Test Report

Product Name	Wireless Surveillance Camera 3616
Model No.	WSC 3616
FCC ID	I2ILR3616

Applicant	Leadtek Research Inc.
Address	18F, No. 166, Chien-Yi Rd., Chung-Ho, Taipei Hsien, Taiwan, (235) R.O.C.

Date of Receipt	May. 29, 2008
Issued Date	July. 03, 2008
Report No.	086188R-RFUSP05V01
Version	V1.0

Test Report Certification

Issued Date: July. 03, 2008
Report No.: 086188R-RFUSP05V01

Accredited by NIST (NVLAP)
NVLAP Lab Code: 200533-0

Product Name	Wireless Surveillance Camera 3616
Applicant	Leadtek Research Inc.
Address	18F, No. 166, Chien-Yi Rd., Chung-Ho, Taipei Hsien, Taiwan, (235) R.O.C.
Manufacturer	Leadtek Research Inc.
Model No.	WSC 3616
Rated Voltage	AC 120V/60Hz
Working Voltage	AC 120V/60Hz
Trade Name	LEADTEK
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007 ANSI C63.4: 2003
Test Result	Complied

NVLAP Lab Code: 200533-0

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.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Leven Huang
(Adm. Specialist /Leven Huang)

Tested By : Johnson Liao
(Assistant Engineer / Johnson Liao)

Approved By :
(Deputy Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless Surveillance Camera 3616
Trade Name	LEADTEK
Model No.	WSC 3616
FCC ID	I2ILR3616
Frequency Range	802.11b/g: 2412-2462MHz
Channel Number	802.11b/g: 11
Data Speed	IEEE 802.11b – 1, 2, 5.5, 11Mbps IEEE 802.11g – 6, 9, 12, 18, 24, 36 48, 54Mbps
Type of Modulation	802.11b:DSSS DBPSK, DQPSK, CCK 802.11g: OFDM BPSK, QPSK, 16QAM, 64QAM
Antenna Type	Dipole
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter (1)	MFR: DVE, M/N: DSA-10P-05 050100 Input: AC 100-240V, 50/60Hz,0.3A Output: DC 5V,2A Cable Out: Non-Shielded,1.8m
Power Adapter (2)	MFR: EDAC, M/N: EA1015A-1U Input: AC 100-240V, 50-60Hz,1.0A Output: DC 3.0-5.0V,2.5A Cable Out: Non-Shielded,1.8m,with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	Micon	W205-108-D200	4.57 dBi for 2.4 GHz

Frequency of Each Channel (802.11b/g):

Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2412 MHz	Channel 5:	2432 MHz	Channel 9:	2452 MHz
Channel 2:	2417 MHz	Channel 6:	2437 MHz	Channel 10:	2457 MHz
Channel 3:	2422 MHz	Channel 7:	2442 MHz	Channel 11:	2462 MHz
Channel 4:	2427 MHz	Channel 8:	2447 MHz		

Note:

1. The EUT is a Wireless Surveillance Camera 3616 with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 11Mbps and 802.11g is 54Mbps)
4. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

1.2. Operational Description

The EUT is a Wireless Surveillance Camera 3616 with built-in 2.4GHz WLAN transceiver.. This device provides four kinds of transmitting speed 1, 2, 5.5 and 11Mbps. The modulation of device is BPSK, QPSK and CCK (IEEE 802.11b) and eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps are provided. The technology of this device used is OFDM (IEEE 802.11g).

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function.

This Wireless Surveillance Camera 3616, compliant with IEEE 802.11b and IEEE 802.11g, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) radio transmission, the Wireless Surveillance Camera 3616 Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g network.

Test Mode	Mode 1: Transmitter 802.11b
	Mode 2: Transmitter 802.11g

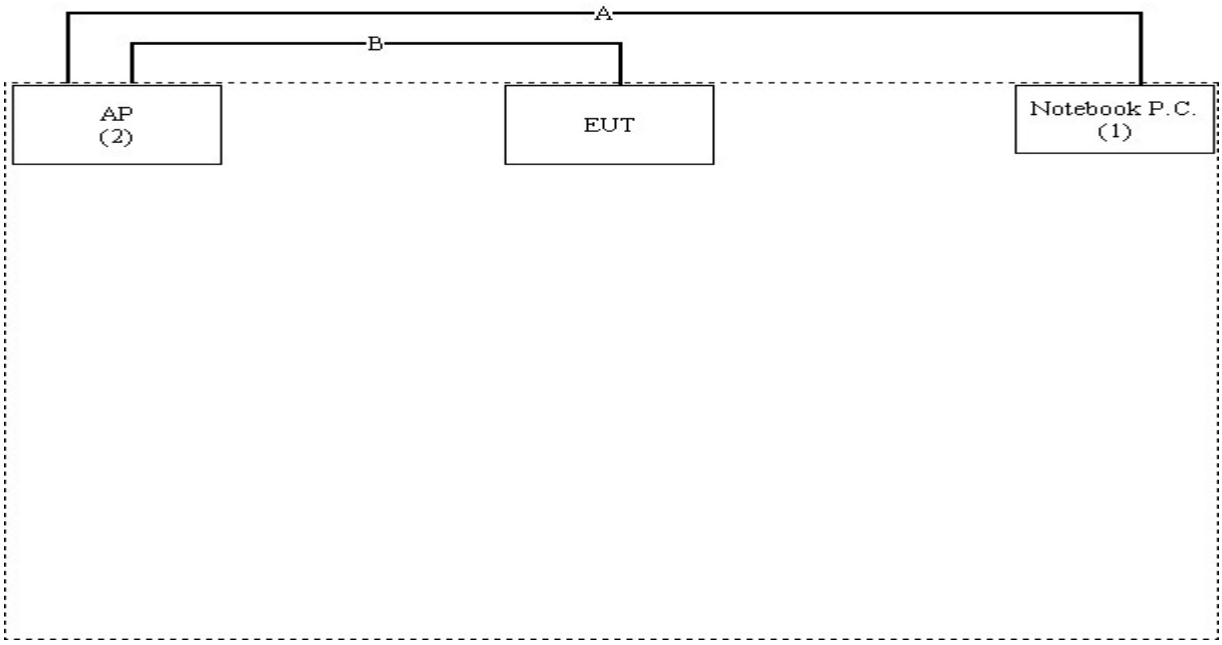
1.3. Tested System Datails

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
(1)	Notebook PC	DELL	PP04X	2D2ZM1S	Non-Shielded, 0.8m
(2)	AP	2yXEL	P-330W	S5F3601130	N/A

Signal Cable Type		Signal cable Description
A.	LAN Cable	Non-Shielded, 2.5m
B.	LAN Cable	Non-Shielded, 2.5m

1.4. Configuration of Test System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.4

(2) Execute “Putty” on the EUT.

(3) Configure the test mode, the test channel, and the data rate.

(4) Press “OK” to start the continuous transmission.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation

Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Conducted Emission

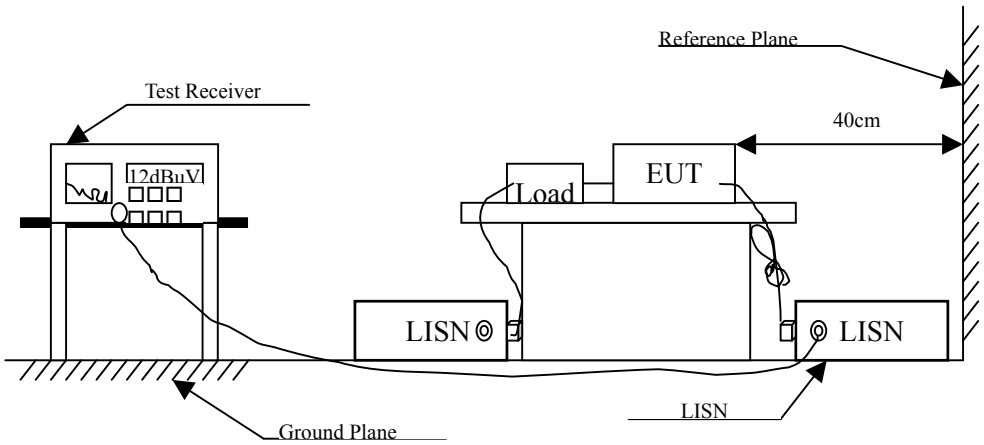
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

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

2.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmitter 802.11b (2437MHz) (Adapter :DVE)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.197	0.670	47.720	48.390	-16.267	64.657
0.306	0.300	48.070	48.370	-13.173	61.543
0.437	0.300	49.640	49.940	-7.860	57.800
0.896	0.310	38.050	38.360	-17.640	56.000
3.822	0.390	28.420	28.810	-27.190	56.000
16.064	1.020	29.550	30.570	-29.430	60.000
Average					
0.197	0.670	28.780	29.450	-25.207	54.657
0.306	0.300	35.200	35.500	-16.043	51.543
0.437	0.300	24.210	24.510	-23.290	47.800
0.896	0.310	18.360	18.670	-27.330	46.000
3.822	0.390	18.600	18.990	-27.010	46.000
16.064	1.020	11.010	12.030	-37.970	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmitter 802.11b (2437MHz) (Adapter :DVE)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.189	0.300	50.970	51.270	-13.616	64.886
0.416	0.310	49.300	49.610	-8.790	58.400
0.673	0.310	37.460	37.770	-18.230	56.000
1.681	0.340	32.090	32.430	-23.570	56.000
2.705	0.370	29.460	29.830	-26.170	56.000
13.474	0.840	27.590	28.430	-31.570	60.000
Average					
0.189	0.300	25.130	25.430	-29.456	54.886
0.416	0.310	28.090	28.400	-20.000	48.400
0.673	0.310	19.750	20.060	-25.940	46.000
1.681	0.340	17.160	17.500	-28.500	46.000
2.705	0.370	17.560	17.930	-28.070	46.000
13.474	0.840	6.440	7.280	-42.720	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmitter 802.11g (2437MHz) (Adapter :DVE)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.197	0.670	36.720	37.390	-27.267	64.657
0.302	0.300	45.720	46.020	-15.637	61.657
0.517	0.300	38.800	39.100	-16.900	56.000
1.287	0.320	35.560	35.880	-20.120	56.000
2.701	0.360	30.860	31.220	-24.780	56.000
14.392	0.971	31.160	32.131	-27.869	60.000
Average					
0.197	0.670	22.310	22.980	-31.677	54.657
0.302	0.300	33.840	34.140	-17.517	51.657
0.517	0.300	25.450	25.750	-20.250	46.000
1.287	0.320	19.430	19.750	-26.250	46.000
2.701	0.360	20.180	20.540	-25.460	46.000
14.392	0.971	12.100	13.071	-36.929	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmitter 802.11g (2437MHz) (Adapter :DVE)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.205	0.300	38.090	38.390	-26.039	64.429
0.314	0.300	40.810	41.110	-20.204	61.314
0.556	0.310	39.140	39.450	-16.550	56.000
1.111	0.322	35.240	35.562	-20.438	56.000
1.822	0.340	32.450	32.790	-23.210	56.000
10.939	0.540	31.200	31.740	-28.260	60.000
Average					
0.205	0.300	31.500	31.800	-22.629	54.429
0.314	0.300	31.730	32.030	-19.284	51.314
0.556	0.310	26.850	27.160	-18.840	46.000
1.111	0.322	22.710	23.032	-22.968	46.000
1.822	0.340	19.440	19.780	-26.220	46.000
10.939	0.540	12.320	12.860	-37.140	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmitter 802.11b (2437MHz) (Adapter : EDAC)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.197	9.823	39.490	49.313	-15.344	64.657
0.270	9.830	35.480	45.310	-17.261	62.571
0.330	9.830	24.910	34.740	-26.117	60.857
0.400	9.820	31.860	41.680	-17.177	58.857
0.470	9.820	34.320	44.140	-12.717	56.857
0.530	9.820	27.510	37.330	-18.670	56.000
Average					
0.197	9.823	28.960	38.783	-15.874	54.657
0.270	9.830	26.630	36.460	-16.111	52.571
0.330	9.830	18.250	28.080	-22.777	50.857
0.400	9.820	18.150	27.970	-20.887	48.857
0.470	9.820	27.180	37.000	-9.857	46.857
0.530	9.820	19.100	28.920	-17.080	46.000

Note:

4. All Reading Levels are Quasi-Peak and average value.
5. “ “ means the worst emission level.
6. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmitter 802.11b (2437MHz) (Adapter : EDAC)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.197	9.860	35.700	45.560	-19.097	64.657
0.267	9.854	35.760	45.614	-17.043	62.657
0.337	9.850	27.310	37.160	-23.497	60.657
0.407	9.840	28.750	38.590	-20.067	58.657
0.467	9.830	31.000	40.830	-16.113	56.943
0.537	9.830	35.210	45.040	-10.960	56.000
Average					
0.197	9.860	25.240	35.100	-19.557	54.657
0.267	9.854	27.200	37.054	-15.603	52.657
0.337	9.850	20.980	30.830	-19.827	50.657
0.407	9.840	15.880	25.720	-22.937	48.657
0.467	9.830	24.130	33.960	-12.983	46.943
0.537	9.830	26.130	35.960	-10.040	46.000

Note:

4. All Reading Levels are Quasi-Peak and average value.
5. " " means the worst emission level.
6. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmitter 802.11g (2437MHz) (Adapter : EDAC)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.197	9.823	31.900	41.723	-22.934	64.657
0.267	9.830	32.710	42.540	-20.117	62.657
0.337	9.830	26.230	36.060	-24.597	60.657
0.407	9.820	30.740	40.560	-18.097	58.657
0.467	9.820	25.540	35.360	-21.583	56.943
0.537	9.820	31.010	40.830	-15.170	56.000
Average					
0.197	9.823	21.730	31.553	-23.104	54.657
0.267	9.830	24.720	34.550	-18.107	52.657
0.337	9.830	20.610	30.440	-20.217	50.657
0.407	9.820	18.560	28.380	-20.277	48.657
0.467	9.820	18.940	28.760	-18.183	46.943
0.537	9.820	22.100	31.920	-14.080	46.000

Note:

4. All Reading Levels are Quasi-Peak and average value.
5. " " means the worst emission level.
6. Measurement Level = Reading Level + Correct Factor

Product : Wireless Surveillance Camera 3616
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmitter 802.11g (2437MHz) (Adapter : EDAC)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.201	9.860	37.250	47.110	-17.433	64.543
0.271	9.853	34.290	44.143	-18.400	62.543
0.341	9.849	23.470	33.319	-27.224	60.543
0.411	9.840	27.680	37.520	-21.023	58.543
0.471	9.830	31.680	41.510	-15.319	56.829
0.541	9.830	34.160	43.990	-12.010	56.000
Average					
0.201	9.860	27.250	37.110	-17.433	54.543
0.271	9.853	26.580	36.433	-16.110	52.543
0.341	9.849	18.360	28.209	-22.334	50.543
0.411	9.840	16.100	25.940	-22.603	48.543
0.471	9.830	25.270	35.100	-11.729	46.829
0.541	9.830	25.240	35.070	-10.930	46.000

Note:

4. All Reading Levels are Quasi-Peak and average value.
5. “ “ means the worst emission level.
6. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

3.1. Test Equipment

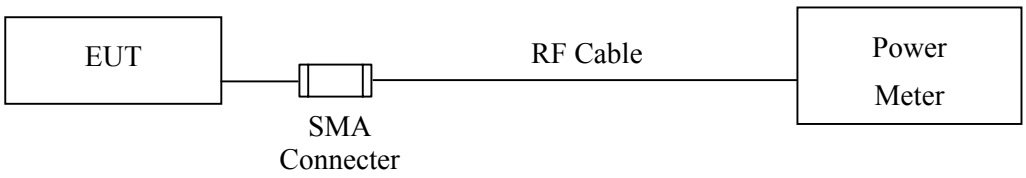
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
X	Power Sensor	Anritsu	MA2491A/034457	May, 2008

Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

3.2. Test Setup

Conducted Measurement



3.3. Test procedures

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : Wireless Surveillance Camera 3616
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

Data Speed: 11Mbps

Cable loss=0.5dB		Peak Power Output				
Channel No.	Frequency (MHz)	Data Rate				Required Limit
		1	2	5.5	11	
1	2412.00				-7.75	1Watt= 30 dBm
6	2437.00	-7.58	-7.66	-7.4	-7.34	1Watt= 30 dBm
11	2462.00				-6.73	1Watt= 30 dBm

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Product : Wireless Surveillance Camera 3616
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

Data Speed: 54Mbps

Cable loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		6	9	12	18	24	36	48	54	
1	2412.00								-5.91	1Watt= 30 dBm
6	2437.00	-5.89	-6.08	-6.41	-5.97	-5.95	-6.01	-6.14	-5.76	1Watt= 30 dBm
11	2462.00								-4.34	1Watt= 30 dBm

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

4. Radiated Emission

4.1. Test Equipment

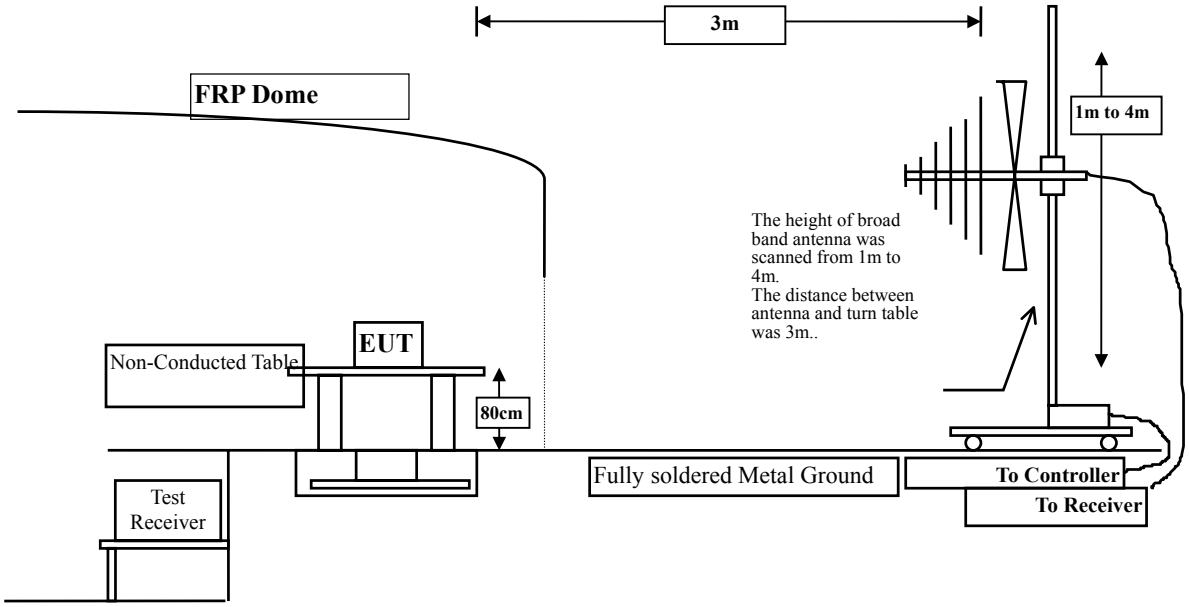
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1		Test Receiver	R & S	ESCS 30 / 825442/14	May, 2008
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2008
		Pre-Amplifier	HP	8447D/3307A01812	May, 2008
		Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2007
		Horn Antenna	EM	EM6917 / 103325	May, 2008
Site # 2		Test Receiver	R & S	ESCS 30 / 825442/17	May, 2008
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2008
		Pre-Amplifier	HP	8447D/3307A01814	May, 2008
		Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2007
		Horn Antenna	EM	EM6917 / 103325	May, 2008
Site # 3	X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
	X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
	X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
	X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

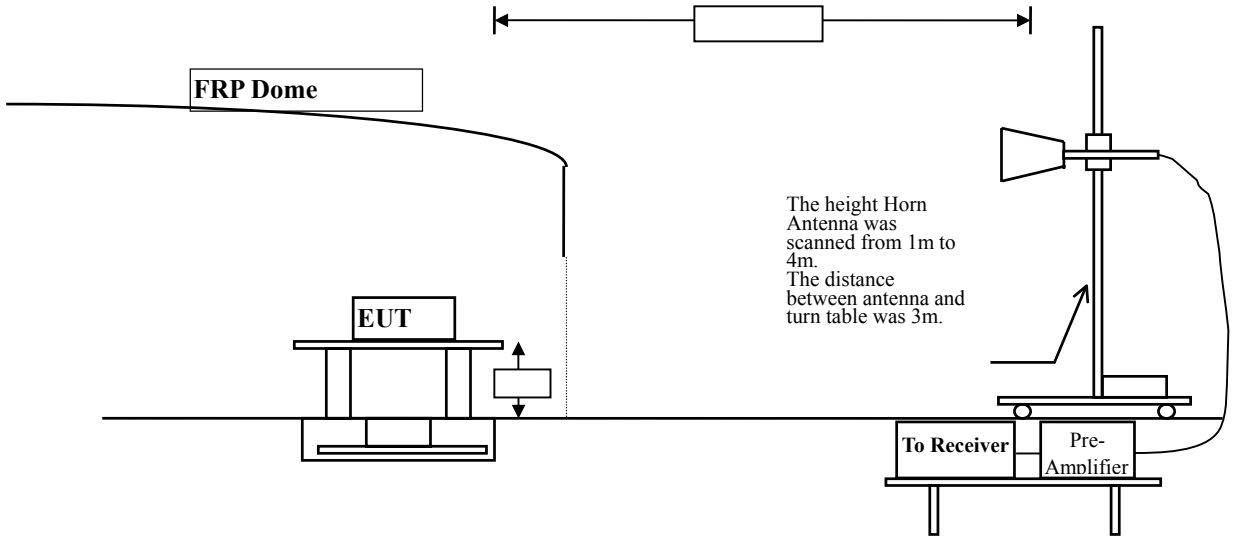
Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

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

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.

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 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 is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz. Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The frequency range from 30MHz to 10th harminics is checked.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	-0.229	47.540	47.311	-26.689	74.000
7236.000	3.182	40.570	43.752	-30.248	74.000
9648.000	5.798	41.580	47.379	-26.621	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	-0.229	48.810	48.581	-25.419	74.000
7236.000	3.182	41.000	44.182	-29.818	74.000
9648.000	5.798	41.950	47.749	-26.251	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	-0.268	50.290	50.022	-23.978	74.000
7311.000	3.285	42.010	45.296	-28.704	74.000
9748.000	6.190	41.440	47.630	-26.370	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	-0.268	50.390	50.122	-23.878	74.000
7311.000	3.285	41.490	44.776	-29.224	74.000
9748.000	6.190	40.990	47.180	-26.820	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	0.105	51.480	51.585	-22.415	74.000
7386.000	3.644	40.260	43.905	-30.095	74.000
9848.000	6.582	40.480	47.062	-26.938	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	0.105	52.210	52.315	-21.685	74.000
7386.000	3.644	41.530	45.175	-28.825	74.000
9848.000	6.582	40.360	46.942	-27.058	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	-0.229	44.770	44.541	-29.459	74.000
7236.000	3.182	42.170	45.352	-28.648	74.000
9648.000	5.798	42.460	48.259	-25.741	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	-0.229	44.840	44.611	-29.389	74.000
7236.000	3.182	42.620	45.802	-28.198	74.000
9648.000	5.798	42.140	47.939	-26.061	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	-0.268	46.630	46.362	-27.638	74.000
7311.000	3.285	42.090	45.376	-28.624	74.000
9748.000	6.190	41.340	47.530	-26.470	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	-0.268	47.730	47.462	-26.538	74.000
7311.000	3.285	42.290	45.576	-28.424	74.000
9748.000	6.190	41.450	47.640	-26.360	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	0.105	47.300	47.405	-26.595	74.000
7386.000	3.644	41.450	45.095	-28.905	74.000
9848.000	6.582	41.640	48.222	-25.778	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	0.105	44.650	44.755	-29.245	74.000
7386.000	3.644	42.030	45.675	-28.325	74.000
9848.000	6.582	40.980	47.562	-26.438	74.000
Average Detector:					
--					

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
245.340	13.905	24.319	38.224	-7.776	46.000
350.100	15.687	20.258	35.945	-10.055	46.000
404.420	17.920	23.549	41.469	-4.531	46.000
499.480	18.877	21.977	40.854	-5.146	46.000
689.600	21.351	20.178	41.529	-4.471	46.000
1000.000	23.634	16.498	40.132	-13.868	54.000
Vertical					
107.660	13.221	25.033	38.254	-5.246	43.500
249.220	14.374	17.466	31.840	-14.160	46.000
344.280	15.561	18.959	34.520	-11.480	46.000
516.940	19.355	17.225	36.580	-9.420	46.000
749.740	23.383	14.257	37.640	-8.360	46.000
996.120	22.506	12.744	35.250	-18.750	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
249.220	14.399	24.111	38.510	-7.490	46.000
319.060	14.909	20.789	35.698	-10.302	46.000
414.120	18.398	21.822	40.220	-5.780	46.000
698.600	20.958	17.512	38.470	-7.530	46.000
809.880	21.759	18.601	40.360	-5.640	46.000
1000.000	23.634	16.576	40.210	-13.790	54.000
Vertical					
202.660	11.268	18.386	29.654	-13.846	43.500
249.220	14.374	16.767	31.141	-14.859	46.000
344.280	15.561	19.909	35.470	-10.530	46.000
507.240	19.257	13.079	32.336	-13.664	46.000
749.740	23.383	12.315	35.698	-10.302	46.000
875.840	22.596	12.586	35.182	-10.818	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the radiated emission tests:

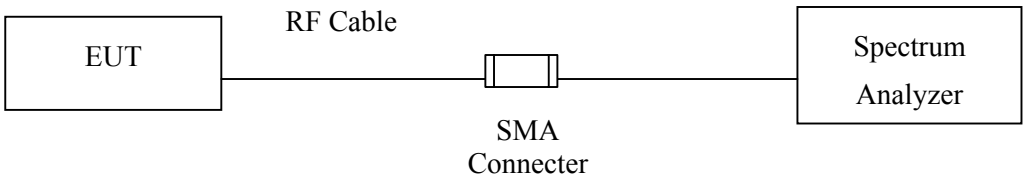
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. 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 20 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)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

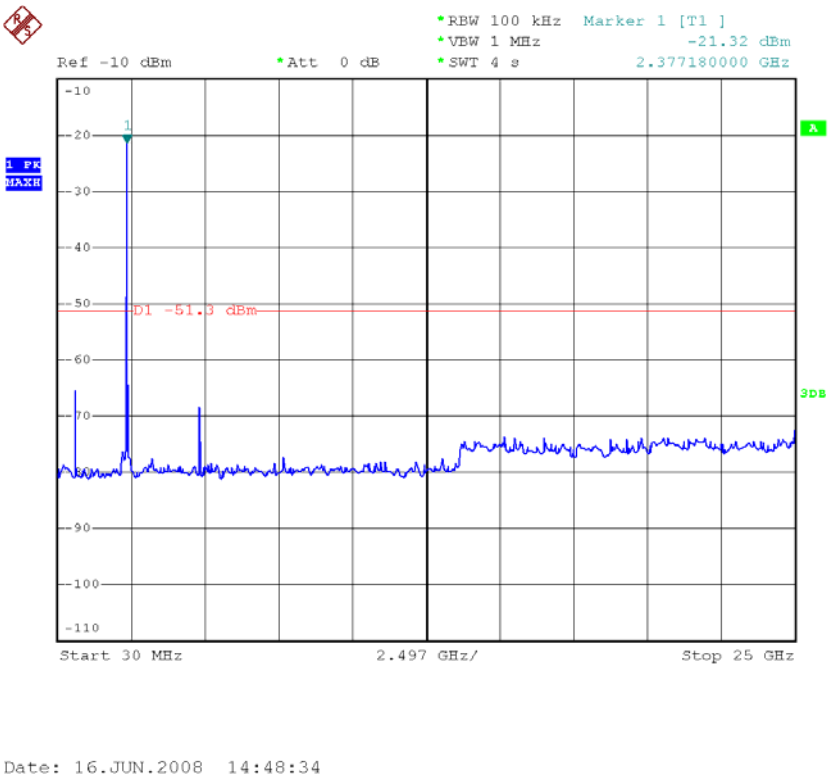
The measurement uncertainty

Conducted is defined as ± 1.27dB

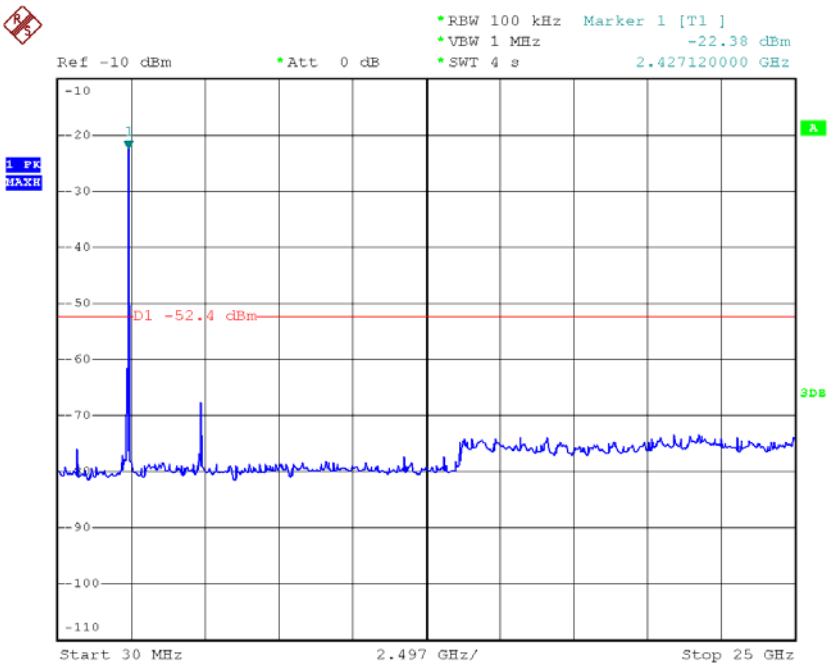
5.6. Test Result of RF antenna conducted test

Product : Wireless Surveillance Camera 3616
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

Channel 01 (2412MHz)

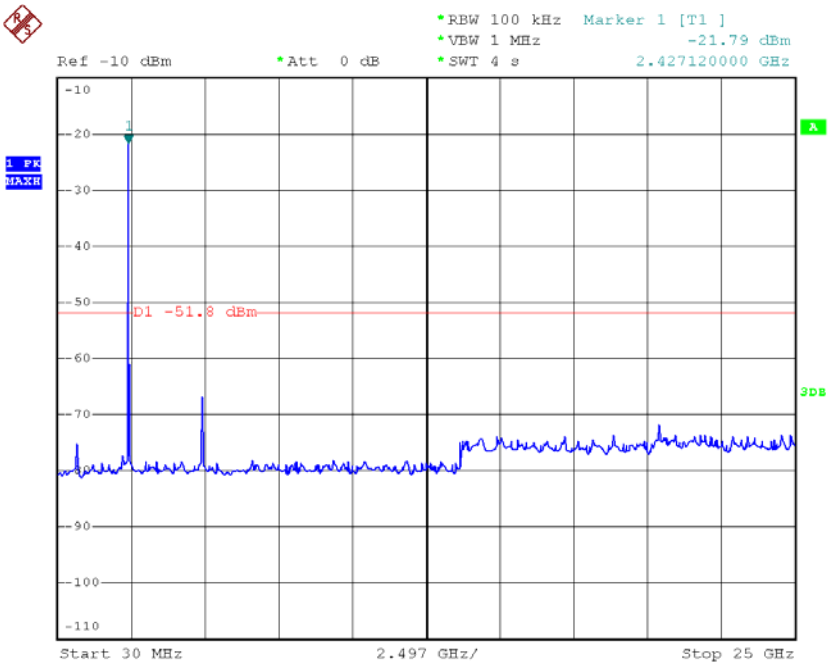


Channel 06 (2437MHz)



Date: 16.JUN.2008 14:49:10

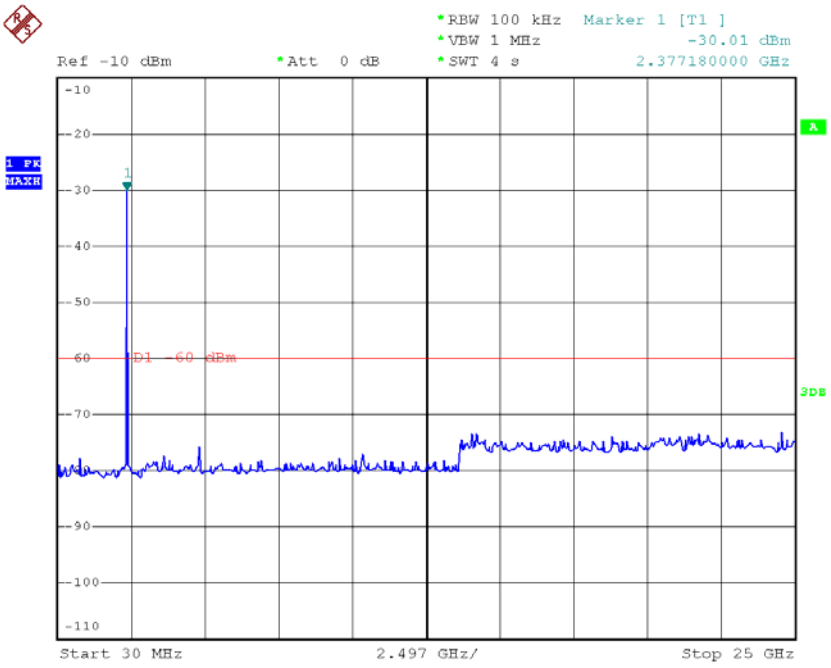
Channel 11 (2462MHz)



Date: 16.JUN.2008 14:49:43

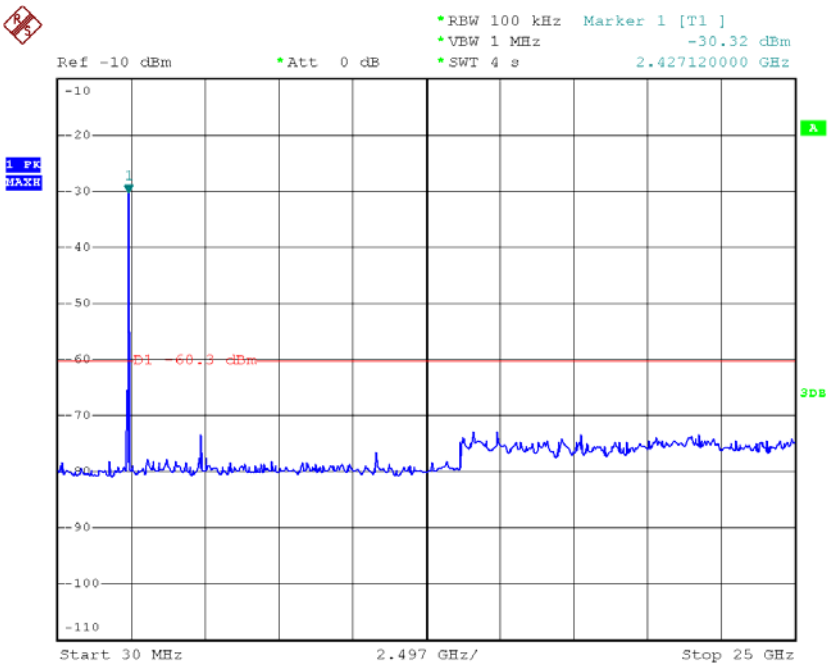
Product : Wireless Surveillance Camera 3616
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

Channel 01 (2412MHz)



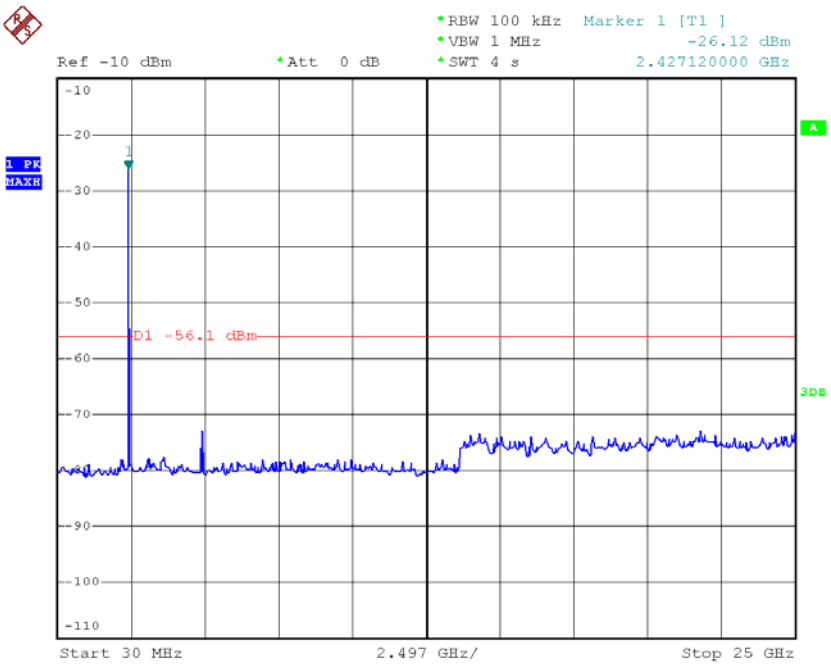
Date: 16.JUN.2008 14:50:39

Channel 06 (2437MHz)



Date: 16.JUN.2008 14:51:14

Channel 11 (2462MHz)



Date: 16.JUN.2008 14:51:48

6. Radiated Emission Band Edge

6.1. Test Equipment

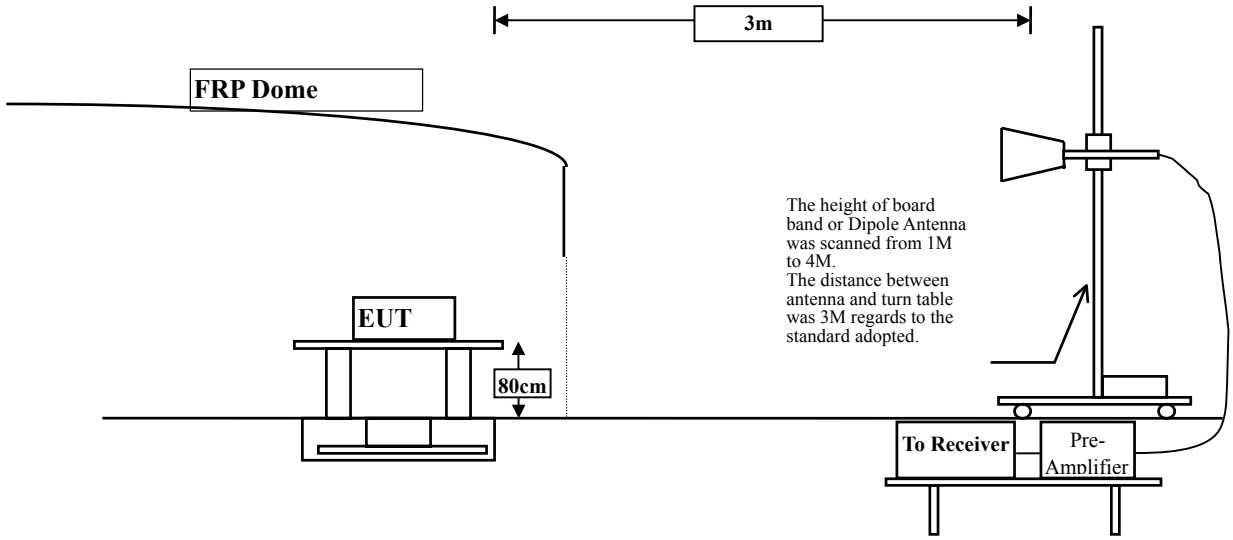
The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement:



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 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 is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

6.5. Uncertainty

± 3.9 dB above 1GHz

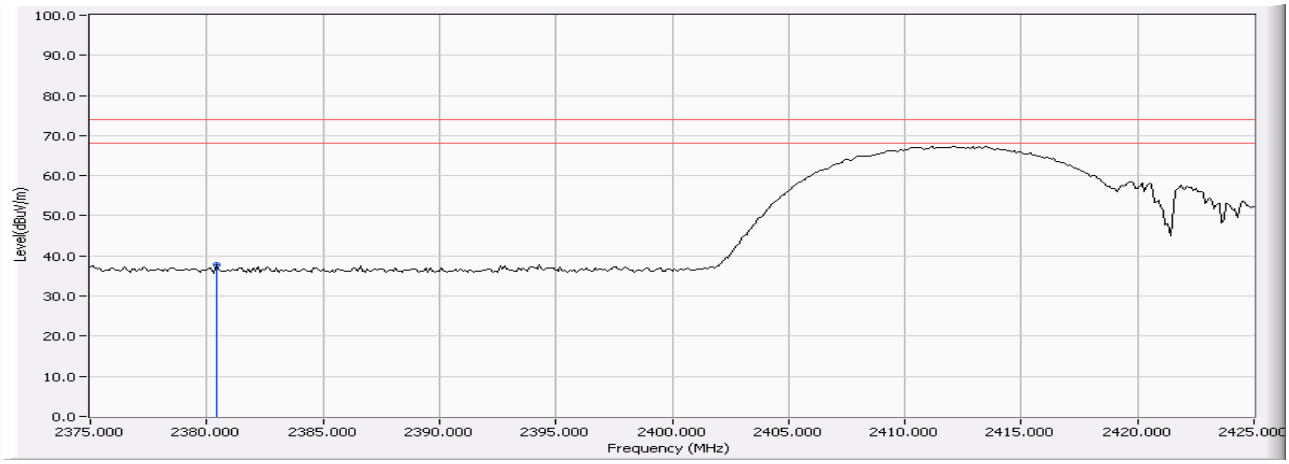
6.6. Test Result of Band Edge

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
1 (Peak)	2380.400	-6.807	44.694	37.887	74.00	54.00	Pass
1 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 1: **Horizontal** (Peak)



Note:

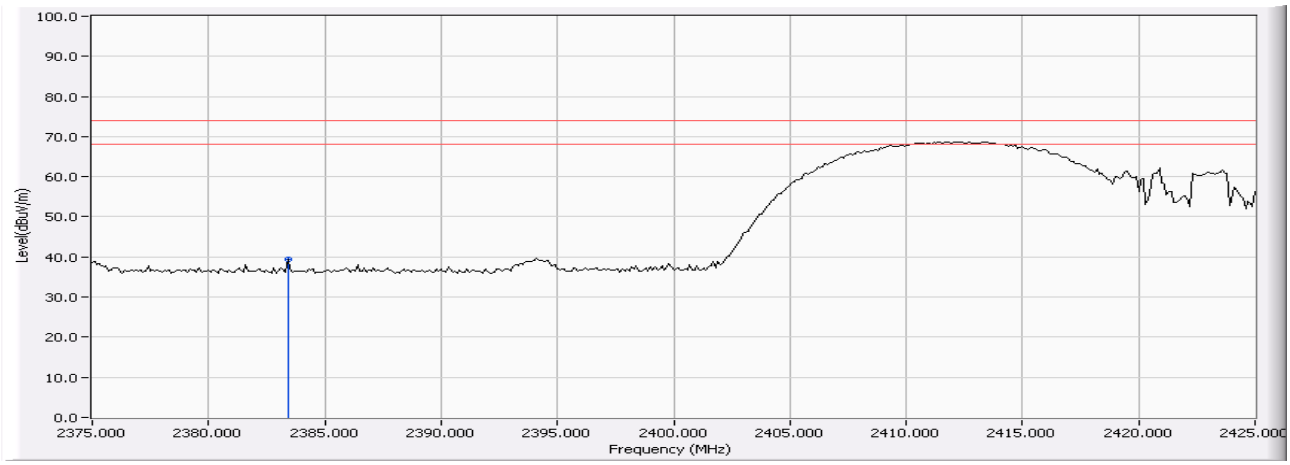
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Fcator (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
1 (Peak)	2383.400	-6.797	46.188	39.391	74.00	54.00	Pass
1 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 1: **Vertical** (Peak)



Note:

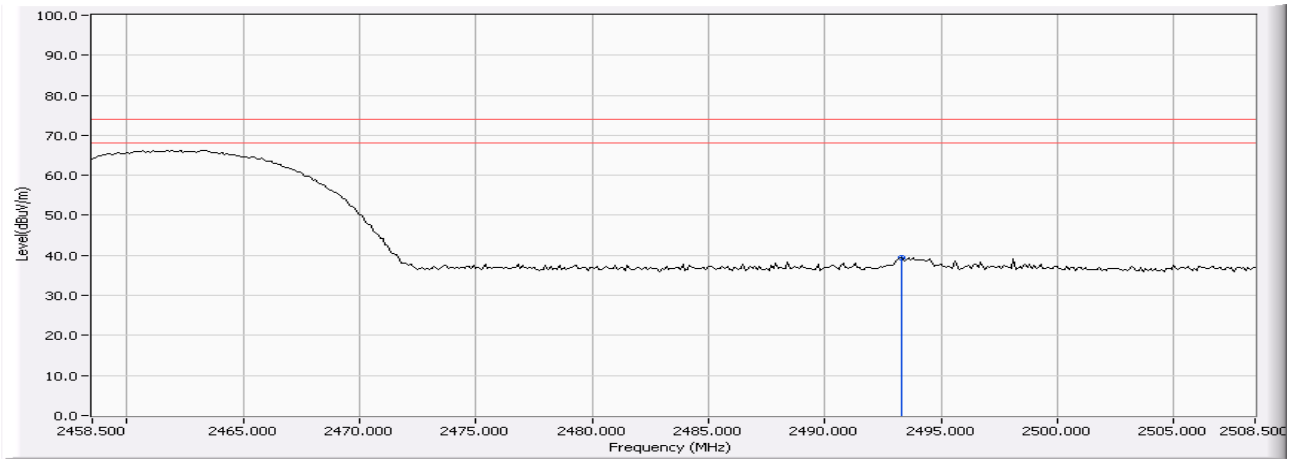
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11(Peak)	2493.300	-6.431	45.863	39.432	74.00	54.00	Pass
11 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 11: **Horizontal** (Peak)



Note:

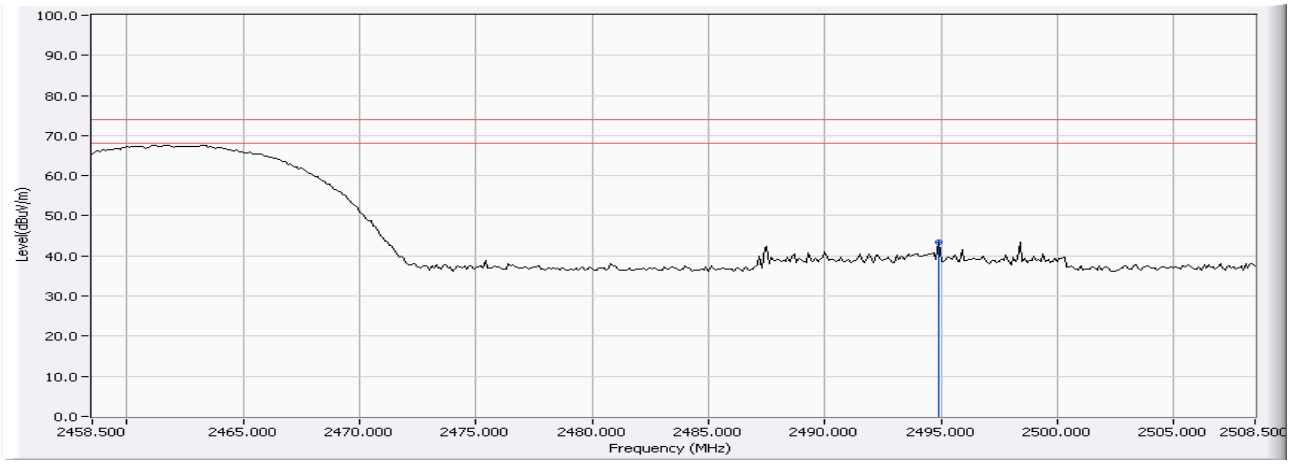
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11(Peak)	2494.900	-6.420	49.968	43.548	74.00	54.00	Pass
11 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 11: **Vertical** (Peak)



Note:

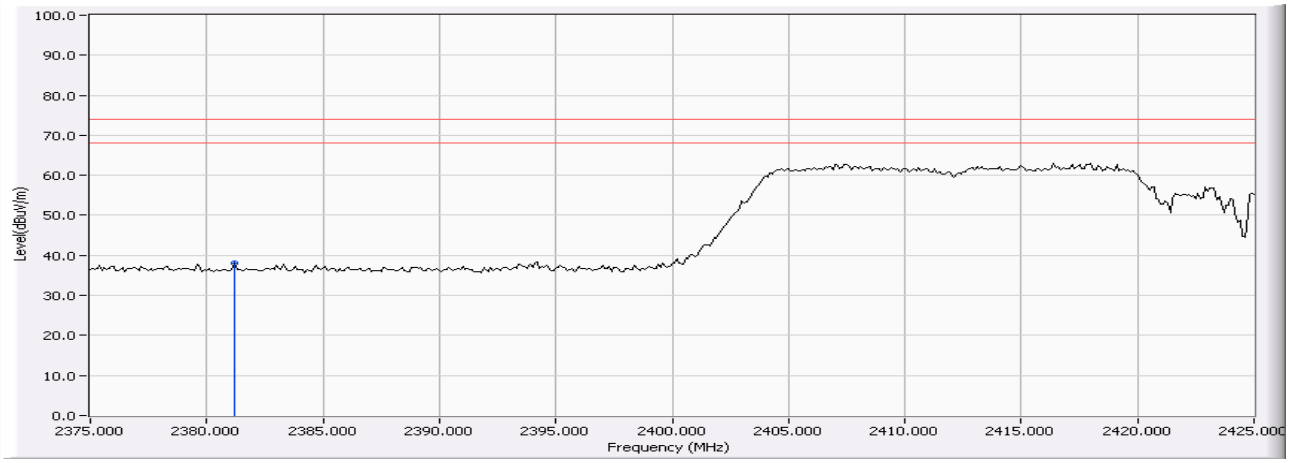
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
1 (Peak)	2381.200	-6.804	44.830	38.026	74.00	54.00	Pass
1 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 1: **Horizontal** (Peak)



Note:

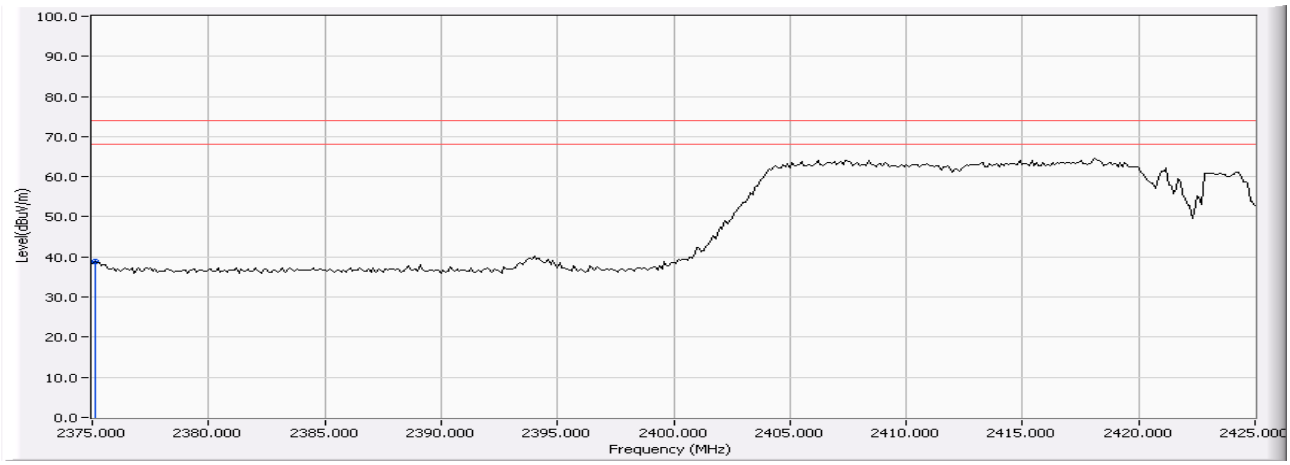
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
1 (Peak)	2375.100	-6.834	45.659	38.825	74.00	54.00	Pass
1 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 1: **Vertical** (Peak)



Note:

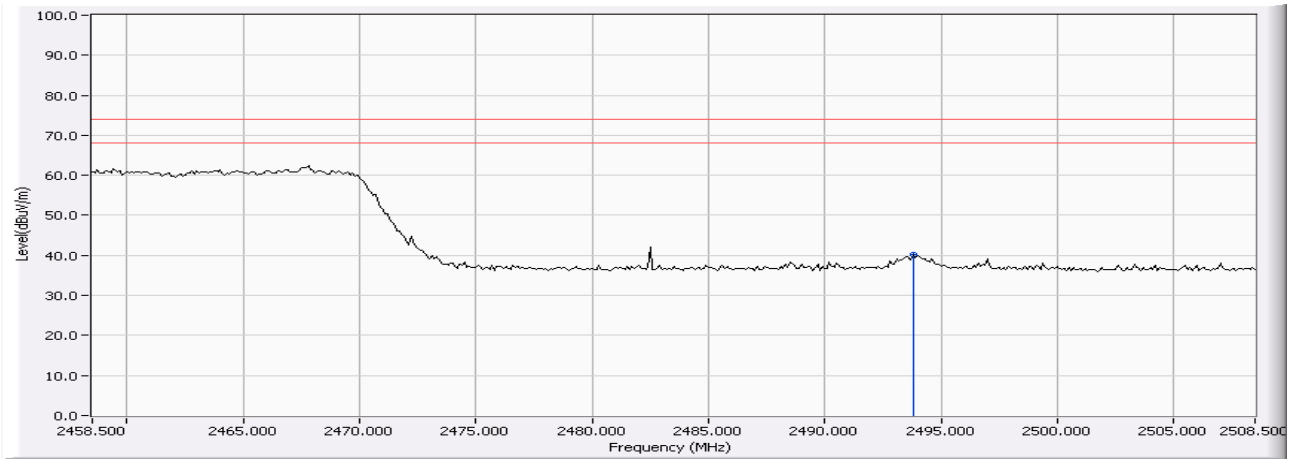
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11(Peak)	2493.800	-6.427	46.689	40.262	74.00	54.00	Pass
11(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 11: **Horizontal** (Peak)



Note:

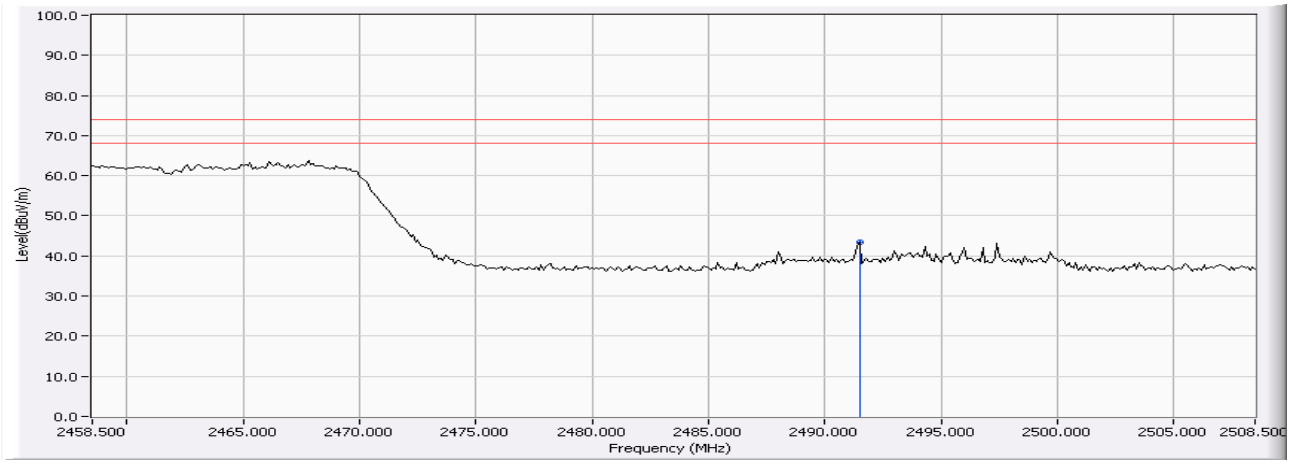
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Surveillance Camera 3616
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11(Peak)	2491.500	-6.442	49.938	43.496	74.00	54.00	Pass
11(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 11: **Vertical** (Peak)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth

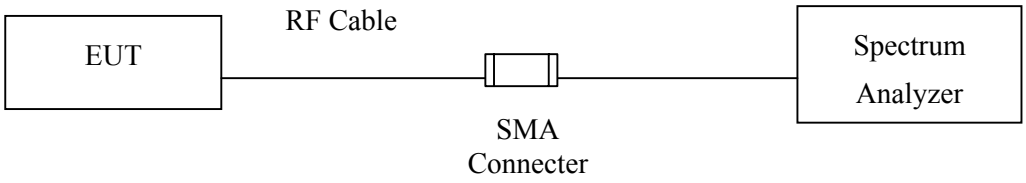
7.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Span greater than RBW.

7.4. Limits

The minimum bandwidth shall be at least 500kHz.

7.5. Uncertainty

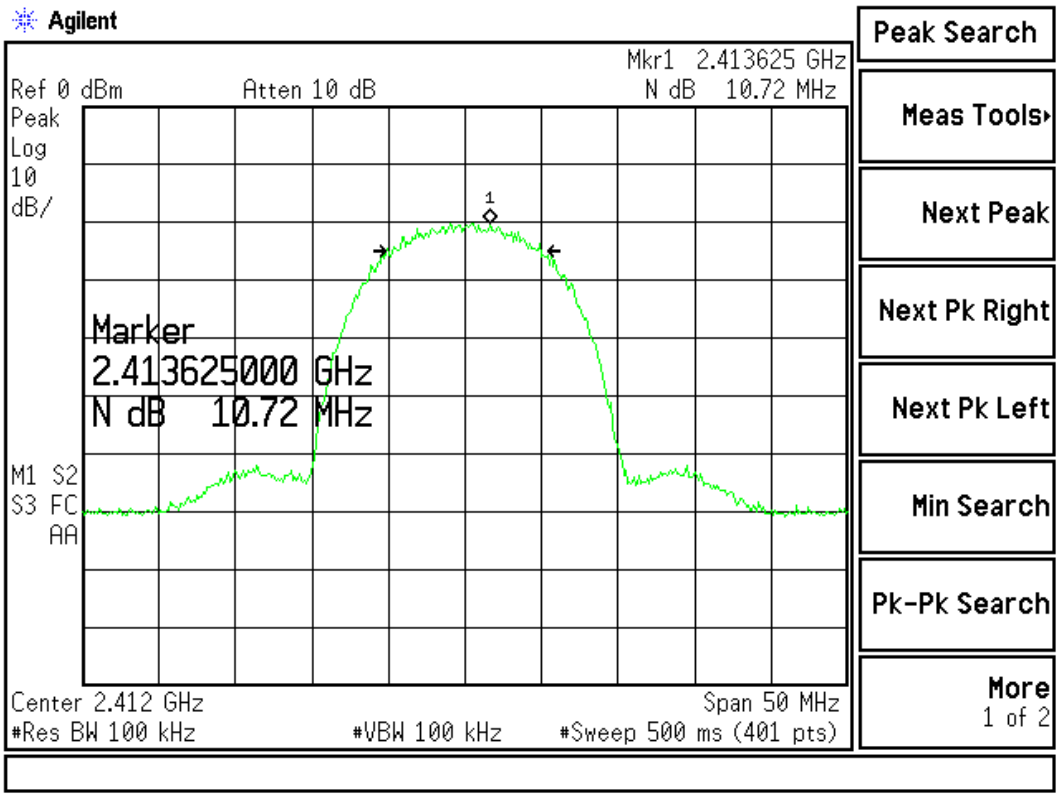
± 150Hz

7.6. Test Result of Occupied Bandwidth

Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (11Mbps)	2412.00	10720	>500	Pass

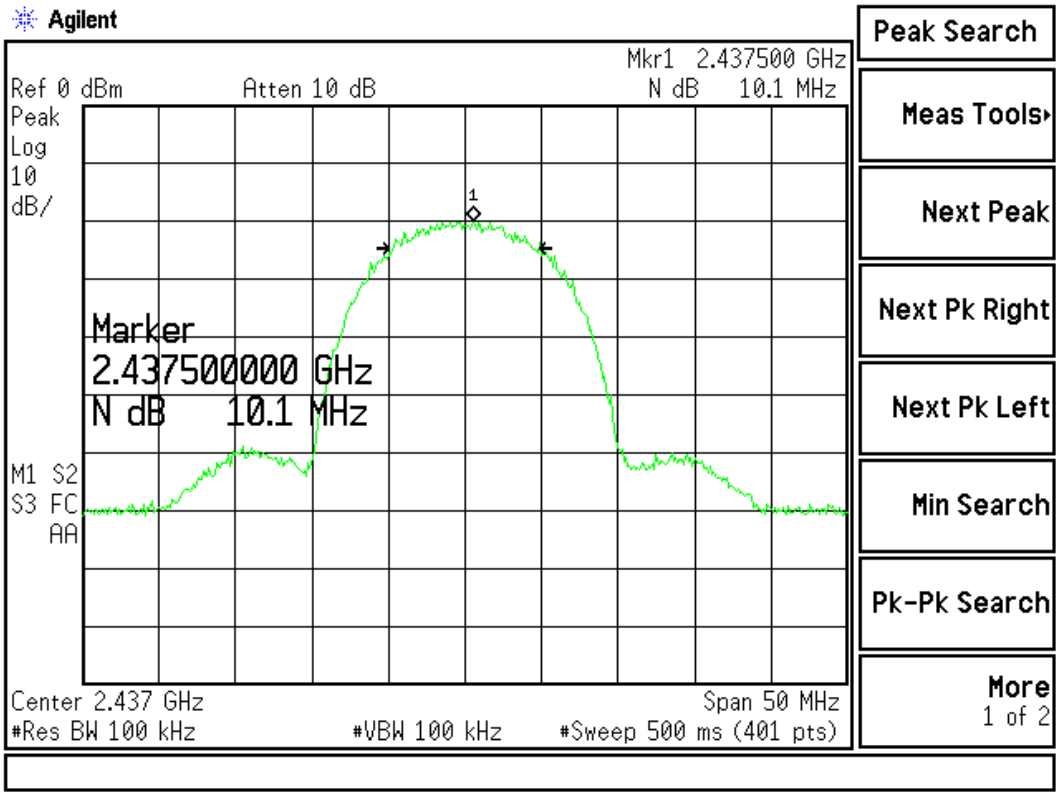
Figure Channel 1:



Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (11Mbps)	2437.00	10100	>500	Pass

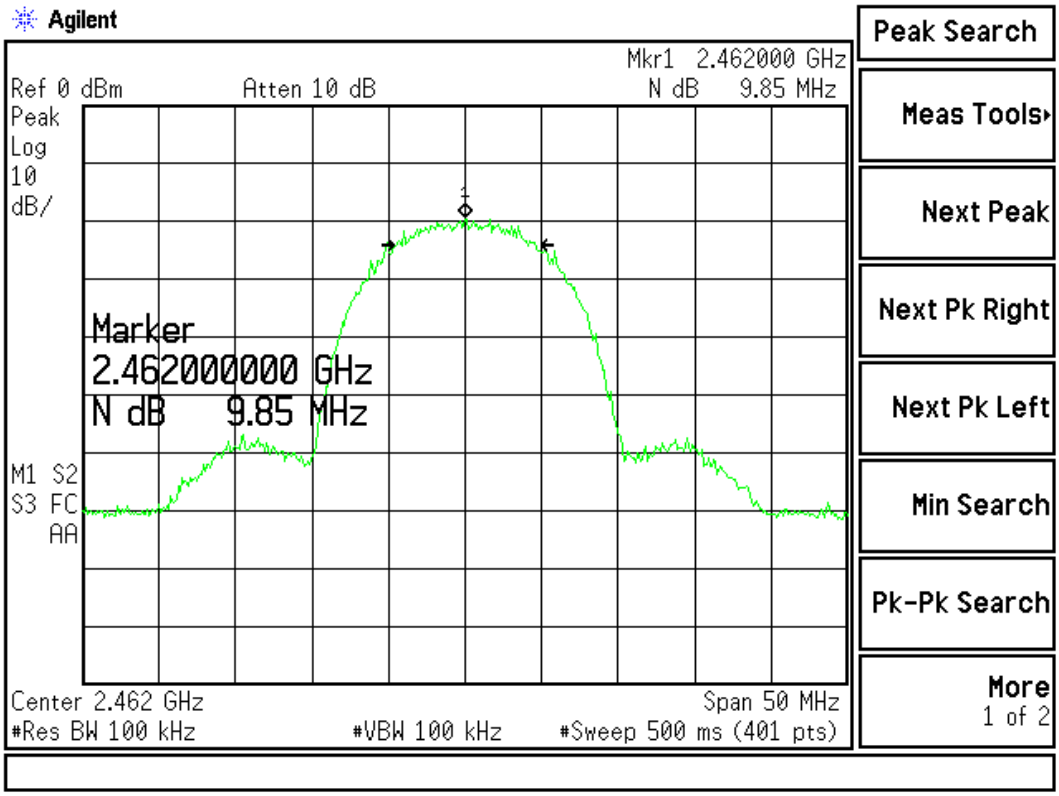
Figure Channel 6:



Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (11Mbps)	2462.00	9850	>500	Pass

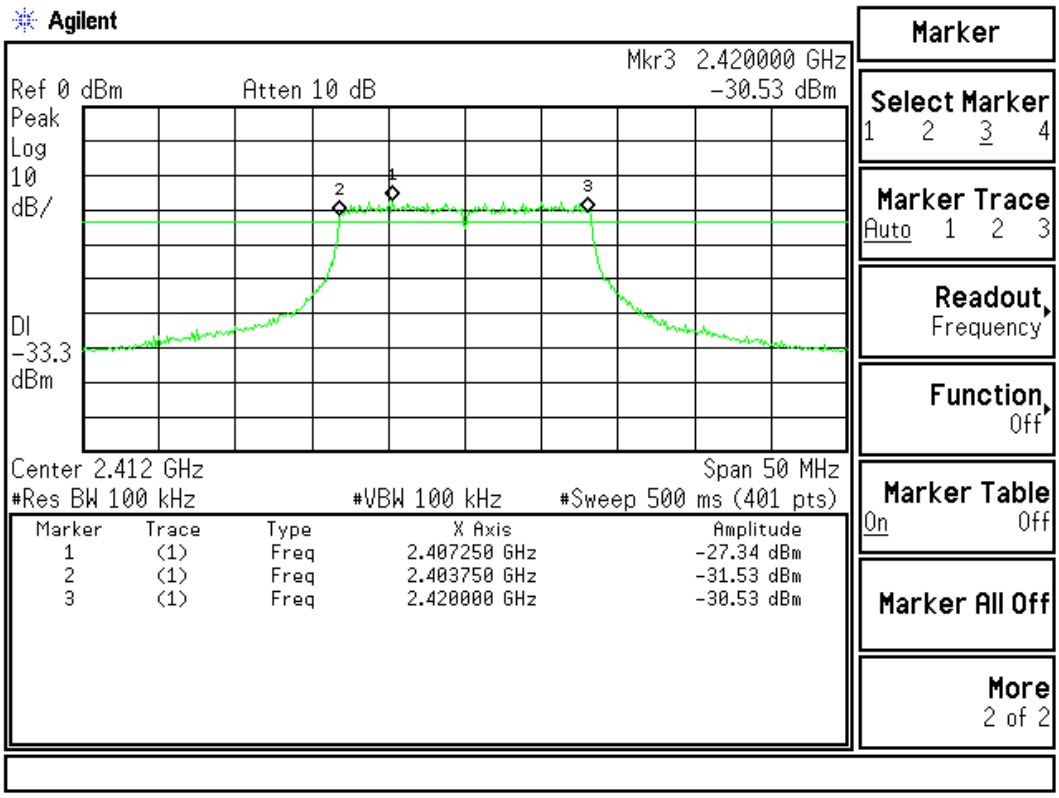
Figure Channel 11:



Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (54Mbps)	2412.00	16250	>500	Pass

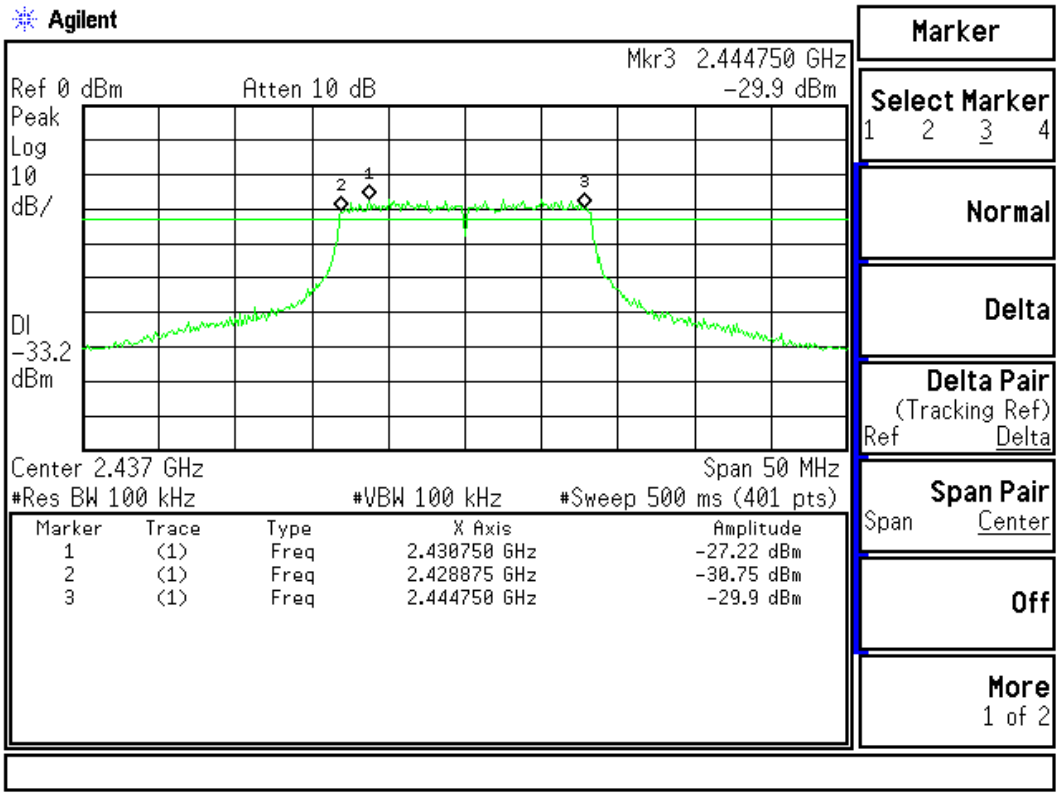
Figure Channel 1:



Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (54Mbps)	2437.00	15875	>500	Pass

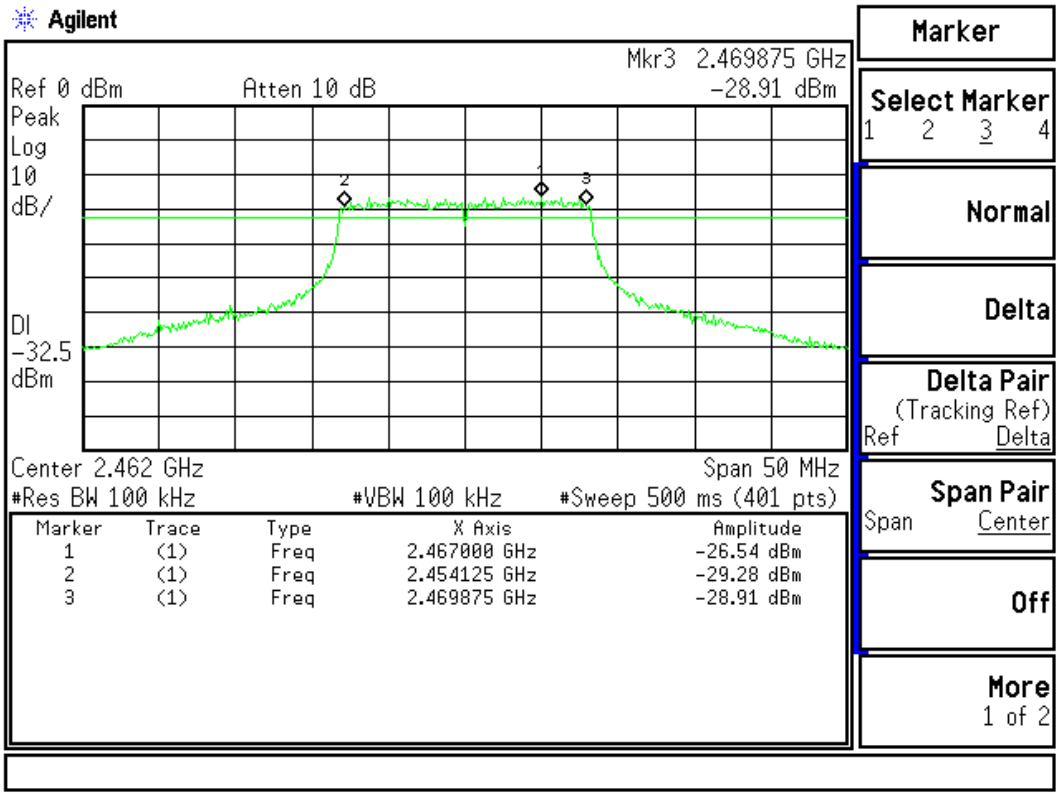
Figure Channel 6:



Product : Wireless Surveillance Camera 3616
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (54Mbps)	2462.00	15750	>500	Pass

Figure Channel 11:



8. Power Density

8.1. Test Equipment

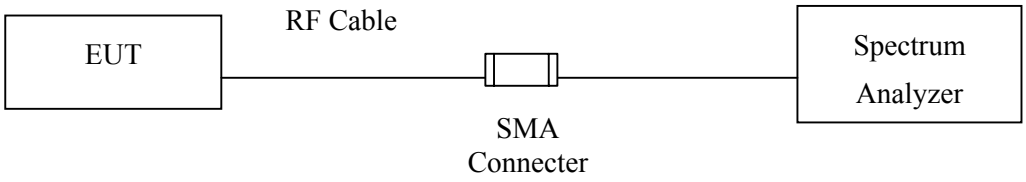
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

8.2. Test Setup



8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.4. Test Procedures

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 3 kHz, VBW=10KHz, Sweep time=(SPAN/3KHz), detector=Peak detector

8.5. Uncertainty

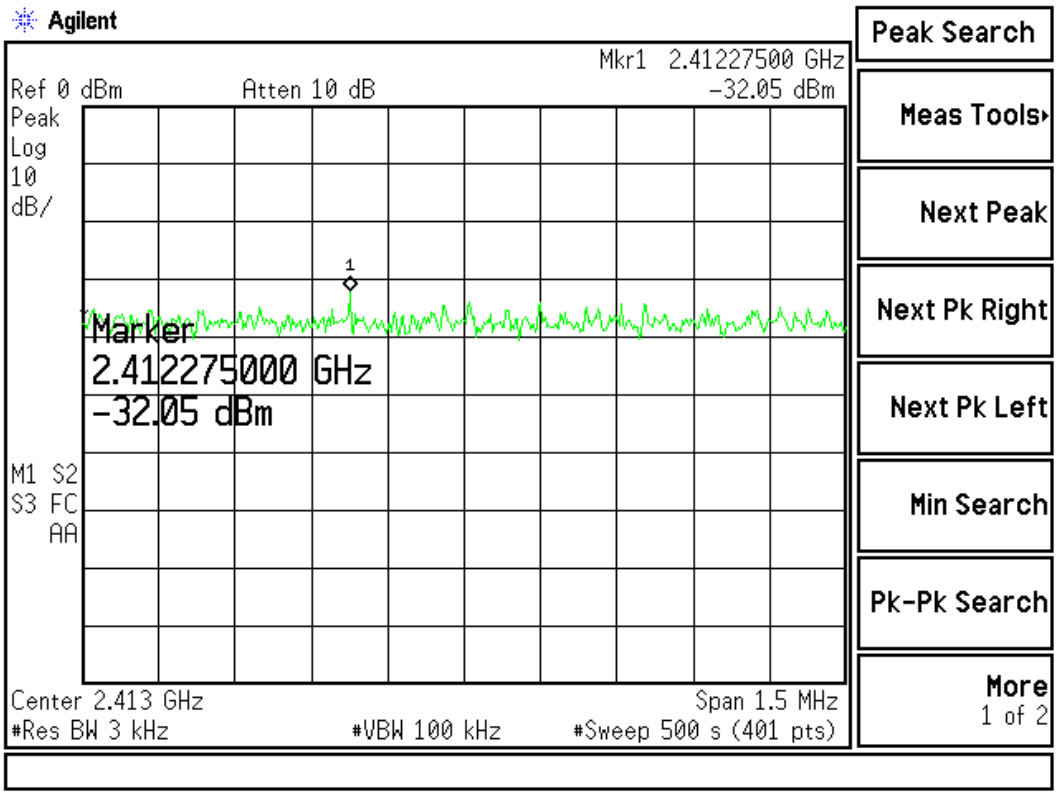
± 1.27 dB

8.6. Test Result of Power Density

Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (11Mbps)	2412.00	-32.05	< 10dBm	Pass

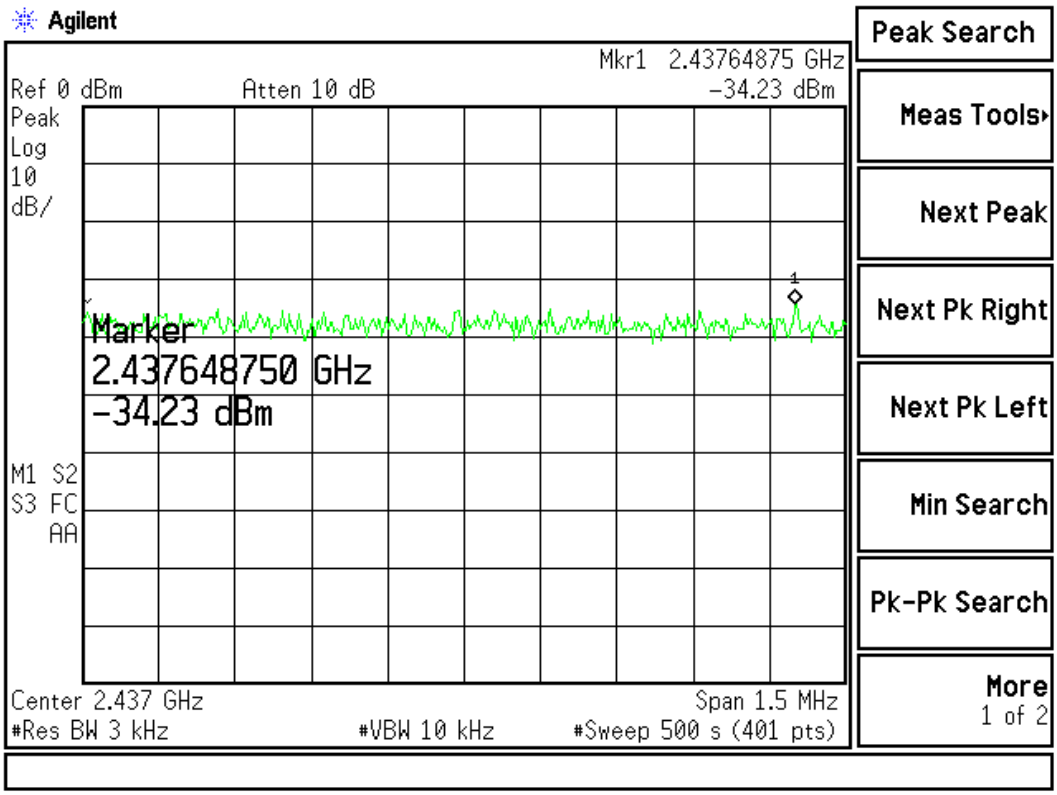
Figure Channel 1:



Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 1: Transmitter 802.11b (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (11Mbps)	2437.000	-34.23	< 10dBm	Pass

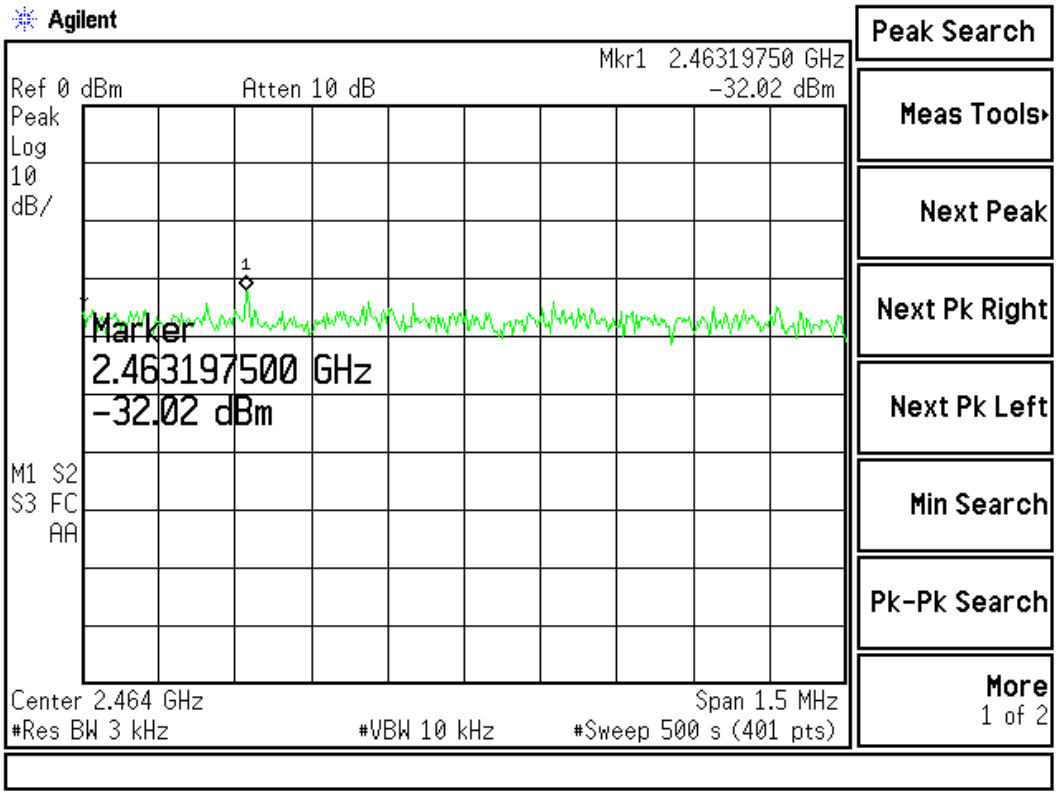
Figure Channel 6:



Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11b (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (11Mbps)	2462.00	-32.02	< 10dBm	Pass

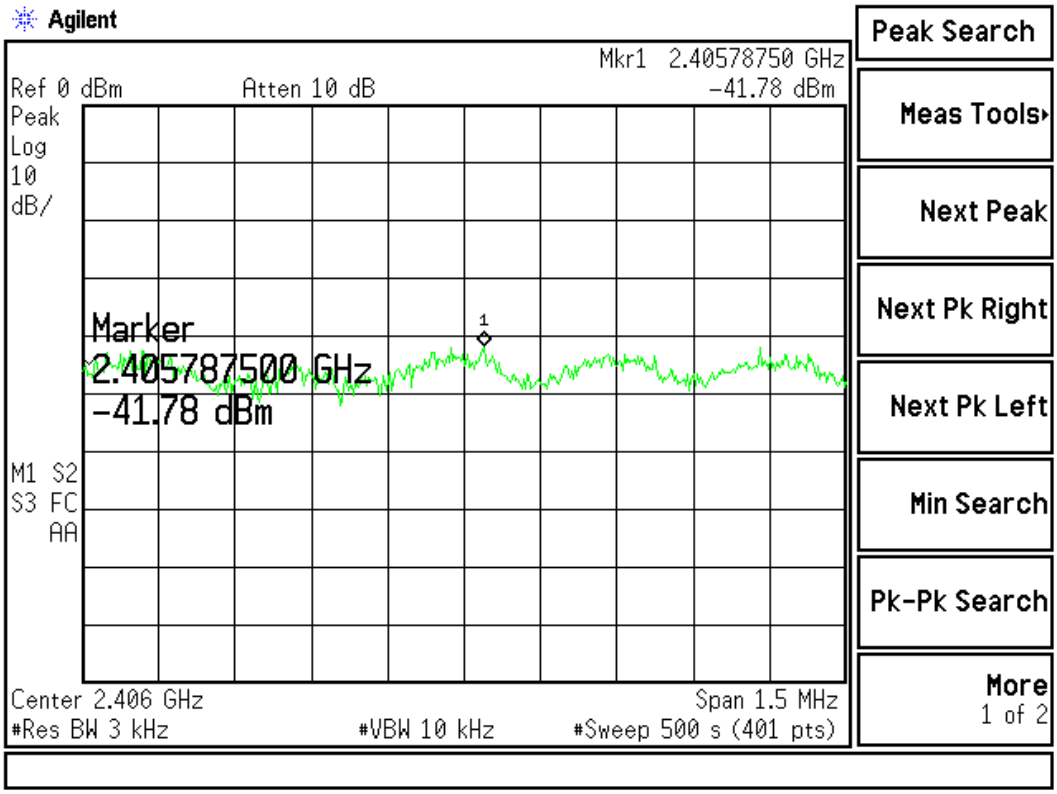
Figure Channel 11:



Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (54Mbps)	2412.00	-41.78	< 10dBm	Pass

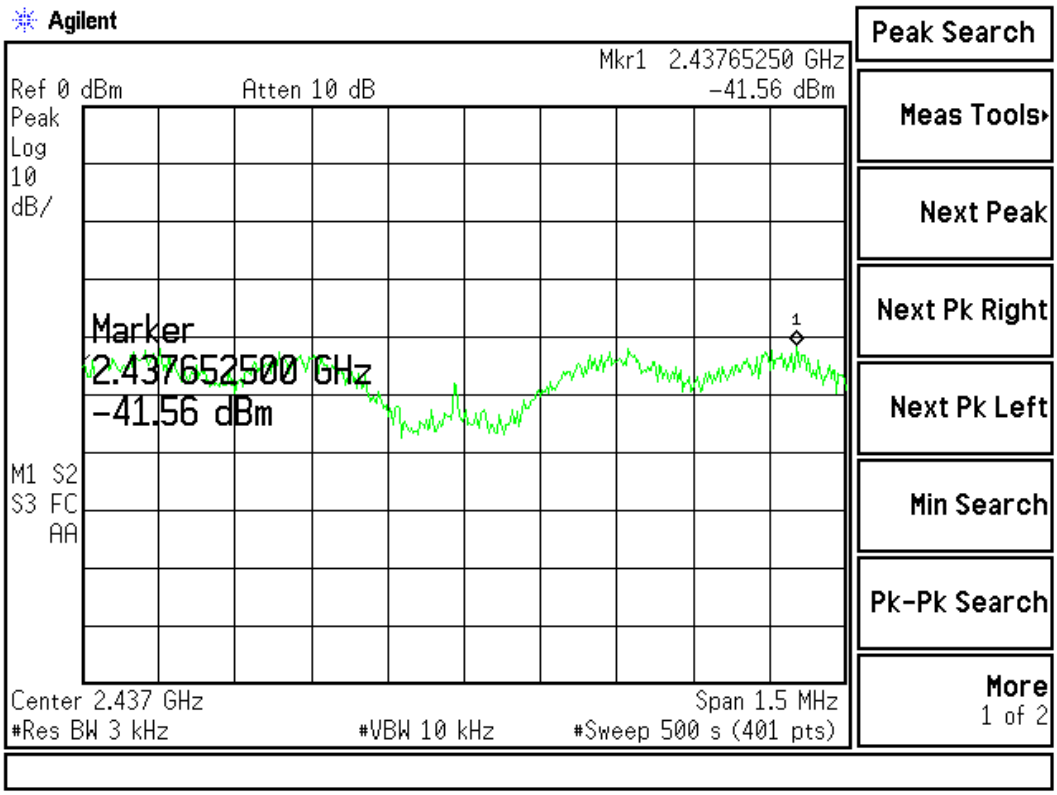
Figure Channel 1:



Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 2: Transmitter 802.11g (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (54Mbps)	2437.000	-41.56	< 10dBm	Pass

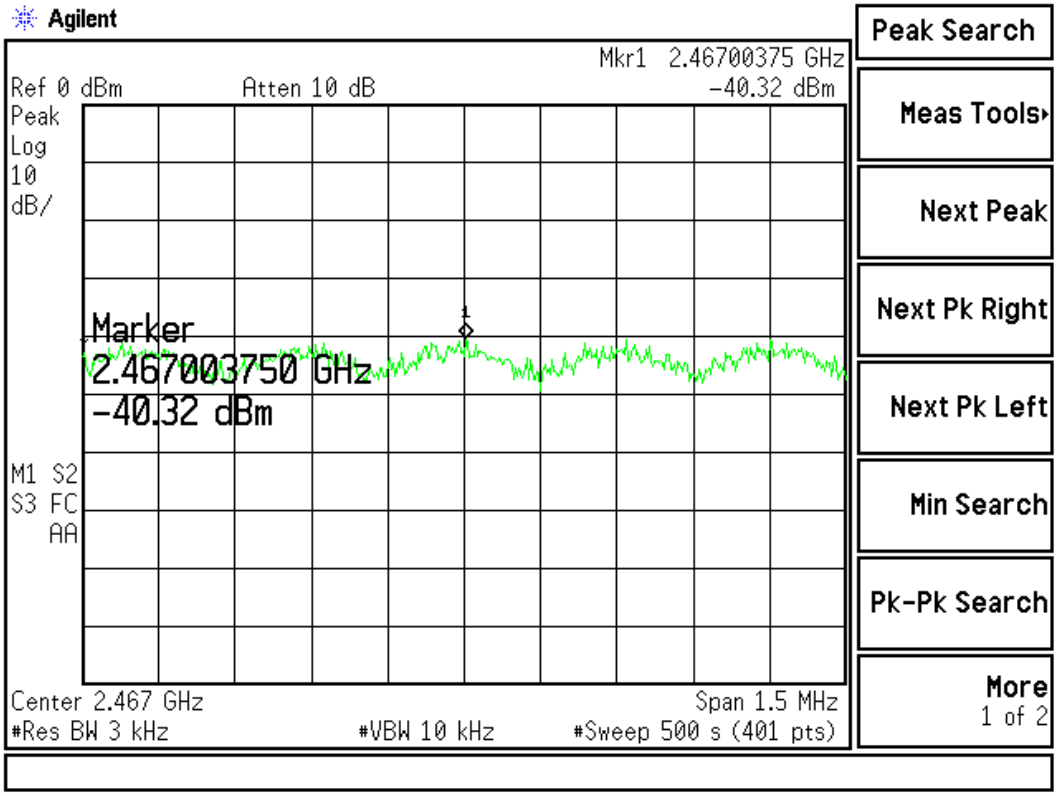
Figure Channel 6:



Product : Wireless Surveillance Camera 3616
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11g (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (54Mbps)	2462.00	-40.32	< 10dBm	Pass

Figure Channel 11:



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.