







ISO/IEC17025Accredited Lab.

Report No: FCC 1503219-01 File reference No: 2015-04-20

Applicant: Shenzhen Jingwah Information Technology Co., Ltd.

Product: Smart Phone

Model No: S500, a5, x50

Trademark: Polaroid

Test Standards: FCC Part 15.247 anr RSS-210 Issue 8

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 and RSS-210 Issue 8 regulations for the

evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: April 20, 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

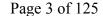
The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

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.



Date: 2015-04-20



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 Jingwah Information Technology Co., Ltd.

Address: 4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Futian District, Shenzhen, China

Telephone: 0755-83976295 Fax: 0755-83204874

1.3 Description of EUT

Product: Smart Phone

Manufacturer: Shenzhen Jingwah Information Technology Co., Ltd.

Address: 4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Futian District,

Shenzhen, China

Brand Name: Polaroid
Model Number: S500
Additional Model Number: a5, x50

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

IEEE 802.11g/n (HT20/40): OFDM(64QAM, 16QAM, QPSK, BPSK)

Frequency range IEEE 802.11b/g/n (HT20/40) : 2412-2462MHz

Channel Spacing 5MHz for IEEE 802.11b/g/n(HT20/40)

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 HT20/40: 150, 135, 117, 104, 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6.5

Mbps

Frequency Selection By software

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

Antenna: Integral Antenna and the maximum Gain of this antenna is 0dBi;

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Model No.: K-T50501000U1 Power Adapter

Input: 100-240V, 50/60Hz, 0.15A; Output: DC5V, 1000mA

Submitted Sample: 2 Samples

1.5 Test Duration

2015-03-26 to 2015-04-20

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

Date: 2015-04-20



2.0 Test Equipments					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2014-08-21	2015-08-20
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2014-08-22	2015-08-21
TWO Line-V-NETW	R&S	EZH3-Z5	EZH3-Z5 100253		2015-08-21
Ultra Broadband ANT	R&S	HL562	100157	2014-08-23	2015-08-22
ESDV Test Receiver	R&S	ESDV	100008	2014-08-22	2015-08-21
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2014-08-21	2015-08-20
System Controller	CT	SC100	-		
Printer	EPSON	РНОТО ЕХЗ	CFNH234850		
Computer	IBM	8434	1S8434KCE99BLXLO*	_	-
Loop Antenna	EMCO	6502	00042960	2014-08-22	2015-08-21
ESPI Test Receiver	R&S	ESI26	838786/013	2014-08-22	2015-08-21
3m OATS			N/A	2014-08-21	2015-08-20
Horn Antenna	R&S	BBHA 9170	BBHA9170265	2014-08-23	2015-08-22
Horn Antenna	R&S	BBHA 9120D	9120D-631	2014-08-23	2015-08-22
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	2015-08-22
LISN	AFJ	LS16C	10010947251	2014-08-21	2015-08-20
LISN (Three Phase)	Schwarebeck	NSLK 8126	8126453	2014-08-22	2015-08-21
9*6*6 Anechoic			N/A	2014-08-21	2015-08-20
EMI Test Receiver	RS	ESCS30	100139	2014-08-22	2015-08-21

Auxiliary Equipment 2.1

Name	Model No.	Rating	Manufacturer	FCC ID/DOC
Passive				
Earphone				

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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: 54Mbps data rate (worst case) was chosen for full testing. IEEE 802.11n (HT20) mode: 6.5Mbps data rate (worst case) were chosen for full testing

IEEE 802.11n (HT40) mode

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

Channel	Frequency (MHz)
Low	2422
Middle	2437
High	2452

IEEE 802.11n (HT40) mode: 6.5Mbps data rate (worst case) were 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.

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3.0 **Technical Details**

3.1 **Summary of test results**

The EUT has been tested according to the following specifications:						
Standard	Test Type	Result	Notes			
CC 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			

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247 and RSS-210 Issue 8

4.0 **EUT Modification**

No modification by Shenzhen Timeway Technology Consulting Co., Ltd

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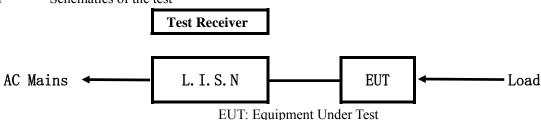
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5.0 Power Line Conducted Emission Test

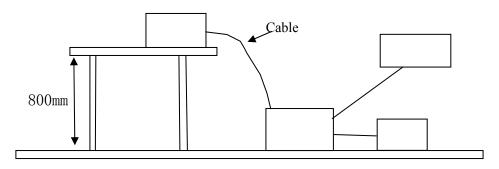
5.1 Schematics of the test



5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

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



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID/IC
Consert Dhama	Shenzhen Jingwah Information	9500 -550	FCC ID:RBD-S500
Smart Phone	Technology Co., Ltd.	S500, a5, x50	IC:20054-S500

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable

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5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10 -2013.

- 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

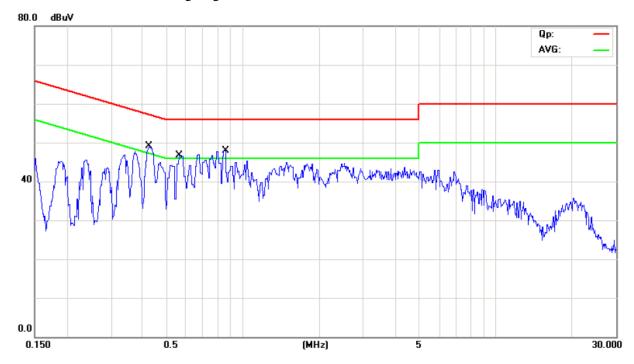
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: PASS

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.4254	36.00	11.29	47.29	57.34	-10.05	QP	
2	0.4254	-2.30	11.29	8.99	47.34	-38.35	AVG	
3	0.5656	33.40	11.44	44.84	56.00	-11.16	QP	
4	0.5656	-11.70	11.44	-0.26	46.00	-46.26	AVG	
5	0.8571	30.40	11.75	42.15	56.00	-13.85	QP	
6	0.8571	17.20	11.75	28.95	46.00	-17.05	AVG	

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

EUT Operating Environment

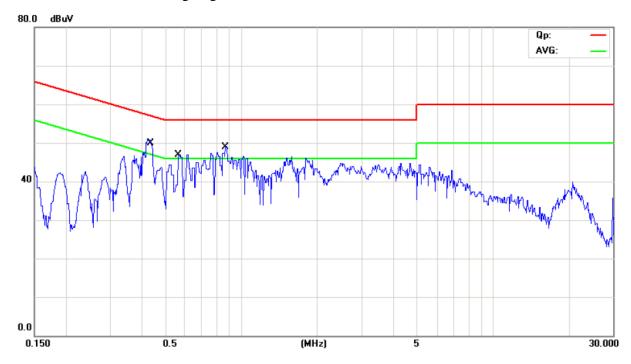
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.4382	32.50	11.31	43.81	57.10	-13.29	QP	
2	0.4382	15.90	11.31	27.21	47.10	-19.89	AVG	
3	0.5645	33.00	11.44	44.44	56.00	-11.56	QP	
4	0.5645	20.70	11.44	32.14	46.00	-13.86	AVG	
5 *	0.8582	33.30	11.75	45.05	56.00	-10.95	QP	
6	0.8582	18.70	11.75	30.45	46.00	-15.55	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 –2013. 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 C63.10-2013.
- (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. F For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz 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.

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

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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
- 4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

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

EUT set Condition: Keep Transmitting

Results: Pass

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
31.480	29.31	Н	40.00
872.080	36.37	Н	46.00
30.000	29.71	V	40.00
876.560	37.09	V	46.00

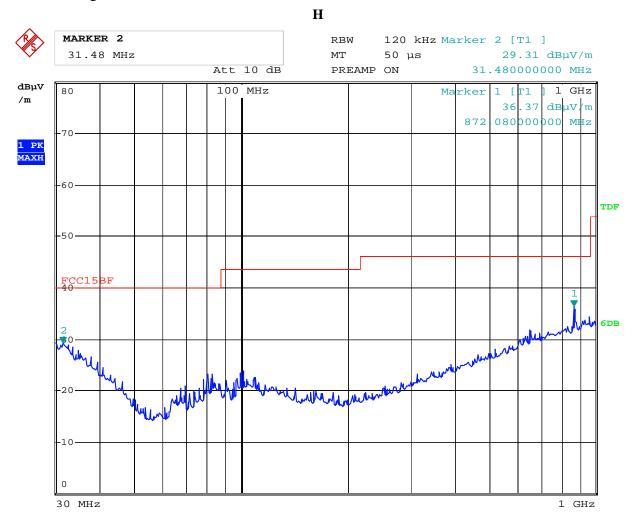
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Test Figure:



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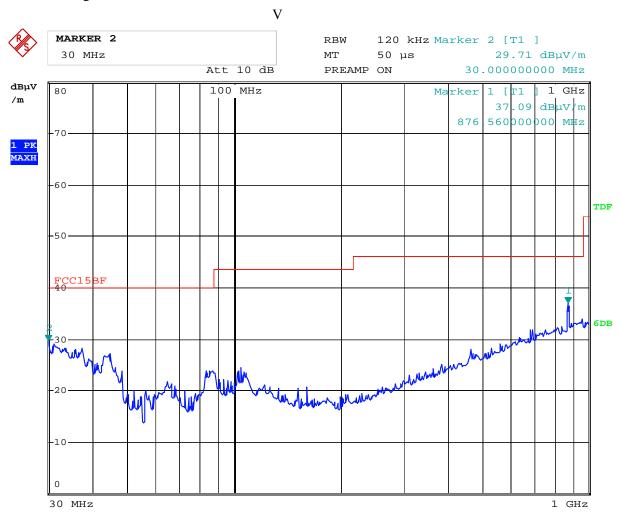
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Test Figure:



27.MAR.2015 10:57:20 Date:

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Operation Mode: Transmitting under CH01 for 11g at 54Mbps

	Ü		
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4824.00	48.28 (PK)	Н	74(Peak)/ 54(AV)
4824.00	48.82 (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)

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 54Mbps

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Operation Mode: Transmitting under CH06 for 11g at 54Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4874.00	48.15 (PK)	V	74(Peak)/ 54(AV)
4874.00	48.20 (PK)	Н	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 54 Mbps

Operation Mode: Transmitting under CH11 for 11g at 54Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4924	48.58 (PK)	Н	74(Peak)/ 54(AV)
4924	48.14 (PK)	V	74(Peak)/ 54(AV)
7368	ı	H/V	74(Peak)/ 54(AV)
9848		H/V	74(Peak)/ 54(AV)
12310		H/V	74(Peak)/ 54(AV)
14772	1	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)

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

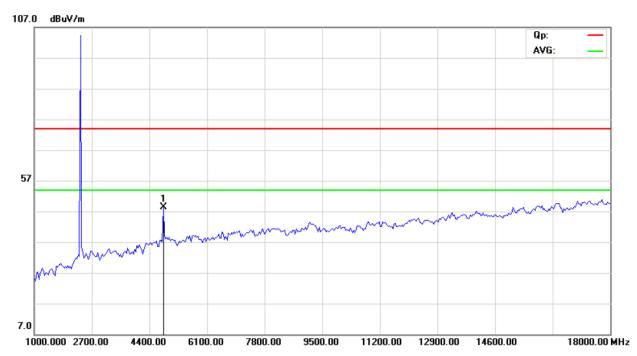
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode at 54 Mbps

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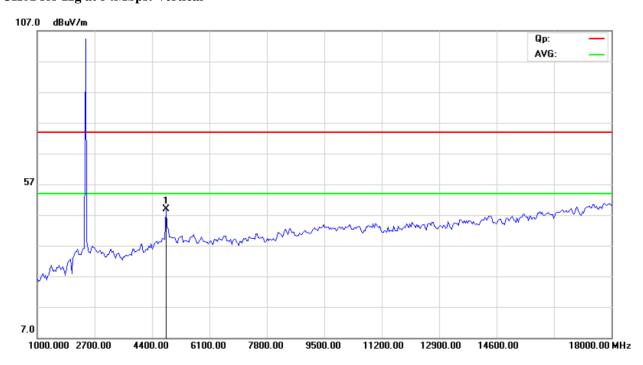


Please refer to the following test plots for details:

CH01 for 11g at 54Mbps: Horizontal



CH01 for 11g at 54Mbps: Vertical



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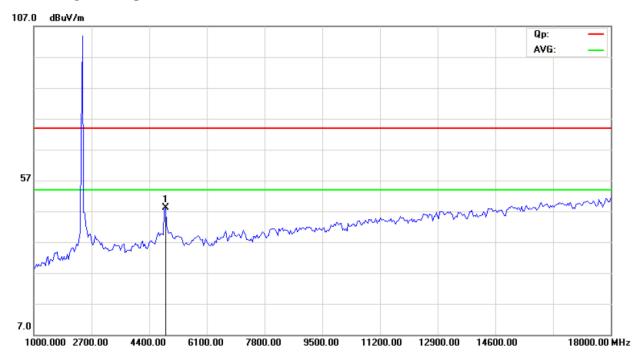
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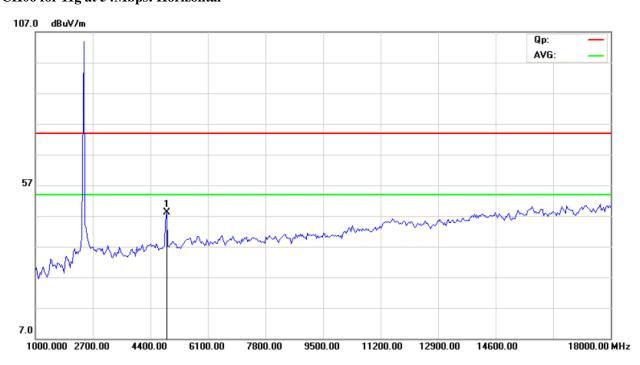
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CH06 for 11g at 54Mbps: Vertical



CH06 for 11g at 54Mbps: Horizontal



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

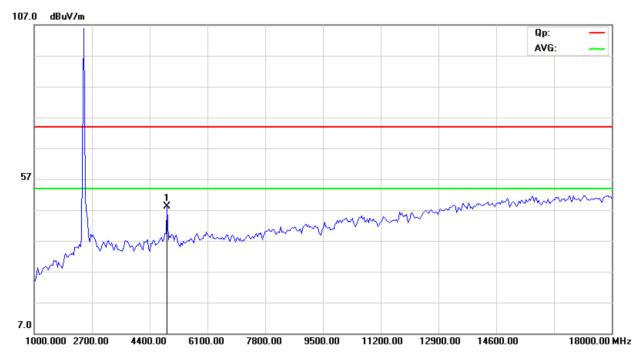
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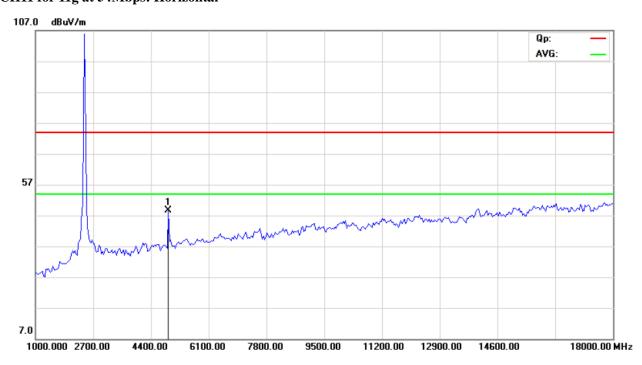
Date: 2015-04-20



CH11 for 11g at 54Mbps: Vertical



CH11 for 11g at 54Mbps: Horizontal



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

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Date: 2015-04-20



Operation Mode: 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	48.09 (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: 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	48.01 (PK)	Н	74(Peak)/ 54(AV)
4874.00	49.08 (PK)	V	74(Peak)/ 54(AV)
7311.00		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 802.11b mode 11Mbps

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

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Date: 2015-04-20



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

Frequency (MHz)	Level@3m (dB \u03b4 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	1	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)

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

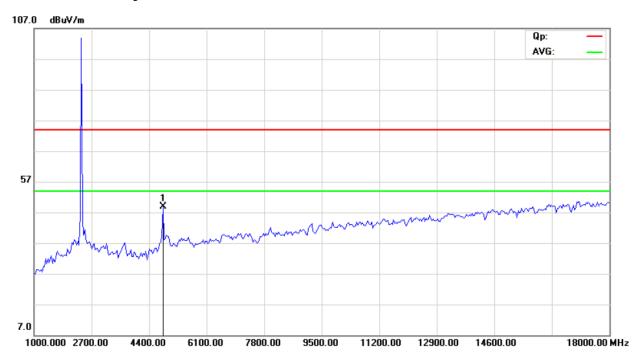
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode at 11Mbps

Date: 2015-04-20

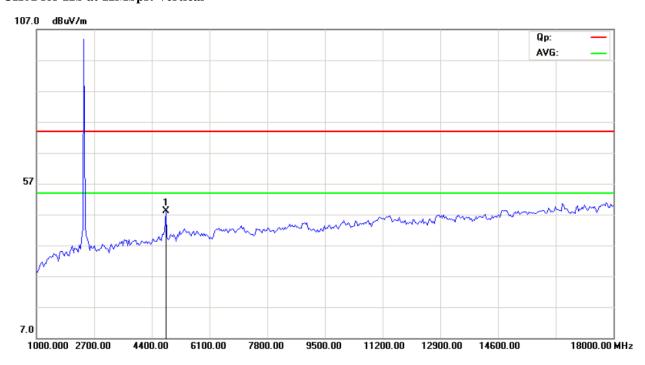


Please refer to the following test plots for details:

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.

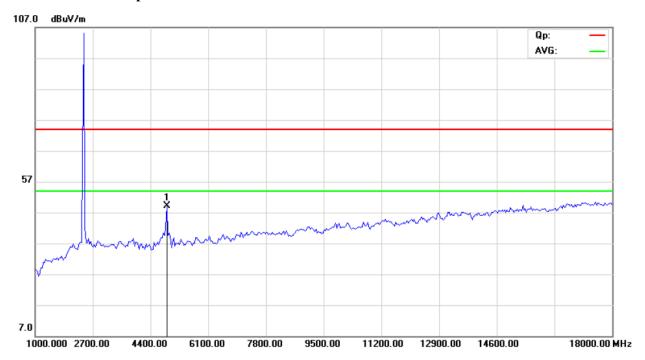
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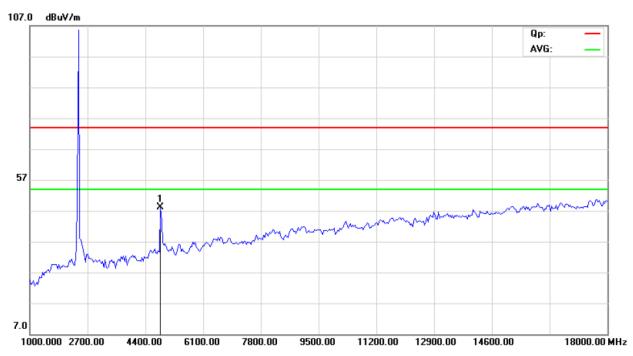
Date: 2015-04-20



CH06 for 11b at 11Mbps: Vertical



CH06 for 11b at 11Mbps: Horizontal



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

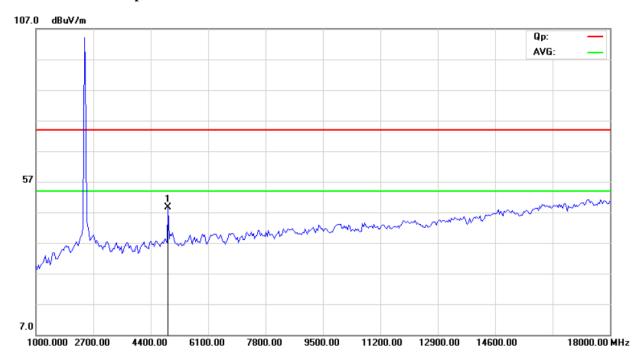
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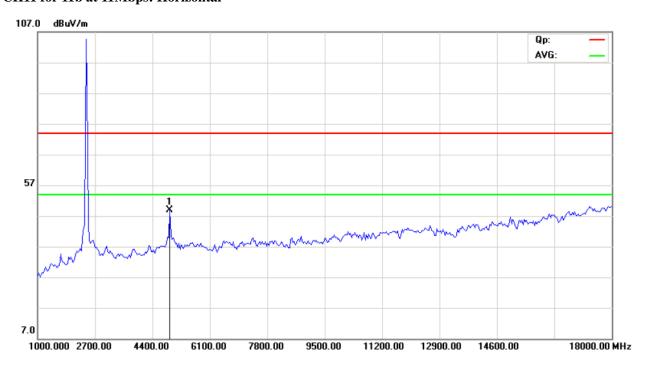
Date: 2015-04-20



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: Transmitting under CH01 for 11n HT20 at 6.5Mbps

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 6.5Mbps

Operation Mode: Transmitting under CH06 for 11n HT20 at 6.5Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4874.00	48.04 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.19 (PK)	V	74(Peak)/ 54(AV)
7311.00		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 802.11n (HT20) mode 6.5Mbps

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Date: 2015-04-20



Operation Mode: Transmitting under CH11 for 11n HT20 at 6.5Mbps

	8		
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \) V/m)
4924	48.19 (PK)	Н	74(Peak)/ 54(AV)
4924	48.14 (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)

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

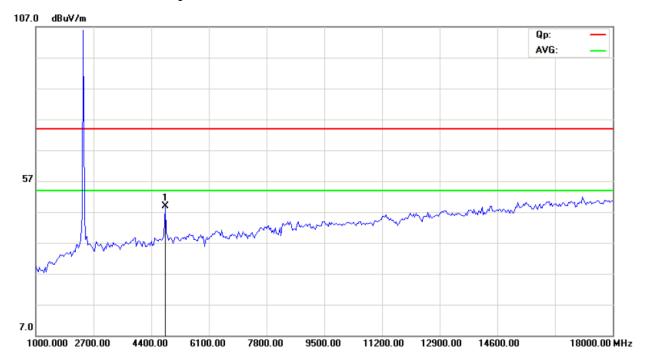
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT20) mode 6.5Mbps

Date: 2015-04-20

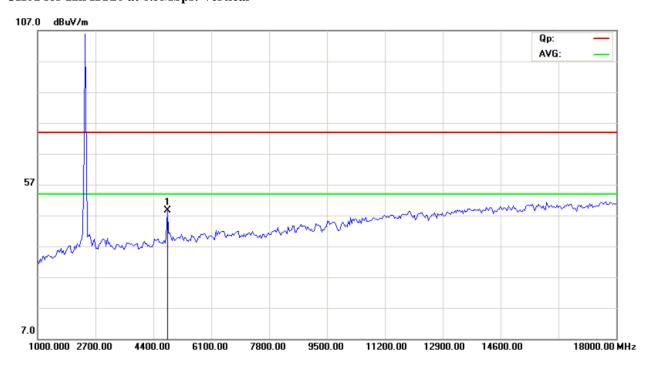


Please refer to the following test plots for details:

CH01 for 11n HT20 at 6.5Mbps: Horizontal



CH01 for 11n HT20 at 6.5Mbps: Vertical



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

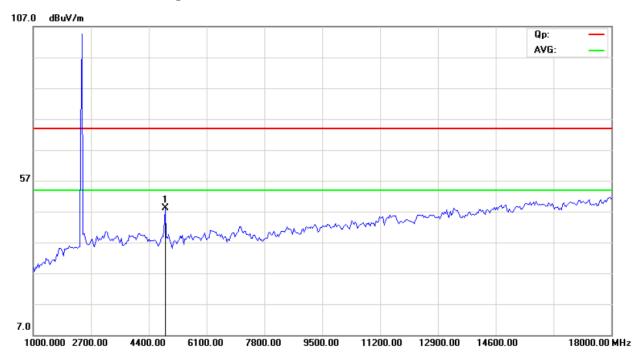
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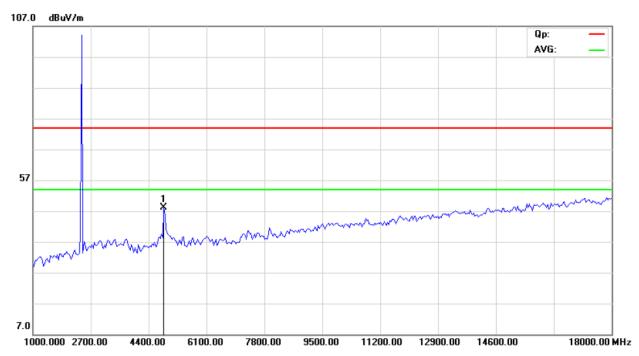
Date: 2015-04-20



CH06 for 11n HT20 at 6.5Mbps: Vertical



CH06 for 11n HT20 at 6.5Mbps: Horizontal



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

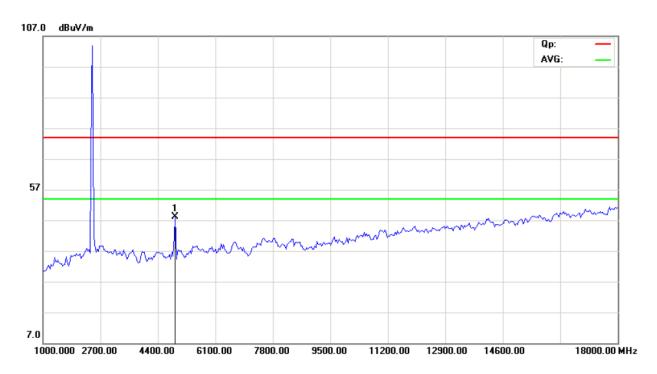
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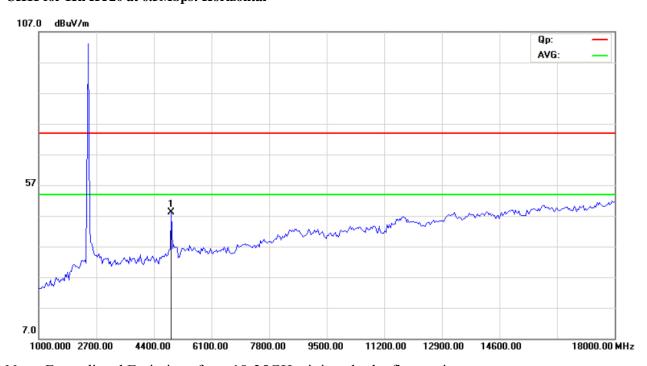
Date: 2015-04-20



CH11 for 11n HT20 at 6.5Mbps: Vertical



CH11 for 11n HT20 at 6.5Mbps: 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 6.5Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4844.00	47.51 (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 6.5Mbps

Operation Mode: Transmitting under CH04 for 11n HT40 at 6.5Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4874.00	48.16 (PK)	Н	74(Peak)/ 54(AV)
4874.00	48.53 (PK)	V	74(Peak)/ 54(AV)
7311.00		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 802.11n (HT40) mode 6.5Mbps

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Operation Mode: Transmitting under CH07 for 11n HT40 at 6.5Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4904	48.32 (PK)	Н	74(Peak)/ 54(AV)
4904	48.08 (PK)	V	74(Peak)/ 54(AV)
7356	1	H/V	74(Peak)/ 54(AV)
9808	1	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)

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

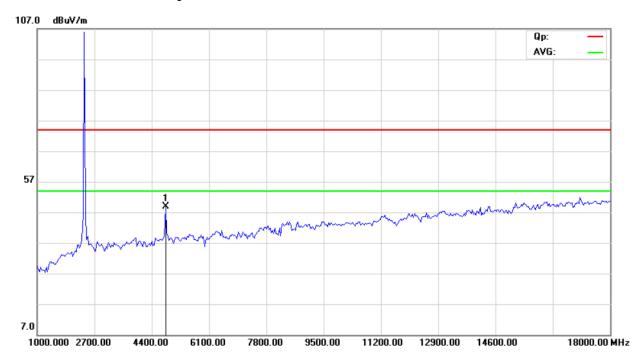
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n (HT40) mode 6.5Mbps

Date: 2015-04-20

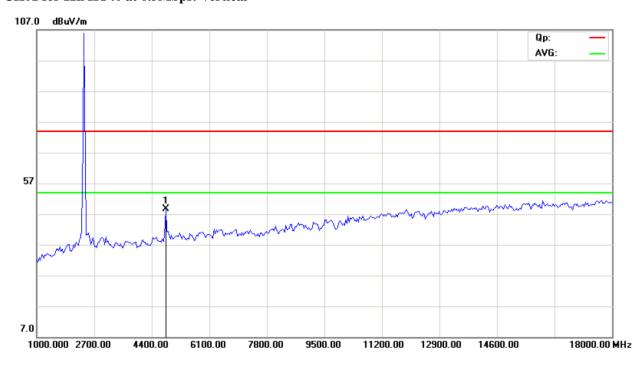


Please refer to the following test plots for details:

CH01 for 11n HT40 at 6.5Mbps: Horizontal



CH01 for 11n HT40 at 6.5Mbps: Vertical



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

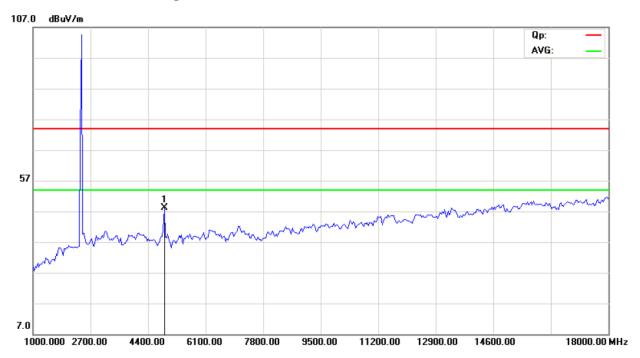
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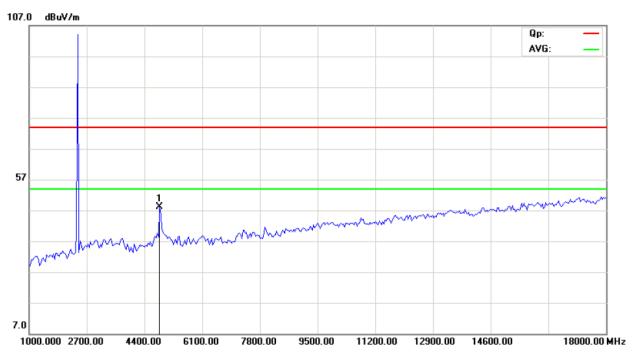
Date: 2015-04-20



CH04 for 11n HT40 at 6.5Mbps: Vertical



CH04 for 11n HT40 at 6.5Mbps: Horizontal



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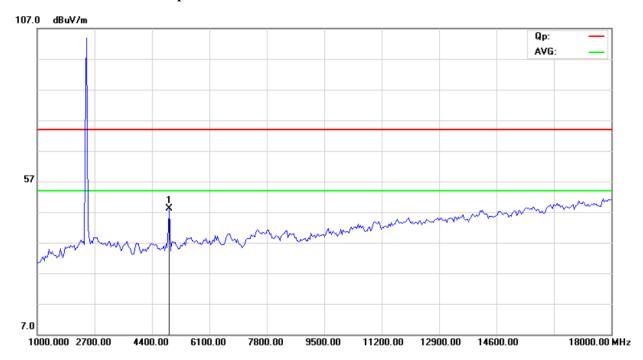
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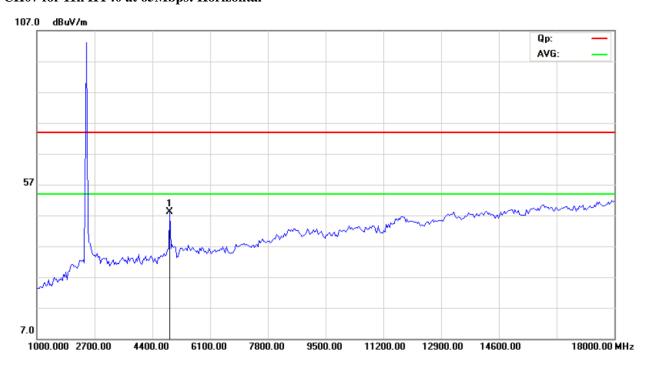
Date: 2015-04-20



CH07 for 11n HT40 at 6.5Mbps: Vertical



CH07 for 11n HT40 at 65Mbps: Horizontal



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

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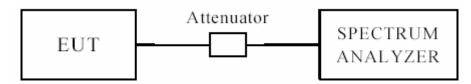
Report No: FCC1503219-01

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7.0 6dB and 99% 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		Smart Phone			Model		S500, a5, x50	
Mode		8	Input Voltage		AC120V			
Temperat	ure	24 deg. C,			Humidity		56% RH	
Channel		Channel Frequency (MHz)		6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412	1	10	10.04		0.5	Pass
6		2437 1		10	10.04		0.5	Pass
11		2462	1	10	10.10		0.5	Pass
1		2412	11	9.92			0.5	Pass
6		2437	11	10.04			0.5	Pass
11		2462	11	9.86		86 0.5		Pass

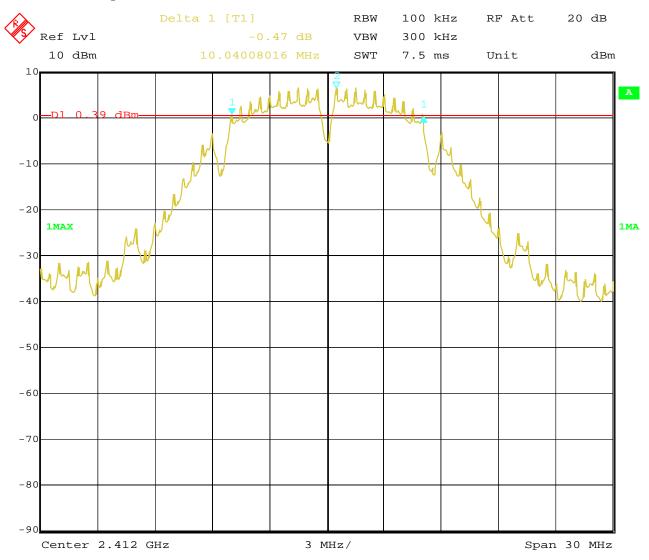
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1. 802.11b at 1Mbps of CH01



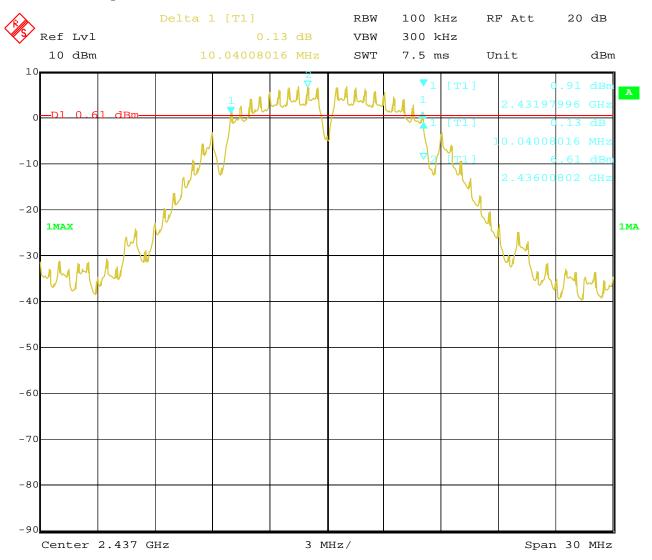
2.APR.2015 09:49:06 Date:

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Date: 2015-04-20



2. 802.11b at 1Mbps of CH06



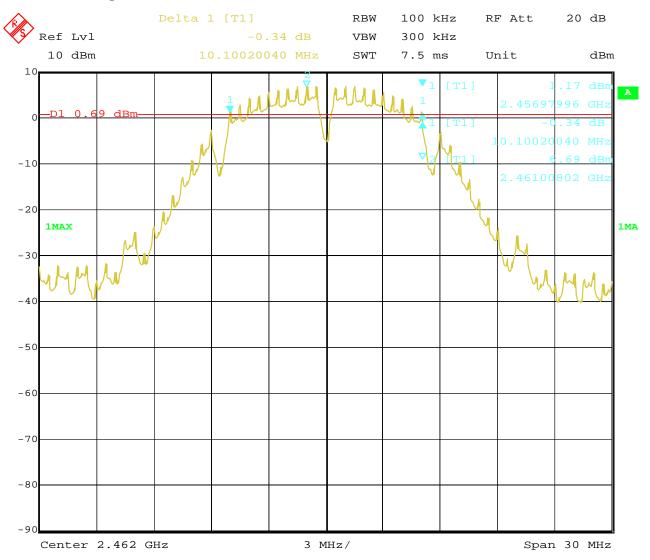
2.APR.2015 09:59:46 Date:

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3. 802.11b at 1Mbps of CH11



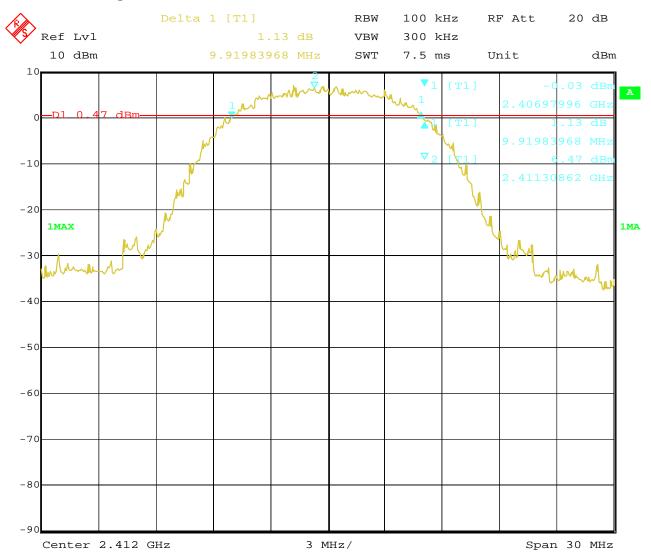
2.APR.2015 10:06:43 Date:

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4. 802.11b at 11Mbps of CH01



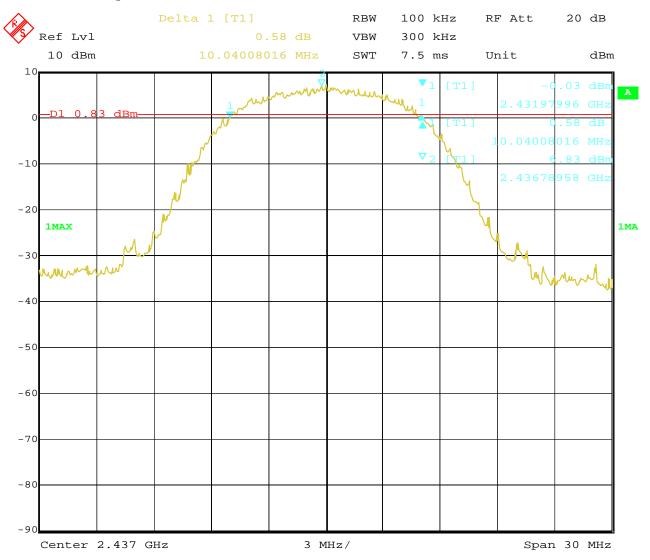
2.APR.2015 09:52:08 Date:

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5. 802.11b at 11Mbps of CH06



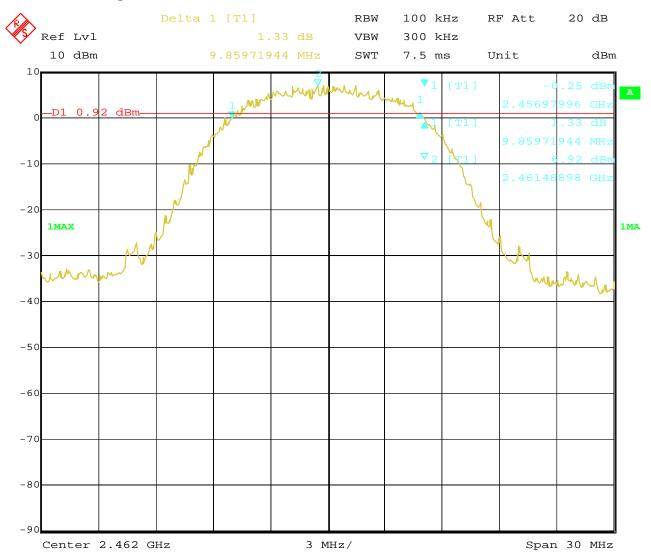
2.APR.2015 10:00:58 Date:

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6. 802.11b at 11Mbps of CH11



2.APR.2015 10:05:27 Date:

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6dB Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		802.11g			Input Voltage		AC120V	
Temperat	ure	24 deg. C,			Humidity		5	6% RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		andwidth Hz)		Minimum Limit (MHz) Pass/ F	
1		2412	54	15	.87	0.5		Pass
6		2437	54	15.97			0.5	Pass
11		2462	54	15.93			0.5	Pass

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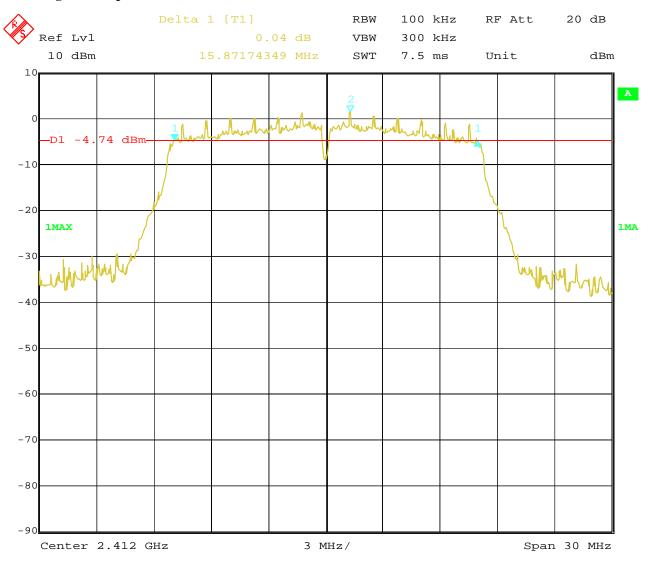
Report No: FCC1503219-01

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Test Plots:

1. 802.11g at 54Mbps of CH01



2.APR.2015 09:47:37 Date:

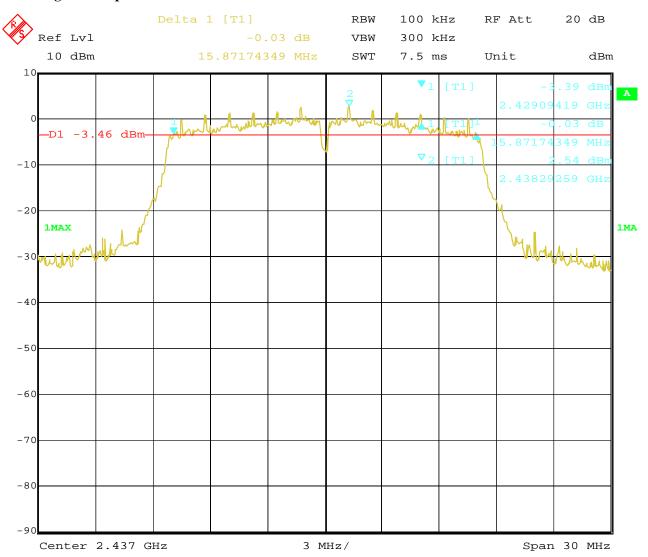
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2. 802.11g at 54Mbps of CH06



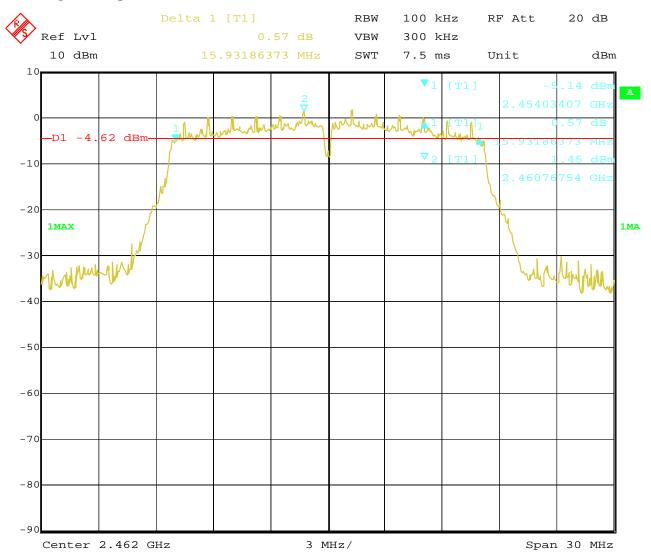
2.APR.2015 10:02:31 Date:

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3. 802.11g at 54Mbps of CH11



2.APR.2015 10:03:46 Date:

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6dB Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		802.11n HT20			Input Voltage		AC120V	
Temperat	ure	24 deg. C,			Humidity		56% RH	
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		ındwidth Hz)		mum Limit MHz)	Pass/ Fail
1		2412	6.5M	17	.01		0.5	Pass
6		2437	6.5M	16	16.95		0.5	Pass
11		2462	6.5M	16	16.89		0.5	Pass

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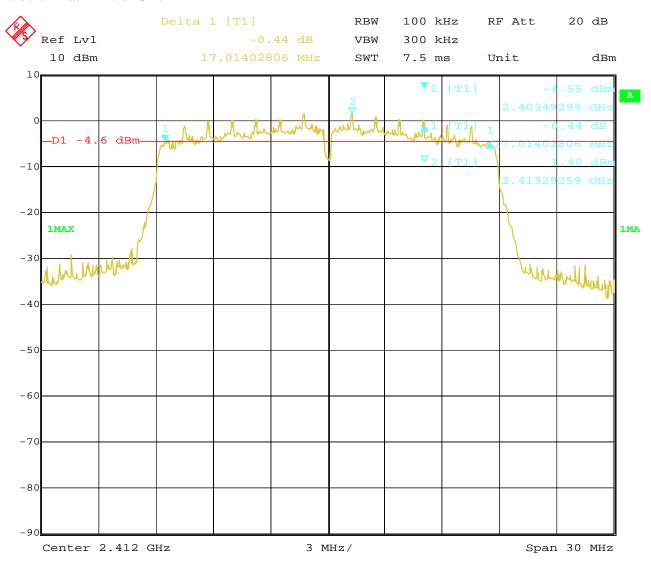
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Test Plots:

1.802.11n at HT20 of CH01



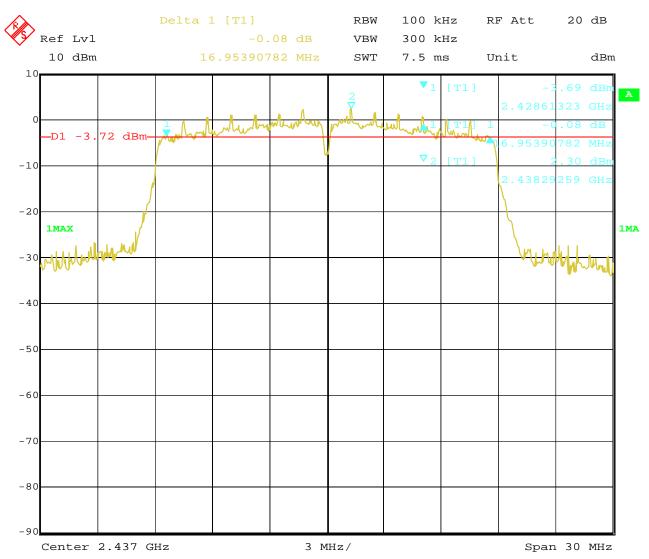
2.APR.2015 09:54:00 Date:

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2. 802.11n at HT20 of CH06



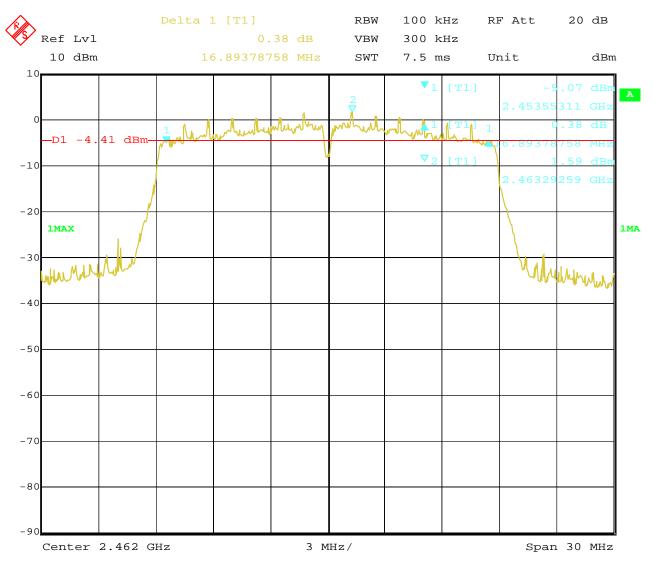
2.APR.2015 09:56:31 Date:

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3. 802.11n at HT20 of CH11



2.APR.2015 10:09:03 Date:

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6dB Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		802.11n HT40			Input Voltage		AC120V	
Temperat	ure	24 deg. C,			Humidity		56% RH	
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		ndwidth Hz)		mum Limit MHz)	Pass/ Fail
1		2422	6.5M	35	.67		0.5	Pass
4		2437	6.5M	35	35.52		0.5	Pass
7		2452	6.5M	35	.55		0.5	Pass

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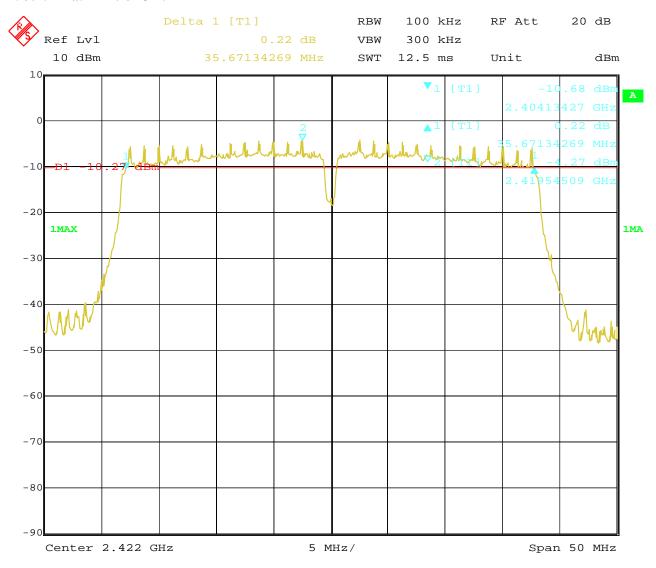
Report No: FCC1503219-01

Date: 2015-04-20



Test Plots:

1. 802.11n at HT40 of CH01



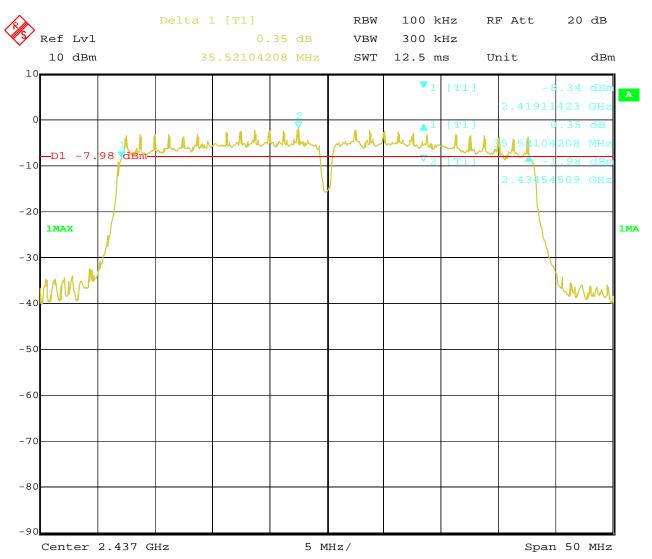
2.APR.2015 10:11:51 Date:

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2. 802.11n at HT40 of CH04



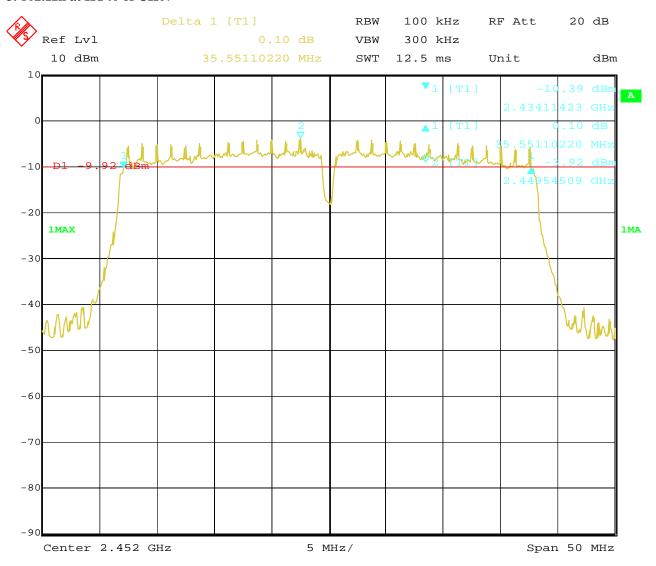
2.APR.2015 10:14:10 Date:

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3. 802.11n at HT40 of CH07



2.APR.2015 10:15:49 Date:

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99% Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		8	Input Voltage		AC120V			
Temperat	ure	24	4 deg. C,		Humidity		56% RH	
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412	1	12.87		87 0.5		Pass
6		2437	1	12	12.93		0.5	Pass
11		2462	1	12.81			0.5	Pass
1		2412	11	12.63			0.5	Pass
6		2437	11	12.63			0.5	Pass
11		2462	11	12.57			0.5	Pass

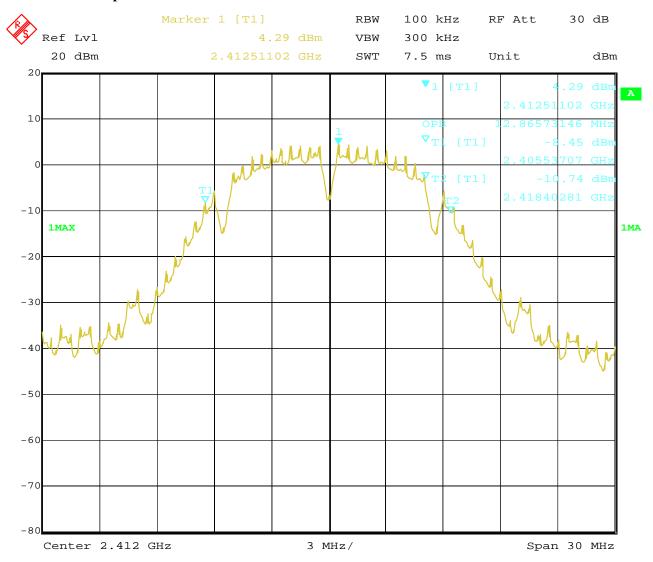
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1. 802.11b at 1Mbps of CH01



20.APR.2015 17:38:04 Date:

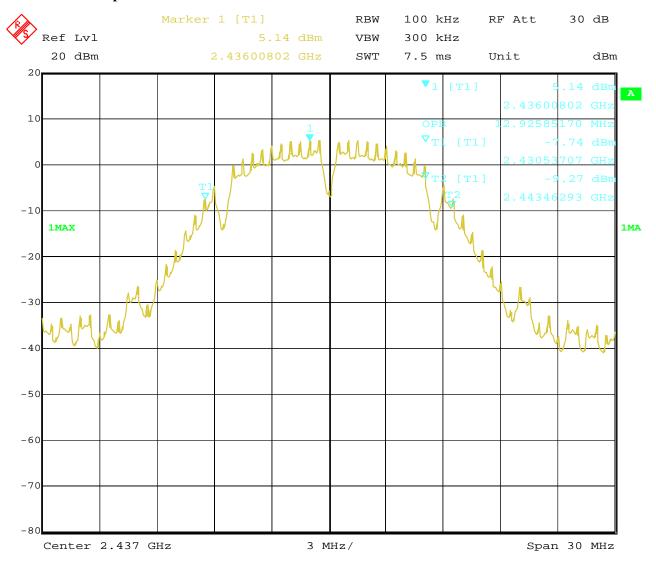
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2. 802.11b at 1Mbps of CH06



20.APR.2015 17:50:22 Date:

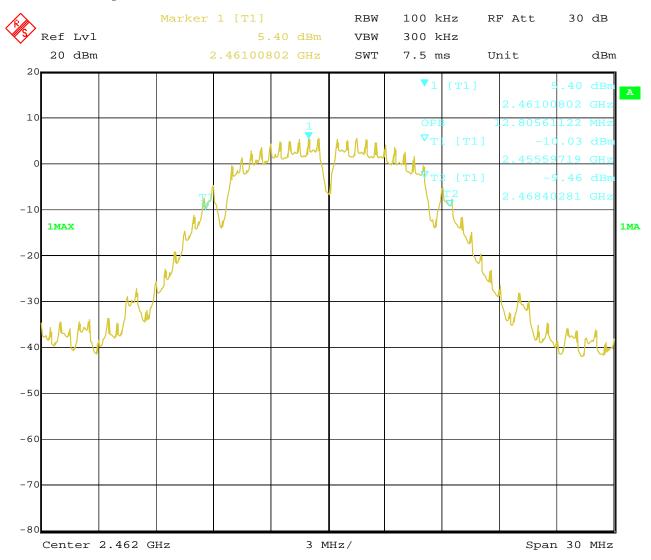
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3. 802.11b at 1Mbps of CH11



20.APR.2015 17:52:31 Date:

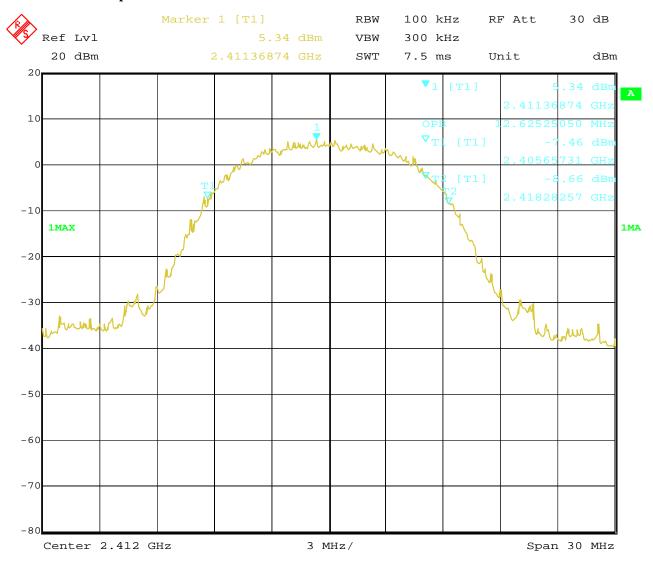
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4. 802.11b at 11Mbps of CH01



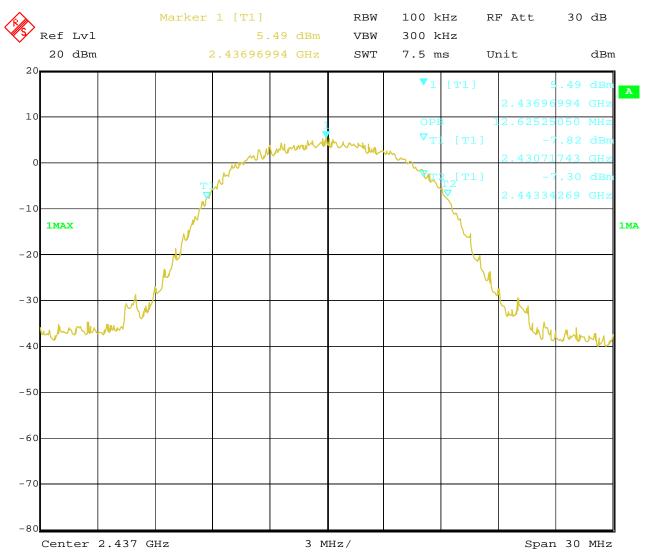
20.APR.2015 17:45:30 Date:

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5. 802.11b at 11Mbps of CH06



20.APR.2015 17:46:38 Date:

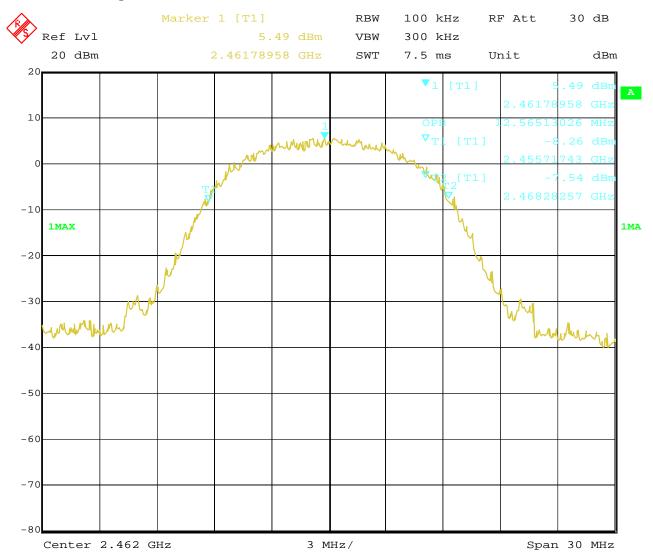
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6. 802.11b at 11Mbps of CH11



20.APR.2015 17:55:24 Date:

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99% Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		802.11g			Input Voltage		AC120V	
Temperat	ure	24 deg. C,			Humidity		5	6% RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		andwidth Hz)		Minimum Limit (MHz) Pass/ Fa	
1		2412	54	16	.41		0.5	Pass
6		2437	54	16.47			0.5	Pass
11		2462	54	16.47			0.5	Pass

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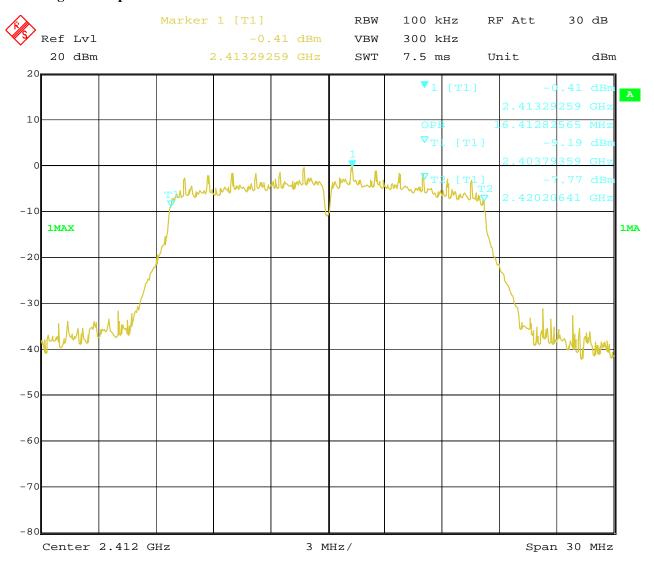
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Test Plots:

1. 802.11g at 54Mbps of CH01



20.APR.2015 17:40:41 Date:

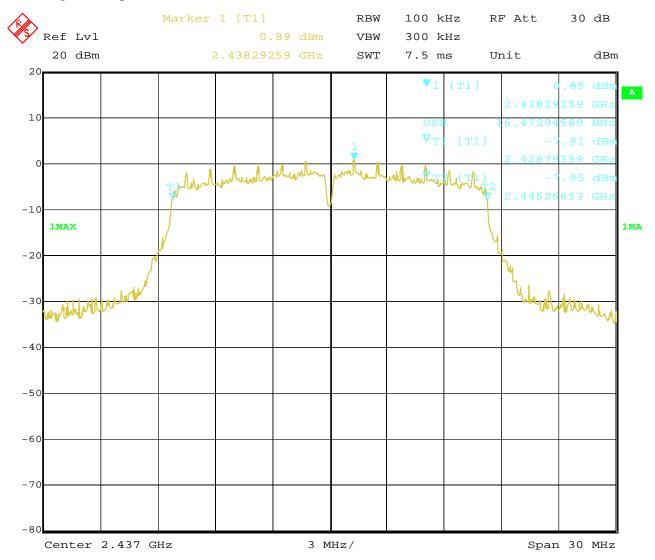
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2. 802.11g at 54Mbps of CH06



20.APR.2015 17:48:21 Date:

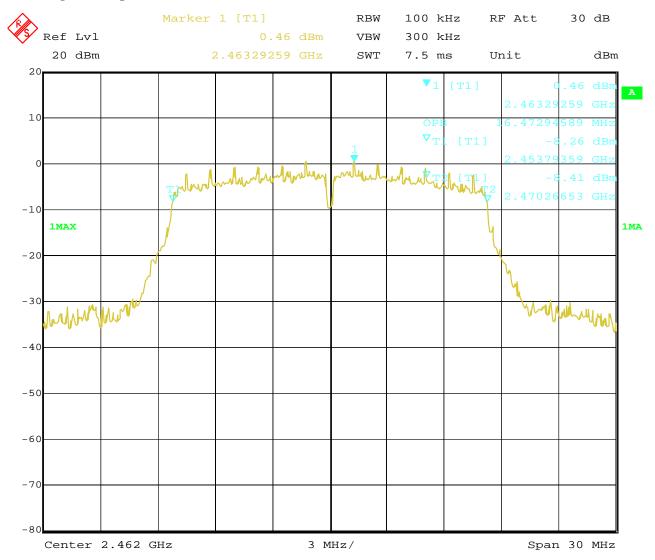
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3. 802.11g at 54Mbps of CH11



20.APR.2015 17:53:58 Date:

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99% Occupied Bandwidth

EUT		Smart Phone			Model		S500, a5, x50	
Mode		802.11n HT20			Input Voltage		AC120V	
Temperat	ure	24 deg. C,			Humidity		56% RH	
Channel		hannel Frequency Tra (MHz) R (M		6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412	6.5M	17	.56		0.5	Pass
6		2437	6.5M	17	17.56		0.5	Pass
11		2462	6.5M	17	.56		0.5	Pass

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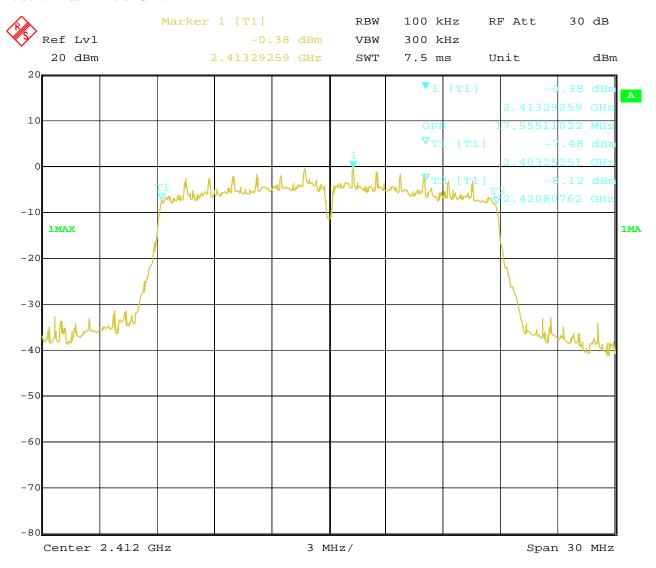
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Test Plots:

1.802.11n at HT20 of CH01



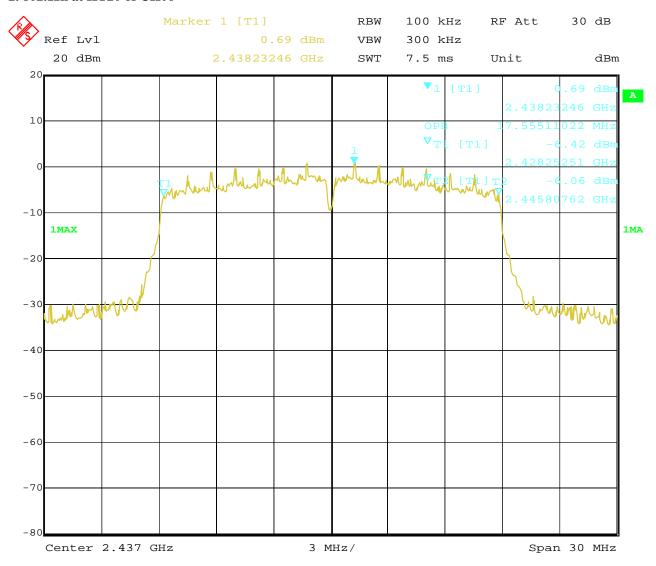
20.APR.2015 18:00:11 Date:

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2. 802.11n at HT20 of CH06



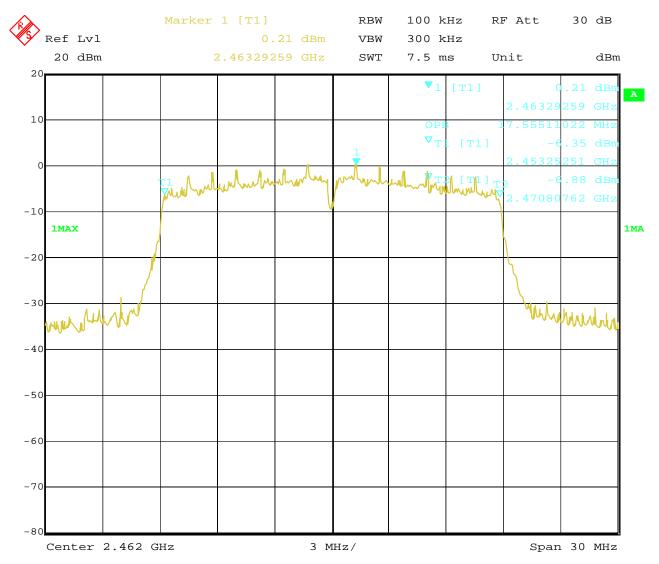
20.APR.2015 17:58:57 Date:

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3. 802.11n at HT20 of CH11



20.APR.2015 17:57:22 Date:

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99% Occupied Bandwidth

EUT	Smart P		art Phone	rt Phone M		Model		S500, a5, x50	
Mode		802	802.11n HT40 Input Voltage		tage AC120V		120V		
Temperat	ure	24	4 deg. C,		Humidity		56%	% RH	
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		ndwidth Hz)			Pass/ Fail	
1		2422	6.5M	35	.77		0.5	Pass	
4		2437	6.5M	35	.87		0.5	Pass	
7		2452	6.5M	35	.77		0.5	Pass	

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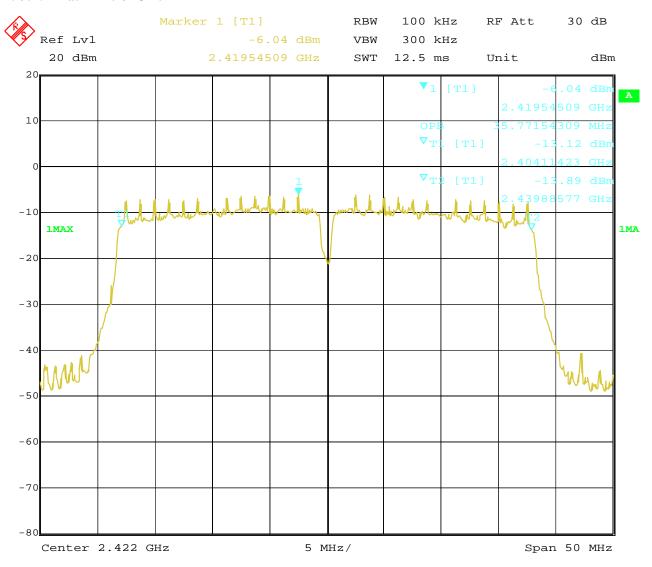
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Test Plots:

1. 802.11n at HT40 of CH01



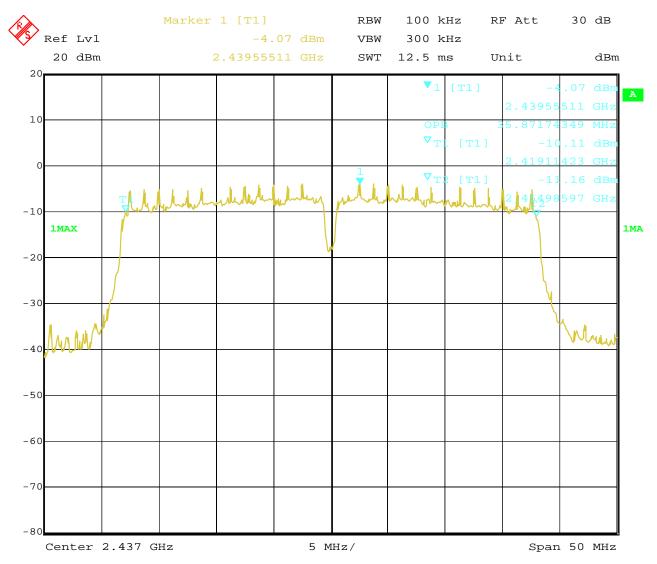
20.APR.2015 18:01:13 Date:

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2. 802.11n at HT40 of CH04



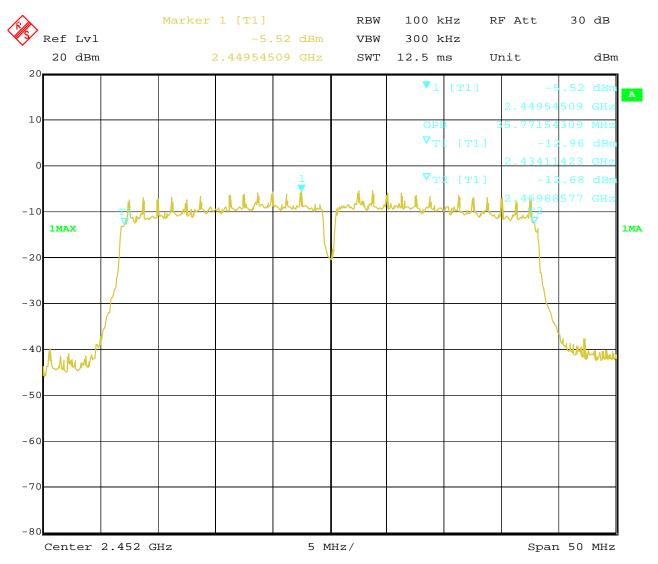
20.APR.2015 18:02:18 Date:

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3. 802.11n at HT40 of CH07



20.APR.2015 18:03:55 Date:

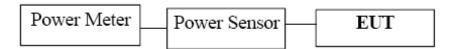
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8. Maximum Output Power

8.1 Test Setup



8.2 Limits of Maximum Output Power

The Maximum 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 and Average power was measured

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8.4Test Results

EUT		Smart F	Phone	M	Model		5500, a5, x50
Mode		802.1	1b	Input	Input Voltage		AC120V
Temperat	ure	24 deg	g. C,	Hur	Humidity		56% RH
Channel	Channel Frequency		Max. Power Output (dBm)		Power Limit		Pass/ Fail
		(MHz)	Peak	Average	(dBm)		
1		2412	22.28	14.70	30)	Pass
6		2437	22.36	14.40	30)	Pass
11		2462	22.47	14.97	30)	Pass

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

2. The result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT		Smart F	hone		lodel	S500, a5, x50	
Mode	Mode 802.1		11g	Input	Input Voltage		AC120V
Temperat	perature 24 deg. C, Humi		midity		56% RH		
Channel	Cha	annel Frequency		Max. Power Output (dBm)		Limit	Pass/ Fail
		(MHz)	Peak	Average	(dB	m)	
1		2412	19.74	10.79	30)	Pass
6		2437	21.08	12.02	30)	Pass
11		2462	20.27	11.24	30)	Pass

Note: 1. At finial test to get the worst-case emission at 54Mbps for CH01, CH06 and CH11

- 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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EU	EUT Smart Ph		hone		Model		S500, a5, x50	
Mode		802.11n (HT20)			Input Voltage		AC120V	
Temperati	ure	24 deg	24 deg. C, Humidity		56% RH			
Channel	Channel Frequency		Max. Power Output (dBm)		utput	Power Limit		Pass/ Fail
		(MHz)	Peak	Av	erage	(dBm)		
1		2412	19.74	1	0.33	30)	Pass
6		2437	21.12 11.		1.75	30		Pass
11		2462	20.11	1	0.93	30)	Pass

Note: 1. At finial test to get the worst-case emission at 6.5Mbps of 11n HT20 for CH01, CH06 and CH11

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

EU	EUT Smart Pl		Phone	M	Model		3500, a5, x50
Mode		802.11n ((HT40)	Input	Input Voltage		AC120V
Temperat	ure	24 deg	24 deg. C, Humidity		56% RH		
Channel	Channel Frequency		Max. Power Output (dBm)		Power Limit		Pass/ Fail
		(MHz)	Peak	Average	(dBm)		
1		2422	17.61	8.31	30)	Pass
4		2437	19.94	9.47	.47 30		Pass
7		2452	17.88	8.87	8.87 30		Pass

Note: 1. At finial test to get the worst-case emission at 6.5Mbps 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

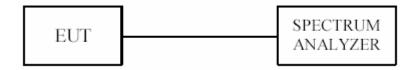
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9. Power Spectral Density Measurement

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 Smart Pl		Phone M		odel S		500, a5, x50
Mode	Mode 802.11b 11N		1Mbps	Input	Input Voltage		AC120V
Temperat	ure	24 deg. C, Humidity		nidity	56% RH		
Channel	Cha	hannel Frequency Final RF Power (MHz) Level (dBm)		Maximum Limit (dBm)		Pass/ Fail	
			11Mbps	S			
1		2412 -2.06			8		Pass
6		2437	2437 -2.10		8		Pass
11		2462	-2.53		8		Pass

EUT	EUT Smart P		Phone Mo		odel	S	5500, a5, x50
Mode	Mode 802.11b		l Mbps	Input Voltage		AC120V	
Temperati	ure	24 deg	g. C,	Hur	nidity	56% RH	
Channel	Cha	Channel Frequency Final RF P		wer	Maximum Limit		Pass/ Fail
Chamiei	(MHz)		Level in (dBm)		(dB	m)	
			1Mbps				
1	·	2412 -1.99			8		Pass
6		2437	-2.48		8		Pass
11		2462	-2.16		8		Pass

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EUT	EUT Smart Pl		Phone Mo		odel S		5500, a5, x50	
Mode	Mode 802.11g 5		4Mbps	Input Voltage		AC120V		
Temperati	ure	24 deg	g. C,	Hur	fumidity 50		56% RH	
Channel	Cha	annel Frequency (MHz)	Final RF Power Level in (dBm)		Maximum Limit (dBm)		Pass/ Fail	
	(WHZ) Level III				(4.2.		<u> </u>	
1	2412		-6.67	-6.67			Pass	
6		2437 -7.11			8		Pass	
11		2462	-7.04		8		Pass	

EUT	UT Smart Pl		Phone Mo		odel S		5500, a5, x50
Mode	Mode 802.11n HT2		0 6.5Mbps	Input Voltage			AC120V
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Channel Frequency		Final RF Power		Maximum Limit		Pass/ Fail
Chamie	(MHz)		Level (dBm)		(dBm)		
			HT20				
1		2412		-7.29			Pass
6		2437	-5.70		8		Pass
11		2462	-7.62		8	•	Pass

EUT	UT Smart Pl		Phone Mo		odel S:		500, a5, x50
Mode	Mode 802.11n HT4		0 6.5Mbps Input		out Voltage		AC120V
Temperat	ure	24 deg	g. C, Humidity 56% RH		Humidity 56%		56% RH
Channel	Cha	annel Frequency	Final RF Power		Maximum Limit		Pass/ Fail
Chamilei		(MHz)	Level (dBm)		(dBm)		
			HT40				
1		2422 -12			8		Pass
4		2437	2437 -10.24		8		Pass
7		2452	-13.44		8		Pass

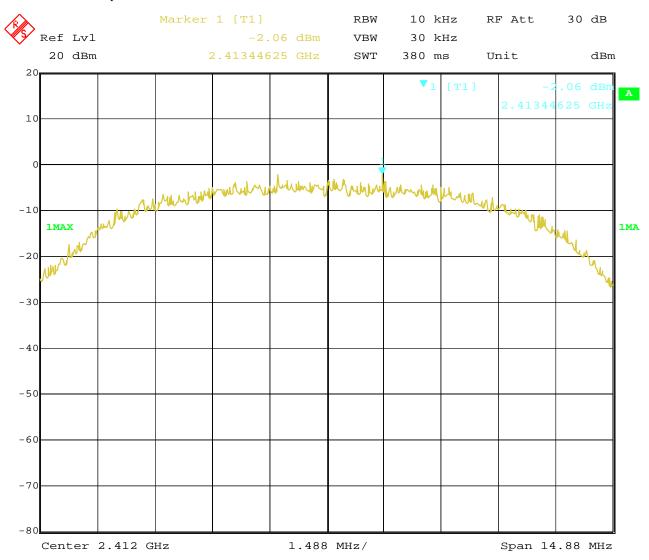
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9.5 Photo of Power Spectral Density Measurement

1.802.11b at 11Mbps of CH01



2.APR.2015 10:50:27 Date:

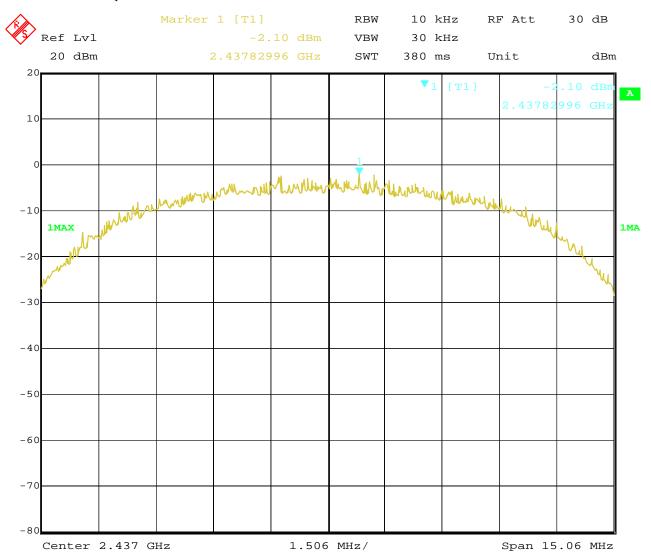
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2. 802.11b at 11Mbps at CH06



2.APR.2015 10:56:18 Date:

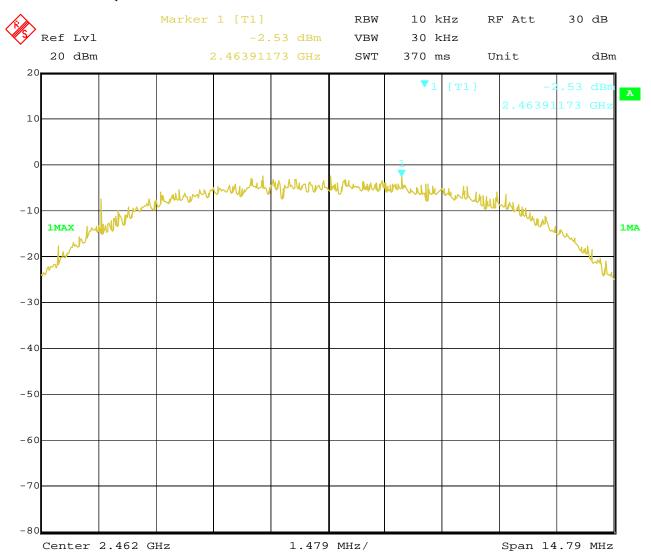
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3. 802.11b at 11Mbps of CH11



2.APR.2015 10:59:20 Date:

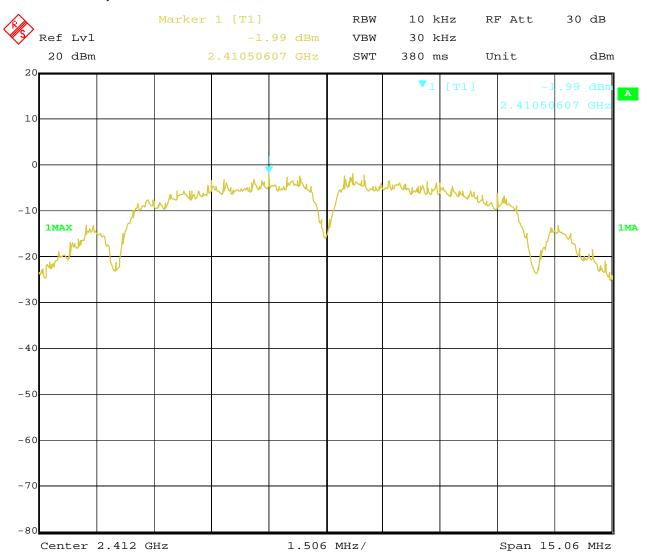
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4. 802.11b at 1Mbps of CH1



2.APR.2015 10:49:26 Date:

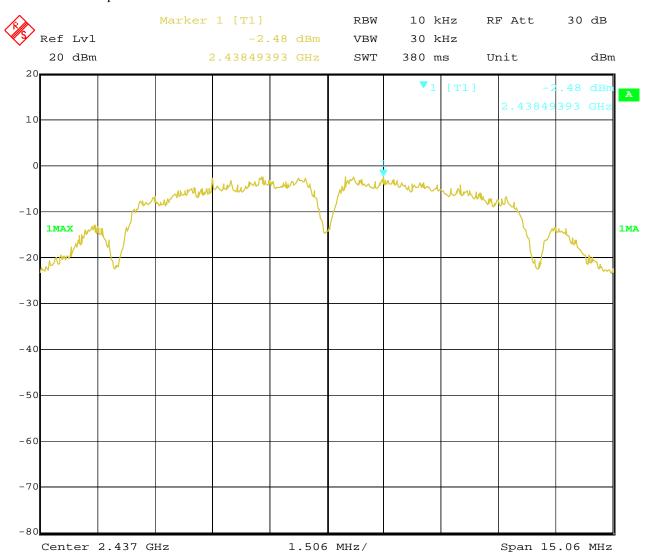
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5. 802.11b at 1Mbps of CH6



2.APR.2015 10:57:21 Date:

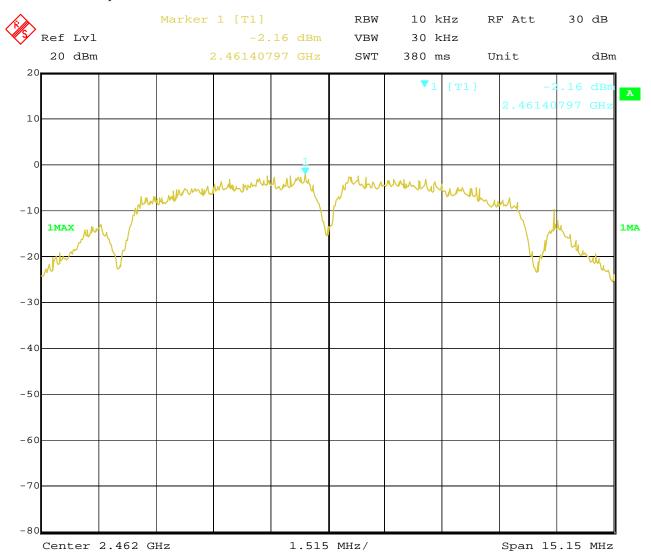
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6. 802.11b at 1Mbps of CH11



2.APR.2015 10:58:24 Date:

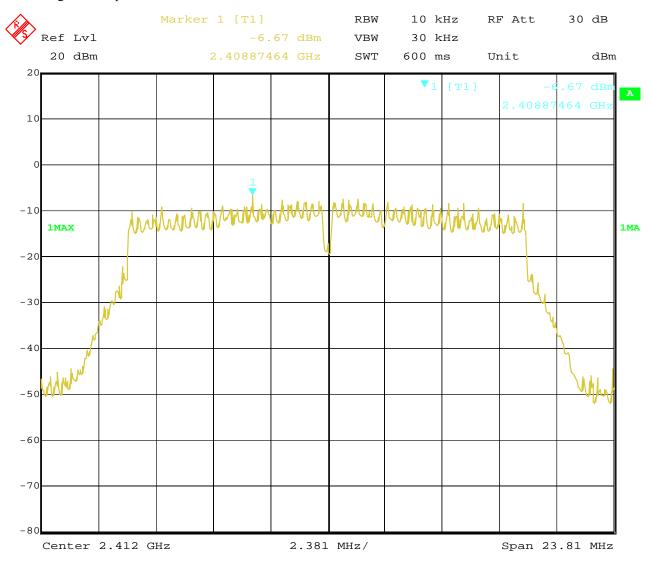
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7. 802.11g at 54Mbps of CH1



2.APR.2015 10:52:02 Date:

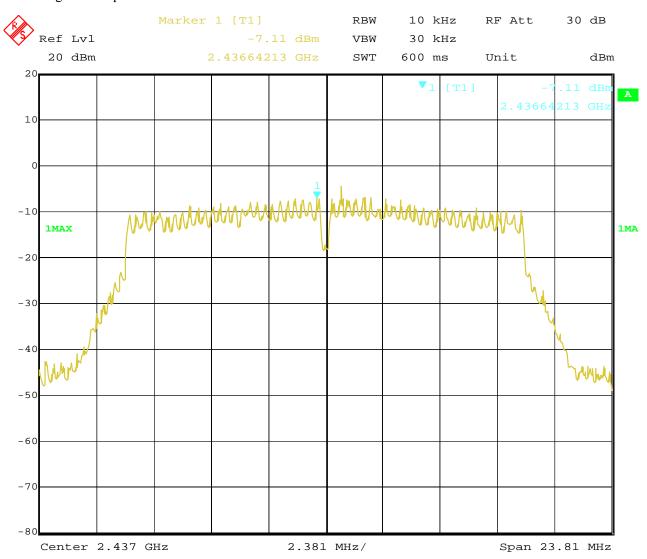
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8. 802.11g at 54Mbps of CH6



2.APR.2015 10:55:20 Date:

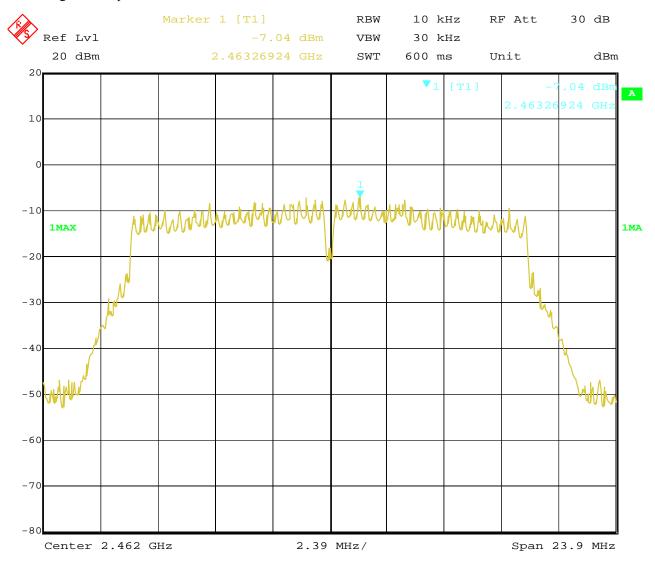
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9. 802.11g at 54Mbps of CH11



2.APR.2015 11:00:30 Date:

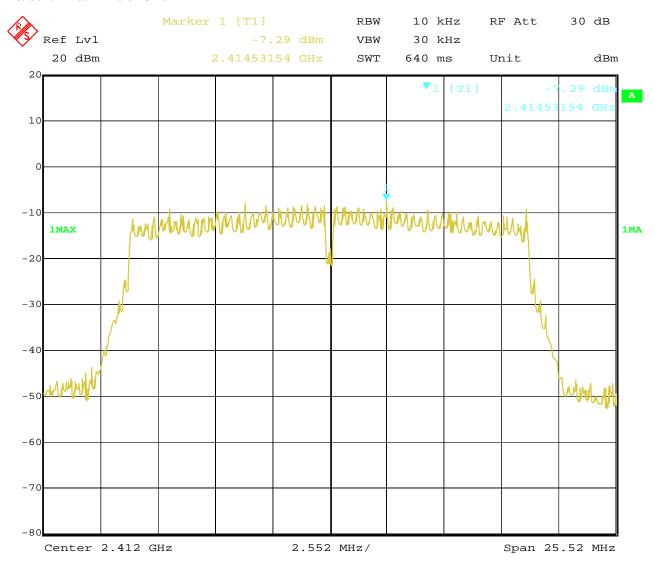
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10. 802.11n at HT20 of CH01



2.APR.2015 10:53:00 Date:

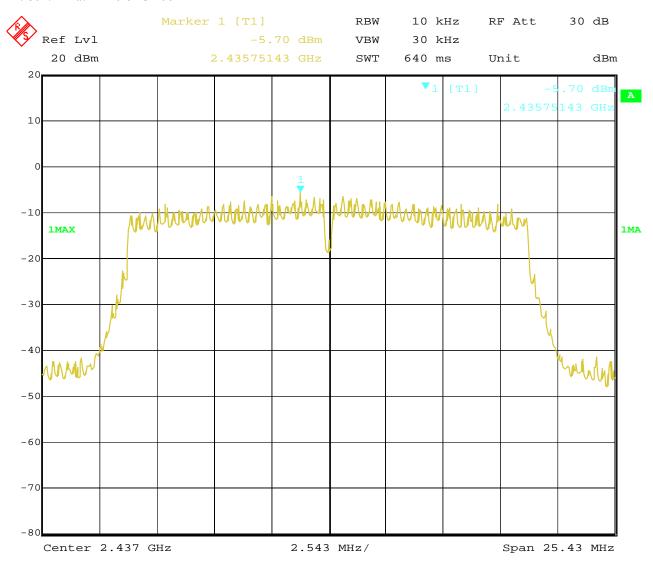
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11. 802.11n at HT20 of CH06



2.APR.2015 10:54:27 Date:

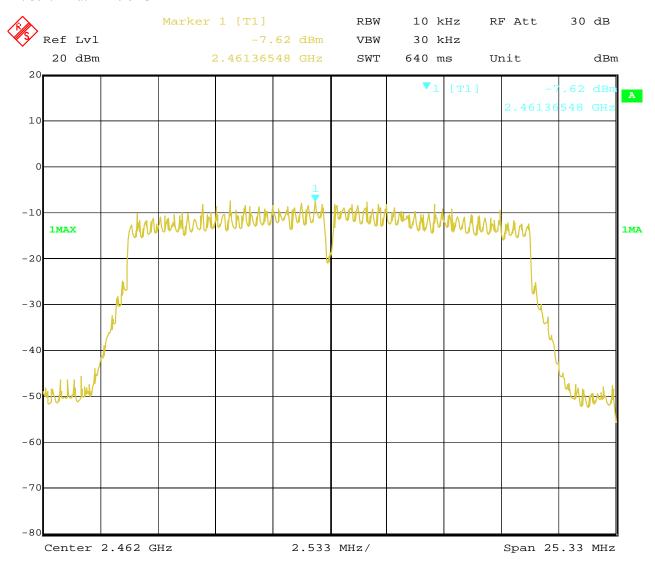
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12. 802.11n at HT20 of CH11



2.APR.2015 11:01:58 Date:

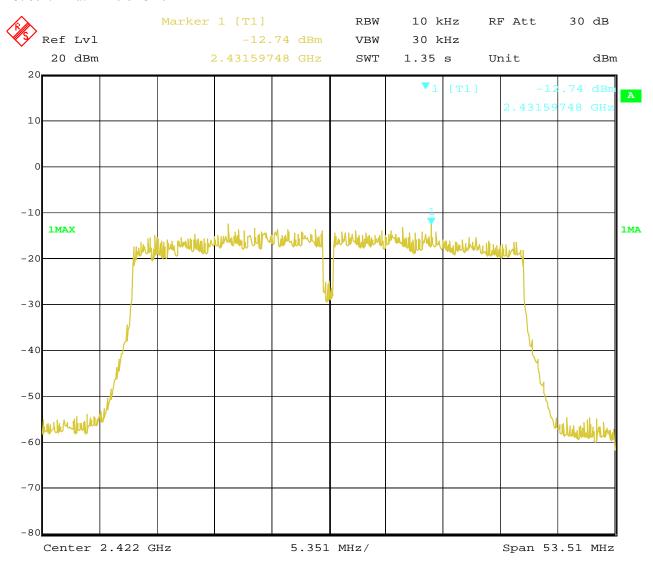
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13. 802.11n at HT40 of CH01



2.APR.2015 10:44:35 Date:

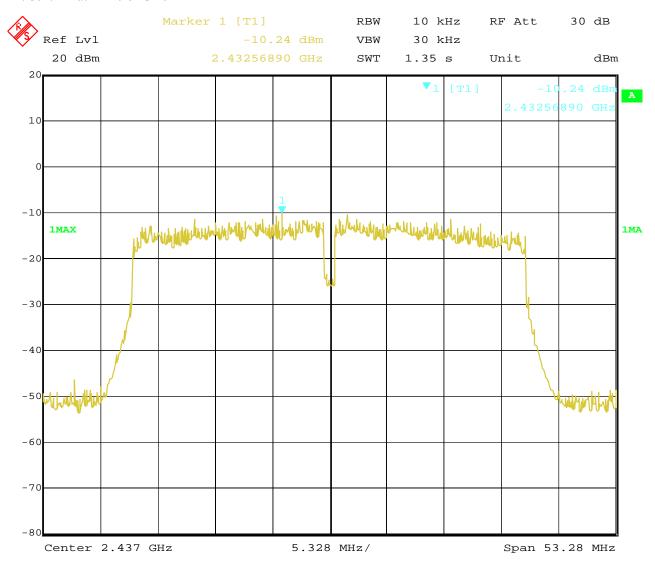
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14. 802.11n at HT40 of CH04



2.APR.2015 10:46:06 Date:

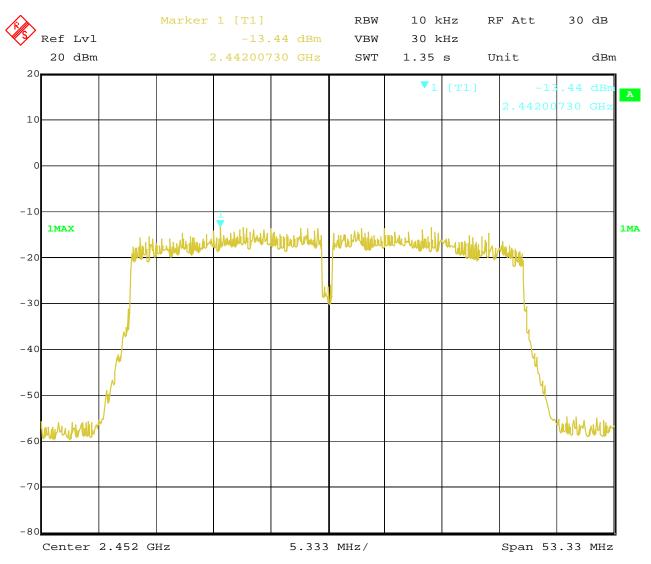
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15. 802.11n at HT40 of CH07



2.APR.2015 10:47:18 Date:

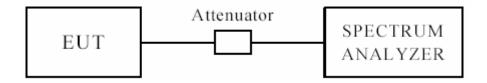
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10 Out of Band Measurement

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=10Hz and PK detector)

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

10.4 Test Result

Please see next pages

Note: 1. this is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), after pre-test. It was found that the worse radiated emission was get at the lying position. the worse case was recorded

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

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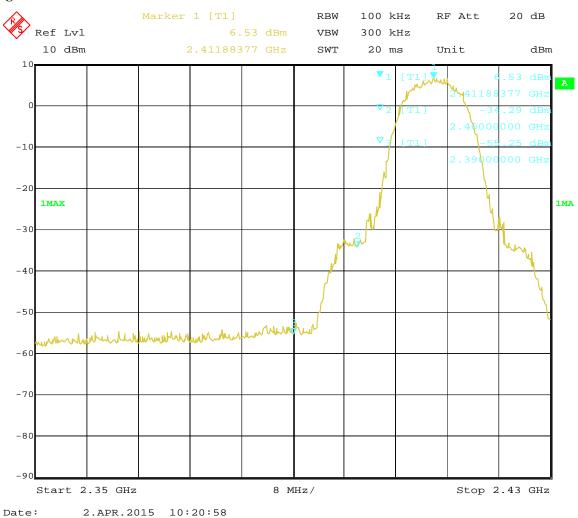
For 802.11b mode

CH01 at 11Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:		Pass	Detector	PK
2400	PK (dBμV/m)	67.7	T ::4	74(dBμV/m)
	AV (dBμV/m)	48.9	Limit	$54(dB\mu V/m)$
2390	PK (dBμV/m)	50.7	Limit	74(dBμV/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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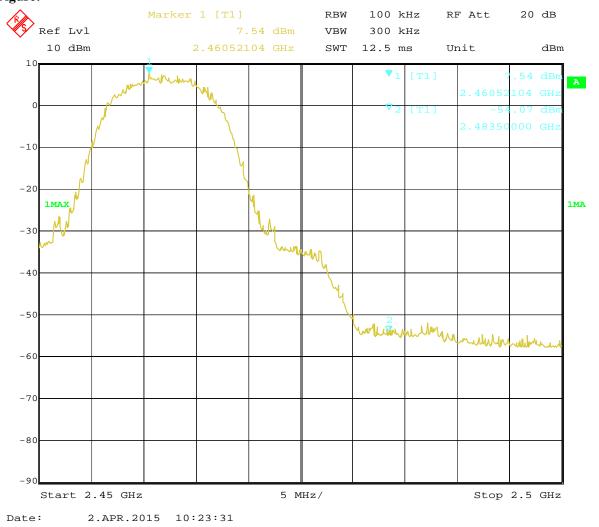


CH11 at 11Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Sm	art Phone	Model	S500, a5, x50
Mode	Keeping	g Transmitting	Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:		Pass	Detector	PK
2483.5	PK (dBµV/m)	47.9	T 114	74(dBμV/m)
	AV (dBμV/m)		Limit	54(dBμV/m)

Test Figure:



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

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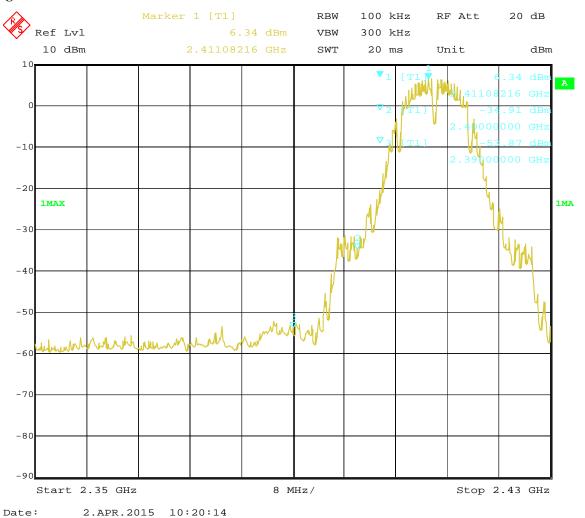
For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge and Restricted band Measurement

6						
EUT	Smart Phone		Model	S500, a5, x50		
Mode	Keeping Transmitting		Input Voltage	AC120V		
Temperature	24 deg. C,		Humidity	56% RH		
Test Result:	Pass		Detector	PK		
2400	PK (dBµV/m)	67.9	T ::4	$74(dB\mu V/m)$		
	AV (dBμV/m)	46.5	Limit	54(dBμV/m)		
2390	PK (dBµV/m)	52.3	Limit	74(dBμV/m)		
	AV (dBμV/m)		Lillit	54(dBµV/m)		

Test Figure:



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

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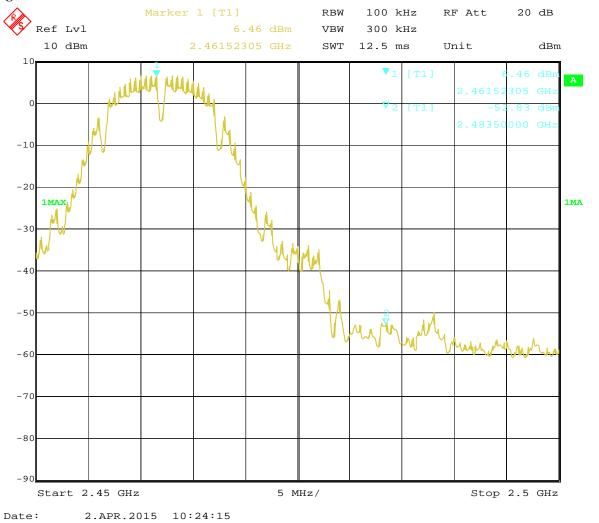


CH11 at 1Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2483.5	PK (dBμV/m)	47.5	T in it	74(dBμV/m)
	AV (dBμV/m)		Limit	54(dBμV/m)

Test Figure:



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

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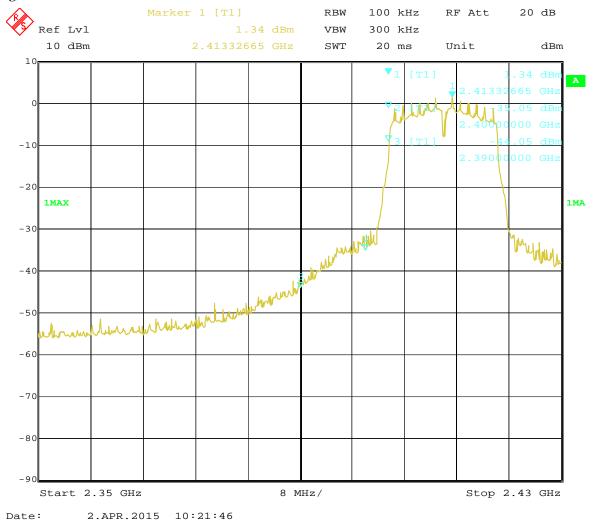
For 802.11g mode

CH01 at 6Mbps

10.4 Band-edge and Restricted band Measurement

x50						
V						
Н						
7/m)						
7/m)						
7/m)						
7/m)						
7/r						

Test Figure:



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

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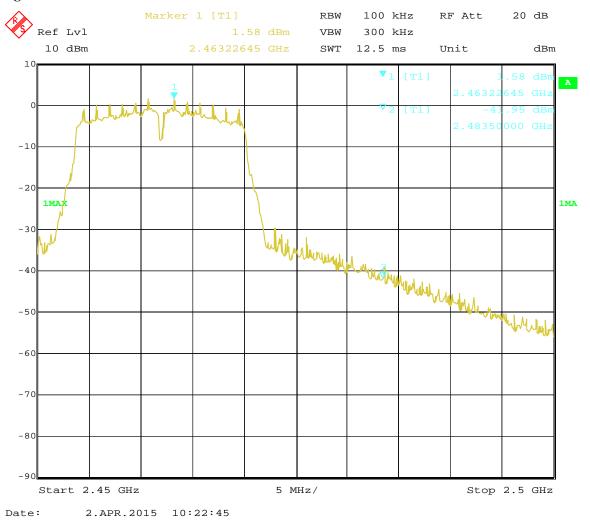


CH11 at 6Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Mod	lel	S500, a5, x50
Mode	Keeping Transmitting		Input V	oltage	AC120V
Temperature	24 deg. C,		Humi	dity	56% RH
Test Result:	Pass		Detec	ctor	PK
2483.5	PK (dBµV/m)	52.3	T ::4	74(dBμV/m) 54(dBμV/m)	
	AV (dBμV/m)	32.7	Limit		

Test Figure:



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

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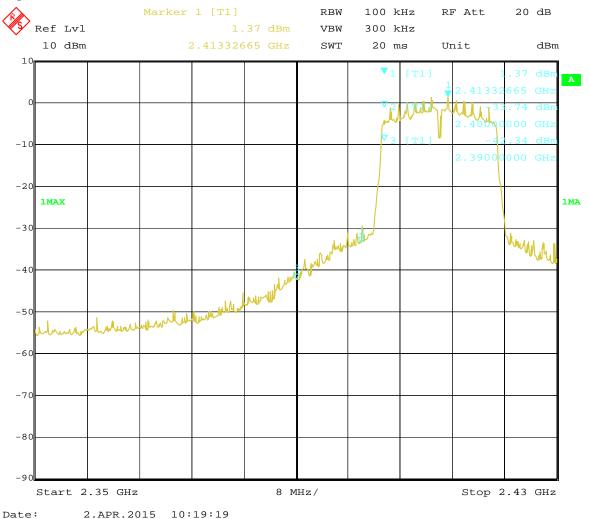
For 802.11n (HT20) mode

CH01 at 6.5Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2400	PK (dBμV/m)	70.1	T ::4	$74(dB\mu V/m)$
	AV (dBμV/m)	50.3	Limit	54(dBμV/m)
2390	PK (dBμV/m)	56.2	Limit	74(dBμV/m)
	AV (dBμV/m)	37.1	Limit	54(dBμV/m)

Test Figure:



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

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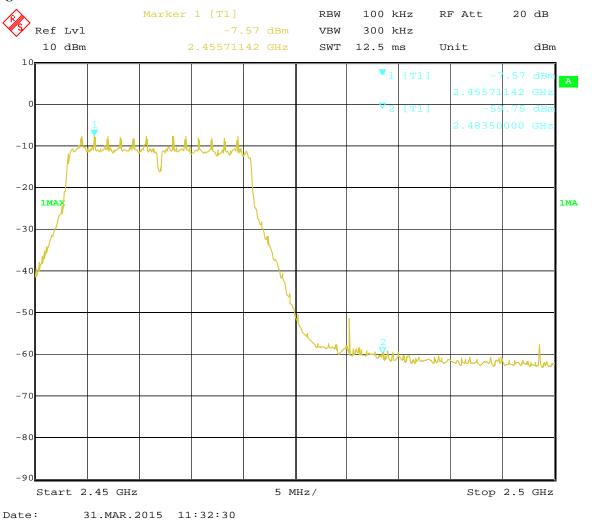


CH11 at 6.5Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2483.5	PK (dBµV/m)	52.9	T 114	$74(dB\mu V/m)$
	AV (dBμV/m)	33.4	Limit	54(dBµV/m)

Test Figure:



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

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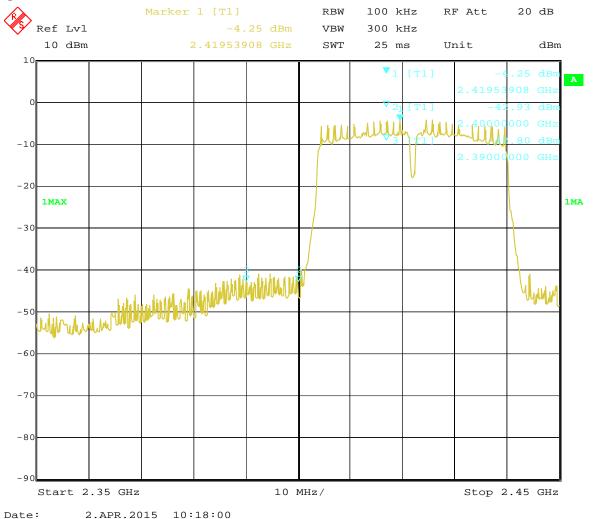
For 802.11n (HT40) mode

CH01 at 65Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2400	PK (dBµV/m)	70.2	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	49.6	Limit	$54(dB\mu V/m)$
2390	PK (dBμV/m)	50.3	Limit	$74(dB\mu V/m)$
	AV (dBμV/m)	1	Lillit	$54(dB\mu V/m)$

Test Figure:



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

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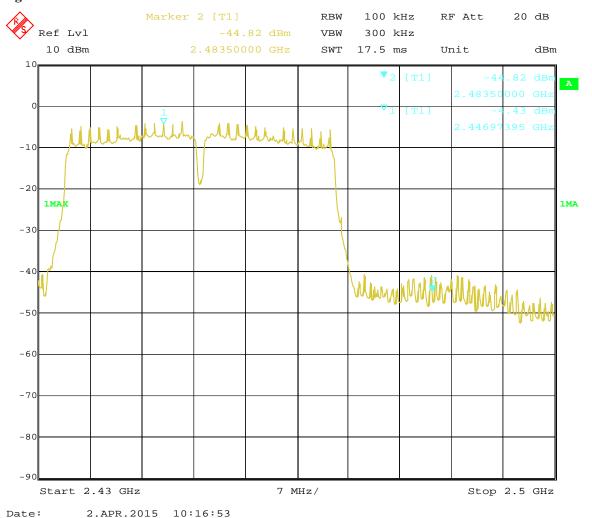


CH7 at 65Mbps

10.4 Band-edge and Restricted band Measurement

EUT	Smart Phone		Model	S500, a5, x50
Mode	Keeping Transmitting		Input Voltage	AC120V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2483.5	PK (dBµV/m)	58.6	T 10014	$74(dB\mu V/m)$
	AV (dBμV/m)	37.6	Limit	54(dBµV/m)

Test Figure:



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

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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

Integral antenna used. The maximum Gain of the antennas is 0dBi.

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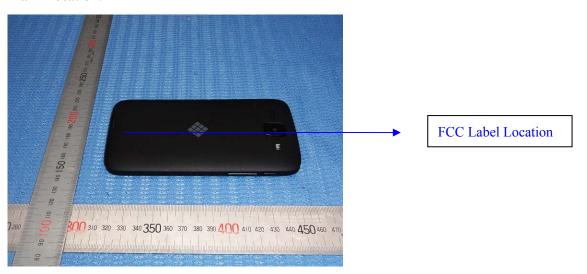


12.0 FCC ID/ IC Label

FCC ID: RBD-S500 IC:20054-S500

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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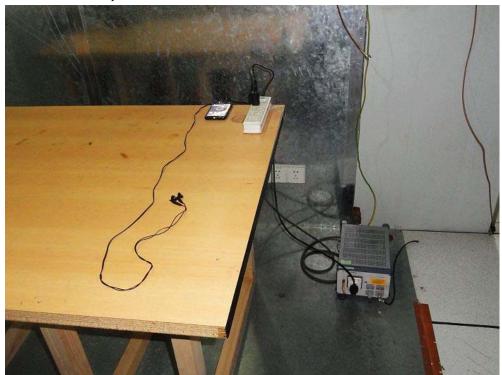
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13.0 Photo of testing

Conducted Emission Test Setup:

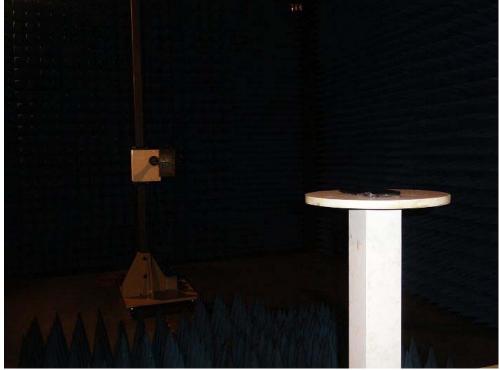


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Radiated Emission Test Setup:





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Photographs - EUT

Outside view





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Outside view





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Outside view





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Outside view

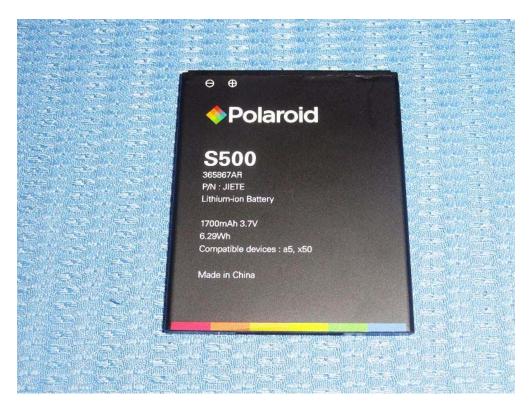


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Inside view





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Inside view





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Inside view





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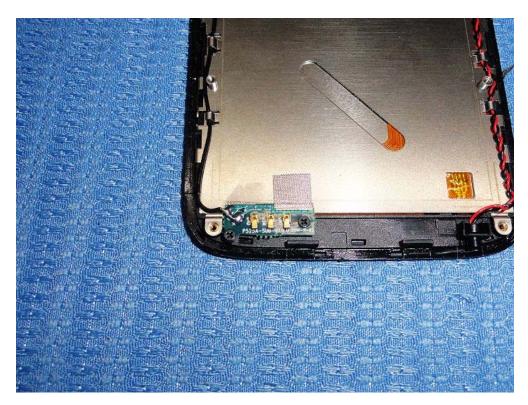
Report No: FCC1503219-01

Date: 2015-04-20



Inside view





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Inside view





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Inside view



End of the report