

**FCC 15.247**  
**(Class II Permissive Change)**  
**2.4 GHz Report**

**for**

**ASUSTek Computer Inc**

**4F, No.150, Li-Te Rd. Peitou, Taipei 112, Taiwan**

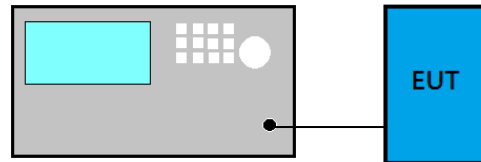
**Brand : ASUS**  
**Product Name : 300Mbps Wireless N Router**  
**Model Name : RT-N300**  
**FCC ID : MSQ-RT1901**

**Prepared by: : AUDIX Technology Corporation,  
EMC Department**



## 9. EMISSION LIMITATIONS MEASUREMENT

### 9.1. Block Diagram of Test Setup



### 9.2. Specification Limits

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, that the required attenuation shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a)/RSS-Gen Section 8.10 table 6, must also comply with the radiated emission limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 (See Section 15.205(c)).

### 9.3. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v03r05:

#### ■ Reference Level

- (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 to: 100 kHz.
- (4) Set the VBW  $\geq 3 \times$  RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max PSD as reference level.

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APPENDIX A TEST PHOTOGRAPHS  
APPENDIX B TEST PLOTS

## TEST REPORT CERTIFICATION (Class II Permissive Change)

Applicant : ASUSTek Computer Inc  
Manufacture : ASUSTek Computer Inc  
Product Name : 300Mbps Wireless N Router  
Model No. : RT-N300  
Serial No. : N/A  
Brand : ASUS

Applicable Standards:

FCC Rules and Regulations Part 15 Subpart C:2015  
ANSI C63.10:2013  
KDB 558074 D01 DTS Meas Guidance v03r05

**AUDIX Technology Corp.** tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report. **AUDIX Technology Corp.** does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Test: 2016. 05. 16 ~ 06. 14

Date of Report: 2016. 06. 21

Producer: Sabrina Wang  
(Sabrina Wang/Administrator)

Signatory: Ben Cheng  
(Ben Cheng/Manager)

## 1. REPORT HISTORY

Edition No.	Date of Rev.	Revision Summary	Report No.
0	2016. 05. 20	The difference with original FCC ID: MSQ-RT1901 is to reduce output power.	EM-F160316

## 2. SUMMARY OF TEST RESULTS

Rule	Description	Results
15.207	Conducted Emission	PASS
15.247(d)/15.205	Radiated Band Edge and Radiated Spurious Emission	PASS
15.247(a)(2)	6dB Bandwidth	PASS
15.247(b)(3)	Maximum Peak Output Power	PASS
15.247(d)	Conducted Band Edges and Conducted Spurious Emission	PASS
15.247 (e)	Peak Power Spectral Density	PASS
15.203	Antenna Requirement	PASS

### 3. GENERAL INFORMATION

#### 3.1. Description of EUT

Product	300Mbps Wireless N Router	
Model Number	RT-N300	
Serial Number	N/A	
Brand Name	ASUS	
Applicant	ASUSTek Computer Inc 4F, No.150, Li-Te Rd. Peitou, Taipei 112, Taiwan	
RF Features	802.11b/g/n	
Transmit Type	2.4 GHz	
	802.11b	2T2R
	802.11g	2T2R
	802.11n-HT20	2T2R
	802.11n-HT40	2T2R
Power Adapter (Wall-mount, 2C)	Gongjin; M/N: S06A12-120A050-P4 I/P: 100-240Vac, 50/60Hz. max. 0.3A O/P: 12.0Vdc, 0.5A	
DC Cable:	Unshielded, Detachable, 1.5m	
Antenna Type / Gain	Dipole Antenna, 3.52dBi (Directional gain is 6.63dBi)	
Date of Receipt of Sample	2016. 03. 31	
<b>Information for Class II Change Permissive:</b>	The difference with original FCC ID: MSQ-RT1901 is to reduce output power.	

### 3.2. EUT Specifications Assessed in Current Report

Mode	Fundamental Range (MHz)	Channel Number	Modulation	Data Rate (Mbps)
802.11b	2412-2462	11	DSSS (DBPSK/DQPSK/CCK)	Up to 11
802.11g		11	OFDM (BPSK/QPSK/16QAM/64QAM)	Up to 54
802.11n-HT20				MCS0~15
802.11n-HT40	2412-2452	7		

Channel List			
802.11 b/g/n-HT20		802.11n-HT40	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	2412		
2	2417		
3	2422	3	2422
4	2427	4	2427
5	2432	5	2432
6	2437	6	2437
7	2442	7	2442
8	2447	8	2447
9	2452	9	2452
10	2457		
11	2462		



### 3.3. Data Rate Relative to Output Power

802.11b							
Channel	Modulation		Date Rate (Mbps)	Power (dBm)			
1	DBPSK		1	<b>20.11</b>			
1	DQPSK		2	<b>20.05</b>			
1	CCK		5.5	<b>19.97</b>			
1	CCK		11	<b>19.86</b>			
802.11g							
Channel	Modulation		Date Rate (Mbps)	Power (dBm)			
1	BPSK		6	<b>18.50</b>			
1	BPSK		9	<b>18.46</b>			
1	QPSK		12	<b>18.40</b>			
1	QPSK		18	<b>18.34</b>			
1	16-QAM		24	<b>18.29</b>			
1	16-QAM		36	<b>18.21</b>			
1	64-QAM		48	<b>18.13</b>			
1	64-QAM		54	<b>18.07</b>			
802.11n-HT20				802.11n-HT40			
Channel	Modulation	Date Rate	Power (dBm)	Channel	Modulation	Date Rate	Power (dBm)
1	BPSK	MCS0	<b>16.38</b>	3	BPSK	MCS0	<b>15.69</b>
1	QPSK	MCS1	<b>16.34</b>	3	QPSK	MCS1	<b>15.61</b>
1	QPSK	MCS2	<b>16.29</b>	3	QPSK	MCS2	<b>15.53</b>
1	16-QAM	MCS3	<b>16.14</b>	3	16-QAM	MCS3	<b>15.47</b>
1	16-QAM	MCS4	<b>16.10</b>	3	16-QAM	MCS4	<b>15.4</b>
1	64-QAM	MCS5	<b>16.03</b>	3	64-QAM	MCS5	<b>15.34</b>
1	64-QAM	MCS6	<b>15.93</b>	3	64-QAM	MCS6	<b>15.26</b>
1	64-QAM	MCS7	<b>15.87</b>	3	64-QAM	MCS7	<b>15.19</b>
1	BPSK	MCS8	<b>16.53</b>	3	BPSK	MCS8	<b>15.97</b>
1	QPSK	MCS9	<b>16.48</b>	3	QPSK	MCS9	<b>15.92</b>
1	QPSK	MCS10	<b>16.42</b>	3	QPSK	MCS10	<b>15.88</b>
1	16-QAM	MCS11	<b>16.35</b>	3	16-QAM	MCS11	<b>15.81</b>
1	16-QAM	MCS12	<b>16.28</b>	3	16-QAM	MCS12	<b>15.74</b>
1	64-QAM	MCS13	<b>16.21</b>	3	64-QAM	MCS13	<b>15.70</b>
1	64-QAM	MCS14	<b>16.12</b>	3	64-QAM	MCS14	<b>15.61</b>
1	64-QAM	MCS15	<b>16.03</b>	3	64-QAM	MCS15	<b>15.56</b>

Note: Above results are assessed in average power.

### 3.4. Test Configuration

Mode	Duty Cycle (x)	T (ms)	Duty Cycle Factor (dB)
802.11b	1	N/A	N/A
802.11g	1	N/A	N/A
802.11n-HT20	1	N/A	N/A
802.11n-HT40	1	N/A	N/A

Note: When duty cycle is less than 98% (0.98) that duty cycle factor  $10\log(1/x)$  is needed to add in conducted test items measured in average detector.

AC Conduction	
Test Case	Normal operation

Item		Mode	Data Rate	Test Channel
Radiated Test Case	Radiated Band Edge <small>Note1</small>	802.11b	1Mbps	1/2/10/11
		802.11g	6Mbps	1/2/10/11
		802.11n-HT20	MCS8	1/2/10/11
		802.11n-HT40	MCS8	3/4/8/9
	Radiated Spurious Emission <small>Note1 &amp; 2</small>	802.11b	1 Mbps	1/6/11
		802.11g	6Mbps	1/6/11
		802.11n-HT20	MCS8	1/6/11
		802.11n-HT40	MCS8	3/6/9
Conducted Test Case <small>Note3</small>	6dB Bandwidth	802.11b	1Mbps	1/6/11
		802.11g	6Mbps	1/6/11
		802.11n-HT20	MCS8	1/6/11
		802.11n-HT40	MCS8	3/6/9
	Peak Power Spectral Density	802.11b	1Mbps	1/6/11
		802.11g	6Mbps	1/6/11
		802.11n-HT20	MCS8	1/6/11
		802.11n-HT40	MCS8	3/6/9
	Peak Output Power	802.11b	1Mbps	1/6/11
		802.11g	6Mbps	1/6/11
		802.11n-HT20	MCS8	1/6/11
		802.11n-HT40	MCS8	3/6/9
	Band Edge	802.11b	1Mbps	1/11
		802.11g	6Mbps	1/11
		802.11n-HT20	MCS8	1/11
		802.11n-HT40	MCS8	3/9
Spurious Emission	802.11b	1Mbps	1/6/11	
	802.11g	6Mbps	1/6/11	
	802.11n-HT20	MCS8	1/6/11	
	802.11n-HT40	MCS8	3/6/9	

Note 1:

Mobile Device

Portable Device, and 3 axis were assessed. The worst scenario for Radiated Spurious Emission as follow:

- Lie
- Side
- Stand

Note 2: Low, mid, and high channels were measured, only the worst channel of each modulation was presented in this report.

### 3.5. Tested Supporting System List

#### 3.5.1. Support Peripheral Unit

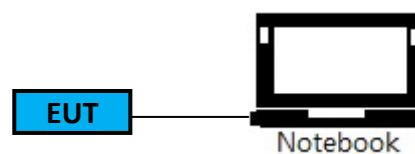
No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Notebook PC	acer	MS2362	P20G001	FCC ID: PPD-AR5B22

#### 3.5.2. Cable Lists

No.	Cable Description Of The Above Support Units
1.	LAN Cable: Unshielded, Detachable, 1.0m AC Adapter: Chicony, M/N: CPA09-A065N1 AC Power Cord: Unshielded, Detachable, 1.8m DC Power Cord: Unshielded, Undetachable, 1.8m

### 3.6. Setup Configuration

#### 3.6.1. EUT Configuration for Power Line & Radiated Emission



#### 3.6.2. EUT Configuration for Conducted Test Items



### 3.7. Operating Condition of EUT

Test program “MT7620QA” is used for enabling EUT WLAN function under continues transmitting and choosing data rate/ channel.

### 3.8. Description of Test Facility

Test Firm Name	:	<b>AUDIX Technology Corporation EMC Department</b> No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan
Test Location & Facility	:	<b>No. 7 Shielded Room &amp; Semi Anechoic Chamber &amp; Fully Anechoic Chamber</b> No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan
NVLAP Lab. Code	:	200077-0
TAF Accreditation No	:	1724
FCC OET Designation	:	TW1004 & TW1090

### 3.9. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	±3.50dB
Radiation Test (Distance: 3m)	30MHz~1000MHz	± 3.68dB
	Above 1GHz	± 5.82dB

Remark : Uncertainty =  $ku_c(y)$

Test Item	Uncertainty
6dB Bandwidth	± 0.05kHz
Maximum peak output power	± 0.33dB
Power spectral density	± 0.13dB
Conducted Emission Limitations	± 0.13dB

## 4. MEASUREMENT EQUIPMENT LIST

### 4.1. Conducted Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Test Receiver	R&S	ESCI	101276	2016. 03. 31	1 Year
2.	A.M.N.	R&S	ESH2-Z5	100366	2016. 03. 15	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-881-13	2016. 01 .17	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	101495	2016. 01 .17	1 Year
5.	Test Software	Audix	e3	V.6.120424	N.C.R.	N.C.R.

### 4.2. Radiated Emission Measurement

#### 4.2.1. Frequency Range 9kHz~1000MHz

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2015. 09. 14	1 Year
2.	Test Receiver	R & S	ESCS30	100338	2015. 06. 24	1 Year
3.	Amplifier	HP	8447D	2944A06305	2016. 02. 23	1 Year
4.	Bilog Antenna	CHASE	CBL6112D	33821	2016. 01. 30	1 Year
5.	Loop Antenna	R&S	HFH2-Z2	891847/27	2015. 12. 24	1 Year
6.	Test Software	Audix	e3	V.6.110601	N.C.R.	N.C.R.

#### 4.2.2. Frequency Range Above 1GHz

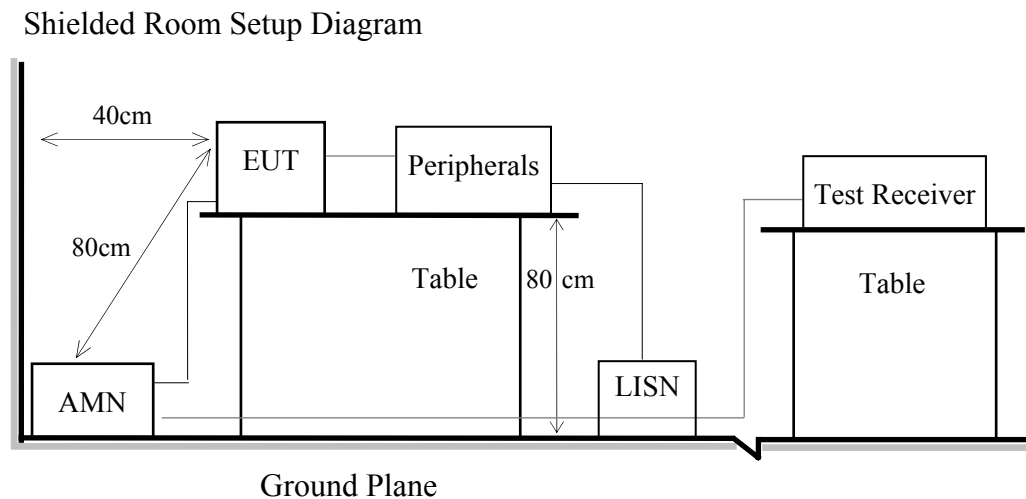
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	2015. 08. 20	1 Year
2.	Amplifier	Sonoma	310N	187161	2015. 06. 17	1 Year
3.	2.4GHz Notch Filter	K&L	7NSL10-244 1.5E130.5-00	1	2015. 07. 28	1 Year
4.	Horn Antenna	ETS-Lindgren	3117	00135902	2016. 03. 05	1 Year
5.	Loop Antenna	R&S	HFH2-Z2	891847/27	2015. 12. 24	1 Year
6.	Test Software	Audix	e3	V.6.110601	N.C.R.	N.C.R.

### 4.3. RF Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A-526	MY53310269	2015. 11. 28	1 Year
2.	Power Meter	Anritsu	ML2495A	1145008	2015. 10. 23	1 Year
3.	Power Sensor	Anritsu	MA2411B	1126096	2015. 10. 23	1 Year

## 5. CONDUCTED EMISSION MEASUREMENT

### 5.1. Block Diagram of Test Setup



### 5.2. Power Line Conducted Emission Limit

Frequency	Conducted Limit	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB $\mu$ V	56 ~ 46 dB $\mu$ V
500kHz ~ 5MHz	56 dB $\mu$ V	46 dB $\mu$ V
5MHz ~ 30MHz	60 dB $\mu$ V	50 dB $\mu$ V

Remark 1.: If the average limit is met when using a Quasi-Peak detector, the measurement using the average detector is not required.

2.: The lower limit applies to the band edges.

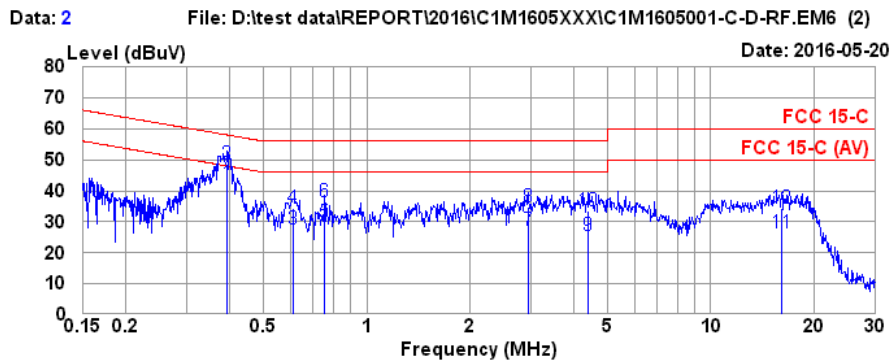
### 5.3. Test Procedure

- 5.3.1. To set up the EUT as indicated in ANSI C 63.10. The EUT was placed on the table which has 80 cm height to the ground and 40 cm distance to the conducting wall.
- 5.3.2. Power supplier of the EUT was connected to the AC mains through an Artificial Mains Network (A.M.N.).
- 5.3.3. The AC power supplies to all peripheral devices must be provided through line impedance stabilization network (L.I.S.N.)
- 5.3.4. Checking frequency range from 150 kHz to 30 MHz and record the emission which does not have 20 dB below limit.

### 5.4. Conducted Emission Measurement Results

PASSED.

Test Date	2015/05/20	Temp./Hum.	24°C/54%
Test Voltage	AC 120V, 60Hz		

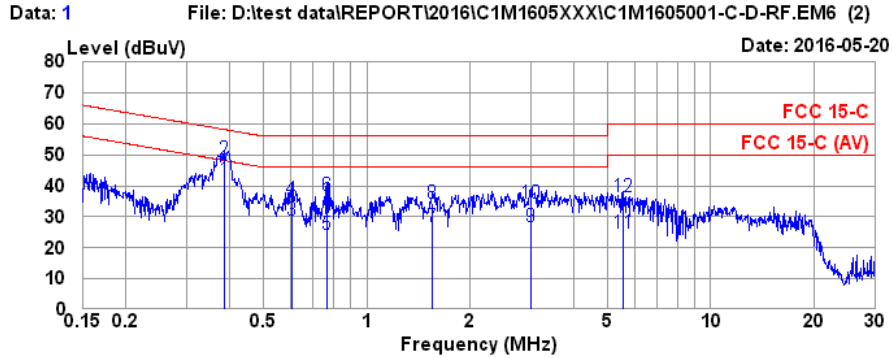


Site no. : No.7 Shielded Room Data no. : 2  
 Condition : ESH2-Z5 366 Phase : NEUTRAL  
 Limit : FCC 15-C  
 Env. / Ins. : 24°C / 54% ESCI (1276) Engineer : KEN-YANG  
 EUT : RT-N300  
 Power Rating : 120Vac/60Hz  
 Test Mode : OPERATING

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.393	0.13	0.03	9.85	32.41	42.42	47.99	5.57	Average
2	0.393	0.13	0.03	9.85	38.60	48.61	57.99	9.38	QP
3	0.614	0.14	0.04	9.87	17.63	27.68	46.00	18.32	Average
4	0.614	0.14	0.04	9.87	24.15	34.20	56.00	21.80	QP
5	0.755	0.15	0.04	9.88	19.85	29.92	46.00	16.08	Average
6	0.755	0.15	0.04	9.88	26.47	36.54	56.00	19.46	QP
7	2.946	0.23	0.07	9.92	16.85	27.07	46.00	18.93	Average
8	2.946	0.23	0.07	9.92	24.38	34.60	56.00	21.40	QP
9	4.407	0.28	0.09	9.87	15.24	25.48	46.00	20.52	Average
10	4.407	0.28	0.09	9.87	23.12	33.36	56.00	22.64	QP
11	16.055	0.66	0.18	9.91	15.75	26.50	50.00	23.50	Average
12	16.055	0.66	0.18	9.91	23.63	34.38	60.00	25.62	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

Test Date	2015/05/20	Temp./Hum.	24°C/54%
Test Voltage	AC 120V, 60Hz		



Site no. : No.7 Shielded Room Data no. : 1  
 Condition : ESH2-Z5 366 Phase : LINE  
 Limit : FCC 15-C  
 Env. / Ins. : 24°C / 54% ESCI (1276) Engineer : KEN-YANG  
 EUT : RT-N300  
 Power Rating : 120Vac/60Hz  
 Test Mode : OPERATING

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.385	0.12	0.03	9.85	31.80	41.80	48.17	6.37	Average
2	0.385	0.12	0.03	9.85	38.41	48.41	58.17	9.76	QP
3	0.608	0.13	0.04	9.87	19.01	29.05	46.00	16.95	Average
4	0.608	0.13	0.04	9.87	25.75	35.79	56.00	20.21	QP
5	0.767	0.14	0.04	9.88	14.37	24.43	46.00	21.57	Average
6	0.767	0.14	0.04	9.88	26.84	36.90	56.00	19.10	QP
7	1.552	0.17	0.06	9.94	16.66	26.83	46.00	19.17	Average
8	1.552	0.17	0.06	9.94	24.20	34.37	56.00	21.63	QP
9	3.009	0.22	0.08	9.91	16.74	26.95	46.00	19.05	Average
10	3.009	0.22	0.08	9.91	24.06	34.27	56.00	21.73	QP
11	5.564	0.28	0.11	9.87	14.49	24.75	50.00	25.25	Average
12	5.564	0.28	0.11	9.87	26.21	36.47	60.00	23.53	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.



## 6. RADIATED EMISSION MEASUREMENT

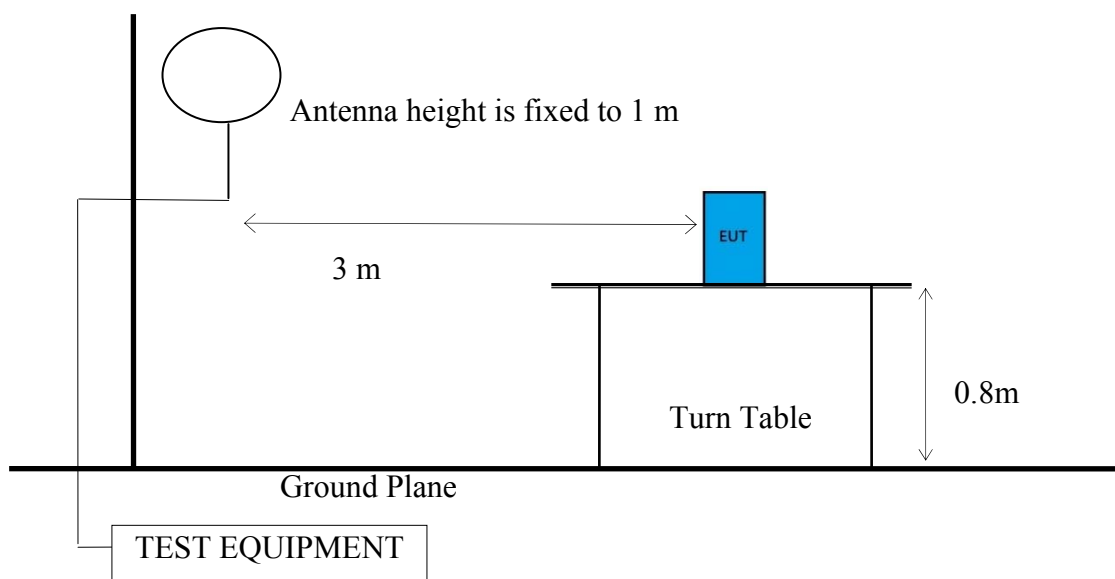
### 6.1. Block Diagram of Test Setup

#### 6.1.1. Block Diagram of connection between EUT and simulators

Indicated as section 3.7

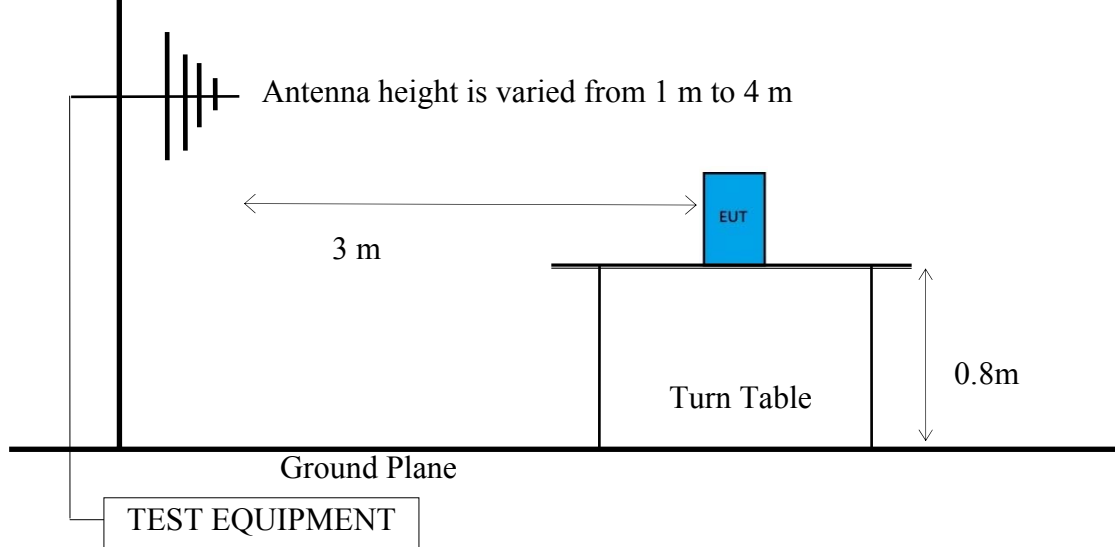
#### 6.1.2. Semi Anechoic Chamber (3m) Setup Diagram for 9kHz-30MHz

Antenna Tower

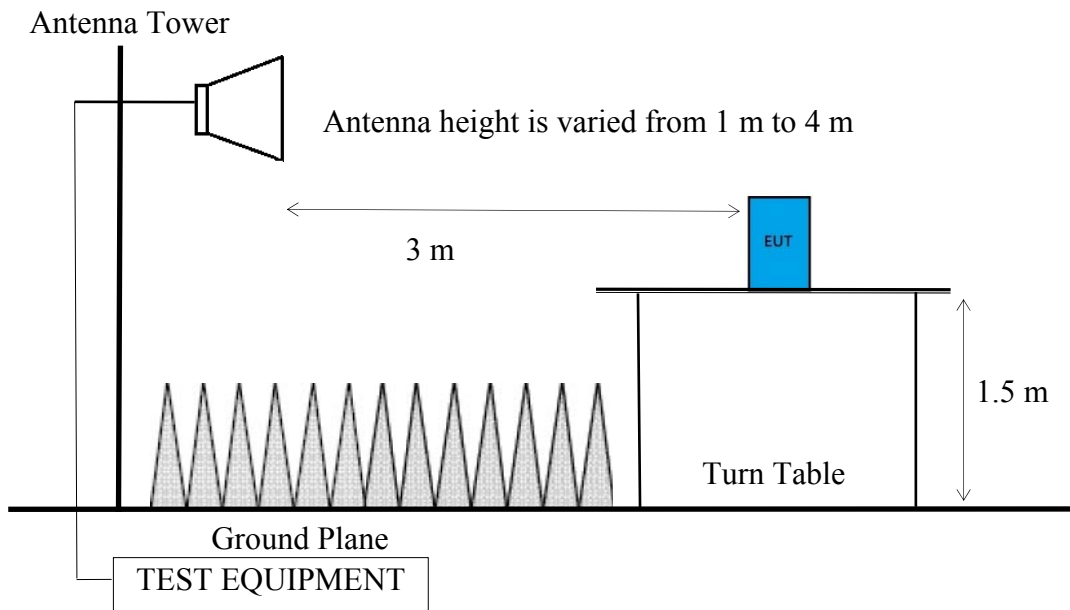


#### 6.1.3. Semi Anechoic Chamber (3m) Setup Diagram for 30-1000 MHz

Antenna Tower



### 6.1.4. Fully Anechoic Chamber (3m) Setup Diagram for above 1GHz



## 6.2. Radiated Emission Limits

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205/RSS-Gen Section 8.10 table 6, must also comply with the radiated emission limits specified as below.

Frequency (MHz)	Distance (m)	Limits	
		dB $\mu$ V/m	$\mu$ V/m
0.009 - 0.490	300	67.6	2400/kHz
0.490 - 1.705	30	87.6	24000/kHz
1.705 - 30	30	29.5	30
30 - 88	3	40.0	100
88- 216	3	43.5	150
216- 960	3	46.0	200
Above 960	3	54.0	500
Above 1000	3	74.0 dB $\mu$ V/m (Peak) 54.0 dB $\mu$ V/m (Average)	

Remark : (1) dB $\mu$ V/m = 20 log ( $\mu$ V/m)

- (2) The tighter limit applies to the edge between two frequency bands.
- (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- (4) Fundamental and emission fall within operation band are exempted from this section.
- (5) Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

### 6.3. Test Procedure

#### Frequency Range 9kHz~30MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

- (1) RBW = 9kHz with peak and average detector.
- (2) Detector: average and peak (9kHz-490kHz)

Q.P. (490kHz-30MHz)

#### Frequency Range 30MHz ~ 40GHz:

The EUT setup on the turn find table which has 80 cm (for 30-1000 MHz) and 1.5m (for above 1GHz) height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

#### Frequency below 1 GHz:

Spectrum Analyzer is used for pre-testing with following setting:

- (1) RBW = 120KHz
- (2) VBW  $\geq$  3 x RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.
- (7) When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required. Otherwise using Q.P. for finally measurement.

Frequency above 1GHz to 10th harmonic:

#### Peak Detector:

- (1) RBW = 120KHz
- (2) VBW  $\geq$  3 x RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.
- (7) When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required. Otherwise using Q.P. for finally measurement.

**Average Detector:****■Option 1:**

- (1) RBW = 120KHz
- (2) VBW  $\geq$  1/ T.

Modulation Type	T (ms)	1/ T (Hz)	VBW Setting
802.11b	N/A	N/A	10 Hz
802.11g	N/A	N/A	10 Hz
802.11n-HT20	N/A	N/A	10 Hz
802.11n-HT40	N/A	N/A	10 Hz

N/A: 1/ T is not implemented when duty cycle presented in section 3.5 is  $\geq$ 98 %.

- (1) Detector = Peak.
- (2) Sweep time = auto.
- (3) Trace mode = max hold.
- (4) Allow sweeps to continue until the trace stabilizes.

**□Option 2:**

Average Emission Level= Peak Emission Level+ D.C.C.F.

**6.4. Measurement Result Explanation**

- Peak Emission Level=Antenna Factor + Cable Loss + Meter Reading
- Average Emission Level=Antenna Factor + Cable Loss + Meter Reading
- Average Emission Level= Peak Emission Level+ DCCF  
 Duty Cycle Correction Factor (DCCF)=  $20\log(TX_{on}/TX_{on+off})$  presented in section 3.5
- EPR= Peak Emission Level-95.2dB-2.14dB

**6.5. Test Results**

**PASSED.**

Test Date	2016/05/19	Temp./Hum.	23°C/53%
Test Voltage	AC 120V, 60Hz		

**6.5.1. Emissions within Restricted Frequency Bands****6.5.1.1. Frequency 9kHz~30MHz**

**The emissions (9kHz~30MHz) not reported for there is no emission be found.**

## 6.5.1.2. Frequency 30MHz~1000MHz

Mode	802.11b	Frequency	TX 2412MHz
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**Antenna at Horizontal Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
208.48	9.86	4.05	25.02	38.93	43.50	4.57	Peak
399.57	15.53	5.65	16.27	37.45	46.00	8.55	Peak
801.15	20.04	7.17	8.39	35.60	46.00	10.40	Peak

**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
399.57	15.53	5.65	17.39	38.57	46.00	7.43	Peak
637.22	18.48	6.59	10.94	36.01	46.00	9.99	Peak

Mode	802.11g	Frequency	TX 2412MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
288.02	12.96	4.58	24.88	42.42	46.00	3.58	Peak
397.63	15.50	5.64	16.34	37.48	46.00	8.52	Peak
801.15	20.04	7.17	8.28	35.49	46.00	10.51	Peak

#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
398.60	15.53	5.65	18.01	39.19	46.00	6.81	Peak
807.94	20.07	7.19	8.67	35.93	46.00	10.07	Peak

Mode	802.11n-HT20	Frequency	TX 2437MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
208.48	9.86	4.05	25.43	39.34	43.50	4.16	Peak
418.00	15.82	5.81	16.24	37.87	46.00	8.13	Peak
810.85	20.09	7.20	9.28	36.57	46.00	9.43	Peak

#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
399.57	15.53	5.65	17.73	38.91	46.00	7.09	Peak
797.27	19.99	7.15	8.25	35.39	46.00	10.61	Peak

Mode	802.11n-HT40	Frequency	TX 2437MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
208.48	9.86	4.05	24.74	38.65	43.50	4.85	Peak
521.79	17.27	6.45	13.24	36.96	46.00	9.04	Peak
810.85	20.09	7.20	8.84	36.13	46.00	9.87	Peak

#### Antenna at Vertical Polarization

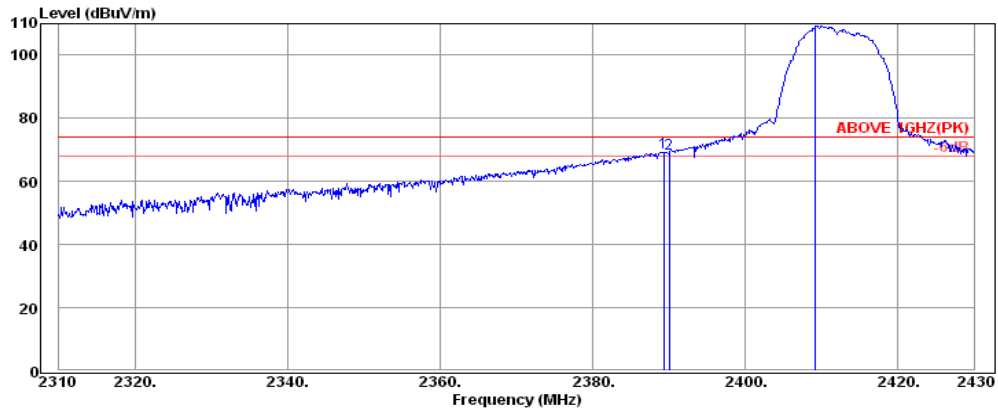
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
398.60	15.53	5.65	16.63	37.81	46.00	8.19	Peak
798.24	20.02	7.16	8.60	35.78	46.00	10.22	Peak



6.5.2. Frequency Above 1 GHz to 10<sup>th</sup> harmonics

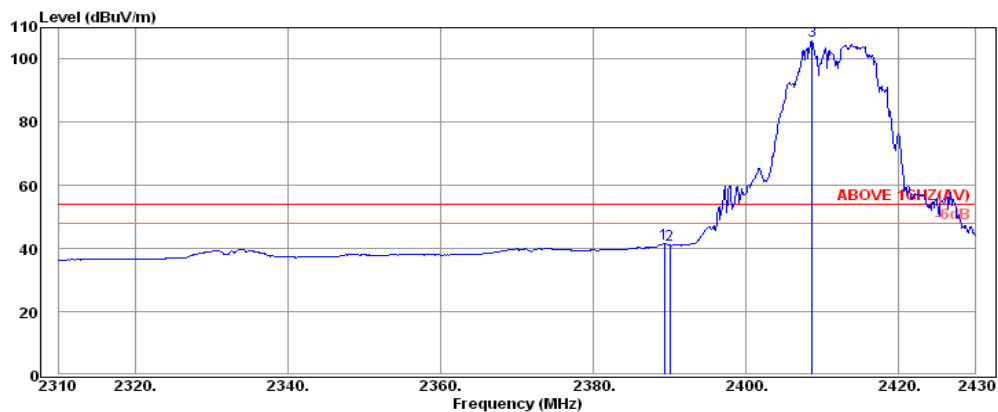
**Band Edge:**

Mode	802.11b	Frequency	TX 2412MHz
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**Antenna at Horizontal Polarization**

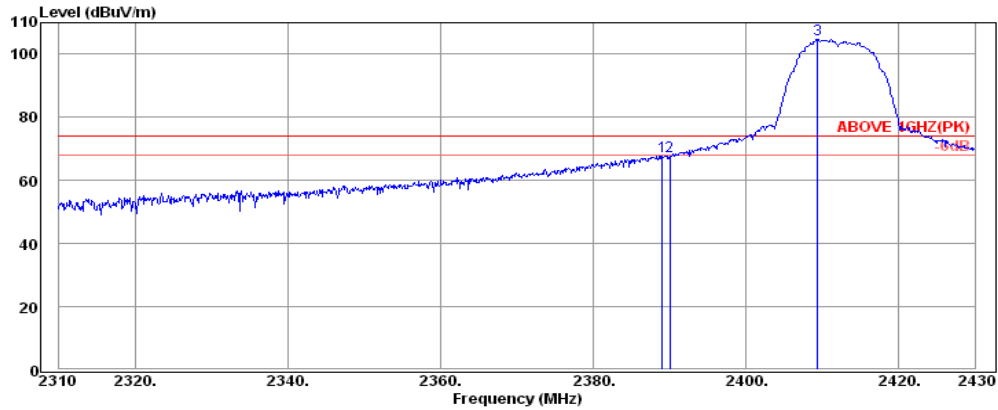
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.32	32.16	5.72	31.45	69.33	74.00	4.67	Peak
2390.04	32.16	5.72	30.91	68.79	74.00	5.21	Peak
2409.24	32.18	5.74	71.33	109.25	---	---	Peak



**Antenna at Horizontal Polarization**

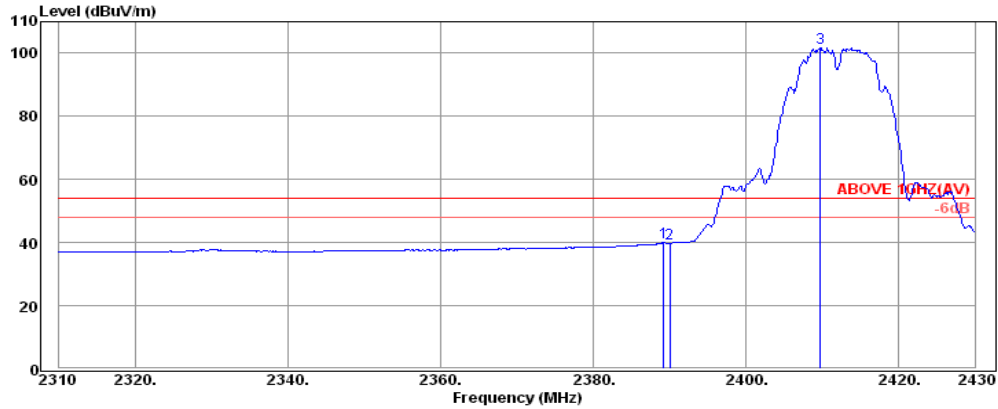
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.32	32.16	5.72	3.78	41.66	54.00	12.34	Average
2390.04	32.16	5.72	3.16	41.04	54.00	12.96	Average
2408.64	32.18	5.74	67.98	105.90	---	---	Average

Mode	802.11b	Frequency	TX 2412MHz
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**Antenna at Vertical Polarization**

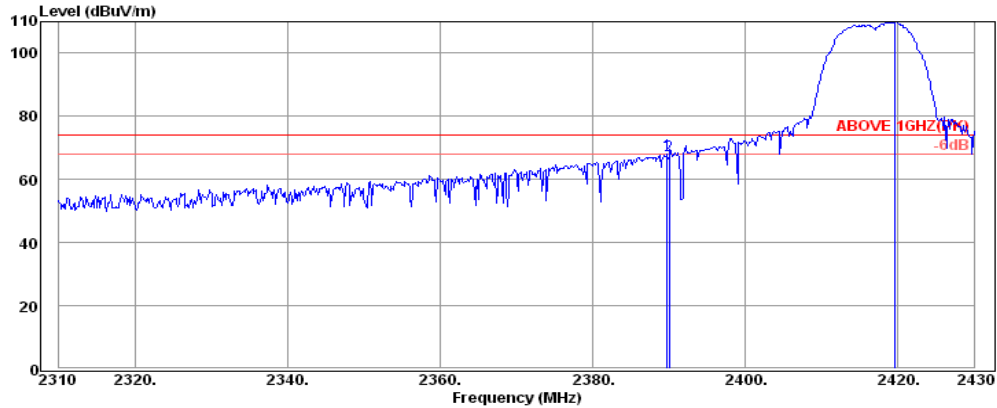
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.08	32.16	5.72	29.87	67.75	74.00	6.25	Peak
2390.04	32.16	5.72	29.90	67.78	74.00	6.22	Peak
2409.36	32.18	5.74	66.72	104.64	---	---	Peak



**Antenna at Vertical Polarization**

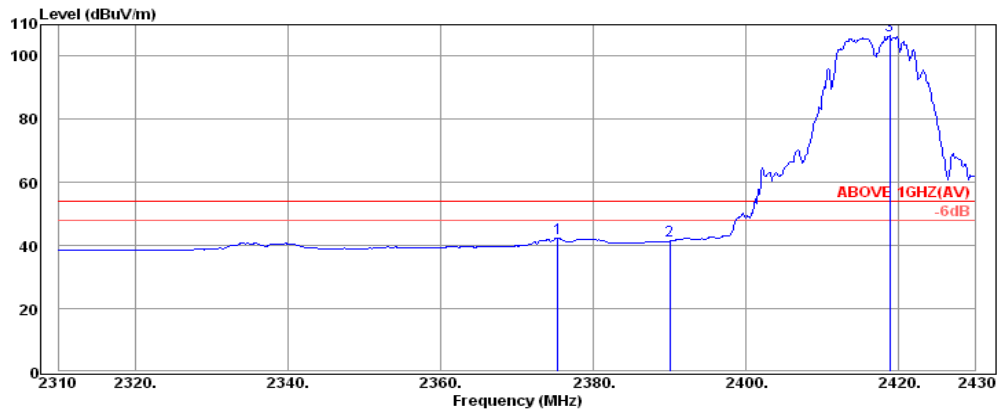
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.20	32.16	5.72	2.25	40.13	54.00	13.87	Average
2390.04	32.16	5.72	1.86	39.74	54.00	14.26	Average
2409.72	32.18	5.74	63.93	101.85	---	---	Average

Mode	802.11b	Frequency	TX 2417MHz
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**Antenna at Horizontal Polarization**

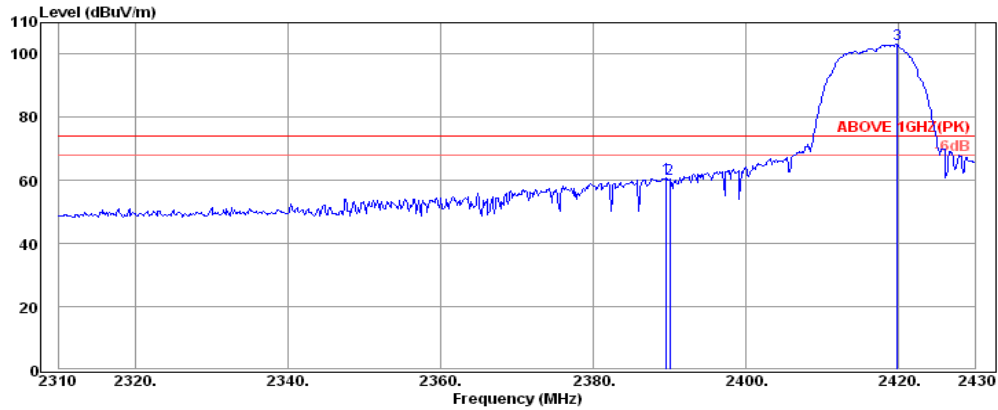
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.80	32.16	6.08	29.81	68.05	74.00	5.95	Peak
2390.04	32.16	6.08	29.44	67.68	74.00	6.32	Peak
2419.56	32.20	6.12	71.96	110.28	---	---	Peak



**Antenna at Horizontal Polarization**

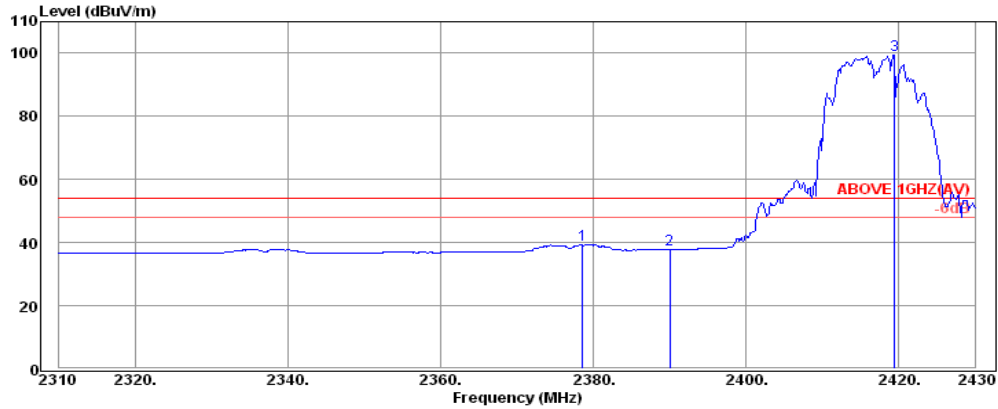
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2375.40	32.13	6.06	4.18	42.37	54.00	11.63	Average
2390.04	32.16	6.08	3.16	41.40	54.00	12.60	Average
2418.84	32.18	6.12	68.33	106.63	---	---	Average

Mode	802.11b	Frequency	TX 2417MHz
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**Antenna at Vertical Polarization**

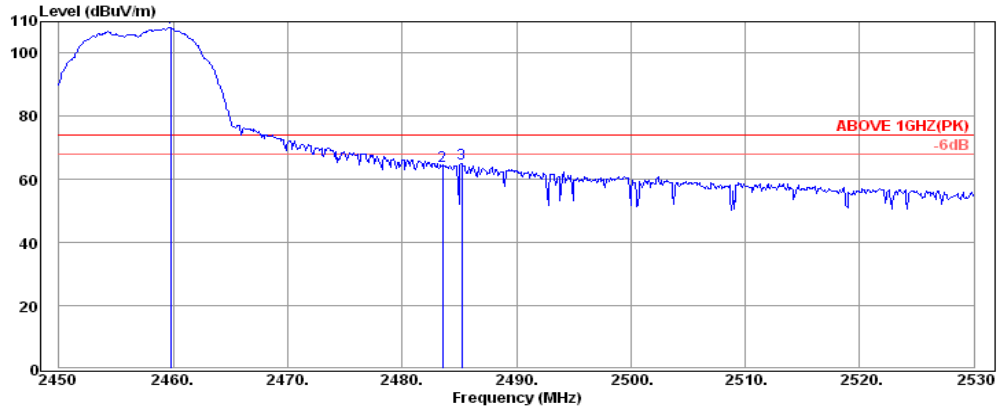
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.56	32.16	6.08	22.54	60.78	74.00	13.22	Peak
2390.04	32.16	6.08	22.11	60.35	74.00	13.65	Peak
2419.80	32.20	6.12	64.83	103.15	---	---	Peak



**Antenna at Vertical Polarization**

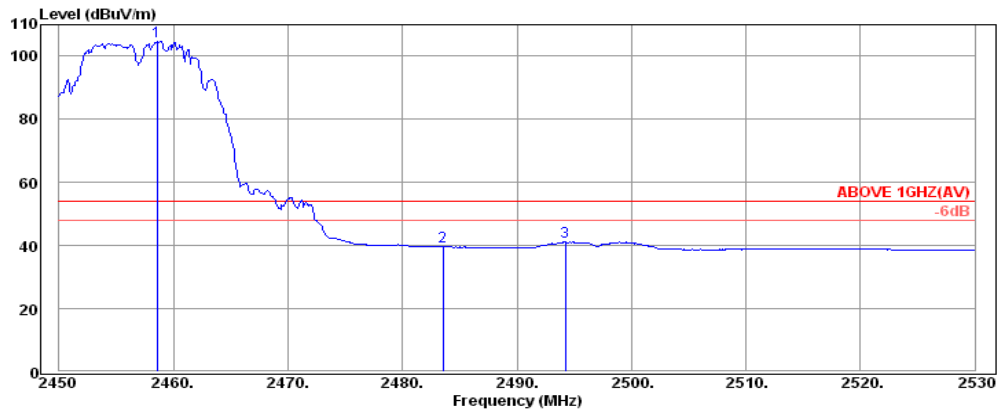
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2378.64	32.13	6.06	1.20	39.39	54.00	14.61	Average
2390.04	32.16	6.08	-0.56	37.68	54.00	16.32	Average
2419.44	32.18	6.12	61.15	99.45	---	---	Average

Mode	802.11b	Frequency	TX 2457MHz
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**Antenna at Horizontal Polarization**

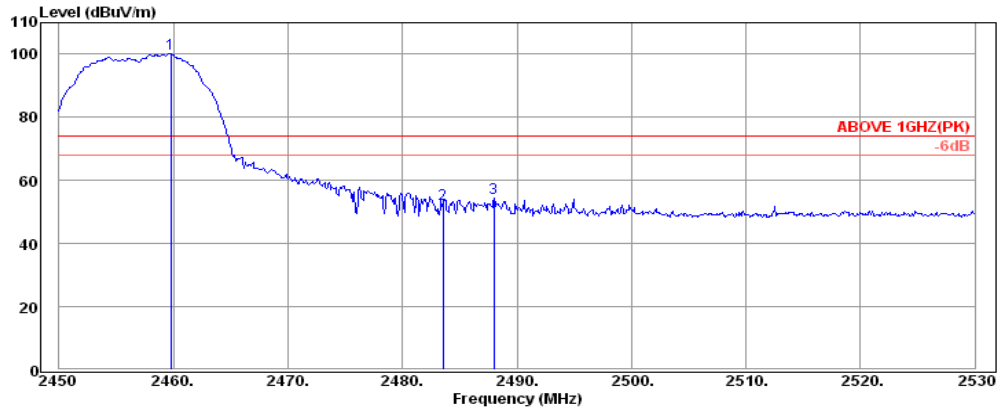
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	69.77	108.18	---	---	Peak
2483.52	32.28	6.19	25.93	64.40	74.00	9.60	Peak
2485.20	32.28	6.19	26.63	65.10	74.00	8.90	Peak



**Antenna at Horizontal Polarization**

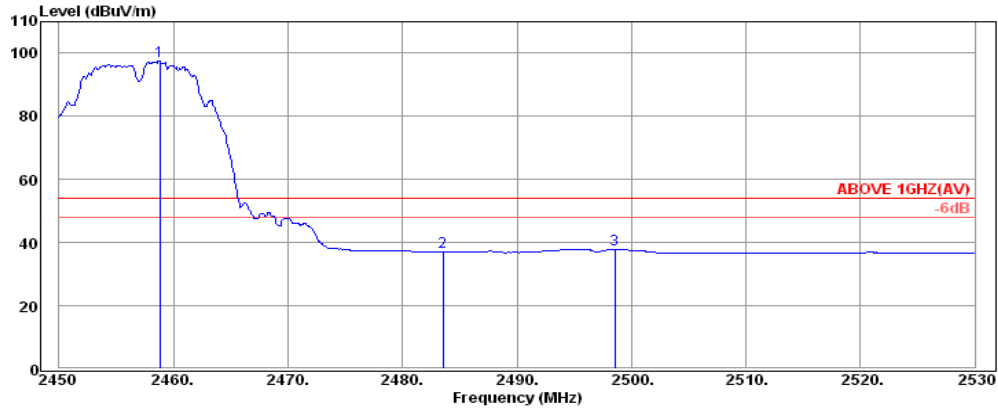
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.56	32.25	6.15	66.44	104.84	---	---	Average
2483.52	32.28	6.19	1.13	39.60	54.00	14.40	Average
2494.24	32.30	6.20	2.65	41.15	54.00	12.85	Average

Mode	802.11b	Frequency	TX 2457MHz
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**Antenna at Vertical Polarization**

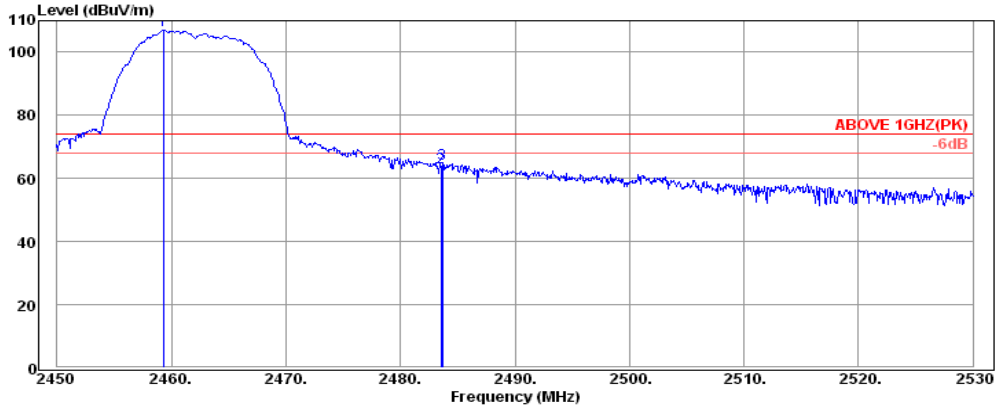
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	61.81	100.22	---	---	Peak
2483.52	32.28	6.19	14.25	52.72	74.00	21.28	Peak
2488.00	32.30	6.19	15.76	54.25	74.00	19.75	Peak



**Antenna at Vertical Polarization**

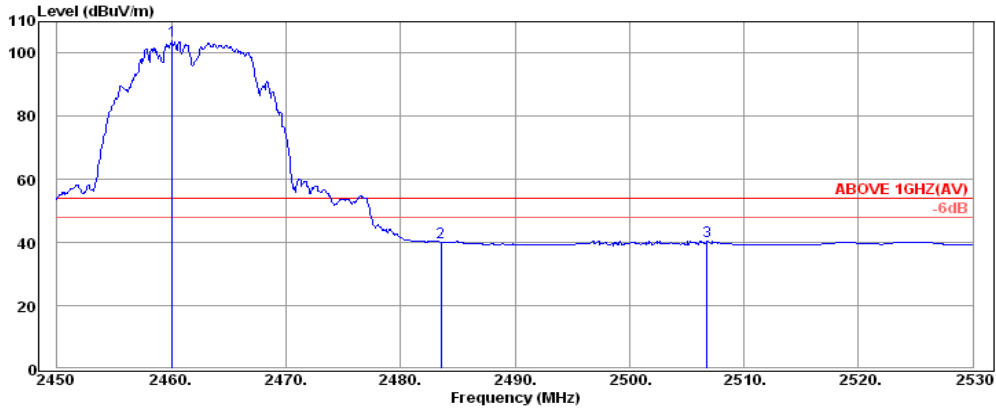
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.80	32.25	6.16	59.28	97.69	---	---	Average
2483.52	32.28	6.19	-1.45	37.02	54.00	16.98	Average
2498.56	32.30	6.20	-0.78	37.72	54.00	16.28	Average

Mode	802.11b	Frequency	TX 2462MHz
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**Antenna at Horizontal Polarization**

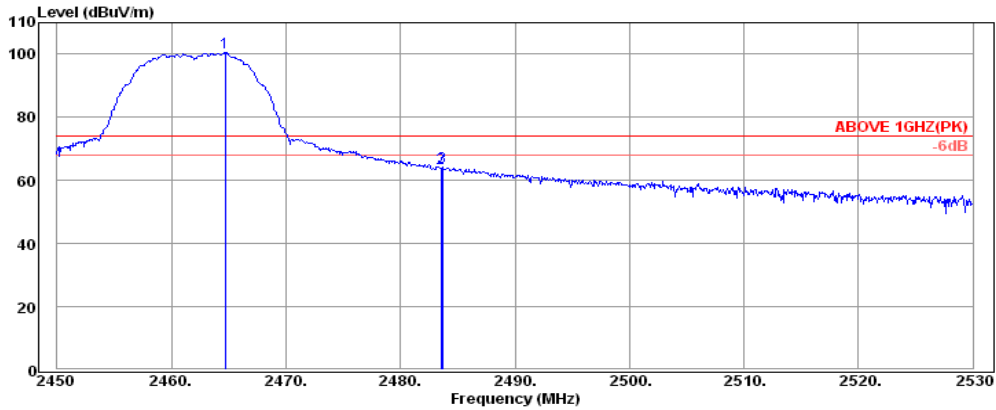
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.28	32.25	5.80	68.89	106.94	---	---	Peak
2483.52	32.28	5.82	25.37	63.47	74.00	10.53	Peak
2483.68	32.28	5.82	26.49	64.59	74.00	9.41	Peak



**Antenna at Horizontal Polarization**

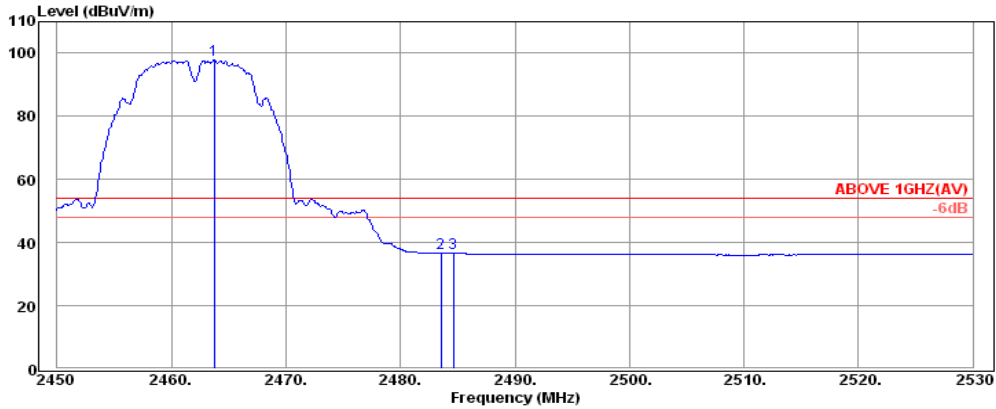
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2460.08	32.25	5.80	65.88	103.93	---	---	Average
2483.52	32.28	5.82	2.02	40.12	54.00	13.88	Average
2506.80	32.32	5.87	2.38	40.57	54.00	13.43	Average

Mode	802.11b	Frequency	TX 2462MHz
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**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2464.72	32.25	5.80	62.42	100.47	---	---	Peak
2483.52	32.28	5.82	25.96	64.06	74.00	9.94	Peak
2483.68	32.28	5.82	26.07	64.17	74.00	9.83	Peak

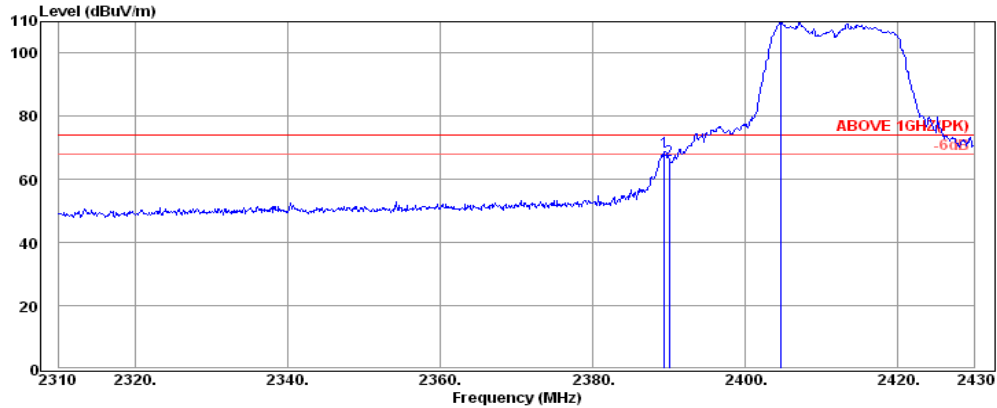


**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2463.76	32.25	5.80	59.87	97.92	---	---	Average
2483.52	32.28	5.82	-1.52	36.58	54.00	17.42	Average
2484.64	32.28	5.82	-1.41	36.69	54.00	17.31	Average

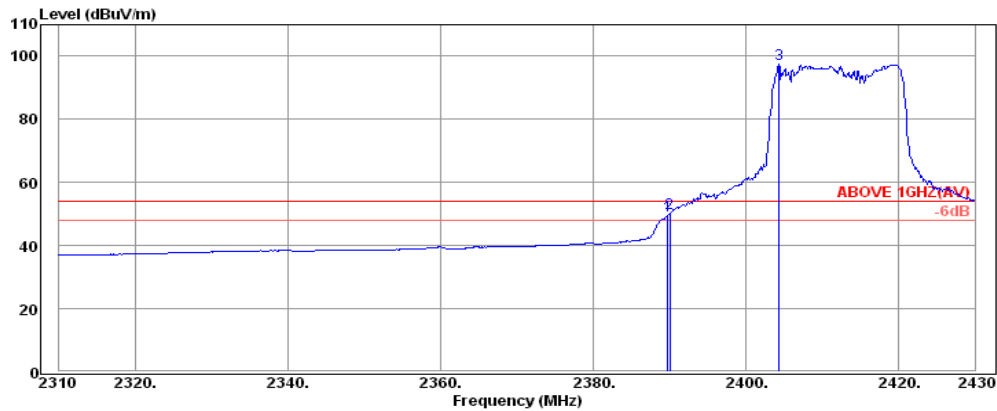


Mode	802.11g	Frequency	TX 2412MHz
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**Antenna at Horizontal Polarization**

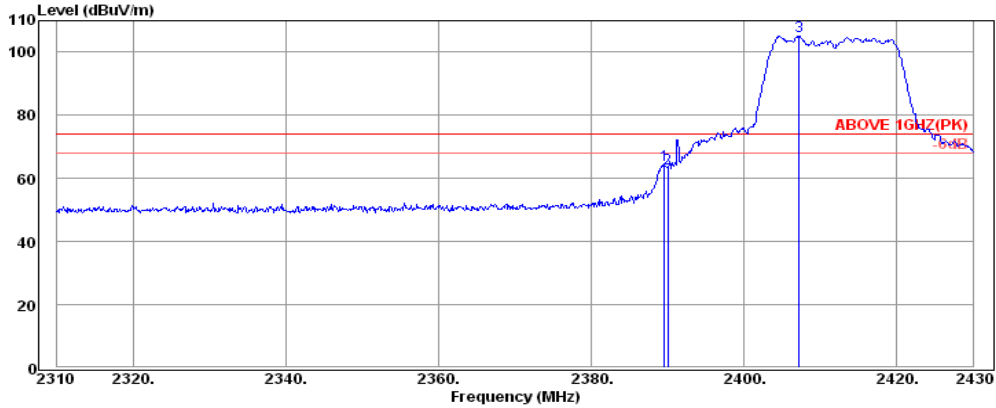
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.44	32.16	5.72	30.99	68.87	74.00	5.13	Peak
2390.04	32.16	5.72	28.24	66.12	74.00	7.88	Peak
2404.68	32.18	5.74	71.65	109.57	---	---	Peak



**Antenna at Horizontal Polarization**

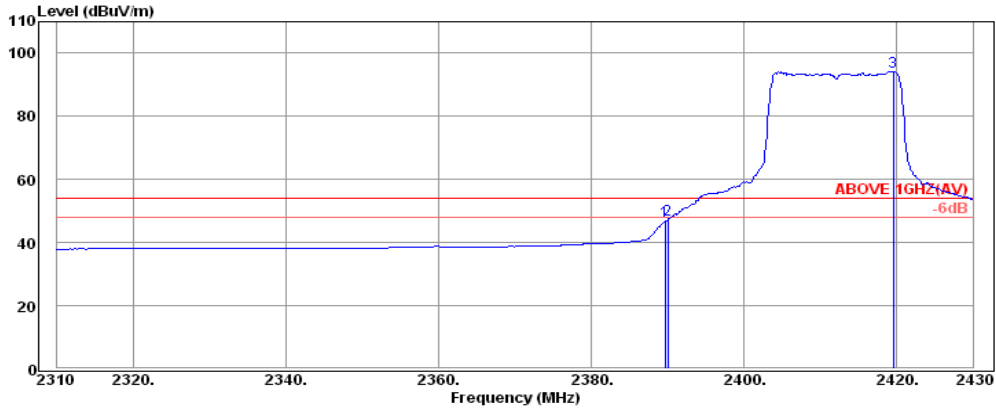
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.80	32.16	5.72	11.77	49.65	54.00	4.35	Average
2390.04	32.16	5.72	12.33	50.21	54.00	3.79	Average
2404.32	32.18	5.74	59.56	97.48	---	---	Average

Mode	802.11g	Frequency	TX 2412MHz
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**Antenna at Vertical Polarization**

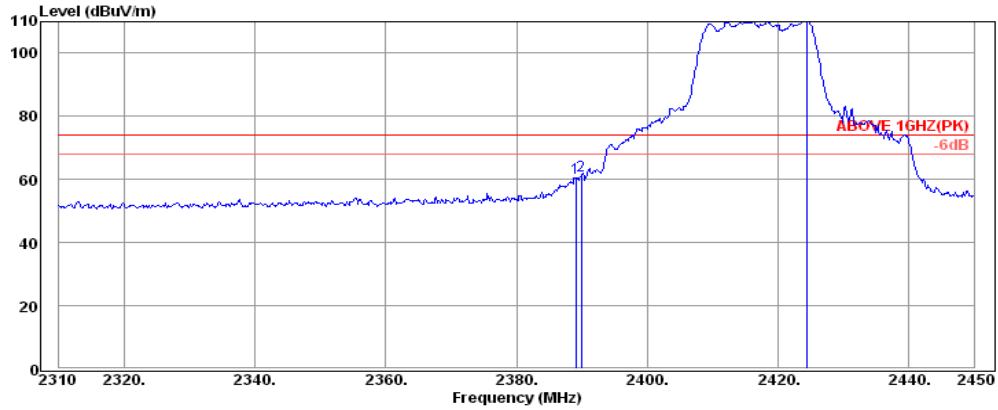
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.56	32.16	5.72	26.54	64.42	74.00	9.58	Peak
2390.04	32.16	5.72	25.27	63.15	74.00	10.85	Peak
2407.20	32.18	5.74	67.16	105.08	---	---	Peak



**Antenna at Vertical Polarization**

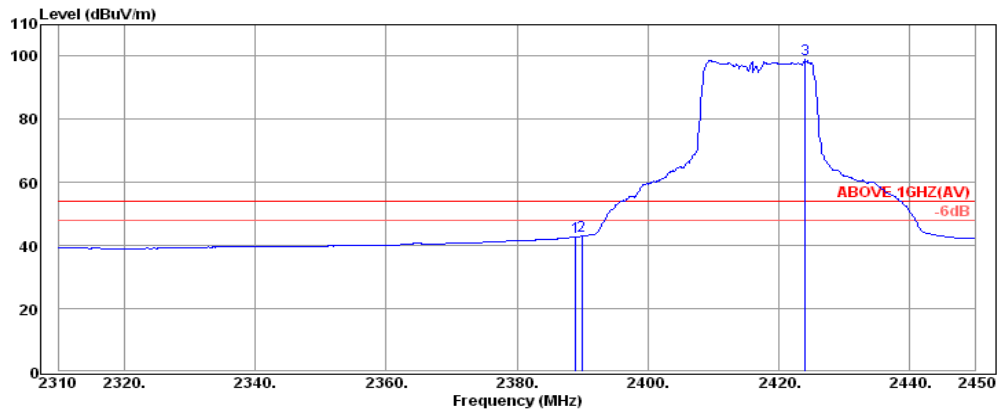
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.68	32.16	5.72	8.82	46.70	54.00	7.30	Average
2390.04	32.16	5.72	9.35	47.23	54.00	6.77	Average
2419.56	32.20	5.76	56.13	94.09	---	---	Average

Mode	802.11g	Frequency	TX 2417MHz
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**Antenna at Horizontal Polarization**

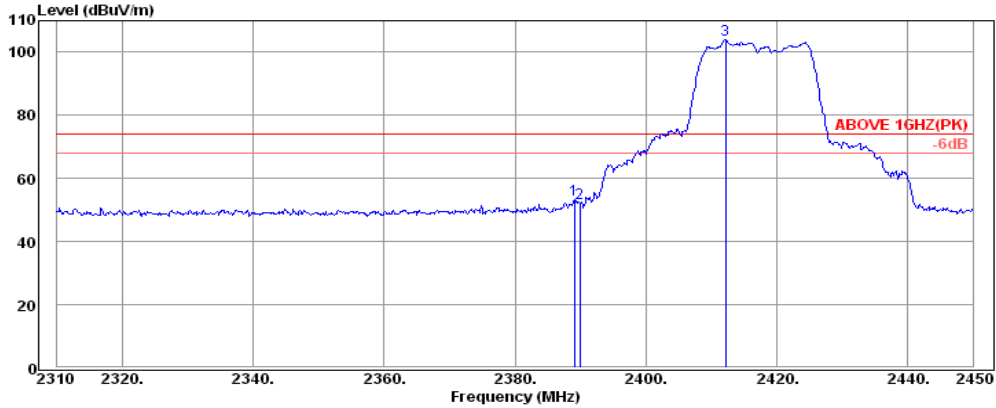
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.10	32.16	6.08	22.11	60.35	74.00	13.65	Peak
2389.94	32.16	6.08	23.05	61.29	74.00	12.71	Peak
2424.38	32.20	6.12	72.28	110.60	---	---	Peak



**Antenna at Horizontal Polarization**

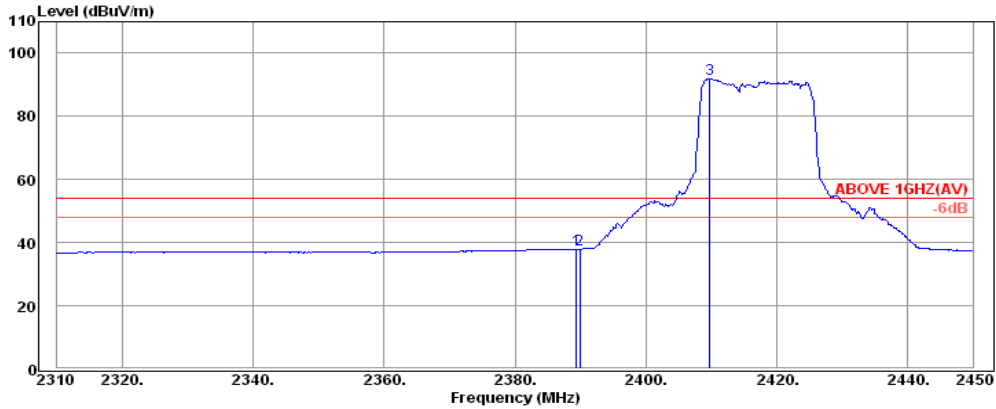
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2388.96	32.16	6.08	4.50	42.74	54.00	11.26	Average
2389.94	32.16	6.08	4.75	42.99	54.00	11.01	Average
2424.10	32.20	6.12	60.75	99.07	---	---	Average

Mode	802.11g	Frequency	TX 2417MHz
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**Antenna at Vertical Polarization**

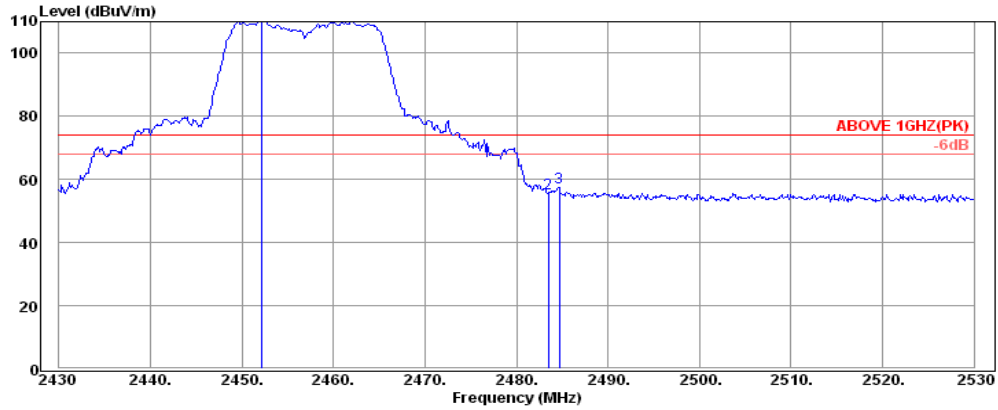
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.10	32.16	6.08	14.95	53.19	74.00	20.81	Peak
2389.94	32.16	6.08	13.86	52.10	74.00	21.90	Peak
2412.20	32.18	6.11	65.75	104.04	---	---	Peak



**Antenna at Vertical Polarization**

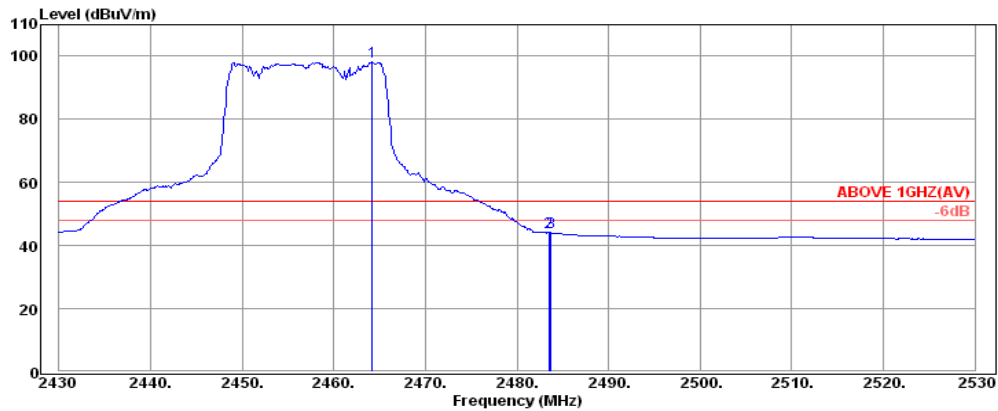
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.38	32.16	6.08	-0.33	37.91	54.00	16.09	Average
2389.94	32.16	6.08	-0.27	37.97	54.00	16.03	Average
2409.82	32.18	6.10	53.48	91.76	---	---	Average

Mode	802.11g	Frequency	TX 2457MHz
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**Antenna at Horizontal Polarization**

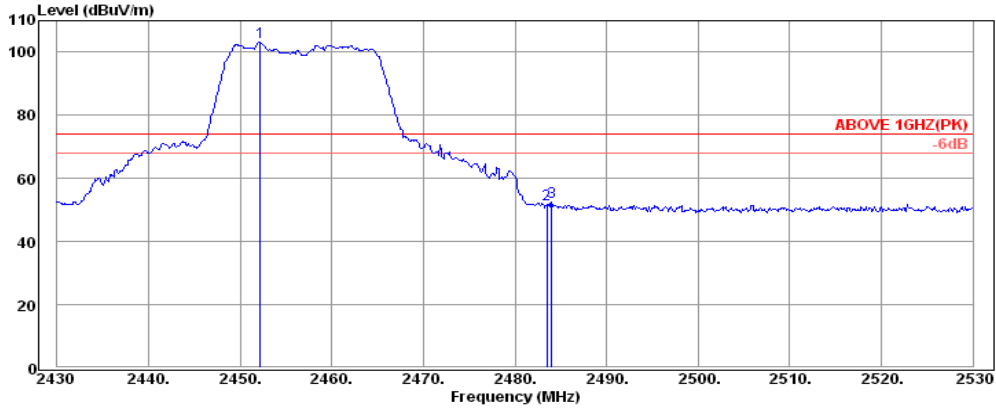
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2452.20	32.23	6.15	72.44	110.82	---	---	Peak
2483.50	32.28	6.19	17.02	55.49	74.00	18.51	Peak
2484.70	32.28	6.19	19.11	57.58	74.00	16.42	Peak



**Antenna at Horizontal Polarization**

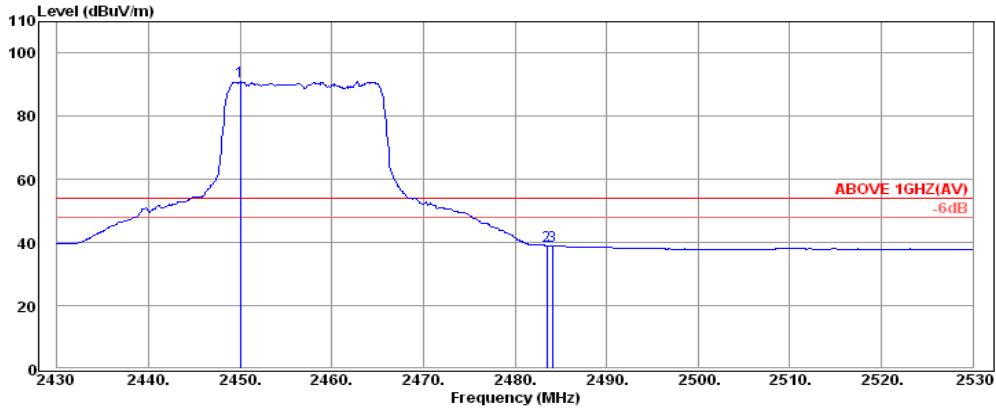
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2464.20	32.25	6.16	59.77	98.18	---	---	Average
2483.50	32.28	6.19	5.62	44.09	54.00	9.91	Average
2483.70	32.28	6.19	5.62	44.09	54.00	9.91	Average

Mode	802.11g	Frequency	TX 2457MHz
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**Antenna at Vertical Polarization**

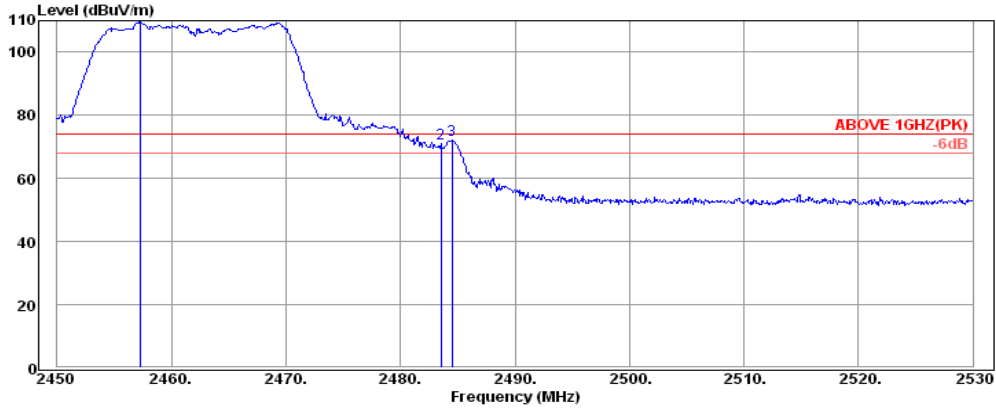
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2452.20	32.23	6.15	64.73	103.11	---	---	Peak
2483.50	32.28	6.19	13.14	51.61	74.00	22.39	Peak
2484.00	32.28	6.19	14.13	52.60	74.00	21.40	Peak



**Antenna at Vertical Polarization**

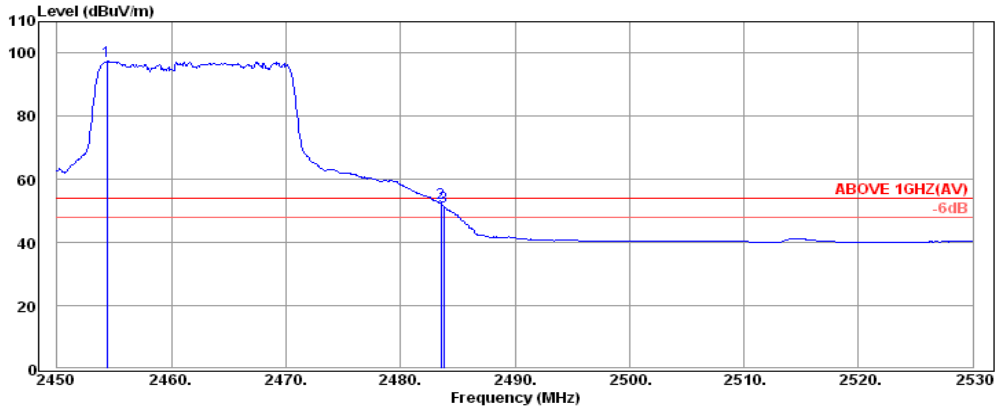
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2450.00	32.23	6.14	52.85	91.22	---	---	Average
2483.50	32.28	6.19	0.55	39.02	54.00	14.98	Average
2484.10	32.28	6.19	0.50	38.97	54.00	15.03	Average

Mode	802.11g	Frequency	TX 2462MHz
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**Antenna at Horizontal Polarization**

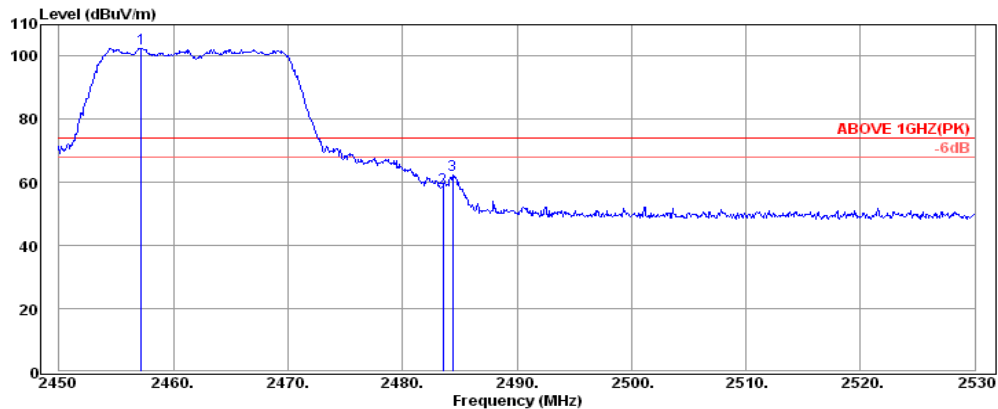
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2457.28	32.25	5.80	71.44	109.49	---	---	Peak
2483.52	32.28	5.82	32.87	70.97	74.00	3.03	Peak
2484.48	32.28	5.82	34.05	72.15	74.00	1.85	Peak



**Antenna at Horizontal Polarization**

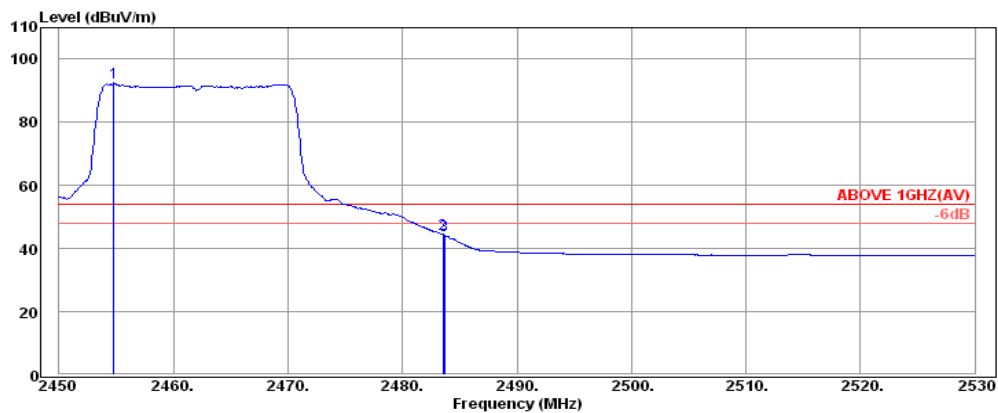
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2454.40	32.25	5.80	59.30	97.35	---	---	Average
2483.52	32.28	5.82	14.33	52.43	54.00	1.57	Average
2483.76	32.28	5.82	13.27	51.37	54.00	2.63	Average

Mode	802.11g	Frequency	TX 2462MHz
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**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2457.20	32.25	5.80	64.42	102.47	---	---	Peak
2483.52	32.28	5.82	20.19	58.29	74.00	15.71	Peak
2484.40	32.28	5.82	24.39	62.49	74.00	11.51	Peak

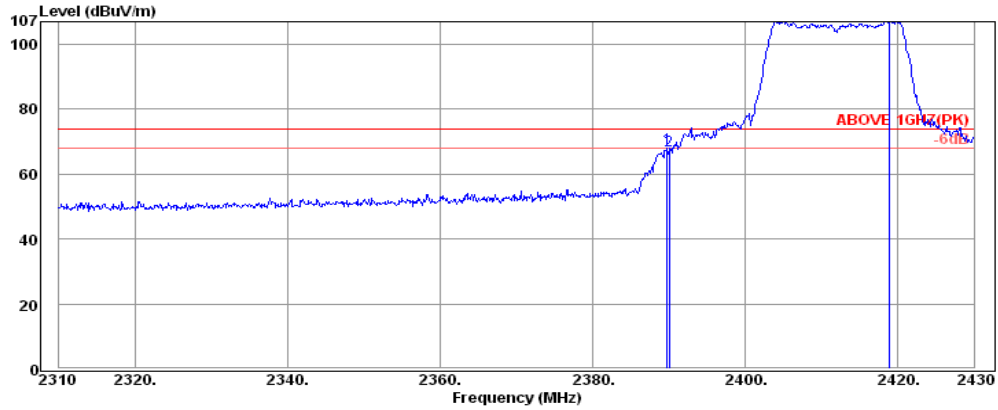


**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2454.80	32.25	5.80	54.46	92.51	---	---	Average
2483.52	32.28	5.82	6.35	44.45	54.00	9.55	Average
2483.68	32.28	5.82	6.12	44.22	54.00	9.78	Average

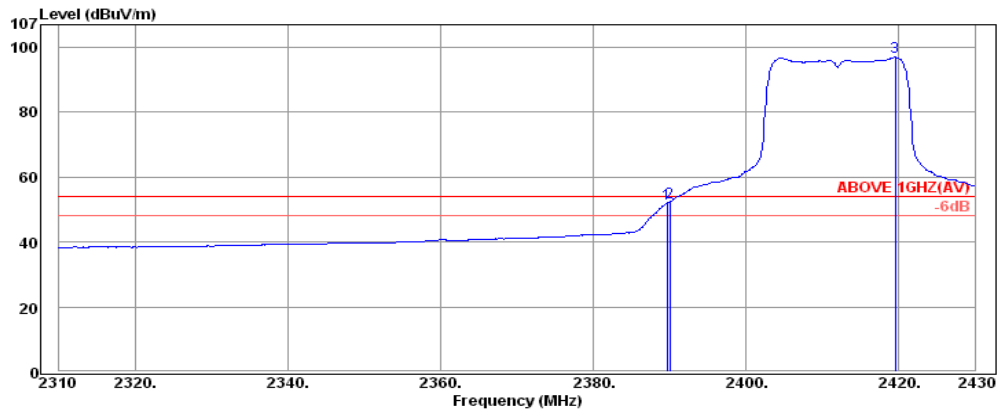


Mode	802.11n-HT20	Frequency	TX 2412MHz
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**Antenna at Horizontal Polarization**

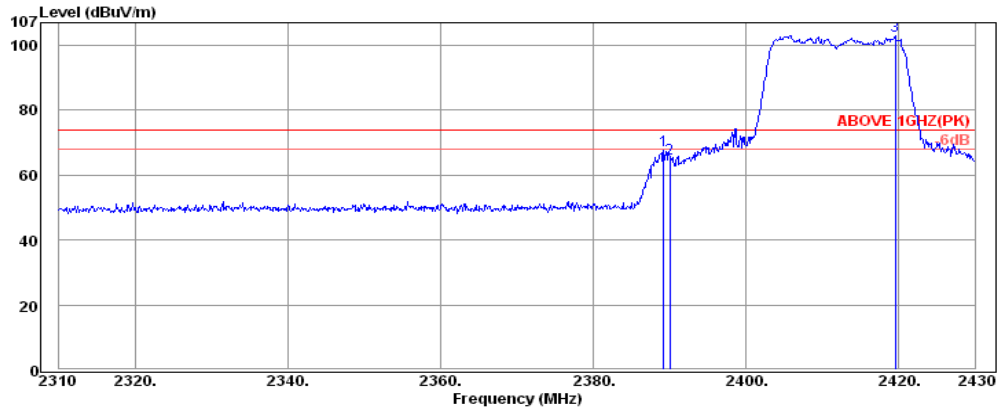
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.80	32.16	5.72	29.98	67.86	74.00	6.14	Peak
2390.04	32.16	5.72	29.33	67.21	74.00	6.79	Peak
2418.96	32.18	5.74	69.41	107.33	---	---	Peak



**Antenna at Horizontal Polarization**

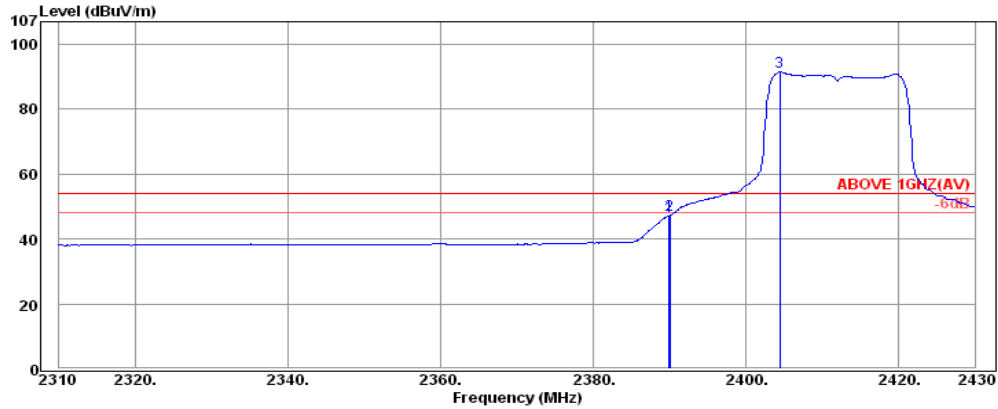
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.68	32.16	5.72	14.04	51.92	54.00	2.08	Average
2390.04	32.16	5.72	14.45	52.33	54.00	1.67	Average
2419.56	32.20	5.76	58.98	96.94	---	---	Average

Mode	802.11n-HT20	Frequency	TX 2412MHz
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**Antenna at Vertical Polarization**

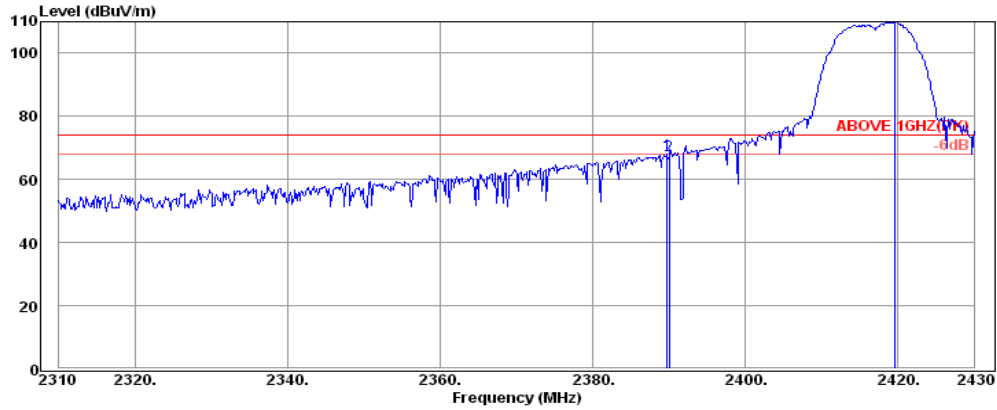
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.20	32.16	5.72	29.63	67.51	74.00	6.49	Peak
2390.04	32.16	5.72	27.25	65.13	74.00	8.87	Peak
2419.56	32.20	5.76	65.11	103.07	---	---	Peak



**Antenna at Vertical Polarization**

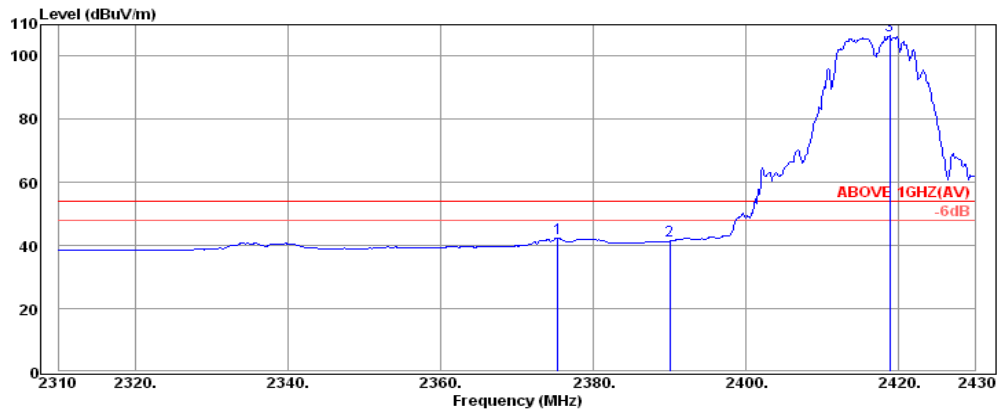
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.92	32.16	5.72	9.36	47.24	54.00	6.76	Average
2390.04	32.16	5.72	9.44	47.32	54.00	6.68	Average
2404.44	32.18	5.74	53.48	91.40	---	---	Average

Mode	802.11n-HT20	Frequency	TX 2417MHz
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**Antenna at Horizontal Polarization**

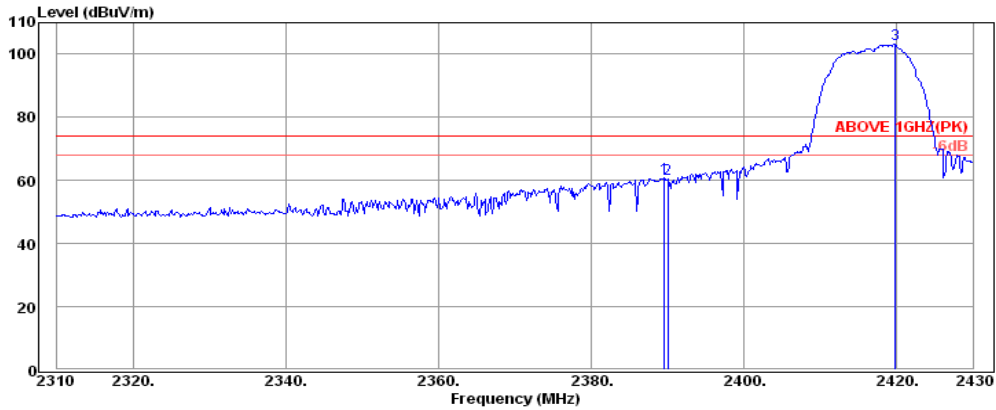
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.80	32.16	6.08	29.81	68.05	74.00	5.95	Peak
2390.04	32.16	6.08	29.44	67.68	74.00	6.32	Peak
2419.56	32.20	6.12	71.96	110.28	---	---	Peak



**Antenna at Horizontal Polarization**

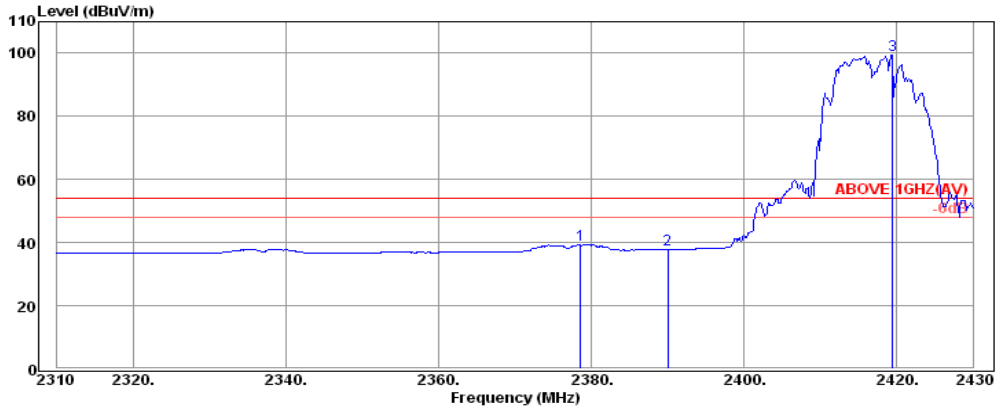
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2375.40	32.13	6.06	4.18	42.37	54.00	11.63	Average
2390.04	32.16	6.08	3.16	41.40	54.00	12.60	Average
2418.84	32.18	6.12	68.33	106.63	---	---	Average

Mode	802.11n-HT20	Frequency	TX 2417MHz
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**Antenna at Vertical Polarization**

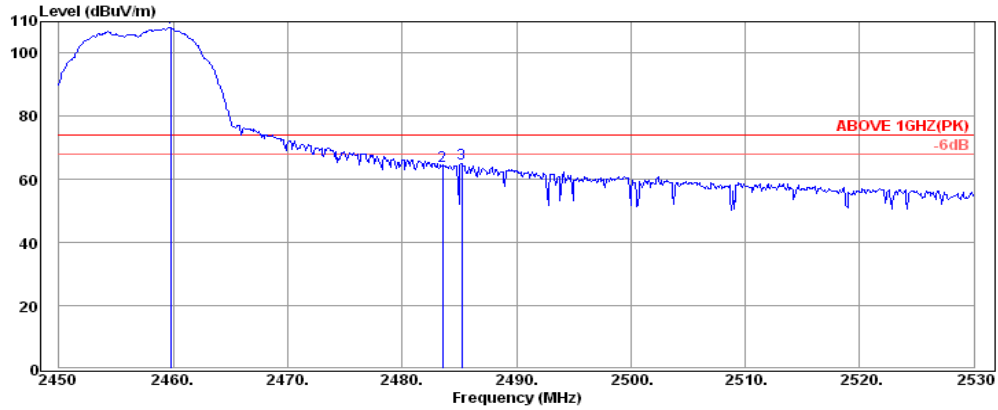
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.56	32.16	6.08	22.54	60.78	74.00	13.22	Peak
2390.04	32.16	6.08	22.11	60.35	74.00	13.65	Peak
2419.80	32.20	6.12	64.83	103.15	---	---	Peak



**Antenna at Vertical Polarization**

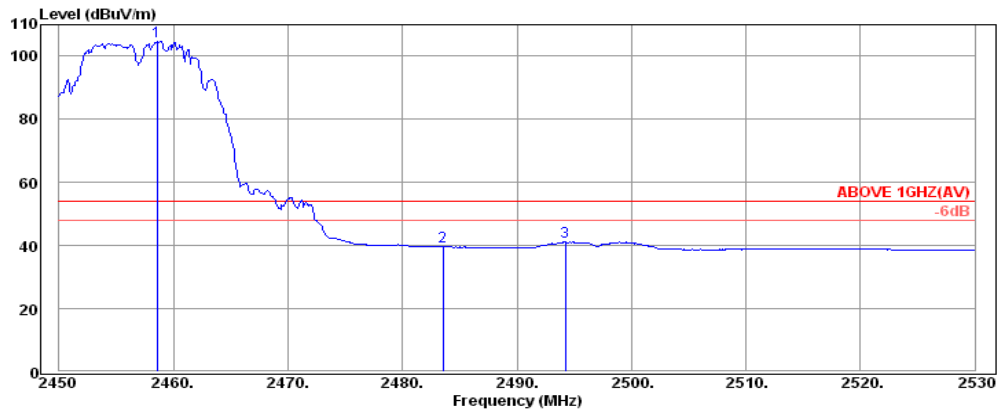
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2378.64	32.13	6.06	1.20	39.39	54.00	14.61	Average
2390.04	32.16	6.08	-0.56	37.68	54.00	16.32	Average
2419.44	32.18	6.12	61.15	99.45	---	---	Average

Mode	802.11n-HT20	Frequency	TX 2457MHz
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**Antenna at Horizontal Polarization**

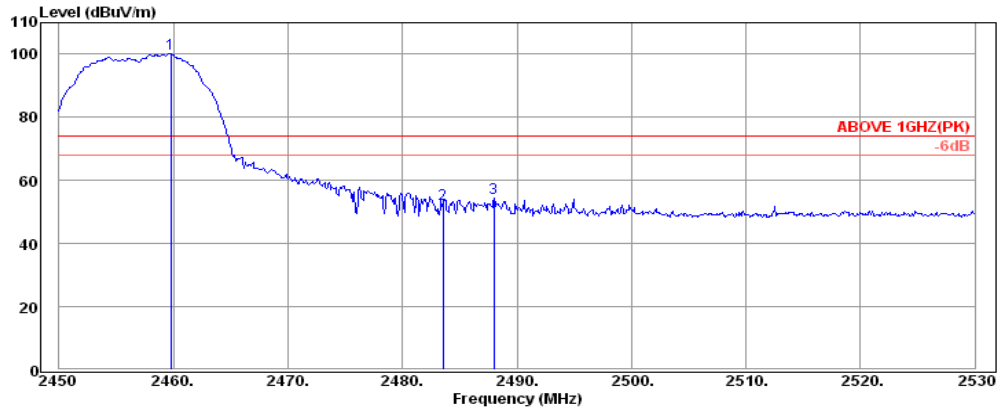
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	69.77	108.18	---	---	Peak
2483.52	32.28	6.19	25.93	64.40	74.00	9.60	Peak
2485.20	32.28	6.19	26.63	65.10	74.00	8.90	Peak



**Antenna at Horizontal Polarization**

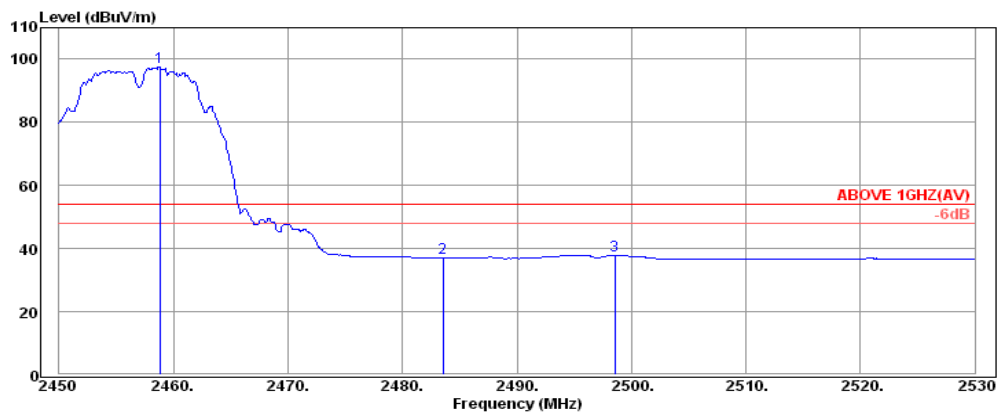
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.56	32.25	6.15	66.44	104.84	---	---	Average
2483.52	32.28	6.19	1.13	39.60	54.00	14.40	Average
2494.24	32.30	6.20	2.65	41.15	54.00	12.85	Average

Mode	802.11n-HT20	Frequency	TX 2457MHz
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**Antenna at Vertical Polarization**

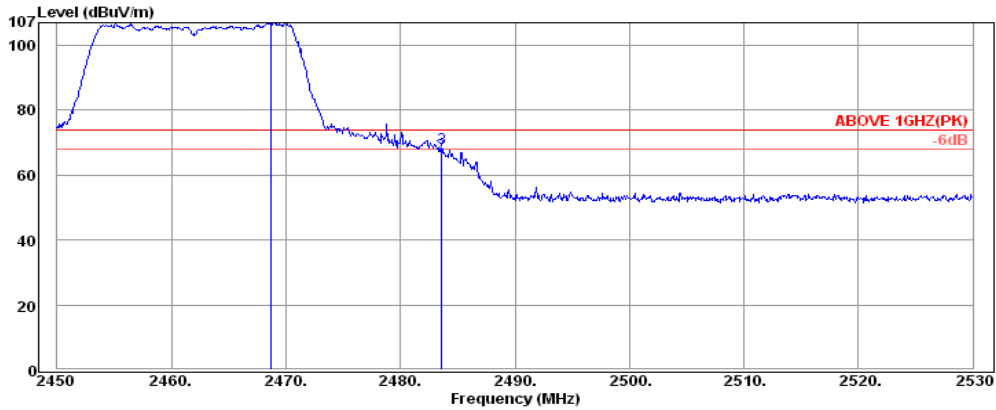
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	61.81	100.22	---	---	Peak
2483.52	32.28	6.19	14.25	52.72	74.00	21.28	Peak
2488.00	32.30	6.19	15.76	54.25	74.00	19.75	Peak



**Antenna at Vertical Polarization**

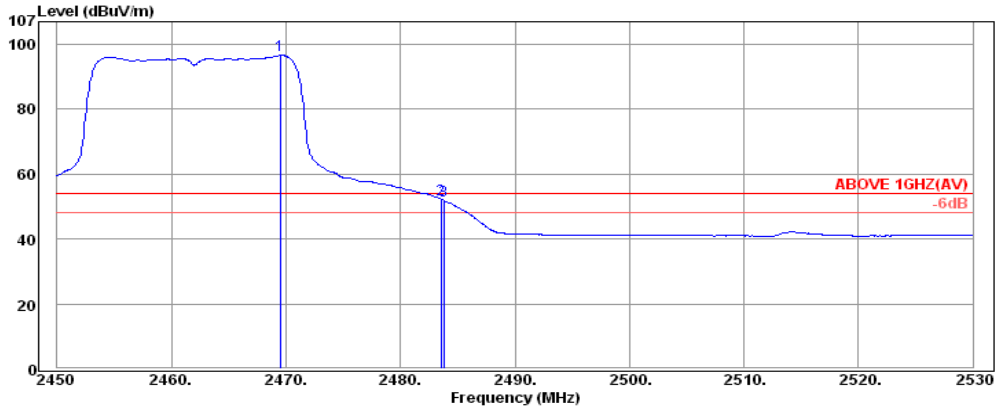
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.80	32.25	6.16	59.28	97.69	---	---	Average
2483.52	32.28	6.19	-1.45	37.02	54.00	16.98	Average
2498.56	32.30	6.20	-0.78	37.72	54.00	16.28	Average

Mode	802.11n-HT20	Frequency	TX 2462MHz
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**Antenna at Horizontal Polarization**

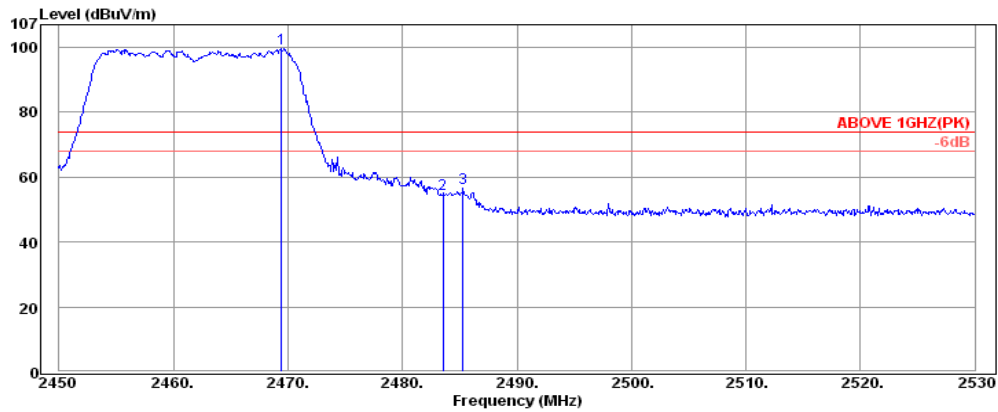
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2468.72	32.25	5.80	69.02	107.07	---	---	Peak
2483.52	32.28	5.82	28.59	66.69	74.00	7.31	Peak
2483.60	32.28	5.82	30.39	68.49	74.00	5.51	Peak



**Antenna at Horizontal Polarization**

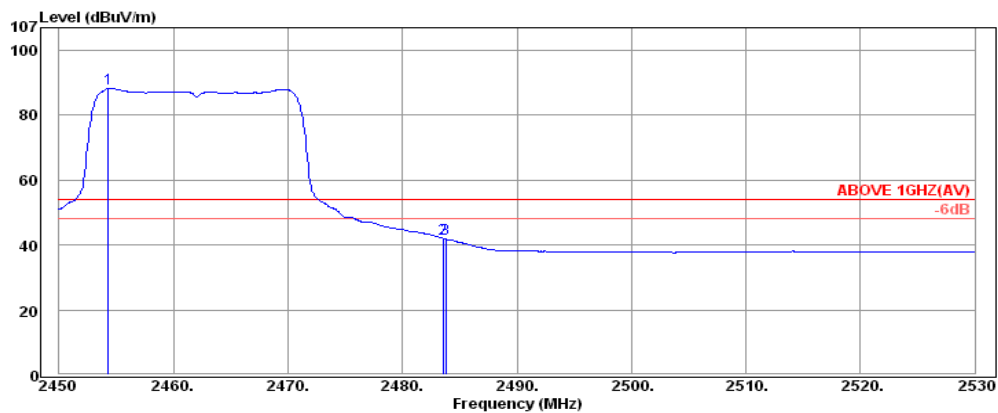
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2469.52	32.25	5.80	58.55	96.60	---	---	Average
2483.52	32.28	5.82	14.21	52.31	54.00	1.69	Average
2483.76	32.28	5.82	13.77	51.87	54.00	2.13	Average

Mode	802.11n-HT20	Frequency	TX 2462MHz
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**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2469.44	32.25	5.80	61.63	99.68	---	---	Peak
2483.52	32.28	5.82	16.59	54.69	74.00	19.31	Peak
2485.28	32.28	5.82	18.55	56.65	74.00	17.35	Peak

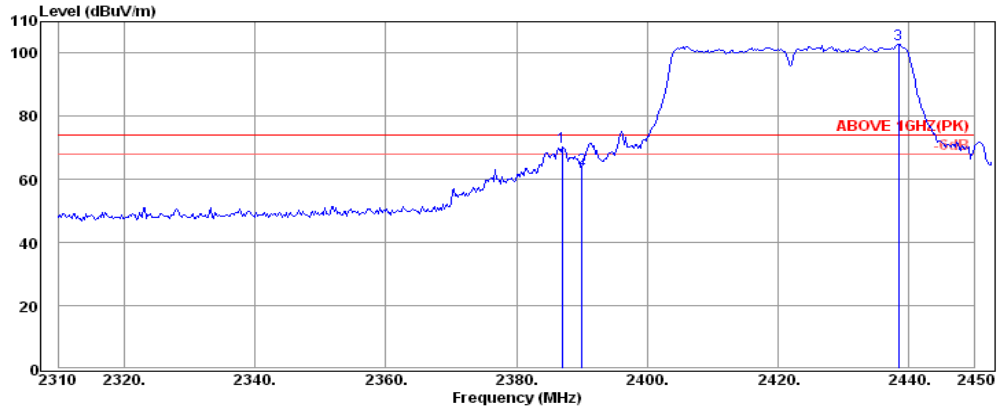


**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2454.32	32.25	5.80	50.15	88.20	---	---	Average
2483.52	32.28	5.82	3.94	42.04	54.00	11.96	Average
2483.76	32.28	5.82	3.67	41.77	54.00	12.23	Average

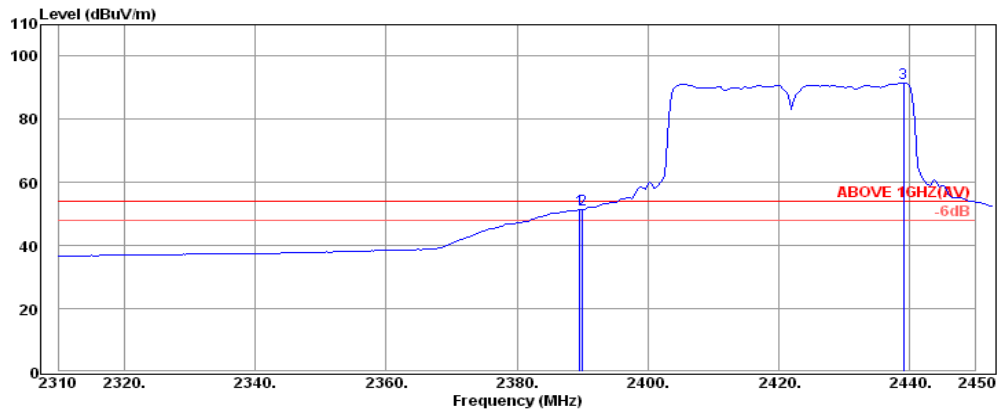


Mode	802.11n-HT40	Frequency	TX 2422MHz
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**Antenna at Horizontal Polarization**

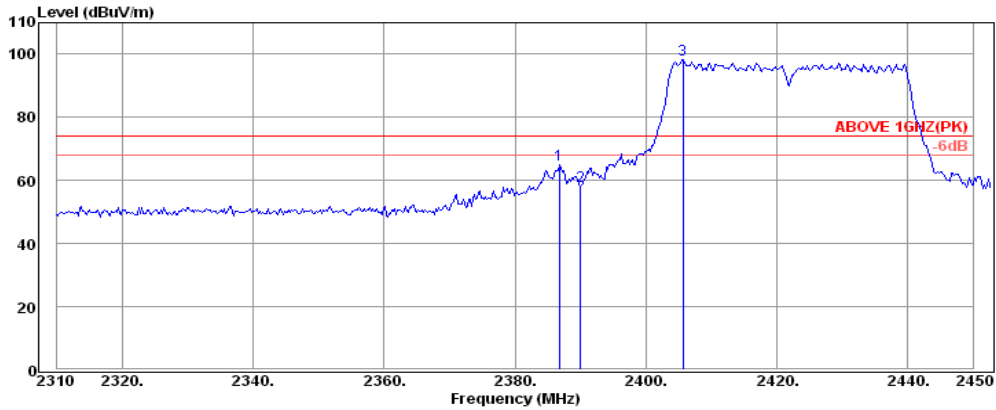
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2387.00	32.16	5.72	32.59	70.47	74.00	3.53	Peak
2390.08	32.16	5.72	25.58	63.46	74.00	10.54	Peak
2438.48	32.23	5.78	64.80	102.81	---	---	Peak



**Antenna at Horizontal Polarization**

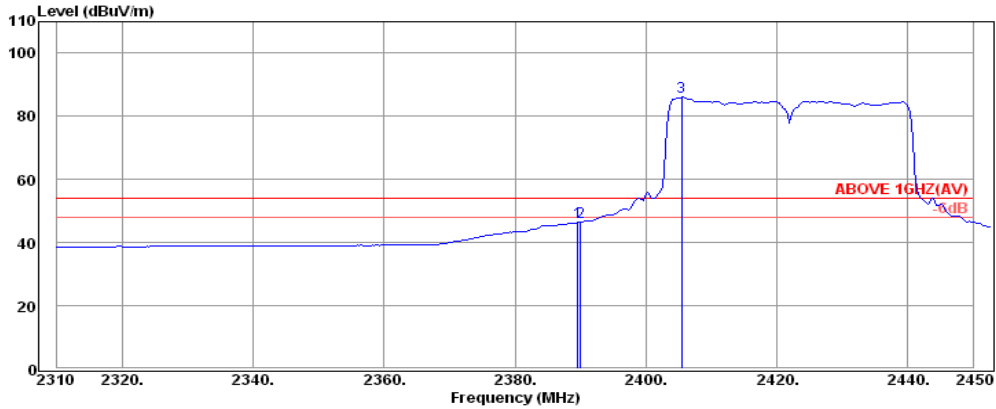
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.64	32.16	5.72	13.62	51.50	54.00	2.50	Average
2390.08	32.16	5.72	13.64	51.52	54.00	2.48	Average
2439.14	32.23	5.78	53.38	91.39	---	---	Average

Mode	802.11n-HT40	Frequency	TX 2422MHz
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**Antenna at Vertical Polarization**

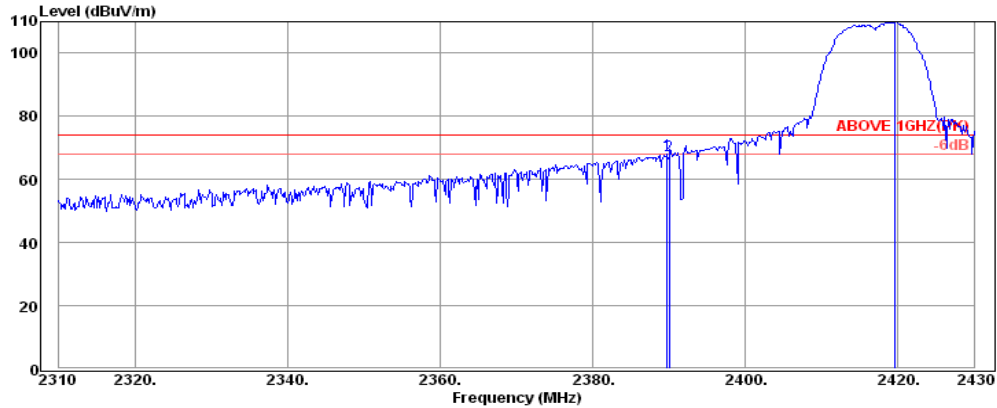
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2386.78	32.16	5.72	26.97	64.85	74.00	9.15	Peak
2390.08	32.16	5.72	20.41	58.29	74.00	15.71	Peak
2405.70	32.18	5.74	60.49	98.41	---	---	Peak



**Antenna at Vertical Polarization**

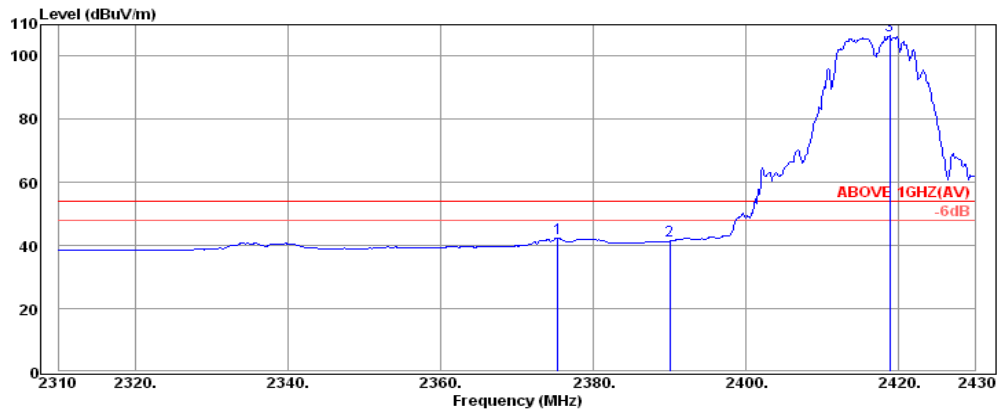
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.64	32.16	5.72	8.46	46.34	54.00	7.66	Average
2390.08	32.16	5.72	8.47	46.35	54.00	7.65	Average
2405.48	32.18	5.74	48.12	86.04	---	---	Average

Mode	802.11n-HT40	Frequency	TX 2427MHz
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**Antenna at Horizontal Polarization**

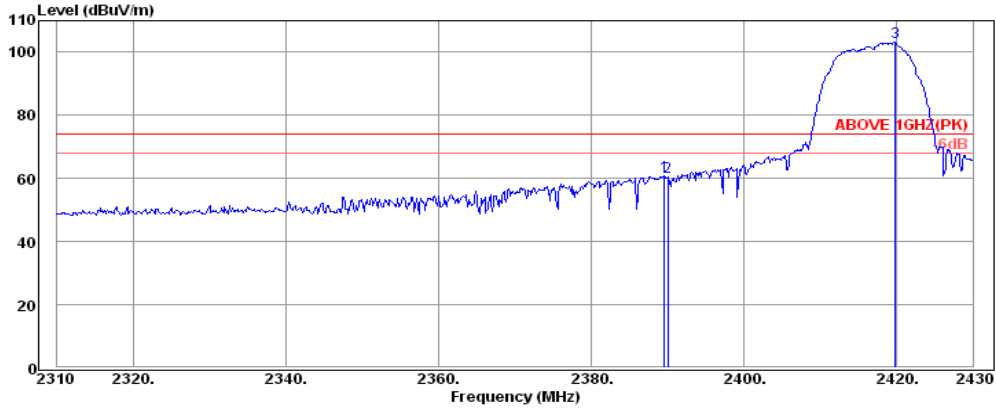
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.80	32.16	6.08	29.81	68.05	74.00	5.95	Peak
2390.04	32.16	6.08	29.44	67.68	74.00	6.32	Peak
2419.56	32.20	6.12	71.96	110.28	---	---	Peak



**Antenna at Horizontal Polarization**

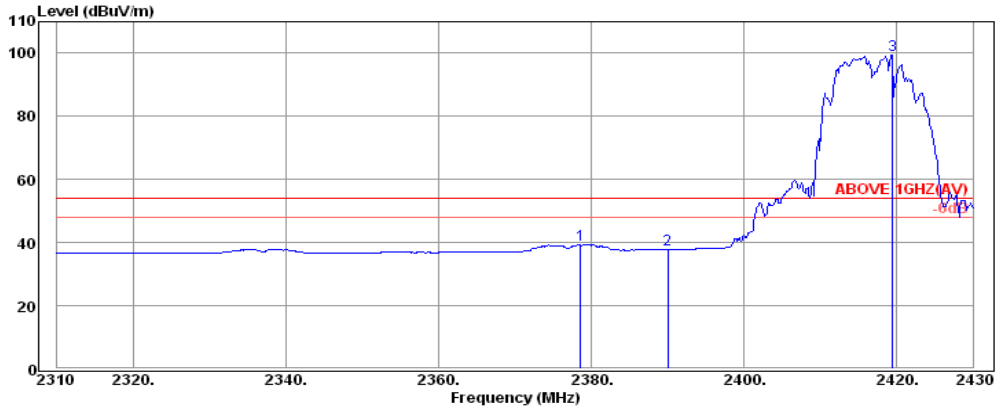
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2375.40	32.13	6.06	4.18	42.37	54.00	11.63	Average
2390.04	32.16	6.08	3.16	41.40	54.00	12.60	Average
2418.84	32.18	6.12	68.33	106.63	---	---	Average

Mode	802.11n-HT40	Frequency	TX 2427MHz
------	--------------	-----------	------------



**Antenna at Vertical Polarization**

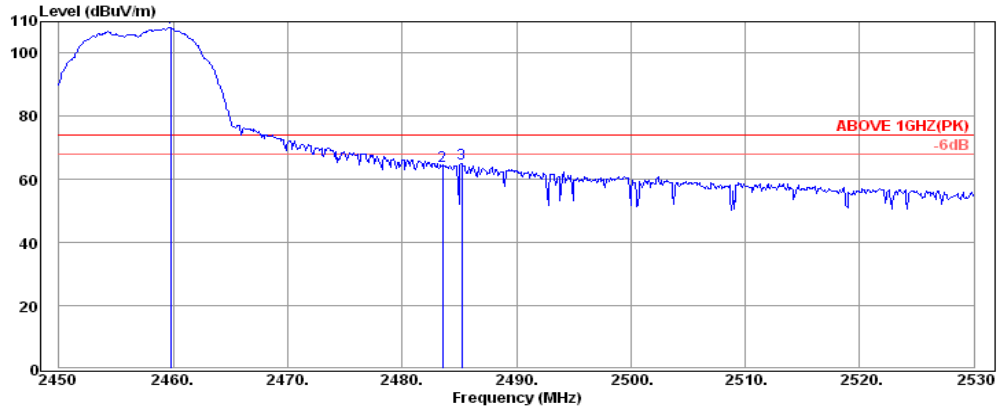
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2389.56	32.16	6.08	22.54	60.78	74.00	13.22	Peak
2390.04	32.16	6.08	22.11	60.35	74.00	13.65	Peak
2419.80	32.20	6.12	64.83	103.15	---	---	Peak



**Antenna at Vertical Polarization**

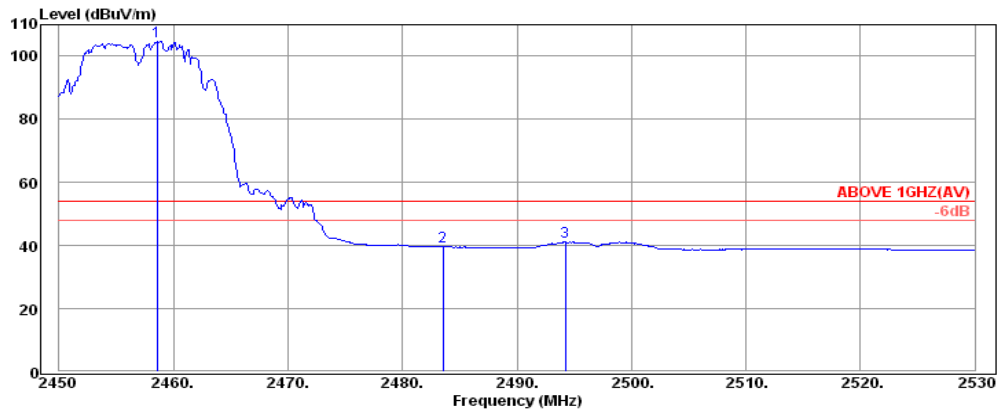
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2378.64	32.13	6.06	1.20	39.39	54.00	14.61	Average
2390.04	32.16	6.08	-0.56	37.68	54.00	16.32	Average
2419.44	32.18	6.12	61.15	99.45	---	---	Average

Mode	802.11n-HT40	Frequency	TX 2447MHz
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**Antenna at Horizontal Polarization**

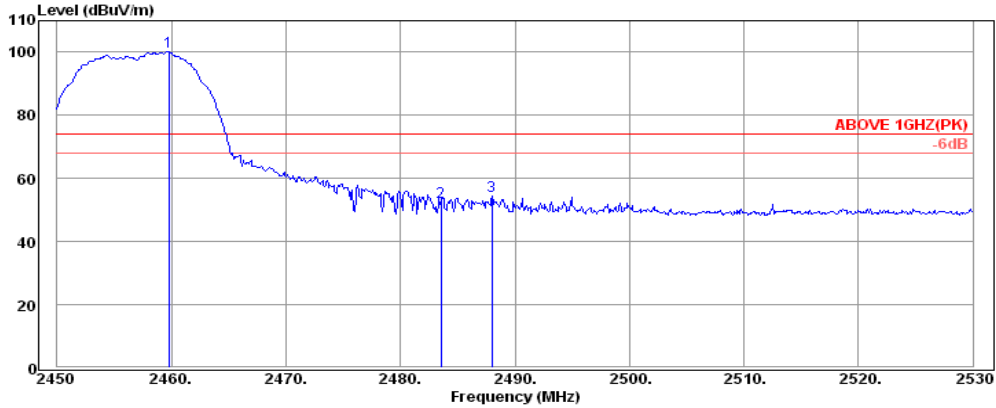
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	69.77	108.18	---	---	Peak
2483.52	32.28	6.19	25.93	64.40	74.00	9.60	Peak
2485.20	32.28	6.19	26.63	65.10	74.00	8.90	Peak



**Antenna at Horizontal Polarization**

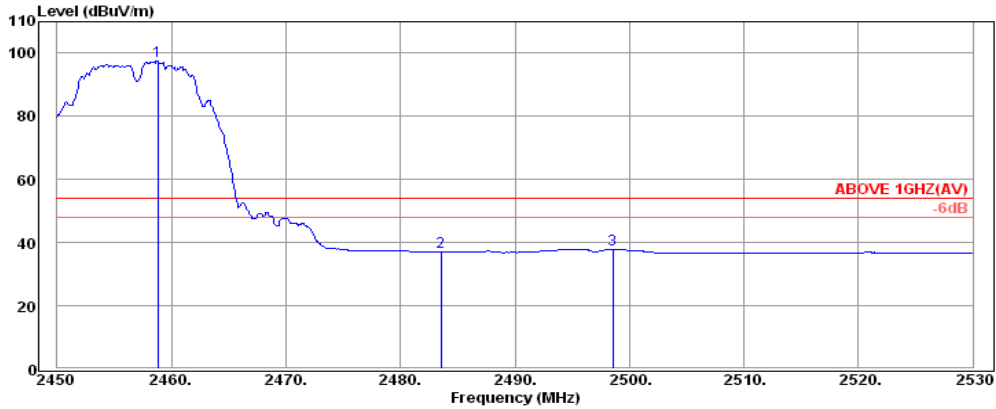
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.56	32.25	6.15	66.44	104.84	---	---	Average
2483.52	32.28	6.19	1.13	39.60	54.00	14.40	Average
2494.24	32.30	6.20	2.65	41.15	54.00	12.85	Average

Mode	802.11n-HT40	Frequency	TX 2447MHz
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**Antenna at Vertical Polarization**

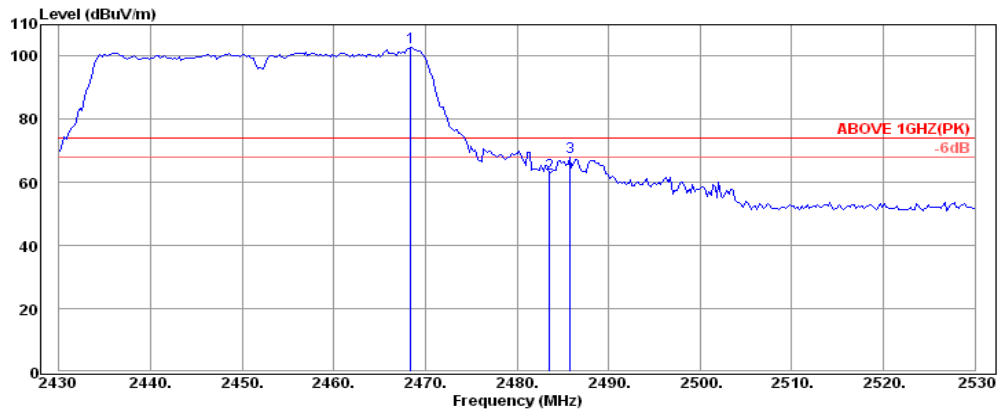
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2459.76	32.25	6.16	61.81	100.22	---	---	Peak
2483.52	32.28	6.19	14.25	52.72	74.00	21.28	Peak
2488.00	32.30	6.19	15.76	54.25	74.00	19.75	Peak



**Antenna at Vertical Polarization**

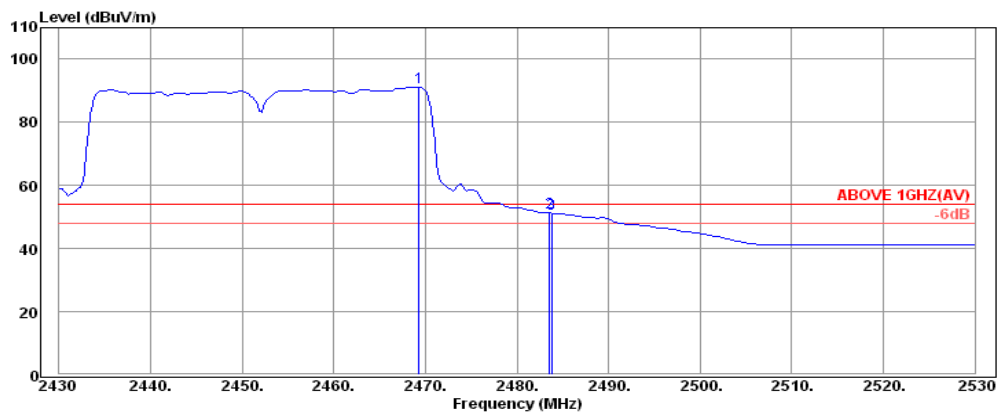
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2458.80	32.25	6.16	59.28	97.69	---	---	Average
2483.52	32.28	6.19	-1.45	37.02	54.00	16.98	Average
2498.56	32.30	6.20	-0.78	37.72	54.00	16.28	Average

Mode	802.11n-HT40	Frequency	TX 2452MHz
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**Antenna at Horizontal Polarization**

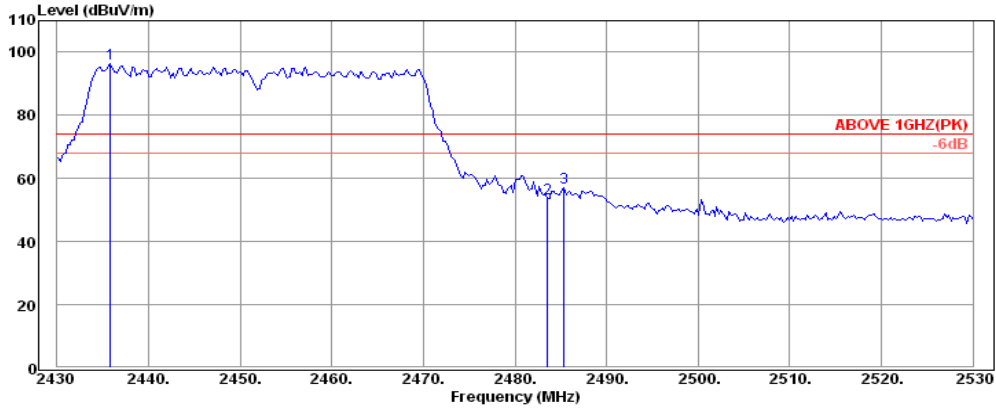
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2468.40	32.25	5.80	64.66	102.71	---	---	Peak
2483.58	32.28	5.82	24.67	62.77	74.00	11.23	Peak
2485.78	32.28	5.82	29.81	67.91	74.00	6.09	Peak



**Antenna at Horizontal Polarization**

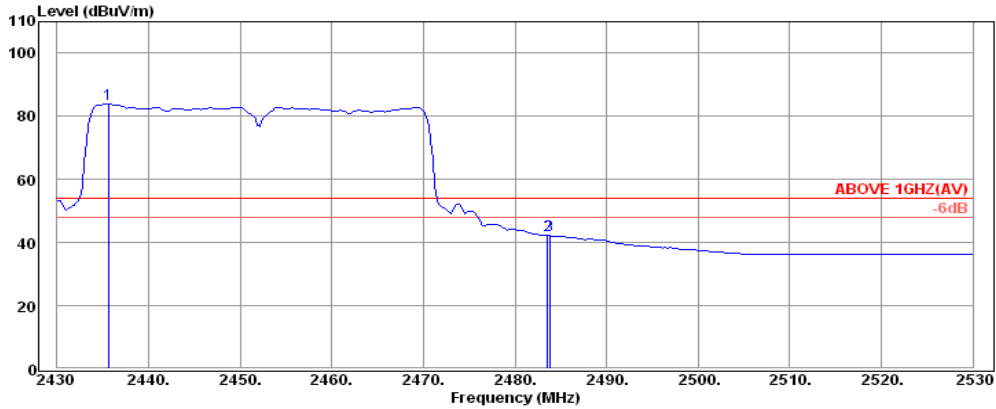
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2469.28	32.25	5.80	53.08	91.13	---	---	Average
2483.58	32.28	5.82	13.15	51.25	54.00	2.75	Average
2483.80	32.28	5.82	13.00	51.10	54.00	2.90	Average

Mode	802.11n-HT40	Frequency	TX 2452MHz
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**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2435.84	32.20	5.76	58.52	96.48	---	---	Peak
2483.58	32.28	5.82	15.76	53.86	74.00	20.14	Peak
2485.34	32.28	5.82	19.03	57.13	74.00	16.87	Peak



**Antenna at Vertical Polarization**

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2435.62	32.20	5.76	45.98	83.94	---	---	Average
2483.58	32.28	5.82	4.30	42.40	54.00	11.60	Average
2483.80	32.28	5.82	4.22	42.32	54.00	11.68	Average



### 6.5.3. Emissions outside the frequency band:

The emissions (up to 25GHz) not reported for there is no emission be found.

Mode	802.11b	Frequency	TX 2412MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3215.00	32.86	6.48	6.54	45.88	54.00	8.12	Peak
4825.00	34.23	7.98	9.35	51.56	54.00	2.44	Peak
7235.00	35.80	9.42	3.25	48.47	54.00	5.53	Peak

#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3215.00	32.86	6.48	4.41	43.75	54.00	10.25	Peak
4825.00	34.23	7.98	10.09	52.30	54.00	1.70	Peak
7235.00	35.80	9.42	1.78	47.00	54.00	7.00	Peak

Mode	802.11g	Frequency	TX 2437MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	6.30	45.72	54.00	8.28	Peak
4885.00	34.26	8.47	14.25	56.98	74.00	17.02	Peak
4885.00	34.26	8.47	2.20	44.93	54.00	9.07	Average
7300.00	35.80	9.82	18.60	64.22	74.00	9.78	Peak
7300.00	35.80	9.82	6.00	51.62	54.00	2.38	Average

#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	4.19	43.61	54.00	10.39	Peak
4875.00	34.25	8.35	11.24	53.84	54.00	0.16	Peak
7300.00	35.80	9.82	16.44	62.06	74.00	11.94	Peak
7300.00	35.80	9.82	4.40	50.02	54.00	3.98	Average

Mode	802.11n-HT20	Frequency	TX 2437MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	7.65	47.07	54.00	6.93	Peak
4875.00	34.25	8.35	9.69	52.29	54.00	1.71	Peak
7300.00	35.80	9.82	16.08	61.70	74.00	12.30	Peak
7300.00	35.80	9.82	5.50	51.12	54.00	2.88	Average

#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	4.69	44.11	54.00	9.89	Peak
4875.00	34.25	8.35	9.69	52.29	54.00	1.71	Peak
7300.00	35.80	9.82	16.08	61.70	74.00	12.30	Peak
7300.00	35.80	9.82	5.50	51.12	54.00	2.88	Average

Mode	802.11n-HT40	Frequency	TX 2437MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	8.44	47.86	54.00	6.14	Peak
4885.00	34.26	8.47	5.44	48.17	54.00	5.83	Peak
7290.00	35.80	9.72	6.85	52.37	54.00	1.63	Peak

#### Antenna at Vertical Polarization

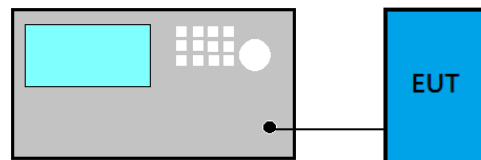
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
3250.00	32.85	6.57	4.44	43.86	54.00	10.14	Peak
4865.00	34.24	8.23	6.26	48.73	54.00	5.27	Peak
7300.00	35.80	9.82	4.50	50.12	54.00	3.88	Peak

#### 6.5.4. Emissions in Non-restricted Frequency Bands

Pursuant to KDB 558074 D01 v03r05 that emission levels below the 15.209 Section 8.9 table 4 general radiated emissions limits is not required.

## 7. 6dB BANDWIDTH MEASUREMENT

### 7.1. Block Diagram of Test Setup



### 7.2. Specification Limits

The minimum 6dB bandwidth shall be at least 500kHz.

### 7.3. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v03r05:

■ Option 2

- (1) Set RBW = 100 kHz.
- (2) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- (3) Detector = Peak.
- (4) Trace mode = max hold.
- (5) Sweep = auto couple.
- (6) Allow the trace to stabilize.
- (7) Setting channel bandwidth function x dB to -6 dB to record the final bandwidth.

### 7.4. Test Results

Please refer to Appendix A

## 8. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

### 8.1. Block Diagram of Test Setup



### 8.2. Specification Limits

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is : 1Watt. (30dBm), and E.I.R.P.: 4Watt (36dBm)

### 8.3. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v03r05:

**PKPM1 Peak power meter method:**

EUT is connected to power sensor and record the maximum output power.

**Method AVGPM (Measurement using an RF average power meter):**

EUT is connected to power sensor and record the maximum average output power and duty cycle factor is added when duty cycle presented in section 3.5 is < 98%.

**Method AVGSA-2 (Spectrum channel power)**

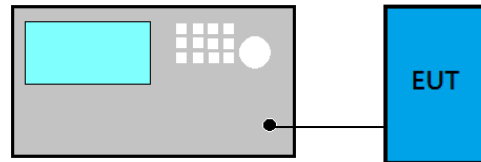
- (1) Set span to at least 1.5 times the OBW
- (2) Set RBW = 1 -5% of OBW
- (3) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- (4) Detector = RMS.
- (5) Trace mode = trace average at least 100 traces
- (6) Sweep = auto couple.
- (7) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges.
- (8) Duty cycle factor is added when duty cycle presented in section 3.5 is < 98%.

### 8.4. Test Results

Please refer to Appendix A

## 9. EMISSION LIMITATIONS MEASUREMENT

### 9.1. Block Diagram of Test Setup



### 9.2. Specification Limits

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a)/RSS-Gen Section 8.10 table 6, must also comply with the radiated emission limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 (See Section 15.205(c)).

### 9.3. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v03r05:

#### ■ Reference Level

- (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 to: 100 kHz.
- (4) Set the VBW  $\geq 3 \times$  RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max PSD as reference level.

#### ■ Emission Level Measurement

- (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 to: 100 kHz.
- (4) Set the VBW  $\geq 3 \times$  RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max level.

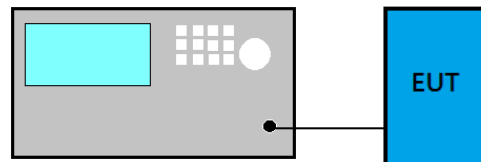
#### 9.4. Test Results

Please refer to Appendix A



## 10. POWER SPECTRAL DENSITY

### 10.1. Block Diagram of Test Setup



### 10.2. Specification Limits

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

### 10.3. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v03r05:

#### Method PKPSD (peak PSD)

- (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 to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- (4) Set the VBW  $\geq 3 \times \text{RBW}$ .
- (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.

#### Method AVGPSD-2

- (1) Using peak PSD procedure step 1 to step 4.
- (2) Detector = RMS detector
- (3) Sweep time = auto couple
- (4) Trace mode = trace averaging over a minimum of 100 traces
- (5) Use the peak marker function to determine the maximum amplitude level.
- (6) Duty cycle factor is added when duty cycle presented in section 3.5  $< 98\%$ .
- (7) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 10.4. Test Results

Please refer to Appendix A

## **11.DEVIATION TO TEST SPECIFICATIONS**

**【NONE】**



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**APPENDIX A**

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# APPENDIX A

## TEST PLOTS

(Model: RT-N300)

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**File Number: C1M1605001**

**Report Number: EM-F160316**

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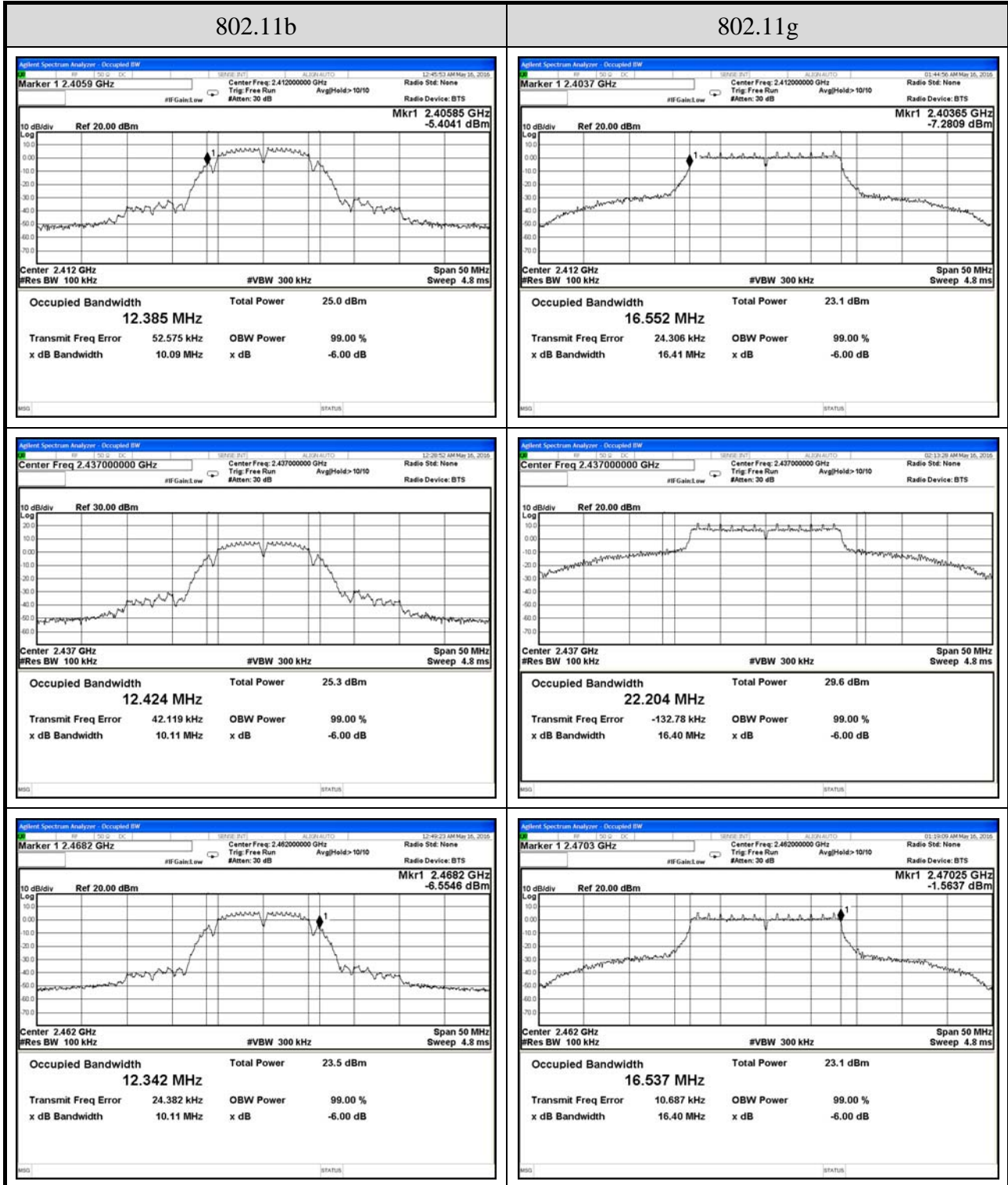
## A.1 6dB BANDWIDTH MEASUREMENT

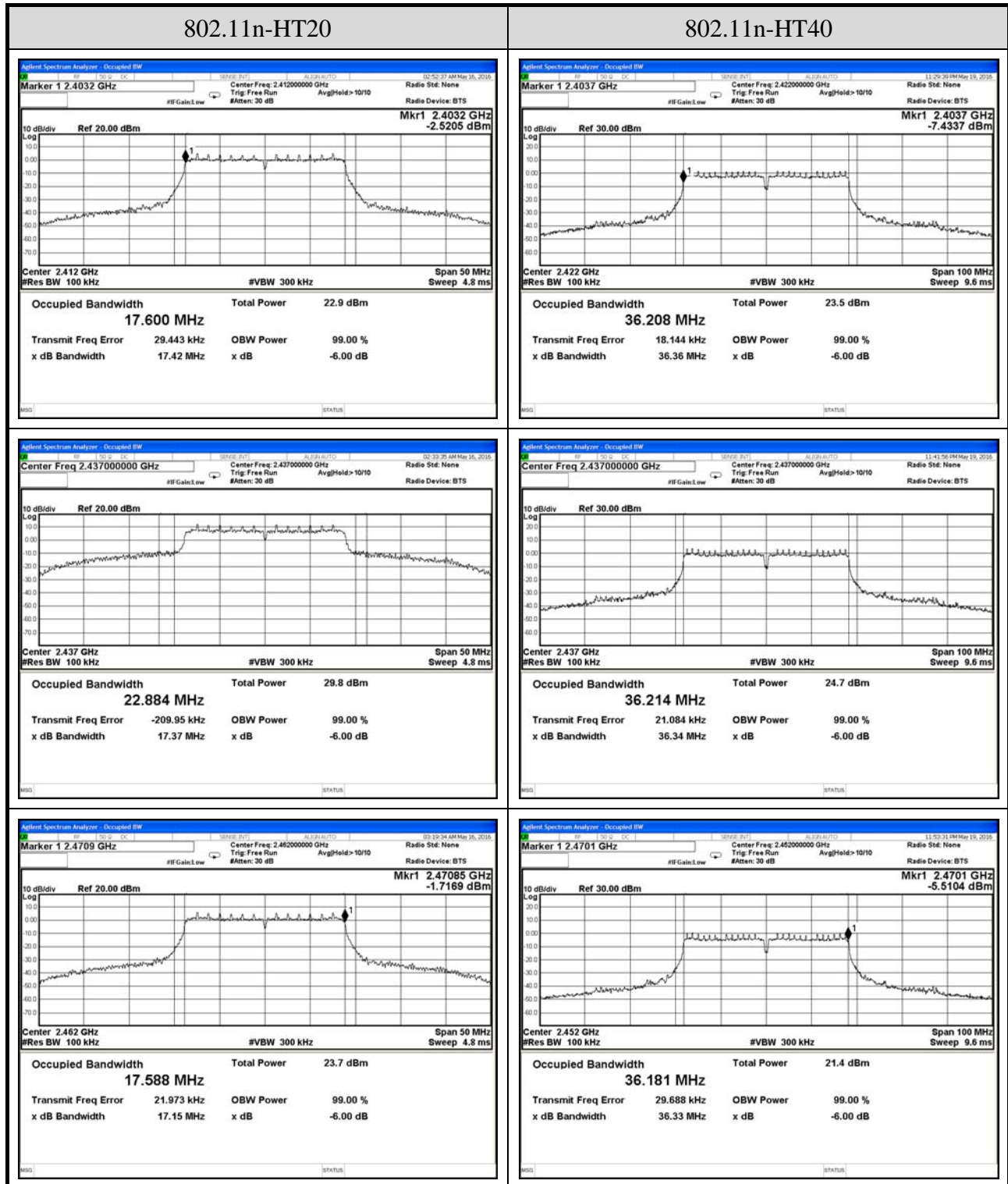
Test Date	2016/05/16 ~ 19	Temp./Hum.	25~26°C/55~58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz

### A.1.1 6dB Bandwidth Result

Modulation Type	Centre Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
802.11b	2412	10.09	>500kHz
	2437	10.11	
	2462	10.11	
802.11g	2412	16.41	
	2437	16.40	
	2462	16.40	
802.11n-HT20	2412	17.42	
	2437	17.37	
	2462	17.15	
802.11n-HT40	2422	36.36	
	2437	36.34	
	2452	36.33	

A.1.2 Measurement Plots





## A.2 MAXIMUM PEAK OUTPUT POWER MEASUREMENT

Test Date	2016/05/20 ~ 06/14	Temp./Hum.	25°C/58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz

### A.2.1 Average Output Power

Modulation Type	Centre Frequency (MHz)	Output Power (dBm)		Total Average Output Power		Limit
		Chain 0	Chain 1	(dBm)	(W)	
802.11b	2412	17.06	17.13	20.11	0.102565	< 29.37dBm Note 2
	2417	17.12	17.19	20.17	0.103992	
	2437	16.79	16.46	19.64	0.092045	
	2457	14.92	14.77	17.86	0.061094	
	2462	14.78	14.23	17.52	0.056494	
802.11g	2412	15.51	15.46	18.50	0.070795	
	2417	15.72	15.31	18.53	0.071285	
	2437	19.32	19.43	22.39	0.173380	
	2457	15.01	14.51	17.78	0.059979	
	2462	14.92	14.46	17.71	0.059020	
802.11n-HT20	2412	13.78	13.24	16.53	0.044978	
	2417	13.82	13.19	16.53	0.044978	
	2437	19.2	19.67	22.45	0.175792	
	2457	14.21	13.85	17.04	0.050582	
	2462	14.41	13.71	17.08	0.051050	
802.11n-HT40	2422	13.17	12.73	15.97	0.039537	
	2427	13.44	12.68	16.09	0.040644	
	2437	15.31	14.62	17.99	0.062951	
	2447	11.21	10.96	14.10	0.025704	
	2452	11.15	10.77	13.97	0.024946	

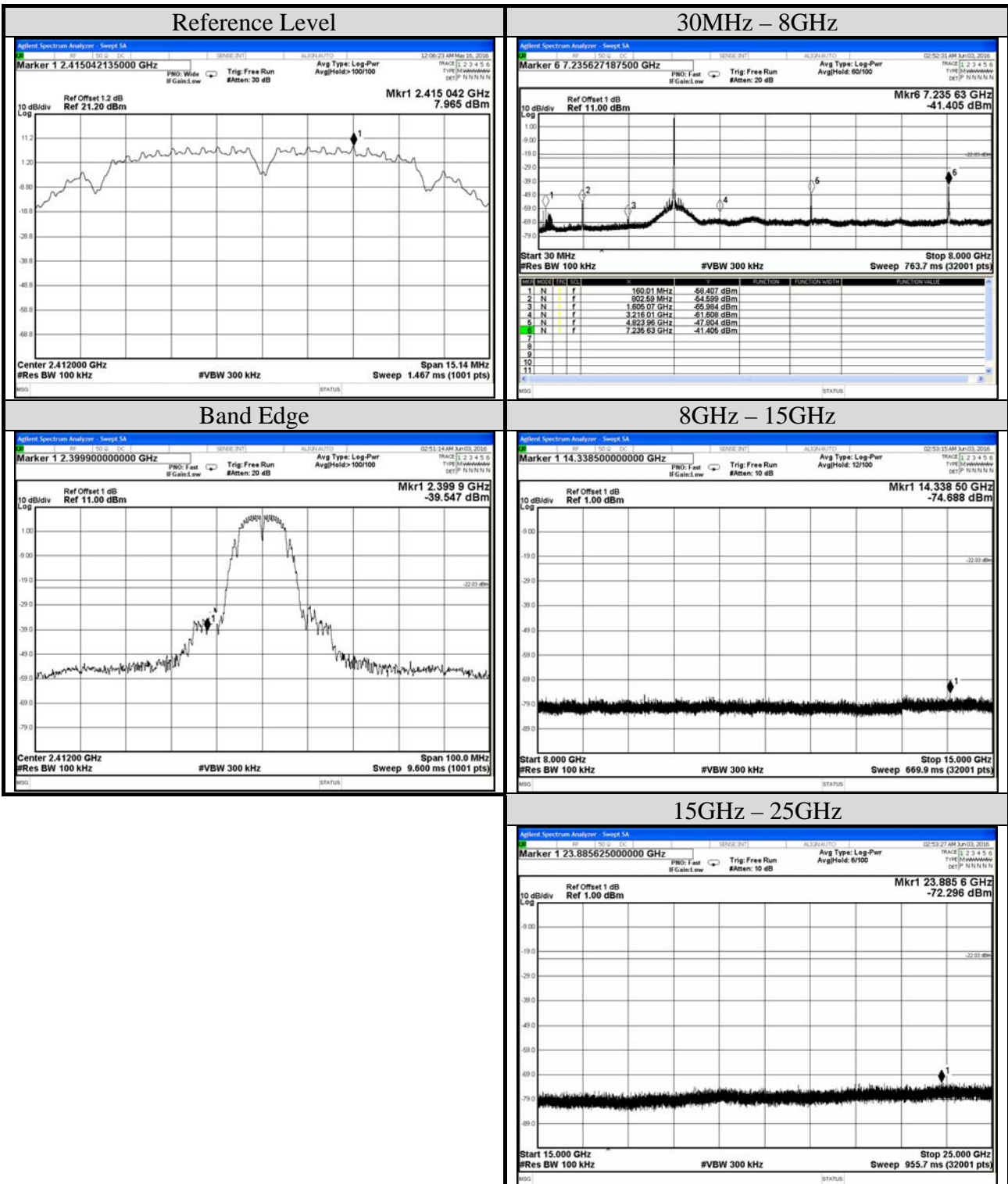
Note 1: The results have been included cable loss.

Note 2: Directional gain is 6.63dBi > 6dBi, the limit is  $30 - (6.63-6) = 29.37\text{dBm}$



### A.3 EMISSION LIMITATIONS MEASUREMENT

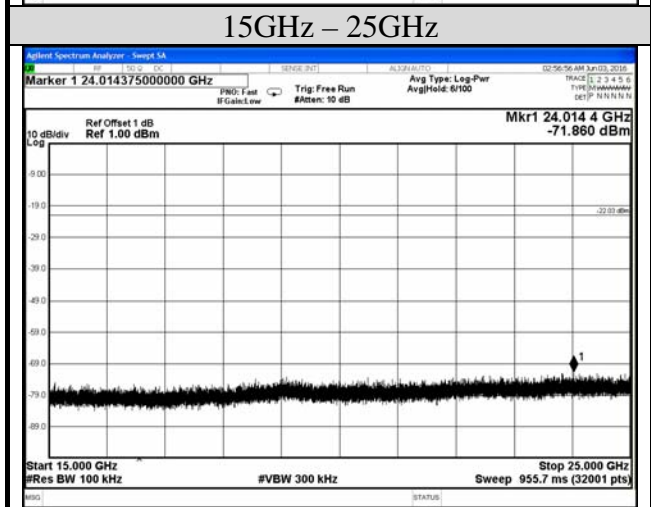
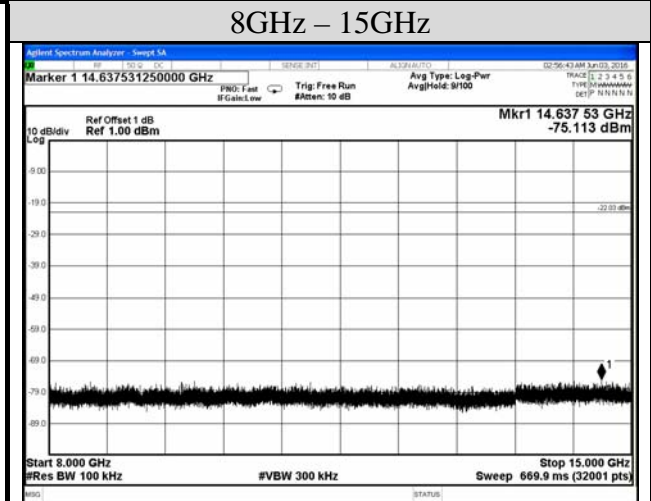
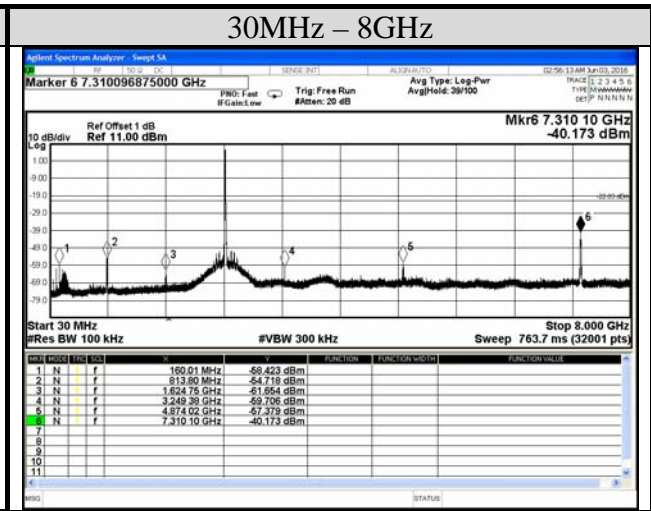
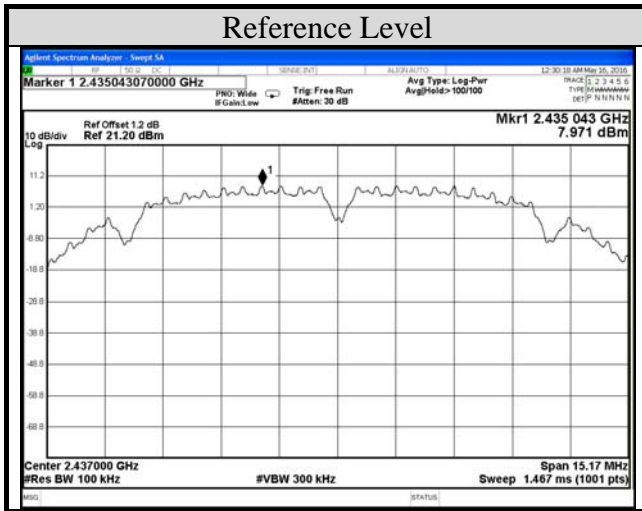
Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11b	Frequency	TX 2412MHz
Simultaneous Factor	10 log(n) (Note: “n” is antenna number)		N/A



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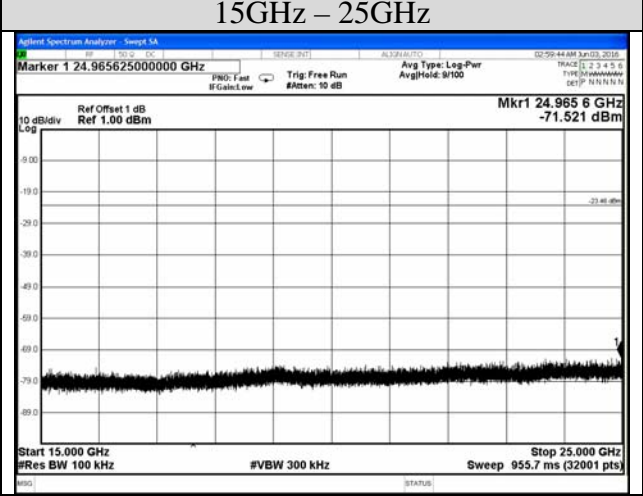
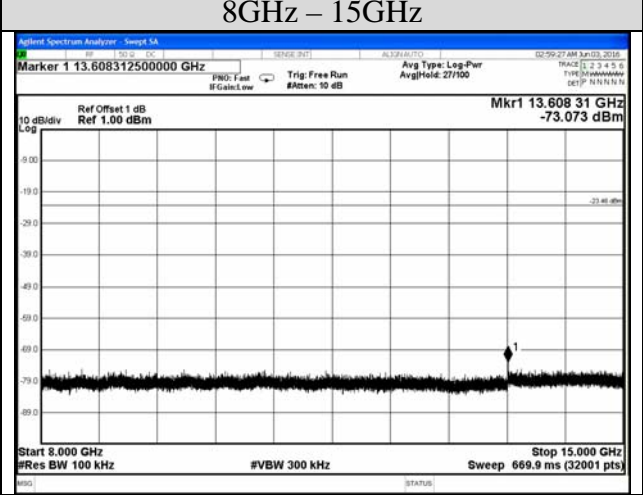
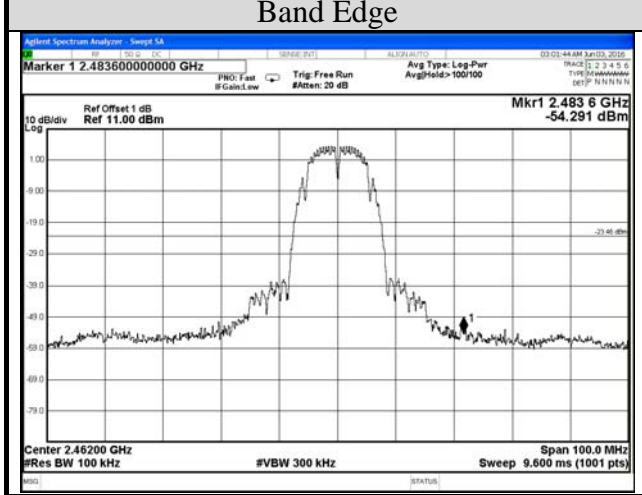
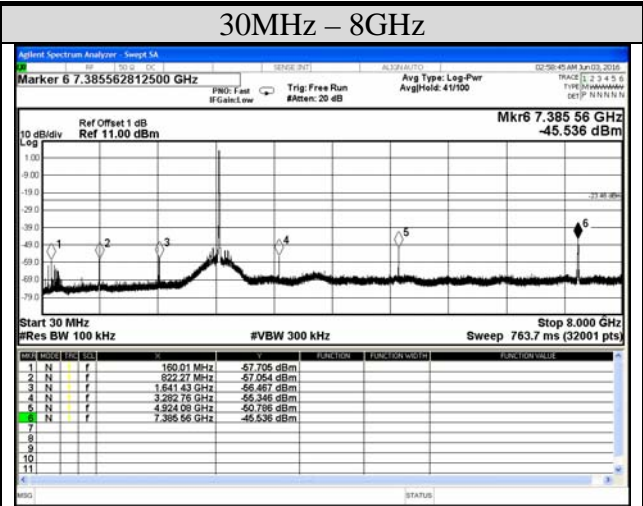
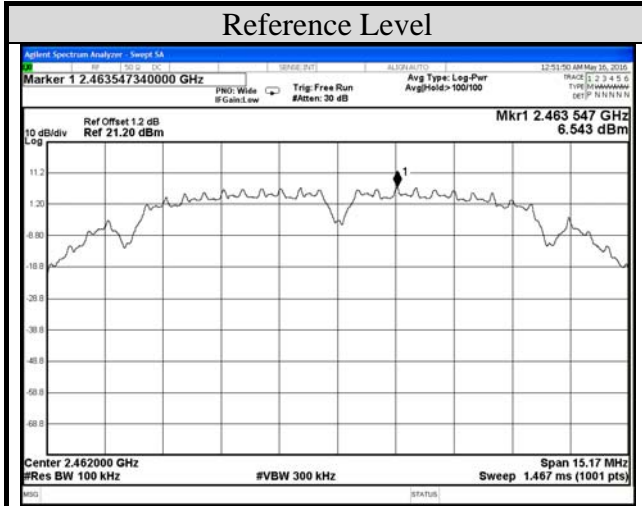
Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11b	Frequency	TX 2437MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			N/A



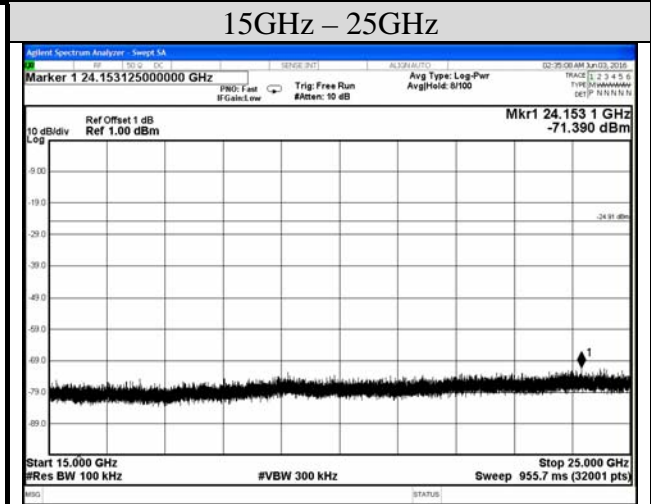
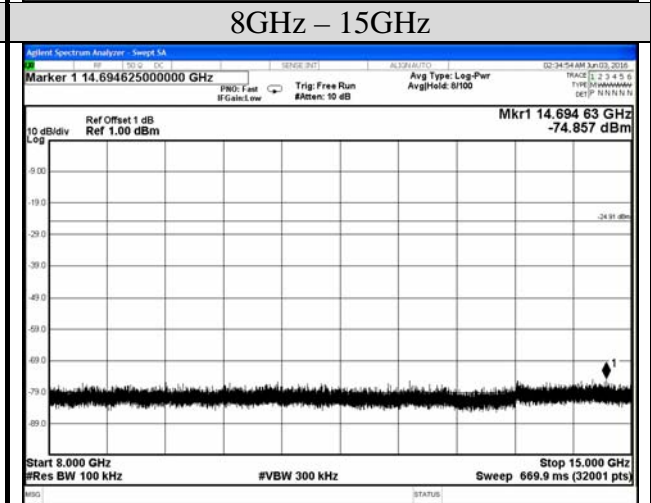
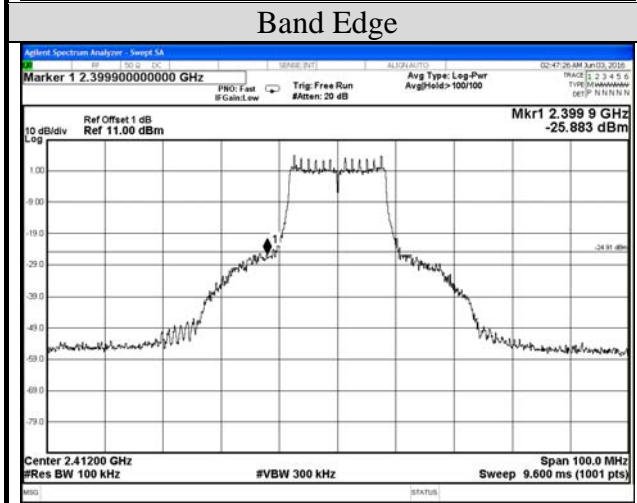
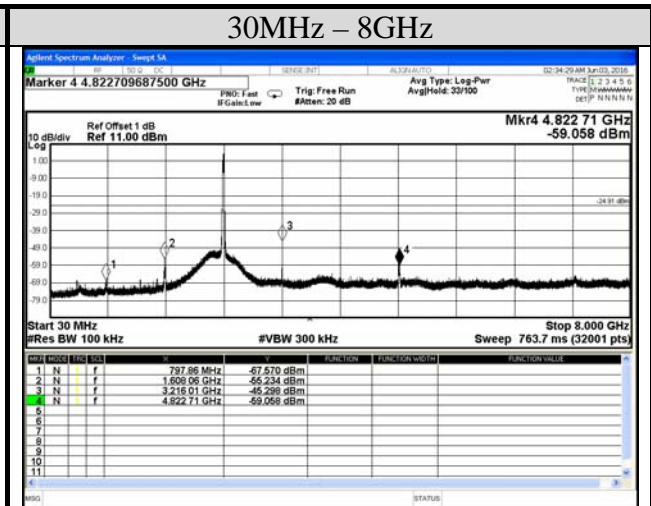
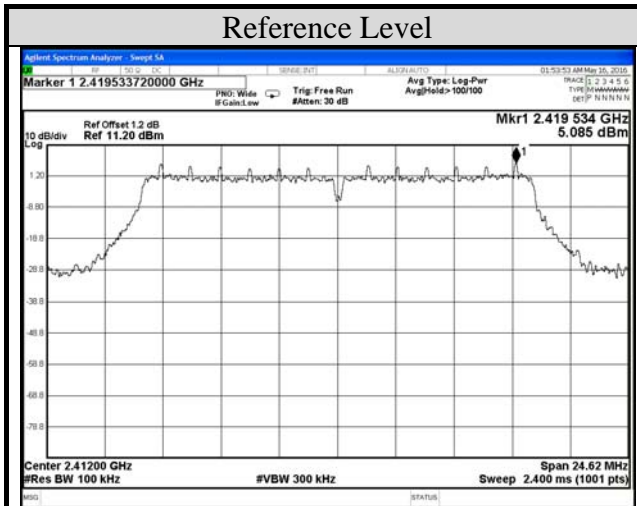
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Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11b	Frequency	TX 2462MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			N/A



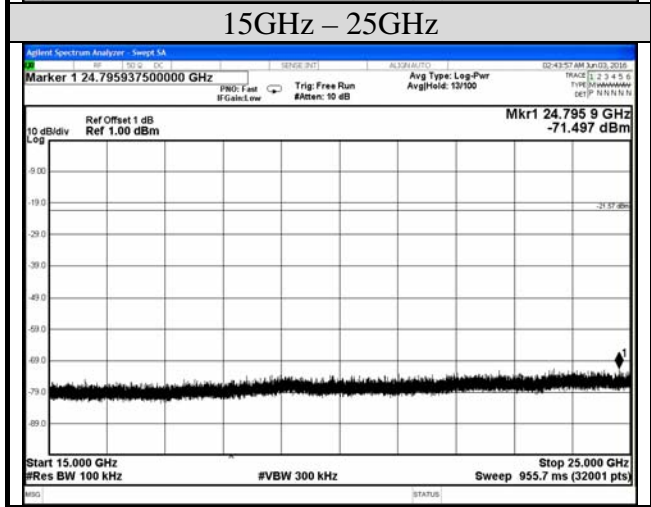
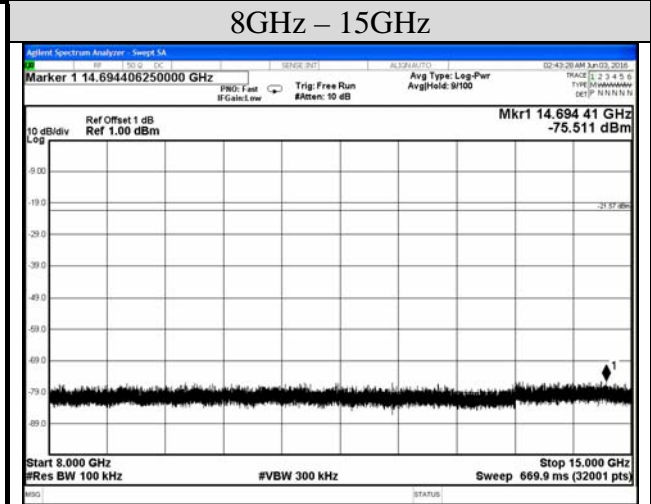
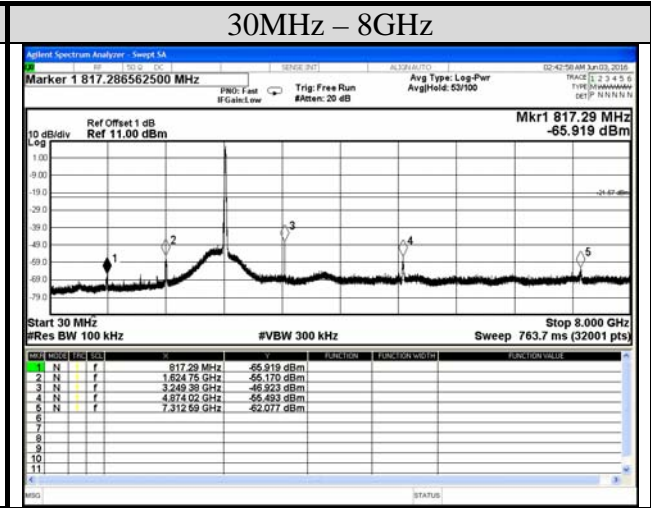
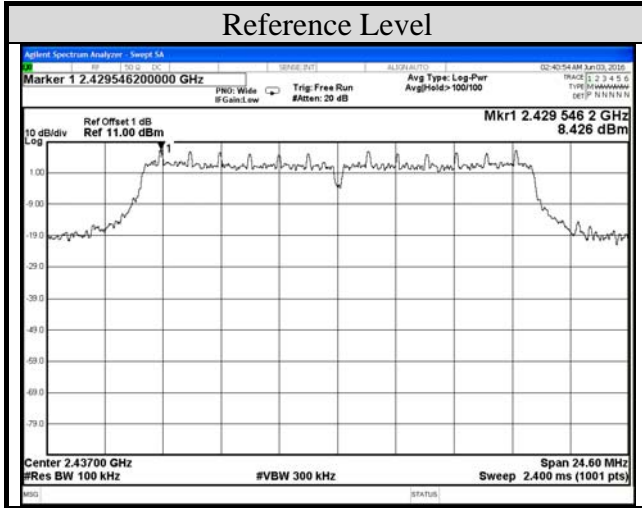
Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11g	Frequency	TX 2412MHz
Simultaneous Factor10 log(n) (Note: "n" is antenna number)			N/A



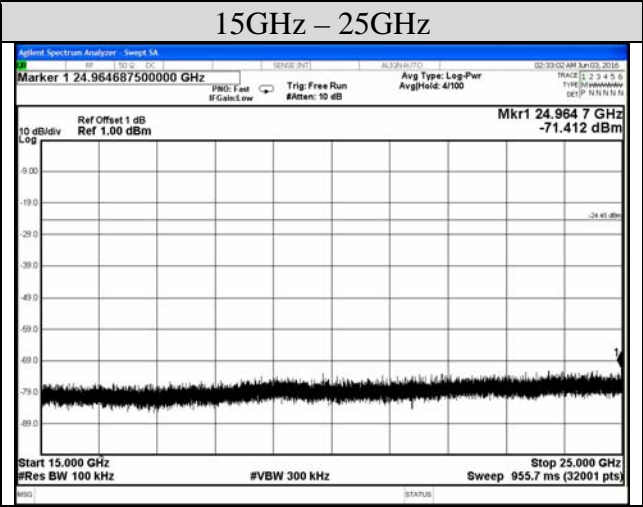
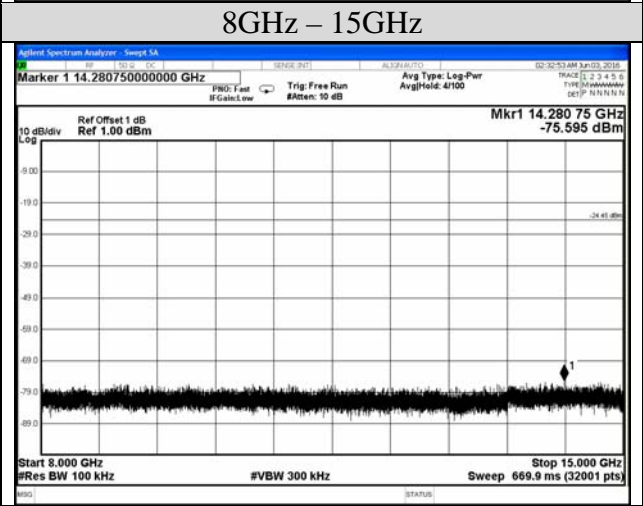
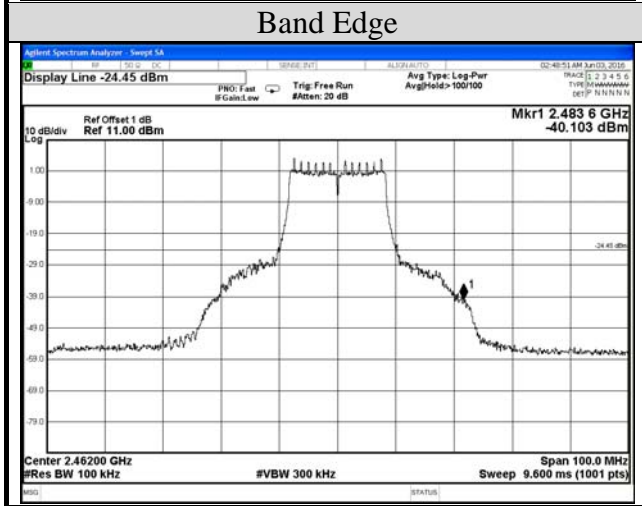
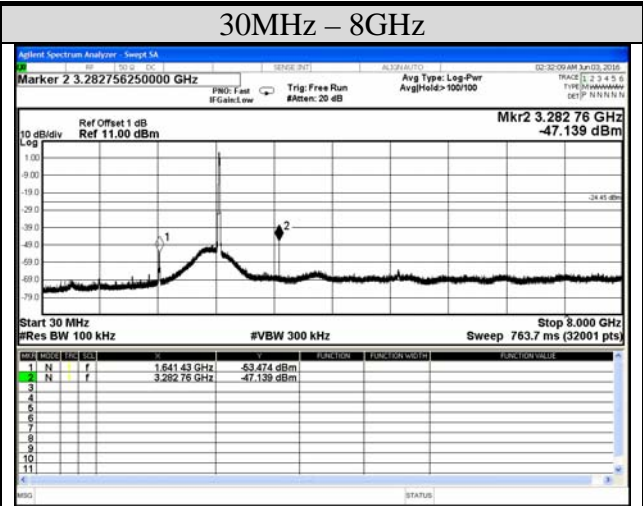
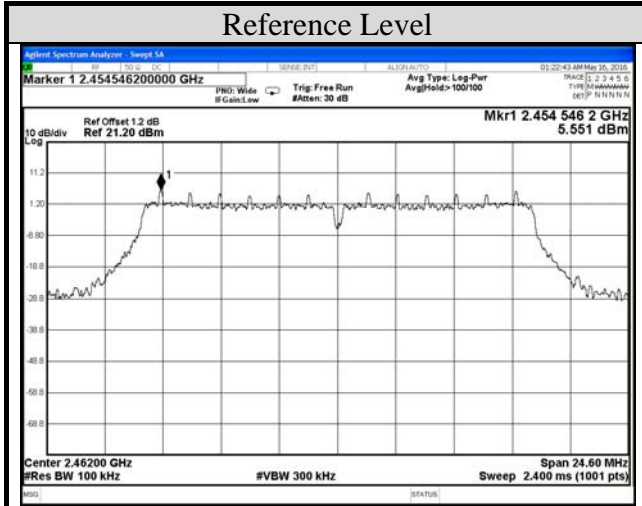
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Test Date	2016/06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11g	Frequency	TX 2437MHz
Simultaneous Factor10 log(n) (Note: "n" is antenna number)			N/A



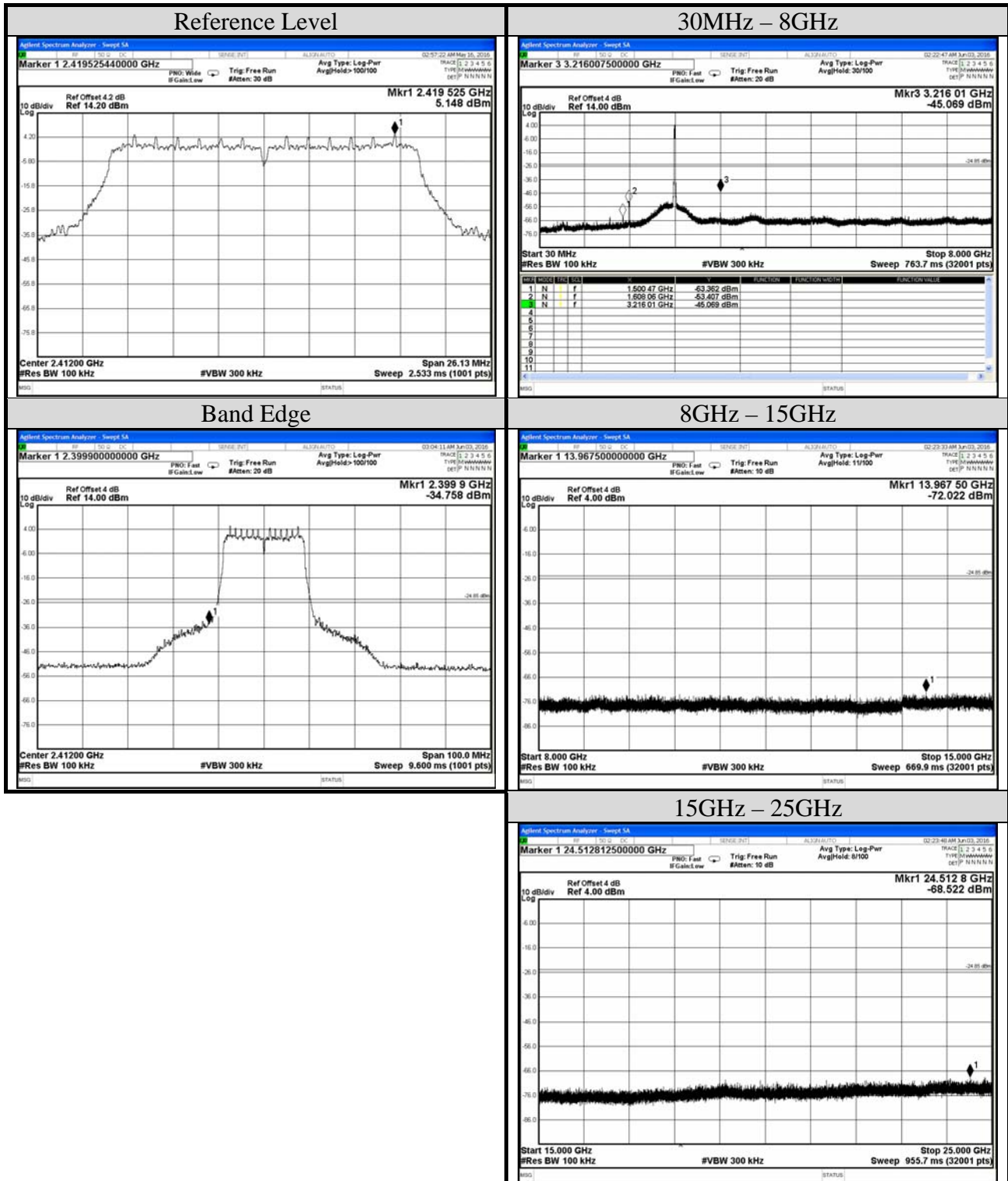
Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11g	Frequency	TX 2462MHz
Simultaneous Factor10 log(n) (Note: "n" is antenna number)			N/A



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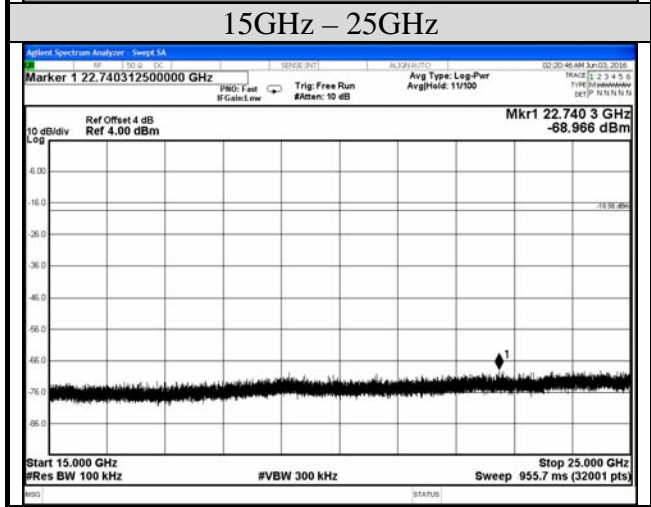
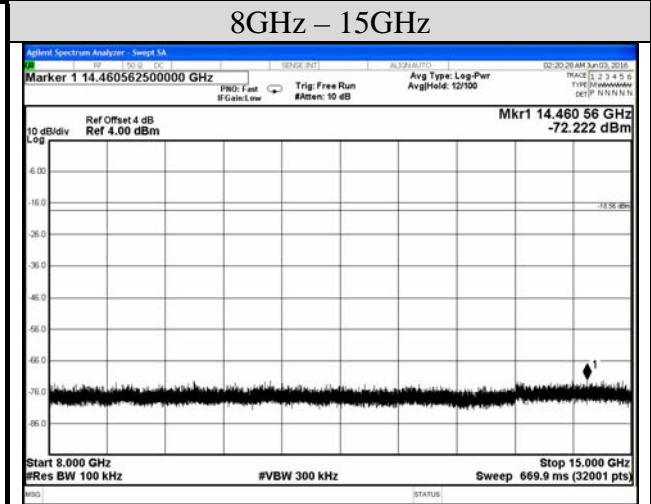
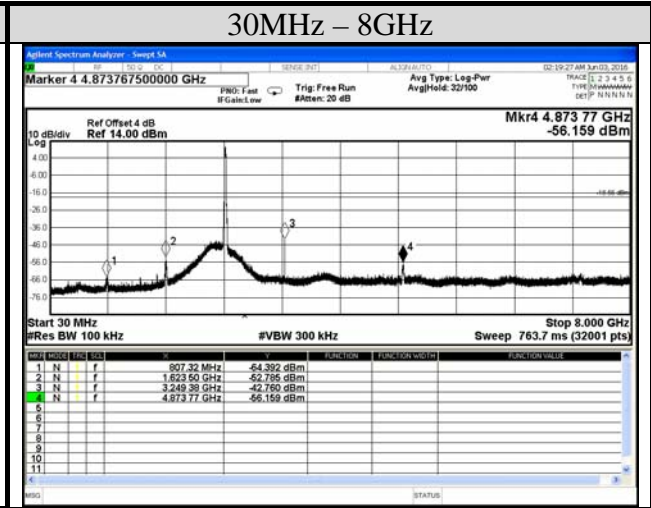
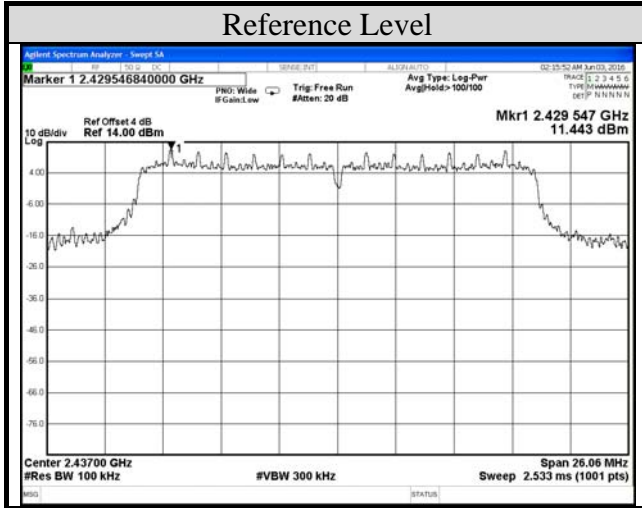
Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT20	Frequency	TX 2412MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3



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Test Date	2016/06/03	Temp./Hum.	26°C/55%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT20	Frequency	TX 2437MHz
Simultaneous Factor10 log(n) (Note: "n" is antenna number)			3

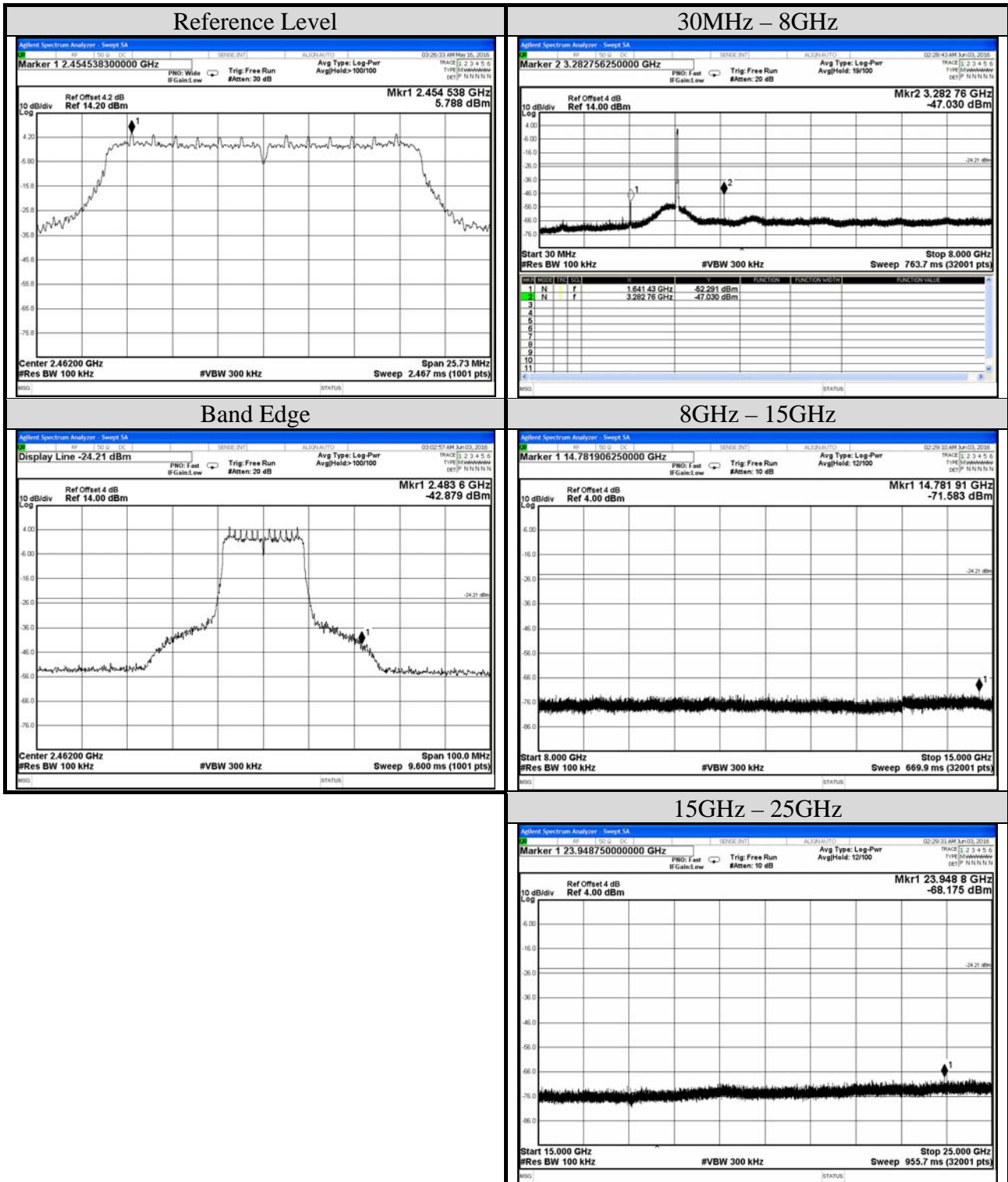




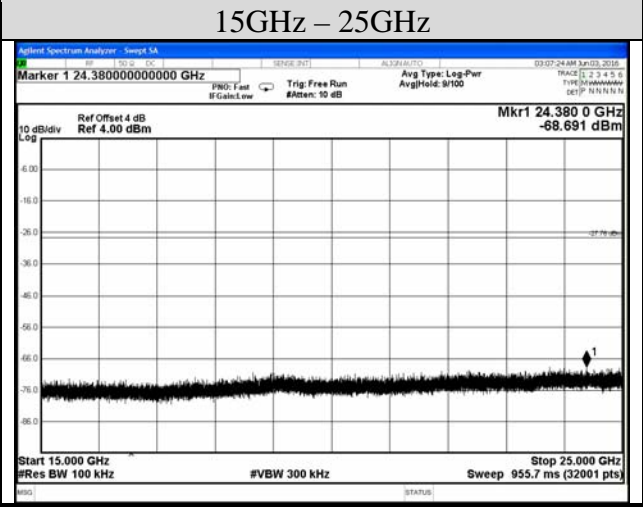
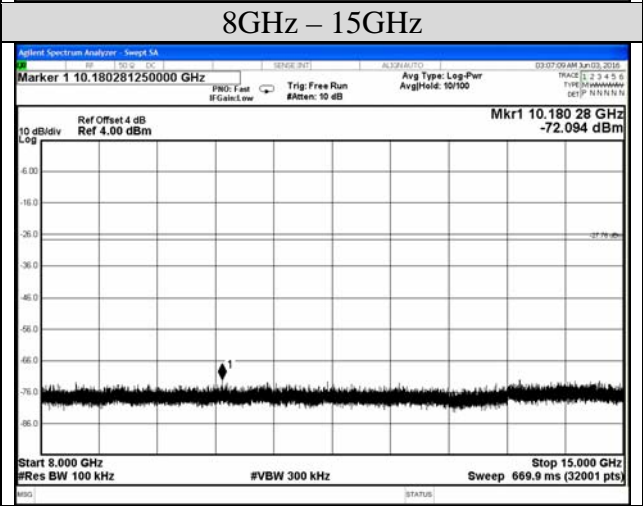
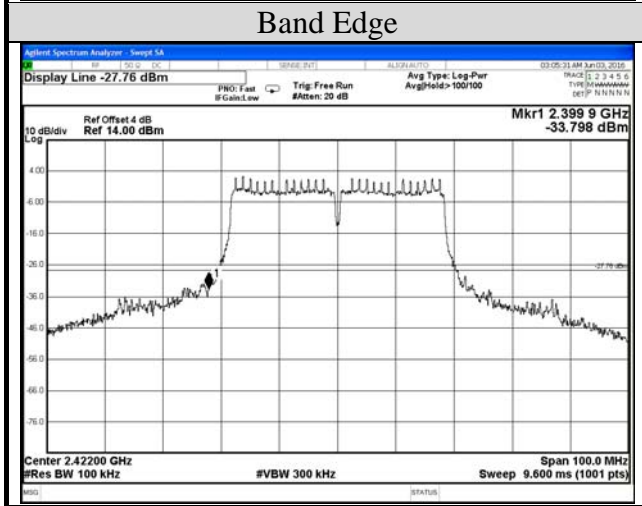
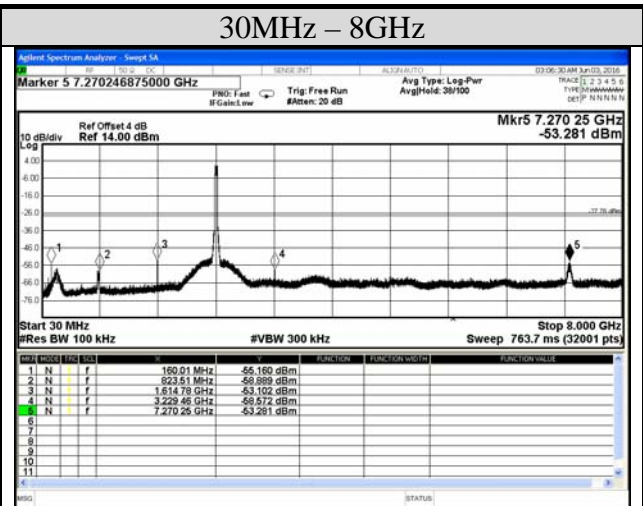
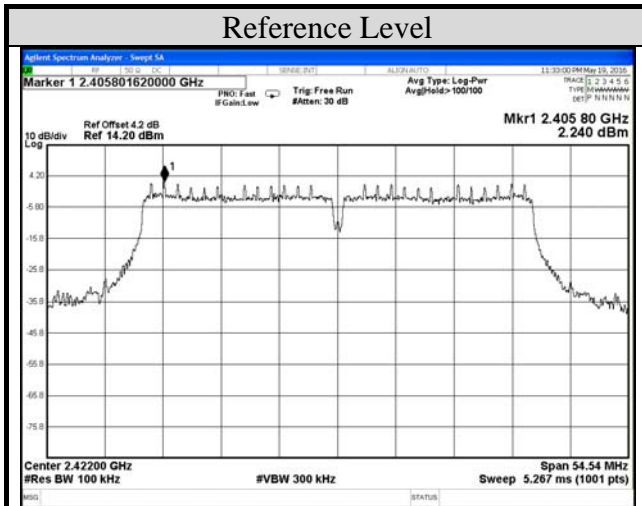
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Test Date	2016/05/16~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT20	Frequency	TX 2462MHz
Simultaneous Factor	10 log(n) (Note: "n" is antenna number)		3



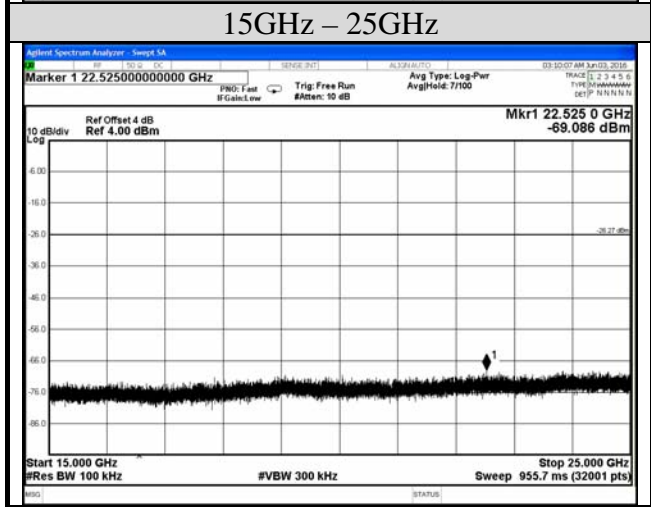
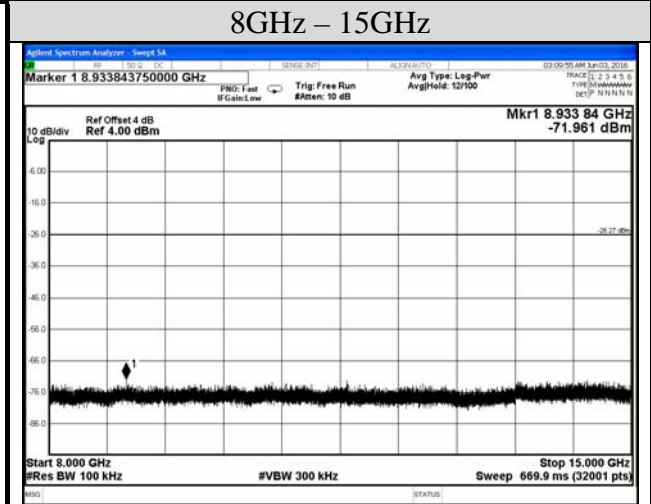
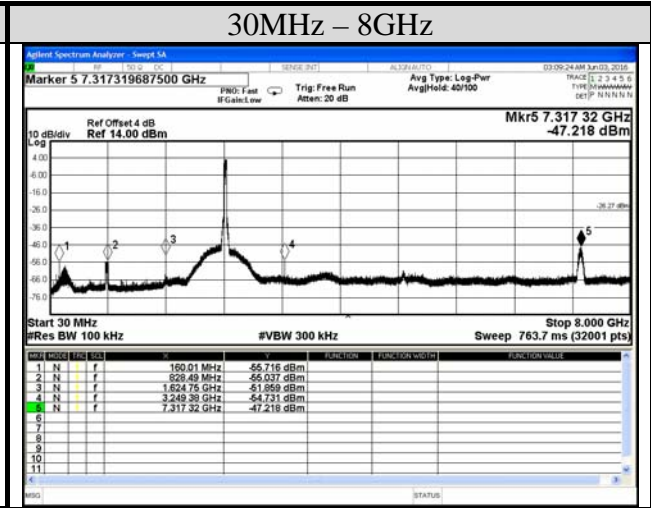
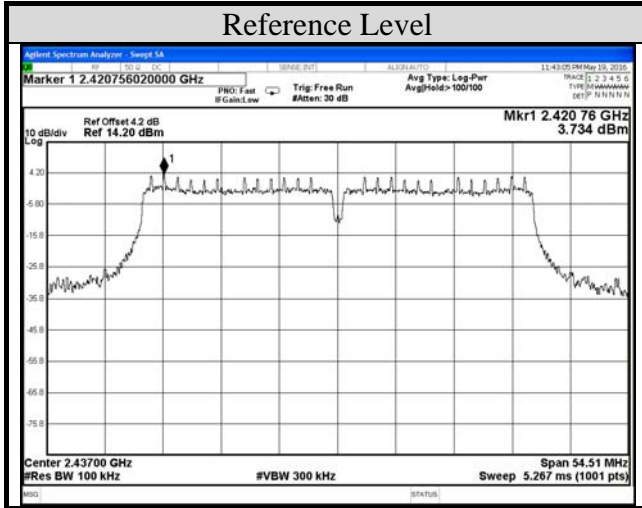
Test Date	2016/05/19~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT40	Frequency	TX 2422MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3



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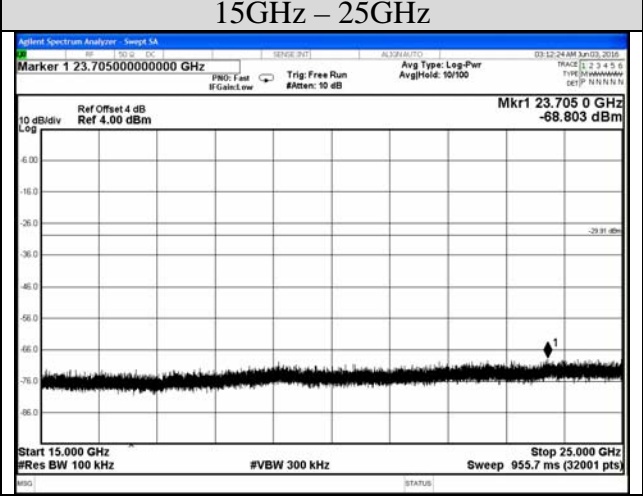
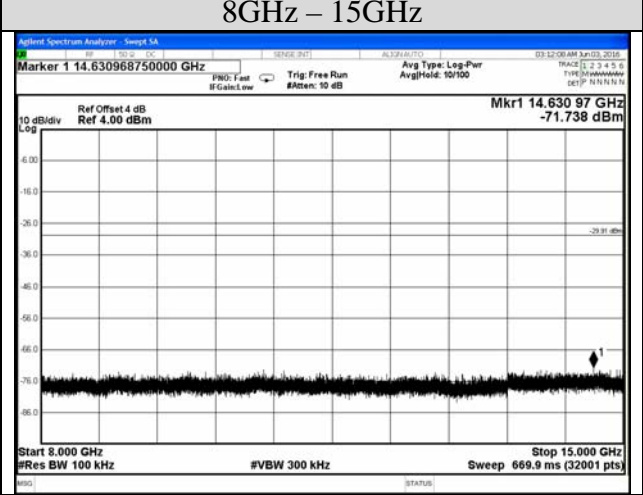
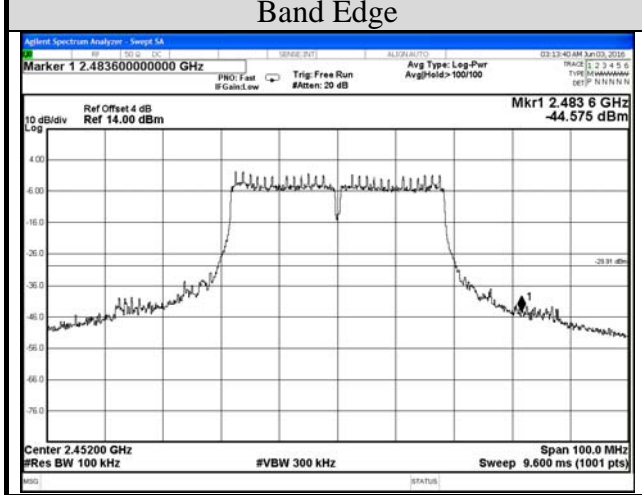
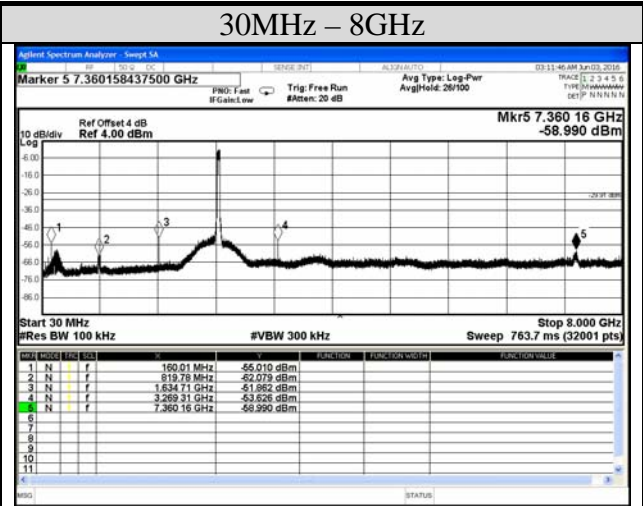
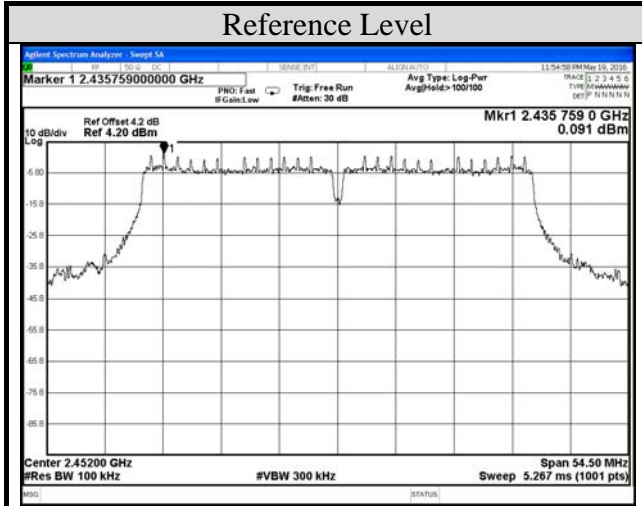
Test Date	2016/05/19~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT40	Frequency	TX 2437MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3



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Test Date	2016/05/19~06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Mode	802.11n-HT40	Frequency	TX 2452MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3



## A.4 POWER SPECTRAL DENSITY

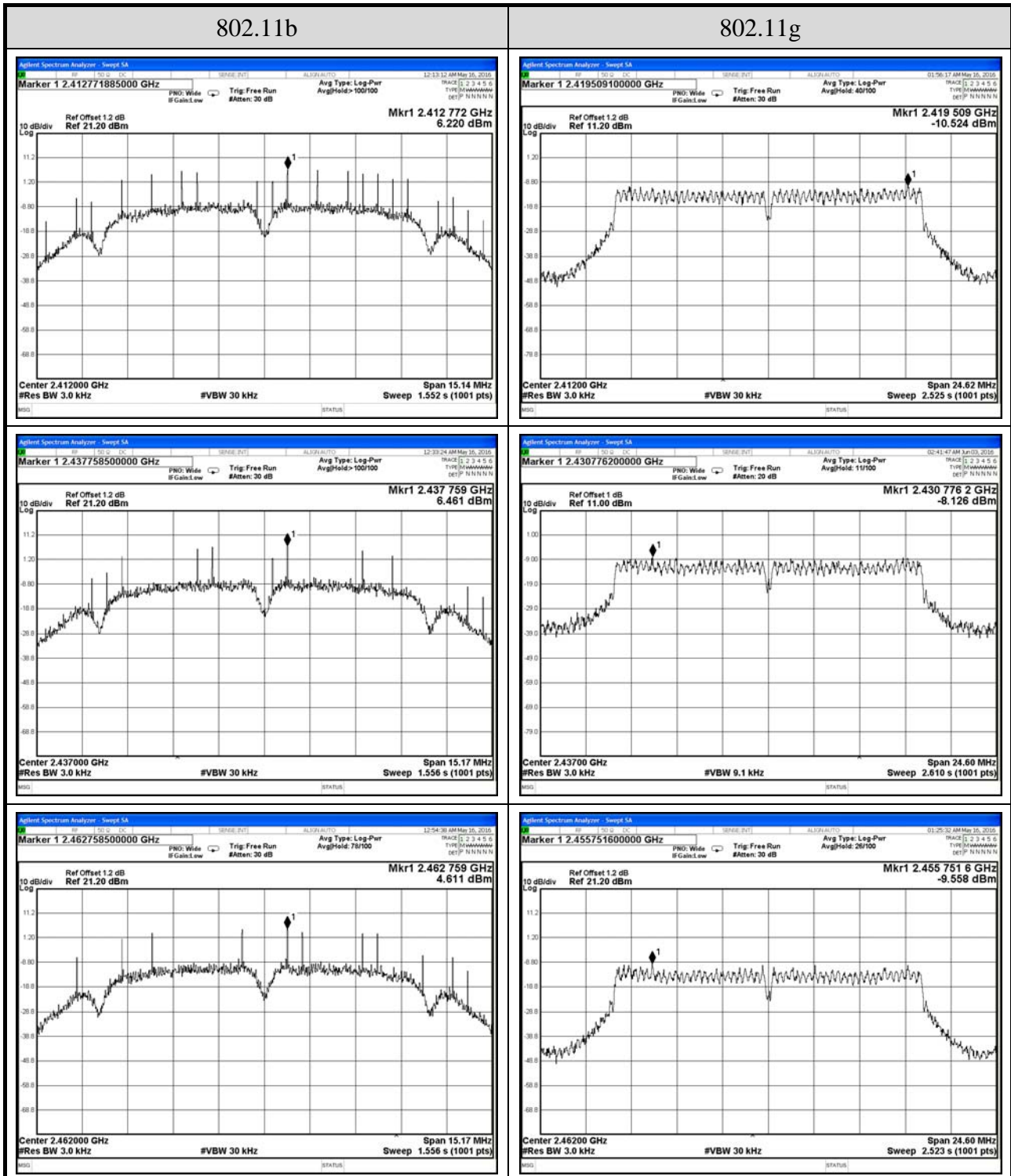
Test Date	2016/05/16 ~ 19, 06/03	Temp./Hum.	25~ 26°C/55 ~ 58%
Cable Loss	1.2dB	Test Voltage	AC 120V, 60Hz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			3

### A.4.1 Power Spectral Density Result

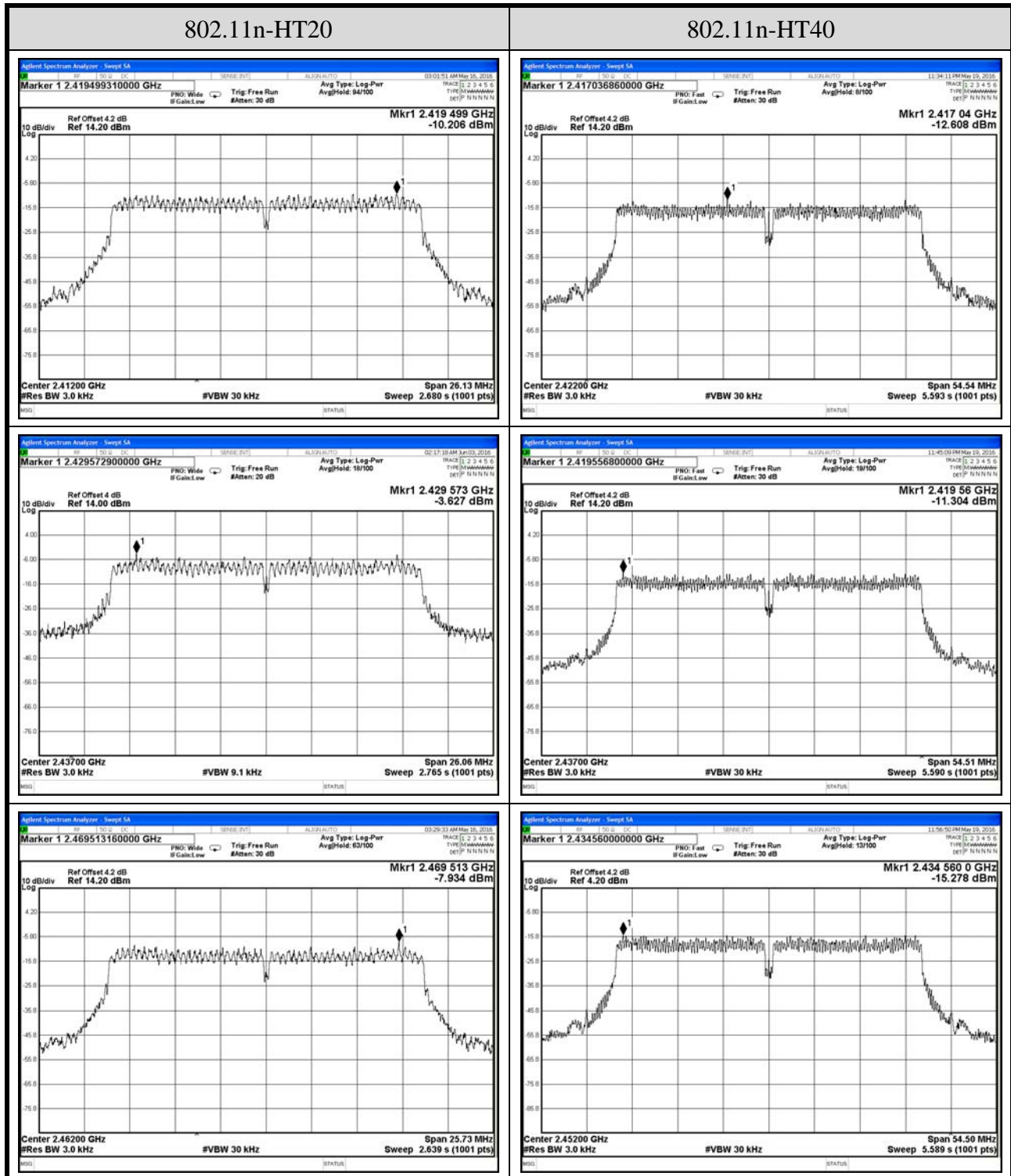
Modulation Type	Centre Frequency (MHz)	Power Spectral Density (dBm)	Limit
802.11b	2412	6.220	< 8 dBm/3kHz
	2437	6.461	
	2462	4.611	
802.11g	2412	-10.524	
	2437	-8.126	
	2462	-9.558	
802.11n-HT20 <sup>Note</sup>	2412	-10.206	
	2437	-3.627	
	2462	-7.934	
802.11n-HT40 <sup>Note</sup>	2422	-12.608	
	2437	-11.304	
	2452	-15.278	

Note: All results have been included cable loss and Simultaneous Factor.

A.4.2 Measurement Plots



Note: All results have been included cable loss and Simultaneous Factor.



Note: All results have been included cable loss and Simultaneous Factor.



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**APPENDIX B**

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# APPENDIX B

## TEST PHOTOGRAPHS

(Model: RT-N300)

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**File Number: C1M1605001**

**Report Number: EM-F160316**

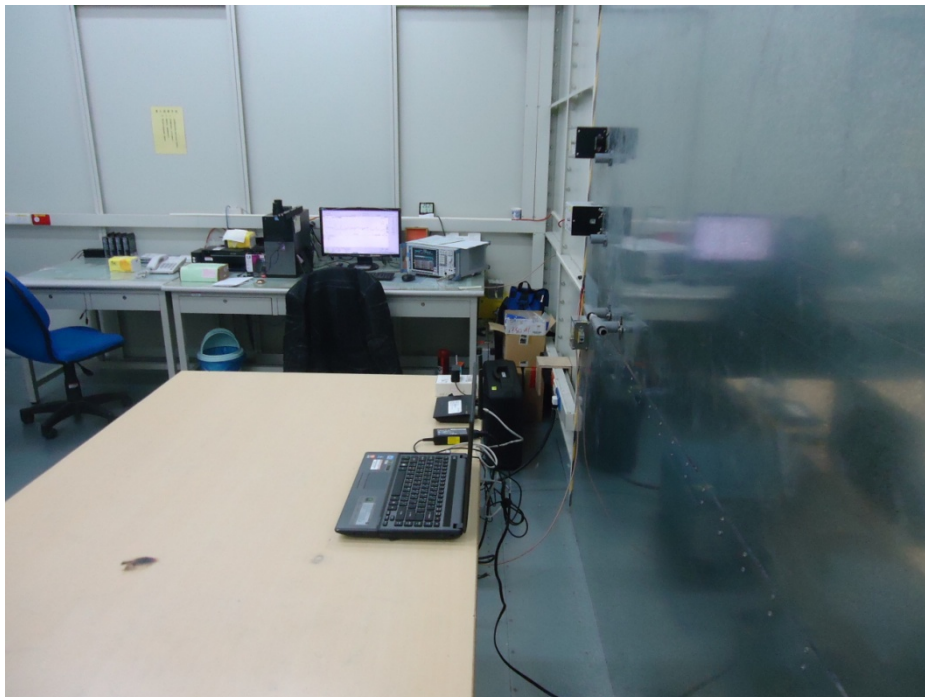
***This test report may be reproduced in full only. The document may only be updated by AUDIX Technology Corp. personnel. Any changes will be noted in the Document History section of the report.***



## B.1. Conducted Emission Measurement



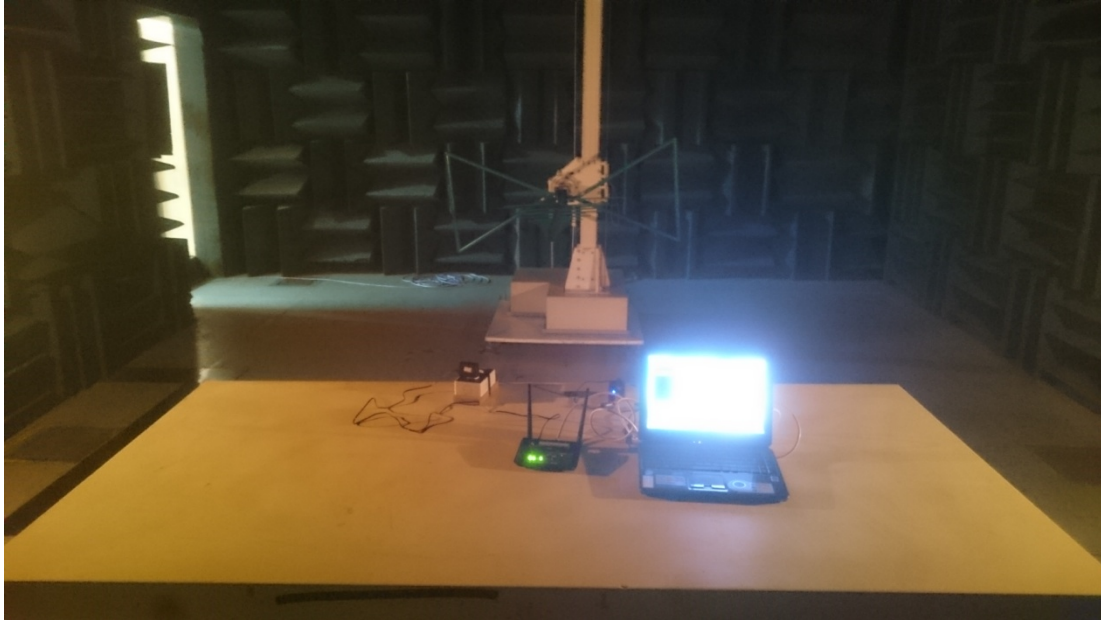
FRONT VIEW



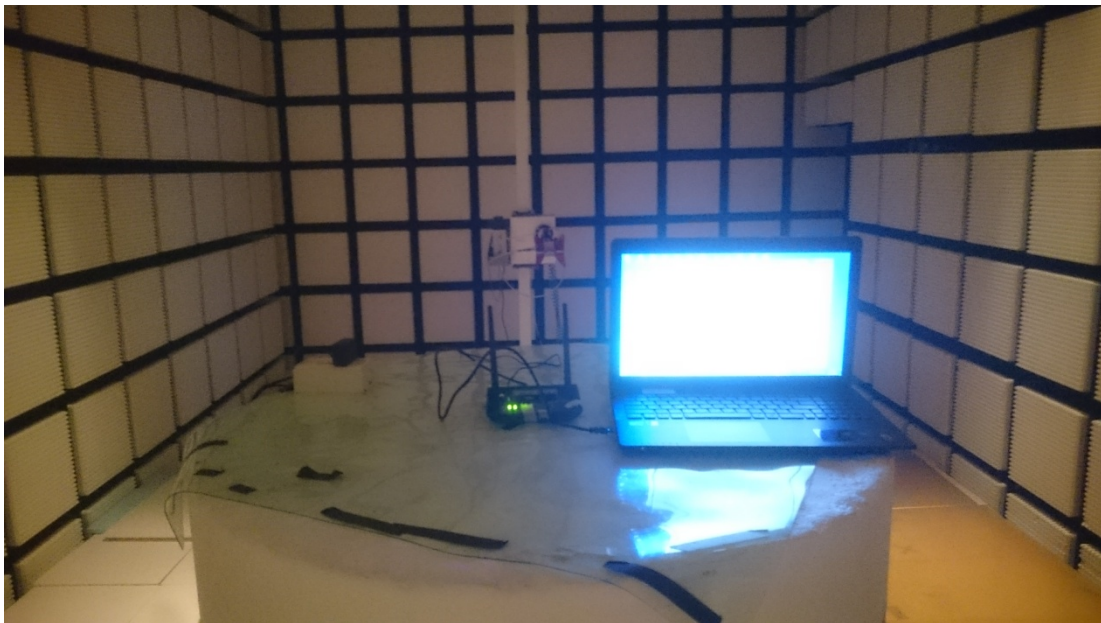
BACK VIEW

## B.2. Radiated Measurement at Semi-Anechoic Chamber

Frequency Below 1GHz



Frequency Above 1GHz



### B.3. RF Conducted Measurement

