

FCC COMPLIANCE REPORT

for

Shanghai Nine Eagles Electronic Technology Co.,Ltd

Radio Control Airplane

Model Number: NE-024G

Prepared for : Shanghai Nine Eagles Electronic Technology Co.,Ltd

Address : Room 1104, Huaxiang Building, No. 80 Moling
Road,Shanghai,China

Prepared By : NS Technology Co., Ltd.

Address : Chenwu Industrial Zone, Houjie Town, Dongguan City,
Guangdong, China

Tel: +86-769-85935656

Fax: +86-769-85991080

Report Number : NSE-F09114090

Date of Test : Oct. 7,~ Nov. 15, 2009

Date of Report : Nov. 17, 2009






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NS Technology Co., Ltd.

Applicant:	Shanghai Nine Eagles Electronic Technology Co.,Ltd		
Address:	Room 1104, Huaxiang Building, No. 80 Moling Road,Shanghai,China		
Manufacturer:	Shanghai Nine Eagles Electronic Technology Co.,Ltd		
Address:	Room 1104, Huaxiang Building, No. 80 Moling Road,Shanghai,China		
E.U.T:	Radio Control Airplane		
Model Number:	NE-024G		
Trade Name:	-----	Operating Frequency:	2421MHz~2461MHz
Date of Receipt:	Oct. 6, 2009	Date of Test:	Oct. 7,~ Nov. 15, 2009
Test Specification:	FCC Part 15 Subpart C: July. 10, 2008 ANSI C63.4:2003		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		
	Issue Date: Nov. 17,2009		
Tested by:	Reviewed by:	Approved by:	
			
Jade/ Engineer	Iceman Hu / Supervisor	Steven Lee / Manager	
Other Aspects:	None.		
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of NS Technology Co., Ltd.			



1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Details please refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

E.U.T.	: Radio Control Airplane
Model No.	: NE-024G
Operating Frequency	: 2421~2461MHz
Number of Channels	: 8 Channels
Channel frequency	: $F = 2421 + 5K$ (K=0,1,2,.....7)
Type of Modulation	: DSSS
Antenna Type	: Integral
Antenna Gain	: 1.2dBi
System Input Voltage	: Nominal Voltage: DC 6V
Temperature Range(Operating)	: 0 ~+ 40°C

1.3. Difference between Model Numbers

1.4. Independent Operation Modes

The basic operation modes are:

- 1.4.1. Low Channel TX 2421MHz
- 1.4.2. Middle Channel TX 2441MHz
- 1.4.3.; High Channel TX 2461MHz



2. TEST SITES

2.1. Test Facilities

EMC Lab : Certificated by TUV Rheinland, Germany.
Date of registration: July 28, 2003

Certificated by FCC, USA
Registration No.: 502831
Date of registration: February 09, 2009

Certificated by VCCI, Japan
Registration No.: R-2527 & C-2770
Date of registration: March 23, 2007

Certificated by CNAL, CHINA
Registration No.: L1744
Date of registration: November 25, 2004

Certificated by Intertek ETL SEMKO
Registration No.: TMP-013
Date of registration: June 11, 2005

Certificated by TUV/PS, Hong Kong
Date of registration: December 1, 2005

Certificated by Industry Canada
Registration No.: 5936A
Date of registration: March 4, 2009

Certificated by ATCB, America
Date of registration: August 03, 2006

Name of Firm : NS Technology Co., Ltd.

Site Location : Chenwu Industrial Zone, Houjie Town, Dongguan City,
Guangdong, China



2.2. List of Test and Measurement Instruments

2.2.1. For radiated emission test (30MHz-1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCS30	100340	May 31,09	May 31,10
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Bilog Antenna	Teseq	CBL 6111D	25758	Oct. 15,08	Oct. 15,09
Signal Amplifier	Agilent	8447D	2944A10488	May 2,09	May 2,10
50Ω Coaxial Switch	ANRITSU	MP59B	6200530577	May 2,09	May 2,10
RF Cable	IMRO	IMRO-400	966 Cable 1#	May 2,09	May 2,10
RF Cable	DRAKA	M17/84-RG 223	966 Cable 2#	May 2,09	May 2,10

2.2.2. For radiated emission test(1GHz-25GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Horn Antenna	EMCO	3117	00062558	Jan. 19,09	Jan. 19,11
Signal Amplifier	BURGEON	PEC-38-30M18G -12-SFF	NSEMC001	May 31,09	May 31,11
RF Cable	DRAKA	M06/25-RG102	966Cable 3#24G	May 2,09	May 2,10

2.2.3. For Band edge compliance and 20dB bandwidth test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCS30	100340	May 31,09	May 31,10
Spectrum Analyzer	HP	8593E	3448U00806	May 31,09	May 31,10
Bilog Antenna	Teseq	CBL 6111D	25758	Oct. 15,08	Oct. 15,09
Signal Amplifier	Agilent	8447D	2944A10488	May 2,09	May 2,10
50Ω Coaxial Switch	ANRITSU	MP59B	6200530577	May 2,09	May 2,10
RF Cable	IMRO	IMRO-400	966 Cable 1#	May 2,09	May 2,10
RF Cable	DRAKA	M17/84-RG 223	966 Cable 2#	May 2,09	May 2,10

3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its highest possible radiated level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators



(EUT : Radio Control Airplane)

3.3. Test Operation Mode and Test Software

Refer to clause 1.4

3.4. Special Accessories and Auxiliary Equipment

None.

3.5. Countermeasures to Achieve EMC Compliance

None.

4. TEST SUMMARY

Test items and result lists

No.	Item	Standard	Results
1	Conduction Emission Test	FCC Part15C: 15.209 ANSI C63.4-2003	N/A
2	Radiated Emission Test	FCC Part15C: 15.249 ANSI C63.4-2003	PASS
3	Band Edge Compliance Test	FCC Part15: 15.249	PASS
4	20dB Bandwidth Test	FCC Part 15: 15.215	PASS
5	Duty Cycle	FCC Part15:15.35	PASS

Note: N/A is an abbreviation for Not Applicable.

5. EMISSION TEST RESULTS

5.1. Radiated Emission

5.1.1. Test limits

- 1) FCC part 15C section 15.209
- 2) FCC part 15C section 15.249(a)

5.1.2. Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 30MHz to 1GHz, The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna. At the frequency band of 1GHz to 10GHz, The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used as a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120 kHz and 300kHz for Quasi-peak detection at frequency below 1GHz.

The resolution bandwidth and video bandwidth of the test receiver was 1MHz and 1MHz for Peak detection at frequency above 1GHz.

For Average measurement at frequency above 1GHz. The resolution bandwidth of the test receiver was 1MHz ; due to the shortest pulse width T is 116us, according the video bandwidth should not smaller than 1/T, so the video bandwidth is 10Hz. For Fundamental Frequency, We use duty cycle to calculate average.

In 18GHz to 25GHz, The EUT was checked by Horn ANT . But the test result is background.

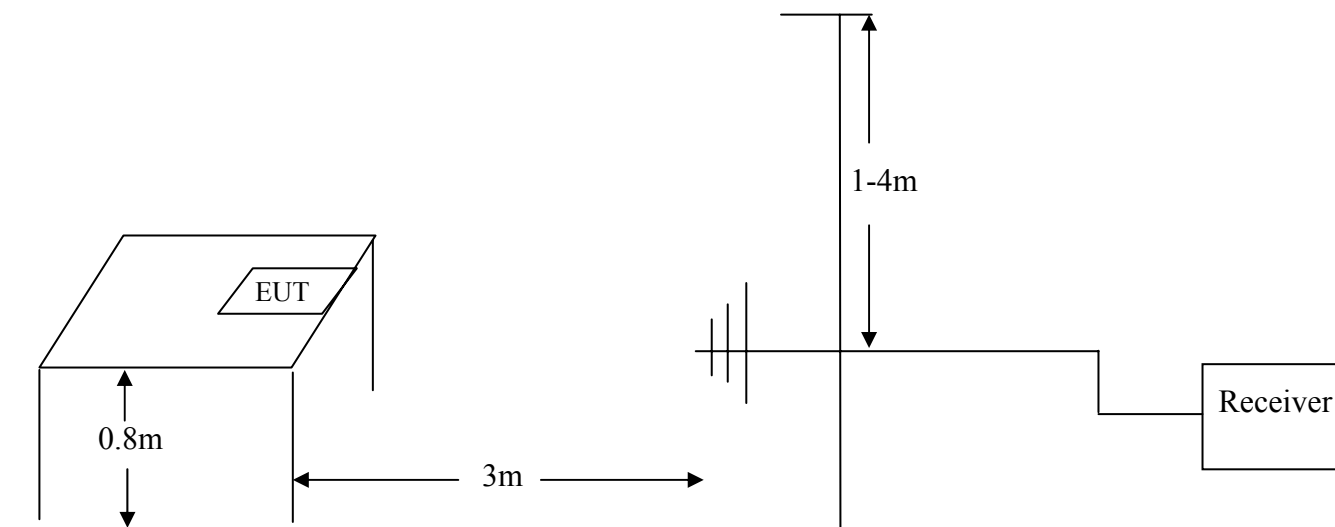
The EUT position(X. Y. Z) were checked and worse case was happened in Y position. So Y position was chose for find measurement.

The EUT was tested in Chamber Site.

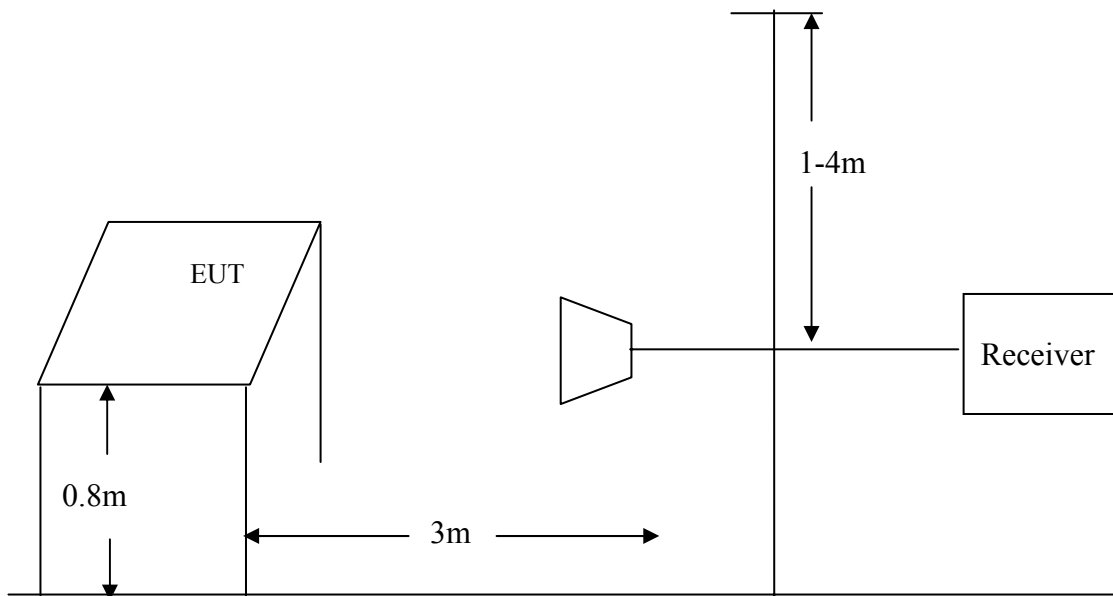


5.1.3. Test Setup Diagram

5.1.3.1. Frequency range: 30MHz-1000MHz



5.1.3.2. Frequency range: 1 GHz -25GHz



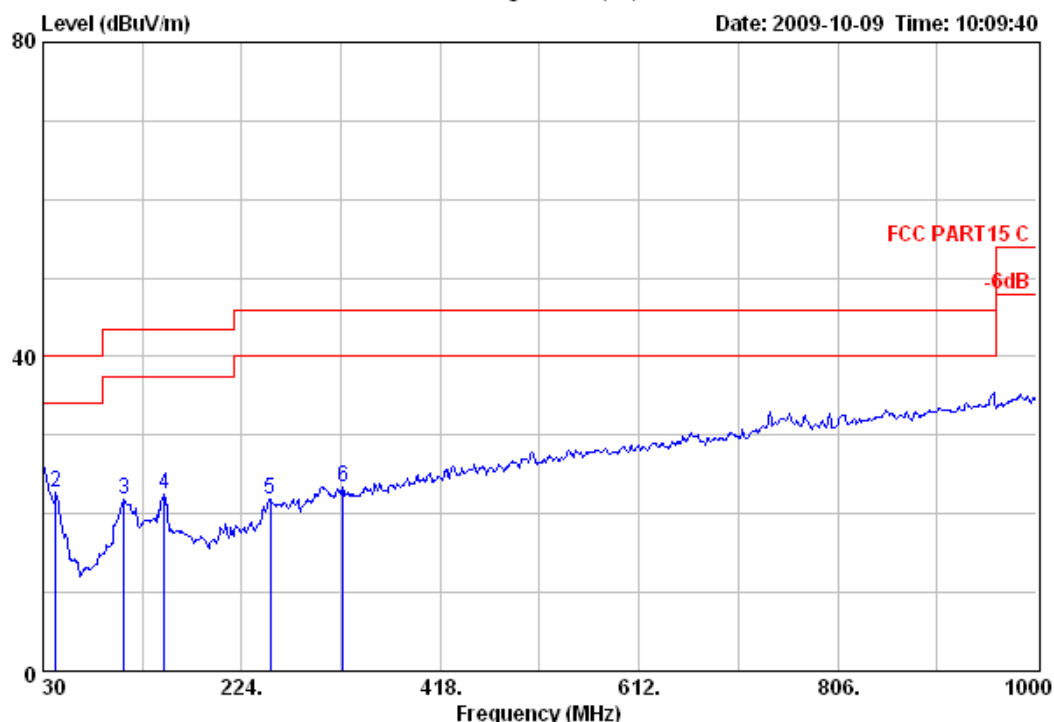
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 23

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-10-09 Time: 10:09:40



Test Site : 966 Chamber
Limit : FCC PART15 C
Dis. / Ant. : 3m 25758-3 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode

		Emission				Ant.	Cable	
	Freq.	Level	Limits	Margin	Reading	Factor	Loss	Remark
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(dB/m)	(dB)	
1	30.00	26.08	40.00	13.92	4.50	21.00	0.58	QP
2	42.61	22.67	40.00	17.33	9.43	12.60	0.64	QP
3	109.54	21.93	43.50	21.57	9.63	11.20	1.10	QP
4	148.34	22.61	43.50	20.89	9.99	11.32	1.30	QP
5	252.13	21.94	46.00	24.06	7.63	12.60	1.71	QP
6	322.94	23.42	46.00	22.58	7.30	14.15	1.97	QP



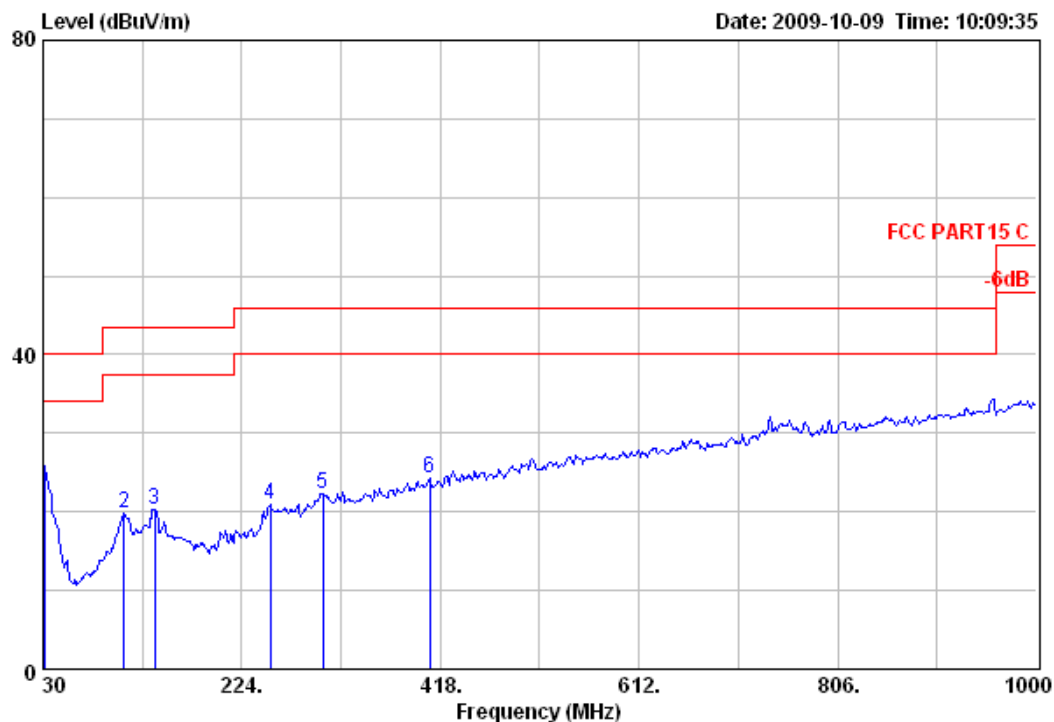
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 22

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-10-09 Time: 10:09:35



Test Site : 966 Chamber
Limit : FCC PART15 C
Dis. / Ant. : 3m 25758-3 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode

		Emission				Ant.	Cable	
	Freq.	Level	Limits	Margin	Reading	Factor	Loss	Remark
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(dB/m)	(dB)	
1	30.97	25.82	40.00	14.18	4.84	20.40	0.58	QP
2	109.54	19.93	43.50	23.57	7.63	11.20	1.10	QP
3	138.64	20.39	43.50	23.11	6.96	12.18	1.25	QP
4	252.13	20.94	46.00	25.06	6.63	12.60	1.71	QP
5	303.54	22.38	46.00	23.62	6.87	13.62	1.89	QP
6	407.33	24.24	46.00	21.76	5.23	16.85	2.16	QP



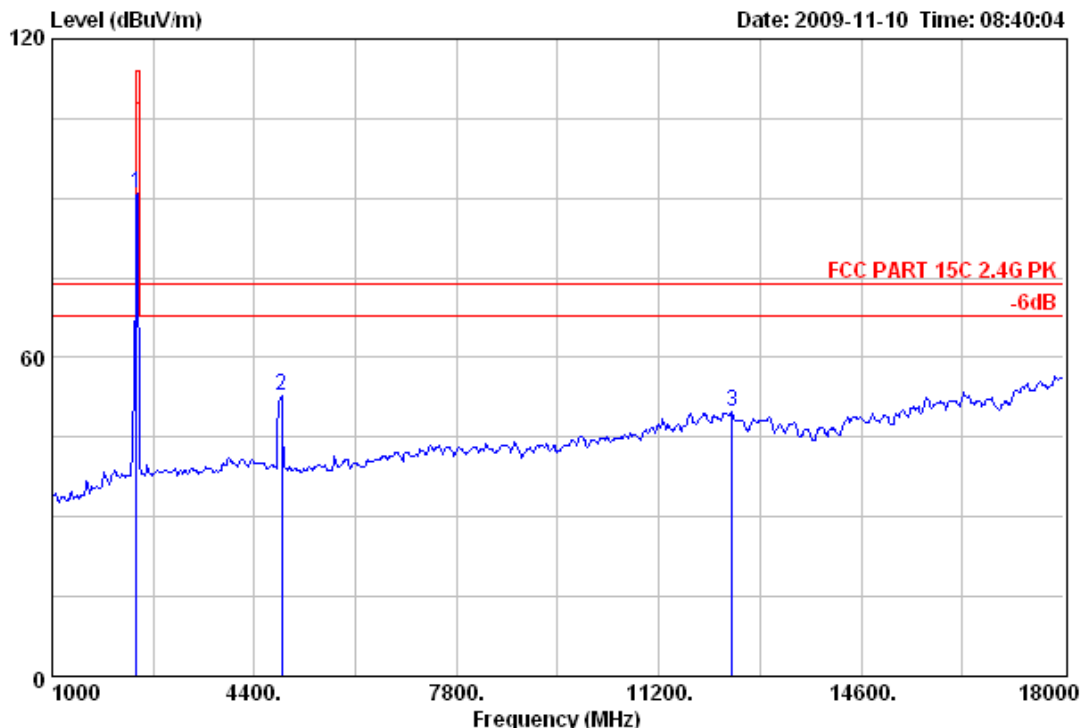
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 24

File: D:\Radiation data\Nnine eagles.EMI (35)

Date: 2009-11-10 Time: 08:40:04



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

	Emission				Ant. Cable		
Freq. (MHz)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Factor (dB/m)	Loss (dB)	Remark
1 2421.00	90.94	114.00	23.06	57.19	31.52	2.23	Peak
2 4859.00	52.83	74.00	21.17	15.84	34.61	2.38	Peak
3 12424.00	49.87	74.00	24.13	7.05	39.97	2.85	Peak

Fundamental and Harmonics Result					
Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2421	90.94	-19.17	71.77	94	Pass

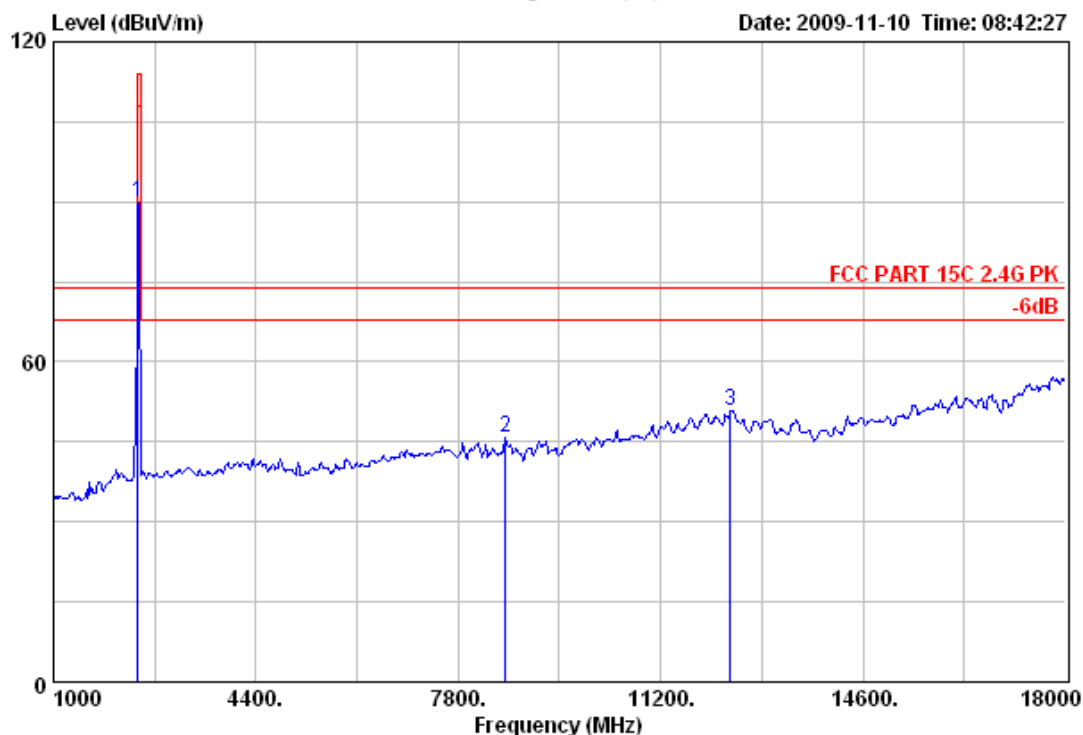


NS Technology

Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

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Date: 2009-11-10 Time: 08:42:27



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 2421.00	89.87	114.00	24.13	56.12	31.52	2.23		Peak
2 8599.00	45.81	74.00	28.19	6.26	36.94	2.61		Peak
3 31237.00	50.96	74.00	23.04	8.17	39.95	2.84		Peak

Fundamental and Harmonics Result

Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2421	89.87	-19.17	70.7	94	Pass



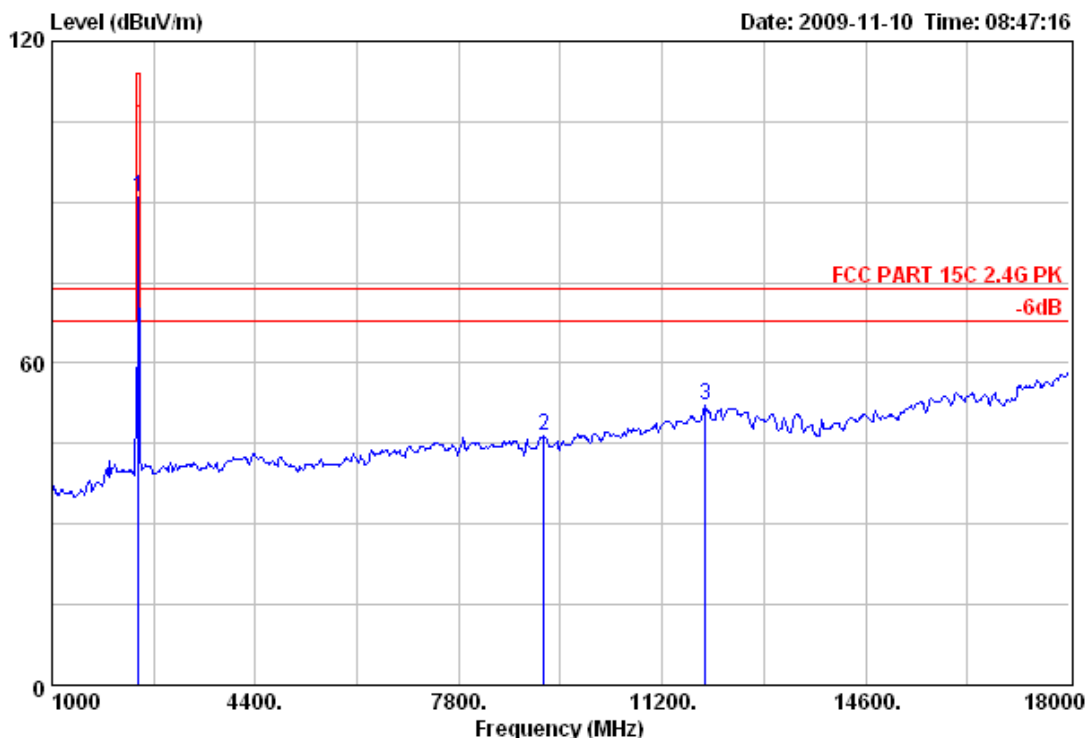
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 26

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 08:47:16



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2440MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 2441.00	90.94	114.00	23.06	57.17	31.54	2.23		Peak
2 9228.00	46.58	74.00	27.42	6.65	37.28	2.65		Peak
3 11914.00	52.03	74.00	21.97	9.54	39.67	2.82		Peak

Fundamental and Harmonics Result					
Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2441	90.94	-19.17	71.77	94	Pass



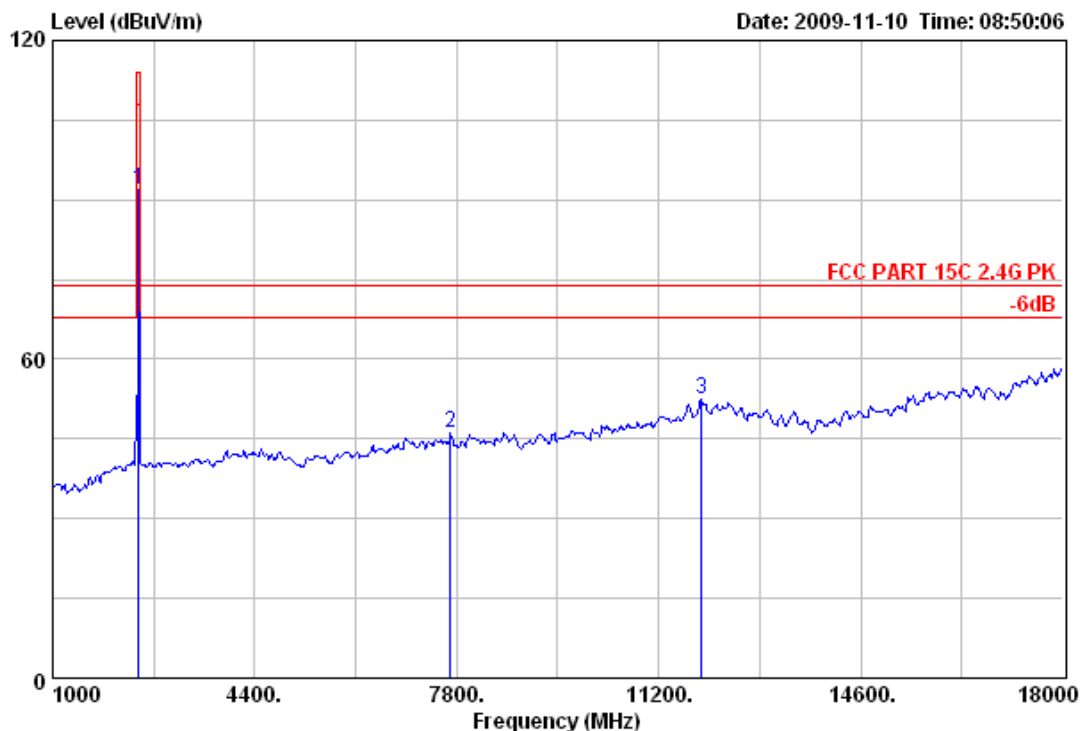
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 27

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 08:50:06



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2440MHz

	Emission				Ant. Cable		
Freq. (MHz)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Factor (dB/m)	Loss (dB)	Remark
1 2441.00	91.83	114.00	22.17	58.06	31.54	2.23	Peak
2 7698.00	46.08	74.00	27.92	6.64	36.88	2.56	Peak
3 11914.00	52.43	74.00	21.57	9.94	39.67	2.82	Peak

Fundamental and Harmonics Result

Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2441	91.83	-19.17	72.66	94	Pass



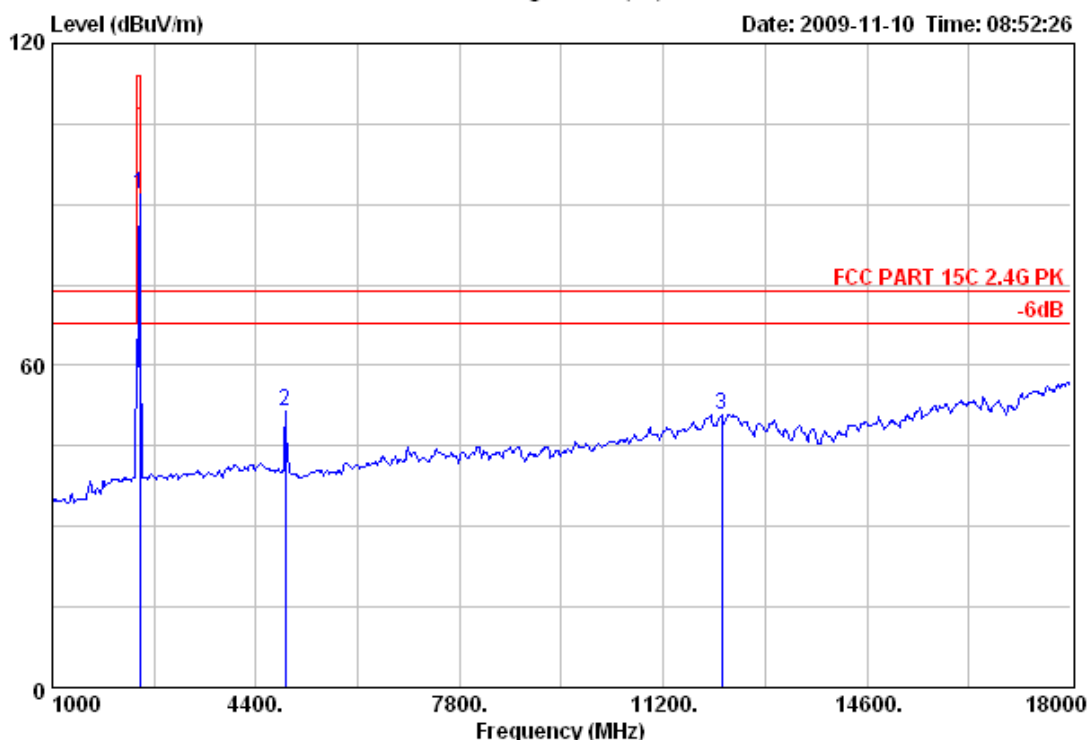
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 28

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 08:52:26



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1 2461.00	91.82	114.00	22.18	58.03	31.56	2.23	Peak
2 4893.00	51.37	74.00	22.63	14.36	34.63	2.38	Peak
3 312169.00	50.93	74.00	23.07	8.23	39.87	2.83	Peak

Fundamental and Harmonics Result

Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2461	91.82	-19.17	72.65	94	Pass



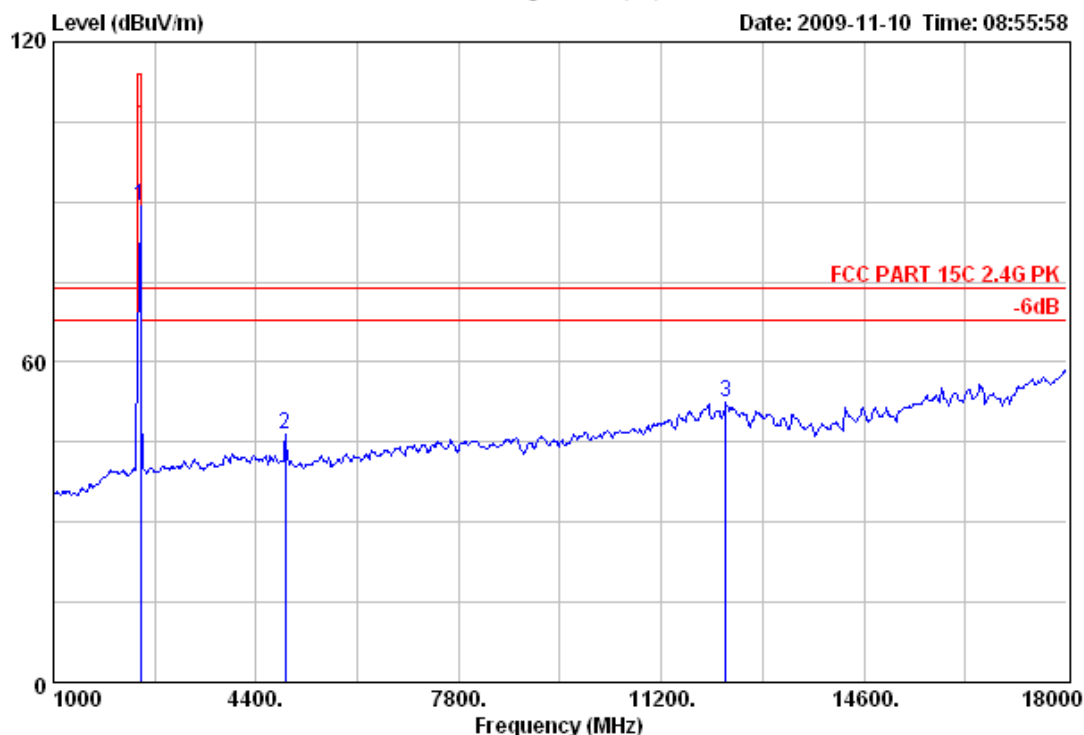
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 29

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 08:55:58



Test Site : 966 Chamber
Limit : FCC PART 15C 2.4G PK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBUV)	Ant. Cable		Remark
	Level (dBUV/m)	Limits (dBUV/m)				Factor (dB/m)	Loss (dB)	
1 2461.00	89.17	114.00	24.83	55.38	31.56	2.23		Peak
2 4893.00	46.52	74.00	27.48	9.51	34.63	2.38		Peak
3 31228.00	52.41	74.00	21.59	9.65	39.92	2.84		Peak

Fundamental and Harmonics Result					
Freq (MHz)	Peak Level (dB μ V/m)	PDCF(dB μ V/m) (See Section 5.4)	Average Level (dB μ V/m)	Limit(dB μ V/m) average	Conclusion
2461	89.17	-19.17	70	94	Pass



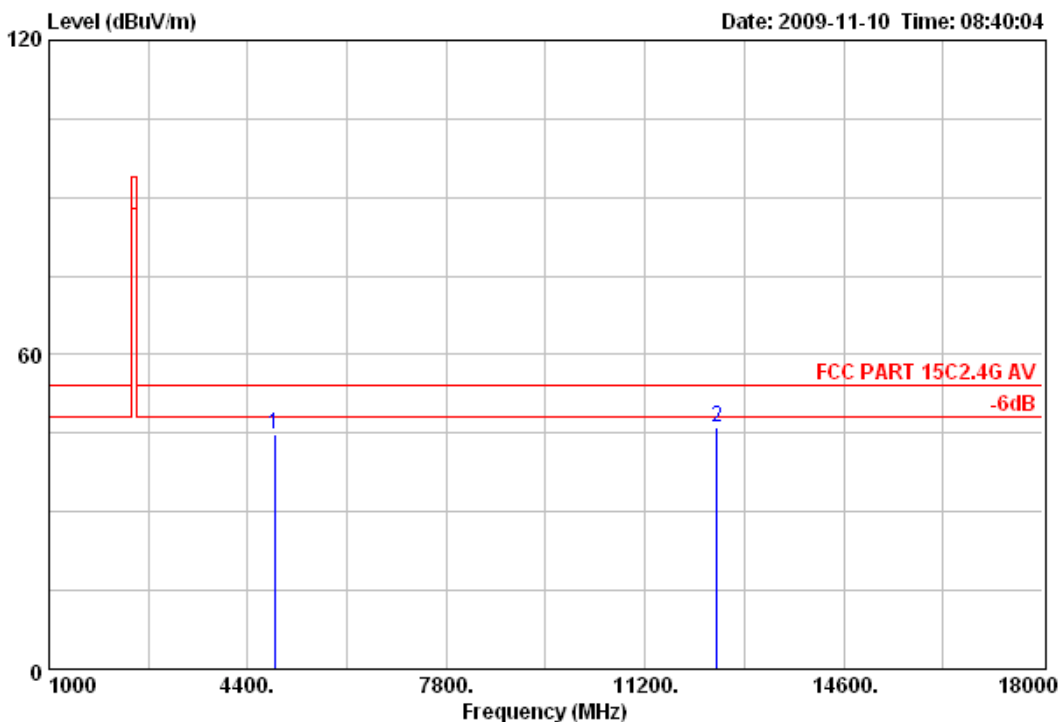
NS Technology

Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 30

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:40:04



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

Freq. (MHz)	Emission		Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)			Factor (dB/m)	Loss (dB)	
1 4859.00	44.84	54.00	9.16	7.85	34.61	2.38	Average
212424.00	46.18	54.00	7.82	3.36	39.97	2.85	Average



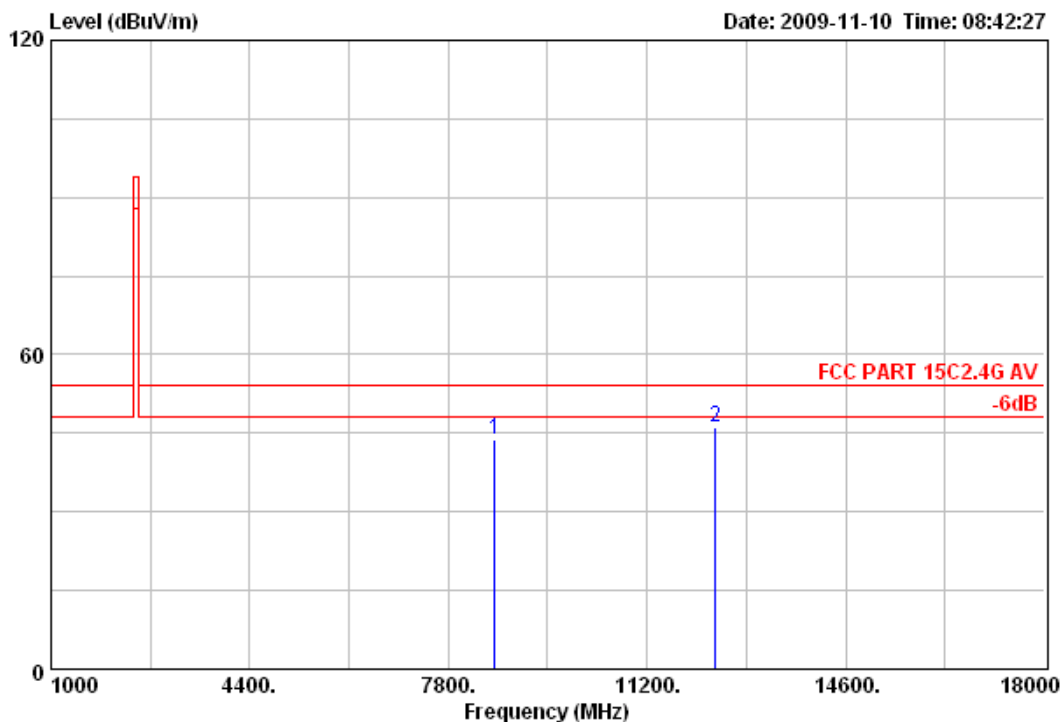
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Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 31

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:42:27



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

Freq. (MHz)	Emission			Reading (dBUV)	Ant. Cable		Remark
	Level	Limits	Margin		Factor	Loss	
	(dBUV/m)	(dBUV/m)	(dB)		(dB/m)	(dB)	
1 8599.00	43.80	54.00	10.20	4.25	36.94	2.61	Average
212373.00	46.08	54.00	7.92	3.29	39.95	2.84	Average



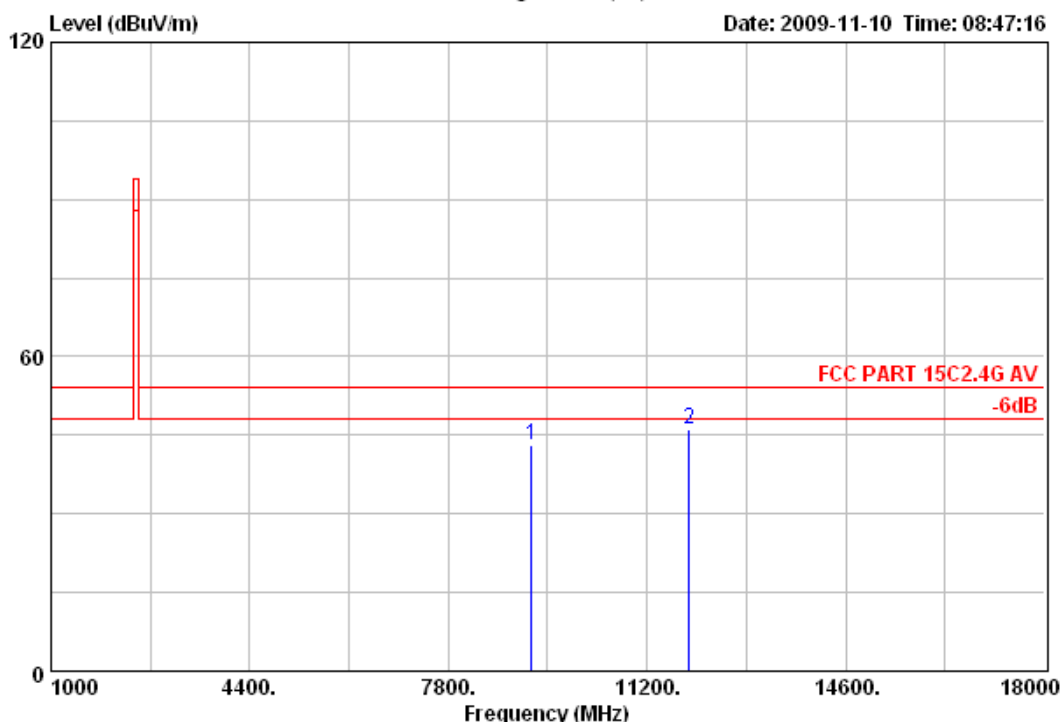
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Fax: +86-769-85991080

Data: 32

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:47:16



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2440MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 9228.00	43.18	54.00	10.82	3.25	37.28	2.65		Average
211914.00	46.11	54.00	7.89	3.62	39.67	2.82		Average



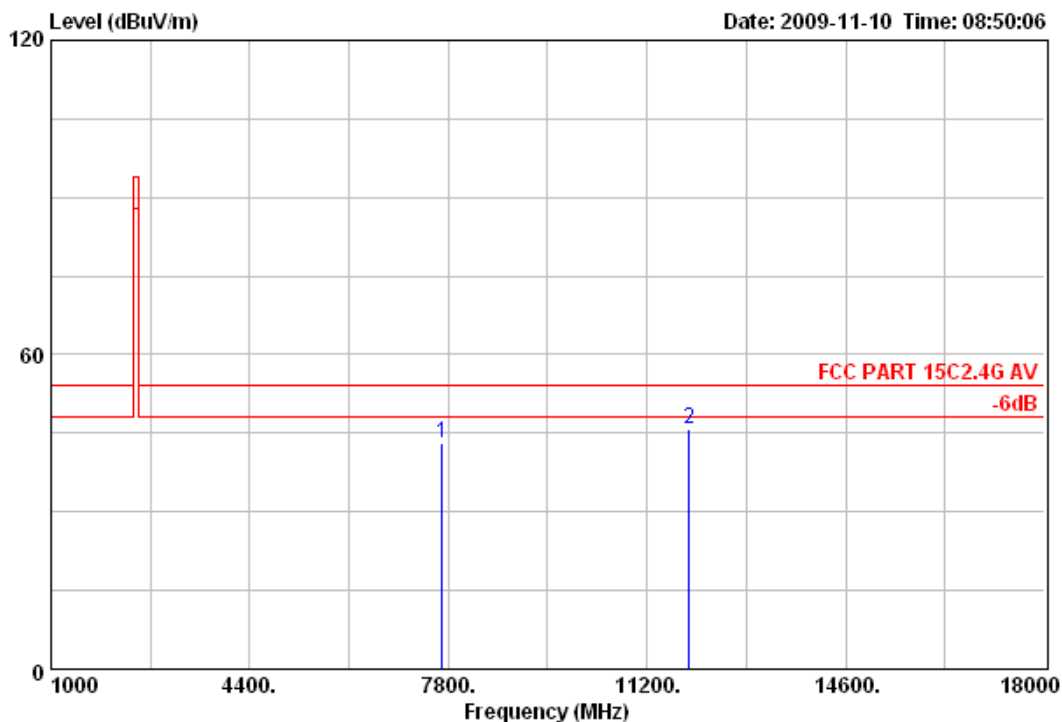
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Tel: +86-769-85935656
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Data: 33

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:50:06



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2440MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 7698.00	43.11		54.00	10.89	3.67	36.88	2.56	Average
211914.00	45.74		54.00	8.26	3.25	39.67	2.82	Average



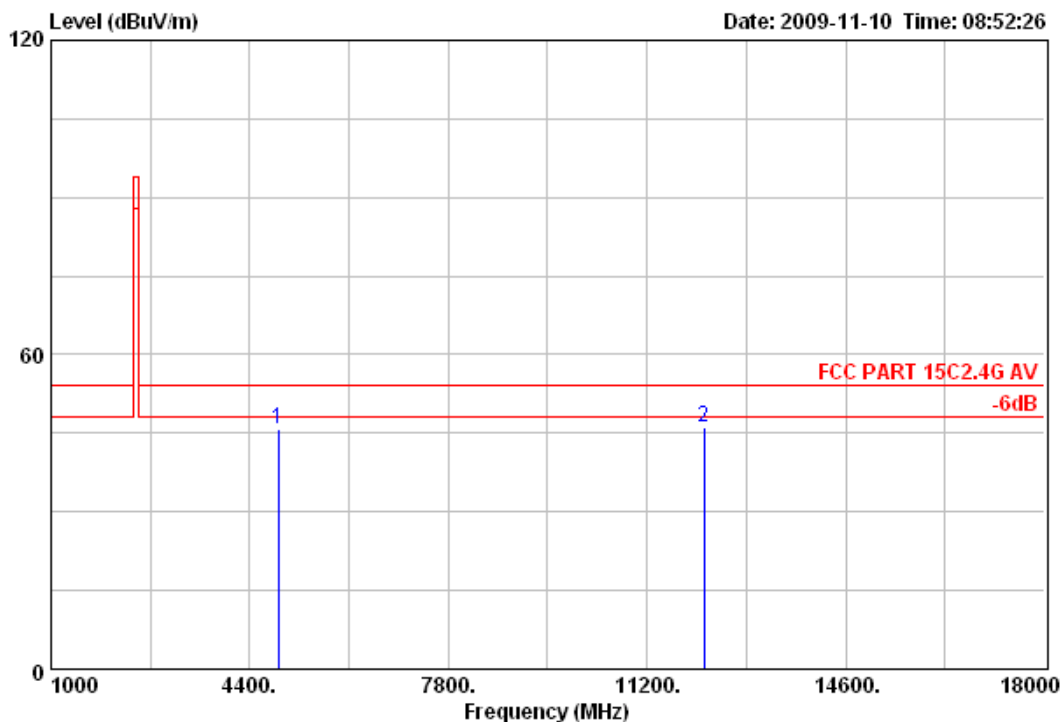
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Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 34

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:52:26



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 4893.00	45.65		54.00	8.35	8.64	34.63	2.38	Average
212169.00	46.28		54.00	7.72	3.58	39.87	2.83	Average



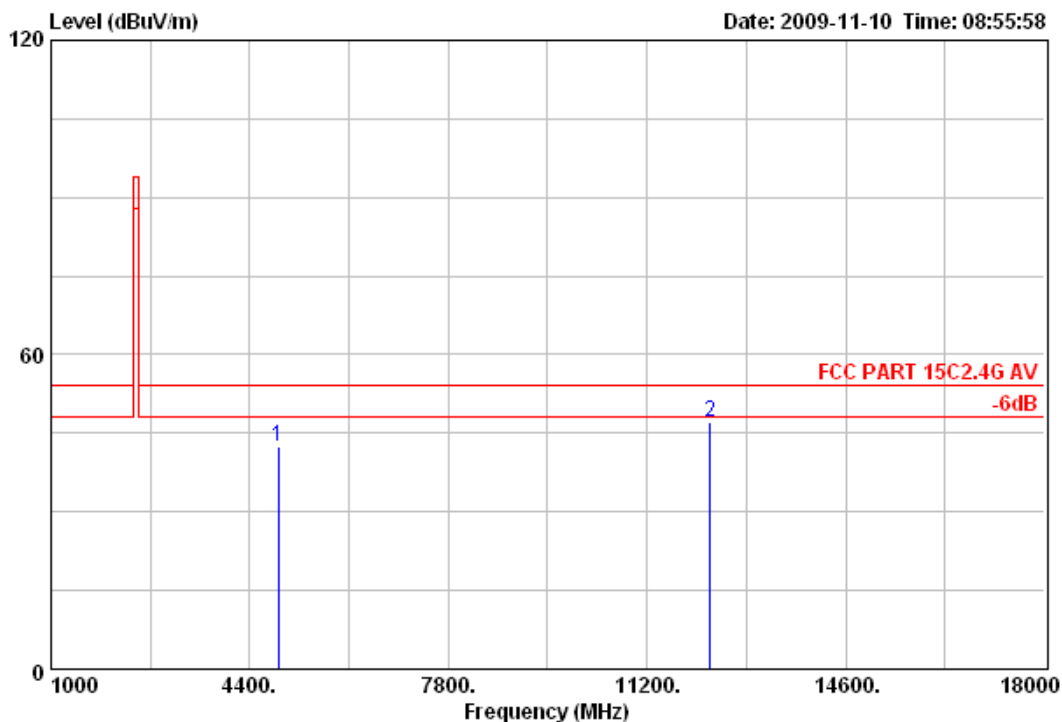
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Tel: +86-769-85935656
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Data: 35

File: D:\Radiation data\N\ine eagles.EMI (46)

Date: 2009-11-10 Time: 08:55:58



Test Site : 966 Chamber
Limit : FCC PART 15C2.4G AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)			Factor (dB/m)	Loss (dB)	
1 4893.00	42.37	54.00	11.63	5.36	34.63	2.38	Average
21228.00	47.11	54.00	6.89	4.35	39.92	2.84	Average



5.2. 20dB Bandwidth

5.2.1. Test limits

No requirement.

5.2.2. Test procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to the spectrum analyzer through an RF attenuator.
3. Set SA Center Frequency = Operation frequency, RBW=120kHz,VBW=300kHz.
4. Set SA trace max hold, then view.

5.2.3. Test result

Pass

Test Polarization	Frequency MHz	20dB bandwidth MHz
Horizontal	2421	1.48
Vertical	2421	1.32
Horizontal	2441	1.04
Vertical	2441	1.12
Horizontal	2461	1.40
Vertical	2461	1.34

The test plots as following:



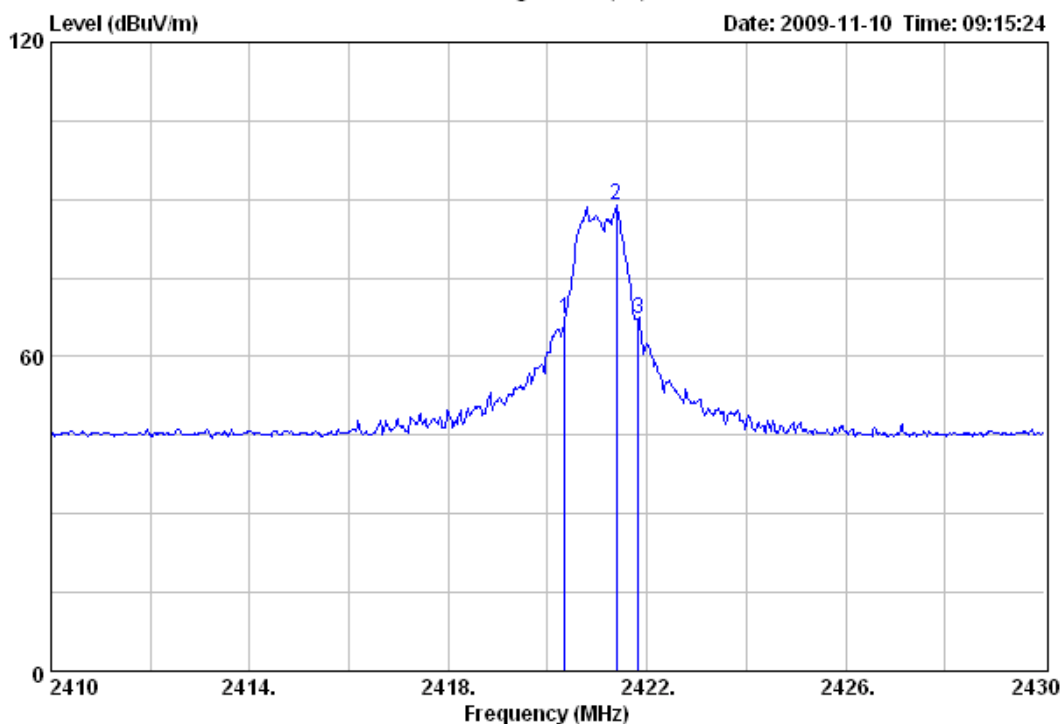
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Data: 10

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:15:24



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

	Emission				Ant. Cable		Remark
	Freq. (MHz)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Factor (dB/m)	Loss (dB)	
1	2420.34	67.17	/	/	33.42	31.52 2.23	Peak
2	2421.38	88.98	/	/	55.23	31.52 2.23	Peak
3	2421.82	67.28	/	/	33.53	31.52 2.23	Peak

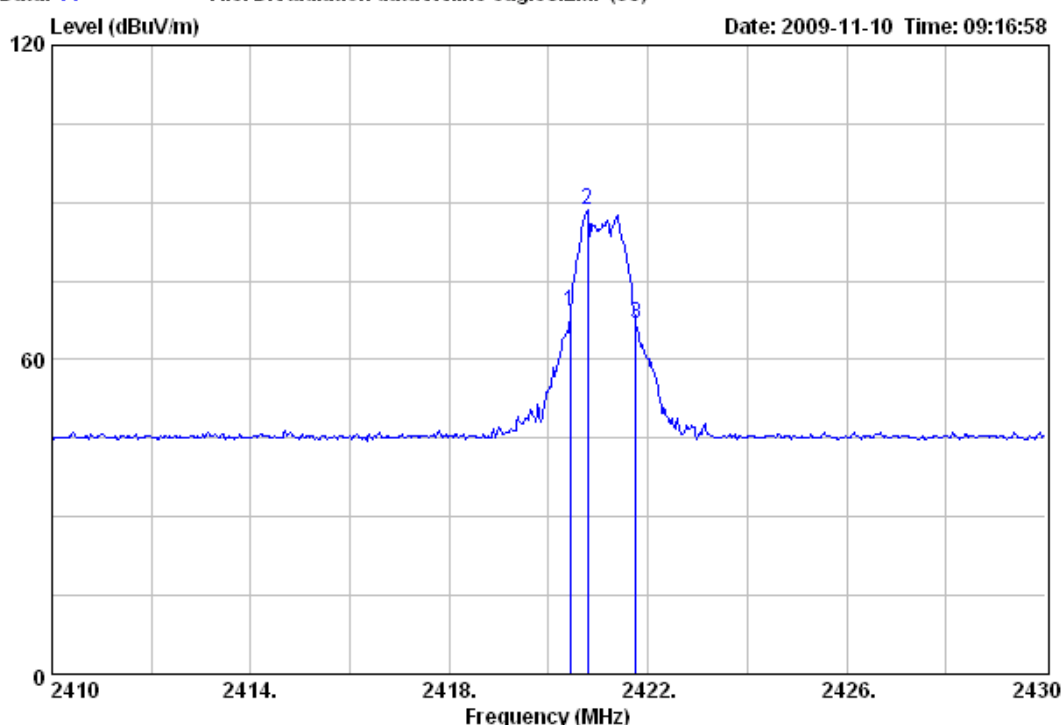


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Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 11 File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:16:58



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

	Emission				Ant.		Cable	Remark
	Freq. (MHz)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Factor (dB/m)	Loss (dB)	
1	2420.44	69.23	/	/	35.48	31.52	2.23	Peak
2	2420.78	88.63	/	/	54.88	31.52	2.23	Peak
3	2421.76	67.01	/	/	33.26	31.52	2.23	Peak



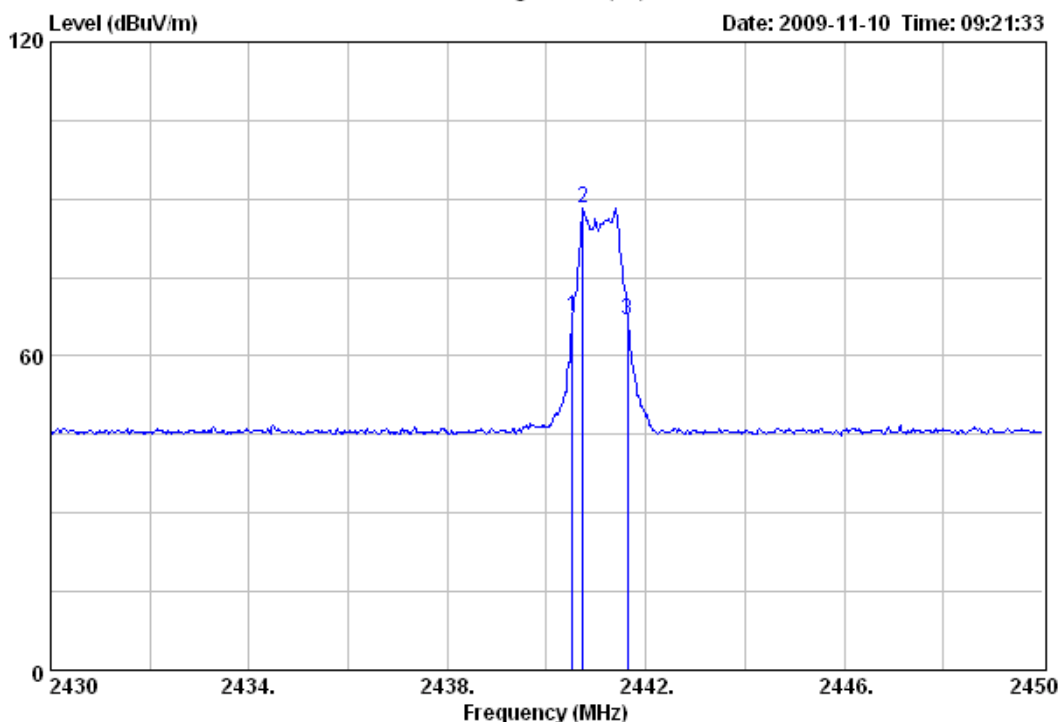
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Data: 12

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:21:33



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2441MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 2440.52	67.57	/	/		33.80	31.54	2.23	Peak
2 2440.74	88.39	/	/		54.62	31.54	2.23	Peak
3 2441.64	66.76	/	/		32.99	31.54	2.23	Peak



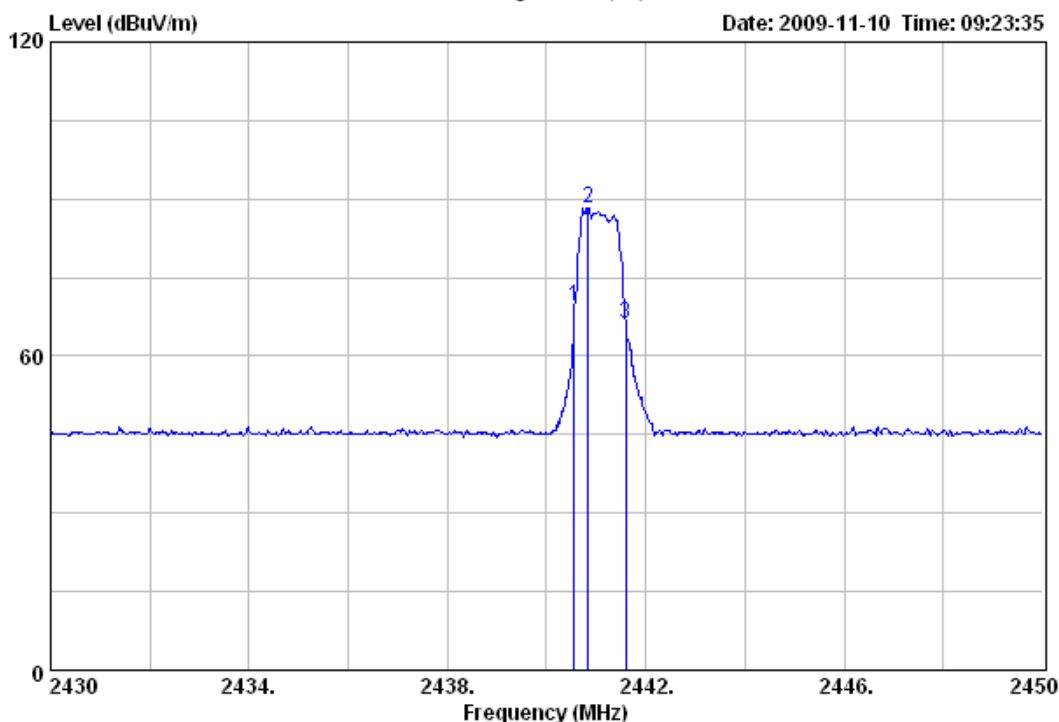
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Data: 13

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:23:35



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2441MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 2440.56	69.52	/	/	35.75	31.54	2.23		Peak
2 2440.84	88.20	/	/	54.43	31.54	2.23		Peak
3 2441.60	66.26	/	/	32.49	31.54	2.23		Peak



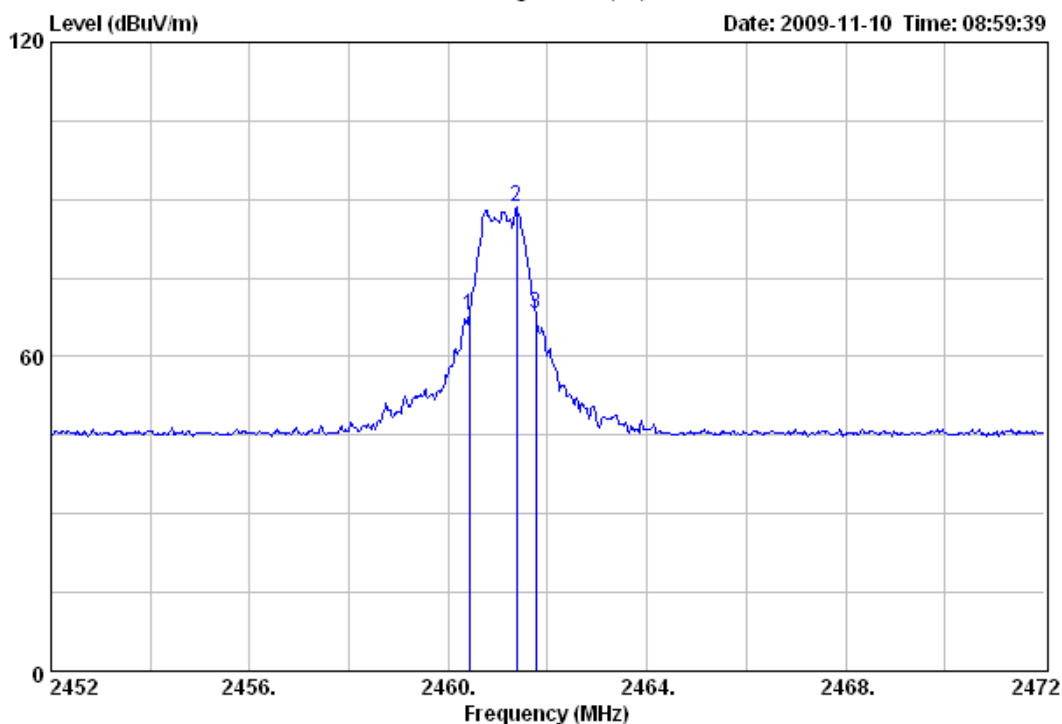
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Data: 8

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 08:59:39



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 2460.42	67.99	/	/	34.20	31.56	2.23		Peak
2 2461.38	88.53	/	/	54.74	31.56	2.23		Peak
3 2461.76	68.05	/	/	34.26	31.56	2.23		Peak



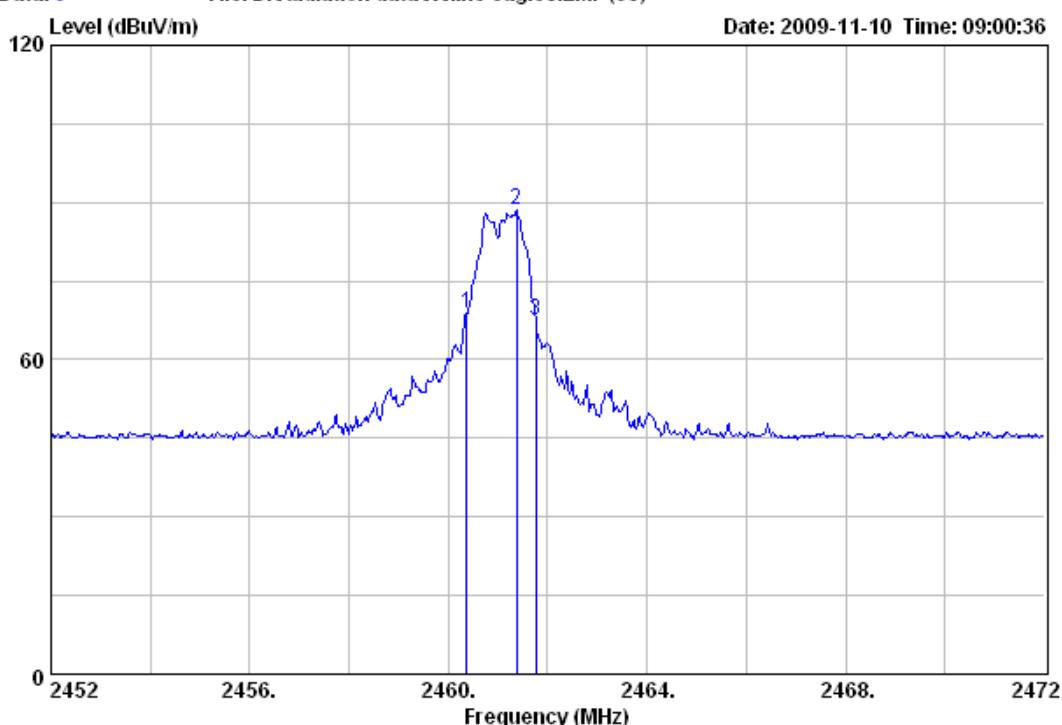
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Data: 9

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:00:36



Test Site : 966 Chamber
Limit :
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Emission				Ant. Cable			Remark
Freq. (MHz)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Factor (dB/m)	Loss (dB)	
1 2460.36	68.70	/	/	34.91	31.56	2.23	Peak
2 2461.38	88.62	/	/	54.83	31.56	2.23	Peak
3 2461.76	67.49	/	/	33.70	31.56	2.23	Peak



5.3. Band Edge

5.3.1. Test limits

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.

5.3.2. Test procedure

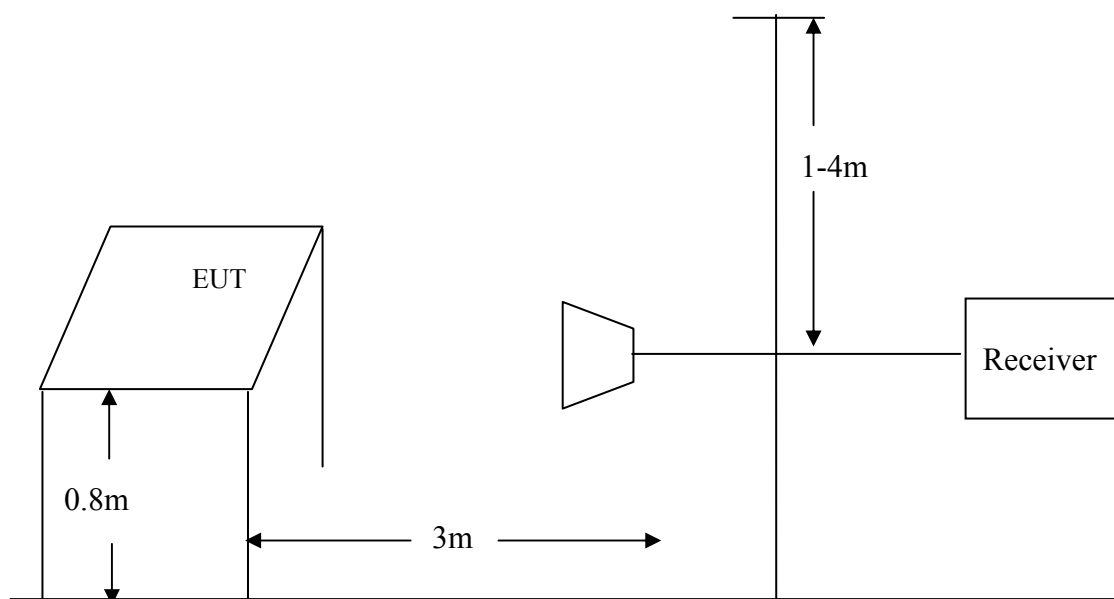
The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 30MHz to 1GHz, The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The broadband antenna was used was a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120kHz and 300kHz for Peak detection at frequency below 1GHz.

The EUT position(X. Y. Z) were checked and worse case was happened in Y position. So Y position was chose for find measurement.

The EUT was tested in Chamber Site.

5.3.3. Test Setup Diagram



5.3.4. Test result

PASS.

The test plots as following:

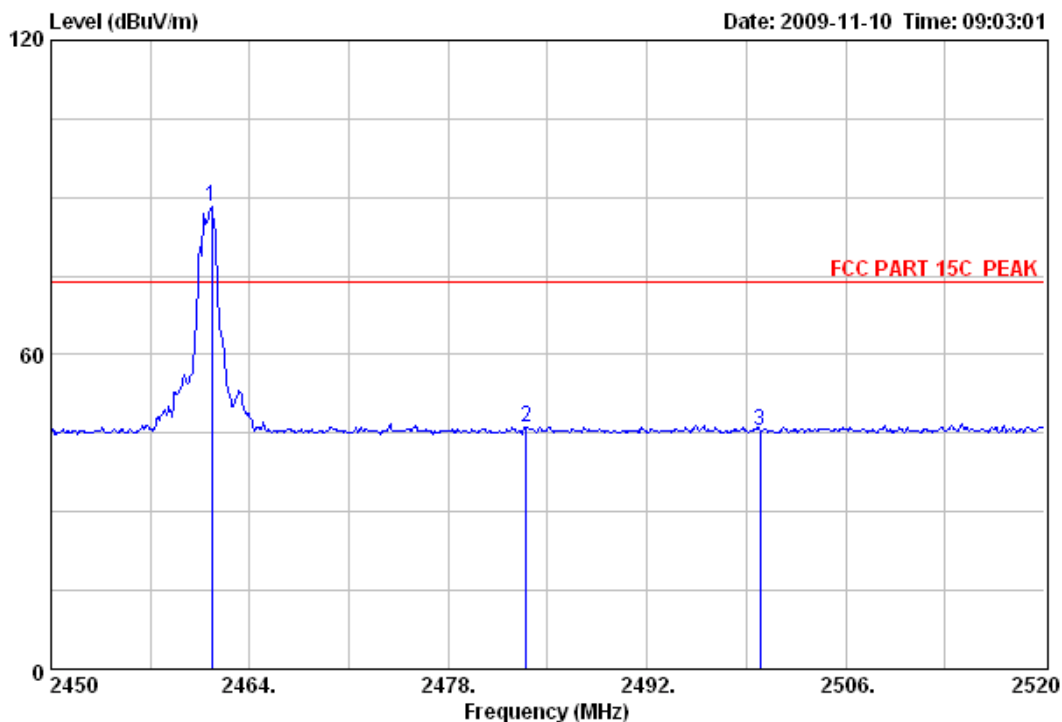
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Data: 14

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:03:01



Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 2461.34	88.29		74.00	-14.29	54.50	31.56	2.23	Peak
2 2483.50	46.28		74.00	27.72	12.47	31.58	2.23	Peak
3 2500.00	45.49		74.00	28.51	11.66	31.60	2.23	Peak



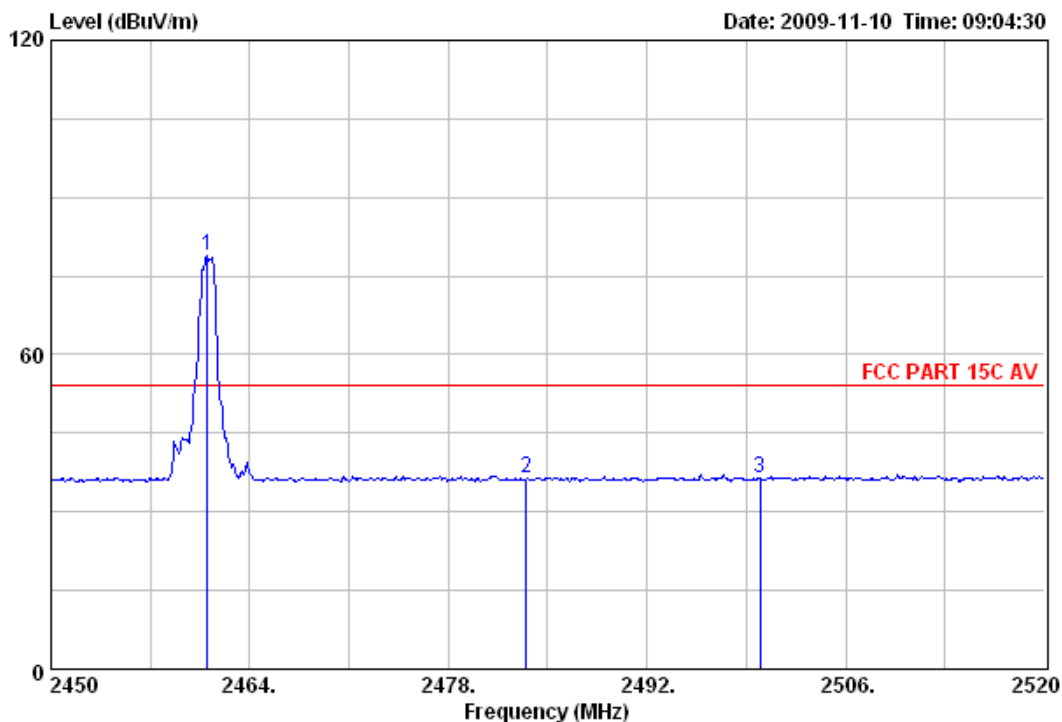
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Data: 15

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:04:30



Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Limits (dBUV/m)	Margin (dB)	Reading (dBUV)	Ant. Cable		Remark
	Level (dBUV/m)					Factor (dB/m)	Loss (dB)	
1 2460.99	78.76		54.00	-24.76	44.97	31.56	2.23	Average
2 2483.50	36.47		54.00	17.53	2.66	31.58	2.23	Average
3 2500.00	36.45		54.00	17.55	2.62	31.60	2.23	Average



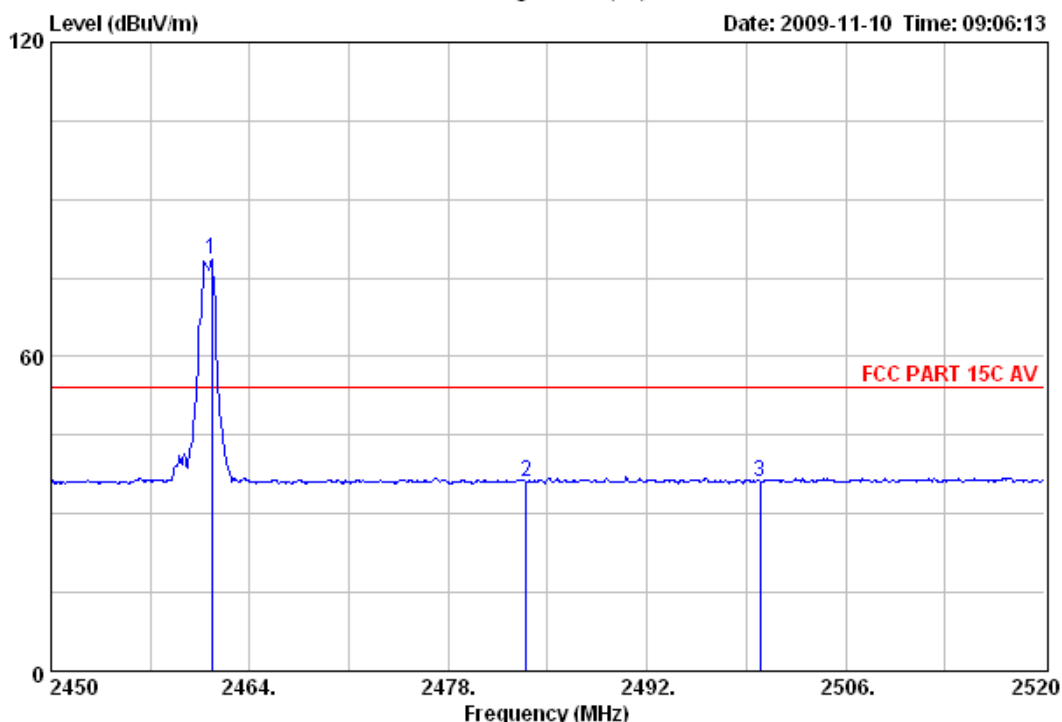
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Data: 16

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:06:13



Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Limits (dBUV/m)	Margin (dB)	Reading (dBUV)	Ant. Cable		Remark
	Level (dBUV/m)					Factor (dB/m)	Loss (dB)	
1 2461.34	78.67		54.00	-24.67	44.88	31.56	2.23	Average
2 2483.50	35.96		54.00	18.04	2.15	31.58	2.23	Average
3 2500.00	36.19		54.00	17.81	2.36	31.60	2.23	Average



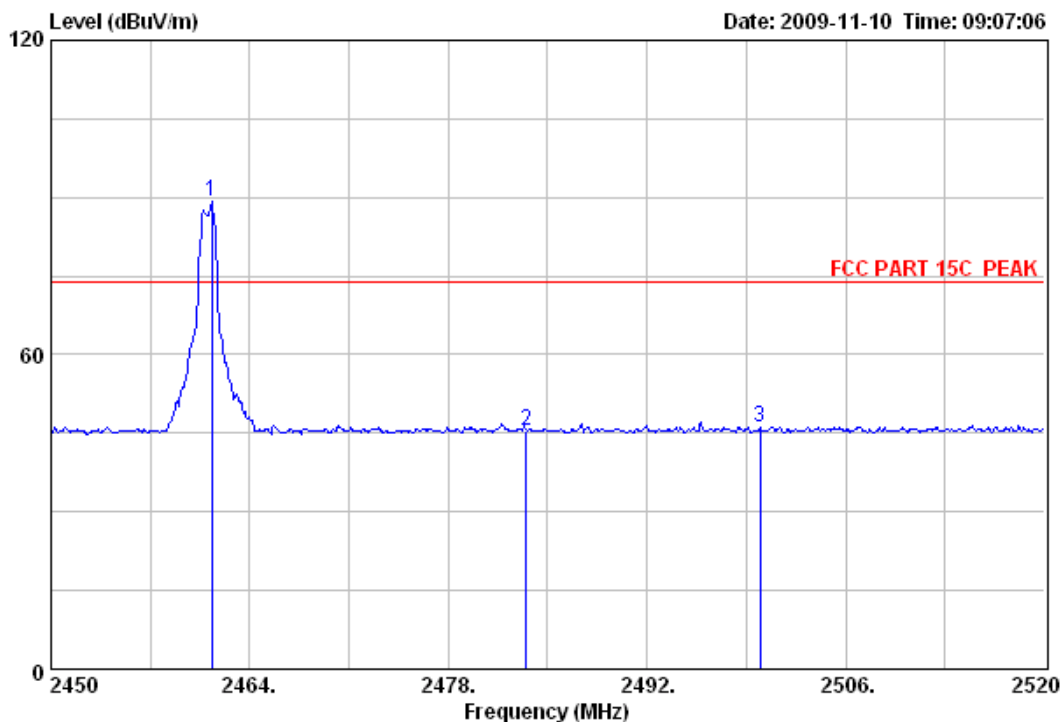
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Data: 17

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:07:06



Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2461MHz

Freq. (MHz)	Emission		Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)					Factor (dB/m)	Loss (dB)	
1 2461.34	89.11		74.00	-15.11	55.32	31.56	2.23	Peak
2 2483.50	45.42		74.00	28.58	11.61	31.58	2.23	Peak
3 2500.00	45.99		74.00	28.01	12.16	31.60	2.23	Peak



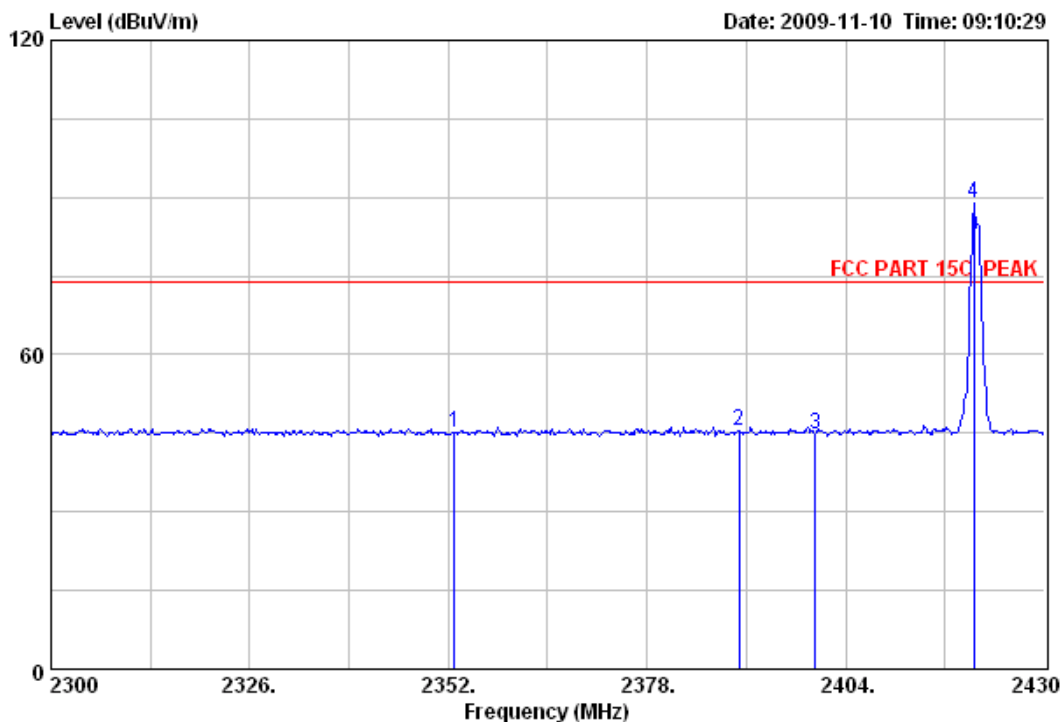
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Data: 18

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:10:29



Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

	Emission				Reading (dBuV)	Ant.	Cable	Remark
	Freq.	Level	Limits	Margin		Factor	Loss	
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)		(dB/m)	(dB)	
1	2352.78	45.20	74.00	28.80	11.53	31.45	2.22	Peak
2	2390.00	45.40	74.00	28.60	11.70	31.48	2.22	Peak
3	2400.00	44.79	74.00	29.21	11.06	31.50	2.23	Peak
4	2420.77	88.99	74.00	-14.99	55.24	31.52	2.23	Peak



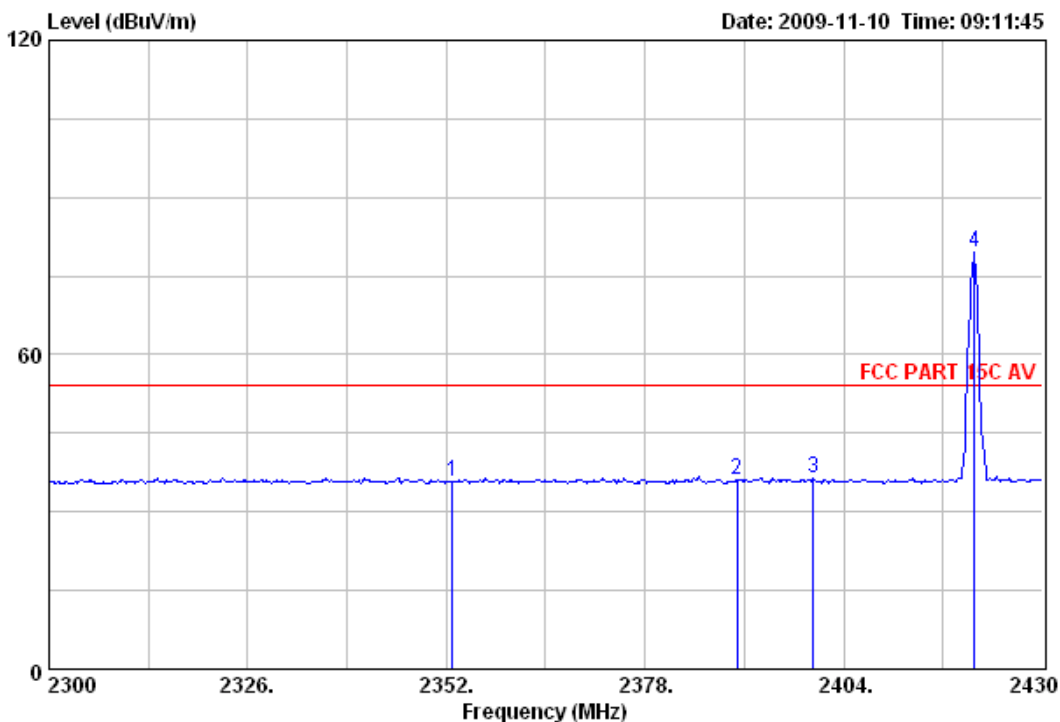
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Data: 19

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:11:45



Test Site : 966 Chamber
Limit : FCC PART 15C AV
Dis. / Ant. : 3m 3117 Ant. Pol.: VERTICAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 2352.78	35.72	54.00	18.28	2.05	31.45	2.22		Average
2 2390.00	36.03	54.00	17.97	2.33	31.48	2.22		Average
3 2400.00	36.39	54.00	17.61	2.66	31.50	2.23		Average
4 2421.16	79.43	54.00	-25.43	45.68	31.52	2.23		Average



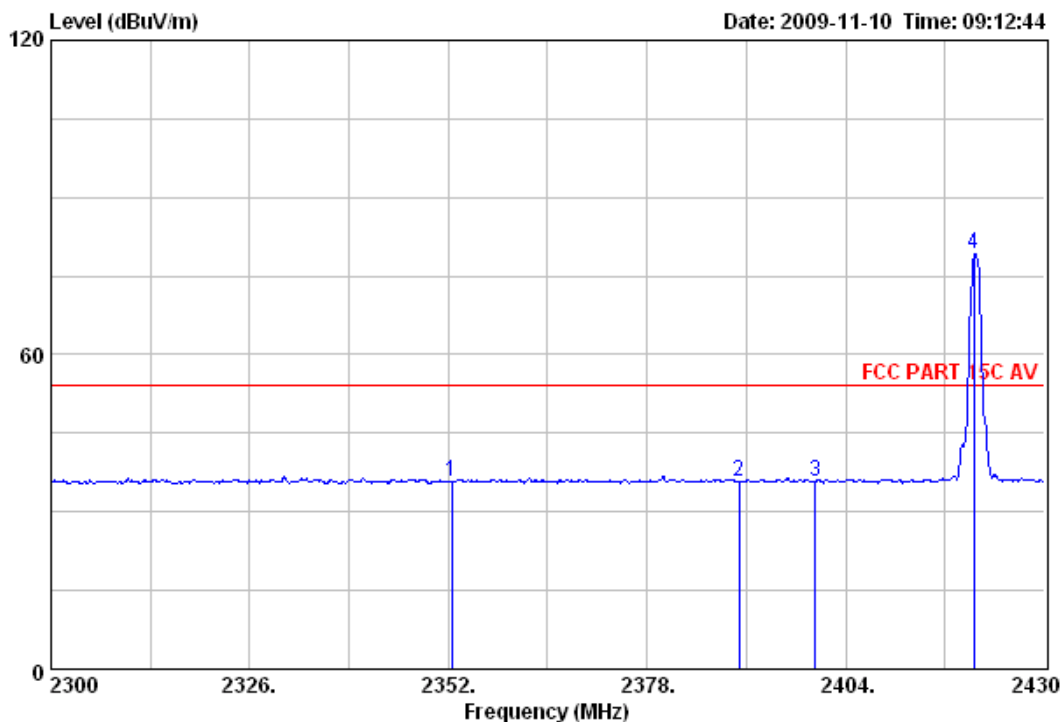
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Data: 20

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:12:44



Test Site : 966 Chamber
 Limit : FCC PART 15C AV
 Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
 EUT : Radio Control Airplane
 M/N : NE-024G
 Power : DC 6V
 Test Engineer : Jade
 Comment : Temp.:25.2'C Humi.:56%
 Test Mode : TX Mode 2421MHz

Freq. (MHz)	Emission			Margin (dB)	Reading (dBuV)	Ant. Cable		Remark
	Level (dBuV/m)	Limits (dBuV/m)				Factor (dB/m)	Loss (dB)	
1 2352.39	35.71	54.00	18.29	2.04	31.45	2.22		Average
2 2390.00	35.69	54.00	18.31	1.99	31.48	2.22		Average
3 2400.00	35.80	54.00	18.20	2.07	31.50	2.23		Average
4 2420.77	79.16	54.00	-25.16	45.41	31.52	2.23		Average



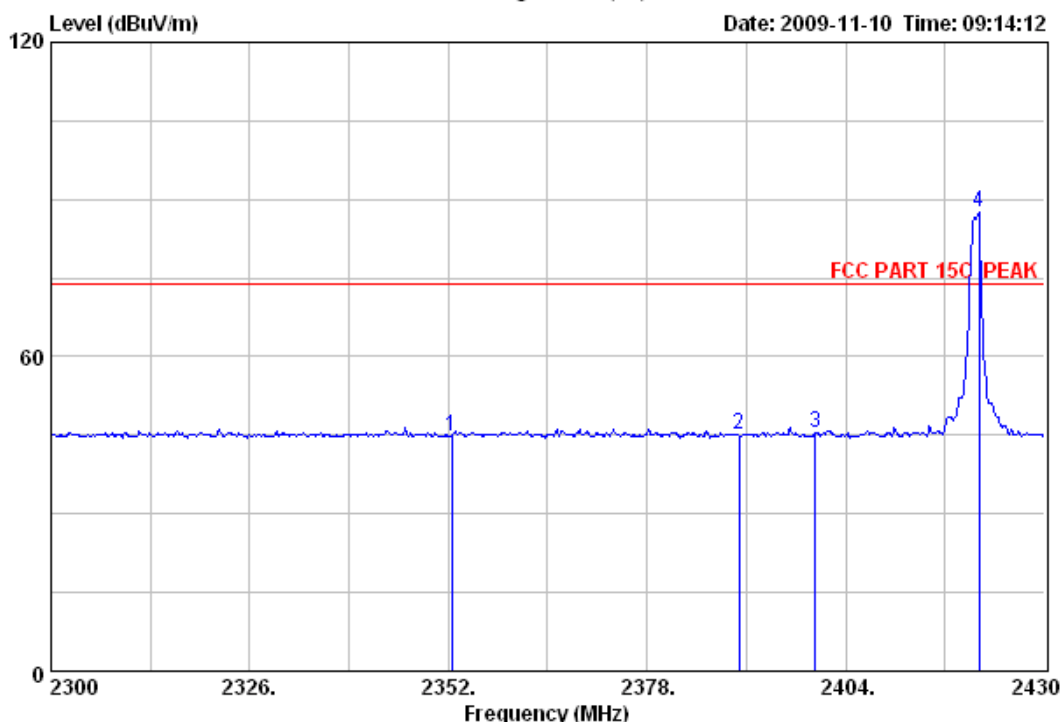
NS Technology

Chenwu Industrial Zone, Houjie Town,
Dongguan, Guangdong, China
Tel: +86-769-85935656
Fax: +86-769-85991080

Data: 21

File: D:\Radiation data\N\ine eagles.EMI (35)

Date: 2009-11-10 Time: 09:14:12



Test Site : 966 Chamber
Limit : FCC PART 15C PEAK
Dis. / Ant. : 3m 3117 Ant. Pol.: HORIZONTAL
EUT : Radio Control Airplane
M/N : NE-024G
Power : DC 6V
Test Engineer : Jade
Comment : Temp.:25.2'C Humi.:56%
Test Mode : TX Mode 2421MHz

	Emission				Reading (dBuV)	Ant.	Cable	Remark
	Freq.	Level	Limits	Margin		Factor	Loss	
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)		(dB/m)	(dB)	
1	2352.39	44.92	74.00	29.08	11.25	31.45	2.22	Peak
2	2390.00	45.08	74.00	28.92	11.38	31.48	2.22	Peak
3	2400.00	45.41	74.00	28.59	11.68	31.50	2.23	Peak
4	2421.42	87.66	74.00	-13.66	53.91	31.52	2.23	Peak



5.4. Duty Cycle

5.4.1. Test procedure& condition

Step 1: The EUT was placed on a table which is 0.8m above ground plane.

Step 2: EUT was set to transmit continuously.

Step 3: Set SA Center Frequency = fundamental frequency , RBW=1MHz,VBW=1MHz

Step 4: Set SA trace max hold, then view.

The duty cycle was determined by the following equation :

$$\text{Duty Cycle(\%)} = \frac{(\text{A signal Pulse time})}{(\text{a complete pulse train})} \times 100\%$$

Note: Length of a Complete Pulse Train or 100ms, whichever is less.

5.4.2. Test Data

Pulse Train	T(ms)
a complete pulse train	9.7ms
A single pulse time	1.075ms

$$\text{Duty Cycle(\%)} = \frac{1.075\text{ms}}{9.7\text{ms}} \times 100\% = 11\%$$

$$\begin{aligned} \text{Pulse Desensitization Correction Factor(PDCF)} &= 20 \times \log(\text{Duty Cycle}) \\ &= 20 \times \log(11\%) = -19.17 \end{aligned}$$

