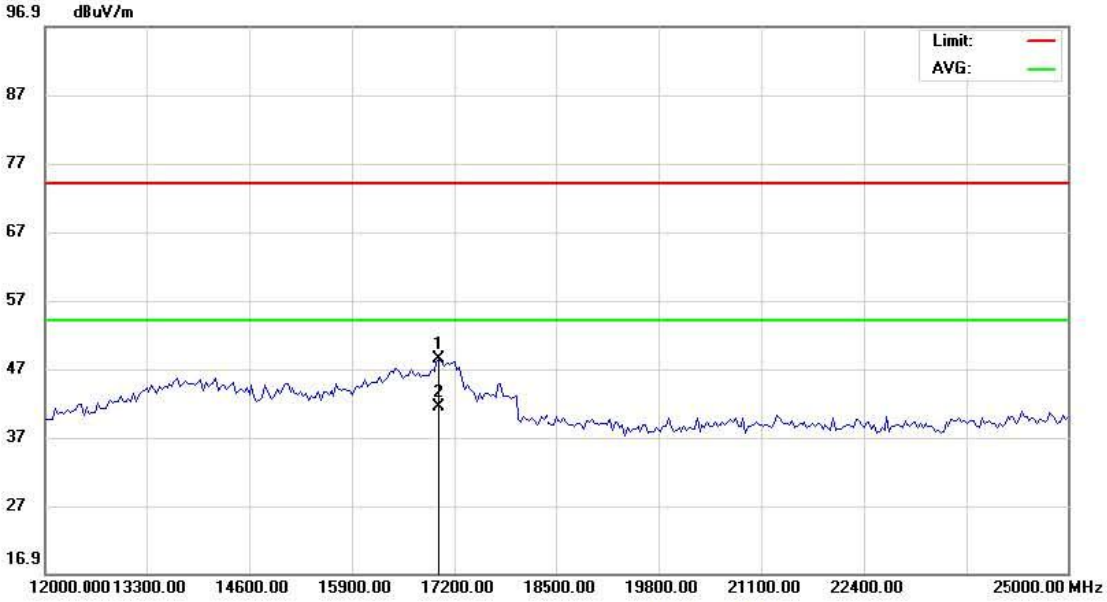
Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#160 Date: 2015-7-3 Time: 9:49:07



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(20MHz)-CH11
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		17005.00	41.46	6.90	48.36	74.00	-25.64	peak			
2	*	17005.00	34.49	6.90	41.39	54.00	-12.61	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
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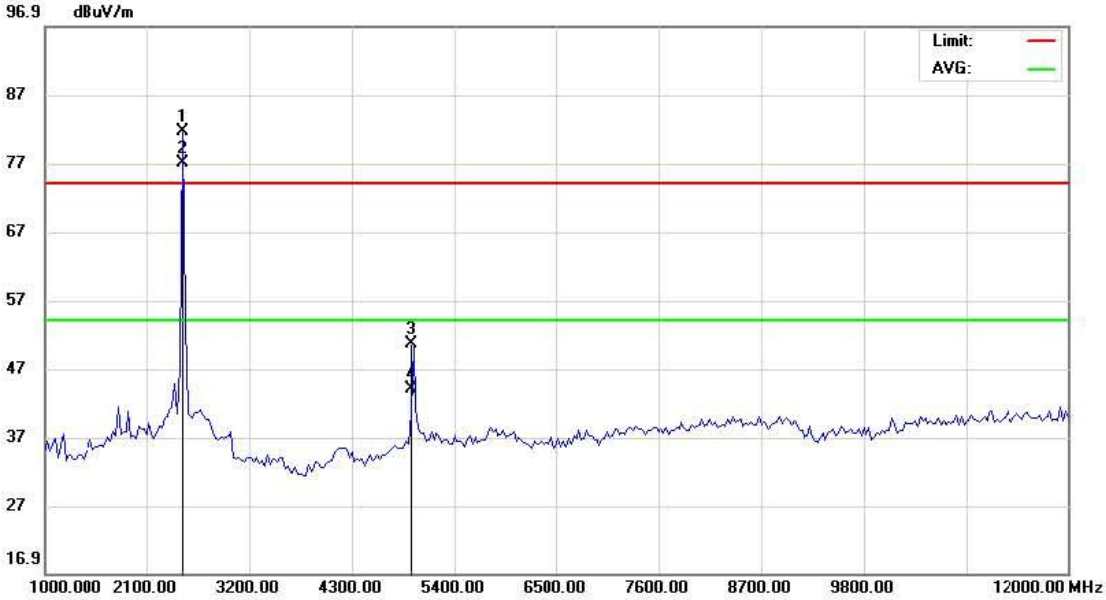
Radiated Emission Measurement

File :UD-1404 Data :#134 Date: 2015-6-30 Time: 20:19:47



Site site #1 Polarization: *Vertical* Temperature: 24.2
Limit: FCC 1-12G PEAK Power: DC 19V by Adapter Humidity: 51.3 %
EUT: Sound bar Distance: 3m
M/N: UD-1404
Mode: 802.11n(20MHz)-CH11
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2462.000	90.02	-8.33	81.69	74.00	7.69	peak			
2	*	2462.000	85.33	-8.33	77.00	54.00	23.00	AVG			
3		4924.000	55.38	-4.71	50.67	74.00	-23.33	peak			
4		4924.000	48.74	-4.71	44.03	54.00	-9.97	AVG			

*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

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Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
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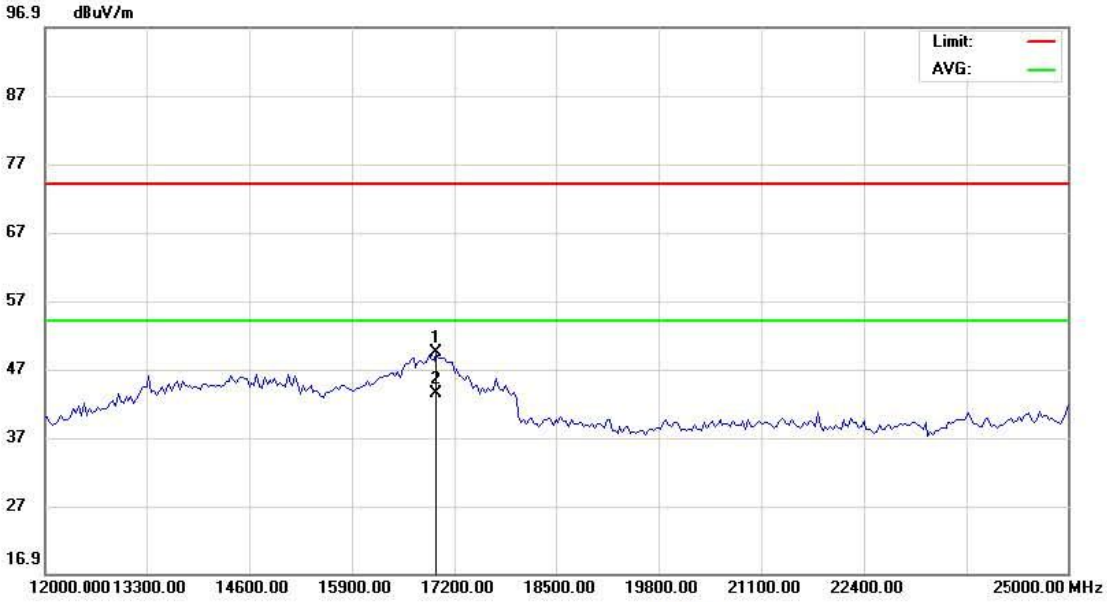
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#161 Date: 2015-7-3 Time: 9:57:00



Site site #1 Polarization: *Vertical* Temperature: 24.9
Limit: FCC 12-25G PEAK Power: DC 19V by Adapter Humidity: 51.7 %
EUT: Sound bar Distance: 3m
M/N: UD-1404
Mode: 802.11n(20MHz)-CH11
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		16972.50	42.50	6.84	49.34	74.00	-24.66	peak			
2	*	16972.50	36.53	6.84	43.37	54.00	-10.63	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
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Radiated Emission Measurement

File :UD-1404 Data :#143 Date: 2015-6-30 Time: 21:26:11

Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH1
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2422.000	87.55	-8.39	79.16	74.00	5.16	peak			
2	*	2422.000	80.36	-8.39	71.97	54.00	17.97	AVG			
3		4844.000	54.10	-5.67	48.43	74.00	-25.57	peak			
4		4844.000	48.02	-5.67	42.35	54.00	-11.65	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
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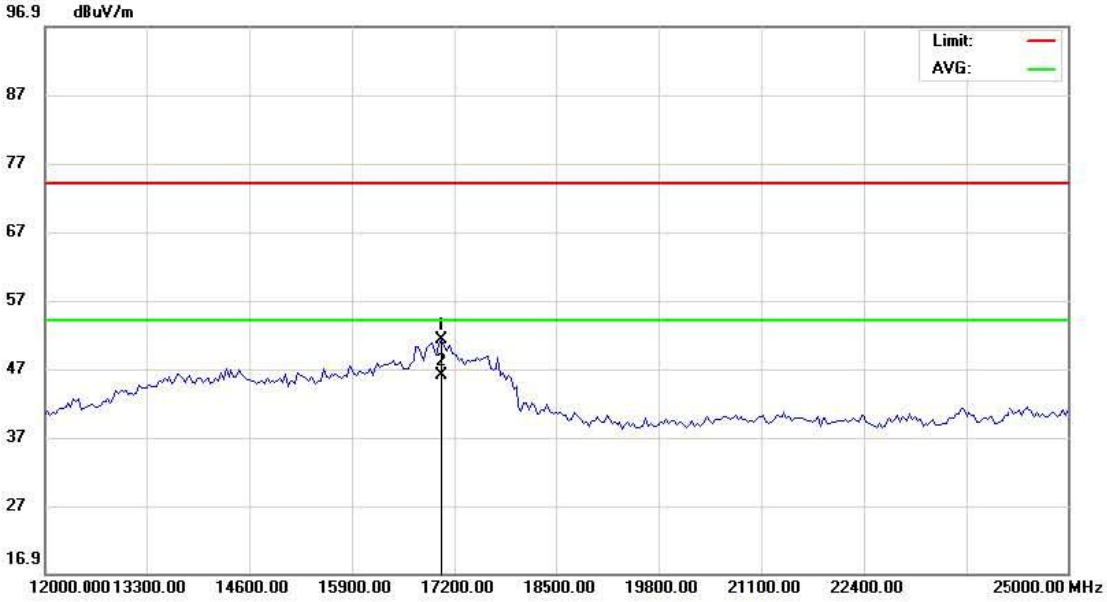
Radiated Emission Measurement

File :UD-1404 Data :#163 Date: 2015-7-3 Time: 10:11:11



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH1
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		17037.50	44.42	6.73	51.15	74.00	-22.85	peak			
2	*	17037.50	39.21	6.73	45.94	54.00	-8.06	AVG			

*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

Compliance Laboratory
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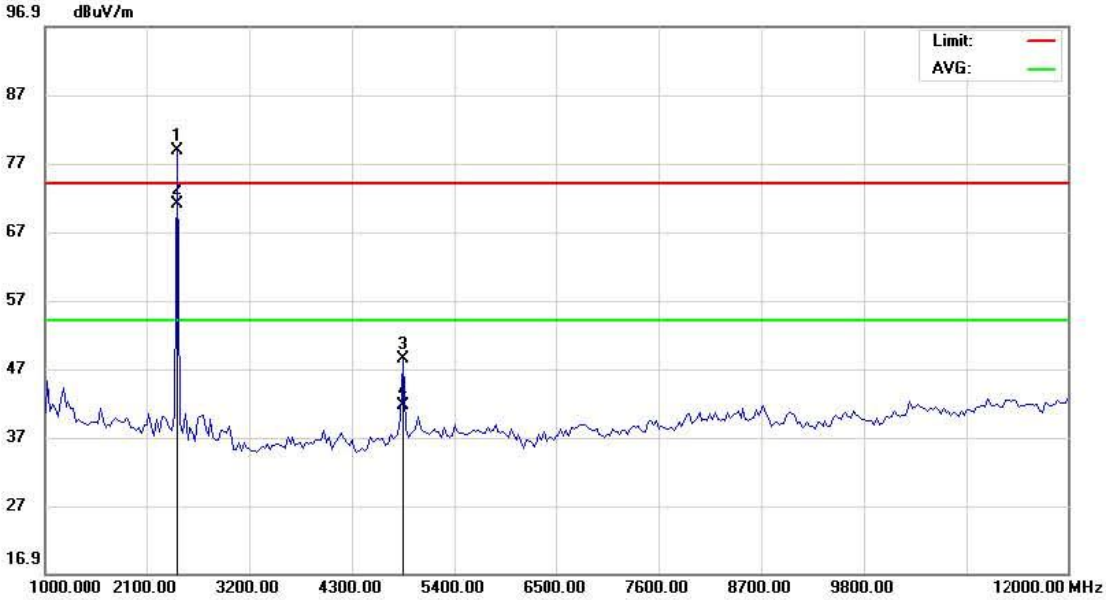
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#144 Date: 2015-6-30 Time: 21:38:30



Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH1
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2422.000	87.10	-8.39	78.71	74.00	4.71	peak			
2	*	2422.000	79.45	-8.39	71.06	54.00	17.06	AVG			
3		4844.000	54.08	-5.67	48.41	74.00	-25.59	peak			
4		4844.000	47.22	-5.67	41.55	54.00	-12.45	AVG			

*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

Compliance Laboratory
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Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#162 Date: 2015-7-3 Time: 10:05:36

Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH1
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter

Temperature: 24.9
Humidity: 51.7 %
Distance: 3m

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		16810.00	43.99	6.30	50.29	74.00	-23.71	peak			
2	*	16810.00	36.39	6.30	42.69	54.00	-11.31	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
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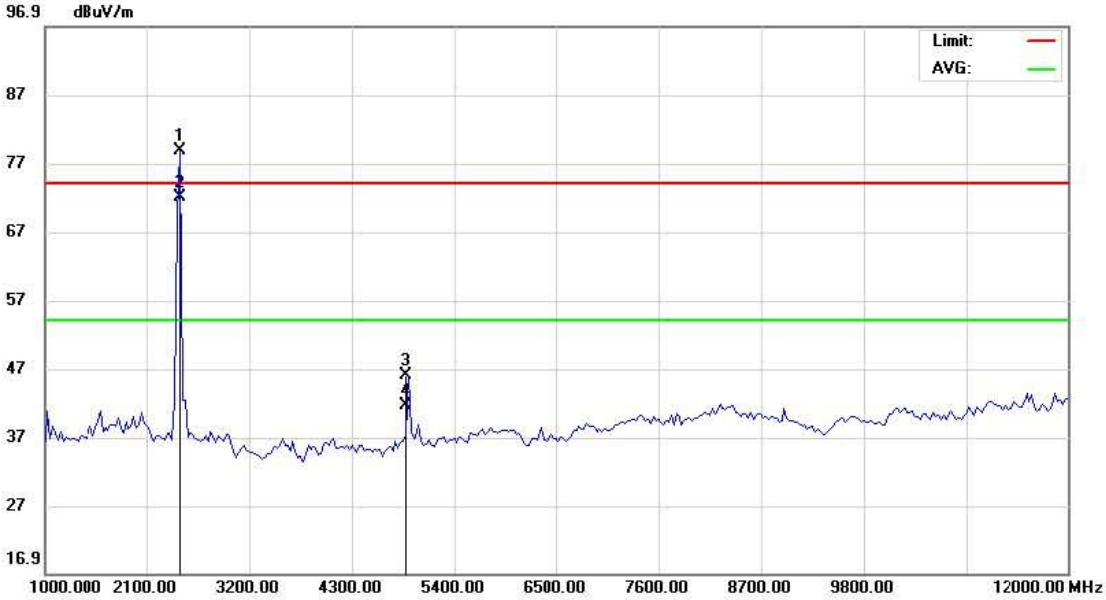
Radiated Emission Measurement

File :UD-1404 Data :#145 Date: 2015-6-30 Time: 21:49:07



Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH6
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2437.000	87.19	-8.37	78.82	74.00	4.82	peak			
2	*	2437.000	80.33	-8.37	71.96	54.00	17.96	AVG			
3		4874.000	51.25	-5.31	45.94	74.00	-28.06	peak			
4		4874.000	46.97	-5.31	41.66	54.00	-12.34	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
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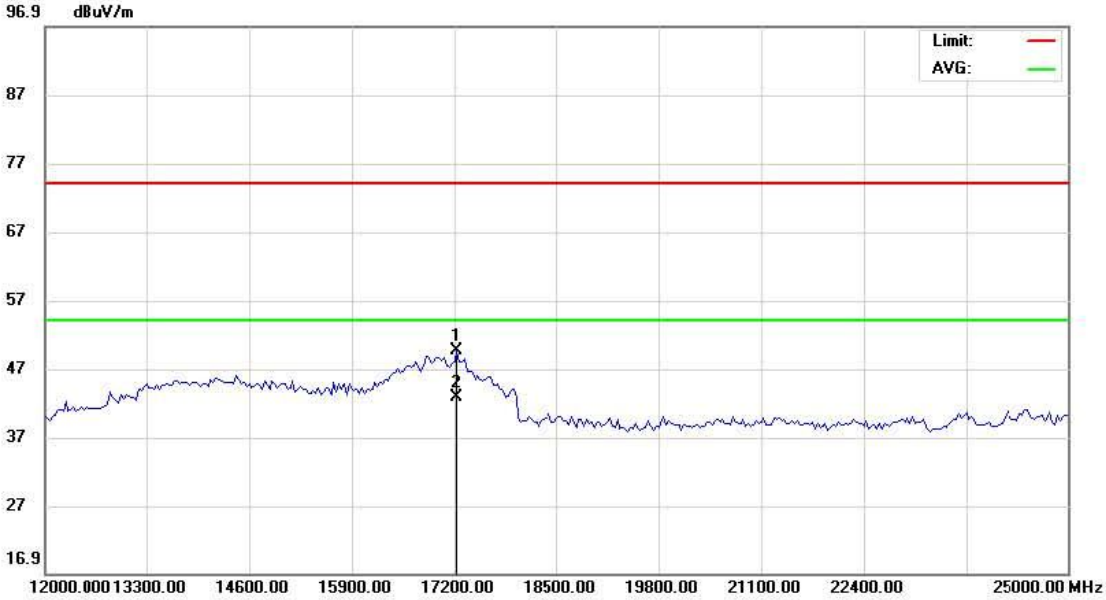
Radiated Emission Measurement

File :UD-1404 Data :#164 Date: 2015-7-3 Time: 10:19:54



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH6
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		17232.50	43.92	5.66	49.58	74.00	-24.42	peak			
2	*	17232.50	37.11	5.66	42.77	54.00	-11.23	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
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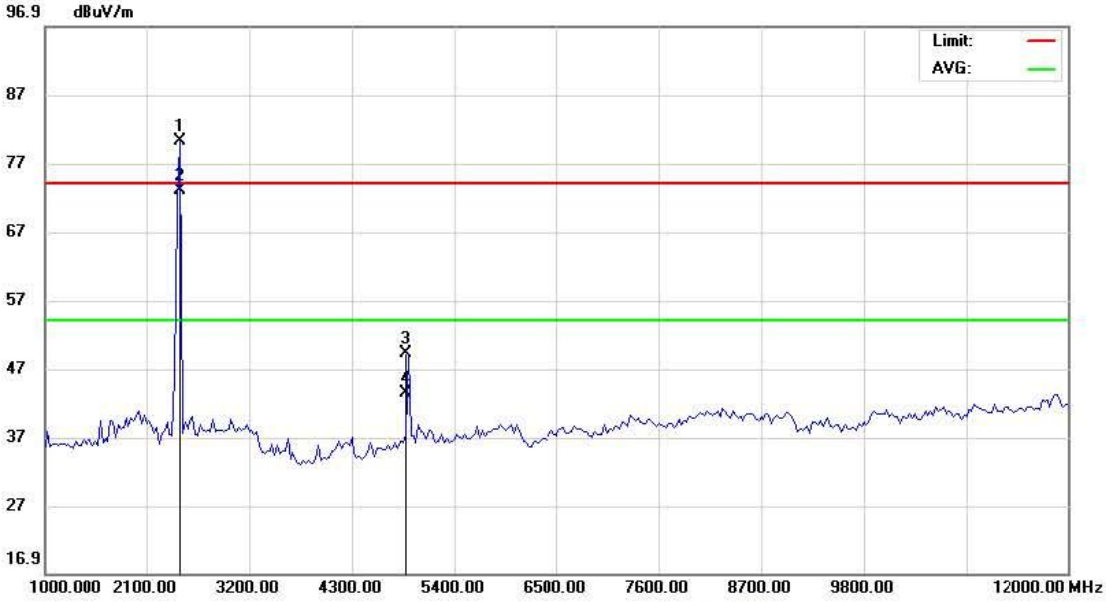
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#146 Date: 2015-6-30 Time: 22:05:54



Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH6
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2437.000	88.54	-8.37	80.17	74.00	6.17	peak			
2	*	2437.000	81.39	-8.37	73.02	54.00	19.02	AVG			
3		4874.000	54.60	-5.31	49.29	74.00	-24.71	peak			
4		4874.000	48.66	-5.31	43.35	54.00	-10.65	AVG			

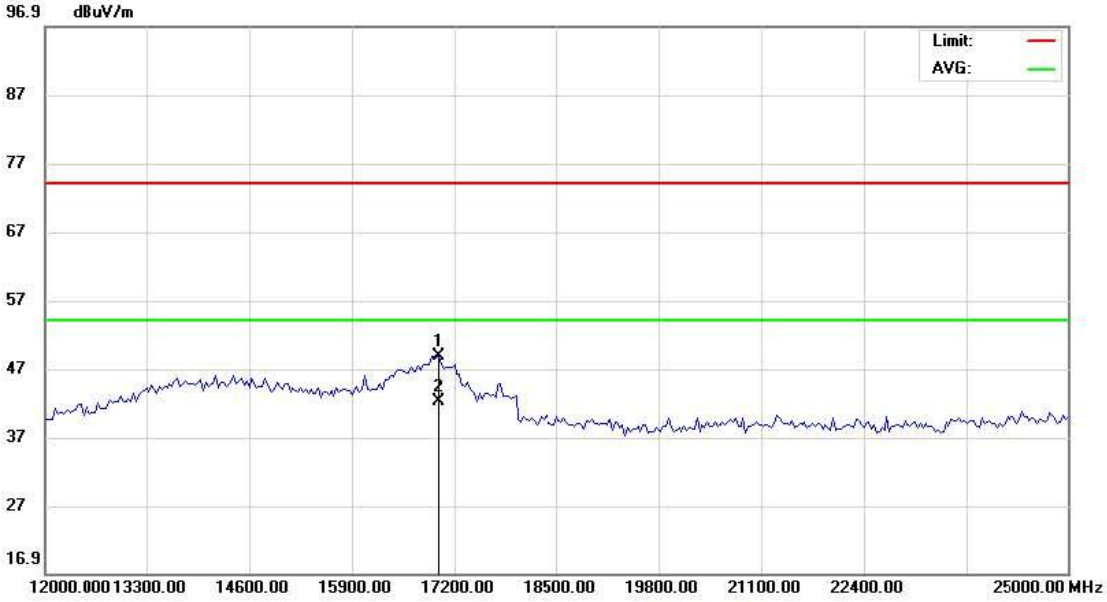
*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#165 Date:2015-7-3 Time: 10:26:36



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH6
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		17005.00	41.96	6.90	48.86	74.00	-25.14	peak			
2	*	17005.00	35.29	6.90	42.19	54.00	-11.81	AVG			

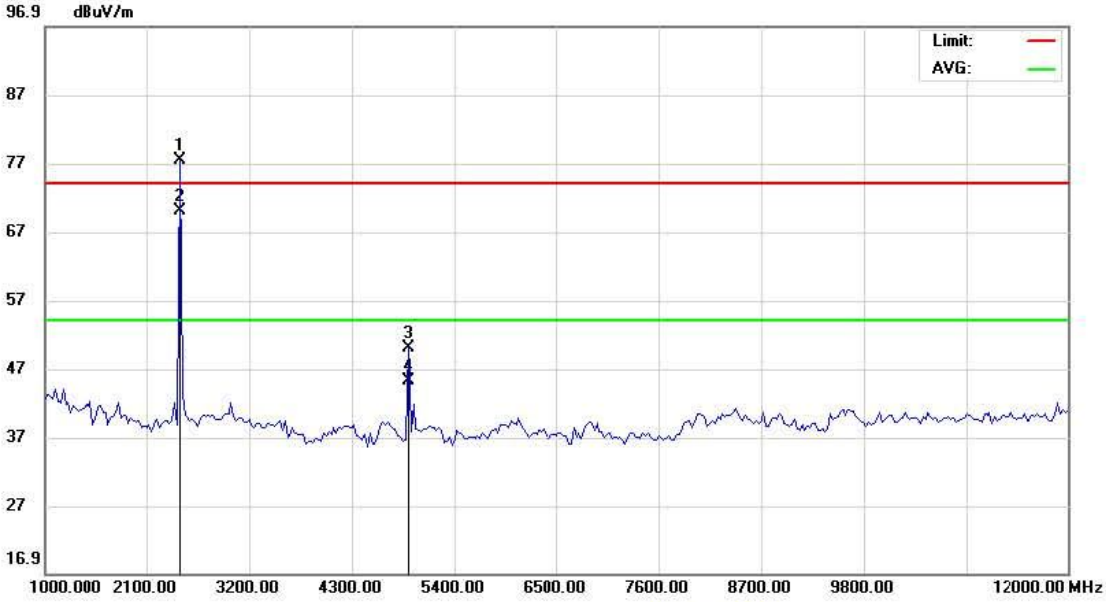
*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#147 Date: 2015-6-30 Time: 22:15:37



Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH11
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2452.000	85.76	-8.34	77.42	74.00	3.42	peak			
2	*	2452.000	78.33	-8.34	69.99	54.00	15.99	AVG			
3		4904.000	55.05	-4.95	50.10	74.00	-23.90	peak			
4		4904.000	50.10	-4.95	45.15	54.00	-8.85	AVG			

*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

Compliance Laboratory
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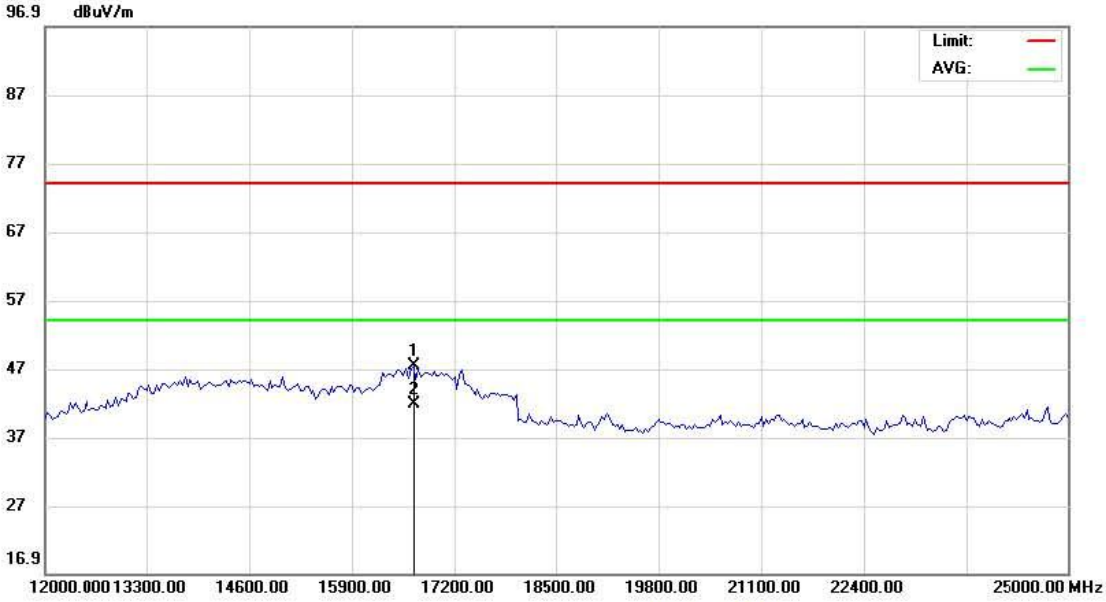
Radiated Emission Measurement

File :UD-1404 Data :#167 Date: 2015-7-3 Time: 10:55:15



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH11
Note:

Polarization: *Horizontal*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.2
Humidity: 51.3 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		16680.00	41.63	5.87	47.50	74.00	-26.50	peak			
2	*	16680.00	35.88	5.87	41.75	54.00	-12.25	AVG			

*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
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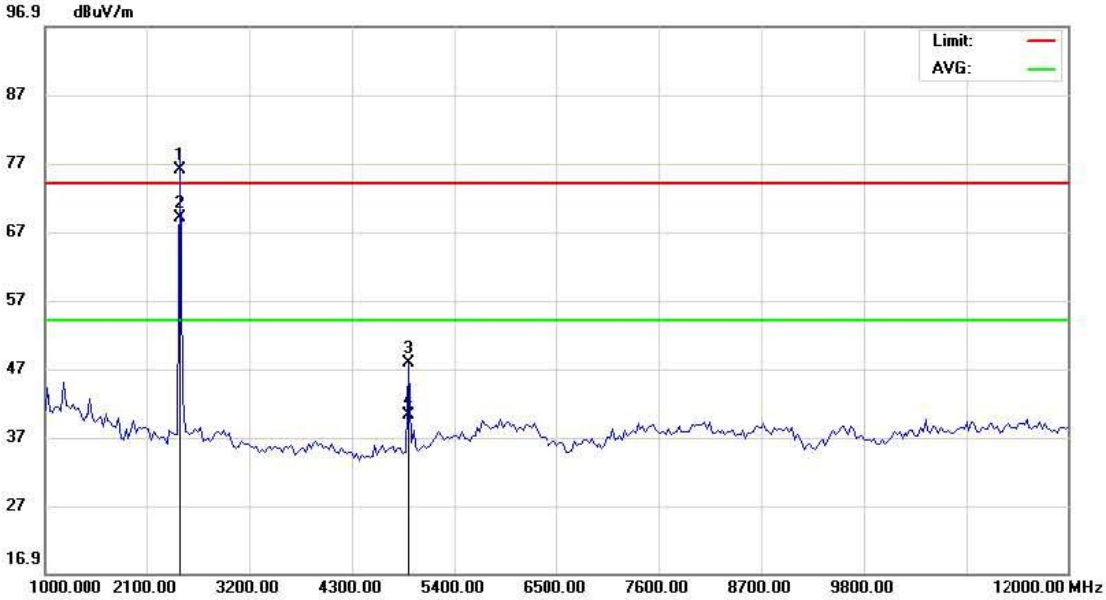
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#148 Date: 2015-6-30 Time: 22:29:47



Site site #1
Limit: FCC 1-12G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: N40-CH11
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter

Temperature: 24.9
Humidity: 51.7 %
Distance: 3m

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	X	2452.000	84.40	-8.34	76.06	74.00	2.06	peak			
2	*	2452.000	77.25	-8.34	68.91	54.00	14.91	AVG			
3		4904.000	52.66	-4.95	47.71	74.00	-26.29	peak			
4		4904.000	45.14	-4.95	40.19	54.00	-13.81	AVG			

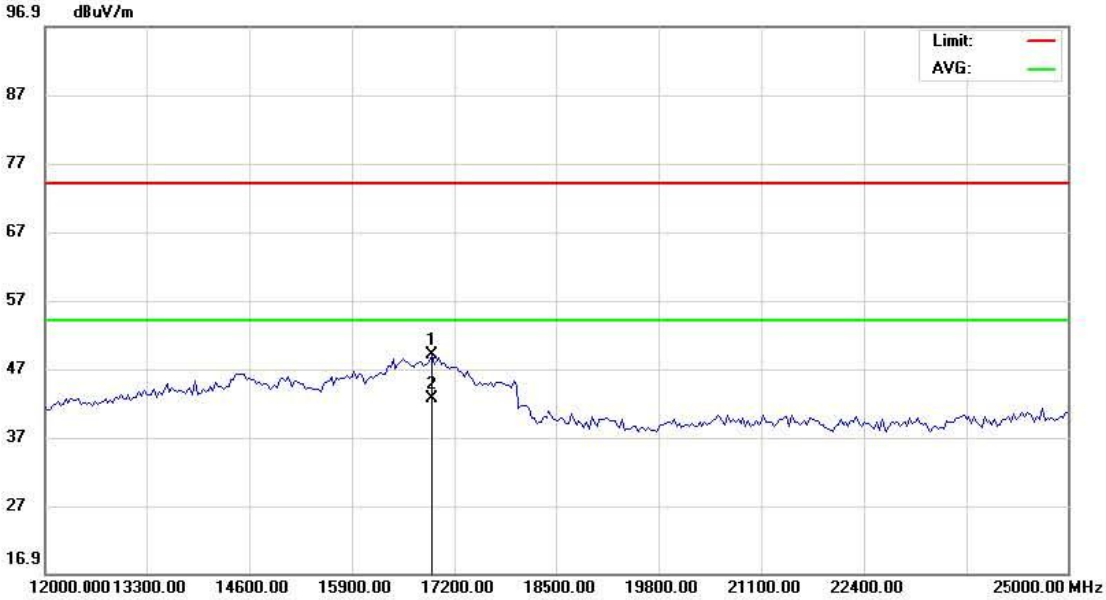
*:Maximum data x:Over limit l:over margin

Engineer Signature: lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :UD-1404 Data :#166 Date: 2015-7-3 Time: 10:42:40



Site site #1
Limit: FCC 12-25G PEAK
EUT: Sound bar
M/N: UD-1404
Mode: 802.11n(40MHz)-CH11
Note:

Polarization: *Vertical*
Power: DC 19V by Adapter
Distance: 3m

Temperature: 24.9
Humidity: 51.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		16907.50	42.36	6.62	48.98	74.00	-25.02	peak			
2	*	16907.50	36.05	6.62	42.67	54.00	-11.33	AVG			

*:Maximum data x:Over limit l:over margin

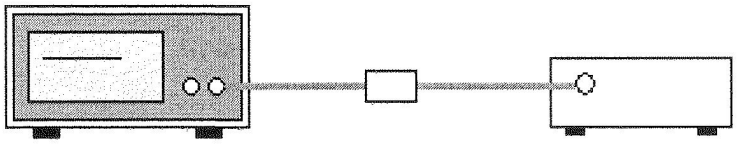
Engineer Signature: lidegan

5.5 Conducted Peak Output Power

5.5.1 Requirement

According to FCC section 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode

5.5.2 Block Diagram of Test Setup



5.5.3 Test Procedure

1. Place the EUT on a bench and set in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.
3. Add a correction factor to the reading.

5.5.4 Test Result

Test Item:	Peak Output Power	**Temperature :**	20°C
Test Engineer:	Kang	**Relative Humidity :**	55%

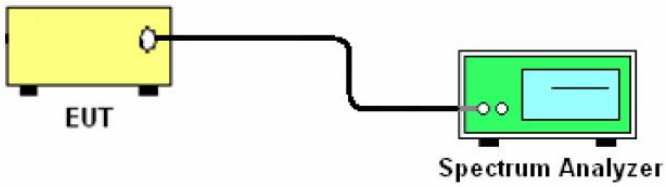
Mode	**Channel**	**Frequency (MHz)**	**Peak Output Power(dBm)**	**Limit**		**Pass/Fail**
				(mW)	**(dBm)**	
802.11b	Low	2412	9.14	1000	30	Pass
	Middle	2437	9.09	1000	30	Pass
	High	2462	9.07	1000	30	Pass
802.11g	Low	2412	9.24	1000	30	Pass
	Middle	2437	9.26	1000	30	Pass
	High	2462	9.26	1000	30	Pass
802.11n (20MHz)	Low	2412	9.03	1000	30	Pass
	Middle	2437	9.46	1000	30	Pass
	High	2462	9.37	1000	30	Pass
802.11n (40MHz)	Low	2422	9.23	1000	30	Pass
	Middle	2437	9.16	1000	30	Pass
	High	2452	9.50	1000	30	Pass

5.6 6dB Emission Bandwidth

5.6.1 Test Requirement

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.6.2 Block Diagram of Test Setup



5.6.3 Test Procedure

According to KDB 558074 D01 DTS Meas Guidance v03r02 clause8.1 Option 1:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) ≥ 3×RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

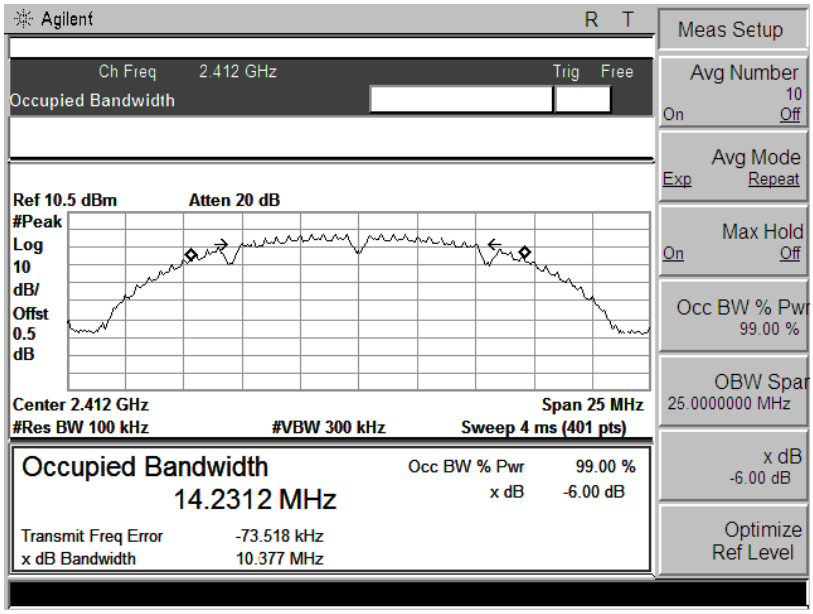
5.6.4 Test Result

Pass

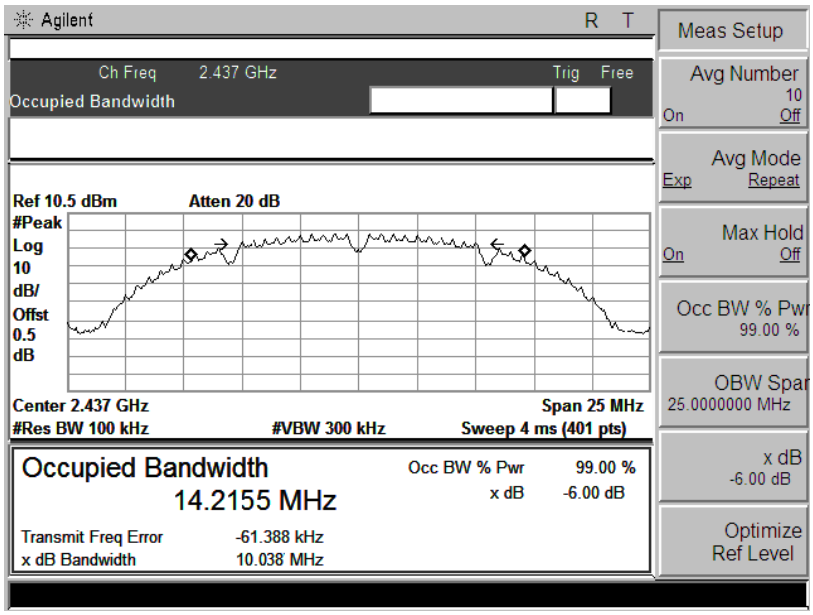
Test Item:	6dB Emission Bandwidth	Temperature :	20°C
Test Engineer:	Kang	Relative Humidity :	55%

Mode	Channel	Frequency (MHz)	6dB Bandwidth(MHz)	Limit(KHz)
802.11b	Low	2412	10.377	≥500
	Middle	2437	10.038	≥500
	High	2462	10.113	≥500
802.11g	Low	2412	16.444	≥500
	Middle	2437	16.459	≥500
	High	2462	16.424	≥500
802.11n (20MHz)	Low	2412	17.621	≥500
	Middle	2437	17.620	≥500
	High	2462	17.656	≥500
802.11n (40MHz)	Low	2422	36.055	≥500
	Middle	2437	36.250	≥500
	High	2452	36.052	≥500

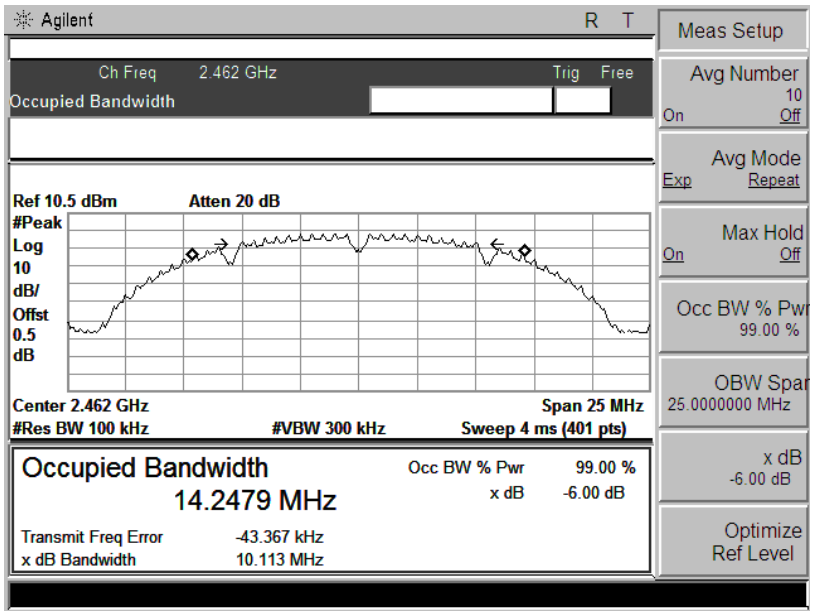
802.11 b Mode



Ch 1

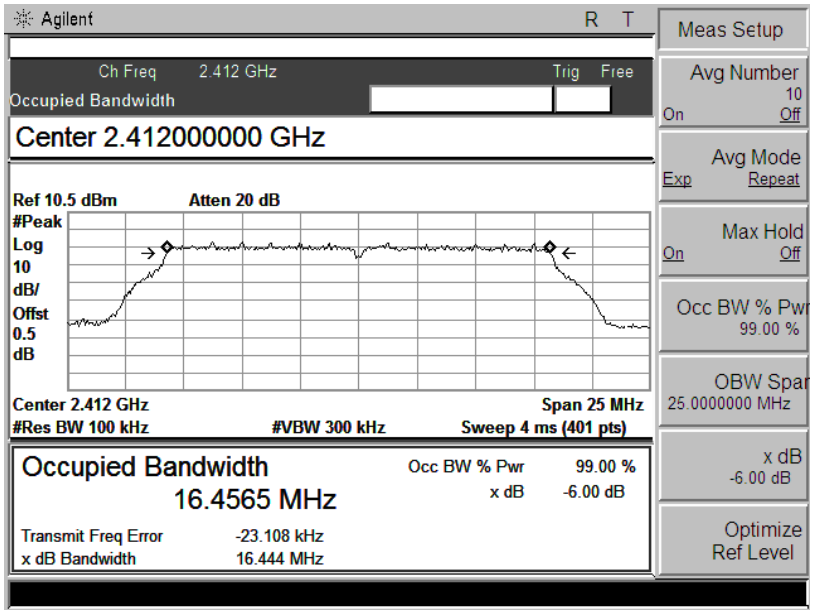


Ch 6

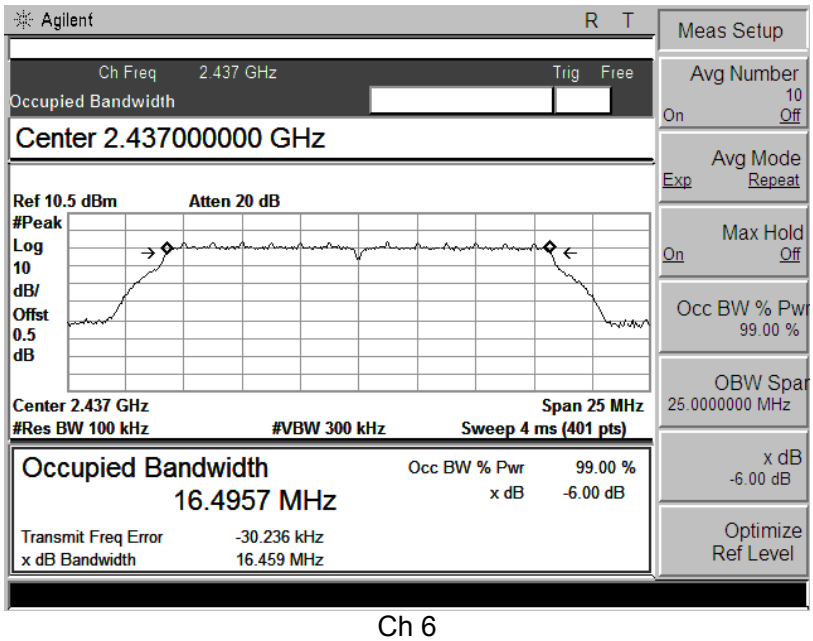


Ch 11

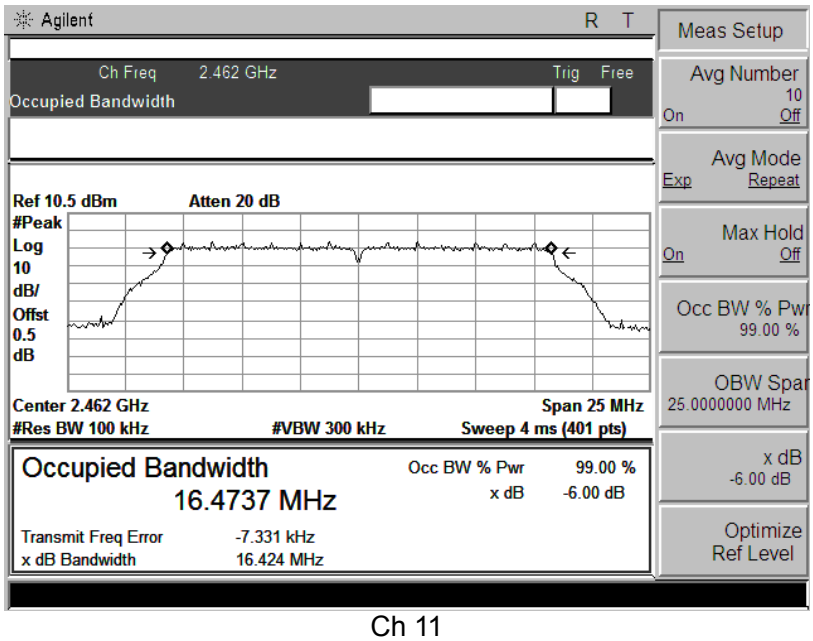
802.11 g Mode



Ch 1

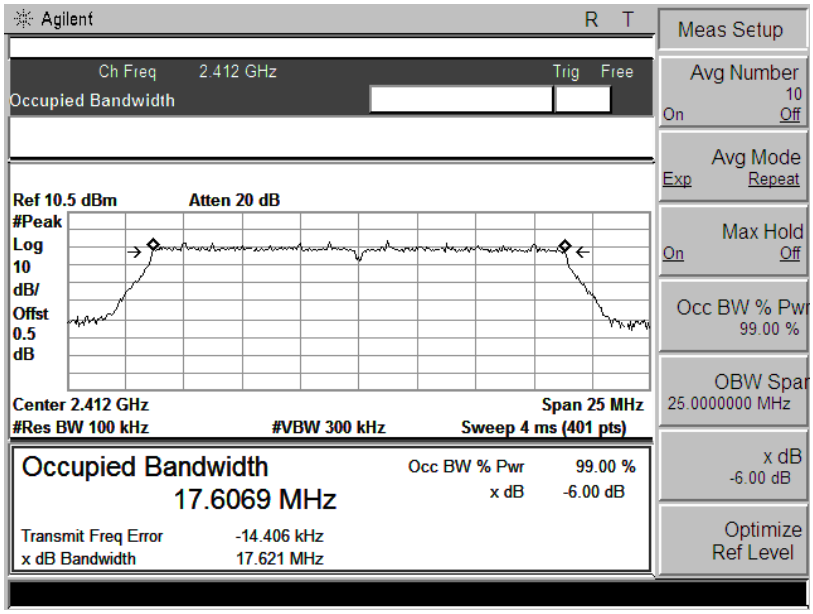


Ch 6

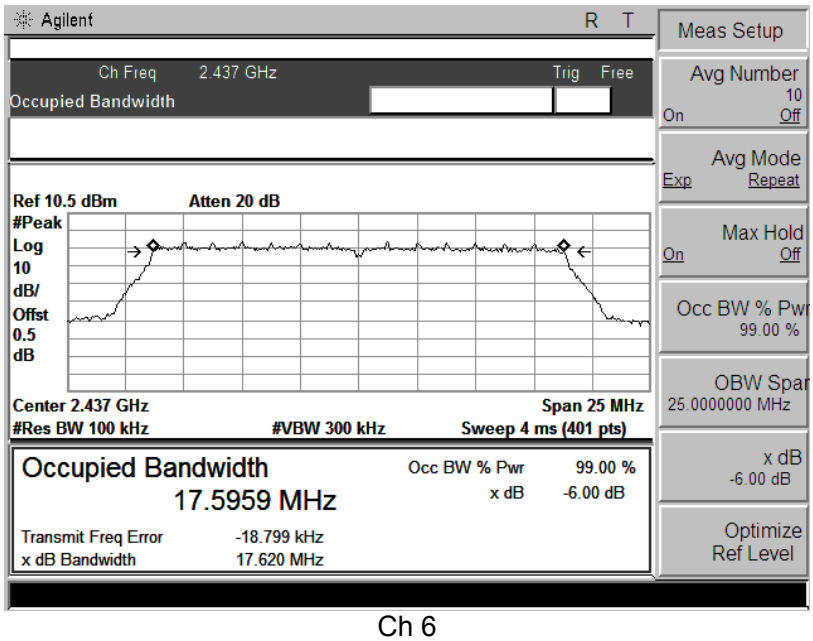


Ch 11

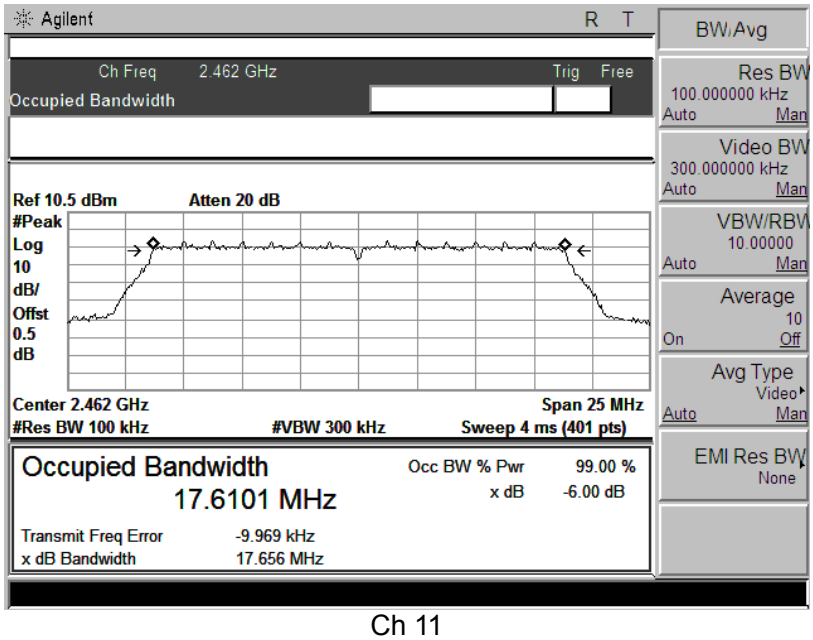
802.11 n(20M) Mode



Ch 1

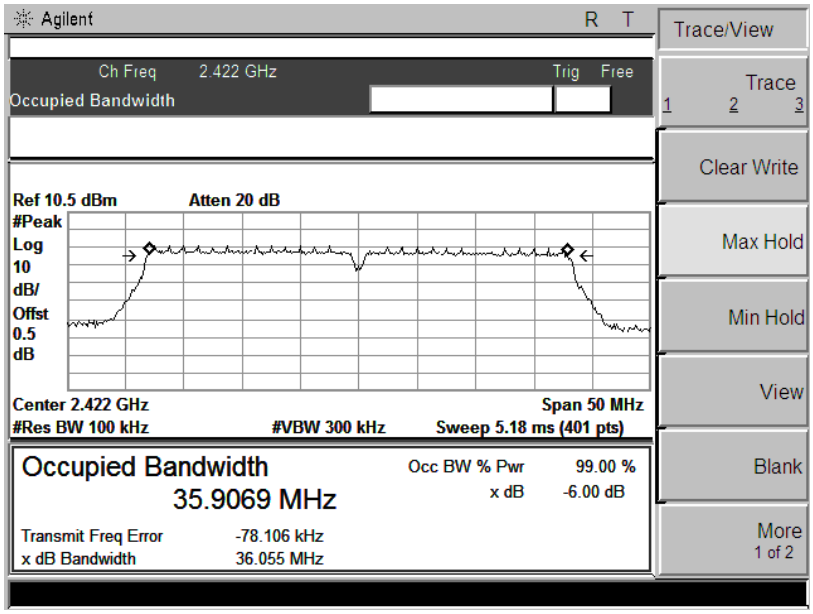


Ch 6

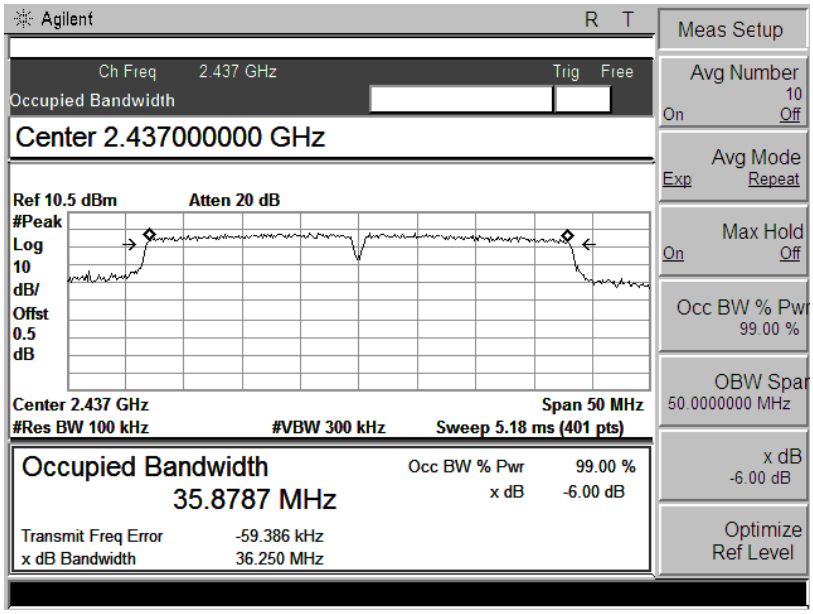


Ch 11

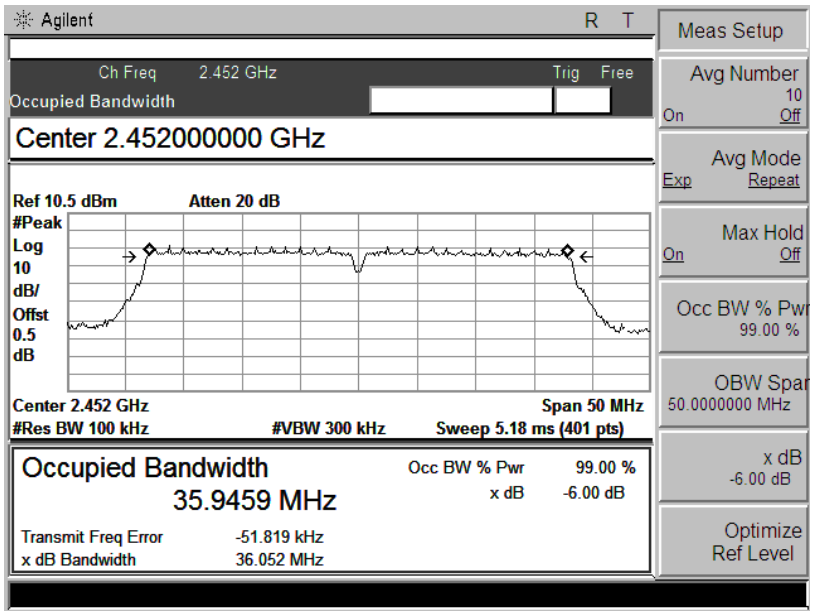
802.11 n(40M) Mode



Ch 1



Ch 6

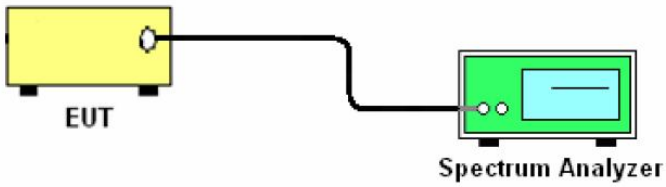


5.7 POWER SPECTRAL DENSITY

5.7.1 Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

5.7.2 Block Diagram of Test Setup



5.7.3 Test Procedure

According to KDB 558074 D01 DTS Meas Guidance v03r01clause10.2:

a) Set analyzer center frequency to DTS channel center frequency.

b) Set the span to 1.5 times the DTS bandwidth.

c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.

d) Set the VBW ≥ 3×RBW.

e) Detector = peak.

f) Sweep time = auto couple.

g) Trace mode = max hold.

h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum amplitude level within the RBW.

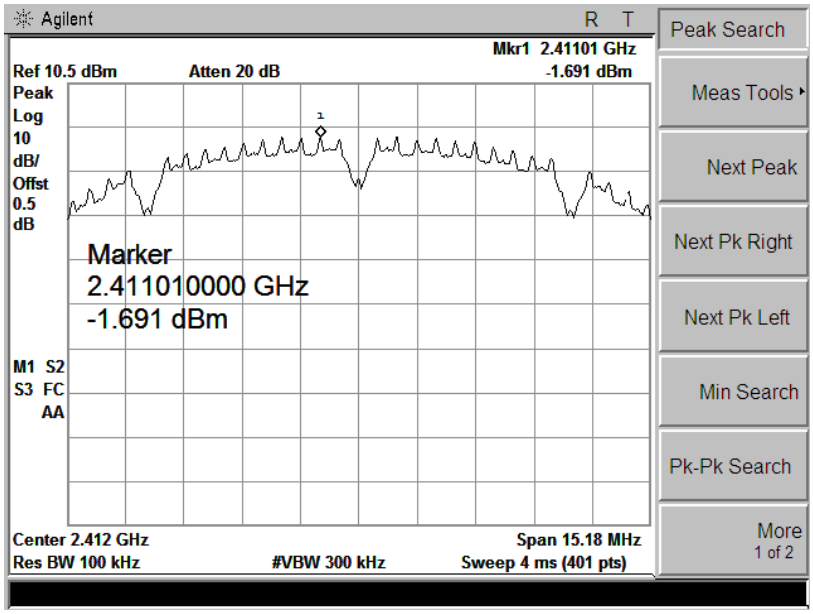
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.7.4 Test Result

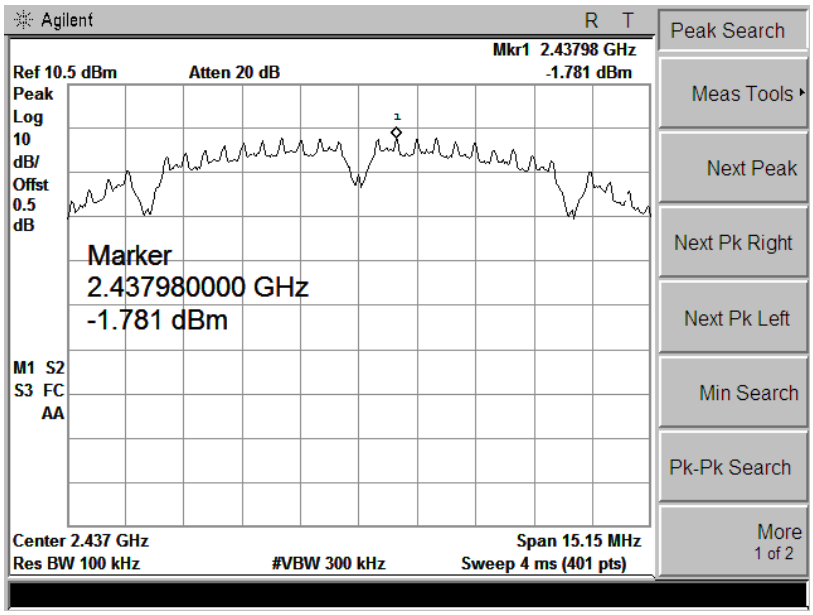
Test Item:	POWER SPECTRAL DENSITY	Temperature :	20°C
Test Engineer:	Kang	Relative Humidity :	55%

Mode	Channel	Frequency (MHz)	PSD (dBm/100kHz)	Limit (dBm/100kHz)	Result
802.11b	Low	2412	-1.691	≤8	Pass
	Middle	2437	-1.781	≤8	Pass
	High	2462	-1.447	≤8	Pass
802.11g	Low	2412	-5.888	≤8	Pass
	Middle	2437	-6.110	≤8	Pass
	High	2462	-5.907	≤8	Pass
802.11n (20MHz)	Low	2412	-6.016	≤8	Pass
	Middle	2437	-6.255	≤8	Pass
	High	2462	-5.956	≤8	Pass
802.11n (40MHz)	Low	2422	-8.454	≤8	Pass
	Middle	2437	-8.216	≤8	Pass
	High	2452	-8.198	≤8	Pass

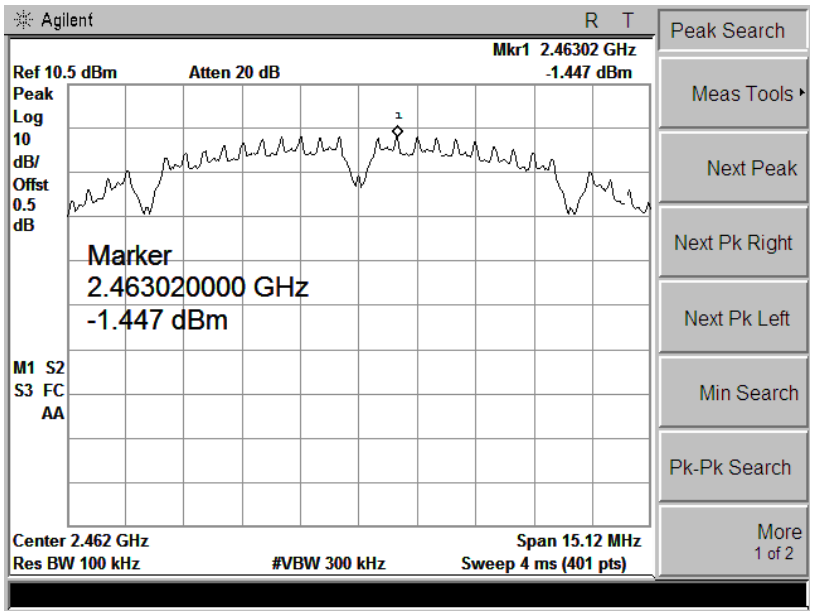
802.11 b Mode



Ch 1

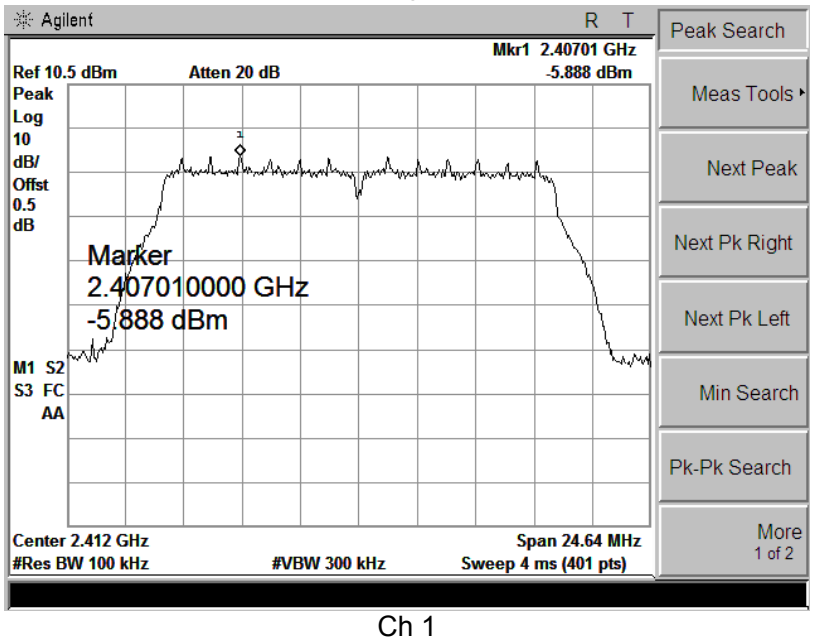


Ch 6

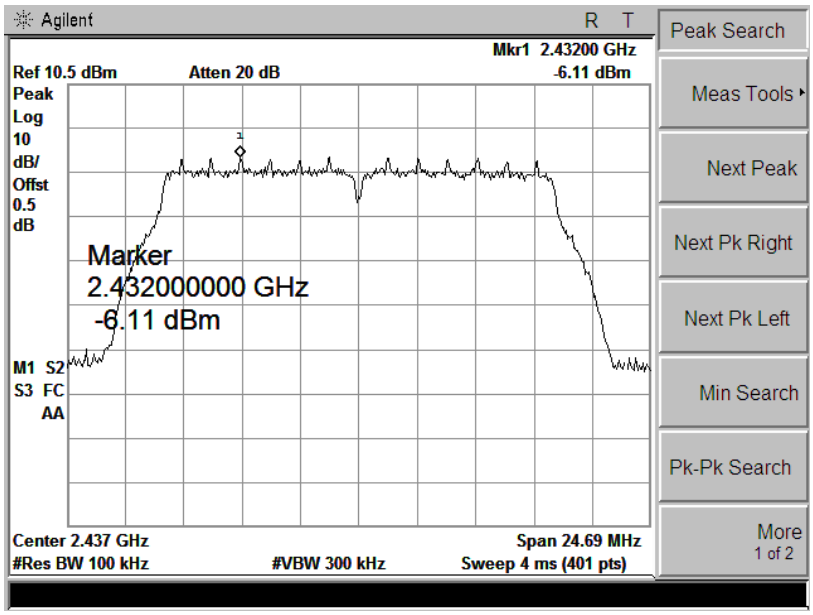


Ch 11

802.11 g Mode



Ch 1



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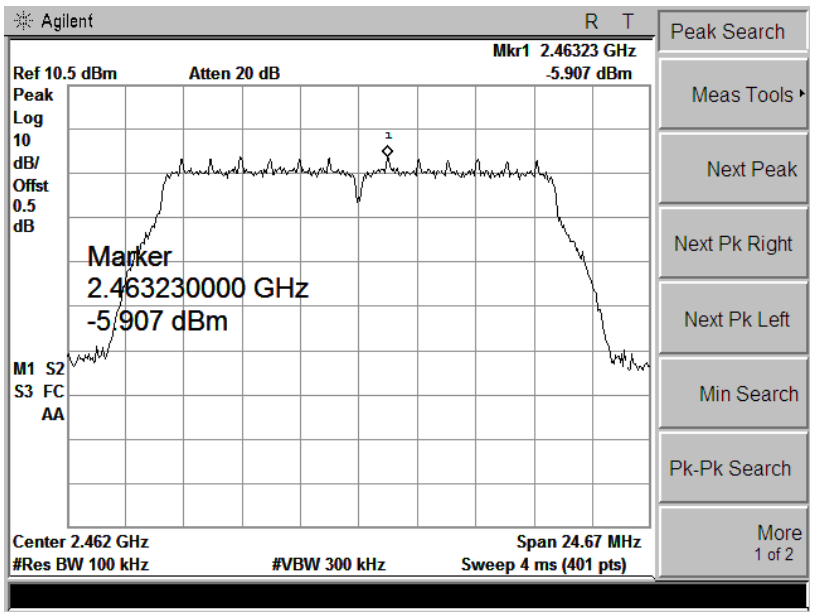
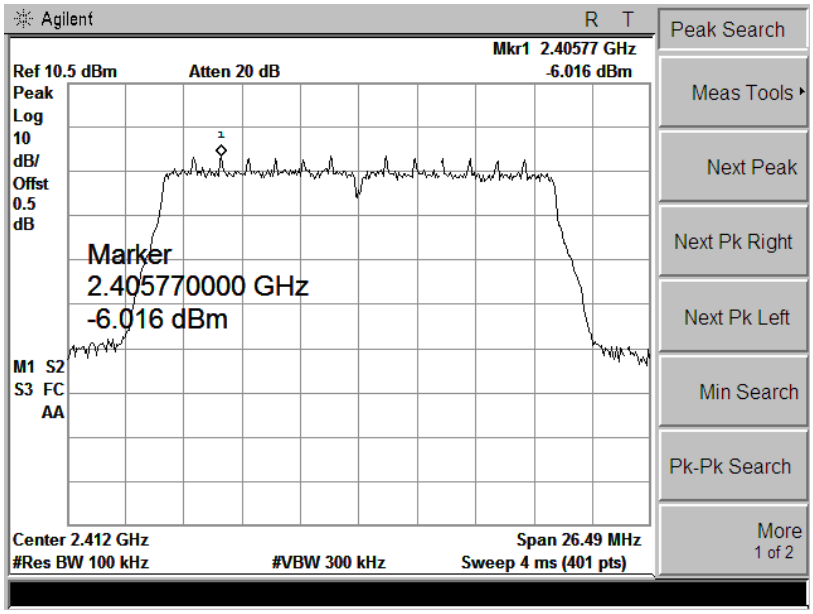
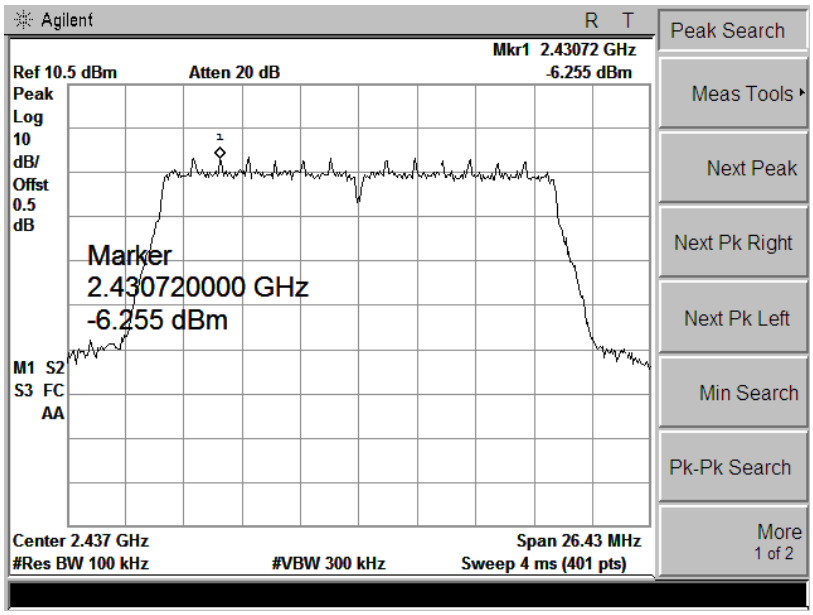


Ch 11

802.11 n(20M) Mode



Ch 1



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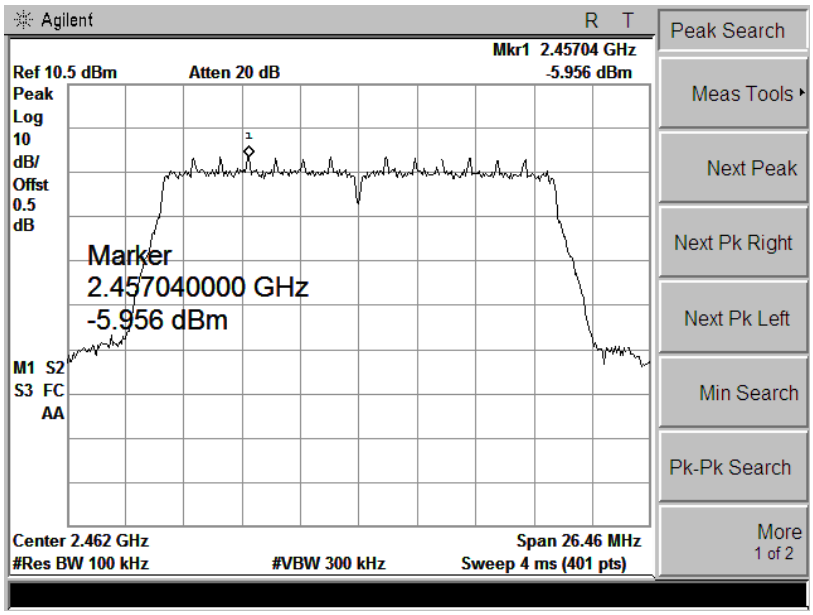

Ch 11