



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

FCC ID TEST REPORT

TEST REPORT NUMBER : CGZ3110526-00331-E



CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao,
Guangzhou, China.



TEST REPORT For FCC ID	
47 CFR PART 15 OCT, 2009	
Report Reference No.	CGZ3110526-00331-E
Date of issue	14 Jun 2011
Testing Laboratory Name	CETRE OF TESTING SERVICE CO., LTD
Address	Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China.
Testing location/ procedure	Full application of Harmonised standards <input checked="" type="checkbox"/> Partial application of Harmonised standards <input type="checkbox"/> Other standard testing method <input type="checkbox"/>
Applicant's name	Datel Design & Development, inc.
Address	33 N. Garden Avenue Suite 900 Clearwater, FL 33755 United States.
Test specification	
Standard	47 CFR PART 15 OCT, 2009
Test Report Form No.	CTSEMC-1.0
TRF Originator	CENTRE OF TESTING SERVICE CO., LTD
Master TRF	Dated 2009-01
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Test item description	Wireless Controller Version2 for XBOX 360
Trade Mark	DATEL
Manufacturer	DATEL DIRECT LIMITED
Model/Type reference	AS000163
Ratings	2xStandard AA Batteries or 2xRechargeable AA Batteries
Operating Frequency	2402.00~2482.00MHz/ GFSK
Result	Positive

Compiled by:

Violet Lee / File administrators

Supervised by:

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FCC ID -- TEST REPORT

Test Report No. : CGZ3110526-00331-E	14 Jun 2011 Date of issue
---	------------------------------

Type / Model.....	AS000163
EUT.....	Wireless Controller Version2 for XBOX 360
Applicant.....	Datel Design & Development, Inc.
Address.....	33 N. Garden Avenue Suite 900 Clearwater, FL 33755 United States.
Telephone.....	+(727) 431-0651
Fax.....	/
Contact.....	Kenneth Tarolla
Manufacturer.....	Datel Direct Limited
Address.....	Stafford Road,Stone,staffordshire,UK,ST15,0DG
Telephone.....	/
Fax.....	/
Contact.....	Emma.murray
Test report holder.....	Datel Design & Development, Inc.
Address.....	33 N. Garden Avenue Suite 900 Clearwater, FL 33755 United States.
Telephone.....	+(727) 431-0651
Fax.....	/
Contact.....	Kenneth Tarolla

Test Result according to the standards on page 3: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following standards:

- 47 CFR PART 15 OCT, 2009
- ANSI C63.4-2009

2. SUMMARY

2.1 GENERAL REMARKS

Date of receipt of test sample	13 Jun 2011
Testing commenced on	14 Jun 2011
Testing concluded on	15 Jun 2011

2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

- - fulfilled.
- **not** fulfilled.

The equipment under test

- - fulfils the FCC requirements cited on page 3.
- **does not** fulfil the FCC requirements cited on page 3.

3. EQUIPMENT UNDER TEST

3.1 Power supply system utilised

Power supply voltage : ■ 2xStandard AA Batteries or 2xRechargeable AA Batteries

3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: 1
 Serial number: Prototype

3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

- Standby
- - Test program (customer specific)

Operation mode 1: Low (2402MHz) , Mid (2442MHz), High (2482MHz)

Note: X position of EUT is the worst case, so only these test results be recorded in the test report.

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3.4 EUT configuration

3.4.1. Description of configuration (EUT)

Description	:	Wireless Controller Version2 for XBOX 360
Model Number	:	AS000163
Operation frequency	:	2402~2482MHz ISM Band
Modulation Technology	:	GFSK modulation
Antenna	:	Integral antenna, met requirement of FCC 15.203
Antenna Assembly Gain	:	0dBi (maximum)

3.4.2. Tested Supporting System Details

N/A



4. TEST ENVIRONMENT

4.1 Address of the test laboratory

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

4.2 Test facility

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

CNAS-Lab Code: L3394

CENTRE OF TESTING SERVICE CO., LTD has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

IC-Registration No.: 8374

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374 on June 24, 2009 .

FCC-Registration No.: 971995

CENTRE OF TESTING SERVICE CO., LTD, 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 No.791995, July 21, 2009.

4.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 ° C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

4.4 Definitions of symbols used in this test report

- - The black square indicates that the listed condition, standard or equipment is applicable for this report.
- - The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

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4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±1.22dB	(1)
Power disturbance	30MHz~300MHz	±1.38dB	(1)
Radiation emission (3m)	30MHz~300MHz	±3.14dB	(1)
	300MHz~1000MHz	±3.18dB	(1)

(1).This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5. Summary of standards and results

5.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	FCC Part 15 C: 15.207 ANSI C63.4-2009	N/A
Radiated Emission Test	FCC Part 15 C: 15.209 ANSI C63.4-2009	PASSED
Carrier Frequency Separation Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
20 dB Bandwidth Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
Number Of Hopping Frequency Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
Dwell Time Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
Maximum Peak Output Power Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
Band Edge Compliance Test	FCC Part 15 C: 15.247 ANSI C63.4-2009	PASSED
N/A is an abbreviation for Not Applicable.		

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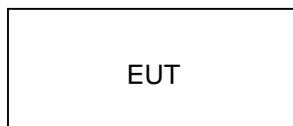


6. Power Line Conducted Emission Test

6.1. Test Equipment

Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2010/12
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2010/12
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2010/12
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2010/12
5	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2010/12

6.2. Block Diagram of Test Setup



(EUT: Wireless Controller Version2 for XBOX 360)

6.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
 2. The lower limit shall apply at the transition frequencies.

6.4. Test Procedure

The EUT Via XBOX Power connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC Part 15C on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS 10) is set at 10kHz.

6.5. Power Line Conducted Emission Test Results

Not Applicable (The EUT power supply by 2xStandard AA Batteries)



7. Radiated disturbance (electric field)

7.1. Test Equipment

Radiated disturbance (electric field)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2010/12
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2010/12
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2010/12
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

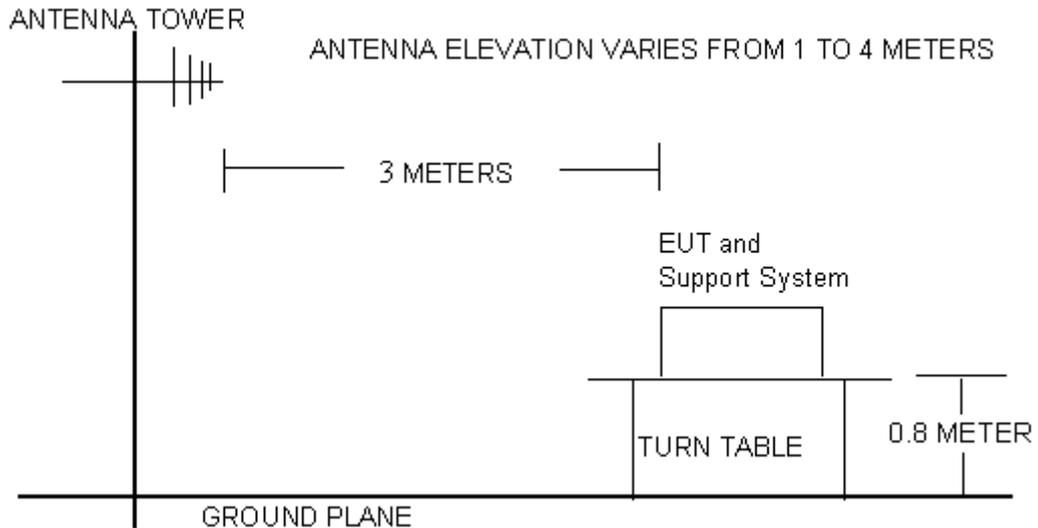
7.2. Block Diagram of Test Setup

7.2.1 Block Diagram of connection between EUT and simulators



(EUT: Wireless Controller Version2 for XBOX 360)

7.2.2 Anechoic Chamber Setup Diagram



7.3. Radiated Emission Limit Standard: FCC 15.247

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	Other: 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark:
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

7.4. Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission Test.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 1MHz RBW above 1GHz,

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All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with 1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

Pretest x, y, z position of EUT, final, select the worst case x position test and record the test results in the report.

The test modes (TX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported on section 7.5

7.5.Radiated Emission Test Results

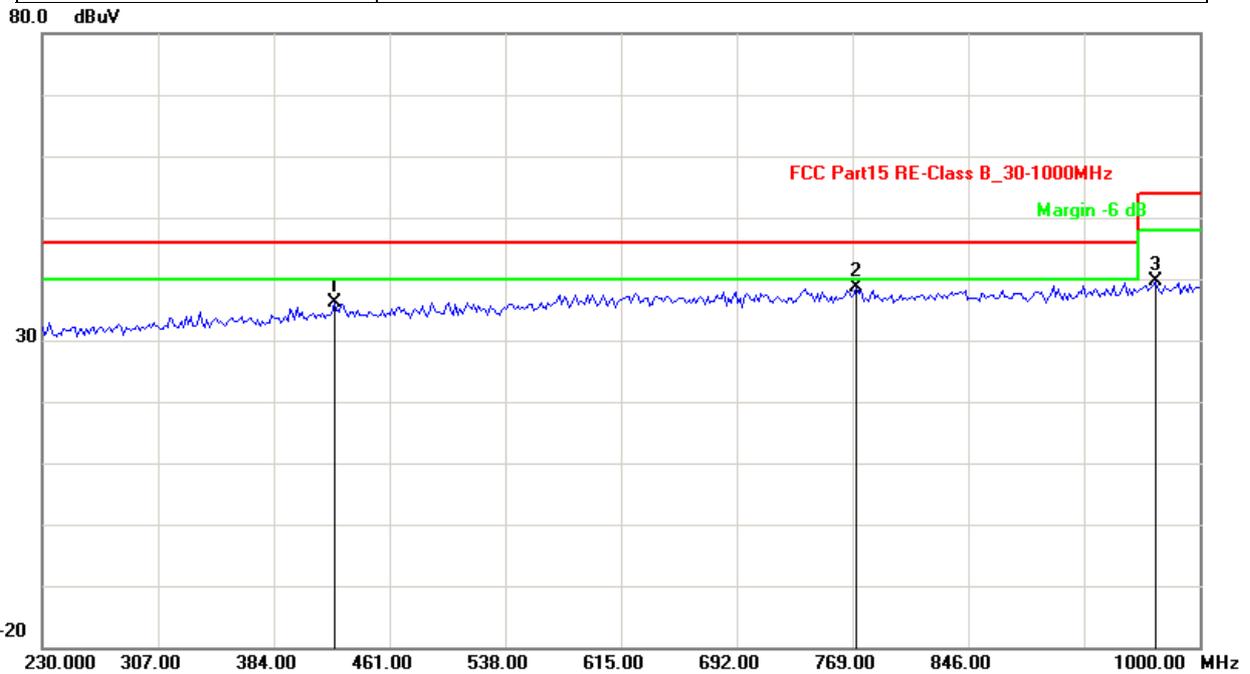
PASSED.

The frequency range from 30MHz to 230MHz, 230MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.



Channel:	TX Mode	Result:	<input checked="" type="checkbox"/> - passed
Test point:	Horizontal		<input type="checkbox"/> - not passed
Frequency range:	30-230MHz and 230-1000MHz		

EUT	Wireless Controller Version2 for XBOX 360
Firm Name	Datel Design & Development, inc.
Operating Condition	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	13 Jun~14 AJun 2011
Operator	Peter
MODEL NO	AS000163



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	424.4289	8.24	27.93	36.17	46.00	-9.83	QP
2	771.6232	10.25	28.48	38.73	46.00	-7.27	QP
3	970.6814	10.50	29.14	39.64	54.00	-14.36	QP

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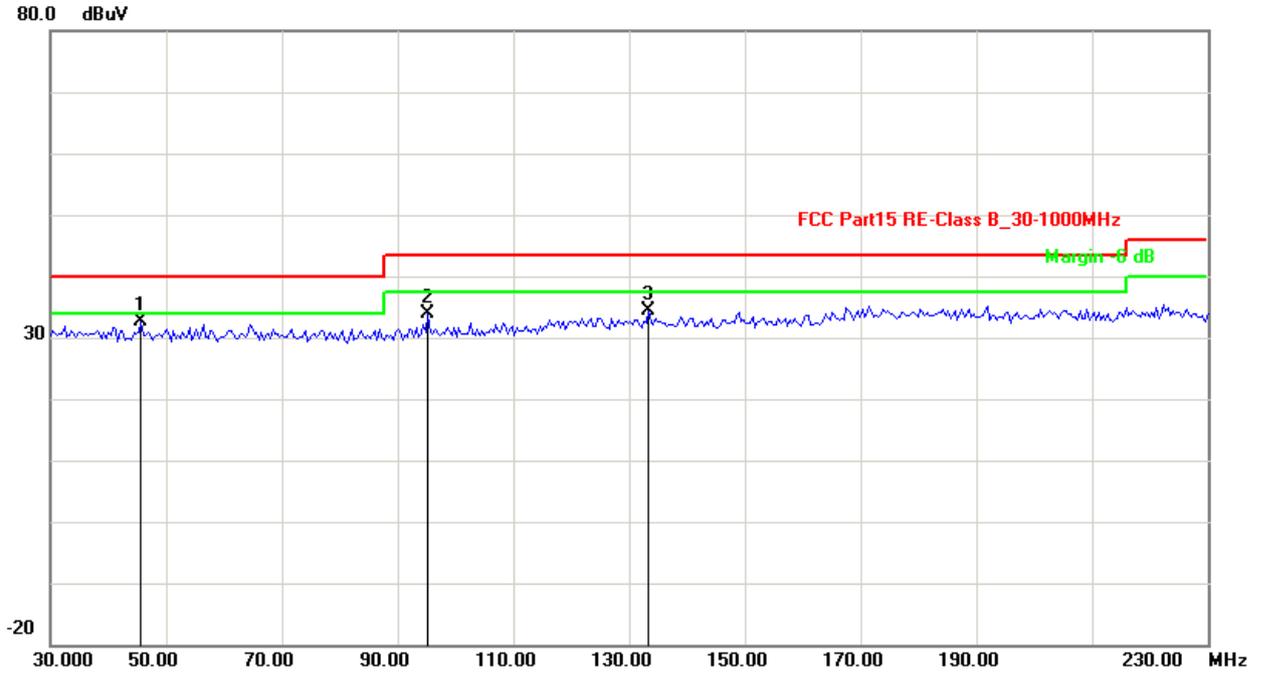
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Note: Level=Reading+Factor. Margin=Limit-Level.



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	45.6313	5.39	27.28	32.67	40.00	-7.33	QP
2	95.3307	5.01	28.98	33.99	43.50	-9.51	QP
3	133.4068	6.53	27.90	34.43	43.50	-9.07	QP

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin=Level-Limit.

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Channel:	Low 2402MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

EUT	Wireless Controller Version2 for XBOX 360
Firm Name	Datel Design & Development, inc.
Operating Condition	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	13 Jun~14 A Jun 2011
Operator	Peter
MODEL NO	AS000163

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2388.778	17.76	32.87	50.63	74.00	-23.37	peak
2	3028.056	20.38	30.62	51.00	74.00	-23.00	peak
3	5519.038	24.12	19.27	43.39	54.00	-10.61	AVG
4	6048.096	24.85	19.56	44.41	54.00	-9.59	AVG
5	10082.164	29.21	18.38	47.59	54.00	-6.41	AVG
6	11757.515	29.76	18.07	47.83	54.00	-6.17	AVG

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin=Level-Limit.

Channel:	Mid 2442MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3006.012	20.36	29.73	50.09	74.00	-23.91	peak
2	4885.290	23.10	26.59	49.69	74.00	-24.31	peak
3	6907.816	25.14	22.75	47.89	54.00	-6.11	AVG
4	8340.681	26.96	17.09	44.05	54.00	-9.95	AVG
5	10324.649	28.97	18.69	47.66	54.00	-6.34	AVG
6	11735.471	29.71	17.87	47.58	54.00	-6.42	AVG

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin=Level-Limit.

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Channel:	High 2482MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2873.747	19.82	21.69	41.51	54.00	-12.49	AVG
2	5342.685	23.86	18.11	41.97	54.00	-12.03	AVG
3	5915.832	24.71	21.04	45.75	54.00	-8.25	AVG
4	6290.581	24.93	21.73	46.66	54.00	-7.34	AVG
5	9597.194	28.42	19.38	47.80	54.00	-6.20	AVG
6	10214.429	29.08	18.53	47.61	54.00	-6.39	AVG

- Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin=Level-Limit.

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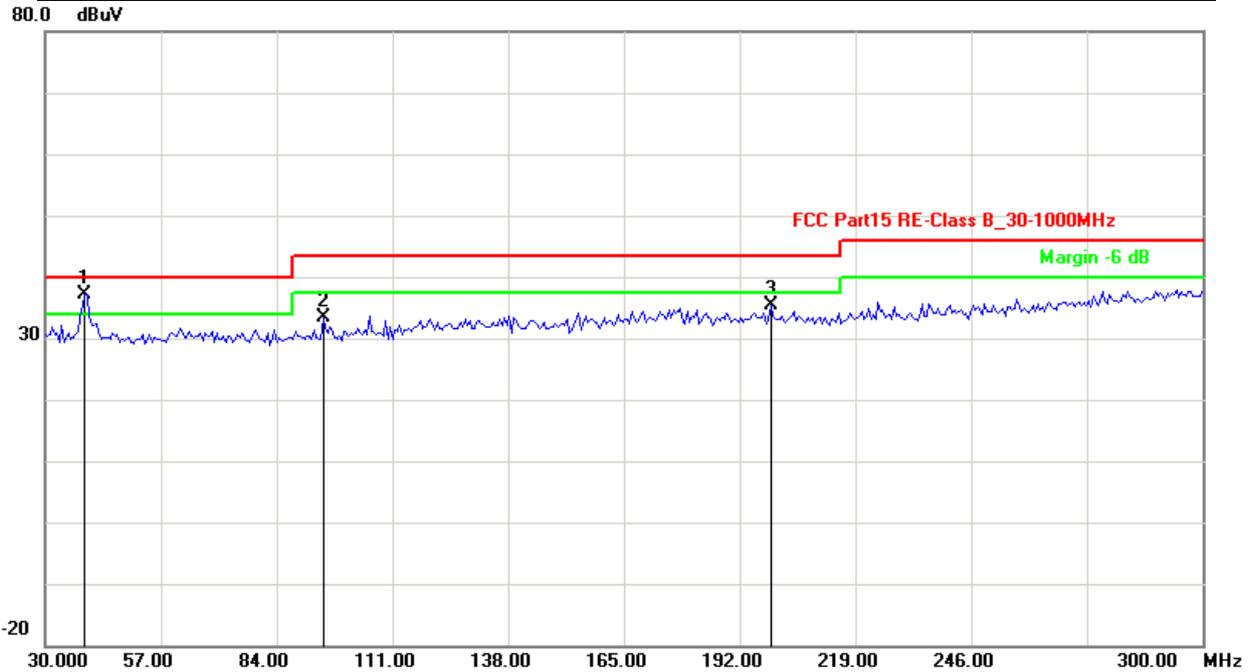
E-mail: cts@cts-lab.com.cn

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Channel:	TX Mode	Result:	<input checked="" type="checkbox"/> - passed
Test point:	Vertical		<input type="checkbox"/> - not passed
Frequency range:	30-230MHz and 230-1000MHz		

EUT	Wireless Controller Version2 for XBOX 360
Firm Name	Datel Design & Development, inc.
Operating Condition	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	13 Jun~14 AJun 2011
Operator	Peter
MODEL NO	AS000163



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	39.1984	5.76	31.37	37.13	40.00	-2.87	QP
2	94.9299	5.00	28.40	33.40	43.50	-10.10	QP
3	199.3587	7.35	28.03	35.38	43.50	-8.12	QP

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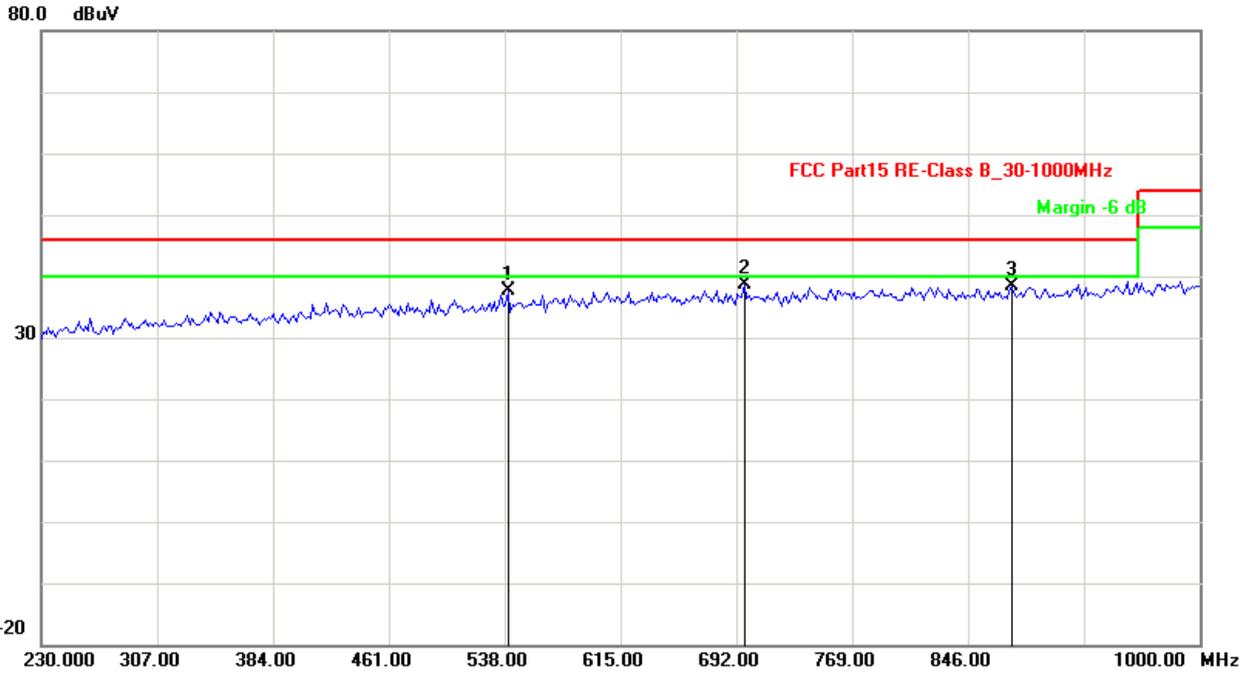
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	540.1603	8.80	28.93	37.73	46.00	-8.27	QP
2	697.5551	10.33	28.21	38.54	46.00	-7.46	QP
3	875.0100	10.50	27.81	38.31	46.00	-7.69	QP

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin= Level- Limit.

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Channel:	Low 2402MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Vertical		
Frequency range:	1G-26.5GHz		

EUT	Wireless Controller Version2 for XBOX 360
Firm Name	Datel Design & Development, inc.
Operating Condition	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	13 Jun~14 AJun 2011
Operator	Peter
MODEL NO	AS000163

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2873.747	19.82	29.05	48.87	74.00	-25.13	peak
2	5386.774	23.92	16.30	40.22	54.00	-13.78	AVG
3	6885.772	25.13	18.62	43.75	54.00	-10.25	AVG
4	8230.461	26.93	17.74	44.67	54.00	-9.33	AVG
5	9795.591	28.85	17.43	46.28	54.00	-7.72	AVG
6	11757.515	29.76	16.84	46.60	54.00	-7.40	AVG

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3.Margin= Level- Limit.

Channel:	Mid 2442MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Vertical		
Frequency range:	1G-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2851.703	19.72	31.00	50.72	74.00	-23.28	peak
2	4885.330	23.10	26.34	49.44	74.00	-24.56	peak
3	5849.699	24.61	21.18	45.79	54.00	-8.21	AVG
4	6621.242	25.04	21.08	46.12	54.00	-7.88	AVG
5	10060.120	29.23	19.23	48.46	54.00	-5.54	AVG
6	11559.118	29.38	18.13	47.51	54.00	-6.49	AVG

Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3.Margin= Level- Limit.

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Channel:	High 2482MHz	Result:	<input checked="" type="checkbox"/> - passed <input type="checkbox"/> - not passed
Test point:	Vertical		
Frequency range:	1G-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2609.218	18.68	31.17	49.85	74.00	-24.15	peak
2	3050.100	20.40	29.64	50.04	74.00	-23.96	peak
3	5122.244	23.53	18.56	42.09	54.00	-11.91	AVG
4	5871.743	24.64	19.96	44.60	54.00	-9.40	AVG
5	6643.287	25.05	15.44	40.49	54.00	-13.51	AVG
6	11757.515	29.76	17.37	47.13	54.00	-6.87	AVG

- Note: 1. Emission level=Read level + Factor
 2. Factor=Antenna factor + Cable loss
 3. Margin= Level- Limit.

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8. Carrier frequency separation test

8.1. Test Equipment

Carrier frequency separation test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

8.2. Test Information

EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Frequency:	Low: 2402MHz Mid: 2442MHz High: 2482MHz ,
Test Date:	13 Jue~14 Jue 2011
Test By:	Peter

8.3. Test Results

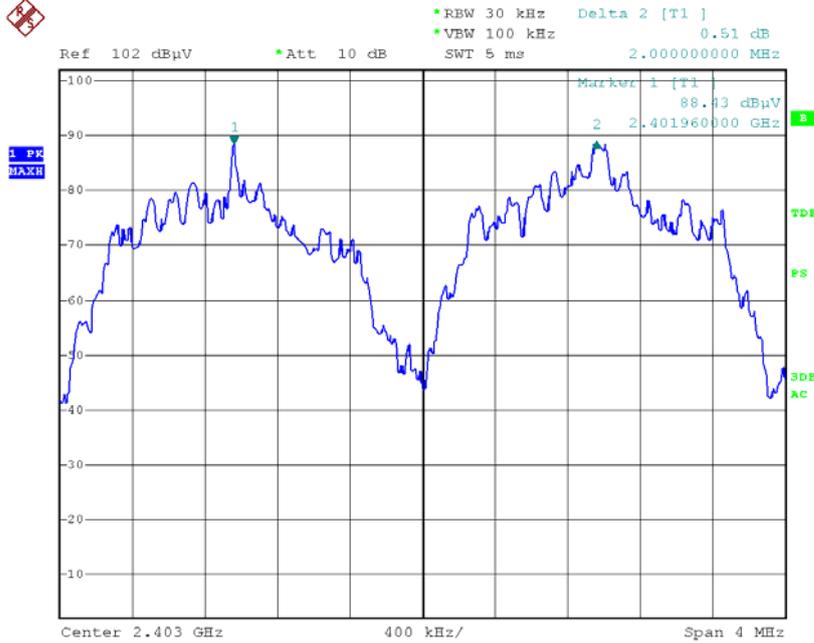
PASSED.

The testing data was attached in the next pages.

CH	Channel separation (kHz)	Limit	Conclusion
(Low)	2000	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASSED
(Mid)	2004	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASSED
(High)	2008	>the 20dB Bandwidth or 25kHz (whichever is greater)	PASSED

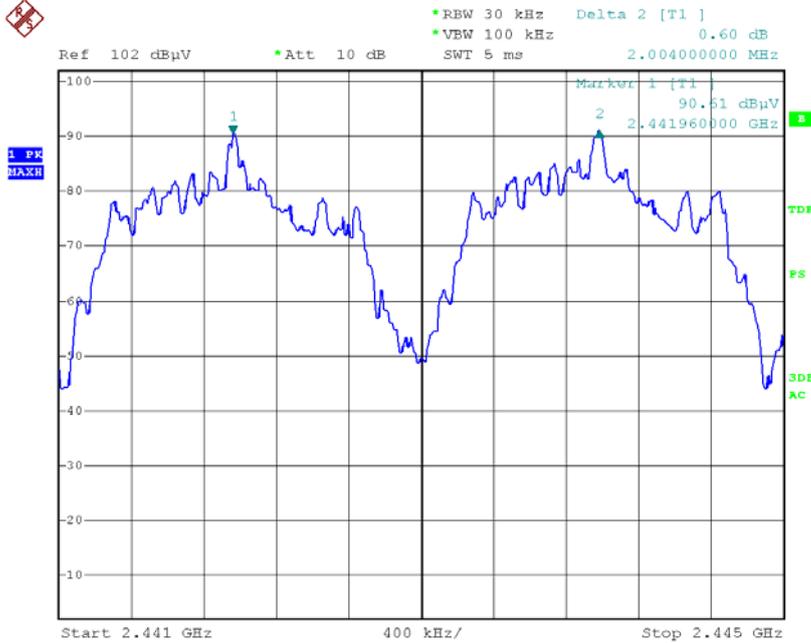


Test frequency:2402MHz



Date: 14.JUN.2011 09:02:47

Test frequency:2442MHz



Date: 14.JUN.2011 09:06:08

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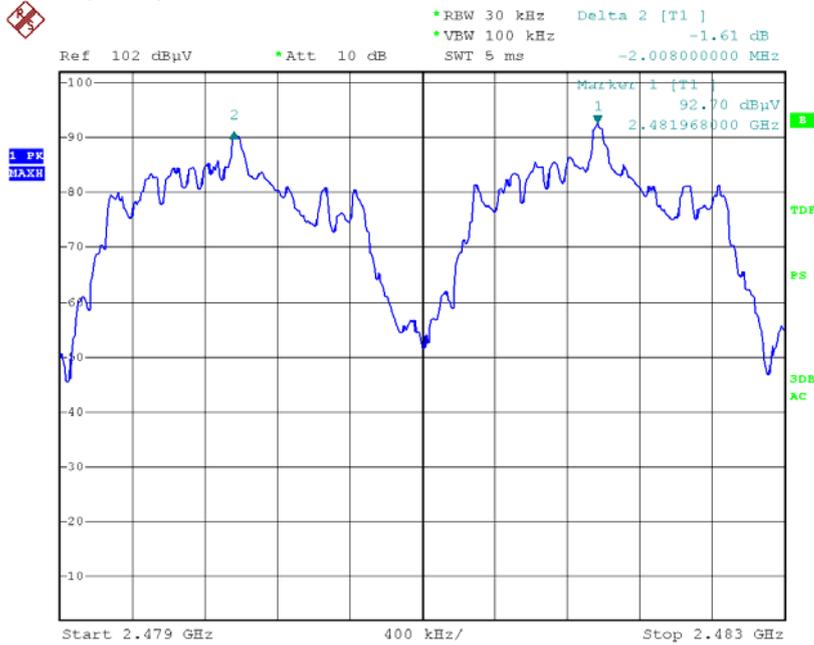
Complaint line: +86-20-85533471

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Test frequency:2482MHz



Date: 14.JUN.2011 09:09:01

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9.20 dB Bandwidth test

9.1. Test Equipment

20 dB Bandwidth test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

9.2. Test Information

EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Frequency:	Low: 2402MHz Mid: 2442MHz High: 2482MHz ,
Test Date:	13 Jue~14 Jue 2011
Test By:	Peter

9.3. Test Results

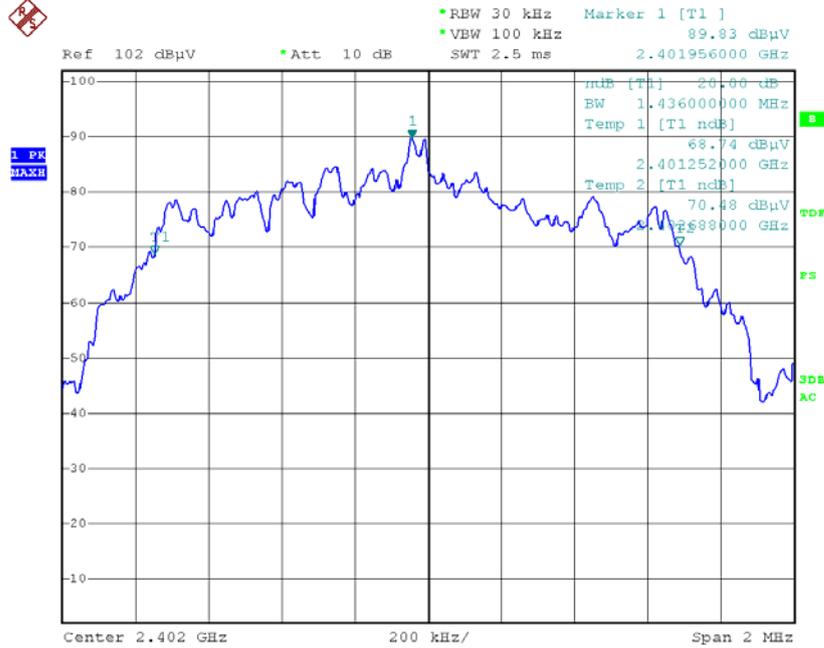
PASSED.

The testing data was attached in the next pages.

Channel	20dB Bandwidth (kHz)	Limit (kHz)	Conclusion
(Low)	1436	---	PASSED
(Mid)	1456	---	PASSED
(High)	1456	---	PASSED

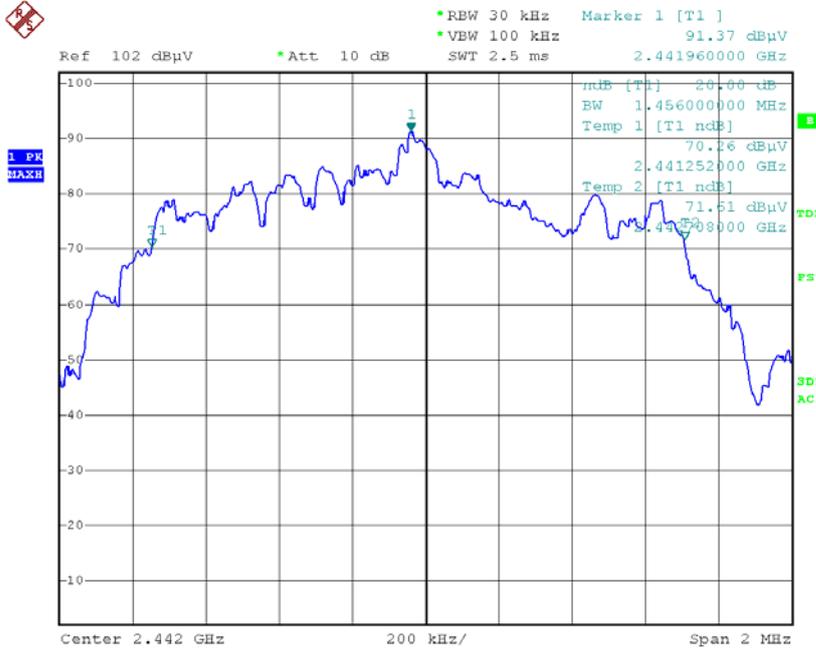


Test Frequency:2402MHz



Date: 14.JUN.2011 08:53:49

Test Frequency:2442MHz



Date: 14.JUN.2011 08:56:47

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10. Number of Hopping Frequency test

10.1. Test Equipment

Number of Hopping Frequency test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

10.2. Test Information

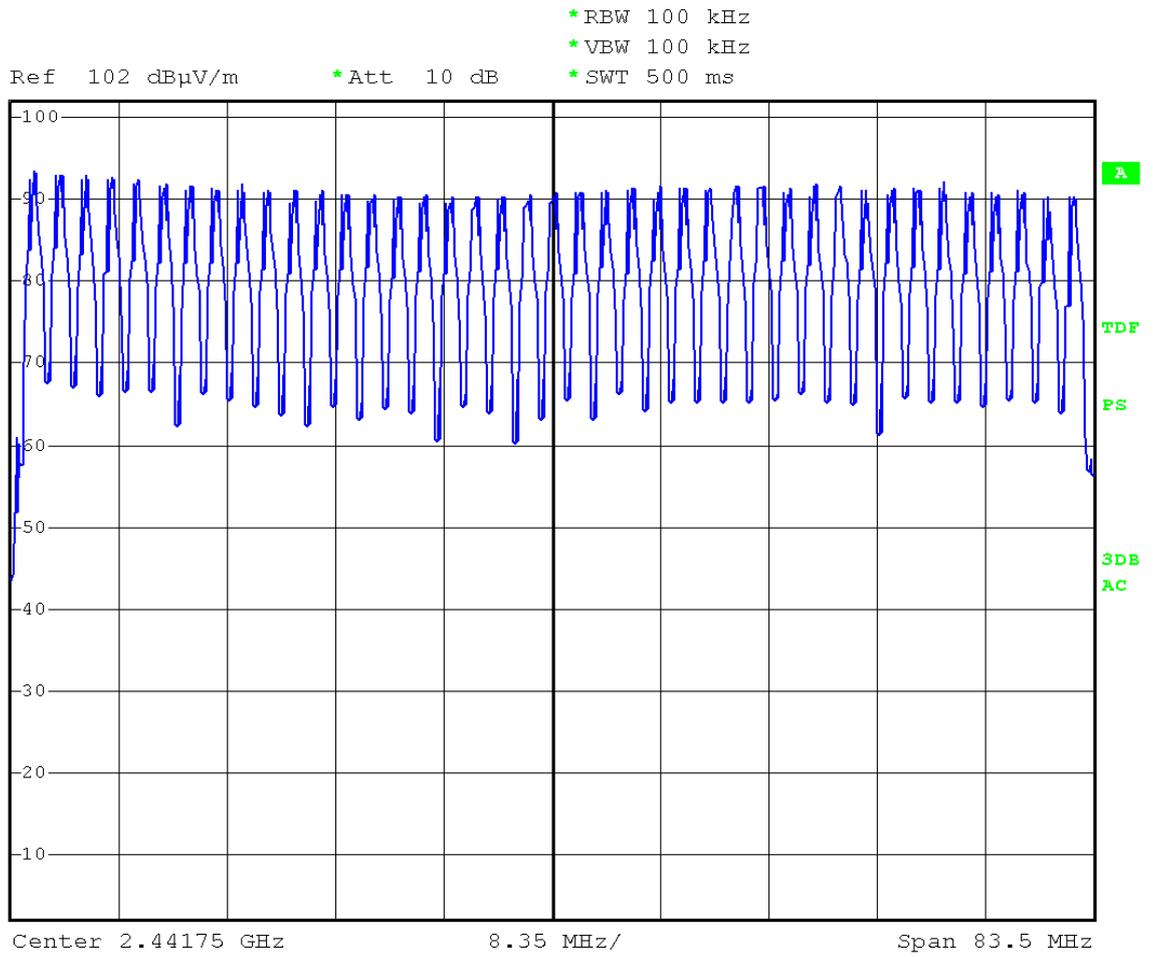
EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Date:	13 Jue~14 Jue 2011
Test By:	Peter

10.3. Test Results

PASSED.

The testing data was attached in the next pages.

Number of channel	Limit	Conclusion
41	>=15	PASSED



Date: 14.JUN.2011 15:05:38

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11. Dwell time test

11.1. Test Equipment

Dwell time test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

11.2. Test Information

EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Date:	13 Jun~14 Jun 2011
Test By:	Peter

11.3. Test Results

PASSED.

The testing data was attached in the next pages.

This system hopping 25 hops in any 10s, and for each hop it transmit 2 pulses, each pulse dwell 380μs, so the dwell time is:

$$25/10*41*0.4*2*380*10^{-6}=311.6\text{ms}$$

dwell time	Limit	Conclusion
311.6ms	<400ms	PASSED

12. Maximum Peak Output power test

12.1. Test Equipment

Maximum Peak Output power test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

12.2. Test Information

EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Frequency:	Low: 2402MHz Mid: 2442MHz High: 2482MHz ,
Test Date:	13 Jun~14 Jun 2011
Test By:	Peter

12.3. Test Results

PASSED.

The testing data was attached in the next pages.



CH	Freq (MHz)	Ant. pol	Emission Level (dB μ V)	Result (dBm)	Margin	Limits	
						(mW)	(dBm)
Low	2402.0	H	95.97	0.74	20.23	125	20.97
	2402.0	V	89.01	-6.22	27.19	125	20.97
Mid	2442.0	H	94.52	-0.71	21.68	125	20.97
	2442.0	V	88.36	-6.87	27.84	125	20.97
High	2482.0	H	94.97	-0.26	21.23	125	20.97
	2482.0	V	87.18	-8.05	29.02	125	20.97

Calculation Result = $30 + 10\log(TP)$

$TP = (\text{Emission Level} * D)^2 / 30 * G$

(This formula described in IC RSS-210 clause 11, where D is the distance in meters between the two antennas, TP is transmitter output power in watts and G is the antenna numerical gain referenced to isotropic gain, in here $G = 1$ supplied by customer)

Emission Level = Antenna Factor + Cable Loss + Reading.

(RBW=1MHz, VBW=1MHz peak detector.)

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13. Band Edge Compliance test

13.1. Test Equipment

Band Edge Compliance test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2010/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2010/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2010/12

13.2. Test Information

EUT:	Wireless Controller Version2 for XBOX 360
M/N:	AS000163
Firm Name:	Datel Design & Development, inc.
Power supply:	2xStandard AA Batteries or 2xRechargeable AA Batteries
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting, Hopping on
Test Frequency:	Low: 2402MHz High: 2482MHz ,
Test Date:	13 Jue~14 Jue 2011
Test By:	Peter

13.3. Test procedure

- 1、 The EUT operates at hopping-off test mode. The lowest or highest channels are tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
- 2、 Max hold the trace of the setp 1,and the EUT operates at hopping-on test mode to verify the largest spurious emissions power.

13.4 Test Results

PASSED.

Test Mode	Channel Marked Frequency	Test Result Highest Emission (dBuV/m)			
		Horizontal		Vertical	
		Peak	Average	Peak	Average
Low Channel	2390MHz	38.26	20.43	38.32	19.23
	2400MHz	71.32	52.71	67.26	50.12
High Channel	2483.5MHz	55.73	44.07	47.45	40.31
	2500MHz	38.58	26.77	38.71	26.81

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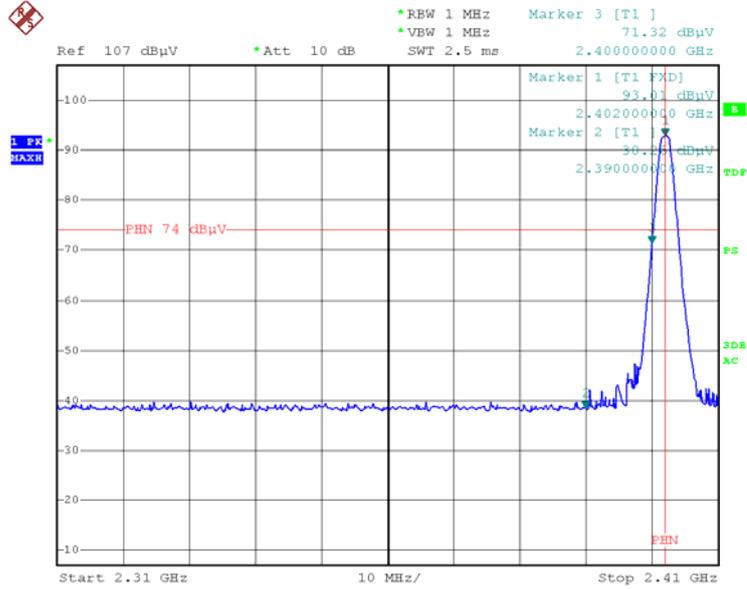
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Band Edges(CH Low)
Detector mode:Peak

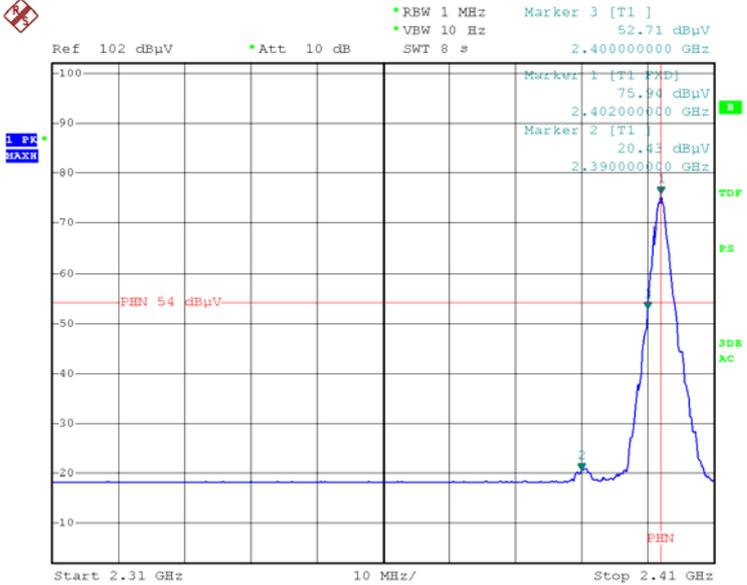
Polarity:Horizontal



Date: 14.JUN.2011 10:31:21

Band Edges(CH Low)
Detector mode:Average

Polarity:Horizontal



Date: 14.JUN.2011 10:45:33

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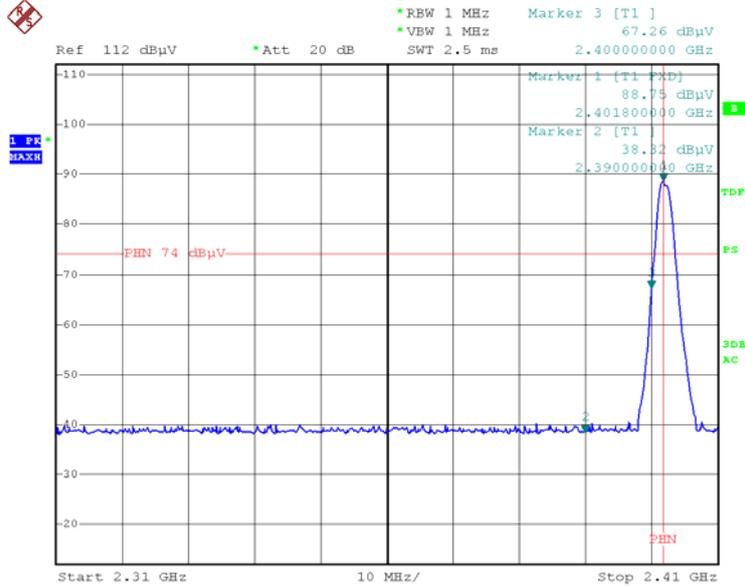
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Band Edges(CH Low)
Detector mode:Peak

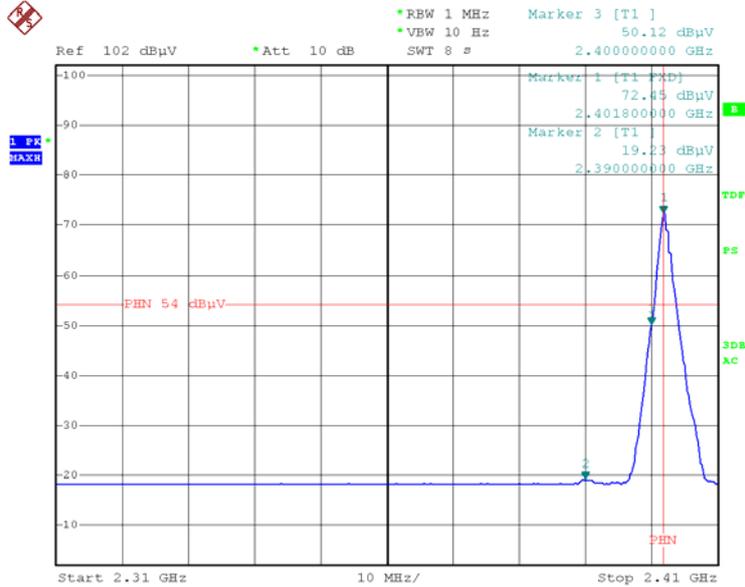
Polarity:Vertical



Date: 14.JUN.2011 10:47:42

Band Edges(CH Low)
Detector mode:Average

Polarity:Vertical



Date: 14.JUN.2011 10:50:17

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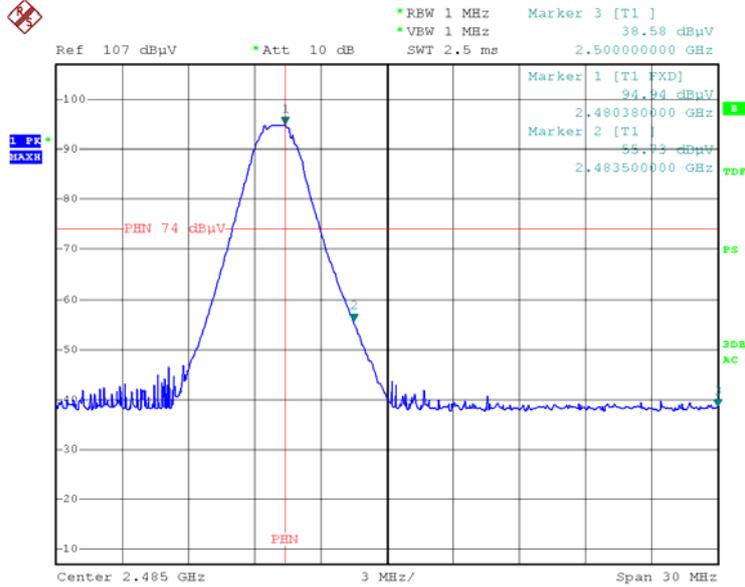
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Band Edges(CH High)
Detector mode:Peak

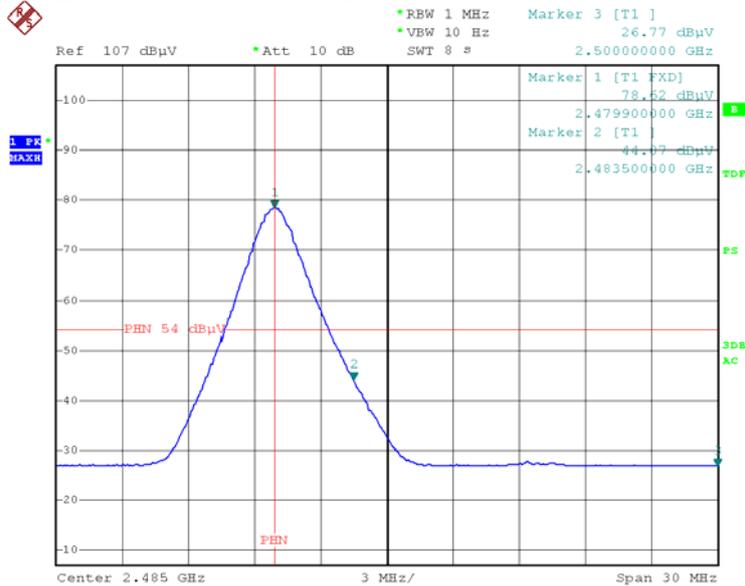
Polarity:Horizontal



Date: 14.JUN.2011 10:01:49

Band Edges(CH High)
Detector mode:Average

Polarity:Horizontal



Date: 14.JUN.2011 10:23:25

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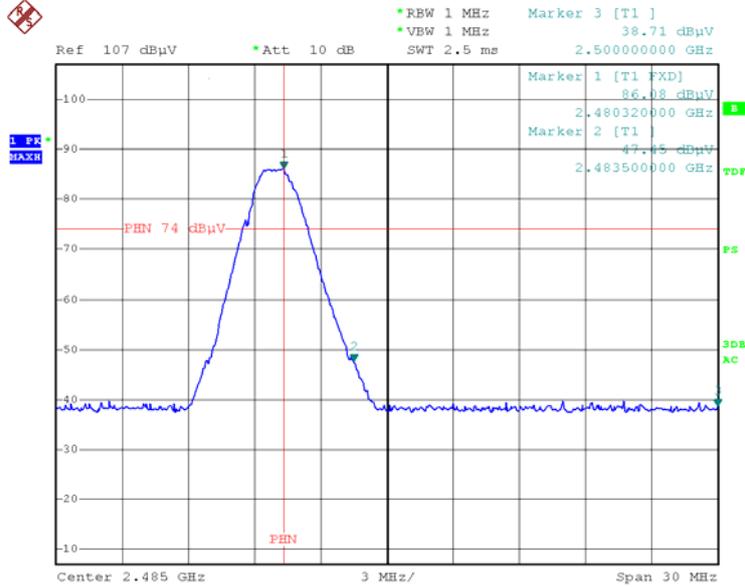
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Band Edges(CH High)
Detector mode:Peak

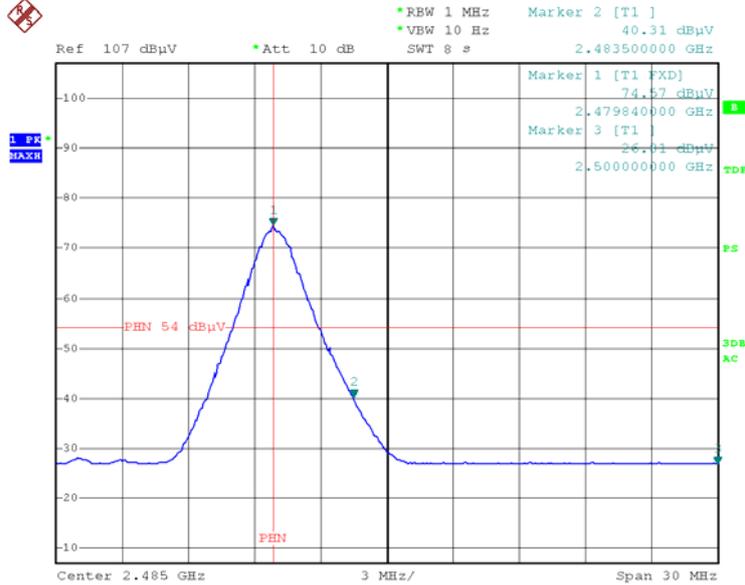
Polarity:Vertical



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Band Edges(CH High)
Detector mode:Average

Polarity:Vertical



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14.Deviation to test specifications

[NONE]

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