

TEST REPORT

100, Jangjateo-ro, Hobeop-myeon, Icheon-si, Gyeonggi-do, 17396, Korea Tel: 031-637-8898 / Fax: 0505-116-8895

1. Client Name: TRUEN CO.,LTD 1309, Woolim e-BIZ Center 1, 28, Digital-ro 33-gil, • Address.....: Guro-gu, Seoul, Republic of Korea 2. Use of Report FCC Approval 3. Sample Description Product Name : Wireless Home Camera Model Name : TSC-443P 4. Date of Receipt.....: 2024-12-06 5. Date of Test:: 2024-12-19 ~ 2024-12-23 6. Test Method: FCC Part 15 Subpart C 15.247 7. Test Results Refer to the test results * The results shown in this test report are the results of testing the samples provided. * This test report is prepared according to the requirements of ISO / IEC 17025. Tested by **Technical Manager** Affirmation (Sign) (Sign) Joonyoung, Jeon 🥒 Jong-Myoung, Shin Dec 26, 2024 EMC Labs Co., Ltd.

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<u>Version</u>

TEST REPORT NO.	DATE	DESCRIPTION
KR0140-RF2412-002	Dec 26, 2024	Initial Issue

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1. Applicant & Manufacturer & Test Laboratory Information

ApplicantTRUEN CO.,LTDApplicant Address1309, Woolim e-BIZ Center 1, 28, Digital-ro 33-gil, Guro-gu, Seoul,
Republic of KoreaContact Personlee soon gukTelephone No.+82-2-6738-6000Fax No.+82-2-2108-1595E-mailleesg@truen.co.kr

1.1 Applicant Information

1.2. Manufacturer Information

Manufacturer Shenzhen Gospell Smarthome Electronic Co., Ltd			
Manufacturer Address	Room 101, 201, 311, Building No.28, Block B, Tantou Industrial Park, Songgang, Baoan District, Shenzhen, China		

1.3 Test Laboratory Information

Laboratory	EMC Labs Co., Ltd.
Laboratory Address	100, Jangjateo-ro, Hobeop-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Contact Person	Jong-Myoung, Shin
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FCC Designation No.	KR0140
FCC Registration No.	580000
IC Site Registration No.	28751



2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	Wireless Home Camera
Model Name	TSC-443P
FCC ID	2AZK3-TSC-443P
Rated Voltage	DC 5.0 V

2.2 Additional Information

Operating Frequency	2 412 MHz ~ 2 462 MHz
Number of channel	11 for 802.11b/g/n_HT20
Modulation Type	DSSS for 802.11b / OFDM for 802.11g/n_HT20
Antenna Type	FPCB Antenna
Antenna Gain	3.94 dBi
Firmware Version	1.0
Hardware Version	1.0
Test software	Tera Term V4.79

2.3 Test Frequency

Test mode	Test Frequency (MHz)			
	Low Frequency	Middle Frequency	High Frequency	
802.11b	2 412	2 437	2 462	
802.11g	2 412	2 437	2 462	
802.11n_HT20	2 412	2 437	2 462	

2.4 Used Test Software Setting Value

Test Mode	Setting Item	
Test Mode	Power	
802.11b	1003b	
802.11g	1003b	
802.11n_HT20	1003b	

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2.5 Transmitting Configuration of EUT

Test mode	Data Rate	
802.11b	1 ~ 11 Mbps	
802.11g	6 ~ 54 Mbps	
802.11n_HT20	MCS 0 ~ 7	

2.6 Mode of operation during the test

- The EUT continuous transmission mode during the test with set at Low Channel, Middle Channel, and High Channel. To get a maximum radiated emission levels from the EUT, the EUT was moved throughout the XY, YZ, XZ planes.

2.7 Modifications of EUT

- None



3. Test Summary

Applied	FCC Rule	IC Rule	Test Items	Test Condition	Result		
\square	15.203	-	Antenna Requirement		С		
\square	15.247(a)	RSS-247 (5.2)			С		
\square	_	RSS GEN (6.7)			С		
	15.247(b)	RSS-247 (5.4)	Maximum Peak Output Power	Conducted	С		
	15.247(e)	RSS-247 (5.2)	Peak Power Spectral Density		С		
\square	15.247(d)	RSS-247 (5.5)	Conducted Spurious Emission		С		
	15.247(d) 15.205 & 15.209	RSS-247 (5.5) RSS-GEN (8.9 & 8.10)	Radiated Spurious Emission	Radiated	С		
\square	15.207 RSS-GEN (8.8) Conducted Emissions		AC Line Conducted	С			
<u>Note 1</u> : C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable							

The sample was tested according to the following specification: ANSI C63.10:2013.

Compliance was determined by specification limits of the applicable standard according to customer requirements.



4. Used equipment on test

Description	Manufacturer	Model Name	Serial Name	Next Cal.
TEMP & HUMID CHAMBER	JFM	JFMA-001	20200929-01	2025.11.06
CONTROLLER	AMWON TECHNOLOGY	TEMI2500	S7800VK191 0707	2025.11.06
PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	MY45304057	2025.11.07
MXG ANALOG SIGNAL GENERATOR	AGILENT	N5183A	MY50141890	2025.11.07
SYSTEM DC POWER SUPPLY	AGILENT	6674A	MY53000118	2025.11.07
VECTOR SIGNAL GENERATOR	ROHDE & SCHWARZ	SMBV100A	257524	2025.11.07
DIRECTIONAL COUPLER	AGILENT	773D	2839A01855	2025.11.07
ATTENUATOR	AGILENT	8493C	73193	2025.11.07
TERMINATION	HEWLETT PACKARD	909D	07492	2025.11.07
POWER DIVIDER	HEWLETT PACKARD	11636A	06916	2025.11.07
SLIDE-AC	DAEKWANG TECH	SV-1023	NONE	2025.11.07
DIGITAL MULTIMETER	HUMANTECHSTORE	15B+	50561541WS	2025.11.07
ATTENUATOR	ACE RF COMM	ATT SMA 20W 20dB 8GHz	A-0820.SM20.2	2025.04.04
DC POWER SUPPLY	AGILENT	E3634A	MY40012120	2025.02.22
USB Peak Power Sensor	Anritsu	MA24408A	12321	2025.11.08
High Pass Filter	WT Microwave INC.	WT-A3314-HS	WT22111804-1	2025.11.07
High Pass Filter	WT Microwave INC.	WT-A1935-HS	WT22111804-2	2025.12.06
SPECTRUM ANALYZER	ROHDE & SCHWARZ	FSU26	200444	2025.02.22
ATTENUATOR	Mini-Circuits	BW-K3-2W44+	2318-1	2025.06.28
ATTENUATOR	Mini-Circuits	BW-K3-2W44+	2318-2	2025.06.28
Balanced Temperature and Humidity Control System	ESPEC CORP.	SH-241	92004650	2025.06.13
ACTIVE LOOP ANTENNA	TESEQ	HLA 6121	55685	2026.12.20
Biconilog ANT	Schwarzbeck	VULB 9160	3260	2026.04.01
Biconilog ANT	Schwarzbeck	VULB9168	902	2026.08.28
Horn ANT	Schwarzbeck	BBHA9120D	974	2025.11.29
Horn ANT	Schwarzbeck	BBHA9120D	1497	2025.01.04
Amplifier	TESTEK	TK-PA18H	200104-L	2025.03.14
Horn ANT	Schwarzbeck	BBHA9170	01188	2025.03.19
Horn ANT	Schwarzbeck	BBHA9170	01189	2025.03.19
AMPLIFIER	TESTEK	TK-PA1840H	220105-L	2025.03.14
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESW44	101952	2025.03.14
Test Receiver	ROHDE & SCHWARZ	ESR7	101616	2025.06.27
LISN	ROHDE & SCHWARZ	ENV216	100409	2025.01.04
PULSE LIMITER	lignex1	EPL-30	NONE	2025.01.04

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5. Antenna Requirement

Accoding to §15.203 An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Accoding to §15.247(b)(4) e conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.1 Result

Complies

(The transmitter has a FPCB Antenna. The directional peak gain of the antenna is 3.94 dBi.)



6.6 dB Bandwidth & Occupied Bandwidth (99%)

6.1 Test Setup

Refer to the APPENDIX I.

6.2 Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

6.3 Test Procedure

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the EUT's antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

- 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
- 6. Allow the trace to stabilize.
- 7. Option 1 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.
 - Option 2 The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW \geq 3 x RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be \geq 6 dB.

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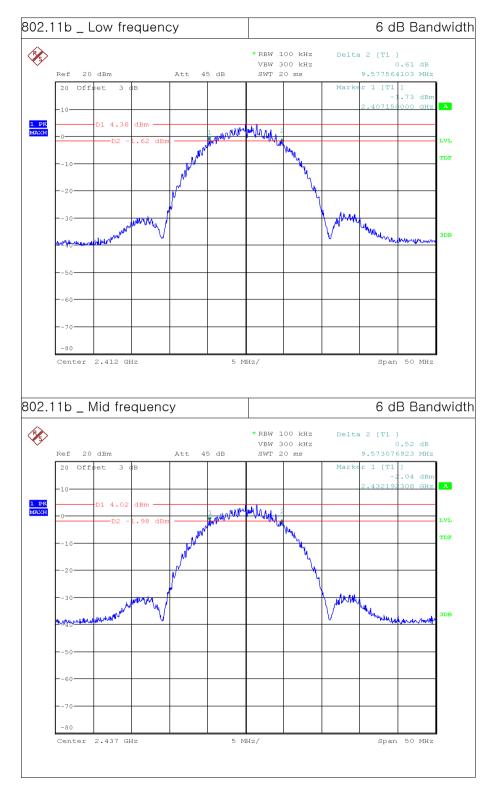


6.4 Test Result

Test Mode	Test Frequency	6 dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
	Low	9.578	14.950
802.11b	Middle	9.573	14.900
	High	9.615	14.900
802.11g	Low	16.440	16.900
	Middle	16.442	16.900
	High	16.426	16.900
802.11n_HT20	Low	17.690	17.850
	Middle	17.516	17.850
	High	17.678	17.850

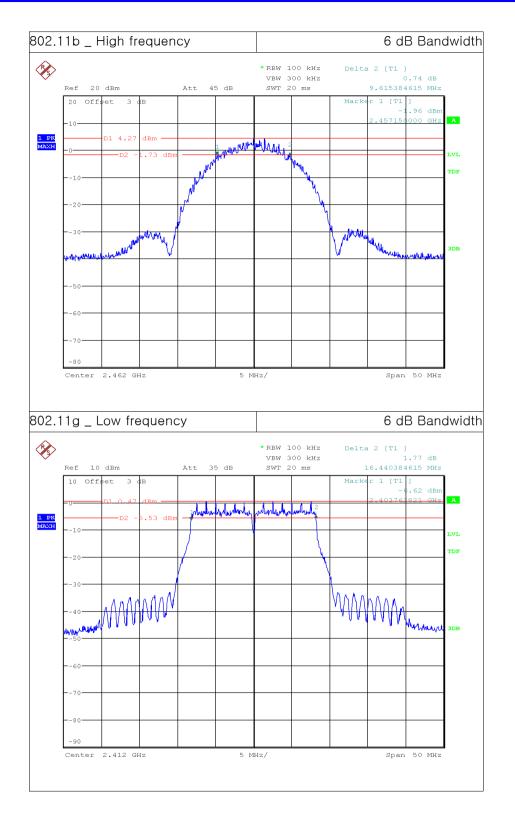


6.5 Test Plot



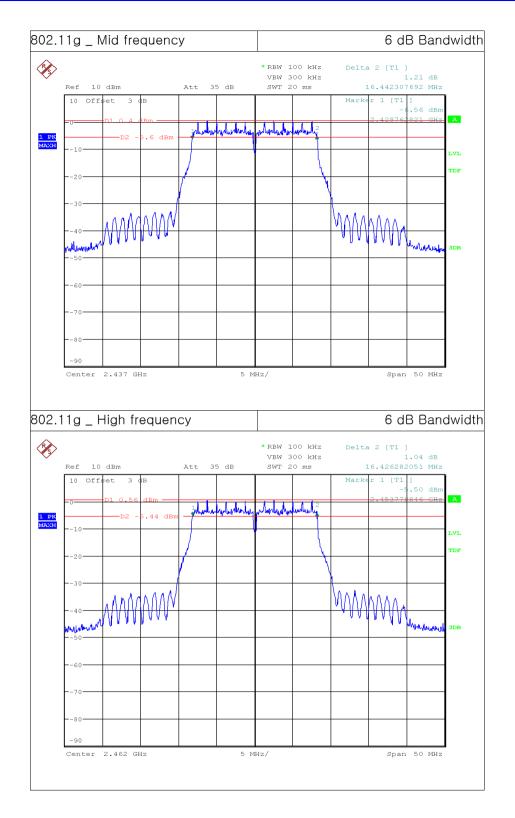
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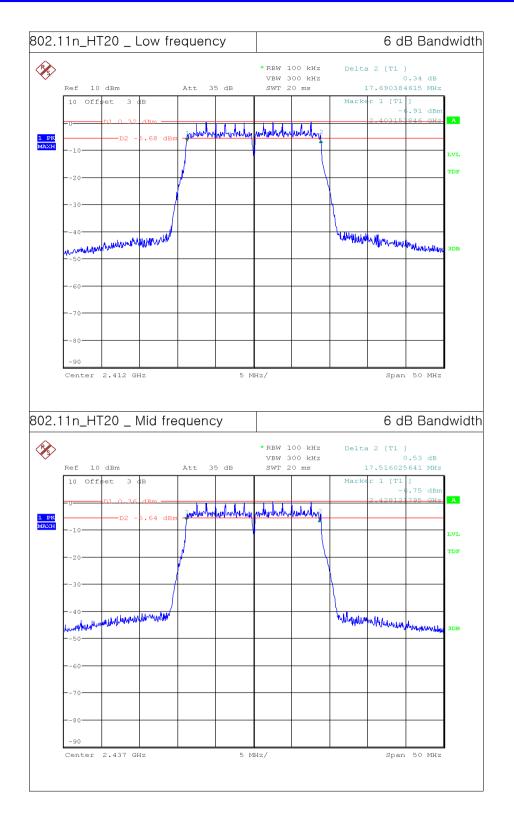
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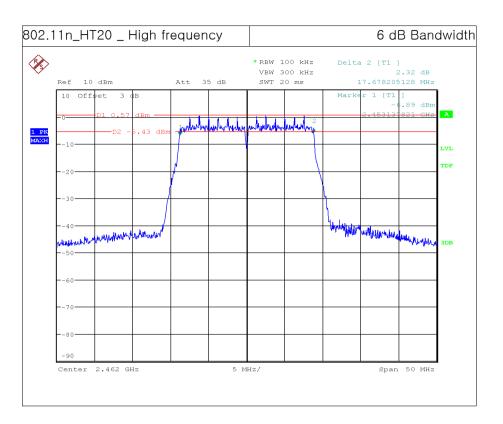
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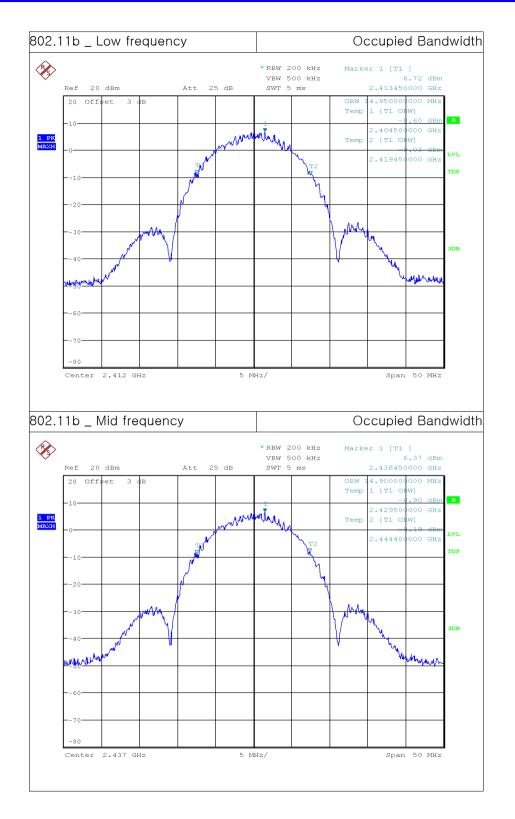
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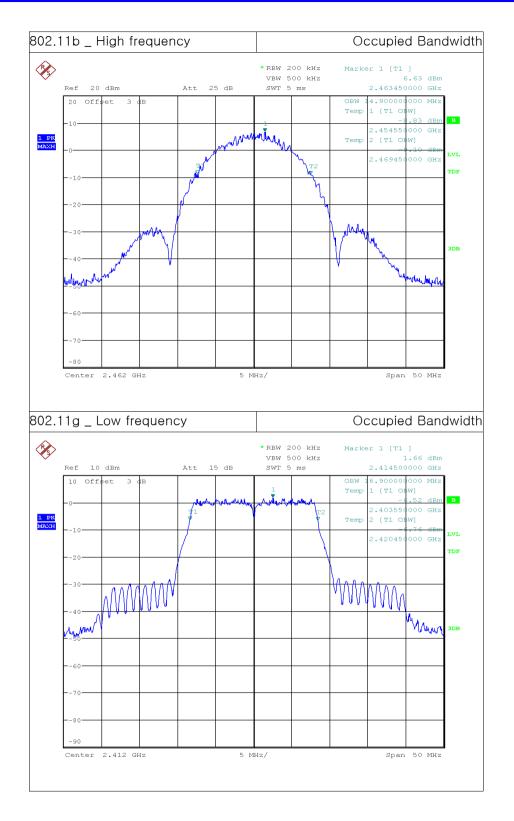
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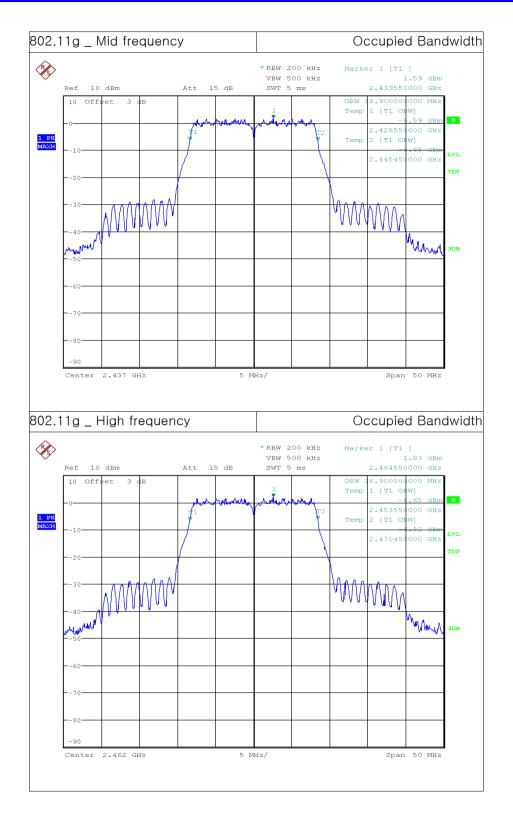
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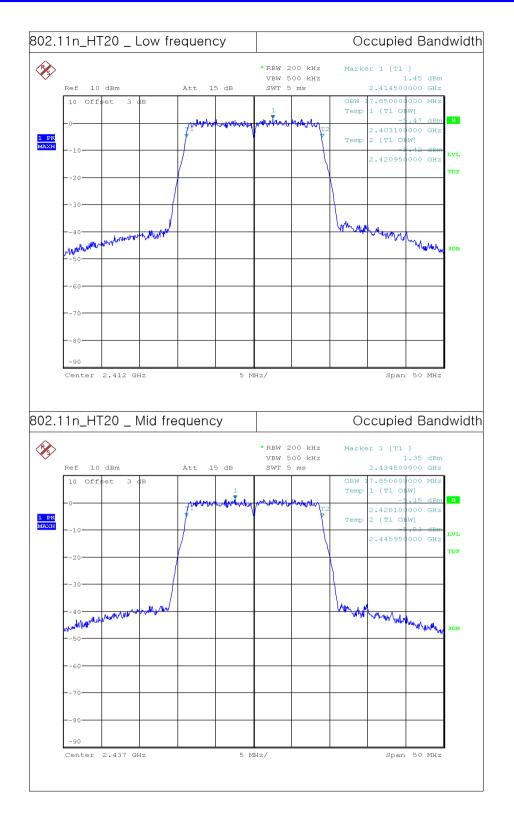
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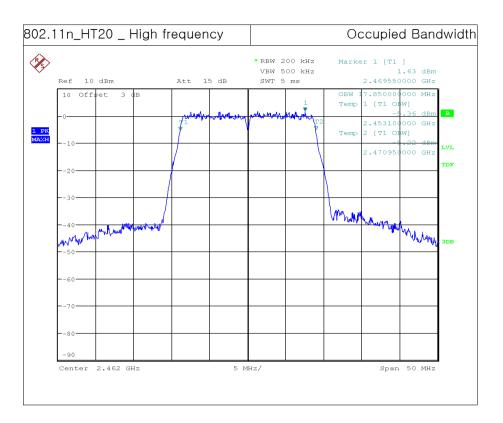
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7. Maximum Conducted Output Power

7.1 Test Setup

Refer to the APPENDIX I.

7.2 Limit

The maximum permissible conducted output power is 1 Watt.

7.3 Test Procedure

A transmitter antenna terminal of EUT is connected to the input of a spectrum analyzer. Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

- 1. Measure the duty cycle D of the transmitter output signal
- 2. Set span to at least 1.5 times the OBW.
- 3. Set RBW = 1 % to 5 % of the OBW, not to exceed 1MHz.
- 4. Set VBW \geq 3 x RBW
- Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
- 6. Sweep time = auto.
- 7. Detector = RMS (power averaging)
- 8. Do not use sweep triggering. Allow the sweep to "free run."
- 9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter
- 10. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
- 11. Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%.

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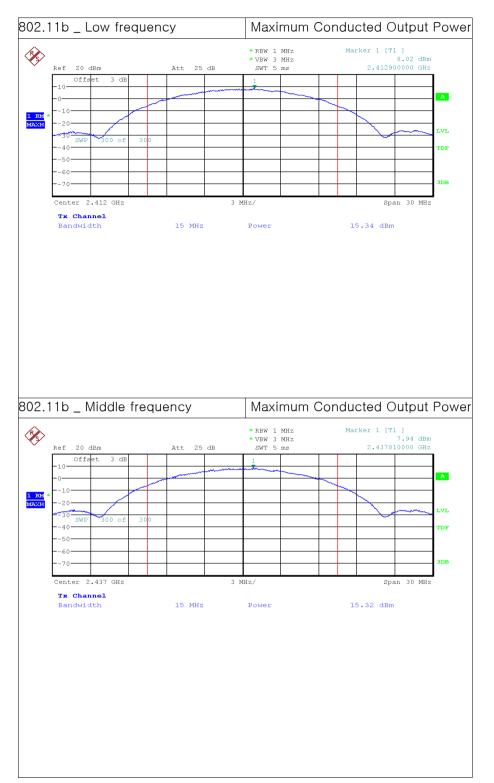


7.4 Test Result

Test Mode	Test Frequency	Maximum Conducted Output Power			
		Reading	C.F	Test Result	
		(dBm)	(dB)	(dBm)	(mW)
802.11b	Low	15.34	0.33	15.67	36.89
	Middle	15.32	0.33	15.65	36.72
	High	15.53	0.33	15.86	38.54
802.11g	Low	13.87	0.28	14.15	26.00
	Middle	13.83	0.28	14.11	25.76
	High	14.07	0.28	14.35	27.23
802.11n_HT20	Low	14.00	0.08	14.08	25.58
	Middle	13.98	0.08	14.06	25.46
	High	14.13	0.08	14.21	26.36

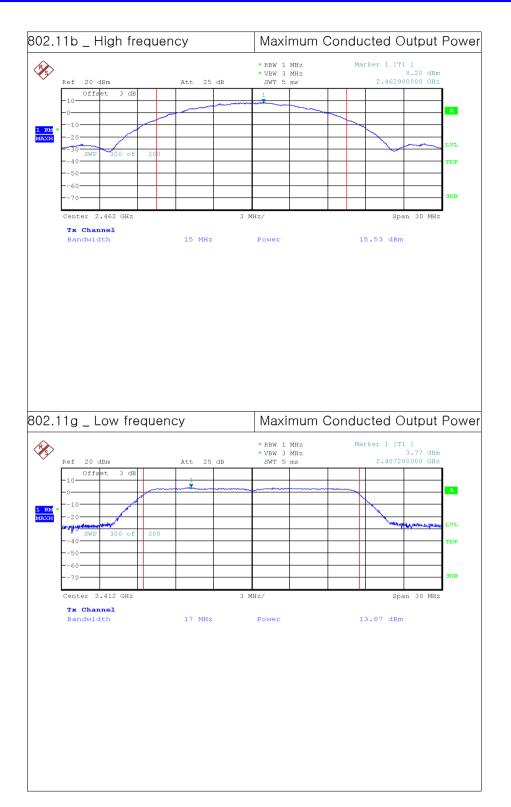


7.5 Test Plot



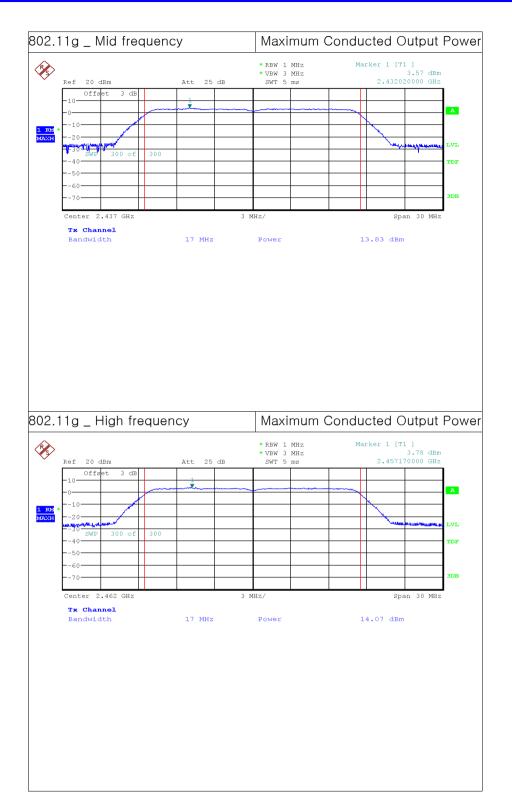
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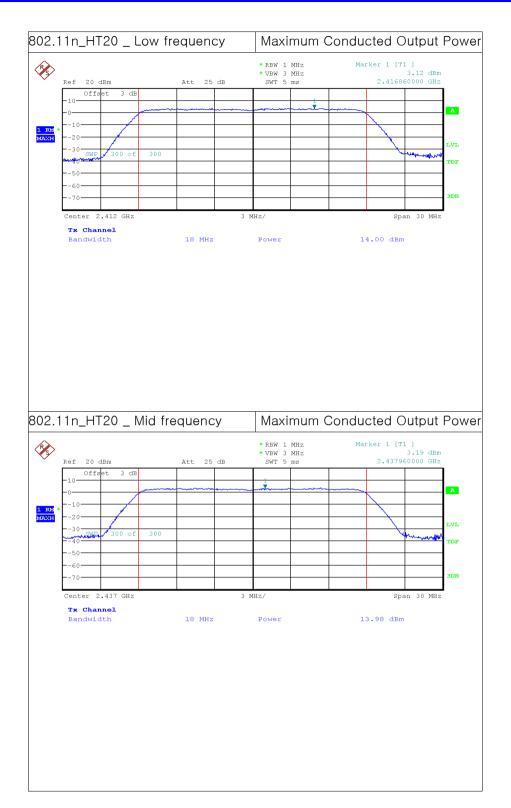
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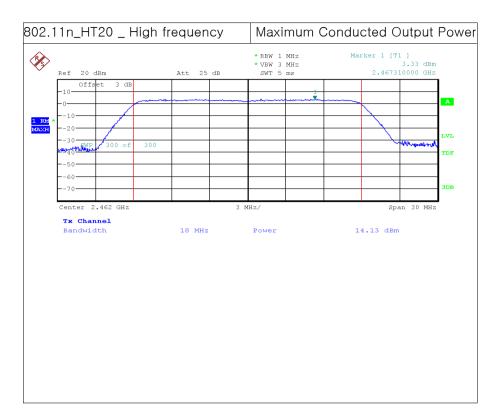
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8. Peak Power Spectral Density

8.1 Test Setup

Refer to the APPENDIX I.

8.2 Limit

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

8.3 Test Procedure

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

(ANSI C63.10-2013 _ Section 11.10.2 - Method PKPSD)

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW : 3 kHz \leq RBW \leq 100 kHz.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = Peak.
- 6. Sweep time = Auto
- 7. Trace mode = Max Hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

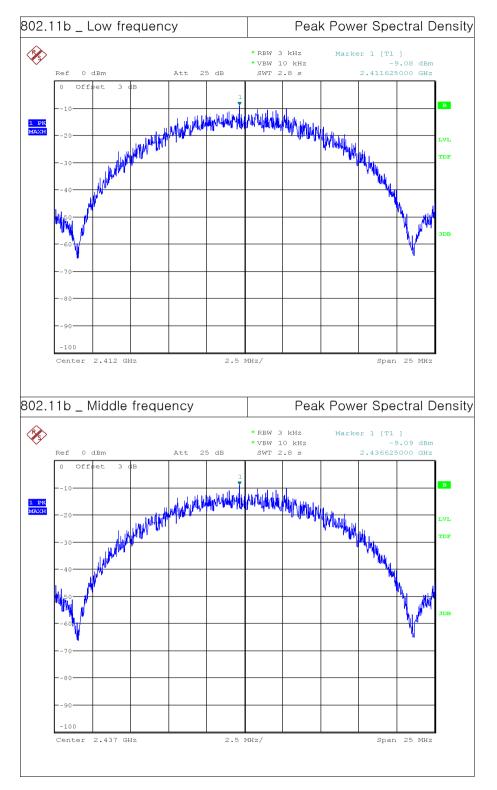


8.4 Test Result

Test Mode	Test Frequency	Peak Power Spectral Density (dBm/3 kHz)
802.11b	Low	-9.08
	Middle	-9.09
	High	-8.86
802.11g	Low	-15.44
	Middle	-15.89
	High	-15.90
802.11n_HT20	Low	-15.85
	Middle	-15.87
	High	-15.98



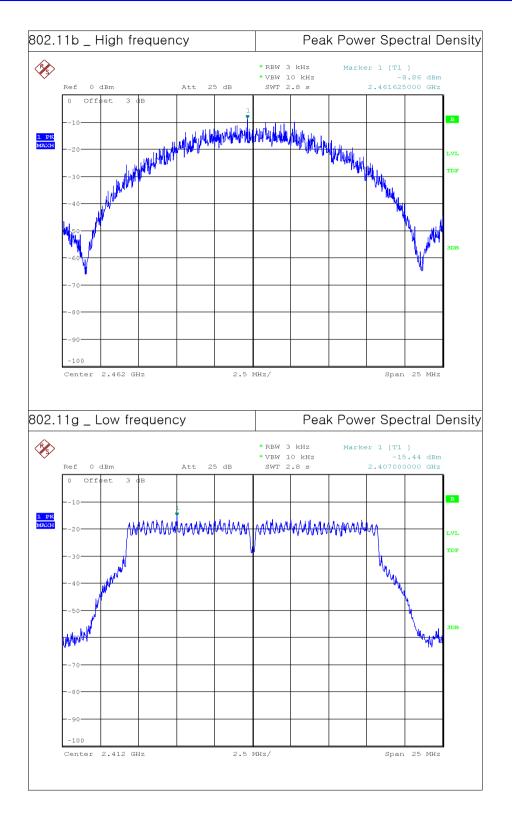
8.5 Test Plot



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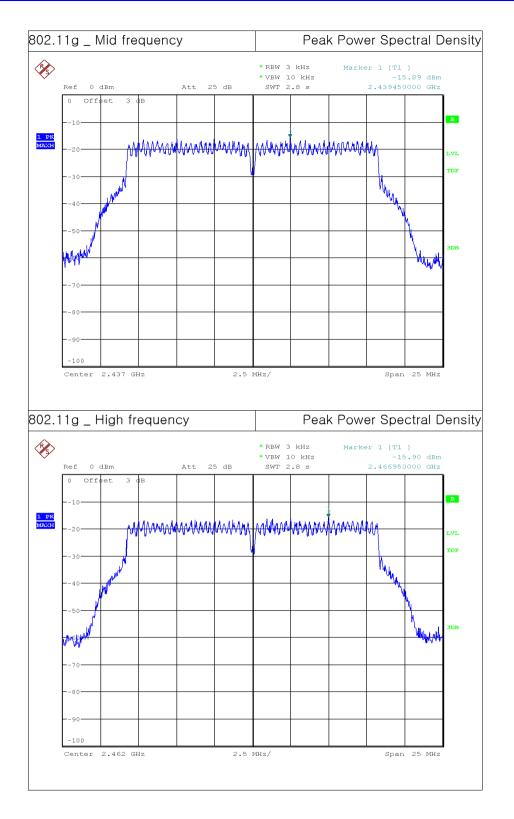




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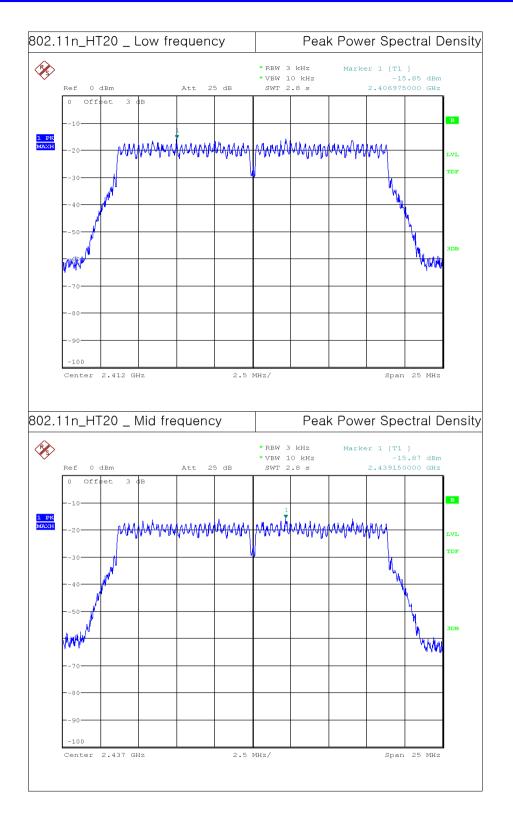




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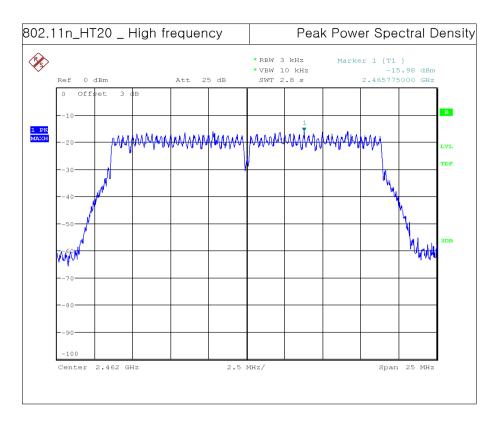






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9. TX Radiated Spurious Emission and Conducted Spurious Emission

9.1 Test Setup

Refer to the APPENDIX I.

9.2 Limit

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section §15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section §15.205(a), must also comply the radiated emission limits specified in section §15.209(a) (see section §15.205(c))

According to § 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)		
0.009 ~ 0.490	2400/F (kHz)	300		
0.490 ~ 1705	24000/F (kHz)	30		
1705 ~ 30.0	30	30		
30 ~ 88	100 **	3		
88 ~ 216	150 **	3		
216 ~ 960	200 **	3		
Above 960	500	3		

radiator shall not exceed the field strength levels specified in the following table

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 - 72 MHz, 76 - 88 MHz, 174 - 216 MHz or 470 - 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.



According to § 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

001011		
MHz	MHz	GHz
16.42 ~ 16.423	399.90 ~ 410	4.5 ~ 5.15
16.69475 ~ 16.69525	608 ~ 614	5.35 ~ 5.46
16.80425 ~ 16.80475	960 ~ 1240	7.25 ~ 7.75
25.5 ~ 25.67	1300 ~ 1427	8.025 ~ 8.5
37.5 ~ 38.	1435 ~ 1626.5	9.0 ~ 9.2
25 73 ~ 74.6	1645.5 ~ 1646.5	9.3 ~ 9.5
74.8 ~ 75.2	1660 ~ 1710	10.6 ~ 12.7
108 ~ 121.94	1718.8 ~ 1722.2	13.25 ~ 13.4
149.9 ~ 150.05	2200 ~ 2300	14.47 ~ 14.5
156.52475 ~ 156.52525	2310 ~ 2390	15.35 ~ 16.2
156.7 ~ 156.9	2483.5 ~ 2500	17.7 ~ 21.4
162.0125 ~ 167.17	2690 ~ 2900	22.01 ~ 23.12
3345.8 ~ 3358	3260 ~ 3267	23.6 ~ 24.0
3600 ~ 4400	3332 ~ 3339	31.2 ~ 31.8
3345.8 ~ 3358	240 ~ 285	36.43 ~ 36.5
3600 ~ 4400	322 ~ 335.4	Above 38.6
	$\begin{array}{r} \mbox{MHz} \\ 16.42 \sim 16.423 \\ 16.69475 \sim 16.69525 \\ 16.80425 \sim 16.80475 \\ 25.5 \sim 25.67 \\ 37.5 \sim 38. \\ 25.73 \sim 74.6 \\ 74.8 \sim 75.2 \\ 108 \sim 121.94 \\ 149.9 \sim 150.05 \\ 156.52475 \sim 156.52525 \\ 156.7 \sim 156.9 \\ 162.0125 \sim 167.17 \\ 3345.8 \sim 3358 \\ 3600 \sim 4400 \\ 3345.8 \sim 3358 \\ \end{array}$	MHzMHz $16.42 \sim 16.423$ $399.90 \sim 410$ $16.69475 \sim 16.69525$ $608 \sim 614$ $16.80425 \sim 16.80475$ $960 \sim 1240$ $25.5 \sim 25.67$ $1300 \sim 1427$ $37.5 \sim 38.$ $1435 \sim 1626.5$ $25.73 \sim 74.6$ $1645.5 \sim 1646.5$ $74.8 \sim 75.2$ $1660 \sim 1710$ $108 \sim 121.94$ $1718.8 \sim 1722.2$ $149.9 \sim 150.05$ $2200 \sim 2300$ $156.52475 \sim 156.52525$ $2310 \sim 2390$ $156.7 \sim 156.9$ $2483.5 \sim 2500$ $162.0125 \sim 167.17$ $2690 \sim 3267$ $3600 \sim 4400$ $3332 \sim 3339$ $3345.8 \sim 3358$ $240 \sim 285$

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.



9.3 Test Procedure for Radiated Spurious Emission

- 1. The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3.75 meter away from the interference-receiving antenna.
- 3. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.
- 4. The antenna is a Broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading. (The EUT was pre-tested with three axes (X, Y, Z) and the final test was performed at the worst case.)
- 6. Repeat above procedures until the measurements for all frequencies are complete.

Measurement Instrument Setting

- 1. Frequency Range: Below 1 GHz RBW = 100 or 120 kHz, VBW = 3 x RBW, Detector = Peak or Quasi Peak
- 2. Frequency Range: Above 1 GHz

```
Peak Measurement
RBW = 1 MHz, VBW = 3 MHz, Detector = Peak, Sweep time = Auto,
Trace mode = Max Hold until the trace stabilizes
```

Average Measurement RBW = 1 MHz, VBW = 3 MHz, Detector = RMS (Number of points ≥ 2 x Span / RBW), Trace Mode = Average (Averaging type = power(i.e. RMS)), Sweep Time = Auto, Sweep Count = at least 100 traces

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:

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- 1) If power averaging (RMS) mode was used in step 4, then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
- 2) If linear voltage averaging mode was used in step 4, then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
- If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than tuning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

9.4 Test Procedure for Conducted Spurious Emission

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. The reference level of the fundamental frequency was measured with the spectrum analyzer using RBW = 100 kHz, VBW = 300 kHz.
- 3. The conducted spurious emission was tested each ranges were set as below. Frequency range: 30 MHz ~ 26.5 GHz
 RBW = 100 kHz, VBW = 300 kHz, Sweep Time = Auto, Detector = Peak, Trace = Max Hold

LIMIT LINE = 20 dB below of the reference level of above measurement procedure Step 2. (RBW = 100 kHz, VBW = 300 kHz)



9.5 Test Result

9 kHz ~ 25 GHz Data for 802.11b

• Low frequency

Frequency	Rea	ding		ŦĊ	2005	Lin	nits	Re	sult	Mai	rgin
Trequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	V/m)	(d	В)
(MHz)	AV /	[/] Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 382.85	38.90	46.46	Н	9.00	0.33	54.0	74.0	48.2	55.5	5.8	18.5
4 824.03	40.68	45.23	Н	-0.95	0.33	54.0	74.0	40.1	44.3	13.9	29.7

• Middle frequency

Fraguaday	Rea	ding			2005	Lin	nits	Re	sult	Mai	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	IV/m)	(d	B)
(MHz)	AV ,	/ Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
4 873.88	46.41	49.93	Н	-0.95	0.33	54.0	74.0	45.8	49.0	8.2	25.0

• High frequency

	Rea	ding			0.005	Lin	nits	Re	sult	Ma	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	IV/m)	(d	В)
(MHz)	AV /	/ Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 490.65	39.95	47.54	Н	9.84	0.33	54.0	74.0	50.1	57.4	3.9	16.6
4 924.12	44.87	48.22	Н	-0.92	0.33	54.0	74.0	44.3	47.3	9.7	26.7

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCCF(Duty Cycle Correction Factor)

For DCCF(Duty Cycle Correction Factor) please refer to appendix III.

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF TF = Ant factor + Cable Loss + Filter Loss - Amp Gain + Distance Factor

Distance Factor = 20log(applied distance/required distance) = 20log(3.75m/3m) = 1.94



9 kHz \sim 25 GHz Data for 802.11g

• Low frequency

Fraguanay	Rea	ding			0.005	Lin	nits	Re	sult	Ма	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	IV/m)	(d	B)
(MHz)	AV ,	/ Peak		(46)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 389.32	36.86	48.25	Н	9.00	0.28	54.0	74.0	46.1	57.3	7.9	16.8
4 819.30	35.78	46.93	Н	-0.95	0.28	54.0	74.0	35.1	46.0	18.9	28.0

Middle frequency

	Rea	ding			2.2.25	Lin	nits	Re	sult	Mar	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	iV/m)	(dBu	iV/m)	(d	B)
(MHz)	AV ,	/ Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
4 869.30	36.70	47.39	Н	-0.95	0.28	54.0	74.0	36.0	46.4	18.0	27.6

• High frequency

Fraguanay	Rea	ding			0.005	Lin	nits	Re	sult	Ма	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	ıV/m)	(d	B)
(MHz)	AV /	[/] Peak		(46)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 483.64	38.26	50.27	Н	9.84	0.28	54.0	74.0	48.4	60.1	5.6	13.9
4 922.20	34.63	45.24	Н	-0.92	0.28	54.0	74.0	34.0	44.3	20.0	29.7

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCCF(Duty Cycle Correction Factor)

For DCCF(Duty Cycle Correction Factor) please refer to appendix III.

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF TF = Ant factor + Cable Loss + Filter Loss - Amp Gain + Distance Factor

Distance Factor = 20log(applied distance/required distance) = 20log(3.75m/3m) = 1.94



9 kHz \sim 25 GHz Data for 802.11n_HT20

• Low frequency

Fraguaday	Rea	ding			0.005	Lin	nits	Re	sult	Ма	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	IV/m)	(d	B)
(MHz)	AV /	/ Peak		(46)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 389.96	37.43	52.02	Н	9.00	0.08	54.0	74.0	46.5	61.0	7.5	13.0
4 825.60	35.15	46.72	Н	-0.95	0.08	54.0	74.0	34.3	45.8	19.7	28.2

Middle frequency

	. Dee	dina				Lin	aita	De	oult	Ma	rain
Frequency	кеа	ding			DOOL	LIII	nits	Re	sult	Ivia	rgin
Trequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	V/m)	(d	В)
(MHz)	AV ,	/ Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
4 875.00	35.52	46.52	Н	-0.95	0.08	54.0	74.0	34.6	45.6	19.4	28.4

• High frequency

Fraguaday	Rea	ding			0.005	Lin	nits	Re	sult	Ма	rgin
Frequency	(dBu	V/m)	Pol.	T.F (dB)	DCCF (dB)	(dBu	IV/m)	(dBu	IV/m)	(d	B)
(MHz)	AV /	[/] Peak		(00)	(00)	AV /	Peak	AV /	Peak	AV /	Peak
2 483.61	38.88	53.41	Н	9.84	0.08	54.0	74.0	48.8	63.3	5.2	10.8
4 922.10	33.96	44.80	Н	-0.92	0.08	54.0	74.0	33.1	43.9	20.9	30.1

Note 1: The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found above listed frequencies.

Note 2: DCCF(Duty Cycle Correction Factor)

For DCCF(Duty Cycle Correction Factor) please refer to appendix III.

Note 3: Sample Calculation.

Margin = Limit - Result / Peak Result = Peak Reading + TF / Average Result = Average Reading + TF + DCF TF = Ant factor + Cable Loss + Filter Loss - Amp Gain + Distance Factor

Distance Factor = 20log(applied distance/required distance) = 20log(3.75m/3m) = 1.94



9.6 Test Plot for Radiated Spurious Emission

• 802.11b _ Low frequency

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AultiView 🕀 Spectrum	Spectrum	2	Spectrum 3	X Spectru	um 4 🛛 🕱			∇
Ref Level 97.00 dBμV Att 0 dB SW Input 1 AC PS	● RBW VT 1.01 ms ● VBW On Notch	3 MHz Mode	e Auto Sweep			Fre	equency 2.3	500000 GH
Frequency Sweep							M1[1]	
90 dBµV								2.3828472 GHz
0 dBµV								
0 dBµV								
0 dBµV								
0 dBµV								MI
0 dBµV						and the second	and the second	al and a second
6 dBul mh March Marcan	Mar markeling	and we want and	Mannahald	he man work	wermander	« ["]		
0 dBuV								
D dBμV								
dBµV								
2.01 URZ		1001 pts	5	8	Rest	ricted (Band -	
AultiView € Spectrum Ref Level 97.00 dBμV	Spectrum RBW	2 X 3	Spectrum 3	X Spectru	Rest			Averag
AultiView + Spectrum Ref Level 97.00 dBy/ Att 0 dB SW Input 1 AC PS	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest			Averag
MultiView : Spectrum Ref Level 97.00 d5µV Att 0 dB SW Input 1.AC PS Frequency Sweep	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
AutiView E Spectrum Ref Level 97.00 dBµV Att 0 dB SW Input 1.AC PS Frequency Sweep	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
AutiView E Spectrum Ref Level 97.00 dBµV Att 0 dB SW Input 1.AC PS Frequency Sweep	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
AutiView E Spectrum Ref Level 97.00 dBµV Att 0 dB SW Input 1 AC PS Frequency Sweep 0 dBµV	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
AultiView ⊕ Spectrum Ref Level 97.00 dBμV Att 0 dB SW	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
AultiView Spectrum Ref Level 97.00 dBμV Att 0 dB SW Input 1 AC PS Frequency Sweep 0 0 dBμV 0 0 0 dBμV 0 0	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
Autöview Spectrum Ref Level 97.00 dBµV Att 0 dB SW Input 1 AC PS Frequency Sweep 0 dBµv 0 0 dBµv 0 0	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag 500000 GH: 38.90 dBµV
Autoview Spectrum Ref Level 97.00 dBµV Att 0 dB Input 1 AC Input 1 AC 0 dBµv 0	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag
fultiview Spectrum Ref Level 97.00 dBµV 0 dB SW Att 0 dB SW 0 dBµV 0	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag v 500000 GH: 1Rm Avg 38.90 dBµ 2.3833267 GH2
Autoview Spectrum Ref Level 97.00 dBµV Att 0 dB Input 1 AC 1 Dot 1 AC 0 dBµv 0	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	Averag
AultiView E Spectrum Ref Level 97.00 dBµV Att 0 dB SW Input 1 AC PS Frequency Sweep 0 dBµV 0 dBµV	● RBW /T 1.01 ms ● VBW	2 X 1 MHz 3 MHz Mode	Spectrum 3	X Spectru	Rest		equency 2.3	500000 GHz • IRm Avg 38.99 dByV 2.3833267 GHz

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MultiView 🗄	Spectrum	x Sp	ectrum 2	X Spectr	um 3 🛛 🛛]			▽
Ref Level 97.00 Att Input	OdBµV OdB SWT 1AC PS	● RB¥ 1.01 ms ● VB¥ On Not	N/1 MHz N/3 MHz Mode ch Off	e Auto Sweep			Fr	equency 4.8	240000 GHz
I Frequency Sw	eep							M1[1]	●1Pk Max 45.23 dBµV
10 dBµV									4.8240300 GHz
30 dBµV									
'0 dBµV									
0 dBµV									
0 dBµV					1				
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0 dBµV	¹ 278,0.4.4.4488,048,444910,459	Carlin and a crea	M. Transcope -		ollinden u	and an and a second second	Do. A. Ma bertanika		andrahanan
0 dBµV									
0 dBµV									
i dBµV F 4.824 GHz			1001 pt:	s	3	.0 MHz/			Span 30.0 MHz
						10 101127	Spu		
		~				7	Spu		Averag
Ref Level 97.00	O dBµV	RBV	ectrum 2	X Spectr	um 3 🛛			rious –	Averag
Ref Level 97.00 Att Input	OdBµV OdB SWT 1 AC PS	RBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag
Ref Level 97.00 Att Input Frequency Sw	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious –	Averag
Ref Level 97.00 Att Input Frequency Swr 0 dBµV	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 40.68 dBµV
Ref Level 97.00 Att Input Frequency Swr 0 dBµV	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 40.68 dBµV
Ref Level 97.00 Att Input Frequency Sw 0 d8µV	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 1Rm Avg 40.68 dBµV
Ref Level 97.00 Att Input Frequency Sw 0 d8µV 0 d8µV 0 d8µV	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 40.68 dBµV
Ref Level 97.00 Att Input Frequency Sw 10 d8µV 10 d8µV 10 d8µV 10 d8µV	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 1Rm Avg 40.68 dBµV
Att	OdBµV OdB SWT 1 AC PS	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag 240000 GHz 1Rm Avg 40.68 dBµV
Ref Level 97.00 Att Input Input Index Index <td< td=""><td>d diµV 0 dB SWT 1 AC PS cep</td><td>RB¥ 1.01 ms = VBV On Not</td><td>Vectrum 2 V 1 MHz V 3 MHz Mode ch Off</td><td>x Spectr</td><td>um 3 SGL Count 100/100</td><td></td><td>Fr</td><td>rious</td><td>Averag</td></td<>	d diµV 0 dB SWT 1 AC PS cep	RB¥ 1.01 ms = VBV On Not	Vectrum 2 V 1 MHz V 3 MHz Mode ch Off	x Spectr	um 3 SGL Count 100/100		Fr	rious	Averag
Ref Level 97.00 Att Input Input 0 dBµV	d diµV 0 dB SWT 1 AC PS cep	● RBV 1.01 ms ● VBV	ectrum 2 ¥ 1 MHz ¥ 3 MHz Mod	X Spectr	um 3 🛛			rious — equency 4.8	Averag
Ref Level 97.00 Att Input Input Index In dBµV	d diµV 0 dB SWT 1 AC PS cep	RB¥ 1.01 ms = VBV On Not	Vectrum 2 V 1 MHz V 3 MHz Mode ch Off	x Spectr	um 3 SGL Count 100/100		Fr	rious	Averag
Ref Level 97.00 Att Input Input Index	d diµV 0 dB SWT 1 AC PS cep	RB¥ 1.01 ms = VBV On Not	Vectrum 2 V 1 MHz V 3 MHz Mode ch Off	x Spectr	um 3 SGL Count 100/100		Fr	rious	Averag

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• 802.11b _ Middle frequency

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MultiView 🗄 Spec	trum 🕱 Sp	ectrum 2	X Spectr	um 3 🛛 🛛]			▽
	SWT 1.01 ms = VBW	/ 1 MHz / 3 MHz Mode	e Auto Sweep			Fre	equency 4.8	740000 GHz
Input 1 AC 1 Frequency Sweep	PS OF NOU	n 01					M1[1]	 1Pk Max 49.93 dBµV
90 dBµV								4.8738801 GHz
80 dBµV								
70 dBµV								
60 dBµV								
50 dBµV				$\overline{\boldsymbol{\lambda}}$				
AD ABRY	- Mary and a start of the start	antownfutures	we as for the	- Margarian	Markenner	and all the order of the	and all and a start	montanitan
30 dBµV								
20 dBµV								
10 dBµV								
0 dBµV								
CF 4.874 GHz		1001 pts	6	3	.0 MHz/			Span 30.0 MHz
						Spu	rious –	Averag
MultiView Spec	trum 🕱 Sp	ectrum 2	Spectr	um 3 🗊]	Spu	rious –	Averag
Ref Level 97.00 dBµV	● RBV SWT 1.01 ms ● VBV	ectrum 2 / 1 MHz / 3 MHz Mode th Off		SGL				Average
Ref Level 97.00 dBμ/ Att 0 dB Input 1 AC	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL				740000 GHz
Ref Level 97.00 dBµV Att 0 dB Input 1 AC I Frequency Sweep	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	740000 GHz
Ref Level 97.00 dBµV Att 0 dB Input 1 AC I Frequency Sweep 90 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµV Att 0 dB Input 1 AC I Frequency Sweep 90 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dB/J/ Att 0 dB Input 1 AC I Frequency Sweep 90 dB/V 80 dB/V	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Att 0 dB	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	●1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµ/v Att 0 dB Input 1 AC I frequency Sweep 90 dBµ/v 80 dBµ/v 70 dBµ/v	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµV Att 0 dB Input 1 AC Input 1 AC 90 dBµV 90 dBµV 80 dBµV 90 dBµV 70 dBµV 90 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµV Att 0 dB Input 1 AC Ispect 1 AC 90 dBµV 80 dBµV 70 dBµV 50 dBµV 40 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµV Att 0 dB Input 1 AC Input 1 AC I Frequency Sweep 90 dBµV 80 dBµV 60 dBµV 50 dBµV 50 dBµV 40 dBµV 90 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode ch Off		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµ/v Att 0 dB Input 1 AC Input 1 AC 90 dBµ/v 0 80 dBµ/v 0 60 dBµ/v 0 50 dBµ/v 0 50 dBµ/v 0 90 dBµ/v 0	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode ch Off		SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV
Ref Level 97.00 dBµV Att 0 dB Input 1 AC Input 1 AC B0 dBµV 80 dBµV 90 dBµV 60 dBµV 50 dBµV 90 dBµV	● RBV SWT 1.01 ms ● VBV	/ 1 MHz / 3 MHz Mode ch Off	e Auto Sweep	SGL			equency 4.8	▼ 740000 GHz • 1Rm Avg 46.41 dBµV

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• 802.11b _ High frequency

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MultiView 🕀	Spectrum	Spectrur	m 2 🕱	Spectrum 3	X Spectru	um 4 🕱			∇
Ref Level 97 Att	0 dB SWT	1.01 ms 🖶 VBV	V 1 MHz V 3 MHz Mod	e Auto Sweep			Fr	equency 2	.4917500 GH
Input I Frequency S	1 AC PS Sweep	On Not	cn ∪π					1[1]	 1Pk Max 47.54 dBµV
90 dBµV									2.4906456 GHz
80 dBµV									
70 dBµV									
60 dBµV									
00 0000									
50 dBµV		and the second second		MI					and the second
40 dBµV	Jan Martin and Contraction		- wummer		and the short	Amento water	M. Will al and and and	manden	~
30 dBµV ───									
20 dBµV									
10 dBµV									
0 dBµV									
	1								
			1001 pt	s	1.	.65 MHz/			2.5 GHz
			1001 pt:	s	1.		tricted	Band	2.5 GHz - Averag
2.4835 GHz	Coastrum	Conception				Rest	tricted	Band	- Averag
2.4835 GHz MultiView		• RBV	m 2 🕱	Spectrum 3	Spectru SGL	Rest			- Averag
2.4835 GHz MultiView Ref Level 97 Att Input	1.00 dBµV 0 dB SWT 1 AC PS		n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest			- Averag
2.4835 GHz MultiView Ref Level 97 Att Input I Frequency S	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr		- Averag
2.4835 GHz MultiView Ref Level 97 Att Input I Frequency S	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz MultiView C Ref Level 97 Att Input I Frequency S 90 dBµV	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2,4835 GHz MultiView Ref Level 97 Att Input I Frequency S 90 dBµV 80 dBµV	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz MultiView Ref Level 97 Att Input I Frequency S 90 dBµV	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag .4917500 GH: 39.95 dBµV
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag
2.4835 GHz	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag
2.4835 GHz MultiView Ref Level 97 ■ Att I prot 1 Frequency S 90 d8µV 70 d8µV 60 d8µV 40 d8µV 40 d8µV 30 d8µV	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag
2.4835 GHz MultiView Ref Level 97 ■ Att Input I Frequency S 90 d8µV 70 d8µV 60 d8µV 40 d8µV 40 d8µV 20 d8µV 20 d8µV 20 d8µV	1.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	n 2 🕱 V 1 MHz V 3 MHz Mode	Spectrum 3	Spectru SGL	Rest	Fr	equency 2	- Averag

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						S	Spuriou	s – Pea
MultiView 🗄 S	pectrum 🕱	Spectrum 2	X Spectr	um 3 🛛 🛛				▽
Ref Level 97.00 di Att 0 Input 1	∣dB SWT 1.01 ms ⊕ V	NBW 1 MHz NBW 3 MHz Moo Notch Off	le Auto Sweep			Fre	equency 4.9	240000 GHz
1 Frequency Swee							M1[1]	 1Pk Max 48.22 dBµV
90 dBµV								4.9241199 GHz
80 dBµV								
70 dBμV								
i0 dBµV								
60 dBµV		_		11				
				\mathbf{A}				
HO dBHV	and a second of the second sec	V. S. M. Mar W. and M. Martin	and the second sec	- Younger	hadronthang	WWWWWWWW	monation	nyulliminita
30 dBµV		_						
20 dBµV								
0 dBµV								
1 dBµV								
F 4.924 GHz		1001 pt	IS	ć	8.0 MHz/			Span 30.0 MHz
						Spu	rious -	Averag
MultiView 🕀 S		Spectrum 2	X Spectr					▽
Input 1	dB SWT 1.01 ms ⊕ W AC PS On N			SGL Count 100/100)	Fre	equency 4.9	240000 GHz
Frequency Swee	p						M1[1]	 1Rm Avg 44.87 dBμV
0 dBµV								4.9239401 GHz
10 dBµV								
70 dBµV								
i0 dBµV								
			н	4				
60 dBµV 50 dBµV 40 dBµV			M	4				
50 dBµV								
50 dBµV							and the second	194-91491419141
50 dBµV							and the second sec	
50 dBµV							and the second data	**************************************
50 daµv					a contraction of the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		194-4440-11460-

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• 802.11g _ Low frequency

						F	Restricte	ed Ban	d - Pea
MultiView 🔠	Spectrum	Spectru	m 2 🕱	Spectrum 3	X Spectru	um 4 🕅 🕱			▽
Ref Level 97.0 Att Input	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV On Not	N 1 MHz N 3 MHz Mod ch Off	e Auto Sweep		,	Fn	equency 2.3	500000 GHz
Frequency Sv								M1[1]	● 1Pk Max 48.25 dBµV
90 dBµV									2.3893207 GHz
80 dBµV									
70 dBµV									
60 dBµV									
50 dBµV									MI
							. where the	manymore	Whohresphan
40 dBµV	And Marken Mark	an anna an	hannen	manut	whenter	www.waltenso	Seal Concernence		
30 dBµV									
20 dBµV									
10 dBµV									
			1001 pt	S	8	.0 MHz/			
			1001 pt	S	8		ricted I	Band -	
(Spectrum	X Spectru	m 2 🕱	Spectrum 3	X Spectru	Rest	ricted I	Band -	
2.31 GHz MultiView Ref Level 97.0 Att Input	00 dBµV 0 dB SWT 1 AC PS	• RBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest			Averag
2.31 GHz MultiView # Ref Level 97.0 Att Input Frequency Sv	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag
2.31 GHz MultiView # Ref Level 97.0 Att Input Frequency Sv	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz • 1Rm Avg 36.86 dBµV
2.31 GHz MultiView H Ref Level 97.0 Att Input Frequency SV 90 dBµV	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Att Input	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.(Att Input Frequency Sv 90 dBµv 80 dBµv	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Att Input Frequency St 90 dBµv 70 dBµv 60 dBµv	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Input Input S0 dBµV 90 dBµV 70 dBµV 50 dBµV 40 dBµV	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest		equency 2.3	Averag 500000 GHz • 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Att Input Frequency St 30 d8µv 30 d8µv 50 d8µv 40 d8µv 40 d8µv 40 d8µv 40 d8µv	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest	Fr	equency 2.3	Averag 500000 GHz • 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Input Input Input 90 dBµV 80 dBµV 70 dBµV 50 dBµV 40 dBµV 30 dBµV 20'dBµV	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest	Fr	equency 2.3	Averag 500000 GHz 1Rm Avg 36.86 dBµV
2.31 GHz MultiView Ref Level 97.0 Att Input Input S0 dBµV 70 dBµV 50 dBµV 50 dBµV	00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV	m 2 🗶 🕅	Spectrum 3	Spectru SGL	Rest	Fr	equency 2.3	36.86 dBµV

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			Spuri	ous – Peal
MultiView 🕀 Spect	trum 🕱 Spectrum 2	X Spectrum 3 X)	∇
	BBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode A PS On Notch Off	uto Sweep	Frequency	4.8240000 GHz
1 Frequency Sweep			M	• 1Pk Max 1[1] 46.93 dBµV
90 dBµV				4.8193047 GHz
80 dBµV				
70 dBµV				
60 dBµV				
50 dBµV	and the second s	warman warman war	Murry	
40 dBHV holonigation and a lot of the second	want de mane de sur mande and		Manharment Unter Athan	un all home work
30 dBµV				
20 dBµV				
10 dBµV				
0 dBµV				
CF 4.824 GHz	1001 pts	10.	0 MHz/	Span 100.0 MHz
			Spurious	s - Average
MultiView 🕀 Spect	trum 🕱 Spectrum 2	x Spectrum 3 x)	▽
Ref Level 97.00 dBµV Att 0 dB Input 1 AC		SGL suto Sweep Count 100/100	Frequency	4.8240000 GHz
1 Frequency Sweep			М	● 1Rm Avg 1[1] 35.78 dBµV
90 dBµV				4.8241998 GHz
80 dBµV				
70 dBµV				
60 dBµV				
50 dBµV				
40 dBµV		and the second		
30 dBµV	water and a strand the state of		maken and and and and and	ware and a company with the
20 dBµV				
10 dBµV				
0 dBµV				
· · ·		10.		Span 100.0 MHz

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• 802.11g _ Middle frequency

							S	Spurious	s – Peak
MultiView	Spectrum	x Sp	ectrum 2	X Spectr	rum 3 🛛 🕱	7			▽
Ref Level 97	7.00 dBµV	• RBV	V 1 MHz			1			
Input Input	1 AC PS	On Not	¥ 3 MHz Mod ch Off	e Auto Sweep			Fre	equency 4.87	• 1Pk Max
1110quency a								M1[1]	47.39 dBµV .8693047 GHz
90 dBµV									-8693047 GHZ
80 dBµV									
70 dBµV									
60 dBµV									
50 dBµV									
40 dBµV			Ann	multon	al summer of	Martin			
well with the second	putalist mariles	Mannaun	shahalan.			(and day)	marker and	njhannala	brastlinewark
30 dBµV									
20 dBµV									
10 dBμV									
0 dBµV									
CF 4.874 GHz			1001 pt	s	10	0.0 MHz/		Sp	an 100.0 MHz
							Spu	rious -	Average
						_			
	Spectrum		ectrum 2 V 1 MHz	Spectr					∇
Ref Level 97 Att Input		1.01 ms = VBV On Not	V 3 MHz Mod	e Auto Sweep	SGL Count 100/100	I	Fre	equency 4.87	40000 GHz
1 Frequency S								M1[1]	 1Rm Avg 36.70 dBµV
90 dBµV								4	.8740000 GHz
80 dBµV									
70 dBµV									
/и иври									
70 овру 60 dвµV									
60 dBµV 50 dBµV									
60 dBµV									
60 dBµV 50 dBµV 40 dBµV 30 dBµV									
60 dBµV 50 dBµV 40 dBµV			and the second sec	muunu					1
60 d8μν 50 d8μν 40 d8μν 30 d8μν				-				wy Merritory Jacoury	
60 dBµV 50 dBµV 40 dBµV			And a start of the					**_********	
60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV			der men der Pl						
60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV			1001 pt			0.0 MHz/			an 100.0 MHz

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• 802.11g _ High frequency

i ligit li	roquon					F	Restricte	ed Ban	d - Pea
MultiView 🔠	Spectrum	X Spect	trum 2	Spectrum 3	X Spectru	um 4 🕱			▽
Ref Level 9 Att	0 dB SV	VT 1.01 ms ⊜ \	RBW 1 MHz /BW 3 MHz Mod	e Auto Sweep			Fn	equency 2.4	917500 GHz
Input Frequency	1 AC PS Sweep	G On M	Notch Off						• 1Pk Max
90 dBµV								M1[1]	50.27 dBµV 2.4836401 GHz
80 dBµV									
70 dBµV									
50 dBµV									
1 0 dвµV									
	he More Madelia	vententana	un han numper pa	Musenhow	howange	an man was	mendud.		
40 dBµV							LINE MAR	an and a second second	Mar Mar Mar And
30 dBµV									
20 dBµV									
10 dBµV	-								
			1001 pt	S	1.	65 MHz/	ricted	Band -	
2.4835 GHz	·	X Spect				Rest	ricted I	Band -	
2,4835 GHz MultiView	Spectrum 97.00 dBµV 0 dB SV	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest			Averag
2.4835 GHz MultiView A Ref Level 9 Att Input	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest			Averag
2.4835 GHz MultiView H Ref Level 9 Att Input I Frequency	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GH2 38.26 dBµV
Att Input 90 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GH2 38.26 dBµV
Att Input 90 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GH2 38.26 dBµV
2.4835 GHz MultiView # Ref Level 9 Att Input I Frequency 90 d8µV 80 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView P Ref Level 9 Att Input I Frequency 90 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 Att Input I Frequency 90 dBµV 70 dBµV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 Att Input I Frequency 90 dBµV 70 dBµV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 Att Input IFreqUency 90 d8µV 60 d8µV 50 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 Att Input IFreqUency 90 d8µV 60 d8µV 50 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 # Att Input Input 90 dBµV 80 dBµV 70 dBµV 50 dBµV 80 dBµV 90 dBµV 90 dBµV 90 dBµV 91 dBµV 92 dBµV 92 dBµV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	917500 GHz
Ref Level 9 Att Input Input I Frequency 90 d8µV 90 d8µV 90 d8µV 70 d8µV 90 d8µV 60 d8µV 90 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV
2,4835 GHz MultiView Ref Level 9 Att Input Input 1 Frequency 90 d8µV 80 d8µV 70 d8µV 50 d8µV 50 d8µV 30 d8µV 20 d8µV	Spectrum 97.00 dBµV 0 dB SV 1 AC PS	● F VT 1.01 ms ● V	trum 2	Spectrum 3	Spectru SGL	Rest		equency 2.4	Averag 917500 GHz • IRm Avg 38.26 dBpV

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							S	Spuriou	s – Peal
MultiView	Spectrum	x Sp	ectrum 2	X Spectr	'um 3 🛛 🕱]			▽
Ref Level 97 Att Input			WF 1 MHz WF 3 MHz Mod tch Off	le Auto Sweep		_	Fre	equency 4.9	240000 GHz
1 Frequency S								M1[1]	• 1Pk Max 45.24 dBµV
90 dBµV									4.9222018 GHz
80 dBµV									
70 dBµV									
50 dBµV									
50 dBµV				M1					
40 dBpV-	Mugnedund	have a production	- wall and wall	MI WWW.	when here for me	Horan Marian	nummu	mandame	Stanoverske mar ska
30 dBµV									
20 dBµV									
20 UBHV									
10 dBµV									
0 dBµV			1001						100.01.01
JF 4,924 GHZ			1001 pt	.5	10	0.0 MHz/	0		pan 100.0 MHz
							Spu	nous –	Average
MultiView Ref Level 97	(.		ectrum 2 W 1 MHz		rum 3 🛛 🗐 SGL				▽
Att Input I Frequency S	1 AC PS	1.01 ms ● VB\ On Not	W 3 MHz Mood tch Off	le Auto Sweep	Count 100/100	1	Fre	equency 4.9	240000 GHz
90 dBµV								M1[1]	
80 dBµV									
70 dBµV									
60 dBµV									
50 dBµV									
40 dBµV				and and a	1 Warning and				
30 dBµV	and the management	any of the second second	a na	hand a second	- marine and	Marine and	meter many w	undularnation	and a second and a
20 dBµV									
10 dBµV									
10 dBµV									

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• 802.11n_HT20 _ Low frequency

			Restri	cted Band – Pea
MultiView 🕀 Spectrum	X Spectrum 2 X	Spectrum 3 X Spect	rum 4 🕱	∇
	RBW 1 MHz WT 1.01 ms • VBW 3 MHz Mode S On Notch Off	e Auto Sweep		Frequency 2.3500000 GHz
Input 1 AC P I Frequency Sweep	S On Notch Off			● 1Pk Max M1[1] 52.02 dBµV
90 dBµV				2.3899600 GHz
80 dBµV				
70 dBµV				
60 dBµV				
50 dBµV				M
			adda a	and the man and a strand of the
Laffendan boundary	man man and and and and and and and and and a	en Manorton Malatar	mpandum munere Monger	
20 dBµV				
10 dBµV				
о dвµv	1001 pt:		8.0 MHz/	2.39 GHz
			Restricted	d Band – Averag
MultiView :: Spectrum Ref Level 97.00 dBµV	RBW 1 MHz	Spectrum 3 Spect		▽
Att 0 dB S Input 1 AC P I Frequency Sweep	WT 1.01 ms ● VBW 3 MHz Mode S On Notch Off	e Auto Sweep Count 100/10	JU	Frequency 2.3500000 GHz 1Rm Avg
90 dBµV				M1[1] 37.43 dBµV 2.3899600 GHz
80 dBµV				
70 dBµV				
60 dBµV				
50 dBµV				
40 dBµV				and the second s
30 dBµV	and an also and the stand of the	general and a construction	Marine Mari	and power in
20 dBpV				
20 0800				
10 dBµV				

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							ç	Spuriou	s – Peak
MultiView	Spectrum	x Sp	ectrum 2	X Spectr	um 3 🛛 🛛]			▽
Ref Level 97 Att Input	.00 dBµV 0 dB SWT 1 AC PS	● RBV 1.01 ms ● VBV On Not	VF 1 MHz VF 3 MHz Mod ch Off	e Auto Sweep		-1	Fn	equency 4.82	240000 GHz
1 Frequency S	weep							M1[1]	 1Pk Max 46.72 dBµV
90 dBµV									.8255984 GHz
80 dBµV									
70 dBµV									
60 dBµV									
50 dBµV				ر يەرىۋلىرى	Mar .				
40 dBµV-	enteredition	magantilian	Wert washing	montal	an non walking	www.water	homenohan	mummun	n-kingdolinden
30 dBµV									
20 dBµV									
10 dBµV									
0 dBµV									
CF 4.824 GHz			1001 pt	S	10	0.0 MHz/			an 100.0 MHz
							Spu	rious -	Average
MultiView			ectrum 2	X Spectr	rum 3 🛛 🗐]			▽
Ref Level 97 Att Input	0 dB SWT 1 AC PS	= RBV 1.01 ms = VBV On Not	¥ 1 MHz ¥ 3 MHz Mod ch Off	e Auto Sweep		1	Fn	equency 4.82	240000 GHz
1 Frequency S	weep							M1[1]	 1Rm Avg 35.15 dBµV 8237003 GHz
90 dBµV									
80 dBµV									
70 dBµV									
60 dBµV									
50 dBµV									
40 dBµV−−−−				M					
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• 802.11n_HT20 _ Middle frequency

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40 dBµV						0.0 MHz/		Sn	an 100.0 MHz

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• 802.11n_HT20 _ High frequency

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MultiView Spectrum			Spectrum 3	X Spectru	um 4 🛛 🕱			∇
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Ref Level 97.00 dBµ/ Att 0 dB Input 1 AC Frequency Sweep 80 dBµ/	● RB SWT 1.01 ms ● VB	W 1 MHz W 3 MHz Mode		SGL	um 4 🛛 🕱	Fra	equency 2.4	▼ 917500 GHz ● 1Rm Avg 38.88 dBµV
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Ref Level 97.00 dBµ/ Att 0 dB Input 1AC Input 1AC Ifrequency Sweep 90 dBµ/ 90 dBµ/ 60 dBµ/ 50 dBµ/	● RB SWT 1.01 ms ● VB	W 1 MHz W 3 MHz Mode		SGL	um 4 🛛 🕱	Fra	equency 2.4	▼ 917500 GHz ● 1Rm Avg 38.88 dBµV
Ref Level 97.00 dBµ/ Att 0 dB Input 1 AC Isrequency Sweep 90 dBµ/ 80 dBµ/ 70 dBµ/ 50 dBµ/ 50 dBµ/ 40 dBµ/	● RB SWT 1.01 ms ● VB	W 1 MHz W 3 MHz Mode		SGL	um 4 🛛 🕱	Fra	equency 2.4	▼ 917500 GHz ● 1Rm Avg 38.88 dBµV
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Ref Level 97.00 dBµ/ Att 0 dB Input 1 AC I Frequency Sweep 90 dBµ/ 80 dBµ/ 70 dBµ/ 50 dBµ/	● RB SWT 1.01 ms ● VB	W 1 MHz W 3 MHz Mode		SGL	um 4 🛛 🕱	Fra	equency 2.4	▼ 917500 GHz ● 1Rm Avg 38.88 dBµV
Ref Level 97.00 dBµ/ Att 0 dB Input 1 AC Isrequency Sweep 90 dBµ/ 80 dBµ/ 70 dBµ/ 50 dBµ/ 50 dBµ/ 90 dBµ/	● RB SWT 1.01 ms ● VB	W 1 MHz W 3 MHz Mode		SGL	um 4 🛛 🕱	Fra	equency 2.4	▼ 917500 GHz ● 1Rm Avg 38.88 dBµV

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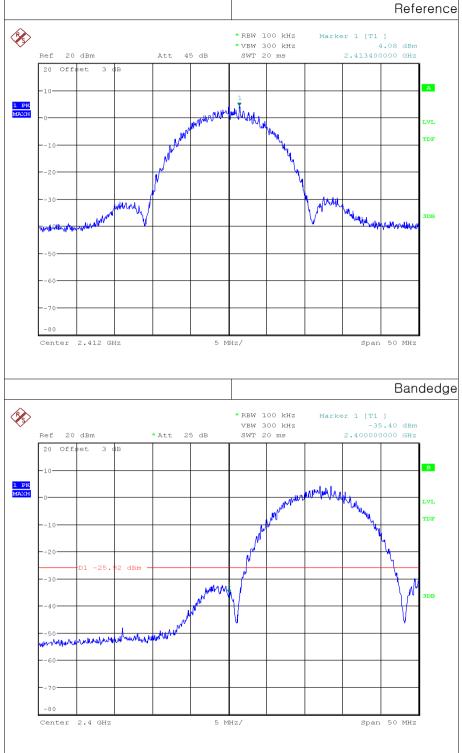
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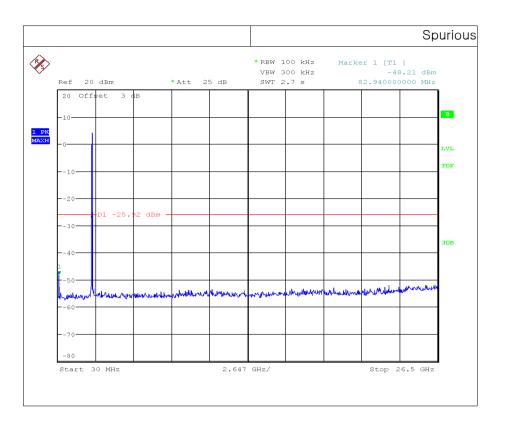
9.7 Test Plot for Conducted Spurious Emission

• 802.11b _ Low frequency



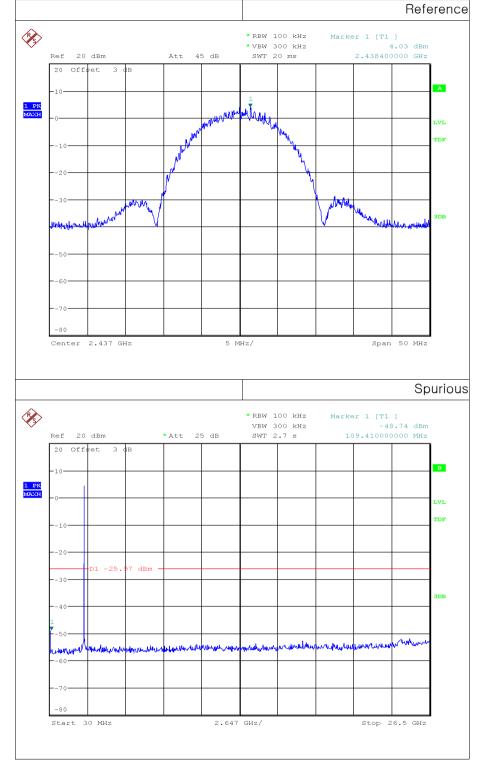
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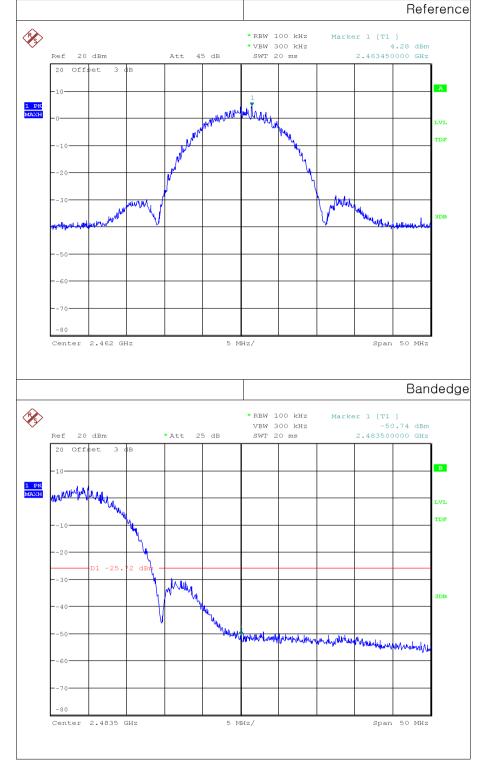
• 802.11b _ Middle frequency



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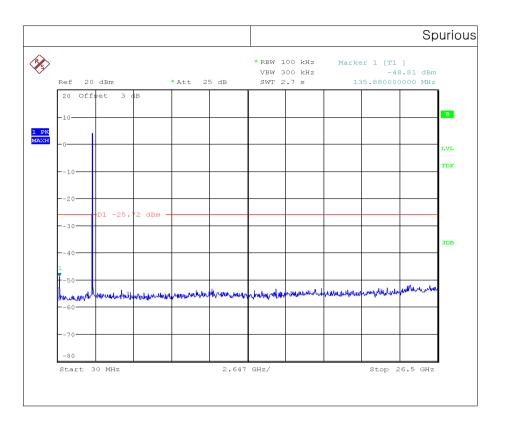


• 802.11b _ High frequency



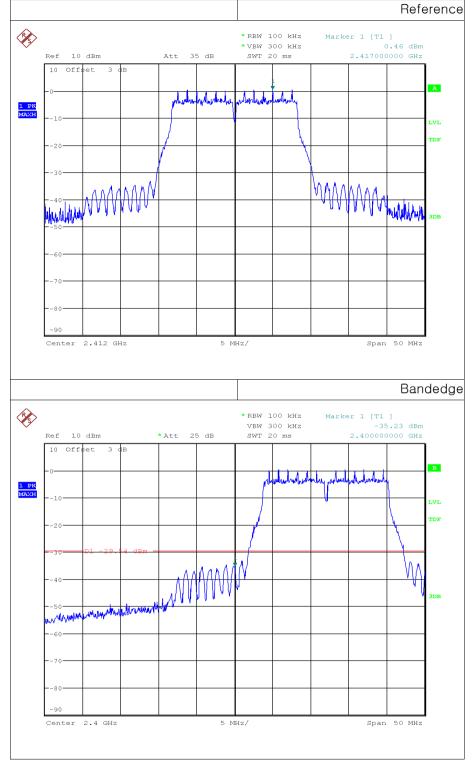
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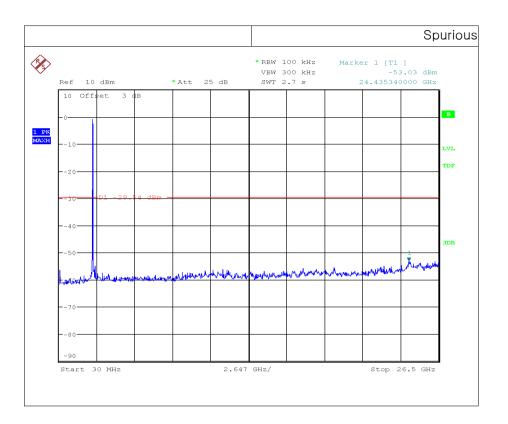


• 802.11g _ Low frequency



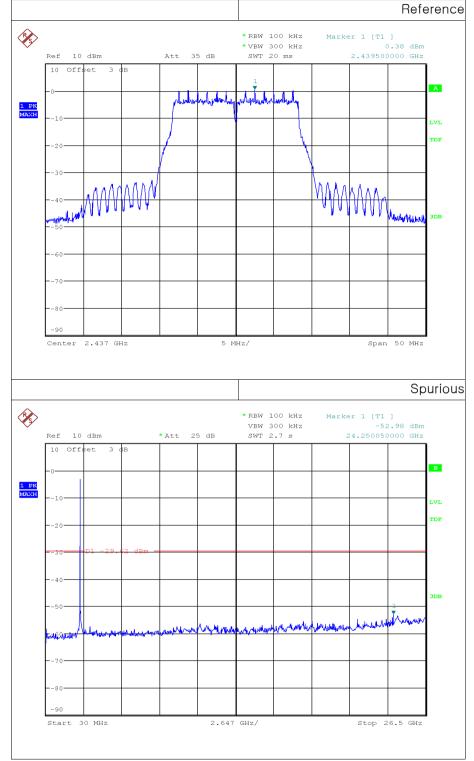
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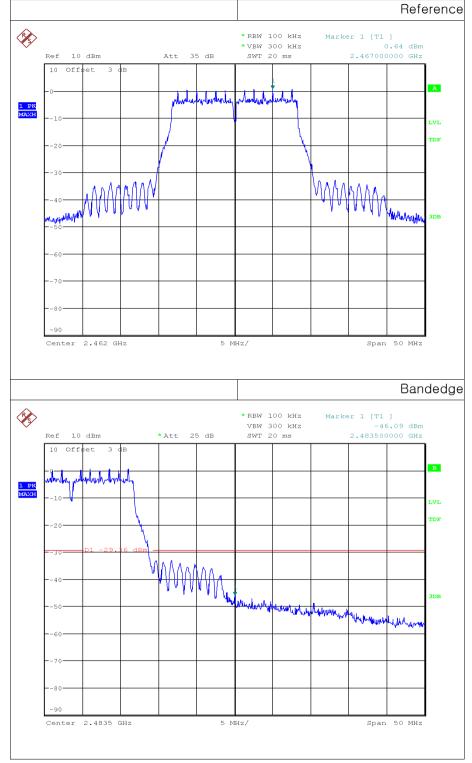
• 802.11g _ Middle frequency



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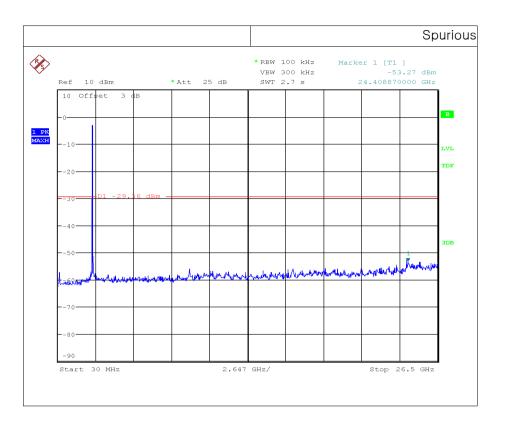


• 802.11g _ High frequency



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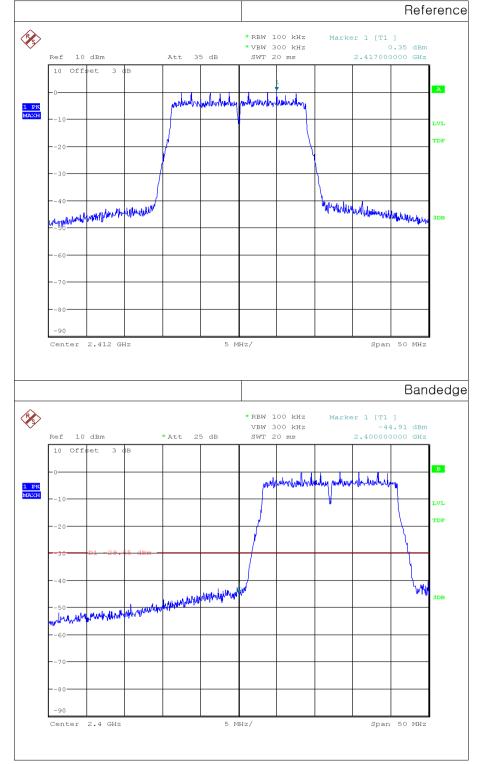




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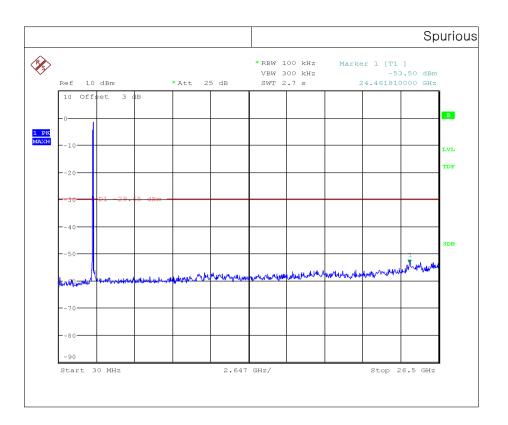


• 802.11n_HT20 _ Low frequency



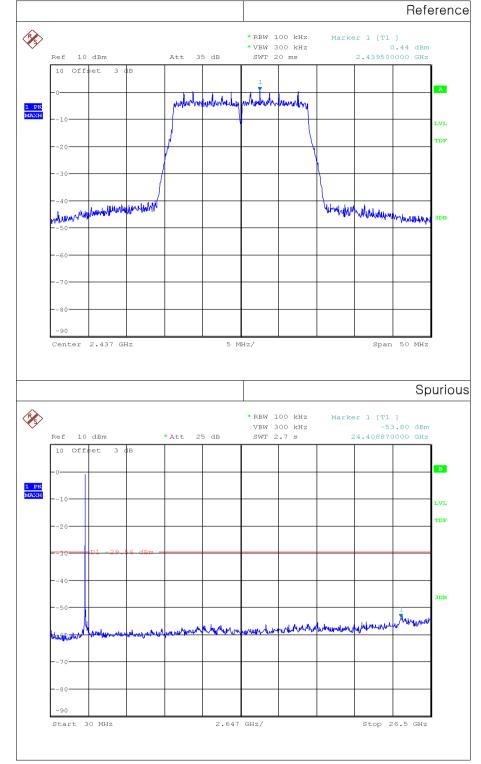
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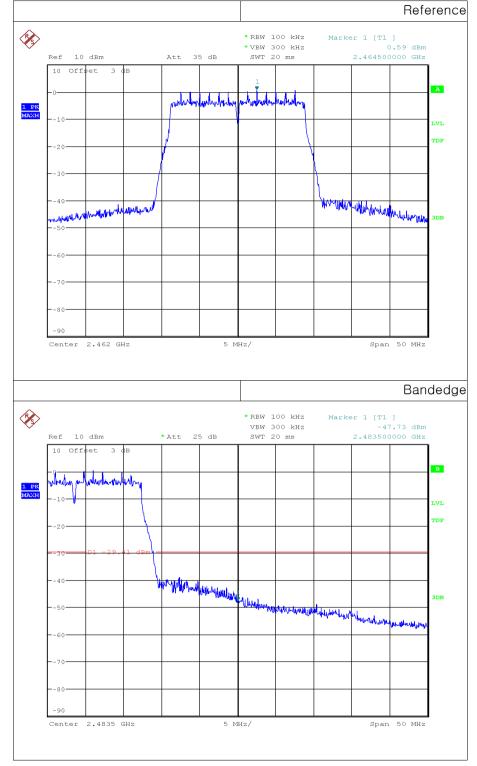
• 802.11n_HT20 _ Middle frequency



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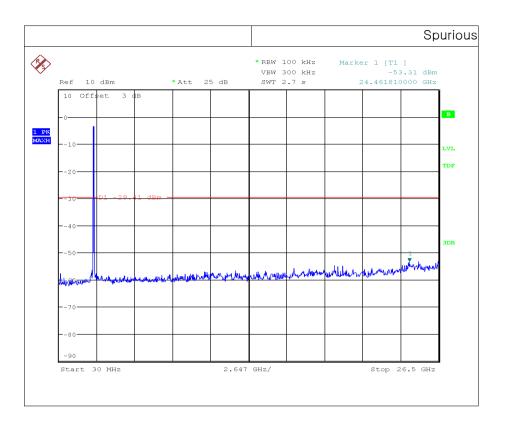


• 802.11n_HT20 _ High frequency



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10. Conducted Emission

10.1 Test Setup

See test photographs for the actual connections between EUT and support equipment.

10.2 Limit

According to §15.207(a) for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network (LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

	Conducted	Limit (dBuV)
Frequency Range (MHz)	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

10.3 Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10.

- The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
- 2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
- 3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
- 4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

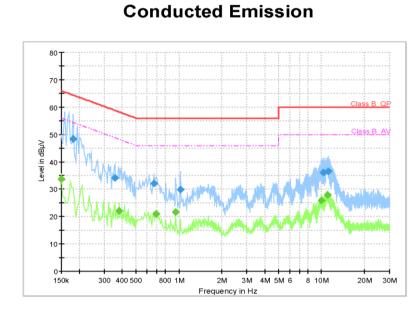
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10.4 Test Result

• AC Line Conducted Emission (Graph)



TSC-443P_2.4GHz WLAN_L1

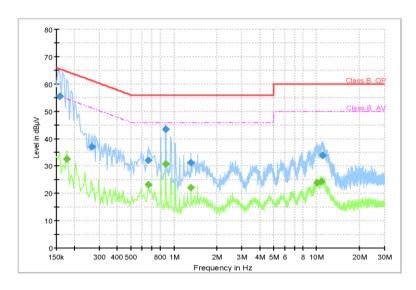
Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.150		33.60	56.00	22.40	9	L1	19.5
0.182	48.36		64.39	16.04	9	L1	19.8
0.358	34.14		58.78	24.64	9	L1	19.6
0.382		22.09	48.24	26.14	9	L1	19.6
0.670	32.18		56.00	23.82	9	L1	19.7
0.690		20.85	46.00	25.15	9	L1	19.7
0.950		21.68	46.00	24.32	9	L1	19.7
1.030	29.90		56.00	26.10	9	L1	19.7
9.950		25.83	50.00	24.17	9	L1	19.9
10.290	36.13		60.00	23.87	9	L1	19.9
11.010		27.95	50.00	22.05	9	L1	19.9
11.140	36.60		60.00	23.40	9	L1	19.9

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Conducted Emission

Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.158	55.48	(dbµt) 	65.57	10.09	9	N	19.7
0.178		32.60	54.58	21.98	9	N	19.9
0.266	36.95		61.24	24.30	9	N	19.6
0.660		23.12	46.00	22.88	9	N	19.8
0.660	32.15		56.00	23.85	9	N	19.8
0.880		30.64	46.00	15.36	9	N	19.8
0.880	43.39		56.00	12.61	9	N	19.8
1.320		22.10	46.00	23.90	9	N	19.7
1.320	31.13		56.00	24.87	9	N	19.7
10.050		23.80	50.00	26.20	9	N	20.0
10.750		24.34	50.00	25.66	9	N	20.0
10.990	33.90		60.00	26.10	9	N	20.0

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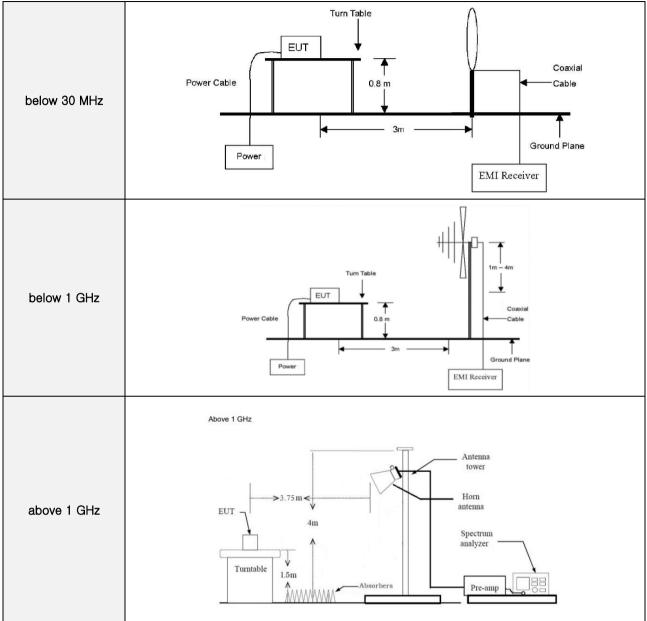
APPENDIX I

TEST SETUP

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Radiated Measurement



• Conducted Measurement

		_			
Conducted	EUT		Attenuator	Spectrum Analyzer	

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APPENDIX II

UNCERTAINTY

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Measurement Item	Expanded Uncertainty U = kUc (k=2)			
Conducted RF power	0.34 dB			
Conducted Spurious Emissions	0.34 dB			
Radiated Spurious Emissions	5.82 dB			
Conducted Emissions	2.00 dB			



APPENDIX III

DUTY CYCLE CORRECTION FACTOR

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Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure of KDB558074 D01v05r02

1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.

- 2. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value.
- 3. Set VBW \geq RBW. Set detector = peak.
- 4. Note : The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in section II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 №, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)
 - T: The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
 - (T = On time of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

Test Result

Test Mode	Data Rate	Test Channel		1aximum Achievabl Cycle (x) = On / (O	Duty Cycle Correction	50/T	
			On Time (ms)	(On+Off) Time (ms)	Duty Cycle (x)	Factor (dB)	(kHz)
802.11b	11 Mbps	6	0.937	1.011	0.927	0.33	53.36
802.11g	6 Mbps	6	1.370	1.462	0.937	0.28	36.49
802.11n _HT20	MCS 0	6	5.088	5.182	0.982	0.08	9.83

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