



FCC RADIO TEST REPORT

Prepared For	SHENZHEN ETONG ELECTRONICS CO., LIMITED
Product Name:	WiFi IP Camera
Trade Name:	etong
Model Name :	IPC-5003WHD
FCC ID:	PS8IPC-5003WHD
Prepared By	DongGuan Precise Testing Service Co.,Ltd.
	F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China
Report No.	PTS2012061939F
Test Date:	Aug. 22 ~ Sep. 03, 2012
Date of Report :	Sep. 03, 2012

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**VERIFICATION OF COMPLIANCE**

Applicant:	SHENZHEN ETONG ELECTRONICS CO., LIMITED
Address	2/F, South Block, Jingfu Industrial Park, Hangchen Blvd, Gushu, Xixiang, Bao'an, Shenzhen, China
Manufacturer Name:	SHENZHEN ETONG ELECTRONICS CO., LIMITED
Address:	2/F, South Block, Jingfu Industrial Park, Hangchen Blvd, Gushu, Xixiang, Bao'an, Shenzhen, China
Product Description:	WiFi IP Camera
Brand Name:	etong
Model Name:	IPC-5003WHD
Model difference:	N/A
Test procedure	ANSI C63.4
Standards	FCC Part15.247

Prepared by :

Assistant

Reviewer :

Supervisor

Approved & Authorized Signer :

Jacky Ou / Manager

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Operation Frequency	2.412 GHz to 2.462GHz
Output Power	802.11b: 17.29dBm(Max) 802.11g: 14.98dBm(Max)
Modulation Type:	802.11b: DSSS (BPSK, QPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps
Number of channels	11
Antenna Designation	External antenna
Antenna Gain	2dbi
Power Supply	DC 5.0V by adapter
ADAPTER:	AC 100-120V, 60Hz, 0.5A
Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	

1.2 TABLE OF CARRIER FREQUENCIES

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

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1.3 RELATED SUBMITTAL(S) / GRANT (S)

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01
- ♦ ANSI C63.4-2003

1.4 TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.5 TEST FACILITY

All measurement facilities used to collect the measurement data are located at

NTEK Testing Technology Co., Ltd

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003.

FCC register No.: 238937

IC register No.: 9270A-1

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

1.6 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

1.7 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.



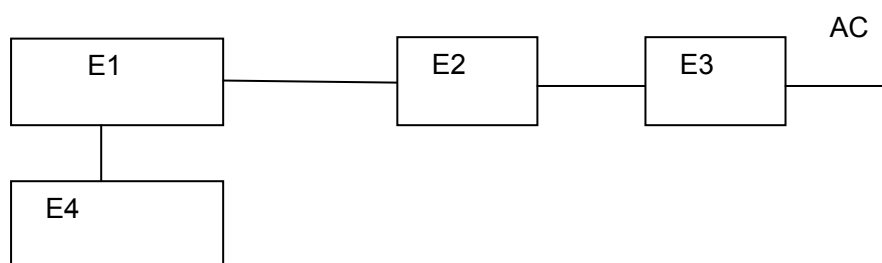
2. SYSTEM TEST CONFIGURATION

2.1 CONFIGURATION OF TESTED SYSTEM

Conducted Emission:



Radiated Emission:



2.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID
E1	WiFi IP Camera	N/A	IPC-5003WHD	PS8IPC-5003WHD
E2	PC	IBM	2366	--
E3	Adapter(PC)	IBM	08K8202	--
E4	Adapter	DVE	DSA-15P-05	

Note: The programmed RF utility "Test Tool (PC)==> Web port==> WiFi Router" is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing.

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**3. SUMMARY OF TEST RESULTS**

FCC Part15, Subpart C(15.247)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.205	Band Edge Emission	PASS	
15.247(a)(1)	6dB Bandwidth	PASS	
15.247(b)(1)	Peak Output Power	PASS	
15.247(c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	

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4. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	Charging

For Conducted Emission	
Final Test Mode	Description
Mode 3	Charging

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	Charging

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (3) Both horizontal and vertical antenna polarities were tested, and performed pretest to three orthogonal axis. The worst case emissions were reported

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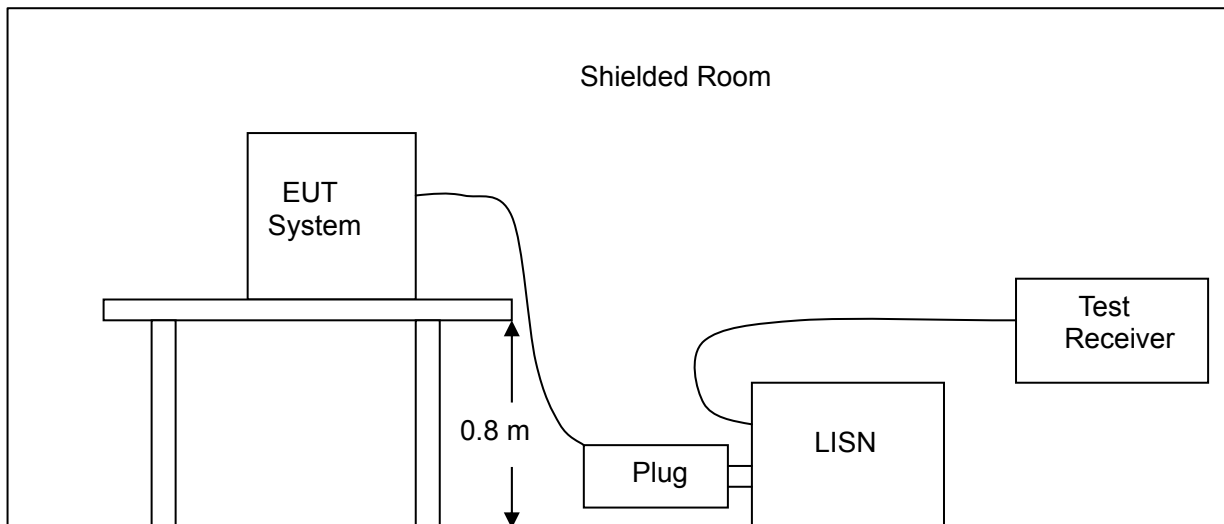


5. CONDUCTION EMISSIONS

5.1 MEASUREMENT PROCEDURE:

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. The EUT received AC120V through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

5.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



**5.3 MEASUREMENT EQUIPMENT USED:**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Test Receiver	R&S	ESCI	101160	Jul. 06. 2013
2	LISN	R&S	ENV216	101313	Jul. 06. 2013
3	LISN	EMCO	3816/2	00042990	Jul. 06. 2013
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	Jul. 06. 2013
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	Jul. 06. 2013
6	Absorbing clamp	R&S	MOS-21	100423	Jul. 06. 2013

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**5.4 LIMITS AND MEASUREMENT RESULT:****LIMITS OF LINE CONDUCTED EMISSION TEST**

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

1**Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

MEASURING INSTRUMENT AND SETTING

The following table is the setting of receiver.

Receiver Parameter	Setting
Attenuation	10dB
Start Frequency	0.15MHz
Stop Frequency	30MHz
6dB bandwidth	9KHz for QP
IF bandwidth	9KHz for AV

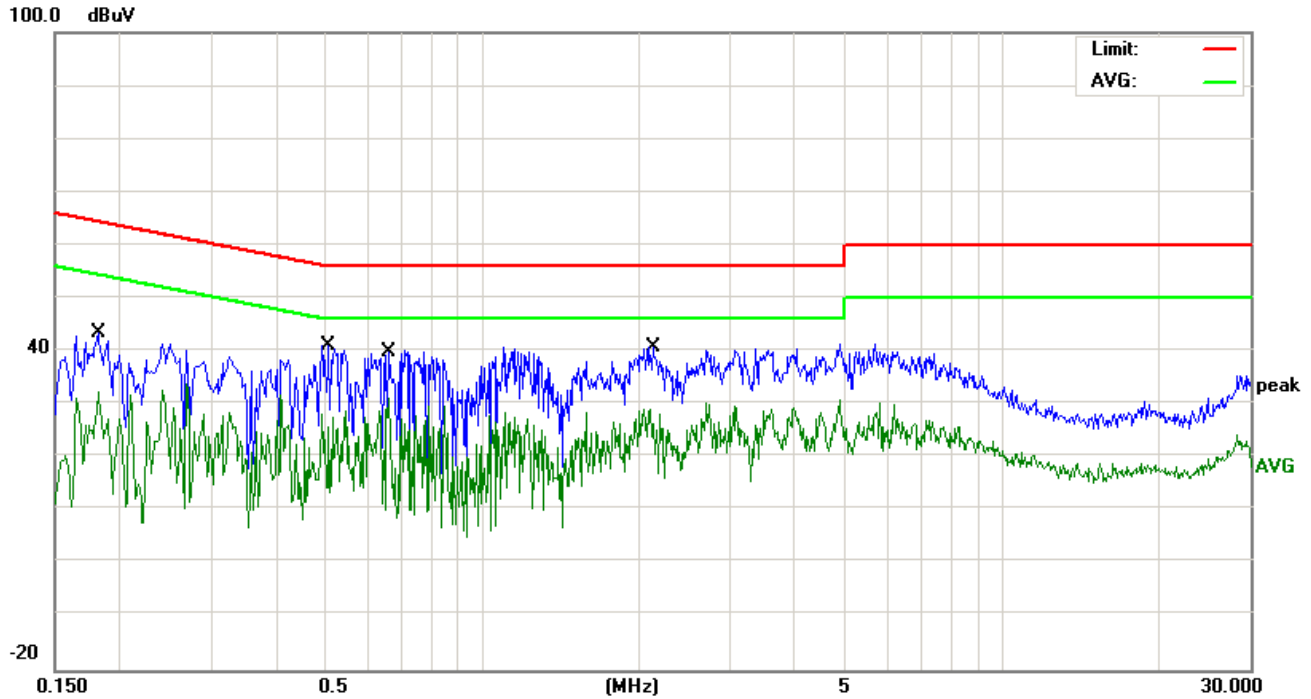
TEST RESULT

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LINE CONDUCTED EMISSION TEST LINE 1-L



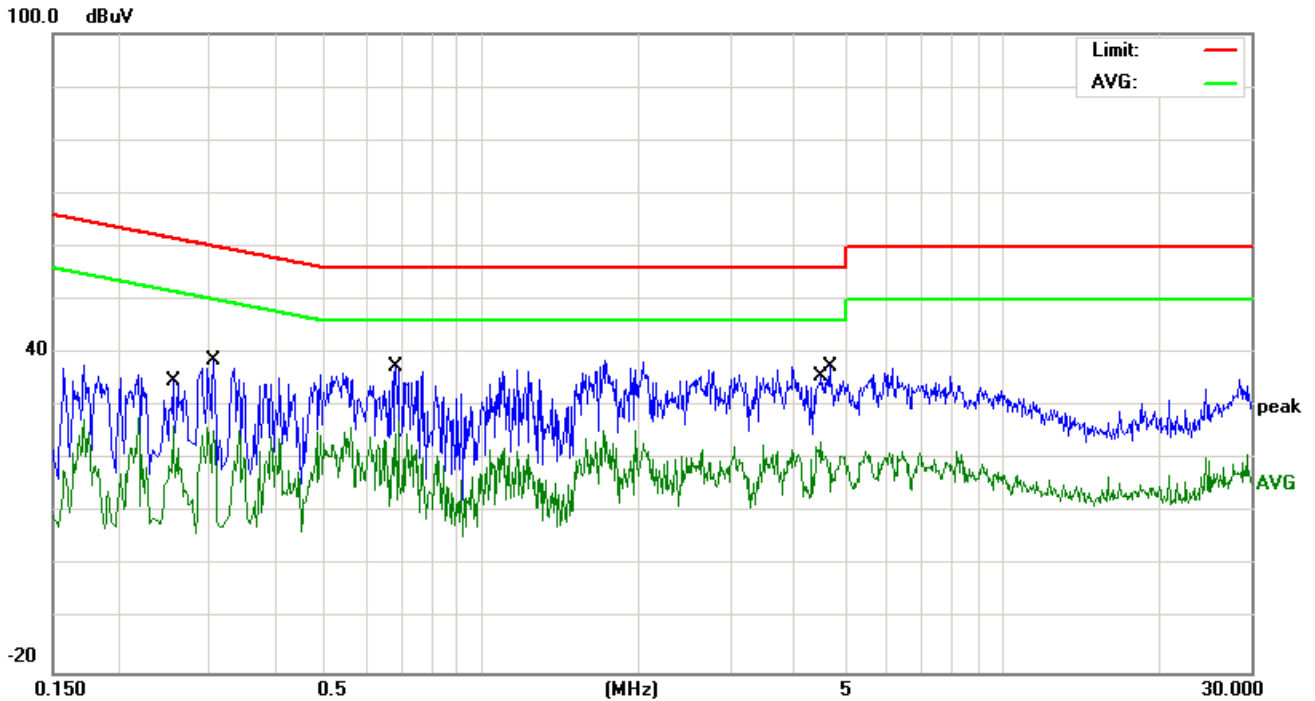
Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1819	33.82	9.71	43.53	64.39	-20.86	QP
0.1819	22.51	9.71	32.22	54.39	-22.17	AVG
0.506	31.38	9.61	40.99	56	-15.01	QP
0.658	21.53	9.63	31.16	46	-14.84	AVG
2.1099	19.51	9.64	29.15	46	-16.85	AVG
2.1218	31.15	9.64	40.79	56	-15.21	QP

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LINE CONDUCTED EMISSION TEST LINE 2-N



Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.2548	16.6	9.64	26.24	51.6	-25.36	AVG
0.3059	29.08	9.64	38.72	60.08	-21.36	QP
0.686	27.77	9.63	37.4	56	-18.6	QP
0.6898	17.7	9.63	27.33	46	-18.67	AVG
4.4818	13.52	9.68	23.2	46	-22.8	AVG
4.6698	27.82	9.68	37.5	56	-18.5	QP

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

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6. MAXIMUM OUTPUT POWER

6.1 MEASUREMENT PROCEDURE:

The EUT was directly connected to the Power meter

6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

CONDUCTED METHOD



6.3 MEASUREMENT EQUIPMENT USED:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2013
2	Test Receiver	R&S	ESPI	101318	Jul. 06. 2013
3	Bilog Antenna	TESEQ	CBL6111D	31216	Jul. 06. 2013
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	Jul. 06. 2013
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	Jul. 06. 2013
6	Horn Antenna	EM	EM-AH-10180	2011071402	Jul. 06. 2013
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Jul. 06. 2013
8	Amplifier	EM	EM-30180	060538	Jul. 06. 2013
9	Loop Antenna	ARA	PLA-1030/B	1029	Jul. 06. 2013
10	Power Meter	R&S	NRVS	100696	Jul. 06. 2013

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**6.4 LIMITS AND MEASUREMENT RESULT:**

EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 5.0V
Test Mode :	802.11b /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak output power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	17.20	30	1
CH06	2437	17.17	30	1
CH11	2462	17.29	30	1

EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 5.0V
Test Mode :	802.11g /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak output power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	14.57	30	1
CH06	2437	14.98	30	1
CH11	2462	14.54	30	1

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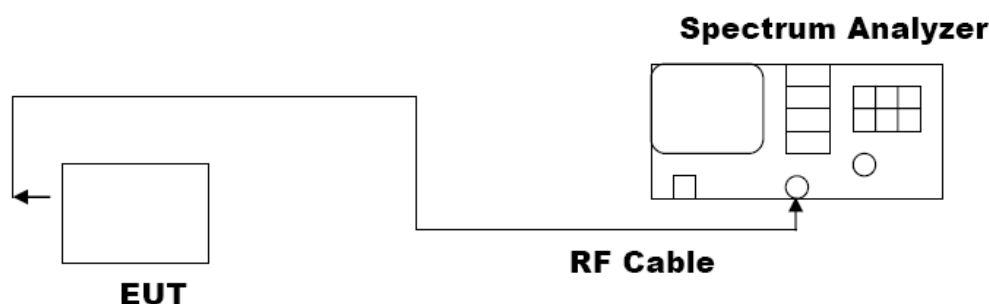
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7. 6 DB BANDWIDTH

7.1 MEASUREMENT PROCEDURE

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% of the emission bandwidth (EBW). Set the Video bandwidth (VBW) $\geq 3 * RBW$. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

7.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



7.3 MEASUREMENT EQUIPMENT USED:

The same as described in Section 6.3

7.4 LIMITS AND MEASUREMENT RESULTS:

EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX B MODE /CH01, CH06, CH11		

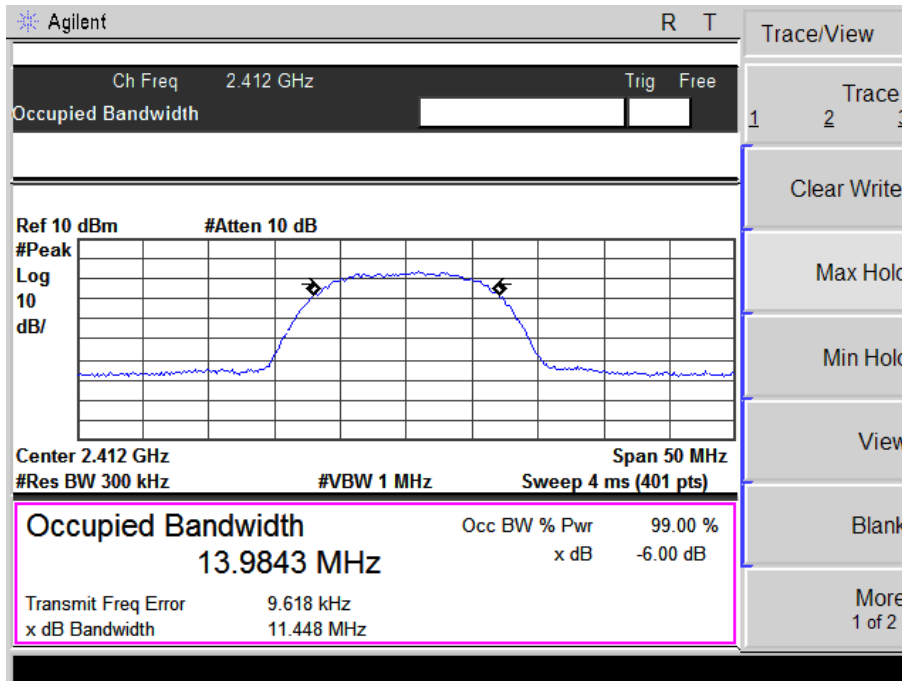
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2412 MHz	11.44	$\geq 500\text{KHz}$	PASS
2437 MHz	11.56	$\geq 500\text{KHz}$	PASS
2462 MHz	11.58	$\geq 500\text{KHz}$	PASS

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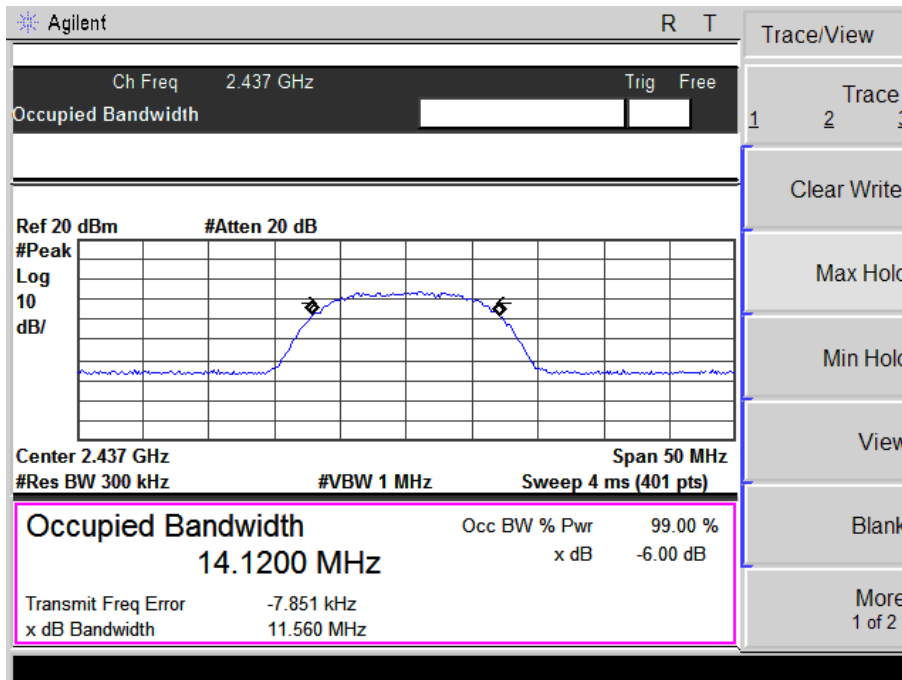
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TX CH 01



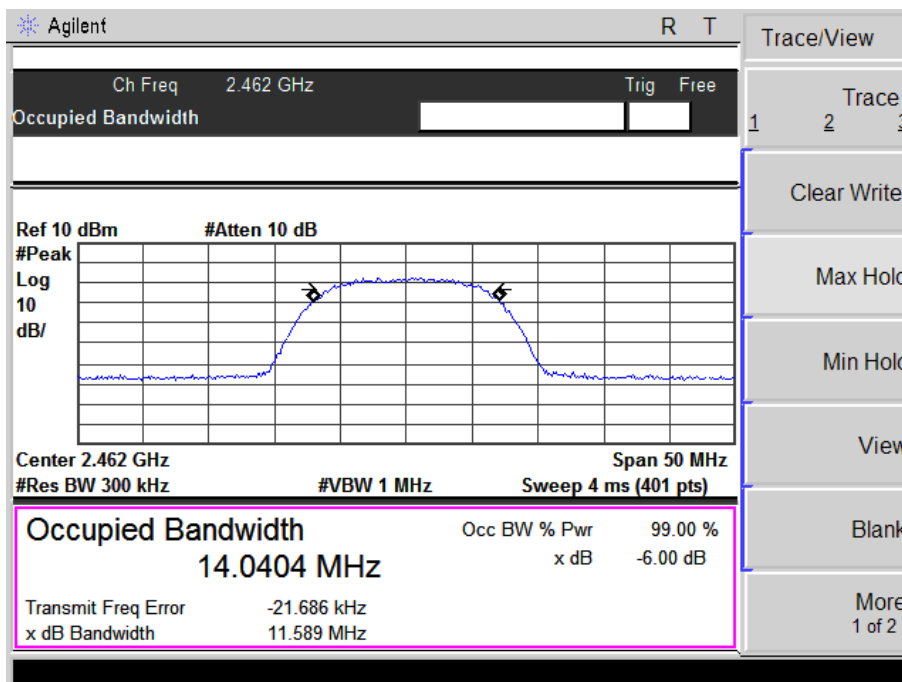
TX CH 06

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TX CH 11

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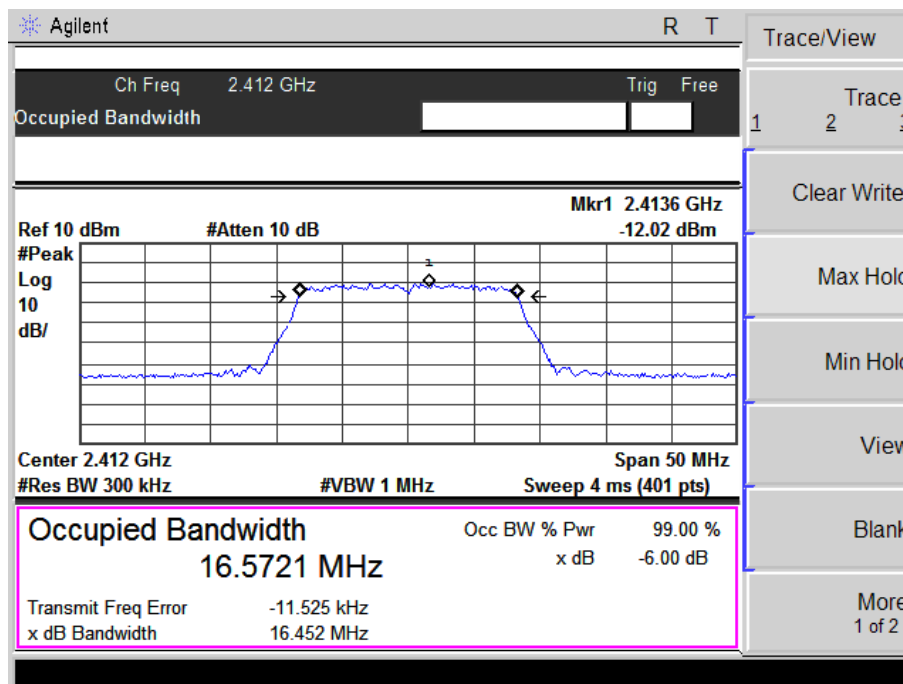
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EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX G MODE /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.45	>=500KHz	PASS
2437 MHz	16.51	>=500KHz	PASS
2462 MHz	16.61	>=500KHz	PASS

TX CH 01

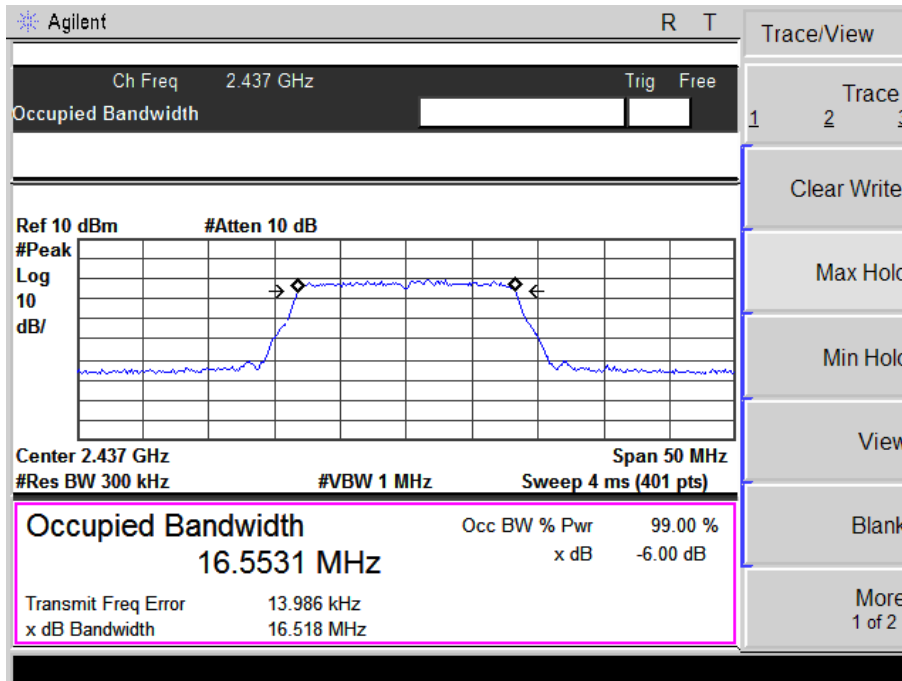


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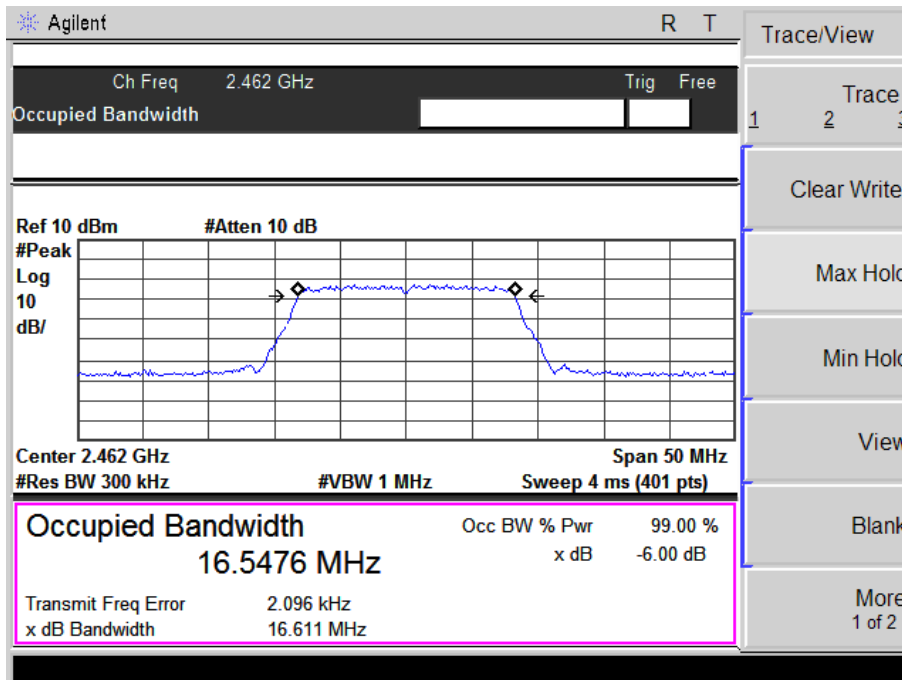
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TX CH 06



TX CH 11

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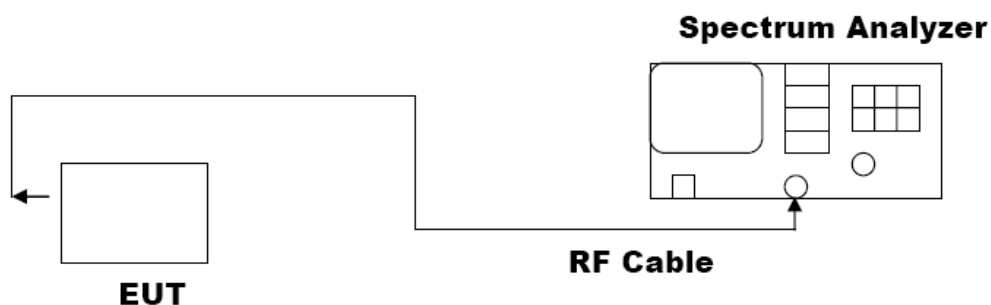


8. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

8.1 MEASUREMENT PROCEDURE:

1. The testing follows Measurement Procedure PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Record the measurement data derived from spectrum analyzer.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 KHz. Video bandwidth (VBW) $\geq$ 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$.

8.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.3 MEASUREMENT EQUIPMENT USED:

SHIELDING ROOM					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2012	Jul. 06. 2013

8.4 LIMITS AND MEASUREMENT RESULT:

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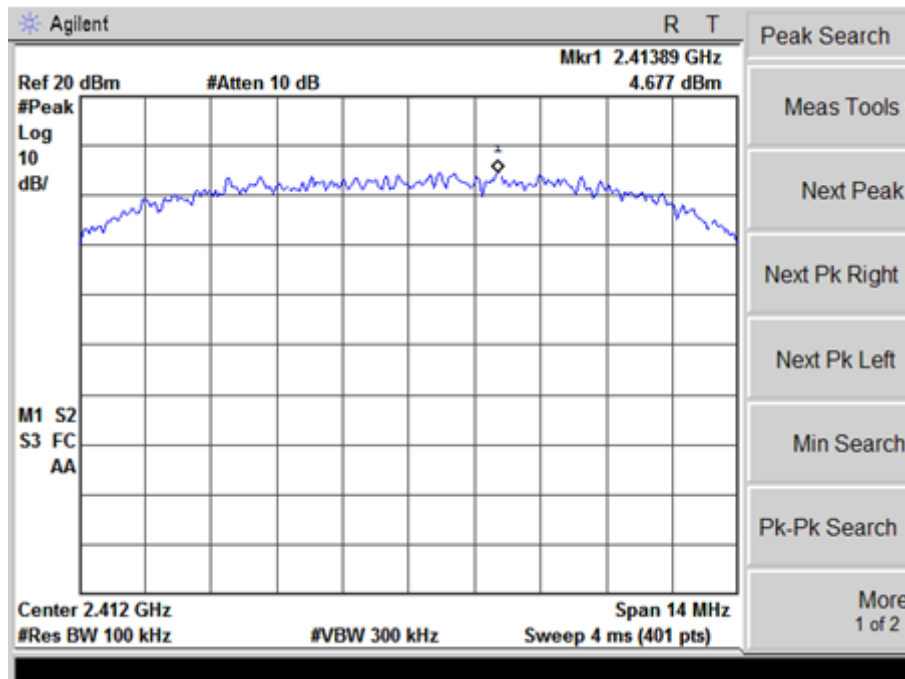
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EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1015 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX B MODE /CH01, CH06, CH11		

Frequency	Power Density (dBm)	PSD/3KHz (dBm)	Limit (dBm)	Result
2412 MHz	4.67	-10.53	8	PASS
2437 MHz	4.12	-11.08	8	PASS
2462 MHz	3.11	-12.09	8	PASS

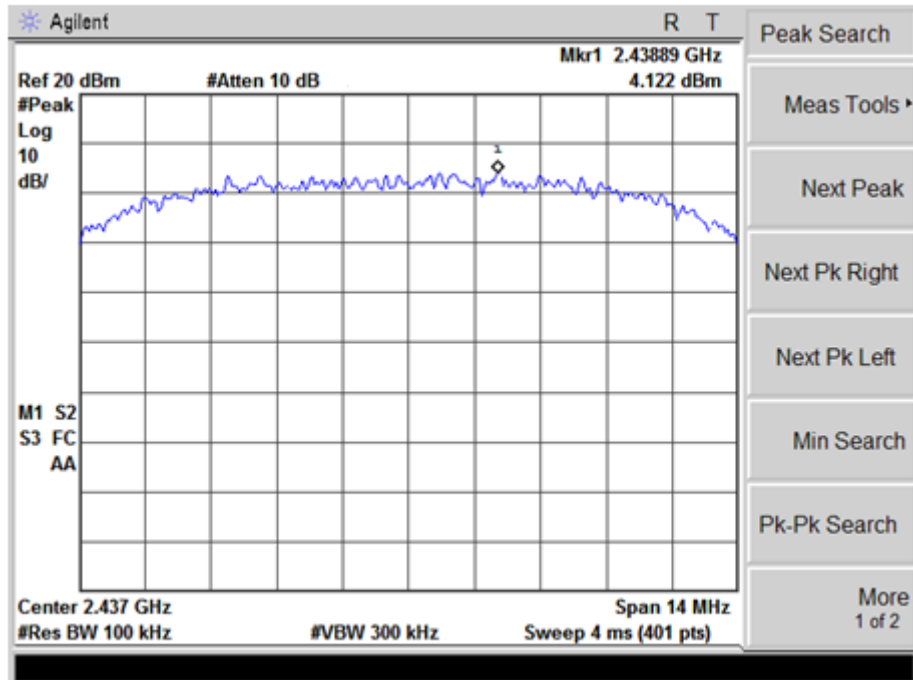
TX CH01

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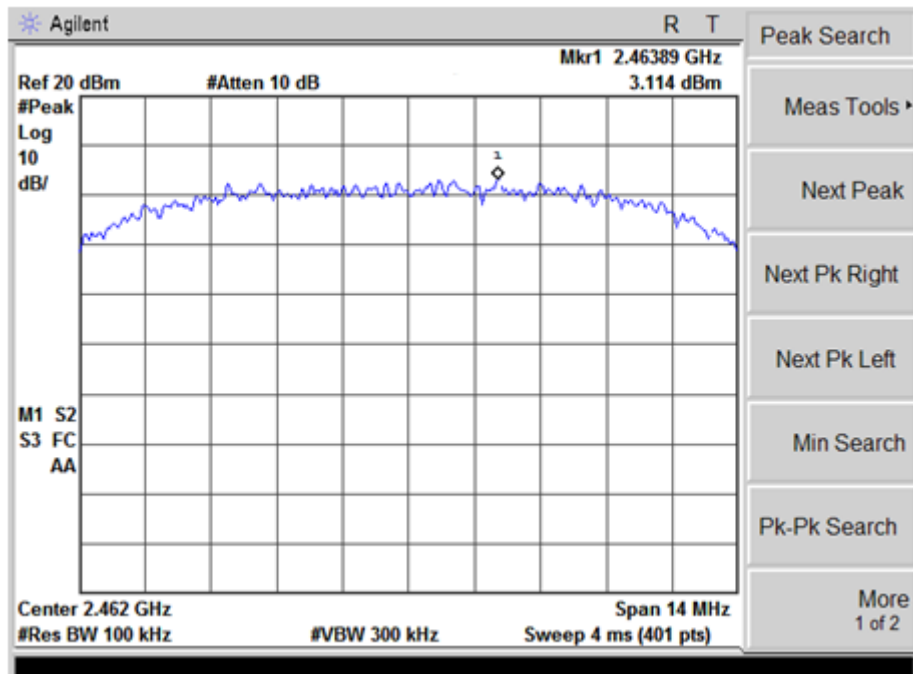
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TX CH06



TX CH11

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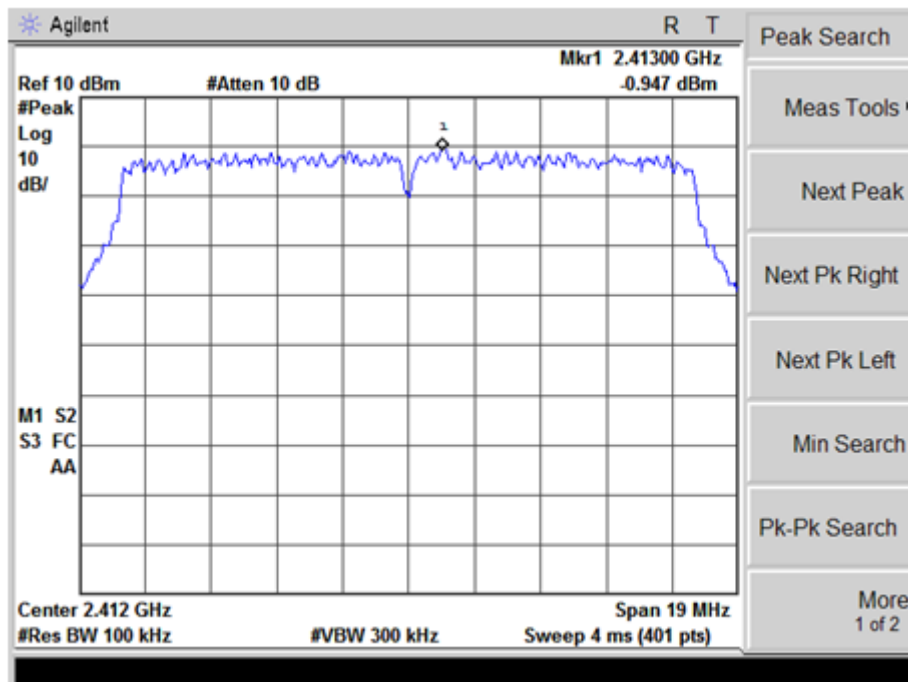
F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China
Tel: 86-769-23368601 Fax: 86-769-23368602 [http:// www.pts-testing.com](http://www.pts-testing.com)



EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1015 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX G MODE /CH01, CH06, CH11		

Frequency	Power Density (dBm)	PSD/3KHz (dBm)	Limit (dBm)	Result
2412 MHz	-0.94	-16.14	8	PASS
2437 MHz	-0.93	-16.13	8	PASS
2462 MHz	-1.31	-16.51	8	PASS

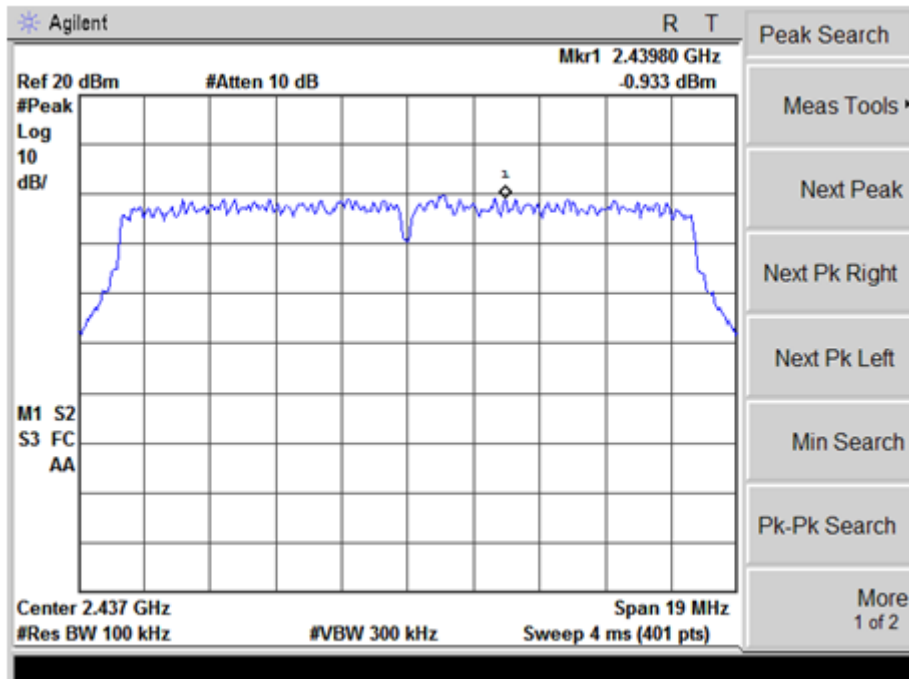
TX CH01

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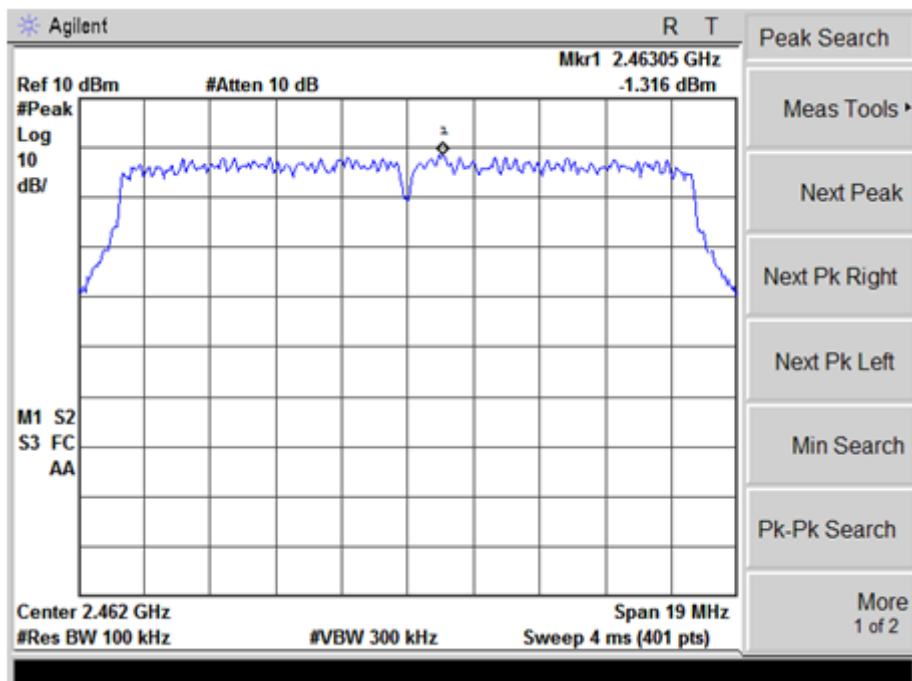
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TX CH06



TX CH11

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9. RADIATED EMISSION

MEASUREMENT PROCEDURE

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

The following table is the setting of spectrum analyzer and receiver.'

Spectrum Parameter	Setting
Start Frequency	1GHz
Stop Frequency	26.5GHz
RB/VB(Emission in restricted band)	1MHz/1MHz for Peak, 1MHz/10Hz for Average
RB/VB(Emission in non-restricted band)	1MHz/1MHz for Peak

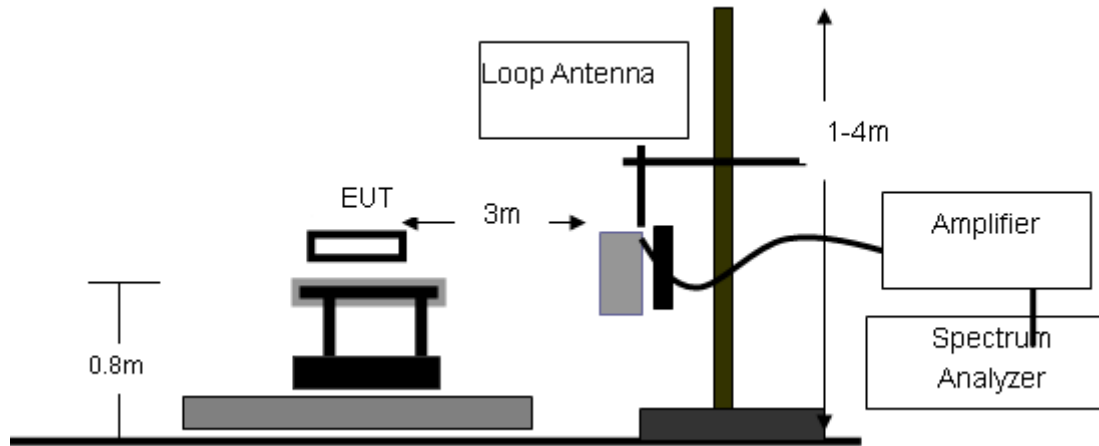
Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

RADIATED EMISSION TEST SETUP

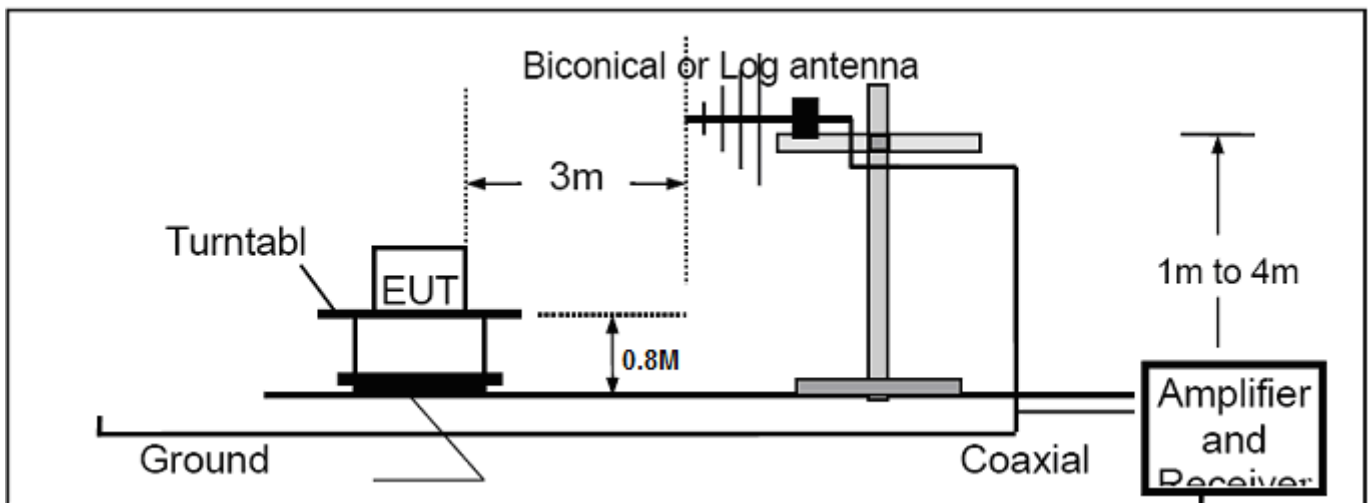
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RADIATED EMISSION TEST SETUP BELOW 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz

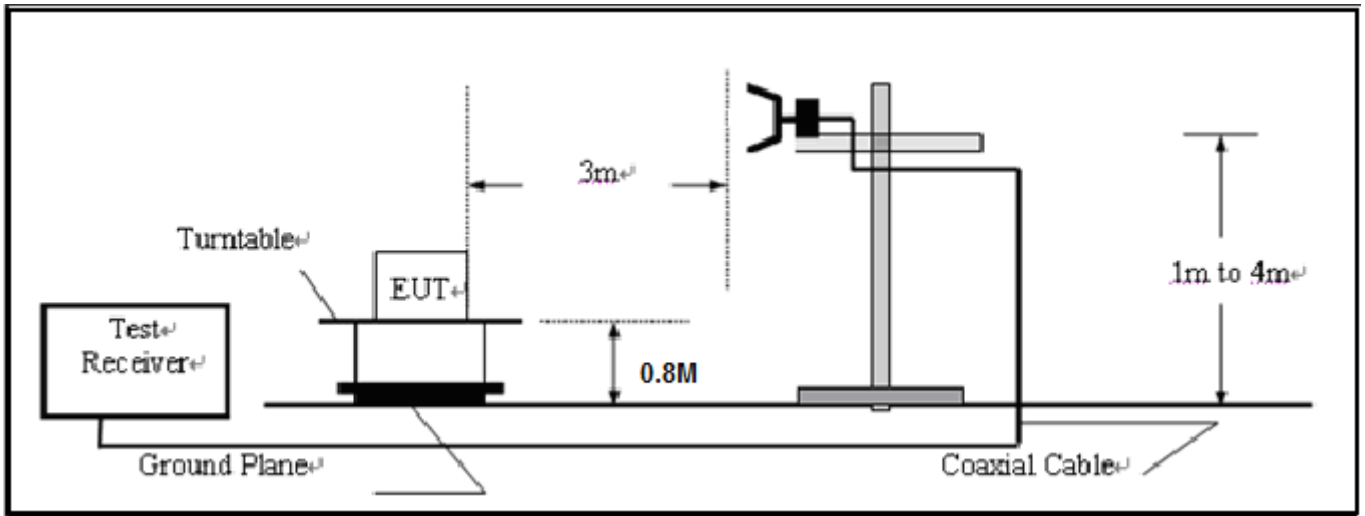


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RADIATED MISSION TEST SETUP ABOVE 1000MHz



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**TEST RESULT OF RADIATED EMISSION TEST (9KHz ~30MHz)**

EUT:	WiFi IP Camera	Model Name. :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $20 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

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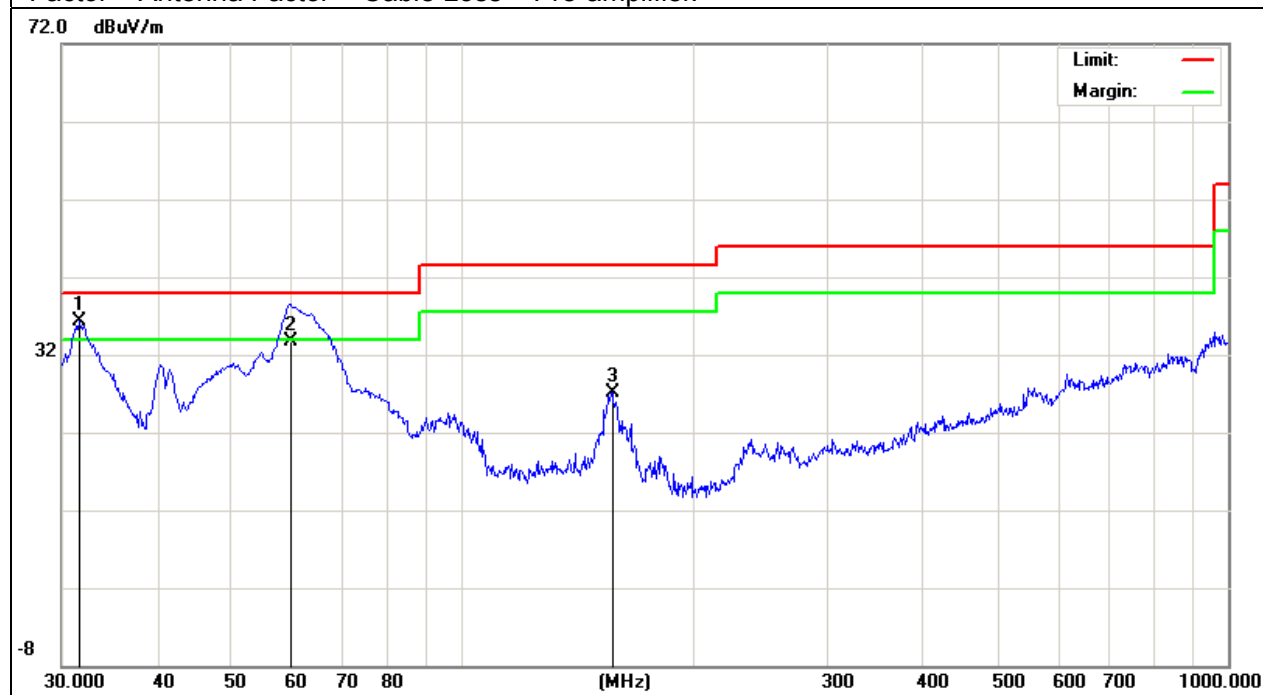
**TEST RESULT OF RADIATED EMISSION TEST (30MHZ-1GHZ)**

EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
31.6202	18.73	17.54	36.27	40	-3.73	
59.6493	28.48	5.22	33.7	40	-6.3	QP
157.0074	16.16	11.04	27.2	43.5	-16.3	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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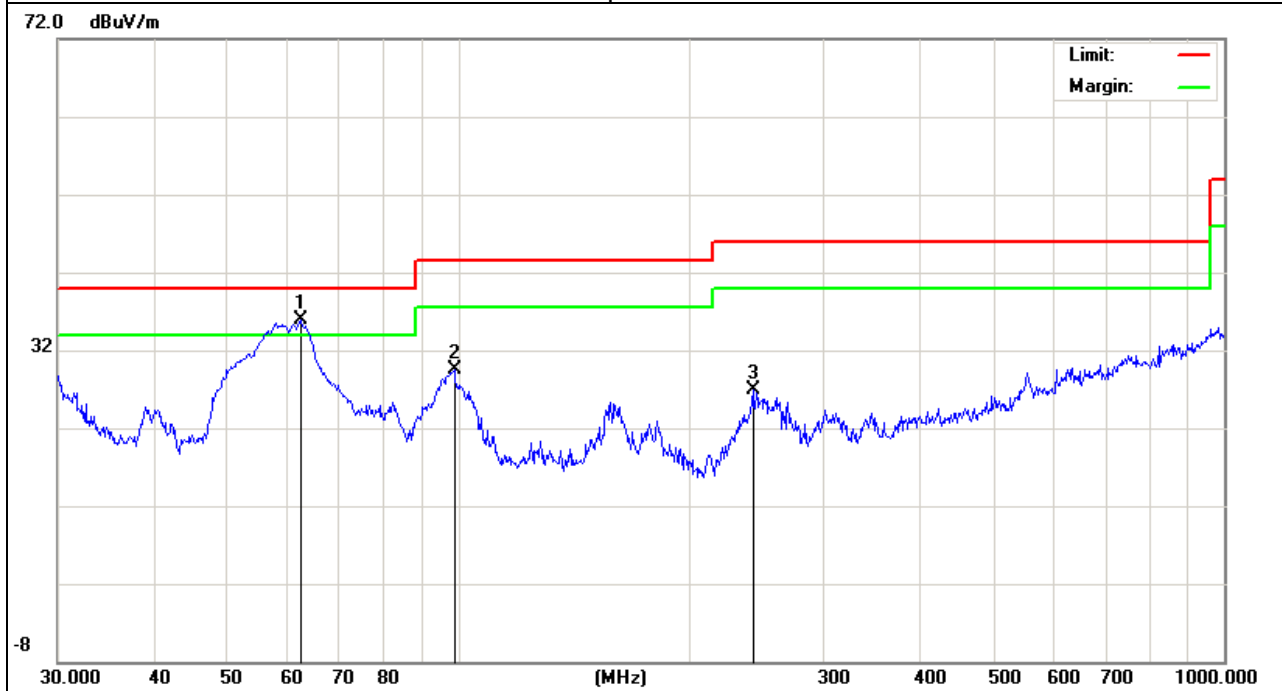


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	TX	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
62.4314	30.62	5.21	35.83	40	-4.17	QP
98.8326	19.06	10.43	29.49	43.5	-14.01	peak
242.5253	15.06	11.83	26.89	46	-19.11	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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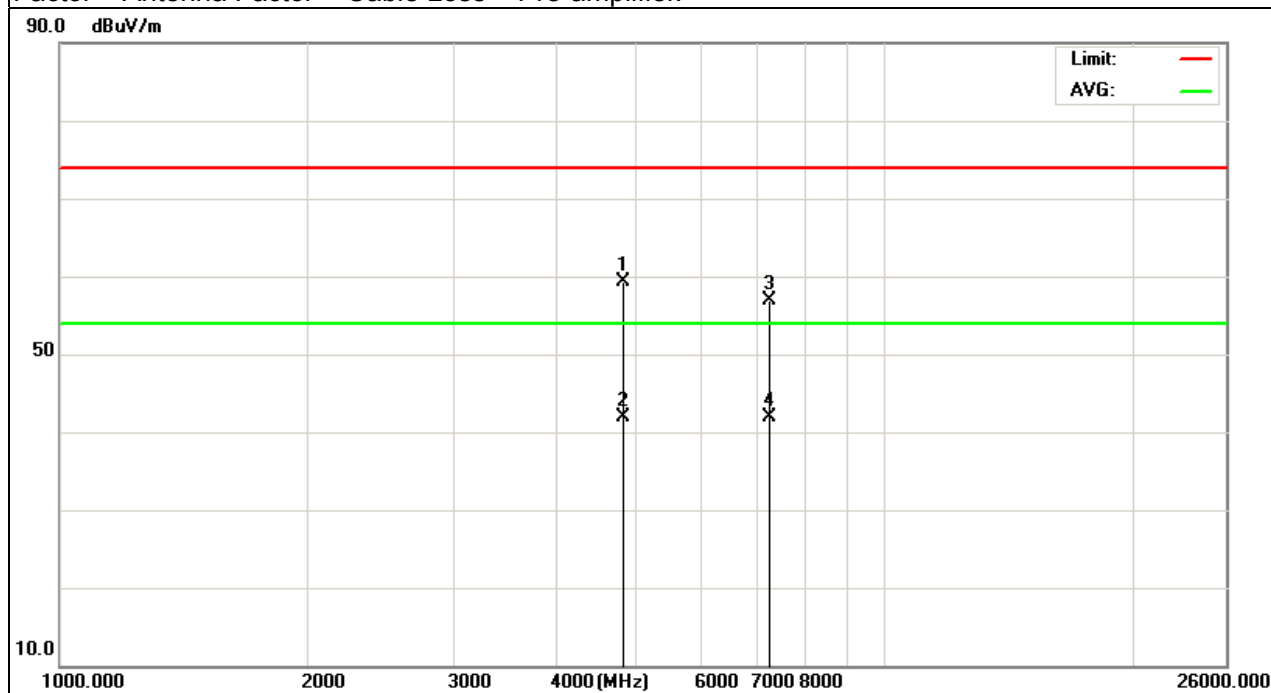
**TEST RESULT OF RADIATED EMISSION TEST (1GHZ-10TH HARMONIC)**

EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11b Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	56.67	2.6	59.27	74	-14.73	peak
4824	39.23	2.6	41.83	54	-12.17	AVG
7236	52.26	4.59	56.85	74	-17.15	peak
7236	37.34	4.59	41.93	54	-12.07	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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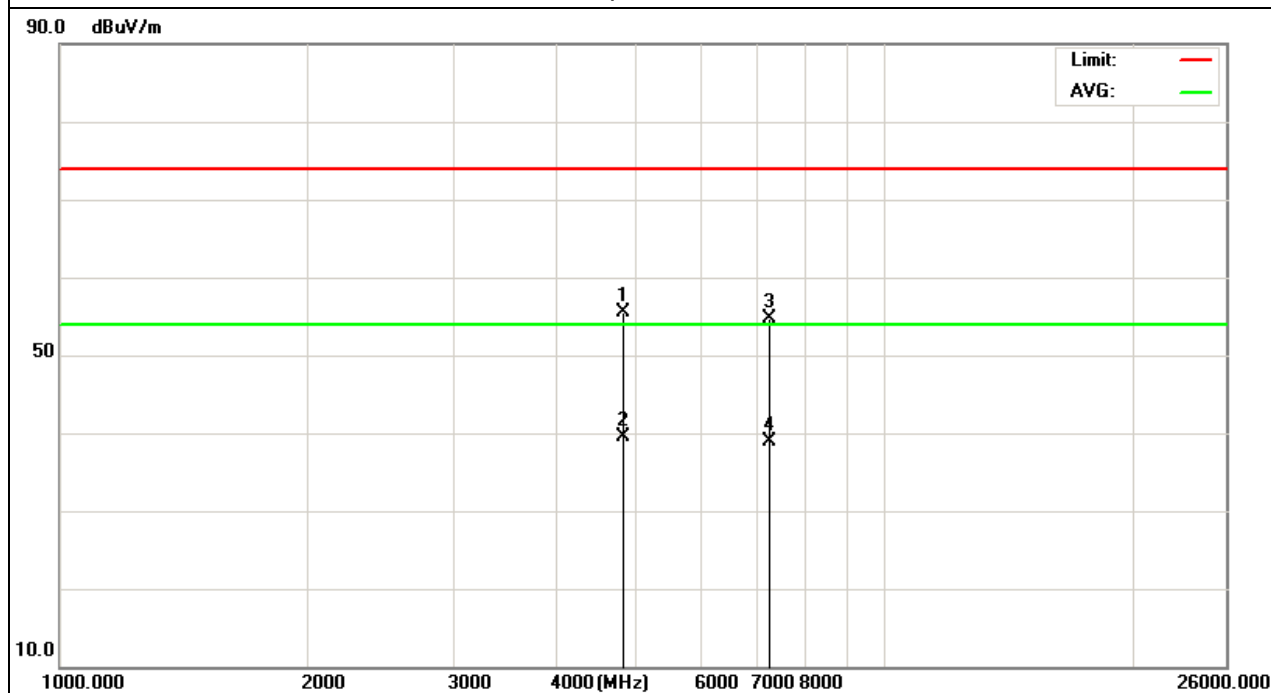


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11b Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824	52.89	2.6	55.49	74	-18.51	peak
4824	36.87	2.6	39.47	54	-14.53	AVG
7236	50.09	4.59	54.68	74	-19.32	peak
7236	34.33	4.59	38.92	54	-15.08	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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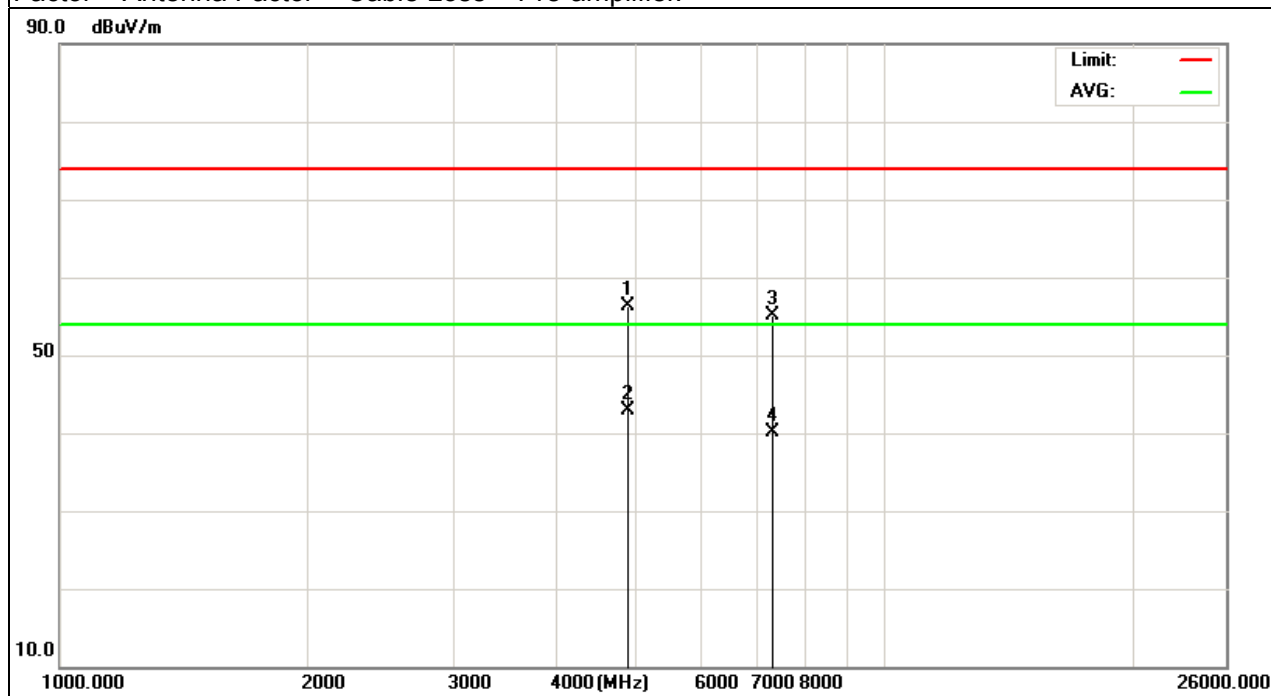
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH6 (802.11b Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874	53.66	2.6	56.26	74	-17.74	peak
4874	40.32	2.6	42.92	54	-11.08	AVG
7311	50.22	4.93	55.15	74	-18.85	peak
7311	35.23	4.93	40.16	54	-13.84	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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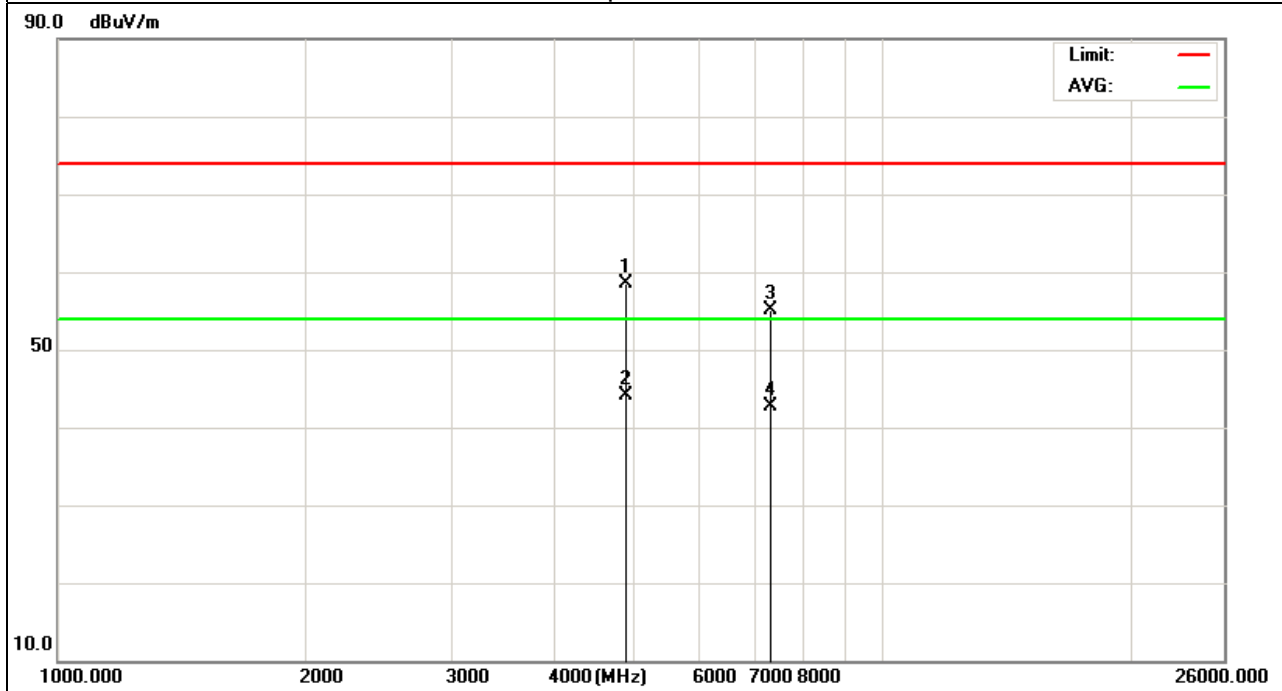
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH6 (802.11b Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874	57.75	2.6	60.35	74	-13.65	peak
4874	42.22	2.6	44.82	54	-9.18	AVG
7311	51.09	4.93	56.02	74	-17.98	peak
7311	40.09	4.93	45.02	54	-8.98	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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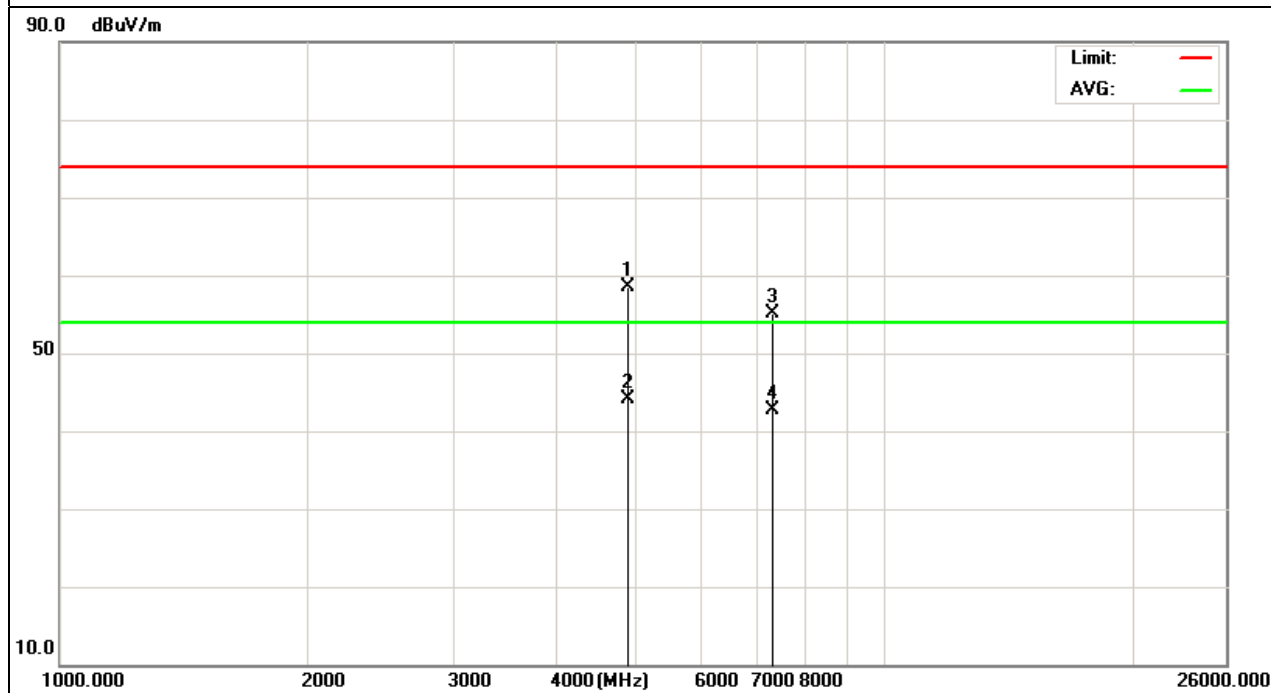


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	55.89	2.6	58.49	74	-15.51	peak
4924	41.42	2.6	44.02	54	-9.98	AVG
7386	50.09	4.93	55.02	74	-18.98	peak
7386	37.77	4.93	42.7	54	-11.3	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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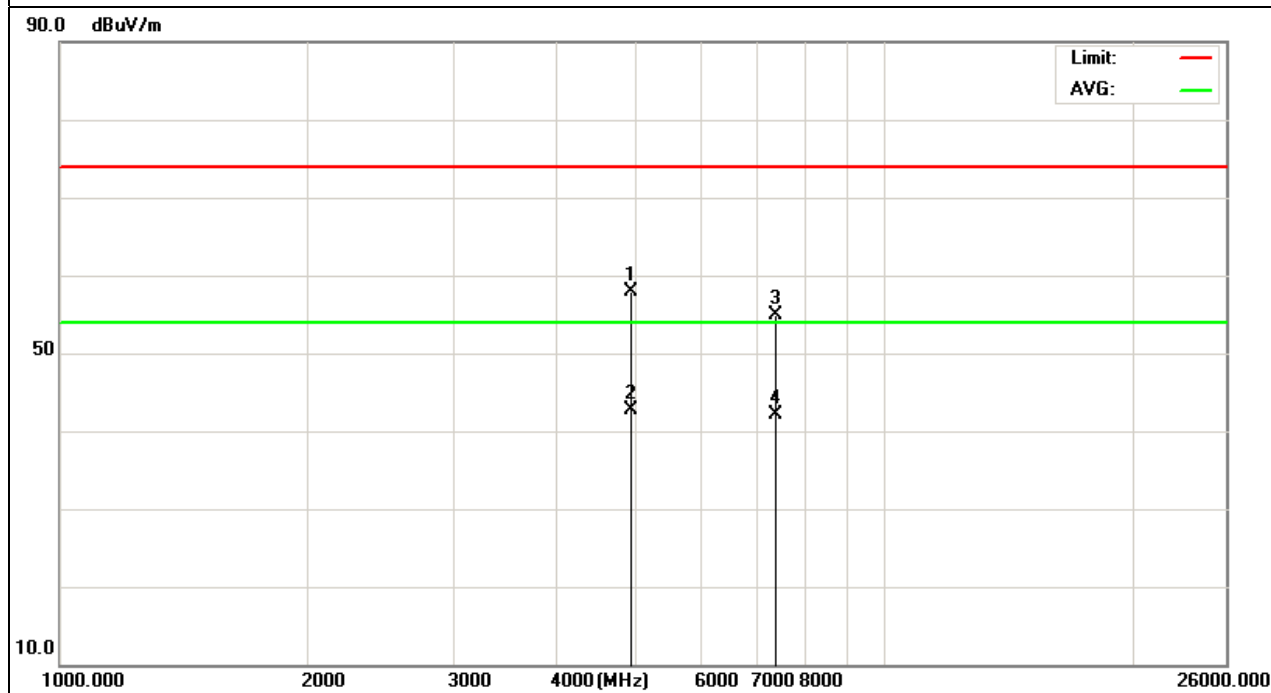


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924	54.77	2.64	57.41	74	-16.59	peak
4924	37.76	2.64	40.4	54	-13.6	AVG
7386	45.88	4.83	50.71	74	-23.29	peak
7386	31.22	4.83	36.05	54	-17.95	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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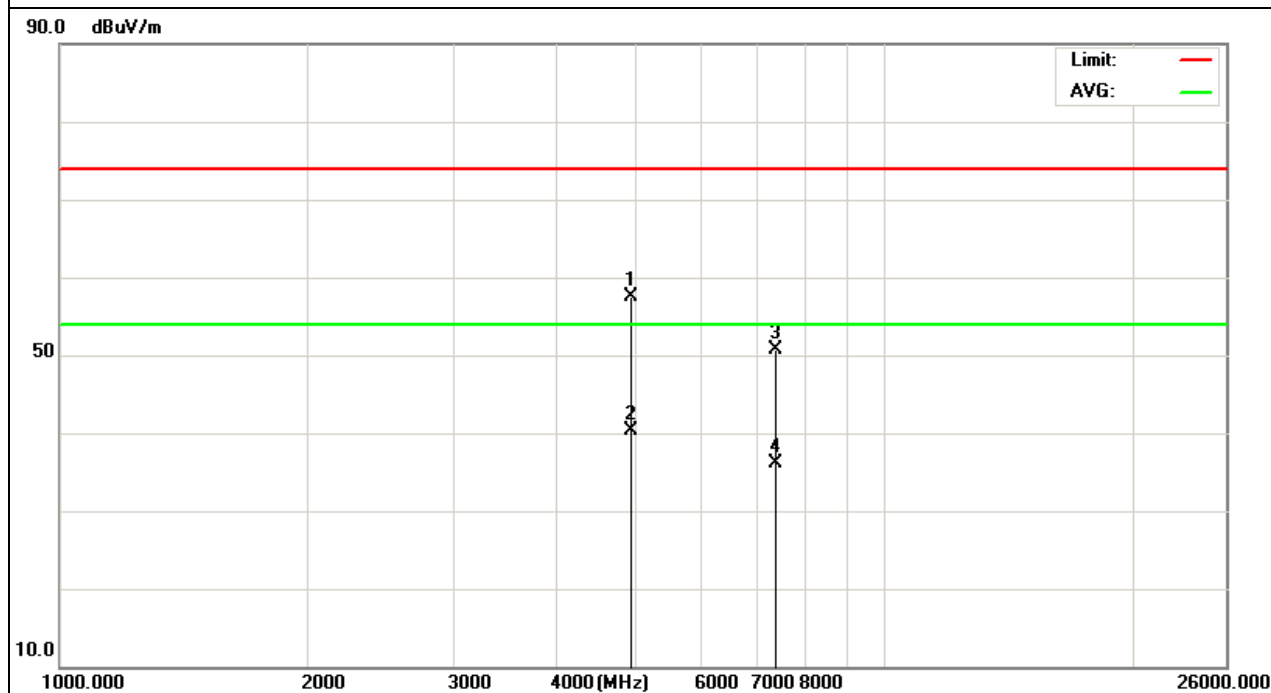


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824	57.37	2.6	59.97	74	-14.03	peak
4824	39.83	2.6	42.43	54	-11.57	AVG
7239	50.45	4.59	55.04	74	-18.96	peak
7239	35.3	4.59	39.89	54	-14.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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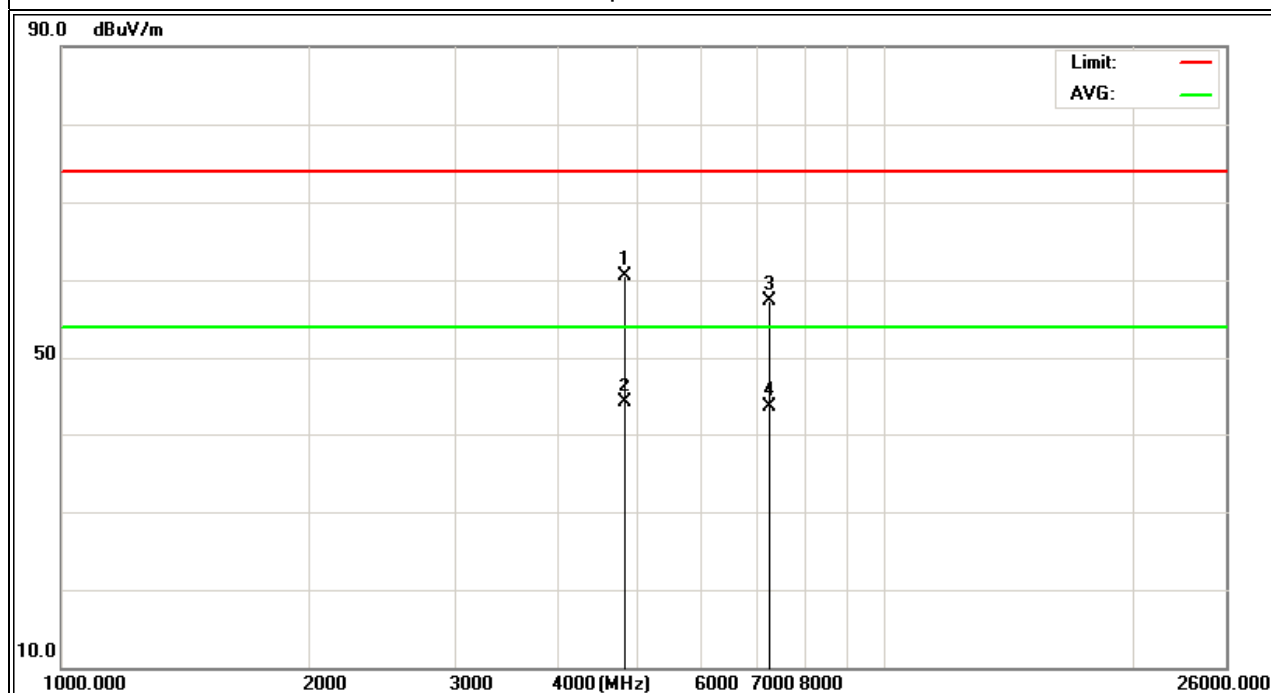
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824	57.83	2.6	60.43	74	-13.57	peak
4824	41.51	2.6	44.11	54	-9.89	AVG
7239	52.68	4.59	57.27	74	-16.73	peak
7239	38.89	4.59	43.48	54	-10.52	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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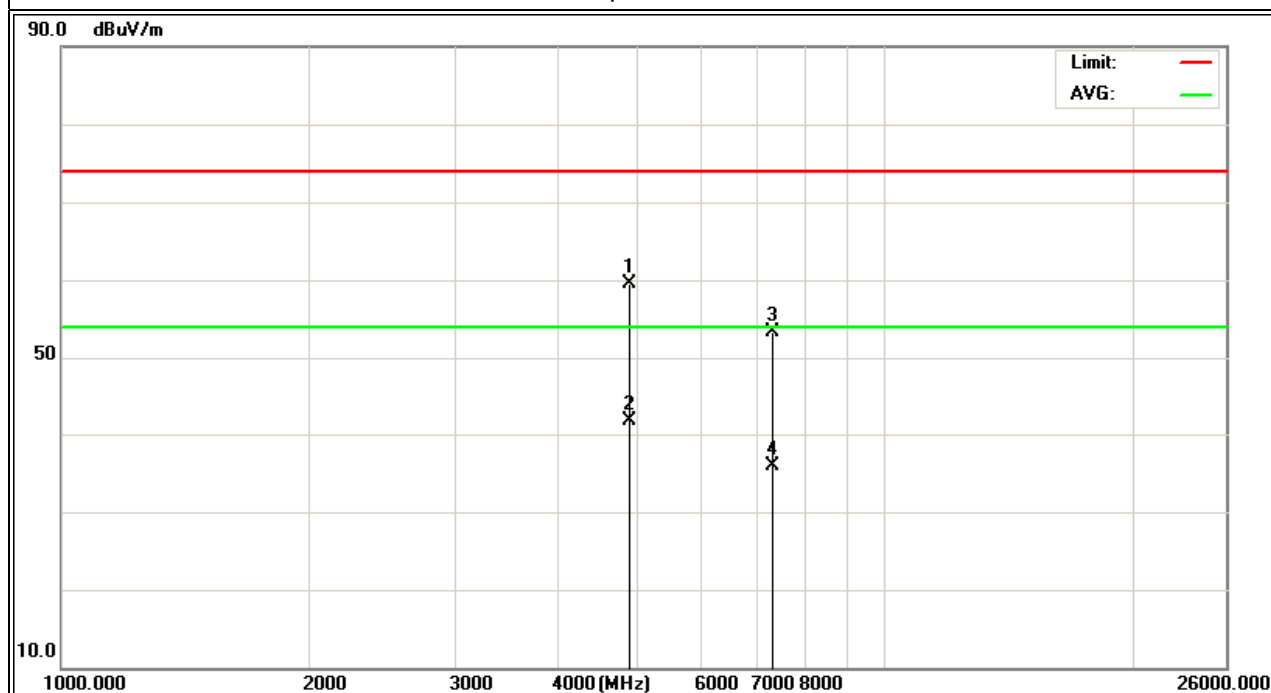
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH6 (802.11g Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874	56.85	2.6	59.45	74	-14.55	peak
4874	39.06	2.6	41.66	54	-12.34	AVG
7311	48.45	4.93	53.38	74	-20.62	peak
7311	30.88	4.93	35.81	54	-18.19	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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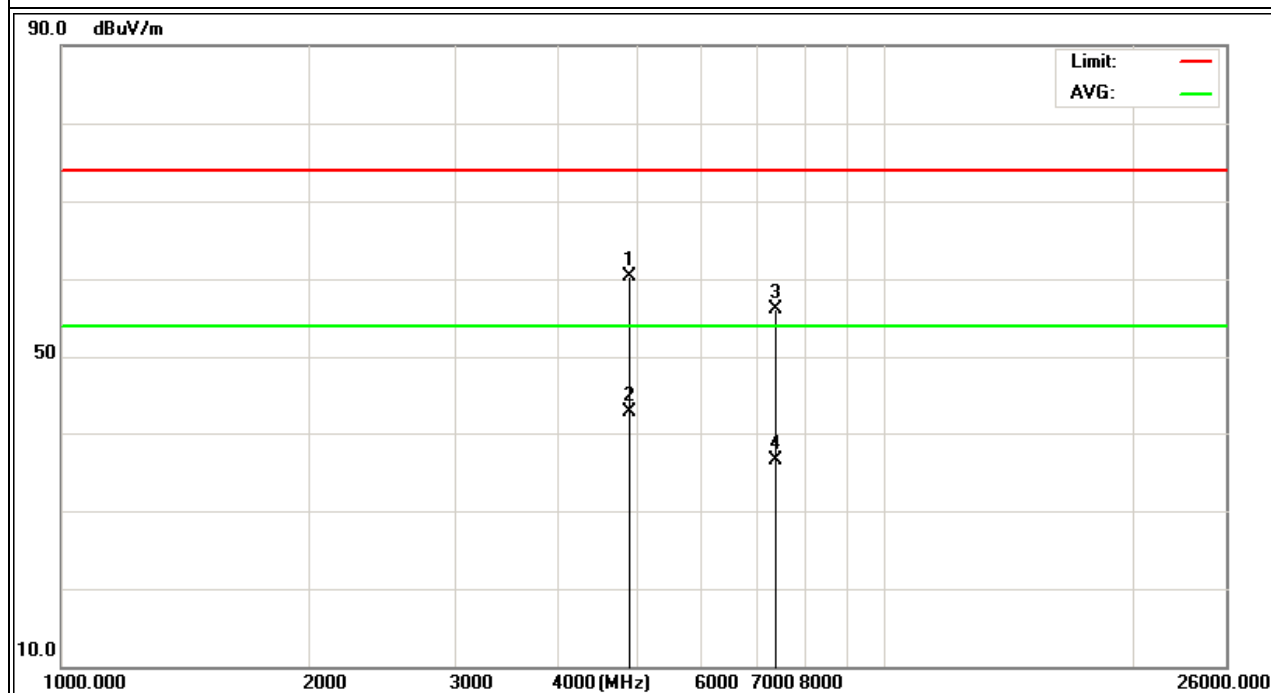


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH6 (802.11g Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874	57.79	2.6	60.39	74	-13.61	peak
4874	40.02	2.6	42.62	54	-11.38	AVG
7311	51.22	4.83	56.05	74	-17.95	peak
7311	31.76	4.83	36.59	54	-17.41	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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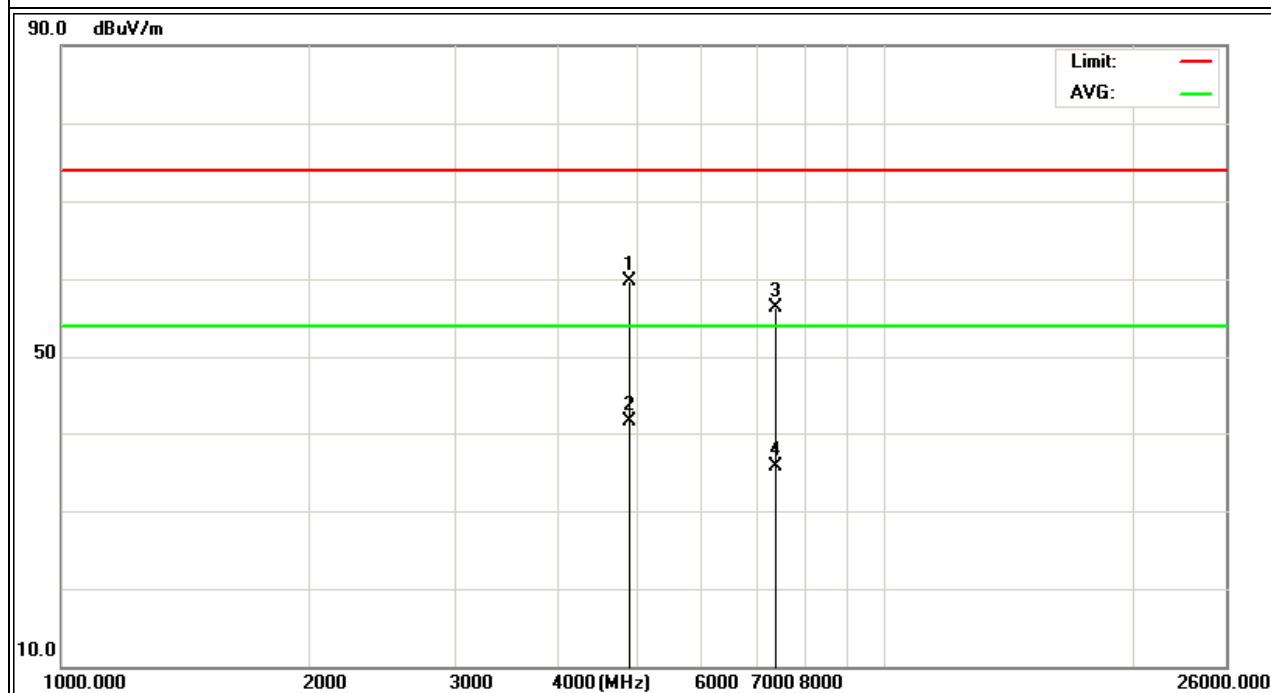


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11g Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924	57.13	2.6	59.73	74	-14.27	peak
4924	38.93	2.6	41.53	54	-12.47	AVG
7386	51.53	4.83	56.36	74	-17.64	peak
7386	30.83	4.83	35.66	54	-18.34	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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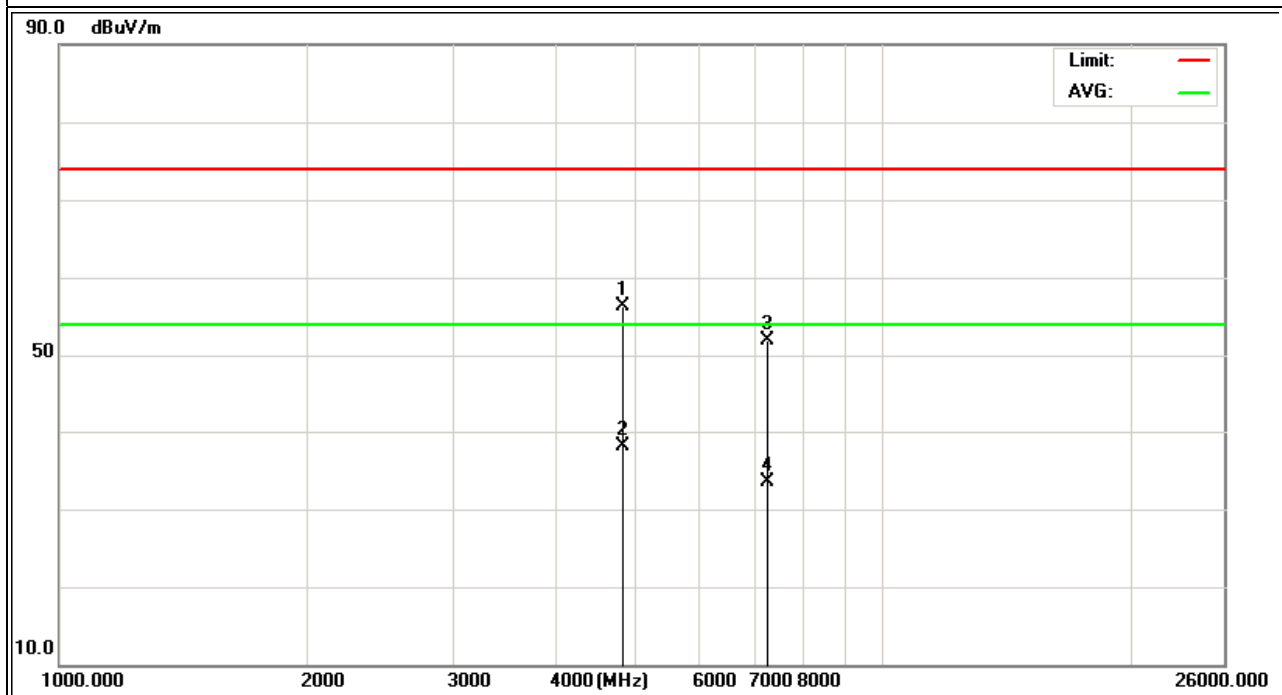


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11(802.11g Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924	53.61	2.6	56.21	74	-17.79	peak
4924	35.6	2.6	38.2	54	-15.8	AVG
7386	47.36	4.59	51.95	74	-22.05	peak
7386	28.99	4.59	33.58	54	-20.42	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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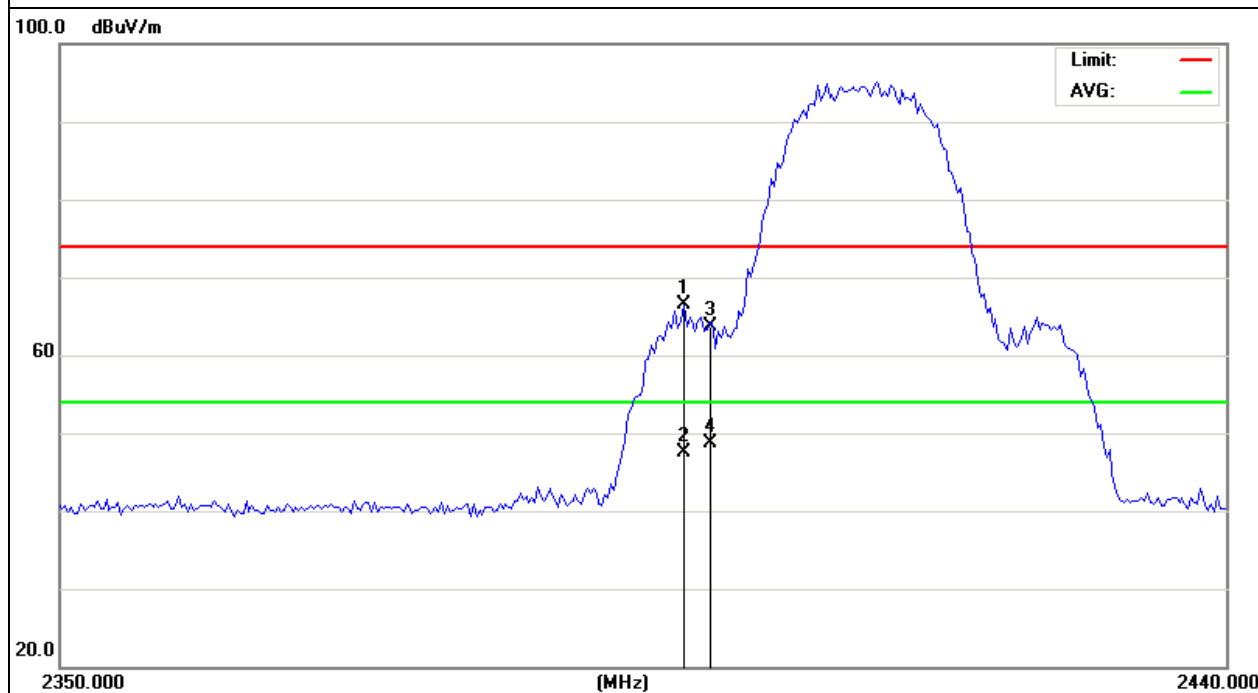
**TEST RESULT (Restricted Bands Requirements)**

EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11b Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2397.925	107	-40.5	66.5	74	-7.5	peak
2397.925	87.96	-40.5	47.46	54	-6.54	AVG
2400	104.15	-40.5	63.65	74	-10.35	peak
2400	89.12	-40.5	48.62	54	-5.38	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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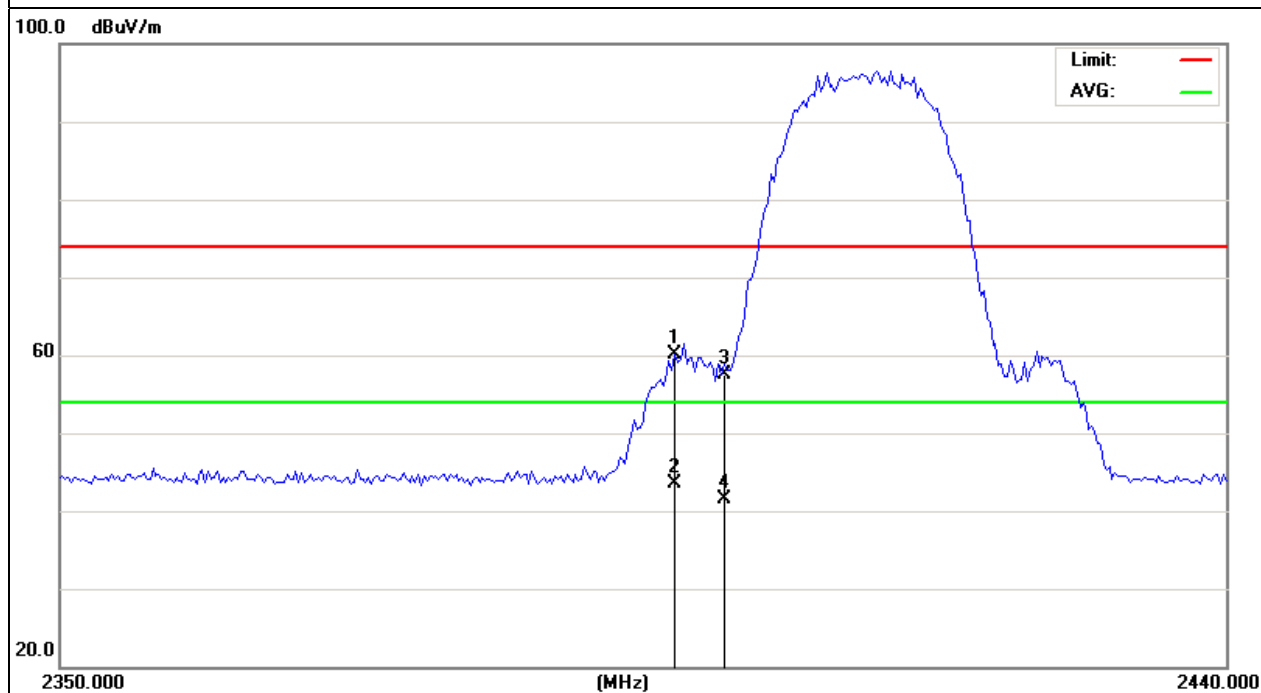
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11b Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2397.25	100.67	-40.51	60.16	74	-13.84	peak
2397.25	83.96	-40.51	43.45	54	-10.55	AVG
2400.85	97.91	-40.5	57.41	74	-16.59	peak
2400.85	81.96	-40.5	41.46	54	-12.54	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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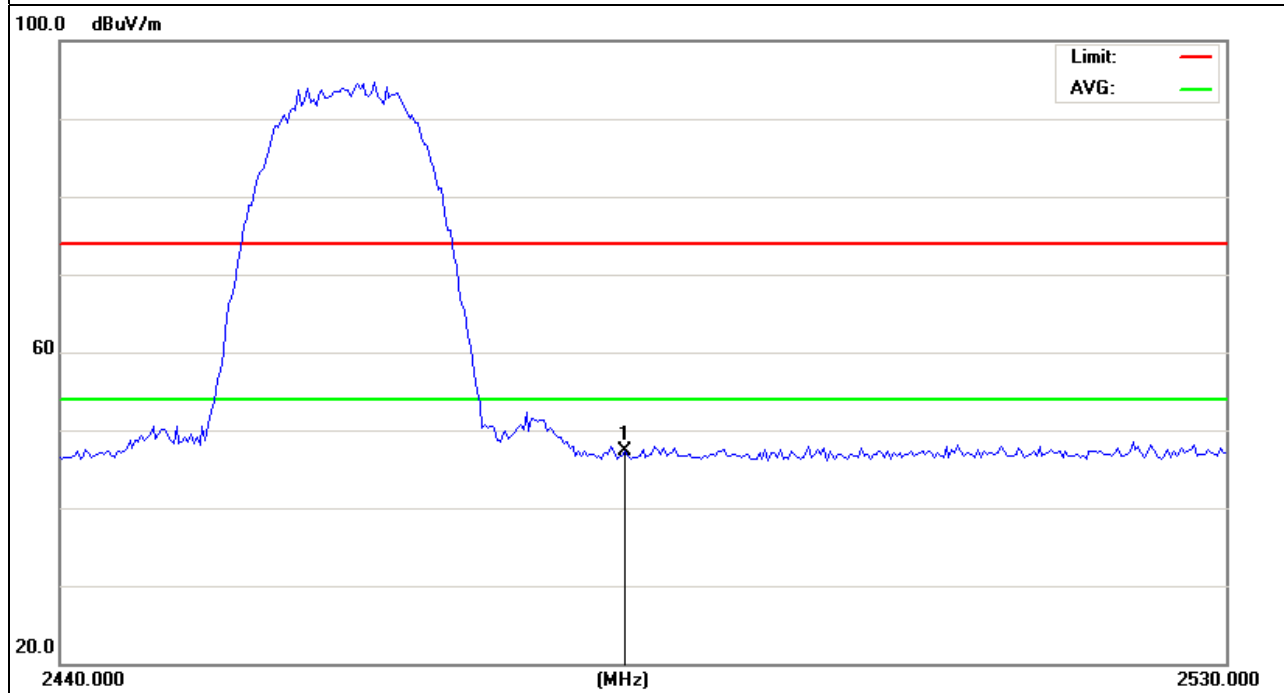


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	87.71	-40.43	47.28	74	-26.72	
						peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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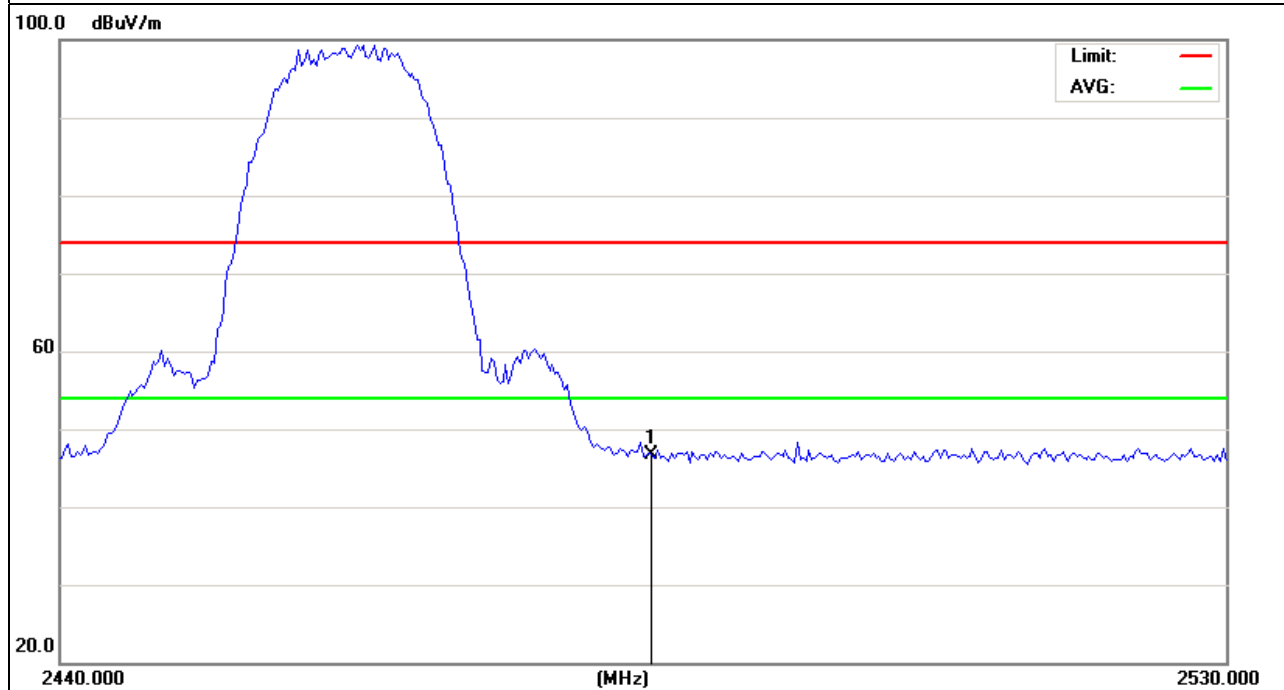
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	87.11	-40.43	46.68	74	-27.32	peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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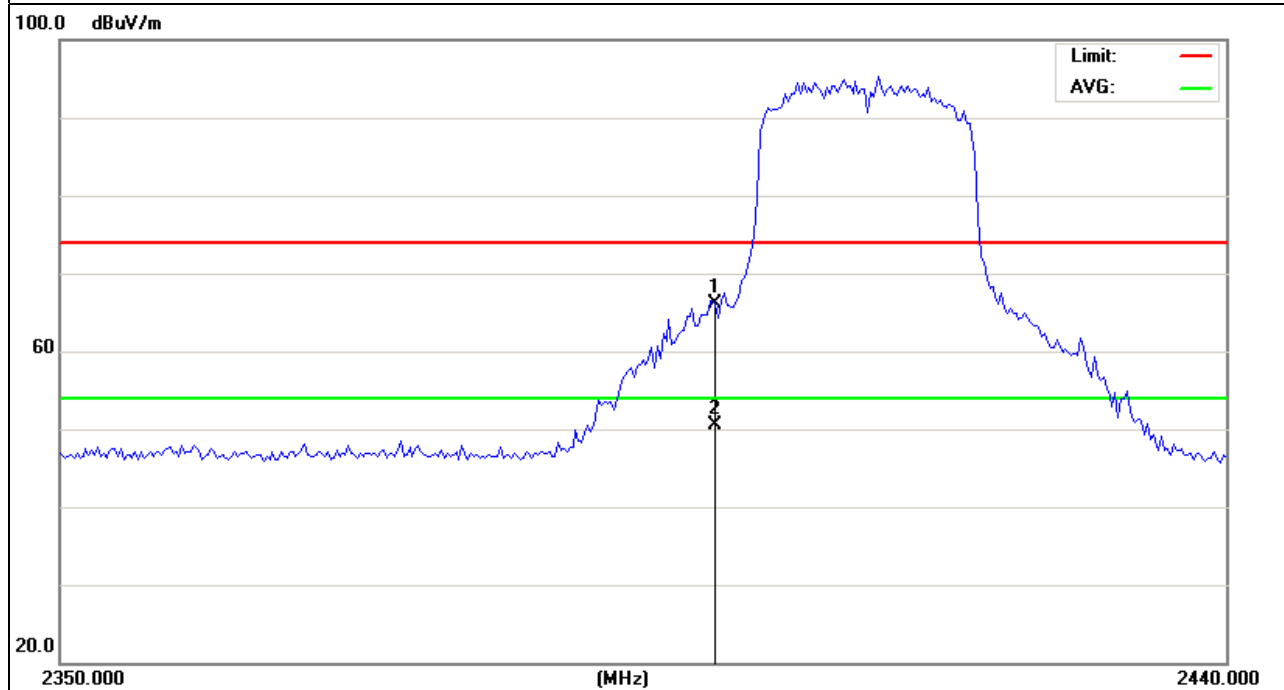


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.0	106.65	-40.5	66.15	74	-7.85	peak
2400.0	91.07	-40.5	50.57	54	-3.43	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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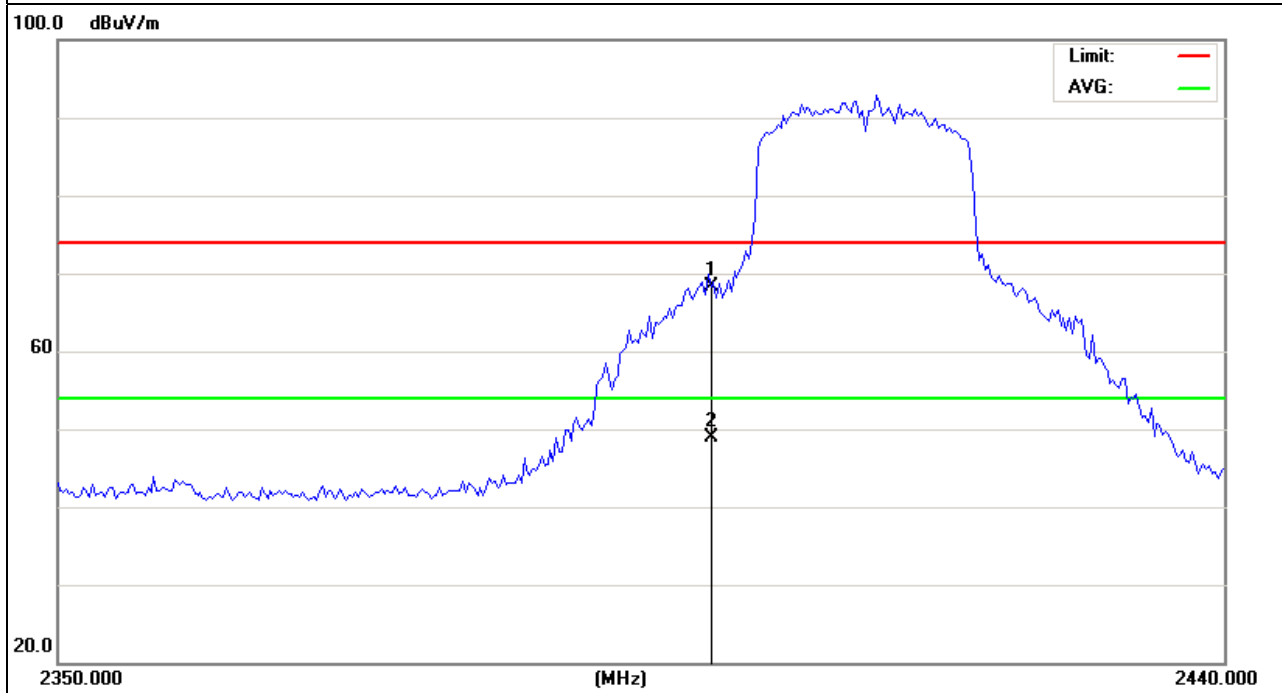


EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.00	108.76	-40.5	68.26	74	-5.74	peak
2400.00	89.46	-40.5	48.96	54	-5.04	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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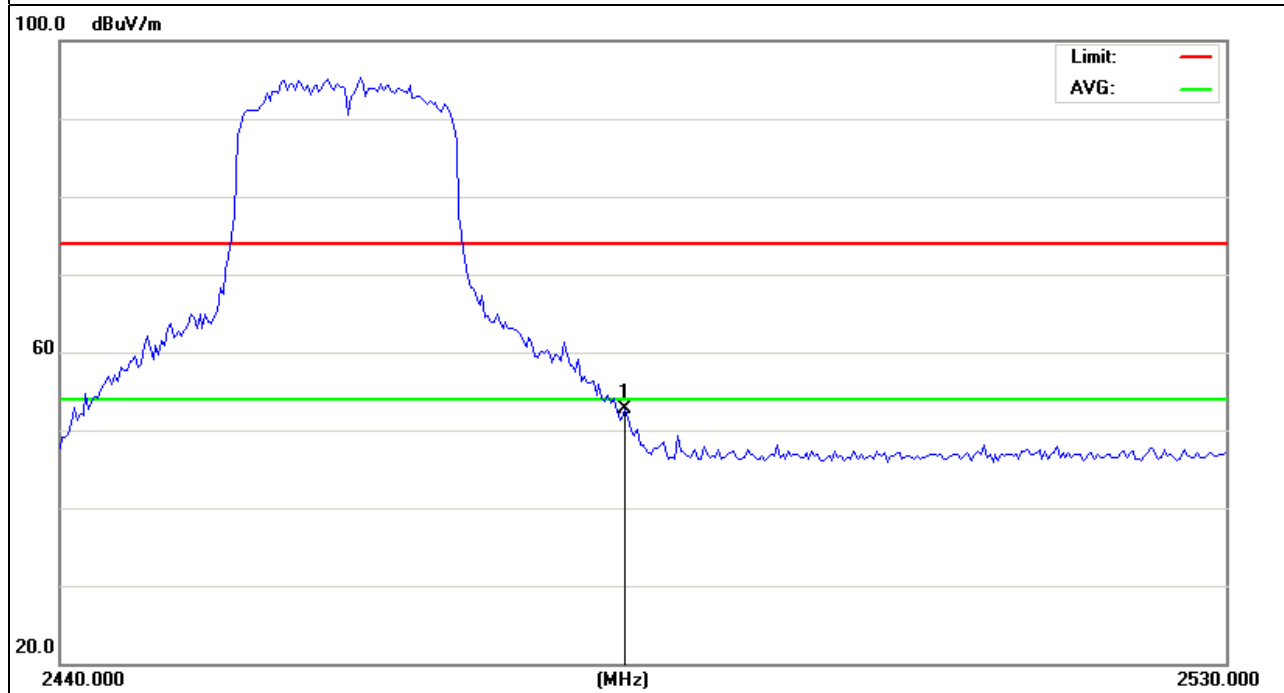
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11 g Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	93.21	-40.43	52.78	74	-21.22	
						peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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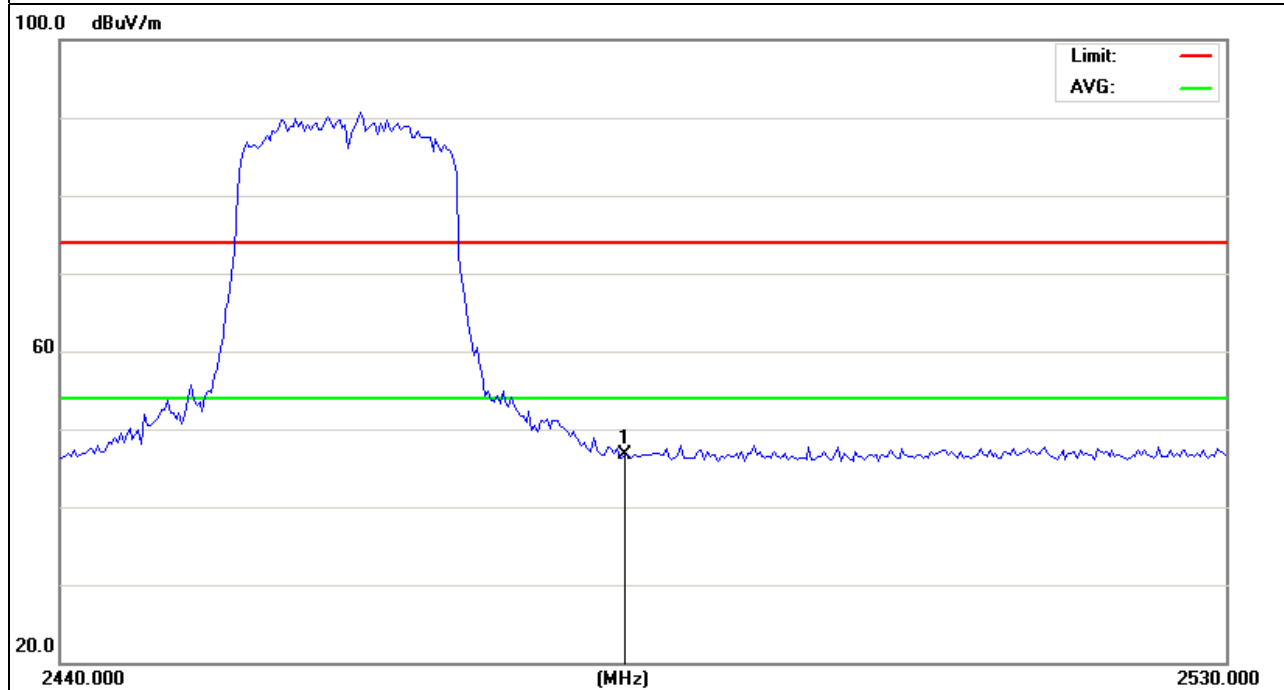
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EUT:	WiFi IP Camera	Model Name :	IPC-5003WHD
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5.0V
Test Mode :	CH11 (802.11g Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	87.15	-40.43	46.72	74	-27.28	
						peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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10. ANTENNA REQUIREMENT

STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

EUT ANTENNA

The EUT antenna is external antenna(Reverse SMA-type). It comply with the standard requirement.



PPENDIX 1
PHOTOGRAPHS OF THE TEST SETUP



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PHOTOGRAPHS OF THE TEST SETUP (>1GHZ)



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PHOTOGRAPHS OF THE TEST SETUP(CONDUCTED EMISSION)



---- END OF REPORT ----

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