







ISO/IEC17025Accredited Lab.

Report No: FCC 1505078 File reference No: 2015-05-18

Applicant: Shenzhen VStarcam Technology Co.,Ltd

Product: IP CAMERA

Model No: C7823WIP,C7824WIP, C7842WIP

Trademark: Vstarcam

Test Standards: FCC Part 15 Subpart C, Paragraph 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.4,FCC Part 15 Subpart C,

Paragraph 15.247 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: May 18, 2015

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timewaytech.com

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAL-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

IC- Registration No.: IC5205A-02

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-02.

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Room 512-519,5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen,

Guangdong China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-02

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: Shenzhen VStarcam Technology Co.,Ltd

Address: 5th Floor, F Building, Jiangxia Tech Park, Huangfengling Industrial Zone, Luozu community,

Shiyan, Baoan, Shenzhen

Telephone: 15019257119

Fax: --

1.3 Description of EUT

Product: IP CAMERA

Manufacturer: Shenzhen VStarcam Technology Co.,Ltd

Address: 5th Floor, F Building, Jiangxia Tech Park, Huangfengling Industrial Zone,

Luozu community, Shiyan, Baoan, Shenzhen

Brand Name: Vstarcam
Model Number: C7823WIP

Additional Model Number: C7824WIP, C7842WIP

Type of Modulation IEEE 802.11b : DSSS (CCK, QPSK, DBPSK)

IEEE 802.11g/n HT20/HT40: OFDM(64QAM, 16QAM, QPSK, BPSK)

Frequency range IEEE 802.11b/g/n HT20: 2412-2462MHz; IEEE 802.11n HT40: 2422-2452MHz;

Channel Spacing IEEE 802.11b/g/n HT20/HT40 : 5MHz

Antenna: Dipole antenna used
Antenna Gain: Maximum 2.0dBi

Air Data Rate IEEE 802.11b : 11, 5.5, 2, 1 Mbps

IEEE 802.11g: 54, 48,36, 24, 18, 12, 9, 6 Mbps IEEE 802.11n HT20/HT40: up to 150Mbps

Frequency Selection By software

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Power Supply: LX050200 Input: 100-240V, 50/60Hz; Output: 5V, 2000mA

IEEE 802.11b/g/n HT20: 11 Channels; IEEE 802.11n HT40: 7 Channels Channel Number

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2015-05-14 to 2015-05-18

Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

Terry Tang The sample tested by

Print Name: Terry Tang

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2.0	Test Equipments						
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date		
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2014-08-22	2015-08-21		
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2014-08-22	2015-08-21		
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2014-08-22	2015-08-21		
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2014-08-22	2015-08-21		
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2014-08-22	2015-08-21		
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2014-08-22	2015-08-21		
System Controller	CT	SC100	-				
Loop Antenna	EMCO	6502	00042960	2014-08-22	2015-08-21		
Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2014-08-22	2015-08-21		
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170265	2014-08-23	2015-08-21		
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-631	2014-08-23	2015-08-21		
Power meter	Anritsu	ML2487A	6K00003613	2014-08-22	2015-08-21		
Power sensor	Anritsu	MA2491A	32263	2014-08-22	2015-08-21		
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2014-08-23	2015-08-21		
LISN	AFJ	LS16C	10010947251	2014-08-22	2015-08-21		
LISN (Three Phase)	Schwarebeck	NSLK 8126	8126453	2014-08-22	2015-08-21		
9*6*6 Anechoic			N/A	2014-08-22	2015-08-21		
EMI Test Receiver	RS	ESCS30	100139	2014-08-22	2015-08-21		

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3. DESCRIPTION OF TEST MODES

IEEE 802.11b, 802.11g, 802.11n (HT20) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

IEEE 802.11b mode: 11Mbps data rate (worst case) was chosen for full testing. IEEE 802.11g mode: 6Mbps data rate (worst case) was chosen for full testing. IEEE 802.11n (HT20) mode: 150Mbps data rate (worst case) were chosen for full testing

IEEE 802.11n HT40

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2422
Mid	2437
High	2452

IEEE 802.11n HT40 mode: 150Mbps data rate (worst case) was chosen for full testing.

The worst-case data rates are determined according to the description above, based on the investigations by measuring the PSD and average power across all the data rates, bandwidths, modulations and spatial stream modes.

Note: EUT Test With 100% Duty cycle.

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3.0 **Technical Details**

3.1 **Summary of test results**

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.107 & 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	PASS	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	PASS	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	PASS	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	PASS	Complies

Test Standards 3.2

FCC Part 15 Subpart & Subpart C, Paragraph 15.247, ANSI 63.4:2009 and ANSI 63.10:2009

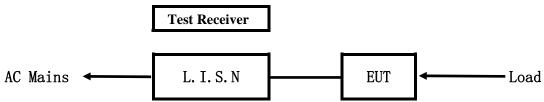
EUT Modification 4.0

No modification by Shenzhen Timeway Technology Consulting Co., Ltd

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5. **Power Line Conducted Emission Test**

Schematics of the test 5.1

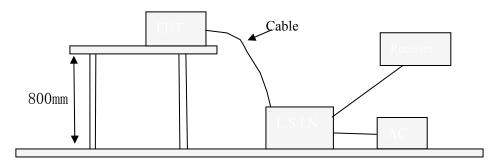


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2009. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 -2009

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2009. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

EUT

Device	Manufacturer	Model	FCC ID
IP CAMERA	Shenzhen VStarcam Technology	C7823WIP,C7824WIP,	2ABO5-C23-24
IF CAMERA	Co.,Ltd	C7842WIP	

Internal Device B.

Device	Manufacturer	Model	Rating

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C. Peripherals

Device	Manufacturer	Model	Rating

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10 -2009.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207 and 15.107

Frequency	Class A Lim	its (dB µ V)	Class B Limits (dB µ V)		
(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*	
$0.50 \sim 5.00$	73.0	60.0	56.0	46.0	
5.00 ~ 30.00	73.0	60.0	60.0	50.0	

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

EUT Operating Environment

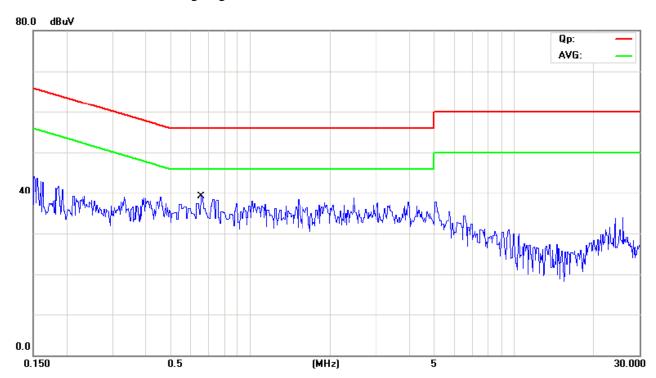
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keeping WIFI Transmitting

Equipment Level: Class B

Results: PASS

Please refer to following diagram for individual



No. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.6521	16.80	11.53	28.33	56.00	-27.67	QP
2	0.6521	-10.00	11.53	1.53	46.00	-44.47	AVG

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

EUT Operating Environment

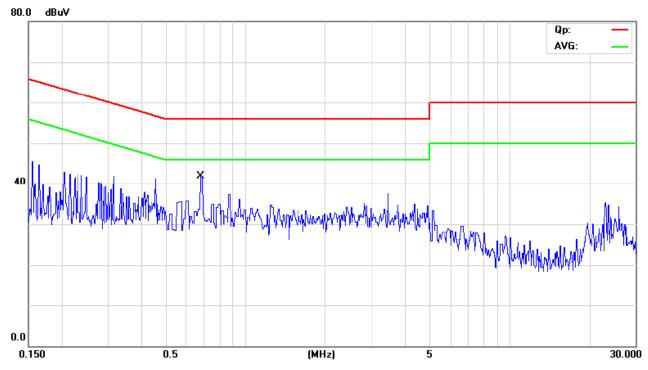
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keeping WIFI Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



No. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.6762	10.90	11.56	22.46	56.00	-33.54	QP
2	0.6762	-12.00	11.56	-0.44	46.00	-46.44	AVG

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6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10 –2009. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2009.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.
- (6) The antenna polarization : Vertical polarization and Horizontal polarization.

Block diagram of Test setup Distance = 3m Computer Pre – Amplifier Furn-table Receiver

- 6.2 Configuration of The EUT
 Same as section 5.3 of this report
- 6.3 EUT Operating Condition
 Same as section 5.4 of this report.

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6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109 and RSS-210

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keeping WIFI Transmitting

Results: Pass

Frequency (MHz)	Level@3m (dB \u03bc V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
216.000	36.23	Н	43.50
450.000	41.62	Н	46.00
288.000	38.63	Н	46.00
120.000	36.08	Н	43.50
30.480	32.86	V	40.00
288.000	39.33	V	46.00
528.000	42.23	V	46.00
87.760	35.68	V	40.00

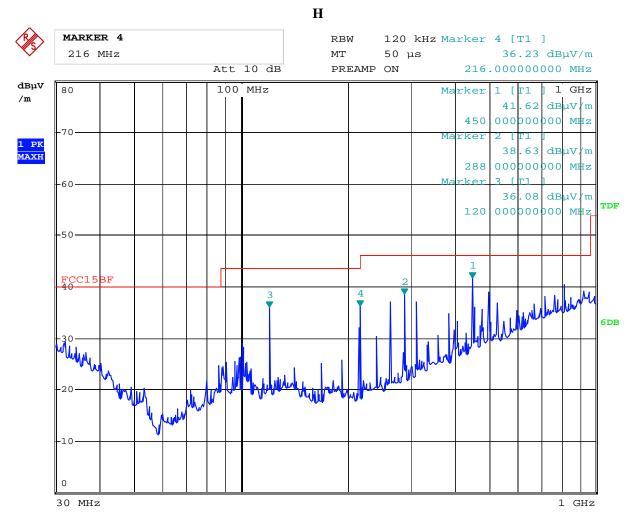
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Test Figure:



14.MAY.2015 17:01:11 Date:

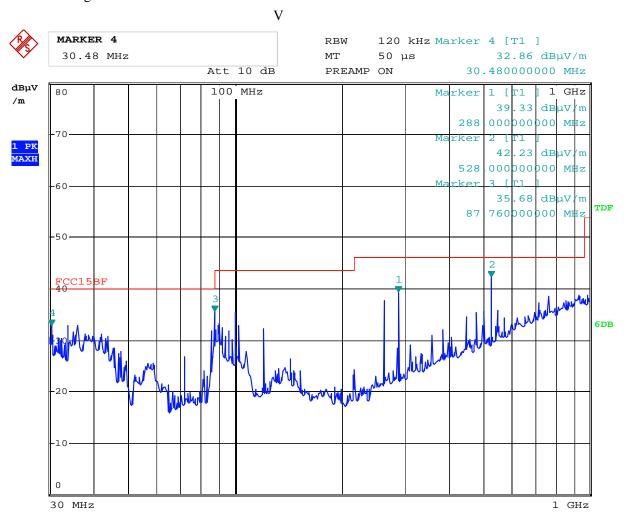
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Test Figure:



14.MAY.2015 16:57:29 Date:

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Operation Mode: Keeping WIFI Transmitting under CH01 for 11g at 6Mbps

Frequency (MHz)	Level@3m (dB \u03bc V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4824.00	49.28 (PK)	Н	74(Peak)/ 54(AV)
4824.00	48.32 (PK)	V	74(Peak)/ 54(AV)
7236.00		H/V	74(Peak)/ 54(AV)
9648.00		H/V	74(Peak)/ 54(AV)
12060		H/V	74(Peak)/ 54(AV)
14472		H/V	74(Peak)/ 54(AV)
16884		H/V	74(Peak)/ 54(AV)
19296		H/V	74(Peak)/ 54(AV)
21708		H/V	74(Peak)/ 54(AV)
24120		H/V	74(Peak)/ 54(AV)

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode 6Mbps

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Operation Mode: Keeping WIFI Transmitting under CH06 for 11g at 6Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4874.00	48.97 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.82 (PK)	V	74(Peak)/ 54(AV)
7311.00	1	H/V	74(Peak)/ 54(AV)
9748.00		H/V	74(Peak)/ 54(AV)
12185		H/V	74(Peak)/ 54(AV)
14622		H/V	74(Peak)/ 54(AV)
17059		H/V	74(Peak)/ 54(AV)
19496	-	H/V	74(Peak)/ 54(AV)
21933		H/V	74(Peak)/ 54(AV)
24370		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode 6 Mbps

Operation Mode: Keeping WIFI Transmitting under CH11 for 11g at 6Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4924	49.08 (PK)	Н	74(Peak)/ 54(AV)
4924	48.64 (PK)	V	74(Peak)/ 54(AV)
7368		H/V	74(Peak)/ 54(AV)
9848		H/V	74(Peak)/ 54(AV)
12310		H/V	74(Peak)/ 54(AV)
14772		H/V	74(Peak)/ 54(AV)
17234		H/V	74(Peak)/ 54(AV)
19696		H/V	74(Peak)/ 54(AV)
22158		H/V	74(Peak)/ 54(AV)
24620		H/V	74(Peak)/ 54(AV)

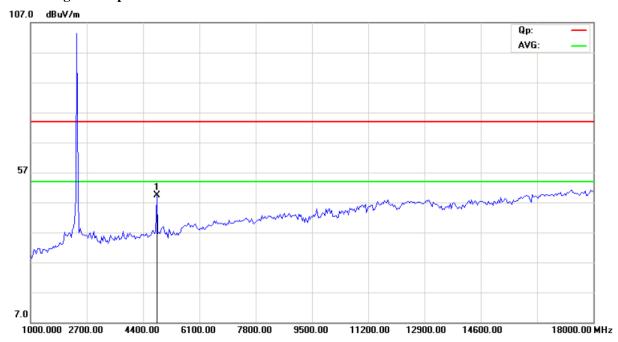
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode at 6 Mbps

Date: 2015-05-18

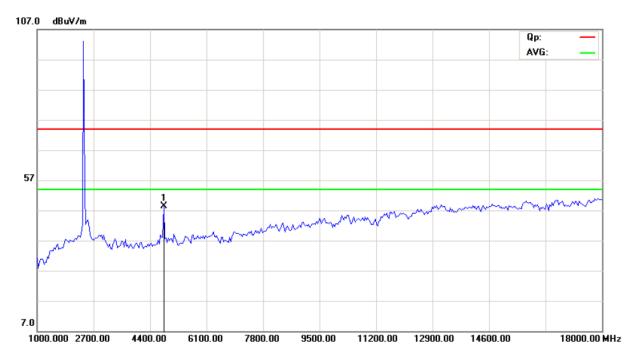


Please refer to the following test plots for details:

CH01 for 11g at 6Mbps: Horizontal



CH01 for 11g at 6Mbps: Vertical



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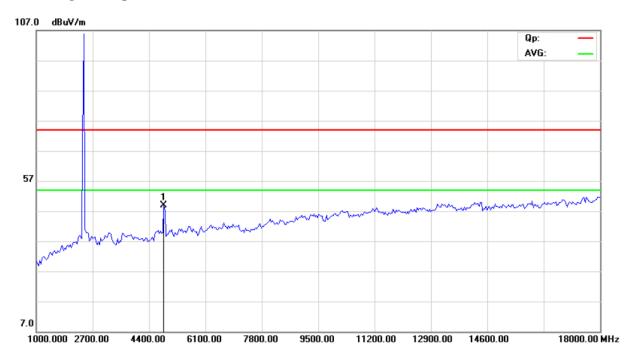
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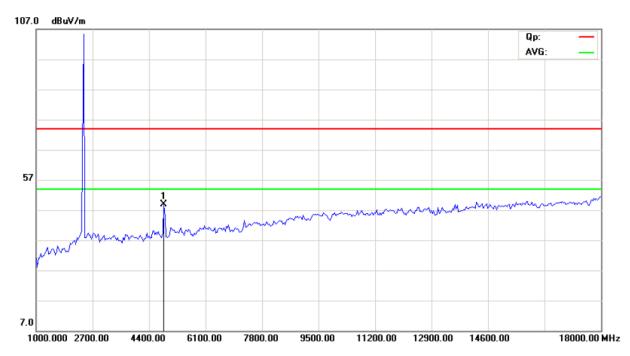
Date: 2015-05-18



CH06 for 11g at 6Mbps: Vertical



CH06 for 11g at 6Mbps: Horizontal



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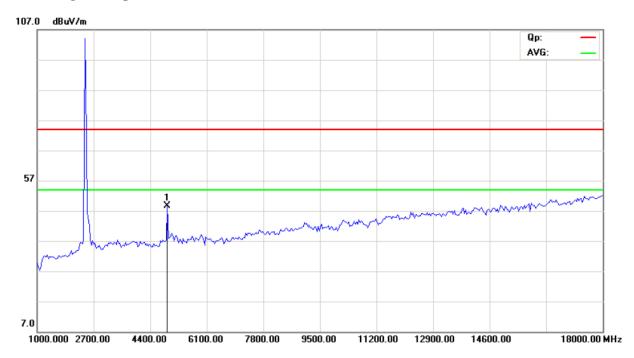
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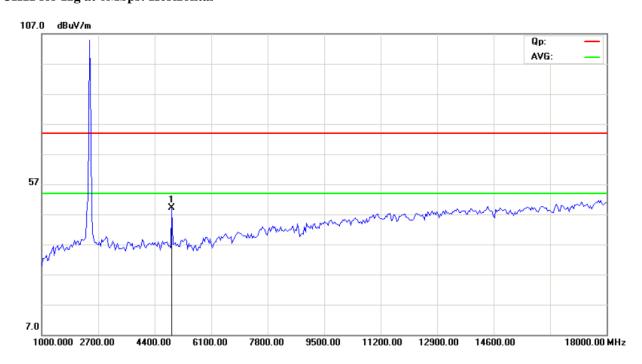
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CH11 for 11g at 6Mbps: Vertical



CH11 for 11g at 6Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

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Operation Mode: Keeping WIFI Transmitting under CH01 for 11b at 11Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4824.00	48.82 (PK)	Н	74(Peak)/ 54(AV)
4824.00	49.09 (PK)	V	74(Peak)/ 54(AV)
7236.00	1	H/V	74(Peak)/ 54(AV)
9648.00		H/V	74(Peak)/ 54(AV)
12060		H/V	74(Peak)/ 54(AV)
14472		H/V	74(Peak)/ 54(AV)
16684		H/V	74(Peak)/ 54(AV)
19296	-	H/V	74(Peak)/ 54(AV)
21708		H/V	74(Peak)/ 54(AV)
24120		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode 11Mbps

Operation Mode: Keeping WIFI Transmitting under CH06 for 11b at 11Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4874.00	48.62 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.81 (PK)	V	74(Peak)/ 54(AV)
7311.00	1	H/V	74(Peak)/ 54(AV)
9748.00		H/V	74(Peak)/ 54(AV)
12185		H/V	74(Peak)/ 54(AV)
14622		H/V	74(Peak)/ 54(AV)
17059		H/V	74(Peak)/ 54(AV)
19496		H/V	74(Peak)/ 54(AV)
21933		H/V	74(Peak)/ 54(AV)
24370		H/V	74(Peak)/ 54(AV)

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode 11Mbps

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Operation Mode: Keeping WIFI Transmitting under CH11 for 11b at 11Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4924	48.79 (PK)	Н	74(Peak)/ 54(AV)
4924	48.63 (PK)	V	74(Peak)/ 54(AV)
7368		H/V	74(Peak)/ 54(AV)
9848		H/V	74(Peak)/ 54(AV)
12310		H/V	74(Peak)/ 54(AV)
14772		H/V	74(Peak)/ 54(AV)
17234		H/V	74(Peak)/ 54(AV)
19696		H/V	74(Peak)/ 54(AV)
22158		H/V	74(Peak)/ 54(AV)
24620		H/V	74(Peak)/ 54(AV)

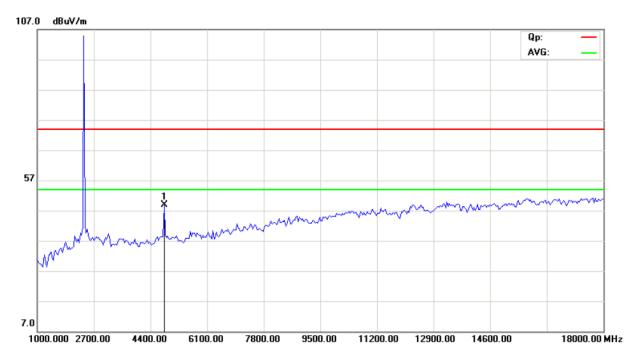
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode at 11Mbps

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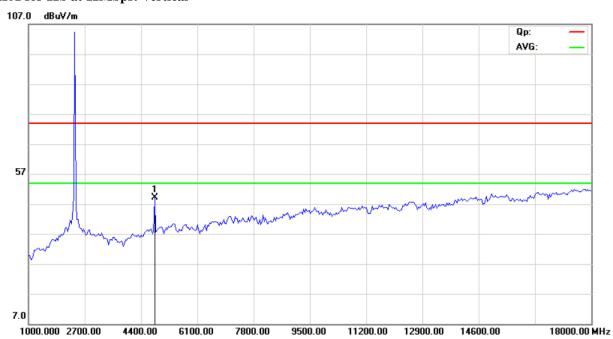


Please refer to the following test plots for details:

CH01 for 11b at 11Mbps: Horizontal



CH01 for 11b at 11Mbps: Vertical



The report refers only to the sample tested and does not apply to the bulk.

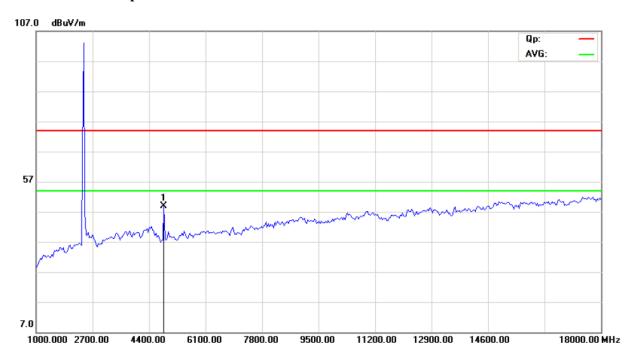
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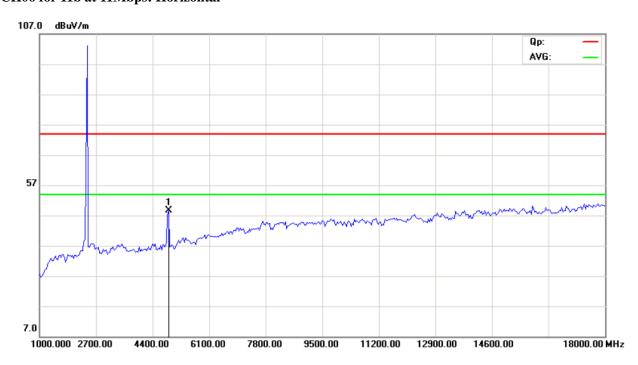
Date: 2015-05-18



CH06 for 11b at 11Mbps: Vertical



CH06 for 11b at 11Mbps: Horizontal



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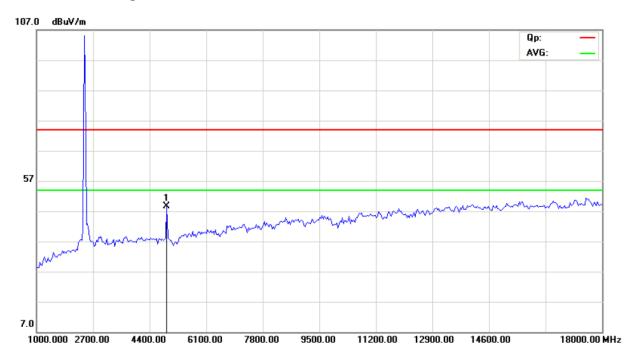
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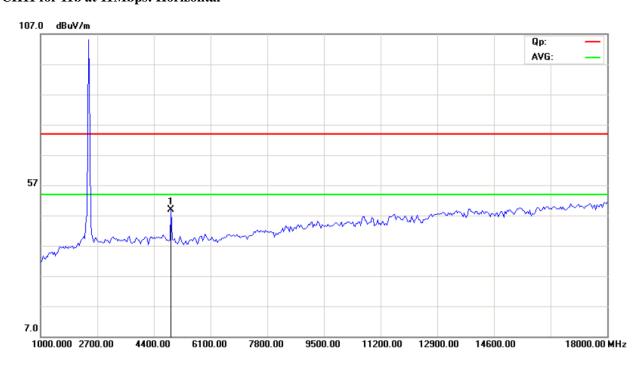
Date: 2015-05-18



CH11 for 11b at 11Mbps: Vertical



CH11 for 11b at 11Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

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Operation Mode: Keeping WIFI Transmitting under CH01 for 11n HT20 at 150Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4824.00	48.85 (PK)	Н	74(Peak)/ 54(AV)
4824.00	48.59 (PK)	V	74(Peak)/ 54(AV)
7236.00	1	H/V	74(Peak)/ 54(AV)
9648.00		H/V	74(Peak)/ 54(AV)
12060		H/V	74(Peak)/ 54(AV)
14472		H/V	74(Peak)/ 54(AV)
16684		H/V	74(Peak)/ 54(AV)
19296	-	H/V	74(Peak)/ 54(AV)
21708		H/V	74(Peak)/ 54(AV)
24120		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT20) mode 150Mbps

Operation Mode: Keeping WIFI Transmitting under CH06 for 11n HT20 at 150Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4874.00	48.54 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.69 (PK)	V	74(Peak)/ 54(AV)
7311.00	1	H/V	74(Peak)/ 54(AV)
9748.00		H/V	74(Peak)/ 54(AV)
12185		H/V	74(Peak)/ 54(AV)
14622		H/V	74(Peak)/ 54(AV)
17059		H/V	74(Peak)/ 54(AV)
19496		H/V	74(Peak)/ 54(AV)
21933		H/V	74(Peak)/ 54(AV)
24370		H/V	74(Peak)/ 54(AV)

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT20) mode 150Mbps

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Operation Mode: Keeping WIFI Transmitting under CH11 for 11n HT20 at 150Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \u03b4 V/m)
4924	48.19 (PK)	Н	74(Peak)/ 54(AV)
4924	48.64 (PK)	V	74(Peak)/ 54(AV)
7368		H/V	74(Peak)/ 54(AV)
9848		H/V	74(Peak)/ 54(AV)
12310		H/V	74(Peak)/ 54(AV)
14772		H/V	74(Peak)/ 54(AV)
17234		H/V	74(Peak)/ 54(AV)
19696		H/V	74(Peak)/ 54(AV)
22158		H/V	74(Peak)/ 54(AV)
24620		H/V	74(Peak)/ 54(AV)

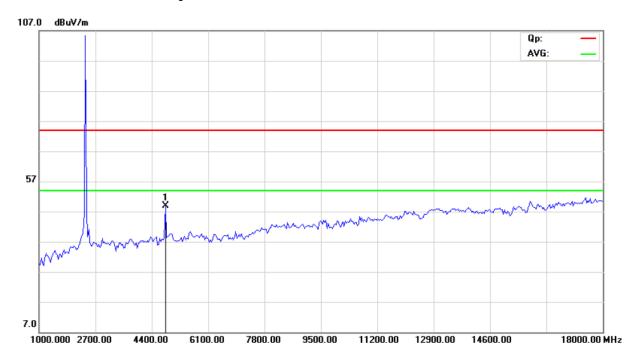
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT20) mode 150Mbps

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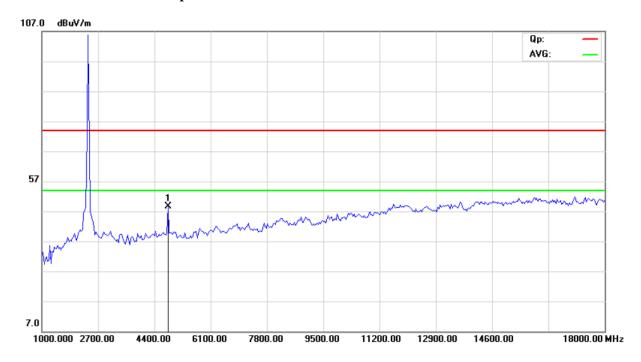


Please refer to the following test plots for details:

CH01 for 11n HT20 at 150Mbps: Horizontal



CH01 for 11n HT20 at 150Mbps: Vertical



The report refers only to the sample tested and does not apply to the bulk.

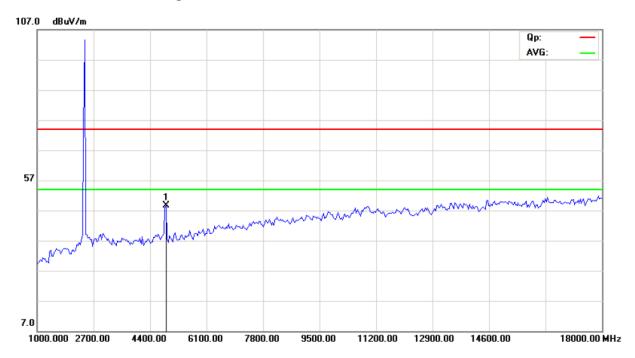
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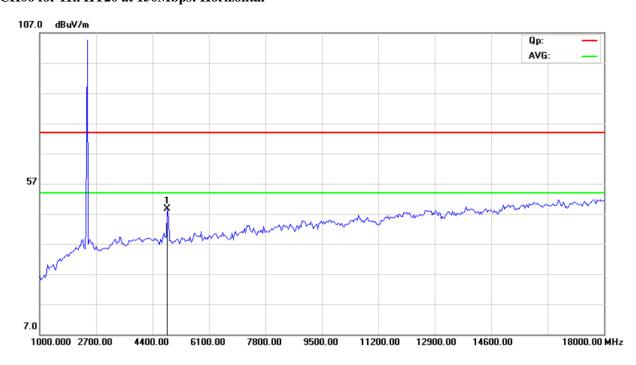
Date: 2015-05-18



CH06 for 11n HT20 at 150Mbps: Vertical



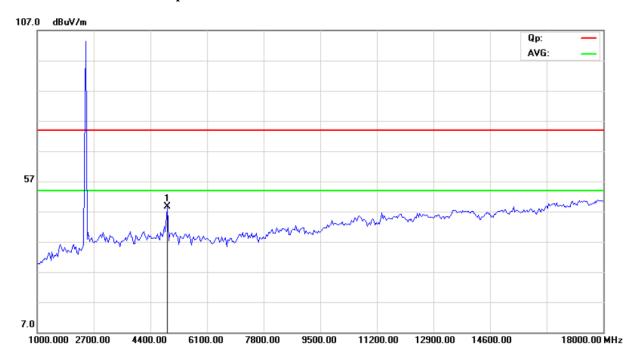
CH06 for 11n HT20 at 150Mbps: Horizontal



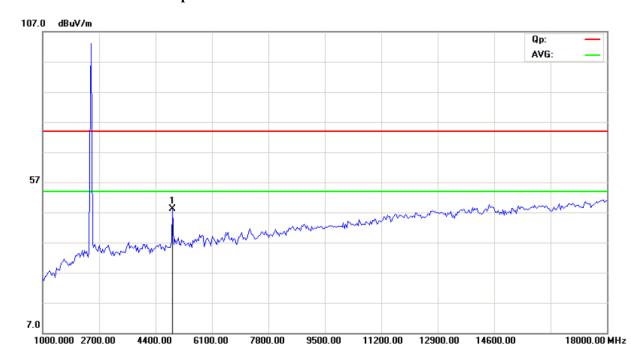
Date: 2015-05-18



CH11 for 11n HT20 at 150Mbps: Vertical



CH11 for 11n HT20 at 150Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

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Operation Mode: Transmitting under CH01 for 11n HT40 at 150Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4844.00	48.01 (PK)	Н	74(Peak)/ 54(AV)
4844.00	48.27 (PK)	V	74(Peak)/ 54(AV)
7266.00	1	H/V	74(Peak)/ 54(AV)
9688.00		H/V	74(Peak)/ 54(AV)
12110		H/V	74(Peak)/ 54(AV)
14532		H/V	74(Peak)/ 54(AV)
16954		H/V	74(Peak)/ 54(AV)
19376	-	H/V	74(Peak)/ 54(AV)
21798		H/V	74(Peak)/ 54(AV)
24220		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT40) mode 150Mbps

Operation Mode: Transmitting under CH04 for 11n HT40 at 150Mbps

Frequency (MHz)	Level@3m (dB \u03ba V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4874.00	48.66 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.53 (PK)	V	74(Peak)/ 54(AV)
7311.00	1	H/V	74(Peak)/ 54(AV)
9748.00		H/V	74(Peak)/ 54(AV)
12185		H/V	74(Peak)/ 54(AV)
14622		H/V	74(Peak)/ 54(AV)
17059		H/V	74(Peak)/ 54(AV)
19496		H/V	74(Peak)/ 54(AV)
21933		H/V	74(Peak)/ 54(AV)
24370		H/V	74(Peak)/ 54(AV)

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT40) mode 150Mbps

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Operation Mode: Transmitting under CH07 for 11n HT40 at 150Mbps

Frequency (MHz)	Level@3m (dB \u03bc V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4904	48.73 (PK)	Н	74(Peak)/ 54(AV)
4904	48.58 (PK)	V	74(Peak)/ 54(AV)
7356		H/V	74(Peak)/ 54(AV)
9808		H/V	74(Peak)/ 54(AV)
12260		H/V	74(Peak)/ 54(AV)
14712		H/V	74(Peak)/ 54(AV)
17164		H/V	74(Peak)/ 54(AV)
19616		H/V	74(Peak)/ 54(AV)
22068		H/V	74(Peak)/ 54(AV)
24520		H/V	74(Peak)/ 54(AV)

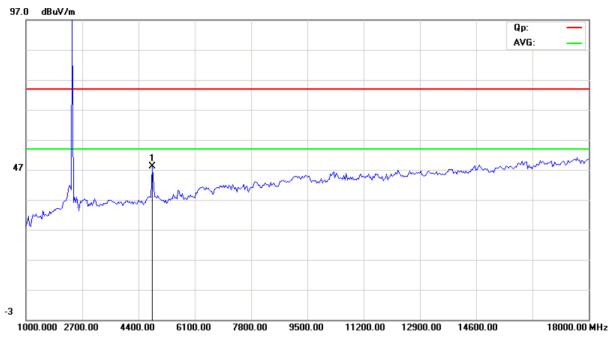
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT40) mode 150Mbps

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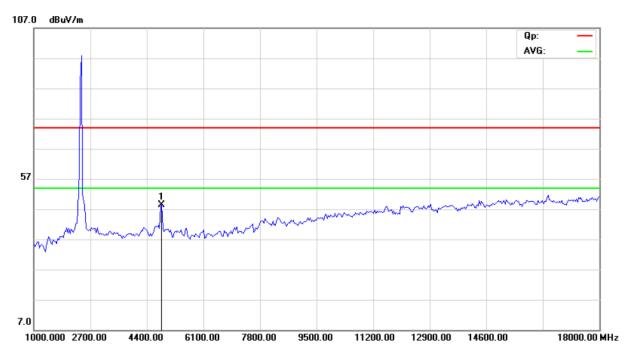


Please refer to the following test plots for details:

CH01 for 11n HT40 at 150Mbps: Horizontal



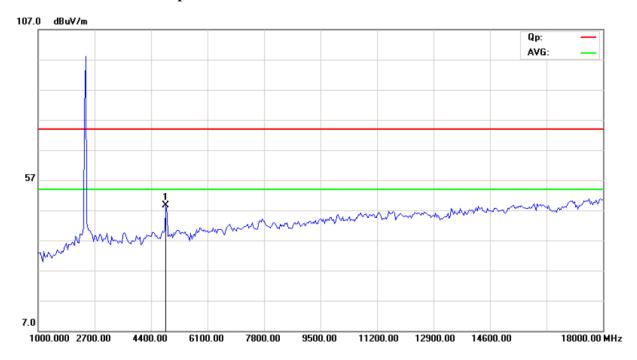
CH01 for 11n HT40 at 150Mbps: Vertical



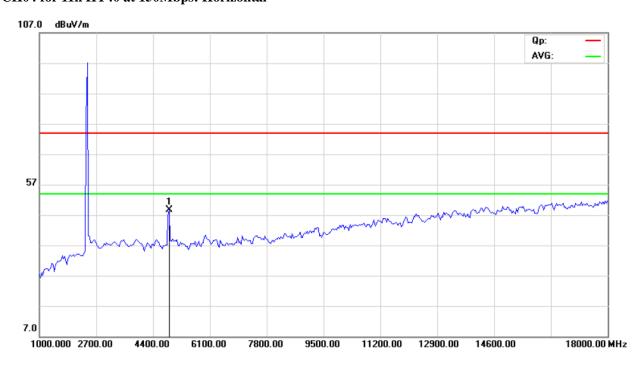
Date: 2015-05-18



CH04 for 11n HT40 at 150Mbps: Vertical



CH04 for 11n HT40 at 150Mbps: Horizontal



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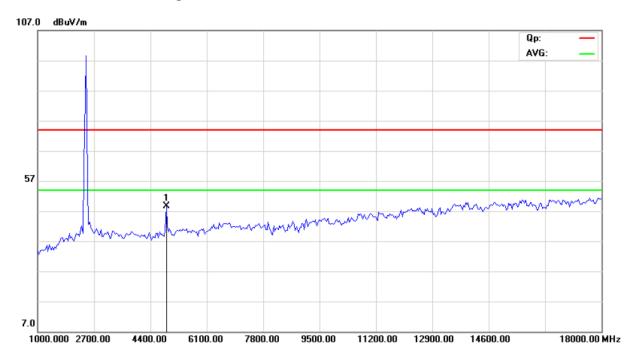
In the event of the improper use of the report. The SHENZHEN TIMEWAY TESTING LABORATORIES. reserves the rights to withdraw it and to

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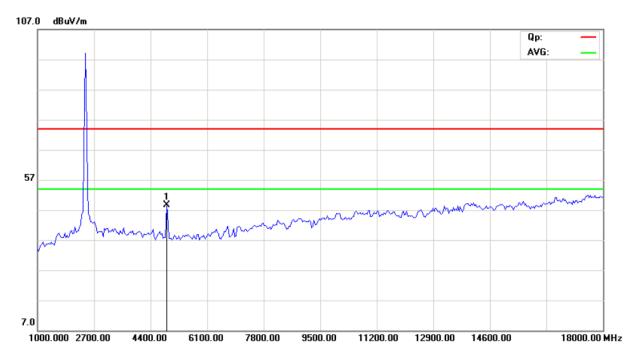
Date: 2015-05-18



CH07 for 11n HT40 at 150Mbps: Vertical



CH07 for 11n HT40 at 150Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

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adopt any other remedies which may be appropriate.

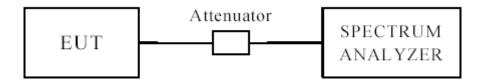
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

- 1. Set resolution bandwidth (RBW) = 100 kHz
- 2. Set the video bandwidth (VBW) \geq 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.4 Test Result

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6dB Occupied Bandwidth

EUT		IP CAMERA	A	Model		C7823WIP,C7824WIP, C7842WIP		
Mode		802.11b		Input Voltage		AC120V		
Temperati	ure	24 deg. C,		Hum	idity		56% R	Н
Channel	Channel Frequency (MHz)		Tra R	ata nsfer ate bps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass/ Fail
1	2412			1	10.04		0.5	Pass
6	2437			1	10.04		0.5	Pass
11		2462		1	10.04	1	0.5	Pass
1	2412			11	9.32		0.5	Pass
6	2437 11		11	9.32		0.5	Pass	
11	2462			11	9.32		0.5	Pass

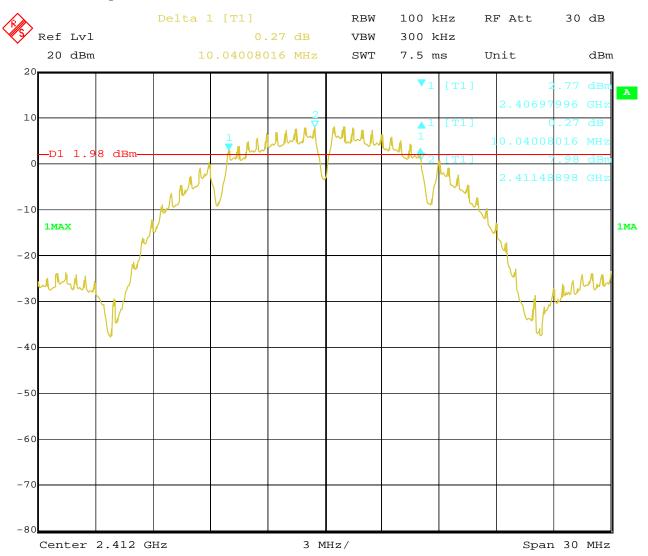
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1. 802.11b at 1Mbps of CH01



15.MAY.2015 12:44:01 Date:

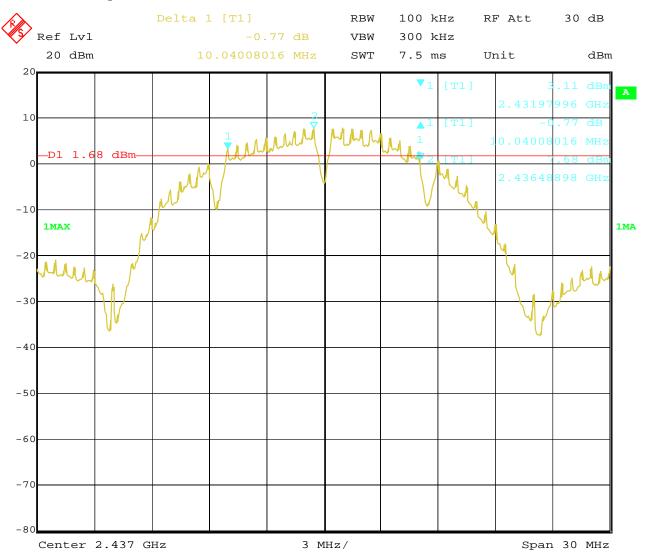
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2. 802.11b at 1Mbps of CH06

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15.MAY.2015 12:56:02 Date:

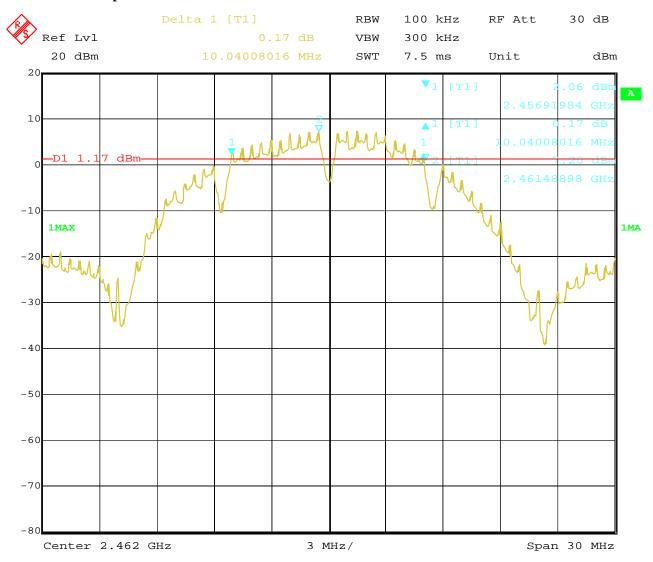
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3. 802.11b at 1Mbps of CH11



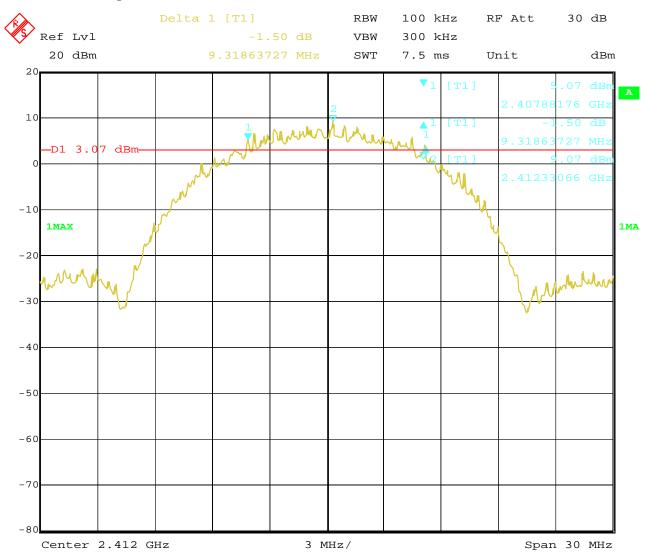
15.MAY.2015 14:41:30 Date:

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4. 802.11b at 11Mbps of CH01



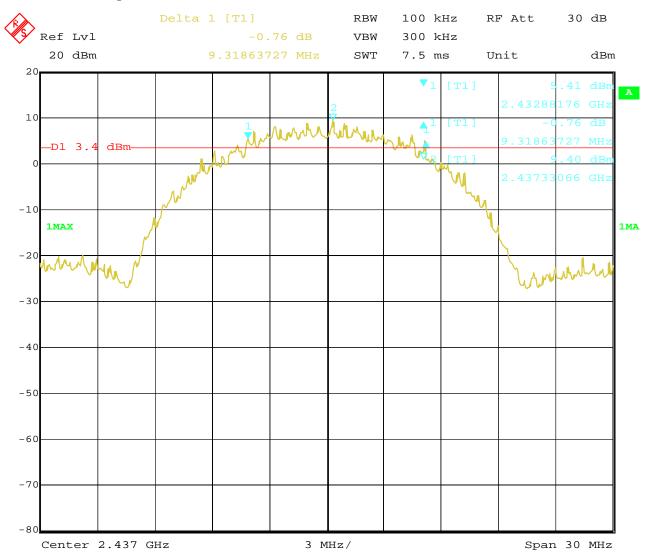
15.MAY.2015 12:48:47 Date:

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5. 802.11b at 11Mbps of CH06



15.MAY.2015 12:50:54 Date:

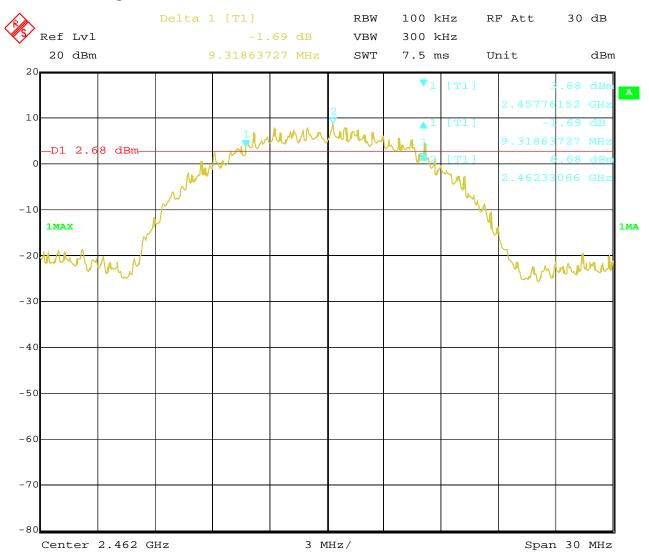
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6. 802.11b at 11Mbps of CH11



15.MAY.2015 14:48:25 Date:

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6dB Occupied Bandwidth

EUT	EUT IP CAMERA		1	Model		C7823WIP,C7824WIP, C7842WIP		
Mode		802.11g		Input	Voltage		AC120	V
Temperat	ure	24 deg. C,		Hum	idity		56% RI	I
Channel	Chai	nnel Frequency (MHz)	Tra:	ata nsfer ate bps)	6 dB Band (MHz		Minimum Limit (MHz) Pass/ Fail	
1		2412		6 16.41		l	0.5	Pass
6	2437 6		16.41		0.5	Pass		
11		2462 6		16.41		0.5	Pass	

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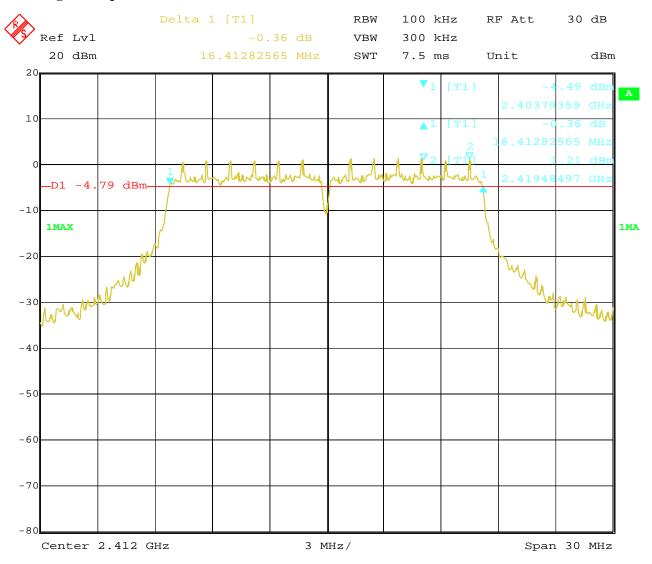
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Test Plots:

1. 802.11g at 6Mbps of CH01



15.MAY.2015 12:46:58 Date:

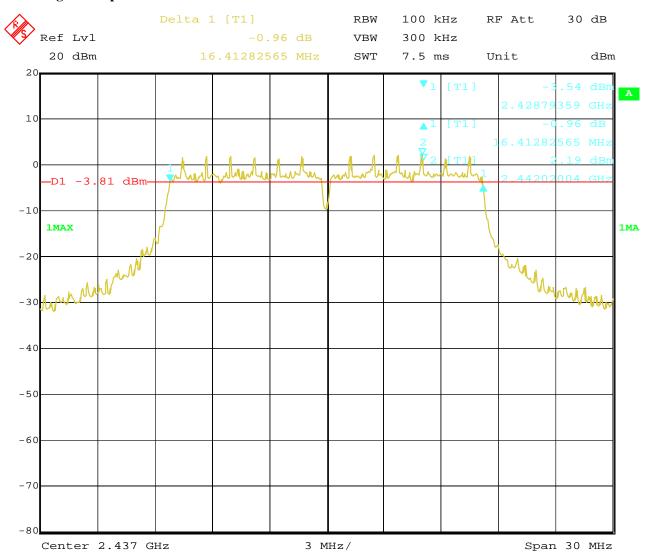
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2. 802.11g at 6Mbps of CH06



15.MAY.2015 12:53:32 Date:

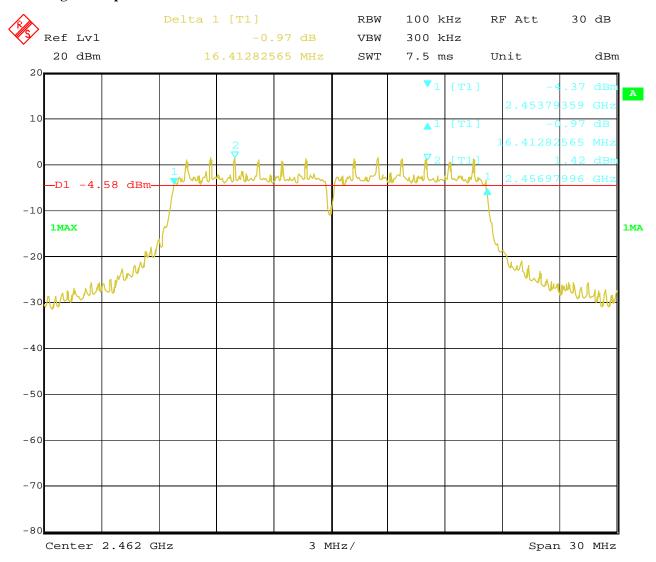
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3. 802.11g at 6Mbps of CH11



15.MAY.2015 14:44:11 Date:

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6dB Occupied Bandwidth

EUT	EUT IP CAMER		A	Model		C7823WIP,C7824WIP, C7842WIP		
Mode		802.11n HT	20	Inp	out Voltage		AC120)V
Temperati	ure	24 deg. C,		Hu	midity		56% R	tН
Channel	Channel Frequency (MHz)		Dat Trans Rat (Mbp	fer e	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass/ Fail
1		2412	150)	17.50	6	0.5	Pass
6	2437		150)	17.50	6	0.5	Pass
11	2462		150)	17.50	6	0.5	Pass

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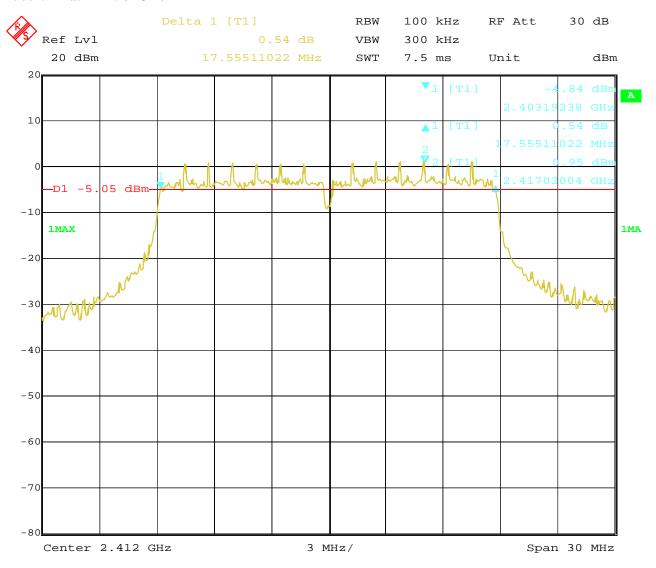
Report No: FCC1505078

Date: 2015-05-18



Test Plots:

1. 802.11n at HT20 of CH01



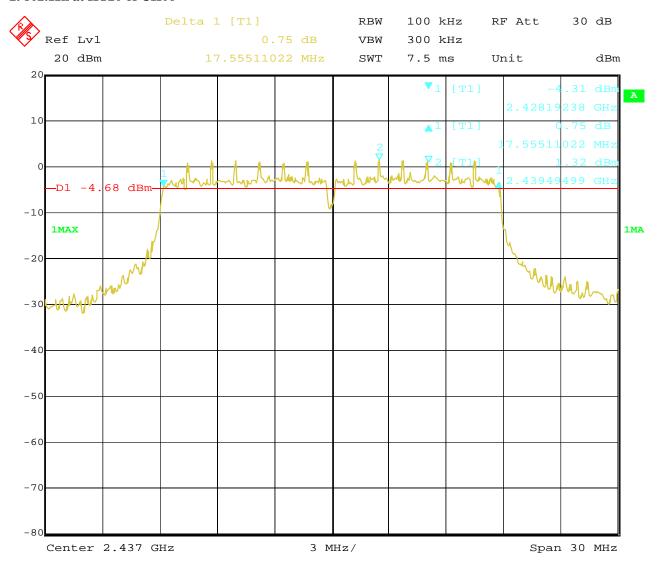
15.MAY.2015 14:54:54 Date:

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2. 802.11n at HT20 of CH06



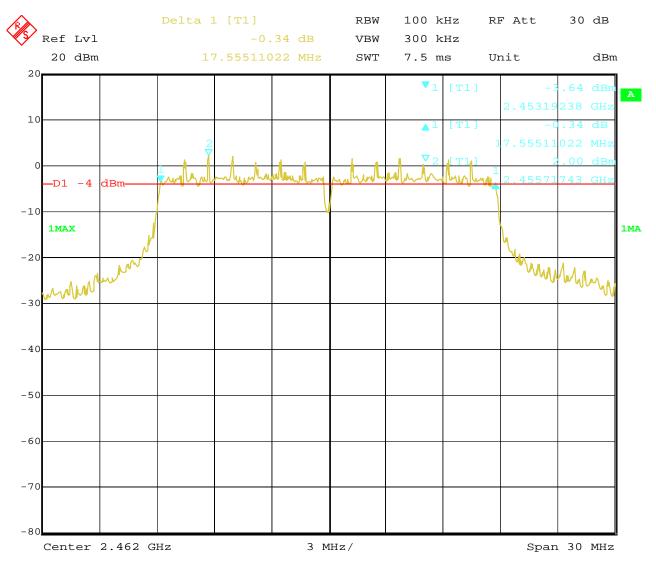
15.MAY.2015 14:51:44 Date:

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3. 802.11n at HT20 of CH11



15.MAY.2015 14:49:49 Date:

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6dB Occupied Bandwidth

EUT	EUT IP CAMER		A	Model		C7823WIP,C7824WIP, C7842WIP		
Mode		802.11n HT	40	Inp	out Voltage		AC120)V
Temperate	ure	24 deg. C,	ı	Hu	midity		56% R	tН
Channel	Channel Frequency (MHz)		Dat Trans Rat (Mbp	sfer e	6 dB Band (MHz		Minimum Limit (MHz)	Pass/ Fail
1		2422	150)	35.39	9	0.5	Pass
4	2437		150)	35.39	9	0.5	Pass
7	2452		150)	35.39	9	0.5	Pass

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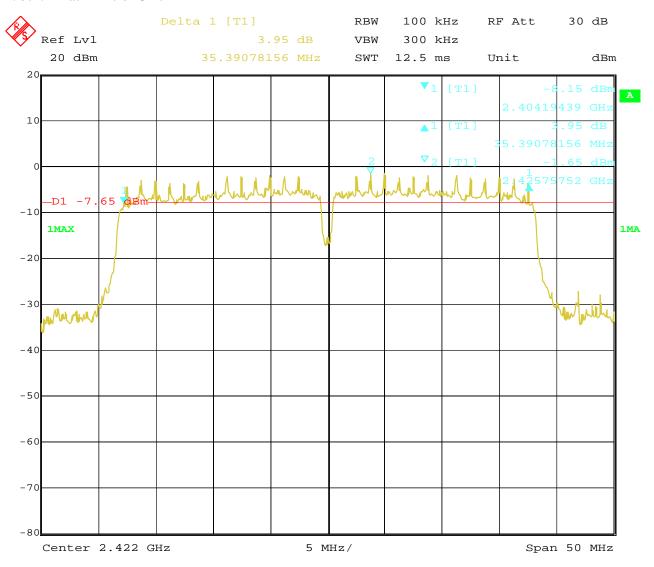
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Test Plots:

1. 802.11n at HT40 of CH01



15.MAY.2015 14:56:46 Date:

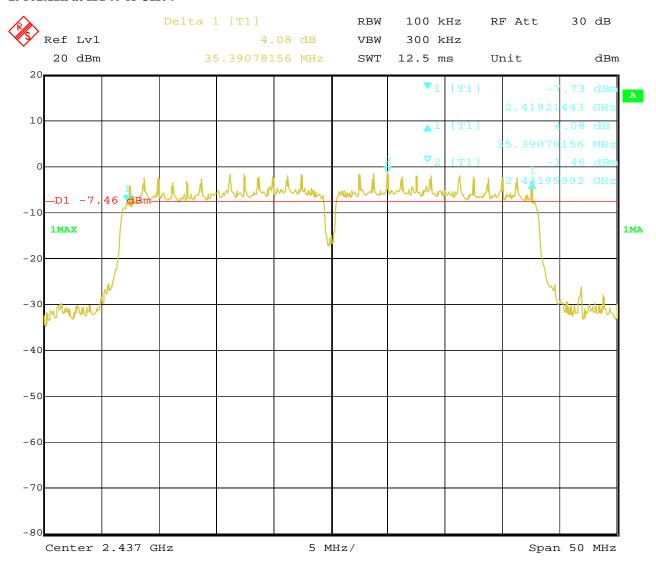
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2. 802.11n at HT40 of CH04



15.MAY.2015 14:59:36 Date:

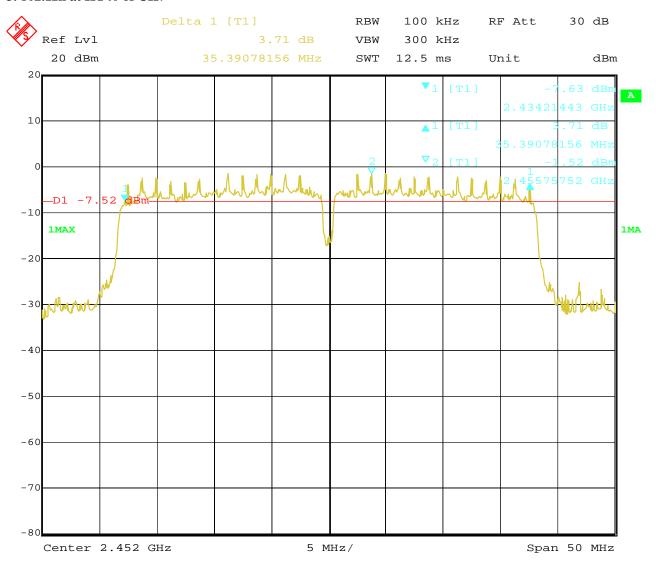
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3. 802.11n at HT40 of CH7



15.MAY.2015 15:02:09 Date:

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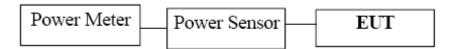
Date: 2015-05-18



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8. Maximum Peak Output Power

8.1 Test Setup



8.2 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: the peak power was measured

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8.4Test Results

EUT	IP CAMERA	Model		C7823WIP,C7824WIP, C7842WIP		
Mode	802.11b	Input Voltage	AC120V			
Temperature	24 deg. C,	Humidity	56% RH			
Channel	Channel Frequency	Max. Power (Output	Power Limit	Pass/ Fail	
Chamie	(MHz)	(dBm)		(dBm)		
1	2412	24.31		30	Pass	
6	2437	24.20		30	Pass	
11	2462	23.41		30 Pass		

Note: 1. At finial test to get the worst-case emission at 11Mbps for CH01, CH06 and CH11

The result basic equation calculation as follow:
 Peak Power Output = Peak Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT	IP CAMERA	Model	del C7823WIP,C7		VIP, C7842WIP	
Mode	802.11g	Input Voltage		AC120V		
Temperature	24 deg. C,	Humidity	56% RH			
Channal	Channel Frequency	Max. Powe	r Output	Power Limit	Pass/ Fail	
Channel	(MHz)	(dBn	n)	(dBm)		
1	2412	22.9	9	30	Pass	
6	2437	22.1	7	30	Pass	
11	2462	21.8	2	30	Pass	

Note: 1. At finial test to get the worst-case emission at 6Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:
Peak Power Output = Peak Power Reading + Cable loss + Attenuator

3. The worse case was recorded

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EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP		C7842WIP	
Mode	802.11n (HT20)	Input Voltage	AC120V			
Temperature	24 deg. C,	Humidity	56% RH			
Channel	Channel Frequency (MHz)	Max. Power (dBm	•	Power Limit (dBm)	Pass/ Fail	
1	1 2412		5 30 Pa:		Pass	
6	2437	22.23	3	30	Pass	
11	11 2462		30		Pass	

Note: 1. At finial test to get the worst-case emission at 150Mbps 11n HT20 for CH01, CH06 and CH11

- 2. The result basic equation calculation as follow: Peak Power Output = Peak Power Reading + Cable loss + Attenuator
- 3. The worse case was recorded

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP			
Mode	802.11n (HT40)	Input Voltage	AC120V			
Temperature	24 deg. C,	Humidity	56% RH			
Channel	Channel Frequency	Max. Power	Output	Power Limit	Pass/ Fail	
Chamiei	(MHz)	(dBm	n)	(dBm)		
1	1 2422		4 30		Pass	
4	2437		3 30 Pass		Pass	
7	2452	22.27	7	30	Pass	

Note: 1. At finial test to get the worst-case emission at 150Mbps of 11n HT40 for CH01, CH04 and CH7

- 2. The result basic equation calculation as follow:
 - Max. Power Output = Power Reading + Cable loss + Attenuator
- 3. The worse case was recorded

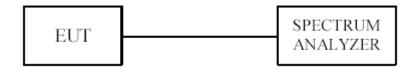
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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

9.3 Test Procedure

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW = 10 kHz.
- 3. Set the VBW \geq 30 kHz.
- 4. Set the span to 1.5 times the DTS channel bandwidth.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = \max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be ≤ 8 dBm.

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9.4Test Result

EUT	EUT IP CAMERA		Model	C7823WIP,C7824WIP, C7842WIP		
Mode	Mode 802.11b 11Mbps		Input Voltage	AC120V		
Temperatur	e	24 deg. C,	Humidity	56% RH		
Channel	Channel Frequency (MHz)		Final RF Power Level (dBm)	Maximum Limit (dBm)	Pass/ Fail	
			11Mbps			
1		2412	0.45	8	Pass	
6		2437	0.22	8	Pass	
11		2462	-0.97	8	Pass	

EUT		IP CAMERA	Model		C7823WIP,C7824WIP,	C7842WIP
Mode 802.1		802.11b 1Mbps	Input Voltage		AC120V	
Temperatur	e	24 deg. C,	Humidity		56% RH	
Channal	Channel Frequency		Final RF Power		Maximum Limit	Pass/ Fail
Channel		(MHz)	Level (dBm)		(dBm)	
			1Mbps			
1		2412	-0.70		8	Pass
6		2437	-0.96		8	Pass
11		2462	-2.29		8	Pass

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EUT		IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP
Mode		802.11g 6Mbps	Input Voltage	AC120V
Temperatur	e	24 deg. C,	Humidity	56% RH
Channel	Cł	nannel Frequency	Final RF Power	r Maximum Limit Pass/ Fail
Channel		(MHz)	Level (dBm)	(dBm)
			6Mbps	S
1		2412	-7.48	8 Pass
6		2437	-6.22	8 Pass
11		2462	-6.59	8 Pass

EUT	IP CAMER	A Model	C7823WIP,C7824WIP, C7842WIP		
Mode	802.11n HT 150Mbps	I	AC120V		
Temperatur	e 24 deg. C	, Humidity	56% RH		
Channel	Channel Frequence (MHz)	Final RF Power Level (dBm)	Maximum Limit (dBm)	Pass/ Fail	
		150Mbps	}		
1	2412	-5.47	8	Pass	
6	2437	-5.30	8	Pass	
11	2462	-5.61	8	Pass	

EUT	IP (CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode		11n (HT40) 50Mbps	Input Voltage	AC120V	
Temperatur	e 24	deg. C,	Humidity	56% RH	
Channel	Channel Frequency (MHz)		Final RF Power Level (dBm)	Maximum Limit (dBm)	Pass/ Fail
			150Mbps		
1	2422		-8.99	8	Pass
4	2437		-8.97	8	Pass
7	2452		-9.04	8	Pass

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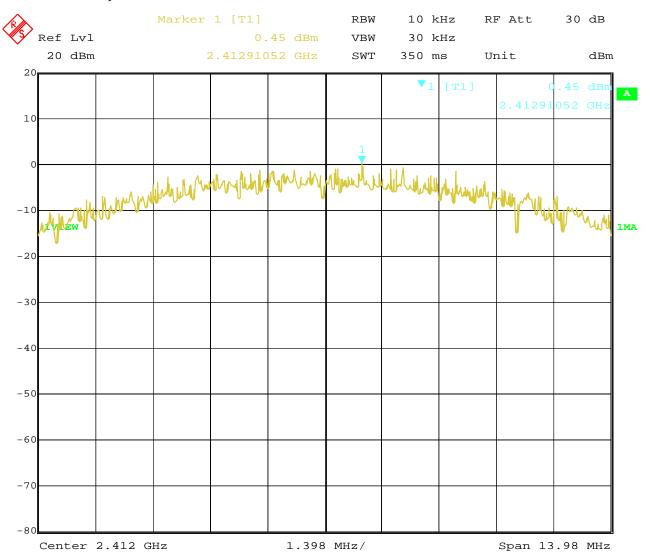
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9.5 Photo of Power Spectral Density Measurement

1.802.11b at 11Mbps of CH01



15.MAY.2015 16:11:46 Date:

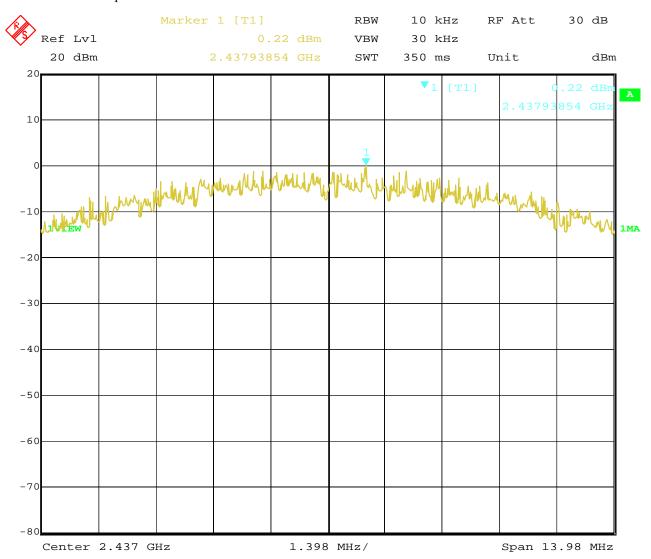
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2. 802.11b at 11Mbps at CH06



15.MAY.2015 16:10:50 Date:

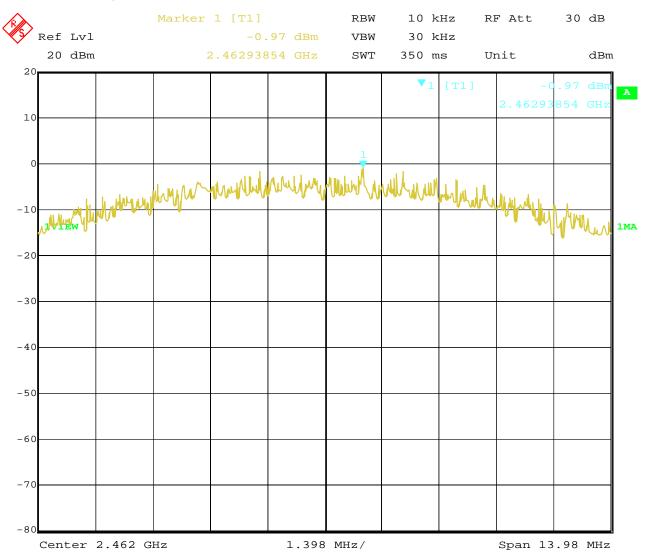
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3. 802.11b at 11Mbps of CH11



15.MAY.2015 16:10:16 Date:

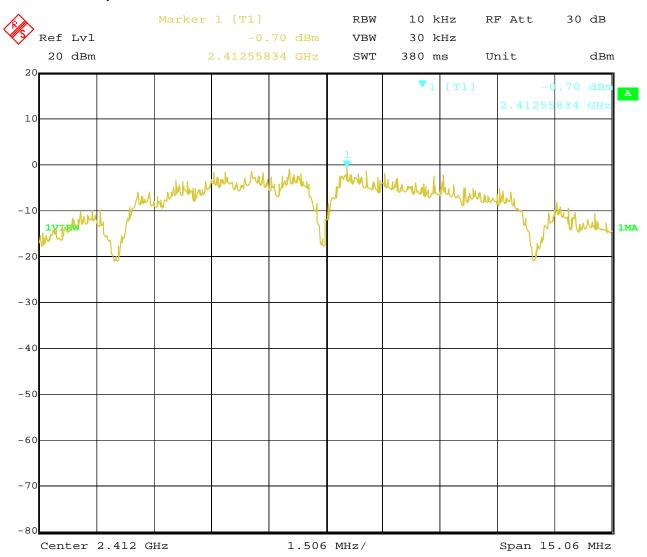
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4. 802.11b at 1Mbps of CH1



15.MAY.2015 16:05:59 Date:

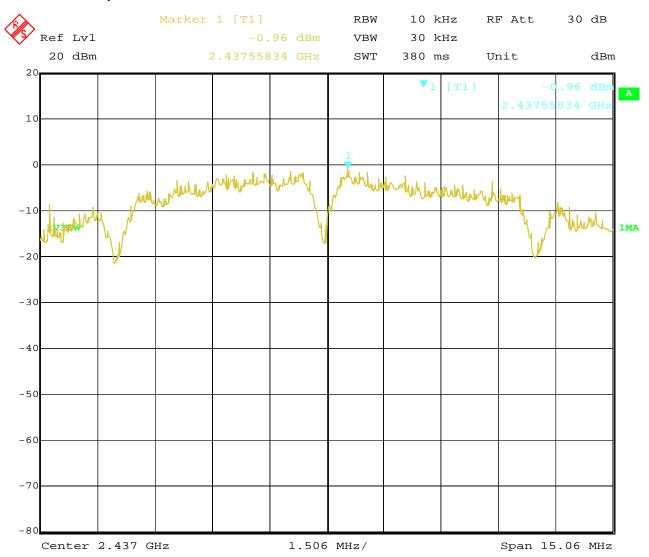
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5. 802.11b at 1Mbps of CH6



15.MAY.2015 16:04:34 Date:

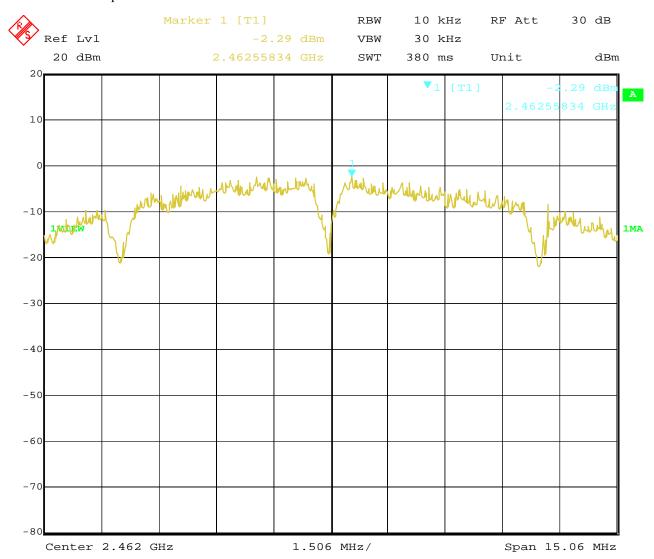
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6. 802.11b at 1Mbps of CH11



15.MAY.2015 16:04:06 Date:

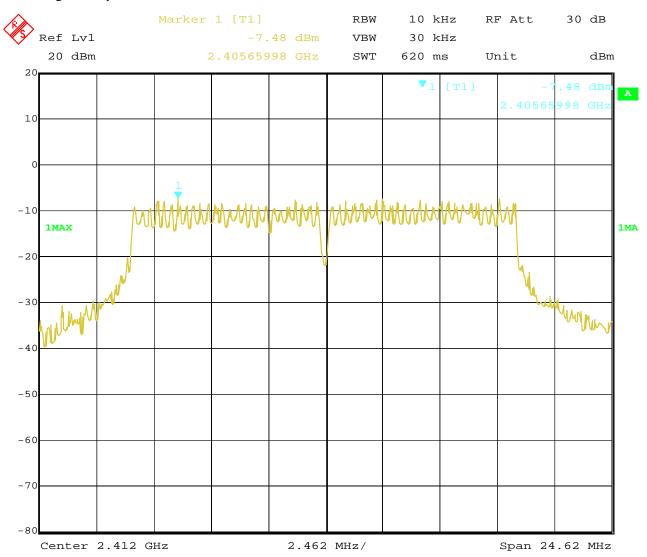
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7. 802.11g at 6Mbps of CH1



15.MAY.2015 16:06:58 Date:

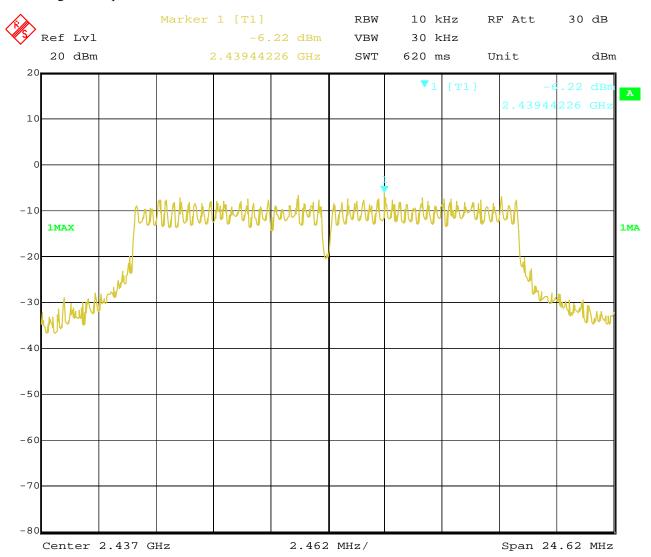
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8. 802.11g at 6 Mbps of CH6



15.MAY.2015 16:07:52 Date:

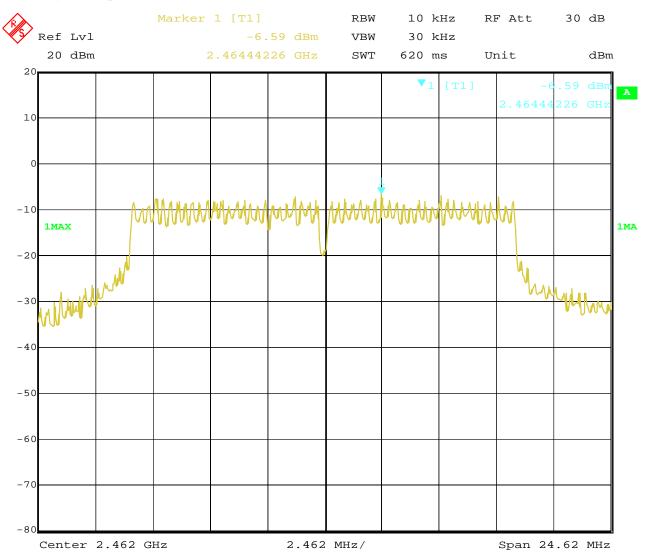
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9. 802.11g at 6 Mbps of CH11



15.MAY.2015 16:09:41 Date:

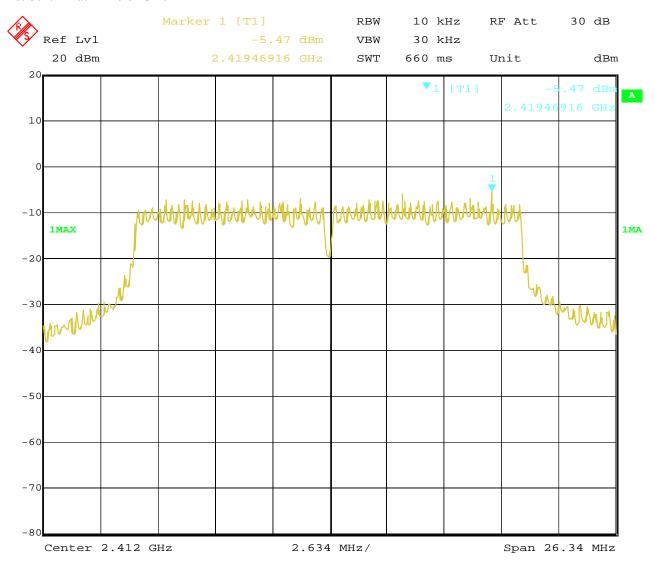
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10. 802.11n at HT20 of CH01



15.MAY.2015 16:00:45 Date:

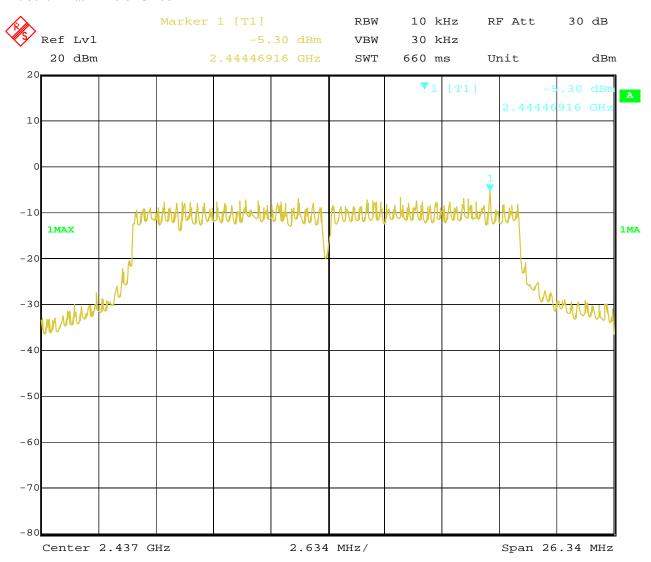
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11. 802.11n at HT20 of CH06



15.MAY.2015 16:01:53 Date:

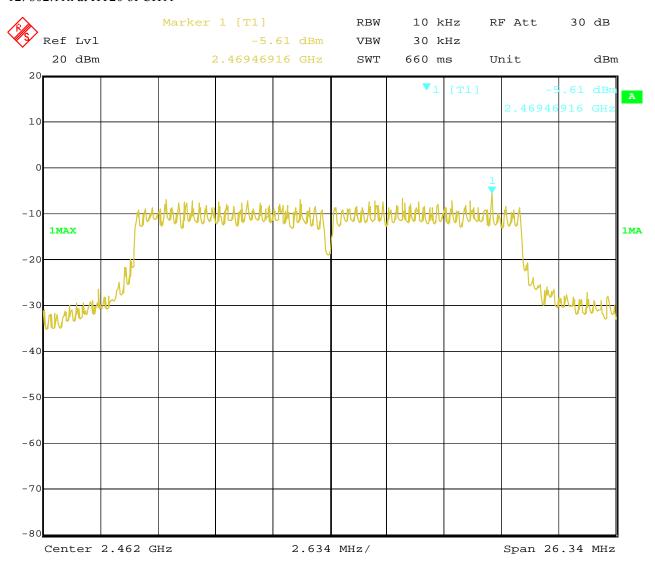
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12. 802.11n at HT20 of CH11



15.MAY.2015 16:03:21 Date:

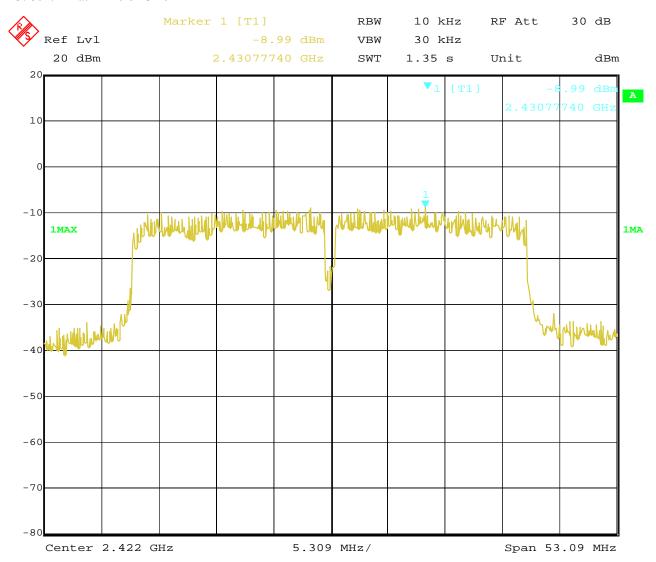
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13. 802.11n at HT40 of CH01



15.MAY.2015 15:58:33 Date:

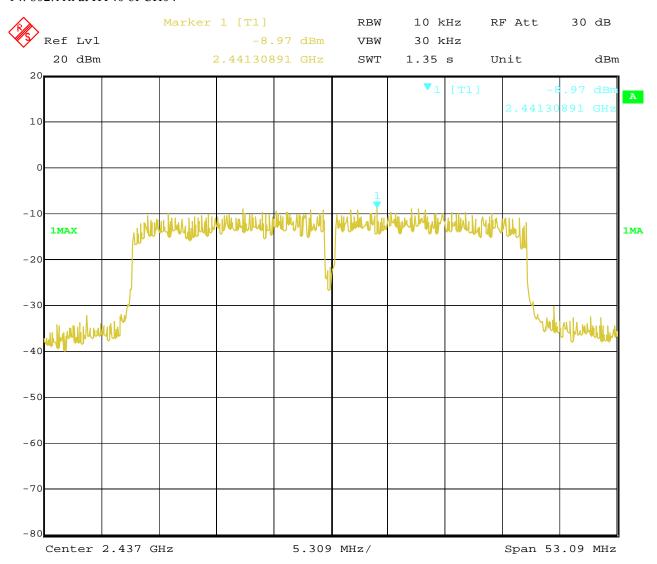
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14. 802.11n at HT40 of CH04



15.MAY.2015 15:57:08 Date:

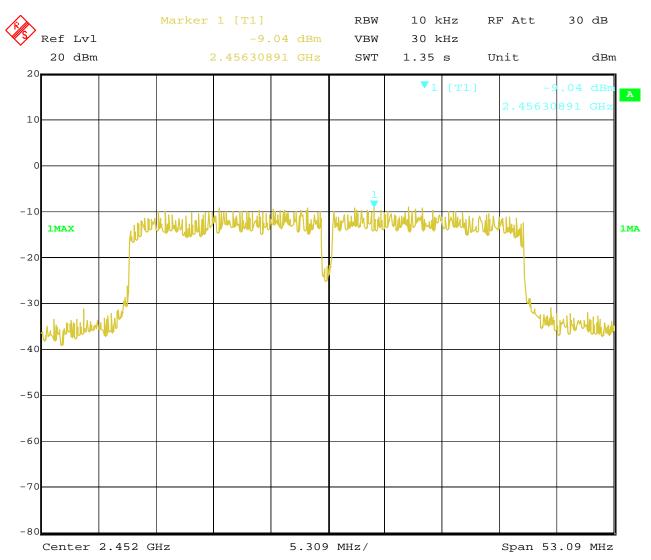
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15. 802.11n at HT40 of CH07



15.MAY.2015 15:55:39 Date:

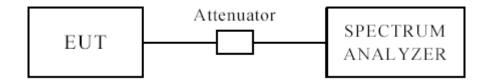
Date: 2015-05-18



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10 Out of Band Measurement

10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of Radiated emission test. (Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector)

For bandage test, the spectrum set as follows: RBW=100 kHz, VBW=300 kHz. A conducted measurement used

10.4 Test Result

Please see next pages

Note: For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

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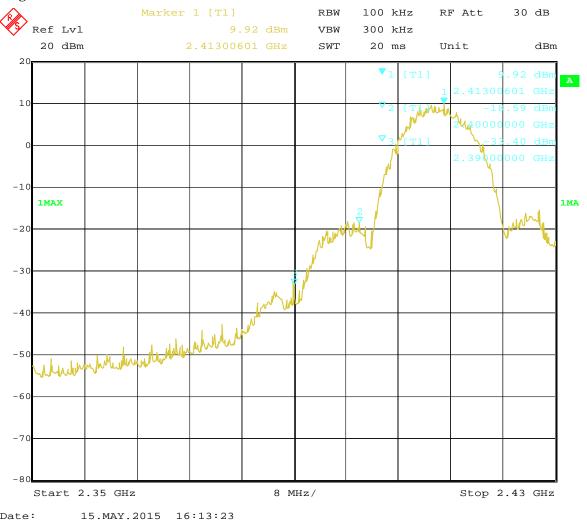
For 802.11b mode

CH01 at 11Mbps

10.4 Band-edge and Restricted band Measurement

2001 - 11-11 0 1/8 0 11-11 - 11-11 11-11 11-11						
EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP			
Mode	Keeping Transmittin	g Input Voltage	DC3.7V			
Temperature	24 deg. C,	Humidity	56% RH			
Test Result:	Pass	Detector	PK			
2400	PK (dBμV/m)	64.6	T ::4	$74(dB\mu V/m)$		
	AV (dBμV/m)	44.5	Limit	$54(dB\mu V/m)$		
2390	PK (dBμV/m)	50.2	Limit	$74(dB\mu V/m)$		
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$		

Test Figure:



Note: The Max. FS in Restrict Band are measured in conventional method.

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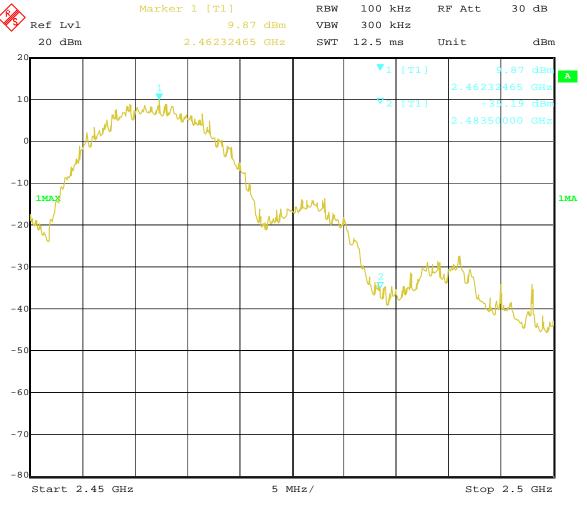


CH11 at 11Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode	Keeping Transmitting	Input Voltage	DC3.7V	
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2483.5	PK (dBμV/m)	48.3	T ::4	$74(dB\mu V/m)$
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$

Test Figure:



Date: 15.MAY.2015 16:24:04

Note: The Max. FS in Restrict Band are measured in conventional method.

Date: 2015-05-18



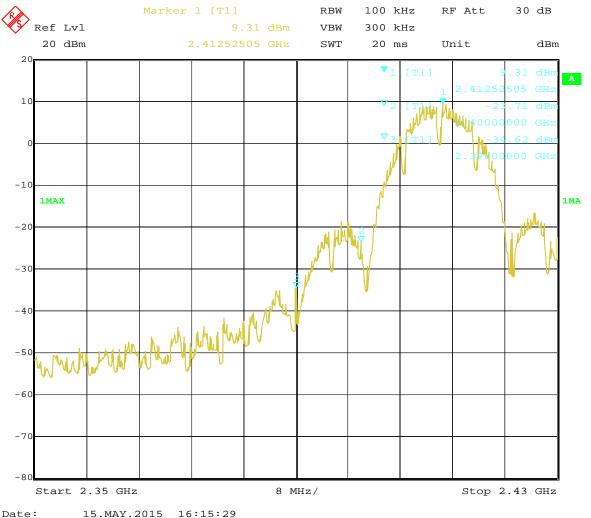
For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge and Restricted band Measurement

	0			
EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode	Keeping Transmitting	Input Voltage	DC3.7V	
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2400	PK (dBμV/m)	66.9	T :	$74(dB\mu V/m)$
	AV (dBμV/m)	47.9	Limit	$54(dB\mu V/m)$
2390	PK (dBμV/m)	56.3	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	36.2	Limit	$54(dB\mu V/m)$

Test Figure:



Note: The Max. FS in Restrict Band are measured in conventional method.

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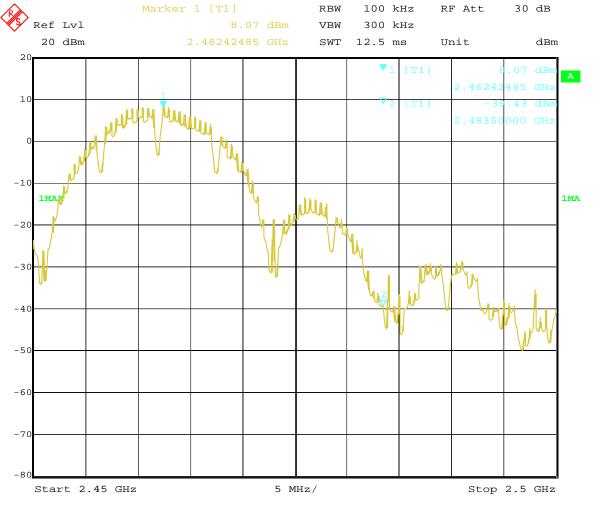


CH11 at 1Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP	C,C7824WIP, C7842WIP
Mode	Keeping Transmitting	Input Voltage	DC3.7V	
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2483.5	PK (dBμV/m)	49.5	T ::4	$74(dB\mu V/m)$
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$

Test Figure:



Date: 15.MAY.2015 16:22:24

Note: The Max. FS in Restrict Band are measured in conventional method.

Date: 2015-05-18



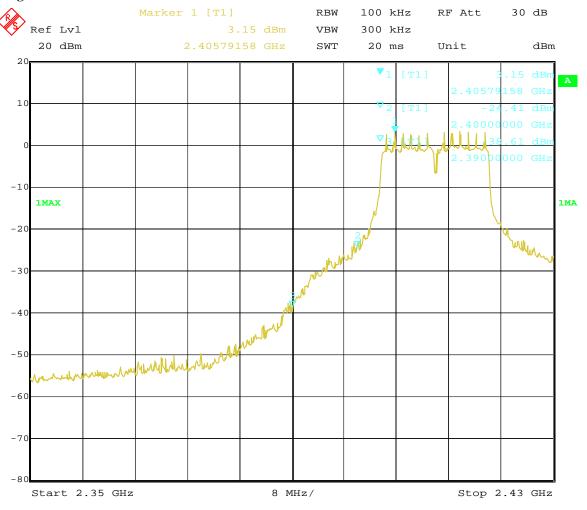
For 802.11g mode

CH01 at 6Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode	Keeping Transmitting	Input Voltage		DC3.7V
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2400	PK (dBμV/m)	67.8	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	47.1	Limit	54(dBμV/m)
2390	PK (dBµV/m)	58.3	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	39.2	Lillit	54(dBμV/m)

Test Figure:



15.MAY.2015 16:14:30

Note: The Max. FS in Restrict Band are measured in conventional method.

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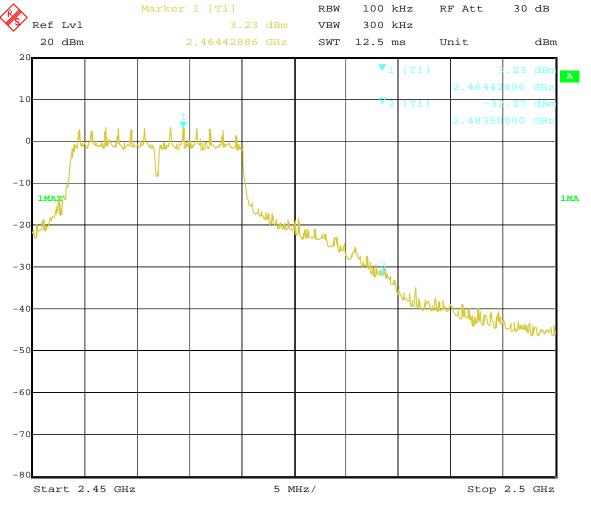


CH11 at 6Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode	Keeping Transmittin	g Input Voltage		DC3.7V
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2483.5	PK (dBμV/m)	55.7	T ::4	$74(dB\mu V/m)$
	AV (dBμV/m)	36.9	Limit	$54(dB\mu V/m)$

Test Figure:



Date: 15.MAY.2015 16:23:18

Note: The Max. FS in Restrict Band are measured in conventional method.

Date: 2015-05-18



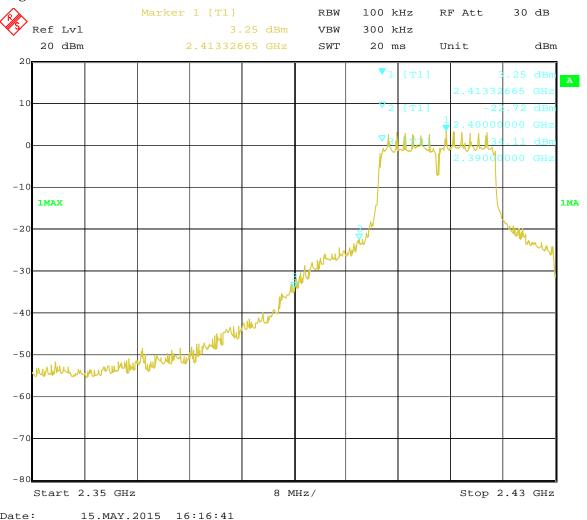
For 802.11n (HT20) mode

CH01 at 150Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
Mode	Keeping Transmitting	Input Voltage		DC3.7V
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2400	PK (dBμV/m)	69.6	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	49.3	Limit	$54(dB\mu V/m)$
2390	PK (dBμV/m)	59.7	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	40.3	Lillit	54(dBμV/m)

Test Figure:



Note: The Max. FS in Restrict Band are measured in conventional method.

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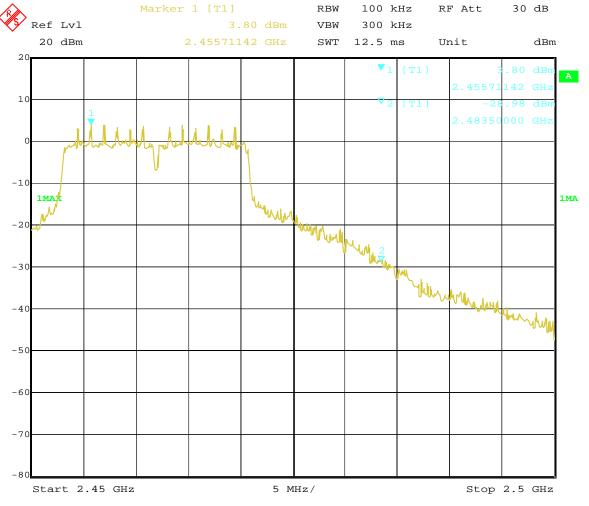


CH11 at 150Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP	
EUI			C/823 WIP, C/824 WIP, C/842 WIP	
Mode	Keeping Transmitting	Input Voltage	DC3.7V	
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2483.5	PK (dBμV/m)	57.0	T ::4	$74(dB\mu V/m)$
	AV (dBμV/m)	38.2	Limit	54(dBμV/m)

Test Figure:



Date: 15.MAY.2015 16:21:27

Note: The Max. FS in Restrict Band are measured in conventional method.

Date: 2015-05-18



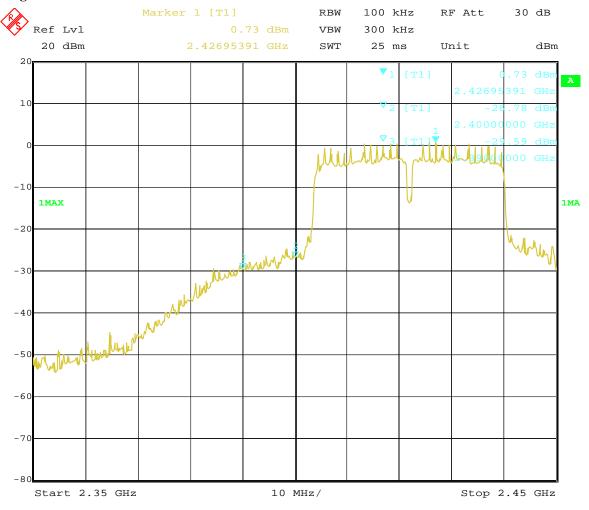
For 802.11n (HT40) mode

CH01 at 150Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823WIP,C7824WIP, C7842WIP			
Mode	Keeping Transmitting	g Input Voltage	DC3.7V			
Temperature	24 deg. C,	Humidity	56% RH			
Test Result:	Pass	Detector	PK			
2400	PK (dBμV/m)	70.3	T ::4	$74(dB\mu V/m)$		
	AV (dBμV/m)	51.5	Limit	$54(dB\mu V/m)$		
2390	PK (dBµV/m)	60.2	Limit	74(dBμV/m)		
	AV (dBμV/m)	40.6		$54(dB\mu V/m)$		

Test Figure:



15.MAY.2015 16:17:49

Note: The Max. FS in Restrict Band are measured in conventional method.

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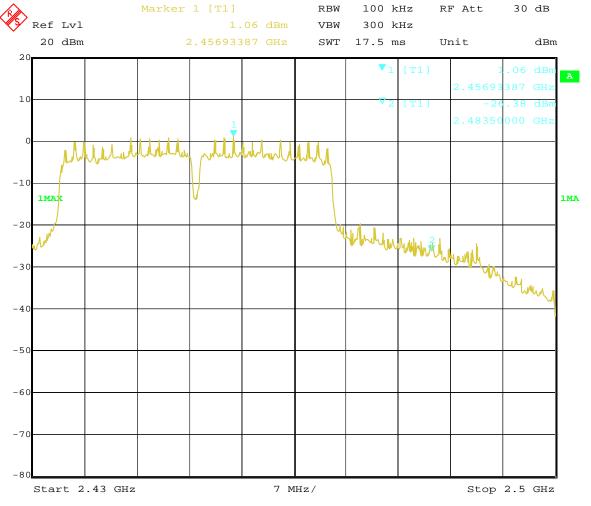


CH7 at 150Mbps

10.4 Band-edge and Restricted band Measurement

EUT	IP CAMERA	Model	C7823W	TIP,C7824WIP, C7842WIP
Mode	Keeping Transmitting	Input Voltage	DC3.7V	
Temperature	24 deg. C,	Humidity	56% RH	
Test Result:	Pass	Detector	PK	
2483.5	PK (dBμV/m)	62.6	T in it	$74(dB\mu V/m)$
	AV (dBμV/m)	43.1	Limit	54(dBμV/m)

Test Figure:



Date: 15.MAY.2015 16:19:56

Note: The Max. FS in Restrict Band are measured in conventional method.

Date: 2015-05-18



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11.0 Antenna Requirement

11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Antenna Connected construction

Dipole antennas used. The maximum Gain of each antenna is 2.0 dBi.

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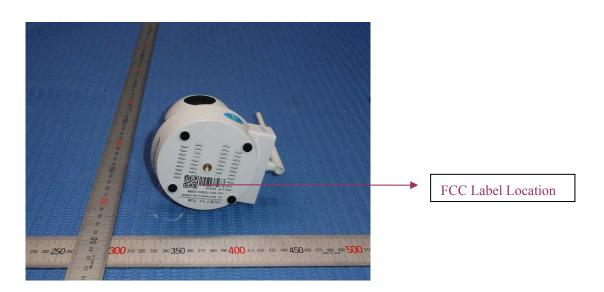
12.0 FCC Label

FCC ID: 2ABO5-C23-24

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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13.0 Photo of testing

Conducted Emission Test Setup:



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Radiated Emission Test Setup:





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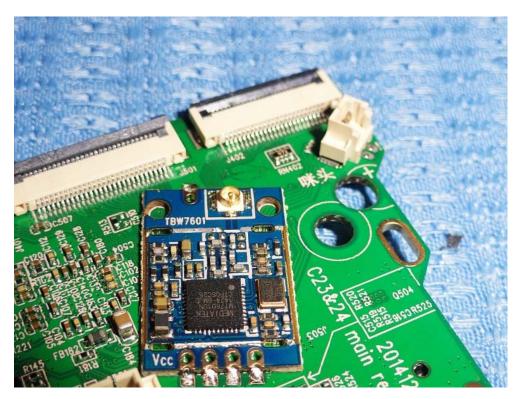
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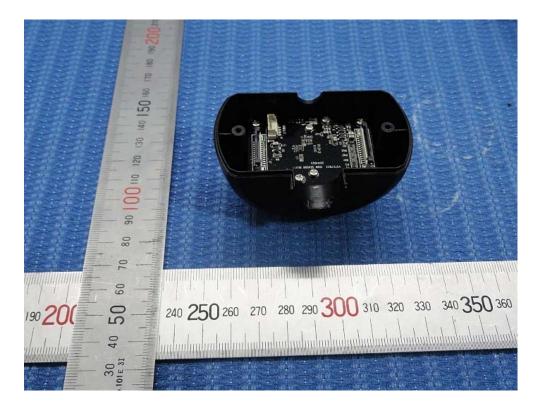
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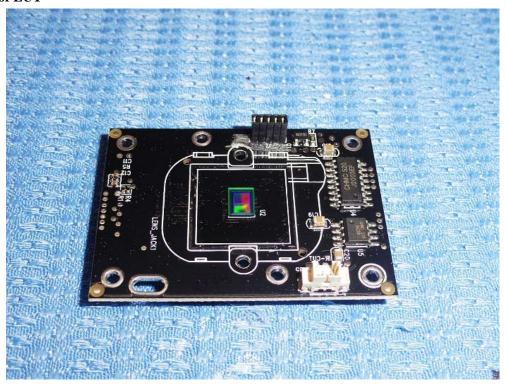
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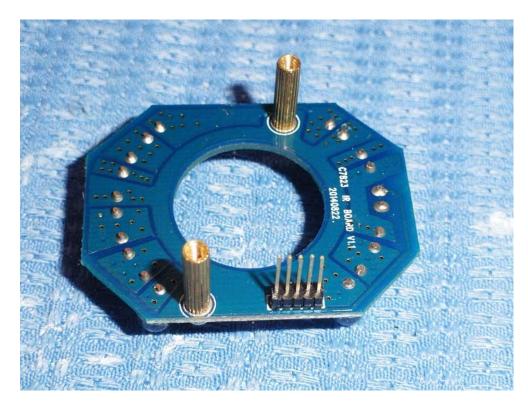
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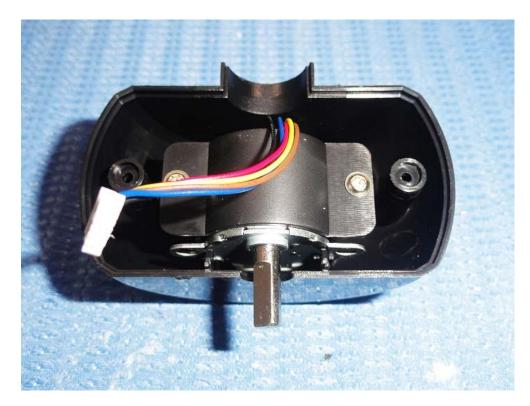
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