Test Report

Product Name ： Wireless color camera
Model No. ： TTA-49T
FCC ID. ： O6LTTA-49T

Applicant ： TRANWO TECHNOLOGY CORP
Address ： 6F., No.49, Guangming 6th Rd., JubeiCity, Hsinchu, Taiwan, R.O.C.

Date of Receipt ： 2005/12/23
Issued Date ： 2006/01/05
Report No. ： 05CH070-F-R02-T

Test Report Certification

Issued Date : 2006/01/05
Report No. : 05CH070-F-R02-T

QuieTek

Product Name	：	Wireless color camera
Applicant	：	TRANWO TECHNOLOGY CORP
Address	：	6F., No.49, Guangming 6th Rd., JubeiCity, Hsinchu, Taiwan, R.O.C.
Manufacturer	：	TRANWO TECHNOLOGY CORP
Model No.	：	TTA-49T
FCC ID.	：	O6LTTA-49T
Rated Voltage	：	AC 120 V / 60 Hz
EUT Voltage	：	DC 6V
Trade Name	：	TRANWO
Applicable Standard	：	FCC CFR Title 47 Part 15 Subpart C Section 15.249
Test Result	：	Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By ： Sandy Chuang

(Sandy Chaung)

Tested By ： Louis Hsu

(Louis Hsu)

Approved By ： Bob Fang

(Bob Fang)

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1. General Information

1.1. EUT Description

Product Name	Wireless color camera
Trade Name	TRANWO
Model No.	TTA-49T
Frequency Range	2417~2471MHz
Channel Number	4
Type of Modulation	19M0F3F (FM)
Channel Control	Manual
Antenna Type	Soldered on PCB

Component	
Power Adapter	AHEAD, ADA-0600400 Cable Out: Non-Shielded, 1.8m

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2435 MHz	002	2453 MHz	003	2471 MHz	004	2417 MHz

Note:

1. This device is a 2.4GHz Wireless color camera included a 2.4GHz transmitting function.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 05CH070-F-R01-R under Declaration of Conformity.

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
EMI	Mode 1: Transmit
Final Test Mode	
TX	Mode 1: Transmit

1.4. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

N/A

1.5. Configuration of tested System

Connection Diagram

1.6. EUT Exercise Software

1	Setup the EUT and display as shown on 1.5.
2	Turn on the power of all equipment.
3	The EUT(Tx) will start to operate.
4	The EUT(Tx) will transmit the video signal to EUT(Rx).
5	Monitor will display “video figure” on monitor in the same time.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	55
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.249 Band Edge	15 - 35	20
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.249 Radiated Emission	15 - 35	20
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description:

January 24, 2005 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520

Accredited by CNLA
Accreditation Number: 1313
Effective through: September 27, 2007

1313
ILAC MRA

Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2006

NVLAP Lab Code : 200347-0

Site Name: Quietek Corporation

Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Conducted Emission

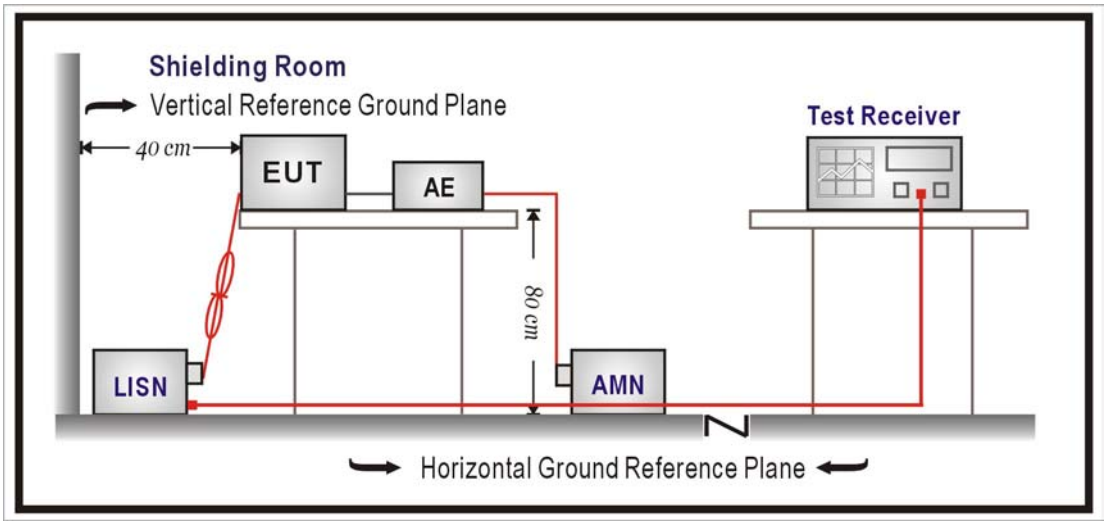
2.1. Test Equipment

The following test equipment are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/018	Sep., 2005	
2	Artificial Mains Network	R & S	ENV4200/848411/10	Feb., 2005	Peripherals
3	LISN	R & S	ESH3-Z5/825562/002	Feb., 2005	EUT
4	Pulse Limiter	R & S	ESH3-Z2/357.8810.52	Feb., 2005	
5	No.2 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /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 refers 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. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2005

2.6. Test Result

Product	Wireless color camera		
Test Item	Conducted Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/03	Test Site	No.2 Shielded Room

	Frequency	Cable Loss	LISN Factor	Reading Level	Emission Level	Limits
	MHz	dB	dB	dBuV	dBuV	dBuV
Line 1						
Quasi-Peak						
*	0.259	0.03	0.10	33.26	33.39	61.45
	0.502	0.06	0.10	26.96	27.12	56.00
	0.834	0.09	0.10	20.72	20.91	56.00
	5.072	0.20	0.23	9.28	9.71	60.00
	9.505	0.27	0.29	9.84	10.41	60.00
	28.580	0.39	0.63	11.06	12.08	60.00
Average						
	0.259	0.03	0.10	9.50	9.63	51.46
*	0.502	0.06	0.10	6.50	6.66	46.00
	0.834	0.09	0.10	4.70	4.89	46.00
	5.072	0.20	0.23	5.20	5.63	50.00
	9.505	0.27	0.29	5.70	6.27	50.00
	28.580	0.39	0.63	6.80	7.82	50.00

Note:

1. All Reading Levels are Quasi-Peak and Average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + LISN Factor + Cable Loss.

Product	Wireless color camera		
Test Item	Conducted Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/03	Test Site	No.2 Shielded Room

	Frequency	Cable Loss	LISN Factor	Reading Level	Emission Level	Limits
	MHz	dB	dB	dBuV	dBuV	dBuV
Line 2						
Quasi-Peak						
*	0.244	0.03	0.10	32.46	32.59	61.97
	0.494	0.06	0.10	24.27	24.43	56.10
	0.712	0.08	0.10	21.31	21.49	56.00
	3.564	0.18	0.10	8.45	8.73	56.00
	7.224	0.24	0.23	11.00	11.47	60.00
	24.853	0.38	0.69	11.05	12.12	60.00
Average						
	0.244	0.03	0.10	9.20	9.33	51.96
*	0.494	0.06	0.10	5.80	5.96	46.10
	0.712	0.08	0.10	5.10	5.28	46.00
	3.564	0.18	0.10	4.20	4.48	46.00
	7.224	0.24	0.23	6.70	7.17	50.00
	24.853	0.38	0.69	6.80	7.87	50.00

Note:

1. All Reading Levels are Quasi-Peak and Average value.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + LISN Factor + Cable Loss.

3. Radiated Emission

3.1. Test Equipment

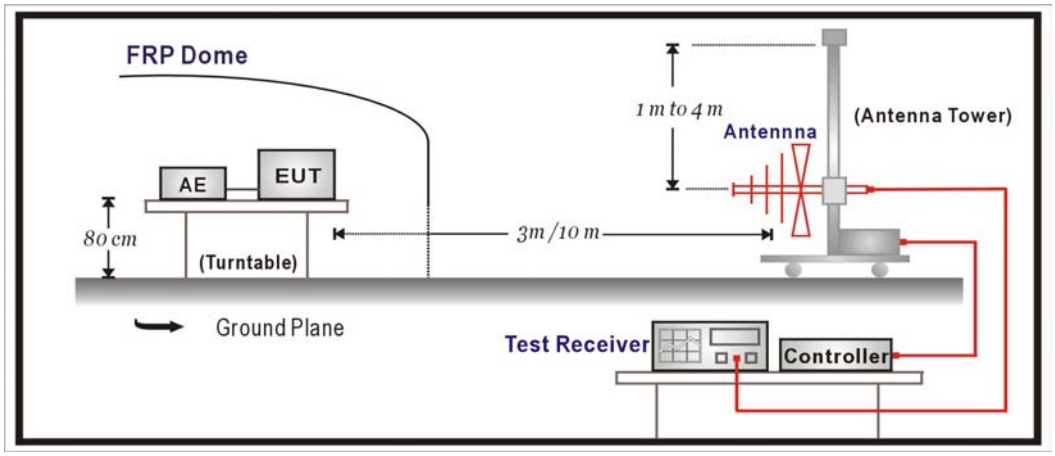
The following test equipment are used during the test:

Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Test Receiver	R & S	ESCS 30 / 825442/017	Jan., 2006
2	X	Spectrum Analyzer	Advantest	R3261C / 81720266	N/A
3	X	Pre-Amplifier	HP	8447D / 2944A09276	N/A
4	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2005
5	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2005
6	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2005
7	X	Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Jul., 2005
8	No.1 OATS				Sep., 2005

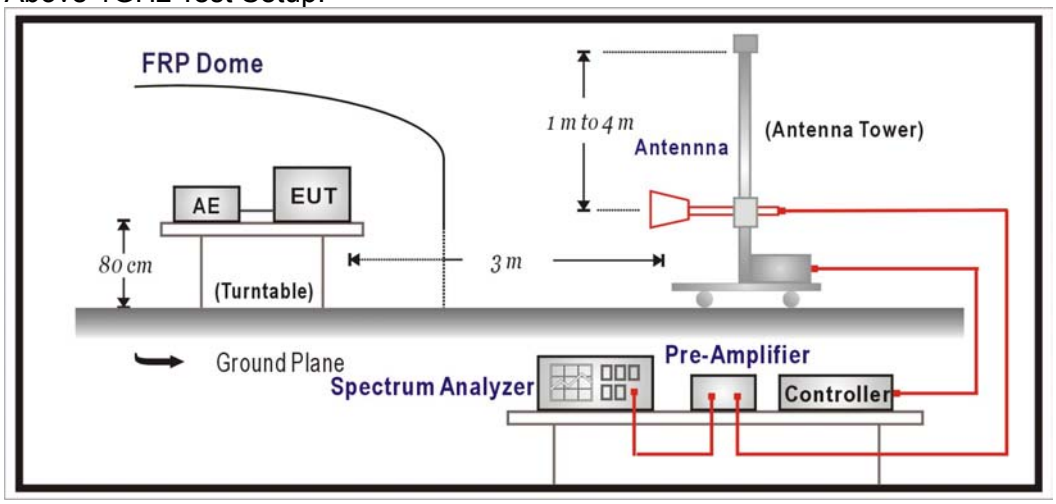
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.
2. Mark “X” test instruments are used to measure the final test results.

3.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



3.3. Limits

➢ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Fundamental Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	mV/m	dBuV/m	uV/m	dBuV/m
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

➢ Spurious electric field strength limits

FCC Part 15 Subpart C Paragraph 15.209 Limits			
Frequency MHz	uV/m	dBuV/m	Measurement distance (meter)
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.209 and Paragraph 15.249: 2005

3.6. Test Result

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Horizontal							
Peak							
2414.900	3.94	24.53	0.00	59.60	88.08	25.92	114.00
Average							
2417.100	3.94	24.53	0.00	50.98	79.46	14.54	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Vertical							
Peak							
2416.000	3.94	22.93	0.00	69.03	95.91	18.09	114.00
Average							
2417.100	3.94	22.93	0.00	60.41	87.29	6.71	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Horizontal							
Peak							
2433.600	3.96	24.58	0.00	60.31	88.85	25.15	114.00
Average							
2435.300	3.96	24.58	0.00	55.14	83.68	10.32	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Vertical							
Peak							
2434.700	3.96	22.98	0.00	69.51	96.45	17.55	114.00
Average							
2435.200	3.96	22.98	0.00	64.88	91.82	2.18	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Horizontal							
Peak							
2471.100	3.98	24.69	0.00	60.20	88.87	25.13	114.00
Average							
2471.300	3.98	24.69	0.00	52.96	81.63	12.37	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission (Fundamental)		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Fundamental Radiated Emission							
Vertical							
Peak							
2469.900	3.98	23.05	0.00	68.56	95.59	18.41	114.00
Average							
2471.200	3.98	23.09	0.00	61.25	88.32	5.68	94.00

Note:

1. All Readings Levels are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal							
Peak							
4838.500	5.44	29.12	31.69	51.39	54.26	19.74	74.00
7248.780	8.00	31.98	31.87	46.46	54.57	19.43	74.00
9659.500	9.43	33.55	31.42	48.57	60.13	13.87	74.00
12080.10	11.24	34.63	29.73	34.98	51.12	22.88	74.00
Average							
4834.300	5.44	29.12	31.69	36.49	39.36	14.64	54.00
7253.260	8.00	31.98	31.87	29.86	37.97	16.03	54.00
9666.300	9.43	33.55	31.42	30.66	42.22	11.78	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical							
Peak							
4837.500	5.44	27.41	31.69	52.13	53.29	20.71	74.00
7251.300	8.00	31.98	31.87	42.83	50.94	23.06	74.00
9658.200	9.43	35.55	31.42	44.94	58.50	15.50	74.00
12080.30	11.24	34.65	29.73	35.97	52.13	21.87	74.00
Average							
4834.300	5.44	29.12	31.69	36.49	39.36	14.64	54.00
7253.260	8.00	31.98	31.87	29.86	37.97	16.03	54.00
9666.300	9.43	33.55	31.42	30.66	42.22	11.78	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal							
Peak							
4867.200	5.47	29.17	31.68	52.28	55.23	18.77	74.00
7305.000	8.25	32.09	31.81	45.10	53.62	20.38	74.00
9740.200	9.23	33.56	31.20	48.18	59.77	14.23	74.00
12175.30	11.17	35.87	29.64	35.55	52.94	21.06	74.00
Average							
4870.100	5.49	29.22	31.67	41.18	44.21	9.79	54.00
7304.700	8.25	32.09	31.81	30.39	38.91	15.09	54.00
9740.300	9.23	33.56	31.20	34.88	46.47	7.53	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical							
Peak							
4868.320	5.47	27.49	31.68	52.86	54.14	19.86	74.00
7311.400	8.25	32.09	31.81	43.79	52.31	21.69	74.00
9740.300	9.23	35.56	31.20	44.40	57.99	16.01	74.00
12175.60	11.17	36.03	29.64	34.51	52.06	21.94	74.00
Average							
4870.360	5.49	27.58	31.67	40.04	41.43	12.57	54.00
9744.200	9.18	35.57	31.14	28.08	41.69	12.31	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal							
Peak							
4941.600	5.56	29.39	31.64	52.06	55.37	18.63	74.00
7409.300	8.66	32.27	31.68	44.67	53.92	20.08	74.00
9878.900	9.14	33.78	30.70	45.43	57.66	16.34	74.00
12353.10	11.05	30.62	29.57	34.79	46.89	27.11	74.00
Average							
4942.000	5.56	29.39	31.64	36.98	40.29	13.71	54.00
7414.800	8.66	32.30	31.62	29.12	38.47	15.53	54.00
9883.700	9.14	33.78	30.70	29.45	41.68	12.32	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical							
Peak							
4940.900	5.56	27.88	31.64	54.28	56.08	17.92	74.00
7409.600	8.66	32.27	31.68	44.78	54.03	19.97	74.00
9892.000	9.17	34.99	30.62	44.22	57.76	16.24	74.00
12361.20	11.05	33.44	29.57	37.27	52.20	21.80	74.00
Average							
4944.400	5.58	27.88	31.64	38.51	40.33	13.67	54.00
7412.600	8.66	32.27	31.68	29.20	38.45	15.55	54.00
9884.100	9.14	35.12	30.70	28.82	42.39	11.61	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal								
Quasi-Peak								
	308.529	1.27	15.50	21.77	28.15	23.16	22.84	46.00
	474.810	1.54	22.15	22.10	25.48	27.07	18.93	46.00
*	602.300	1.84	18.87	21.83	33.87	32.75	13.25	46.00
	724.240	1.91	25.93	21.88	23.77	29.73	16.27	46.00
	815.700	2.20	22.86	22.32	29.79	32.53	13.47	46.00
	952.890	2.12	23.57	22.17	28.31	31.82	14.18	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical								
Quasi-Peak								
	197.671	1.92	11.99	21.93	31.51	23.49	20.01	43.50
	347.330	1.51	17.68	22.10	23.96	21.05	24.95	46.00
	480.360	1.54	18.19	22.01	26.79	24.51	21.49	46.00
	574.590	1.77	14.62	21.76	34.16	28.80	17.20	46.00
*	804.610	2.20	22.69	22.17	29.57	32.29	13.71	46.00
	945.960	2.12	21.47	22.11	27.90	29.38	16.62	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal								
Quasi-Peak								
	143.629	1.12	12.96	21.90	25.42	17.60	25.90	43.50
	307.140	1.27	15.50	21.78	27.17	22.16	23.84	46.00
	501.140	1.59	22.24	21.66	26.60	28.76	17.24	46.00
*	600.910	1.84	18.87	21.83	33.73	32.61	13.39	46.00
	768.590	1.88	22.13	22.16	30.07	31.92	14.08	46.00
	939.030	2.22	23.66	22.06	27.52	31.34	14.66	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2435 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical								
Quasi-Peak								
	197.671	1.92	11.99	21.93	30.71	22.69	20.81	43.50
	323.770	1.50	16.04	21.71	25.67	21.50	24.50	46.00
	470.660	1.54	17.28	22.18	26.94	23.58	22.42	46.00
	600.910	1.84	18.68	21.83	29.15	27.84	18.16	46.00
*	738.100	1.91	22.05	22.06	29.09	31.00	15.00	46.00
	950.110	2.12	21.65	22.17	27.79	29.38	16.62	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal								
Quasi-Peak								
	85.429	1.01	18.66	21.77	20.38	18.27	21.73	40.00
	308.530	1.27	15.50	21.77	28.55	23.56	22.44	46.00
	492.830	1.59	22.21	21.74	26.90	28.95	17.05	46.00
*	598.140	1.84	18.58	21.83	34.79	33.38	12.62	46.00
	774.130	1.88	21.50	22.08	30.52	31.81	14.19	46.00
	947.340	2.12	23.53	22.15	28.20	31.71	14.29	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

Product	Wireless color camera		
Test Item	Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

	Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical								
Quasi-Peak								
	197.671	1.92	11.99	21.93	32.51	24.49	19.01	43.50
	347.330	1.51	17.68	22.10	24.36	21.45	24.55	46.00
	571.810	1.77	14.31	21.75	33.87	28.20	17.80	46.00
	710.390	1.98	21.00	21.83	28.32	29.47	16.53	46.00
*	818.470	1.85	21.92	22.31	29.83	31.29	14.71	46.00
	939.030	2.22	21.24	22.06	28.36	29.76	16.24	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.

4. Band Edge

4.1. Test Equipment

The following test equipment are used during the test:

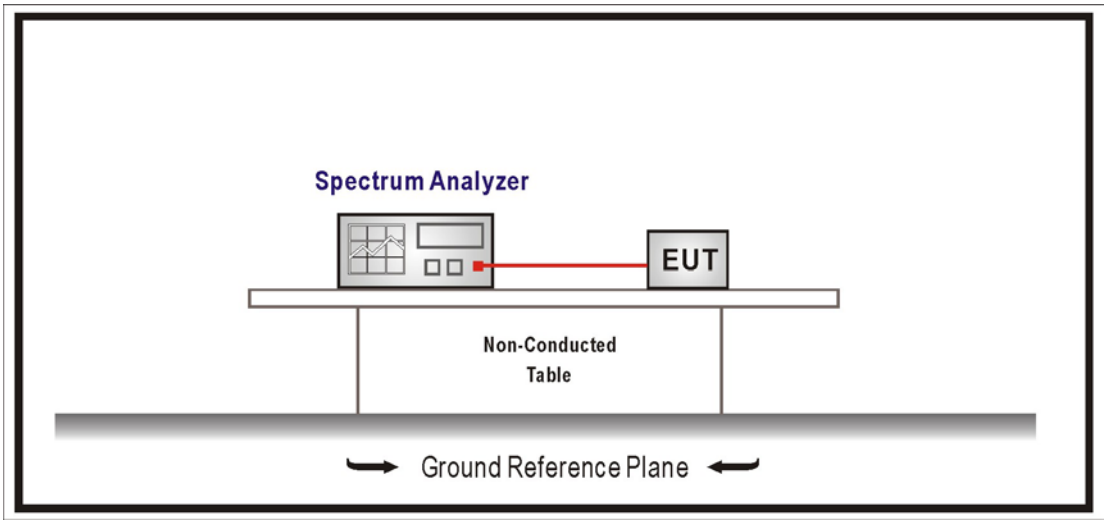
RF Conducted Measurement:					
Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer		R & S	FSP / 100561	Mar., 2005
2	No.1 OATS				Sep., 2005
RF Radiated Measurement:					
Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2005
2	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2005
3		Loop Antenna	R & S	HFH2-Z2 / 833799/004	Sep., 2005
4		BiconiLog Antenna	Schwarzbeck	VULB 9166 / 1061	Sep., 2005
5		Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2005
6	X	Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Sep., 2005
7	No.1 OATS				Sep., 2005

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

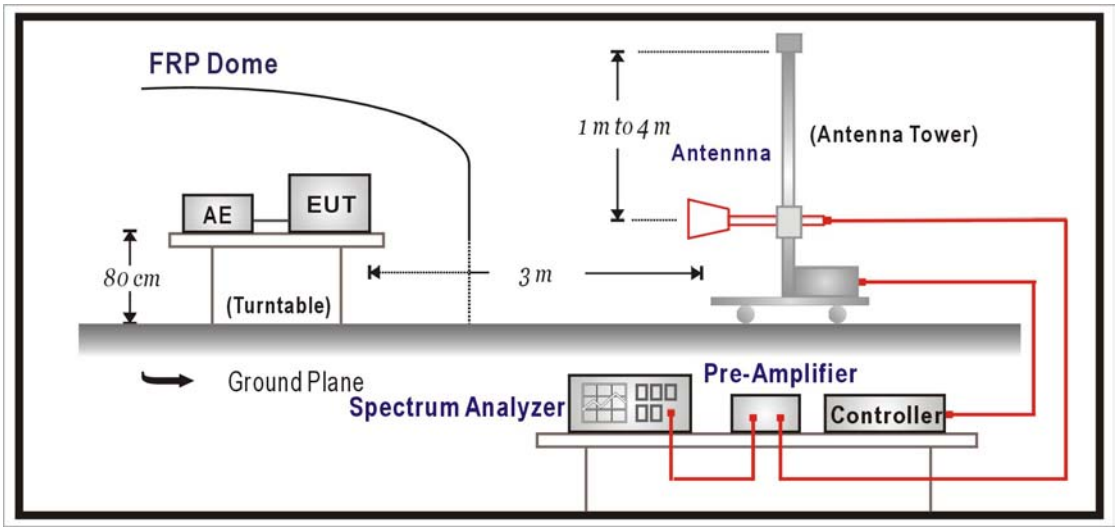
2. Mark “X” test instruments are used to measure the final test results.

4.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



4.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.249: 2005

4.6. Test Result

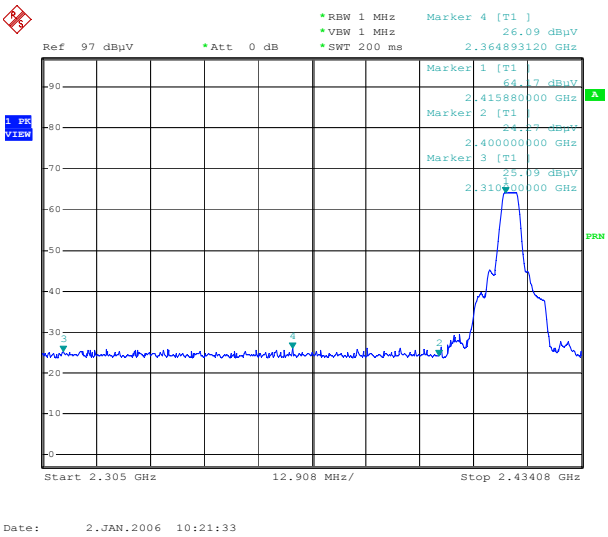
Product	Wireless color camera		
Test Item	Band Edge		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

RF Radiated Measurement: (Peak Detector)

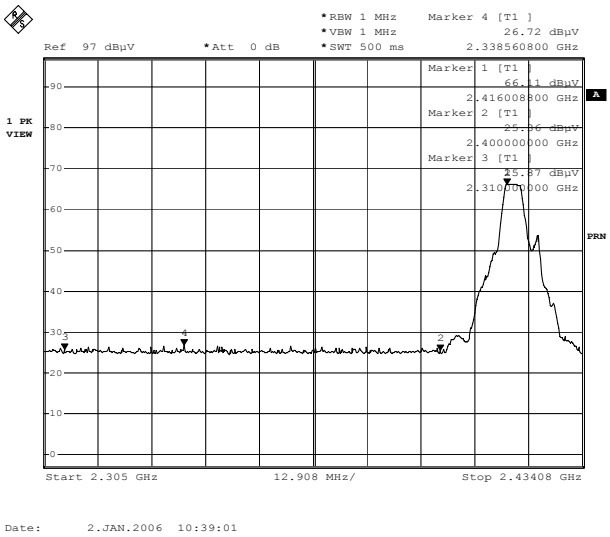
Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
Horizontal	2364.890	26.09	24.39	4.12	0.00	54.60	74.00	Pass
Vertical	2338.560	26.72	22.73	4.32	0.00	53.77	74.00	Pass

Horizontal



Date: 2.JAN.2006 10:21:33

Vertical



Date: 2.JAN.2006 10:39:01

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

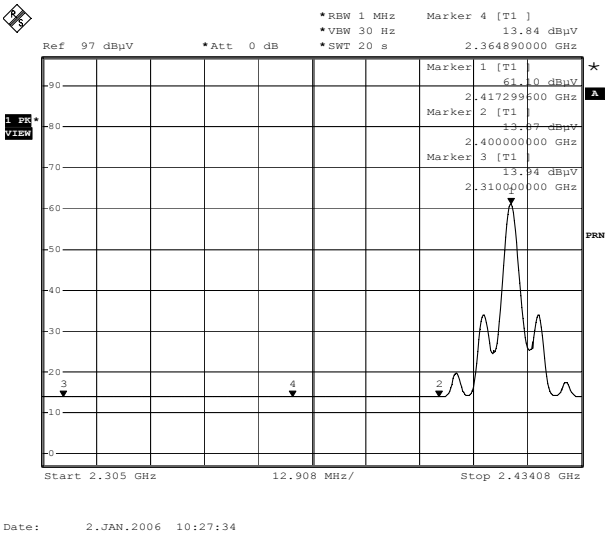
Product	Wireless color camera		
Test Item	Band Edge		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2417 MHz

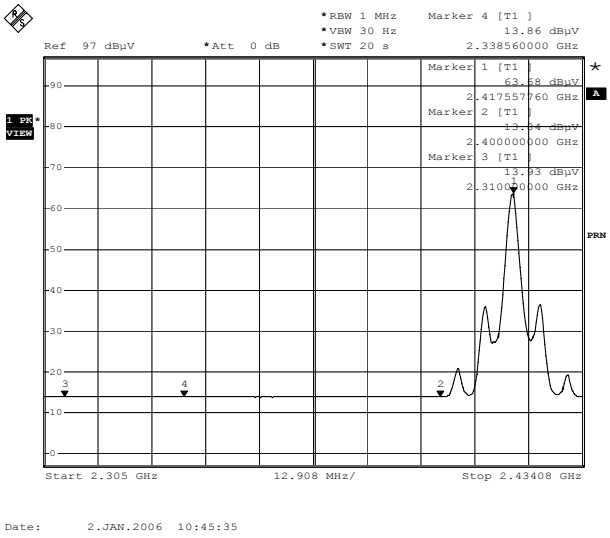
RF Radiated Measurement: (Average Detector)

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
Horizontal	2364.890	13.84	24.39	4.12	0.00	42.35	54.00	Pass
Vertical	2338.560	13.86	22.73	4.32	0.00	40.91	54.00	Pass

Horizontal



Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

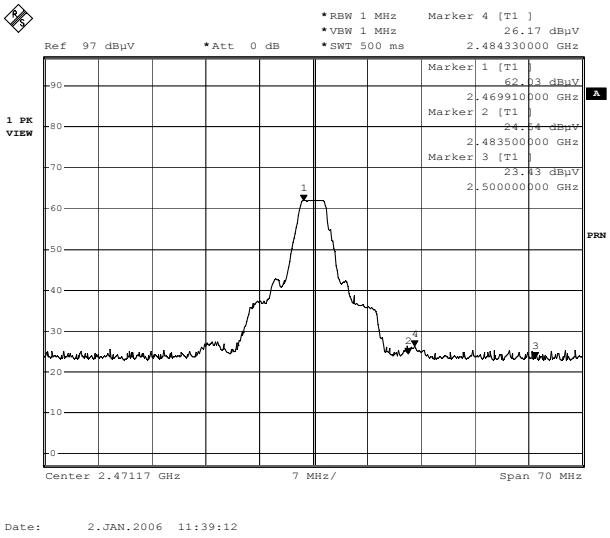
Product	Wireless color camera		
Test Item	Band Edge		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

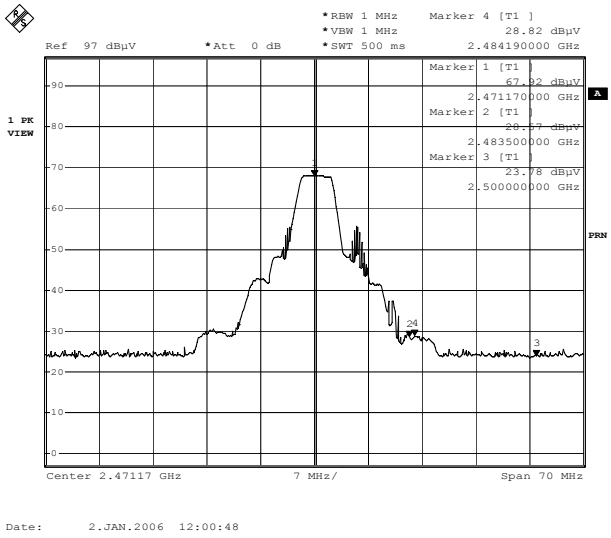
RF Radiated Measurement: (Peak Detector)

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
Horizontal	2484.330	26.17	24.69	3.89	0.00	54.75	74.00	Pass
Vertical	2484.190	28.82	23.09	3.89	0.00	55.80	74.00	Pass

Horizontal



Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

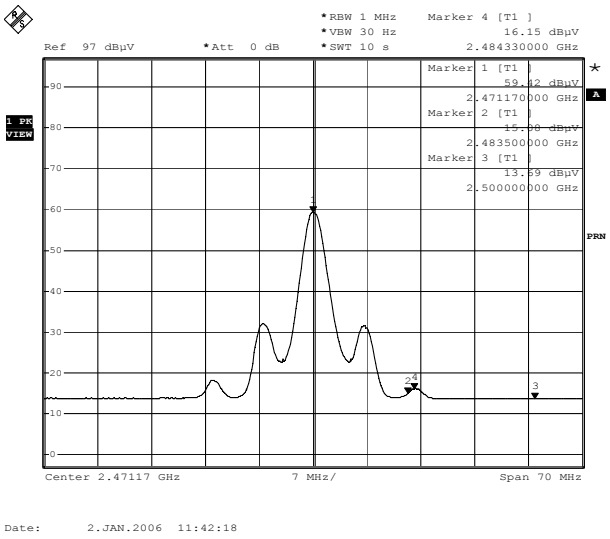
Product	Wireless color camera		
Test Item	Band Edge		
Test Mode	Mode 1: Transmit		
Date of Test	2006/01/02	Test Site	No.1 OATS

2471 MHz

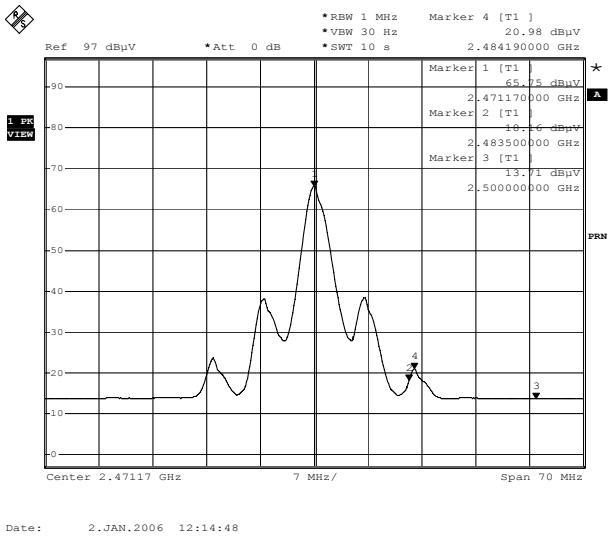
RF Radiated Measurement: (Average Detector)

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
Horizontal	2484.330	16.15	24.69	3.89	0.00	44.73	54.00	Pass
Vertical	2484.190	20.98	23.09	3.89	0.00	47.96	54.00	Pass

Horizontal



Vertical



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.