.60	Horizontal
2480	6.45	30.30	39.72	88.12	85.15	114.00	-28.85	Vertical

Average value:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2402	6.34	30.03	38.87	87.66	85.16	94.00	-8.84	Horizontal
2402	6.34	30.03	38.87	87.15	84.65	94.00	-9.35	Vertical
2441	6.40	30.18	38.59	84.74	82.73	94.00	-11.27	Horizontal
2441	6.40	30.18	38.59	84.65	82.64	94.00	-11.36	Vertical
2480	6.45	30.30	39.72	85.59	82.62	94.00	-11.38	Horizontal
2480	6.45	30.30	39.72	86.04	83.07	94.00	-10.93	Vertical

5.3.2 Spurious Emissions

30MHz~1GHz

Test mode:	Transmitting

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
63.95	0.80	7.07	28.03	49.77	29.61	40.00	-10.39	Vertical
137.67	1.30	8.00	27.54	52.52	34.28	43.50	-9.22	Vertical
195.87	1.39	10.16	27.17	49.45	33.83	43.50	-9.67	Vertical
366.59	2.11	15.81	27.20	46.18	36.90	46.00	-9.10	Vertical
797.27	3.20	22.09	26.95	34.06	32.40	46.00	-13.60	Vertical
63.95	0.80	7.07	28.03	49.77	29.61	40.00	-10.39	Vertical
63.95	0.80	7.07	28.03	53.04	32.88	40.00	-7.12	Horizontal
106.63	1.22	8.77	27.81	47.64	29.82	43.50	-13.68	Horizontal
137.67	1.30	8.00	27.54	50.41	32.17	43.50	-11.33	Horizontal
194.90	1.39	10.15	27.18	46.69	31.05	43.50	-12.45	Horizontal
319.06	1.96	14.59	26.87	41.73	31.41	46.00	-14.59	Horizontal
502.39	2.60	17.85	27.71	42.48	35.22	46.00	-10.78	Horizontal

Remark: the data above is tested with QP detector.

Above 1GHz					
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1608	5.04	27.48	39.08	49.68	43.12	74.00	-30.88	Vertical
4804	9.36	34.25	41.53	50.12	52.20	74.00	-21.80	Vertical
7206	13.38	37.23	40.98	45.28	54.91	74.00	-19.09	Vertical
9608	13.39	37.99	37.56	47.25	61.07	74.00	-12.93	Vertical
12010	16.45	39.10	39.09	46.88	63.34	74.00	-10.66	Vertical
14412	17.44	41.39	44.77	47.86	61.92	74.00	-12.08	Vertical
16814	18.96	42.14	39.54	44.38	65.94	74.00	-8.06	Vertical
1486	4.54	26.95	39.44	50.12	42.17	74.00	-31.83	Horizontal
4804	9.36	34.25	41.53	49.65	51.73	74.00	-22.27	Horizontal
7206	13.38	37.23	40.98	45.98	55.61	74.00	-18.39	Horizontal
9608	13.39	37.99	37.56	44.28	58.10	74.00	-15.90	Horizontal
12010	16.45	39.10	39.09	43.12	59.58	74.00	-14.42	Horizontal
14412	17.44	41.39	44.77	47.68	61.74	74.00	-12.26	Horizontal
16814	18.96	42.14	39.54	44.52	66.08	74.00	-7.92	Horizontal

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1608	5.04	27.48	39.08	38.05	31.49	54.00	-22.51	Vertical
4804	9.36	34.25	41.53	33.65	35.73	54.00	-18.27	Vertical
7206	13.38	37.23	40.98	31.04	40.67	54.00	-13.33	Vertical
9608	13.39	37.99	37.56	30.17	43.99	54.00	-10.01	Vertical
12010	16.45	39.10	39.09	27.41	43.87	54.00	-10.13	Vertical
14412	17.44	41.39	44.77	28.65	42.71	54.00	-11.29	Vertical
16814	18.96	42.14	39.54	26.84	48.40	54.00	-5.60	Vertical
1486	4.54	26.95	39.44	39.48	31.53	54.00	-22.47	Horizontal
4804	9.36	34.25	41.53	29.74	31.82	54.00	-22.18	Horizontal
7206	13.38	37.23	40.98	26.04	35.67	54.00	-18.33	Horizontal
9608	13.39	37.99	37.56	29.41	43.23	54.00	-10.77	Horizontal
12010	16.45	39.10	39.09	27.68	44.14	54.00	-9.86	Horizontal
14412	17.44	41.39	44.77	32.08	46.14	54.00	-7.86	Horizontal
16814	18.96	42.14	39.54	26.57	48.13	54.00	-5.87	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1807	5.60	27.95	38.84	50.95	45.66	74.00	-28.34	Vertical
4882	10.57	34.35	40.33	47.85	52.44	74.00	-21.56	Vertical
7323	12.91	37.31	40.40	45.85	55.67	74.00	-18.33	Vertical
9764	13.89	38.03	37.94	45.95	59.93	74.00	-14.07	Vertical
12205	17.95	39.23	39.30	45.21	63.09	74.00	-10.91	Vertical
14646	17.18	41.27	45.96	50.54	63.03	74.00	-10.97	Vertical
17087	19.55	42.62	39.41	42.58	65.34	74.00	-8.66	Vertical
1652	5.00	27.18	38.86	49.68	43.00	74.00	-31.00	Horizontal
4882	10.57	34.35	40.33	49.52	54.11	74.00	-19.89	Horizontal
7323	12.91	37.31	40.40	48.15	57.97	74.00	-16.03	Horizontal
9764	13.89	38.03	37.94	47.51	61.49	74.00	-12.51	Horizontal
12205	17.95	39.23	39.30	44.15	62.03	74.00	-11.97	Horizontal
14646	17.18	41.27	45.96	47.95	60.44	74.00	-13.56	Horizontal
17087	19.55	42.62	39.41	42.11	64.87	74.00	-9.13	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	Average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1807	5.60	27.95	38.84	36.84	31.55	54.00	-22.45	Vertical
4882	10.57	34.35	40.33	28.67	33.26	54.00	-20.74	Vertical
7323	12.91	37.31	40.40	28.67	38.49	54.00	-15.51	Vertical
9764	13.89	38.03	37.94	28.77	42.75	54.00	-11.25	Vertical
12205	17.95	39.23	39.30	27.01	44.89	54.00	-9.11	Vertical
14646	17.18	41.27	45.96	33.51	46.00	54.00	-8.00	Vertical
17087	19.55	42.62	39.41	26.14	48.90	54.00	-5.10	Vertical
1652	5.00	27.18	38.86	40.15	33.47	54.00	-20.53	Horizontal
4882	10.57	34.35	40.33	32.74	37.33	54.00	-16.67	Horizontal
7323	12.91	37.31	40.40	28.45	38.27	54.00	-15.73	Horizontal
9764	13.89	38.03	37.94	27.85	41.83	54.00	-12.17	Horizontal
12205	17.95	39.23	39.30	28.16	46.04	54.00	-7.96	Horizontal
14646	17.18	41.27	45.96	32.65	45.14	54.00	-8.86	Horizontal
17087	19.55	42.62	39.41	24.95	47.71	54.00	-6.29	Horizontal

Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1978	5.35	28.45	38.75	50.24	45.29	74.00	-28.71	Vertical
4960	10.43	34.45	41.03	48.65	52.50	74.00	-21.50	Vertical
7440	12.72	37.37	40.01	48.67	58.75	74.00	-15.25	Vertical
9920	14.24	38.08	37.78	45.62	60.16	74.00	-13.84	Vertical
12400	17.55	39.34	39.48	43.45	60.86	74.00	-13.14	Vertical
14880	16.69	41.16	46.61	49.85	61.09	74.00	-12.91	Vertical
17360	19.75	42.92	39.62	41.88	64.93	74.00	-9.07	Vertical
1854	5.62	27.97	38.71	49.65	44.53	74.00	-29.47	Horizontal
4960	10.43	34.45	41.03	49.12	52.97	74.00	-21.03	Horizontal
7440	12.72	37.37	40.01	48.07	58.15	74.00	-15.85	Horizontal
9920	14.24	38.08	37.78	44.07	58.61	74.00	-15.39	Horizontal
12400	17.55	39.34	39.48	42.97	60.38	74.00	-13.62	Horizontal
14880	16.69	41.16	46.61	50.48	61.72	74.00	-12.28	Horizontal
17360	19.75	42.92	39.62	43.52	66.57	74.00	-7.43	Horizontal

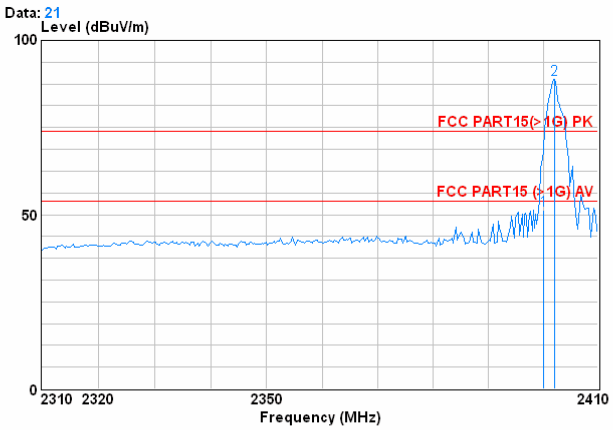
Test mode:	Transmitting	Test channel:	Highest	Remark:	Average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
1978	5.35	28.45	38.75	36.58	31.63	54.00	-22.37	Vertical
4960	10.43	34.45	41.03	33.12	36.97	54.00	-17.03	Vertical
7440	12.72	37.37	40.01	32.17	42.25	54.00	-11.75	Vertical
9920	14.24	38.08	37.78	28.48	43.02	54.00	-10.98	Vertical
12400	17.55	39.34	39.48	27.14	44.55	54.00	-9.45	Vertical
14880	16.69	41.16	46.61	35.47	46.71	54.00	-7.29	Vertical
17360	19.75	42.92	39.62	25.01	48.06	54.00	-5.94	Vertical
1854	5.62	27.97	38.71	38.16	33.04	54.00	-20.96	Horizontal
4960	10.43	34.45	41.03	33.35	37.20	54.00	-16.80	Horizontal
7440	12.72	37.37	40.01	29.43	39.51	54.00	-14.49	Horizontal
9920	14.24	38.08	37.78	28.24	42.78	54.00	-11.22	Horizontal
12400	17.55	39.34	39.48	27.15	44.56	54.00	-9.44	Horizontal
14880	16.69	41.16	46.61	34.57	45.81	54.00	-8.19	Horizontal
17360	19.75	42.92	39.62	23.61	46.66	54.00	-7.34	Horizontal

Remark: The disturbance above 18GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

5.3.3 Band edge (Radiated Emission)

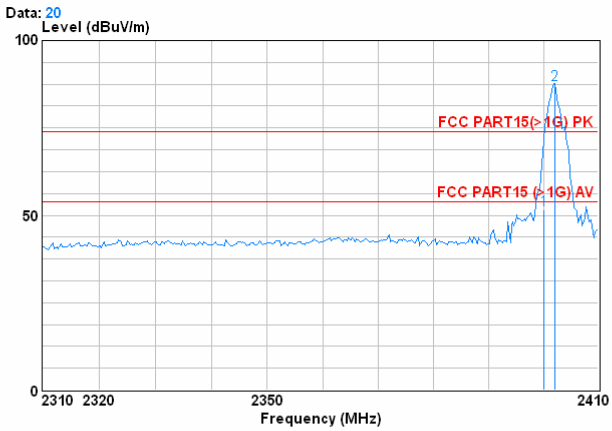
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak	Polarization:	Horizontal



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL
EUT : Gigaware Wireless Controller for
: Gamecube and Wii
Job No. : 6705RF
Test channel : Lowest channel (Receiver unit)

	Freq	CableLoss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2400.000	6.34	30.03	38.87	53.80	51.30	74.00	-22.70	Peak
2 @	2402.000	6.34	30.03	38.87	91.25	88.75	74.00	14.75	Peak

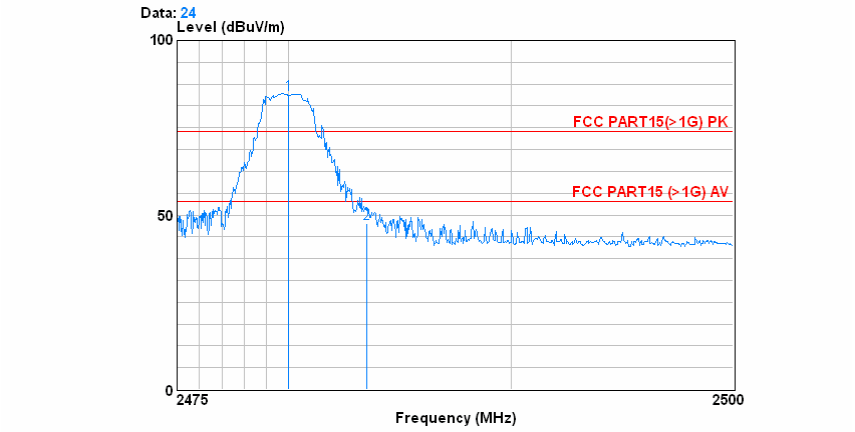
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak	Polarization:	Vertical



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL
EUT : Gigaware Wireless Controller for
: Gamecube and Wii
Job No. : 6705RF
Test channel : Lowest channel (Receiver unit)

	Freq	CableLoss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2400.000	6.34	30.03	38.87	54.00	51.50	74.00	-22.50	Peak
2 @	2402.000	6.34	30.03	38.87	90.00	87.50	74.00	13.50	Peak

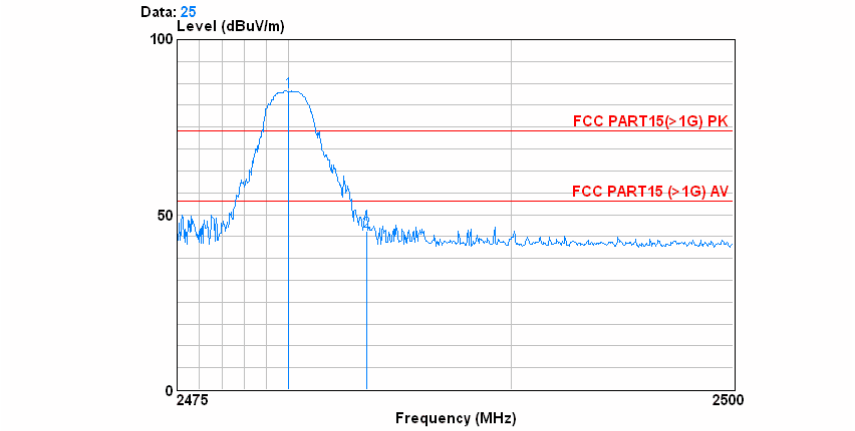
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak	Polarization:	Horizontal



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) HORIZONTAL
EUT : Gigaware Wireless Controller for
: Gamecube and Wii
Job No. : 6705RF
Test channel : Highest channel(Receiver unit)

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 @	2480.000	6.45	30.30	39.72	87.38	84.40	74.00	10.40	Peak
2	2483.500	6.22	30.32	39.53	50.60	47.61	74.00	-26.39	Peak

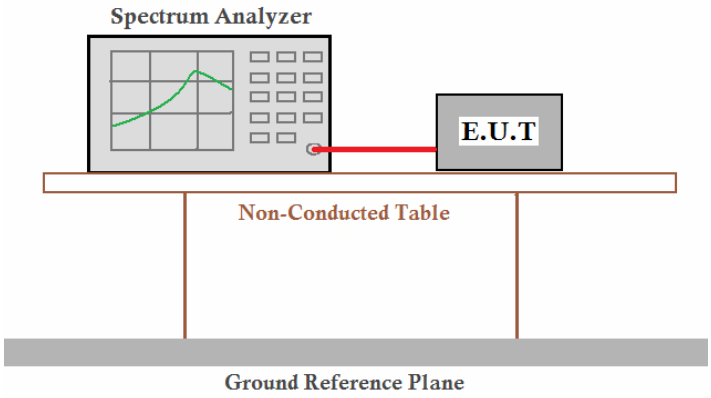
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak	Polarization:	Vertical



Condition : FCC PART15(>1G) PK 3m ANT3117(>1G) VERTICAL
EUT : Gigaware Wireless Controller for
: Gamecube and Wii
Job No. : 6705RF
Test channel : Highest channel(Receiver unit)

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 @	2480.000	6.45	30.30	39.72	88.13	85.15	74.00	11.15	Peak
2	2483.500	6.22	30.32	39.53	48.25	45.26	74.00	-28.74	Peak

5.3.4 20dB Bandwidth

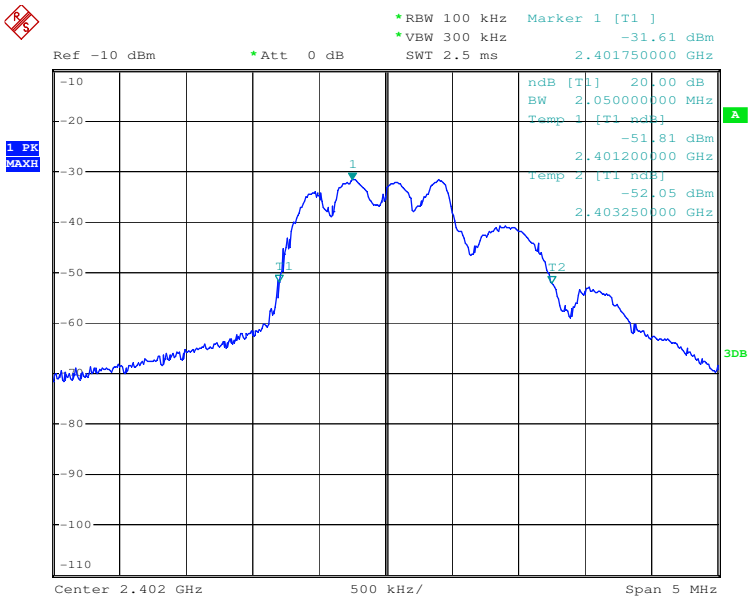
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Transmitting mode
Test results:	Passed

Measurement Data

Test channel	20dB bandwidth (MHz)	Results
Lowest	2.05	Passed
Middle	1.95	Passed
Highest	1.58	Passed

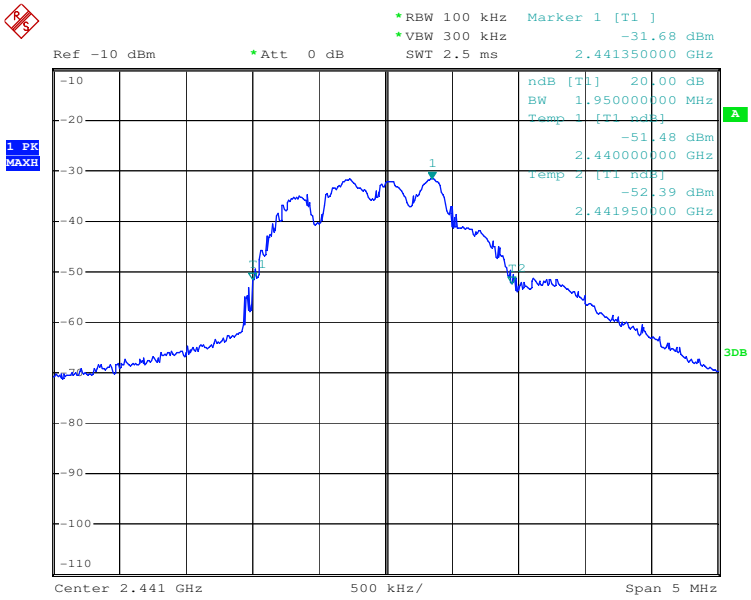
Test plot as follows:

Test channel:	Lowest



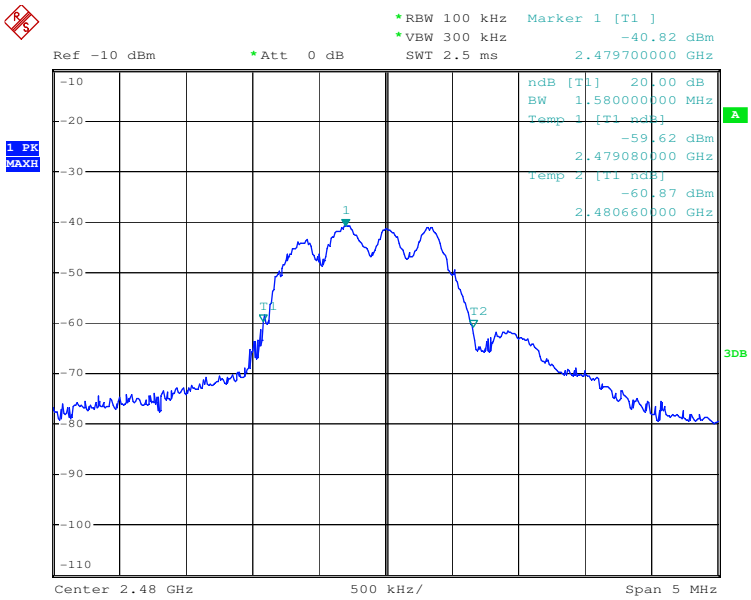
Date: 7.DEC.2009 10:20:27

Test channel:	Middle



Date: 7.DEC.2009 10:23:34

Test channel:	Highest



Date: 7.DEC.2009 10:26:42