8.7 RADIATED EMISSIONS

8.7.1 TRANSMITTER RADIATED SUPURIOUS EMSSIONS

LIMITS

§ 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 -1710	10.6 -12.7
6.26775 - 6.26825	108 -121.94	1718.8 - 1722.2	13.25 -13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 – 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 -16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 30.47
12.51975 - 12.52025	240 - 285	3345.8 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 -335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

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

§ 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

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

§ 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

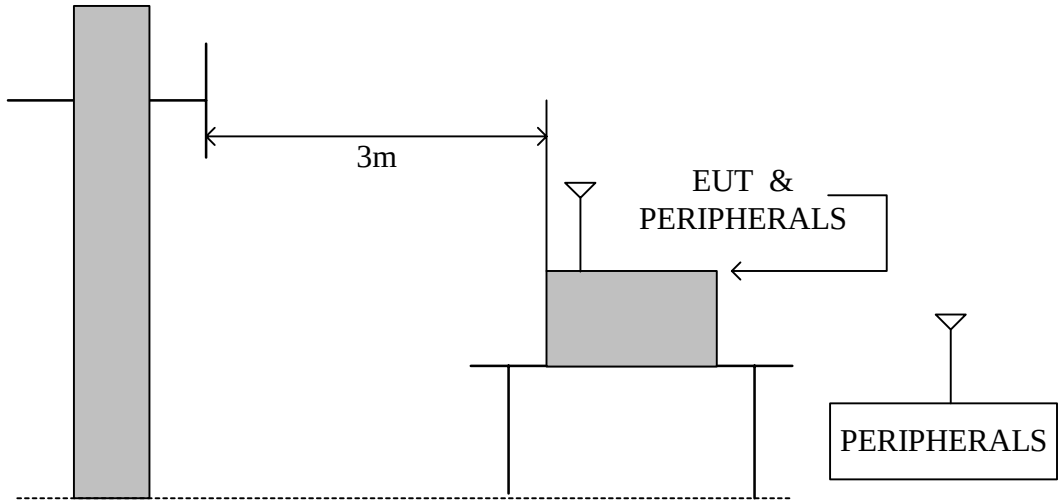
TEST EQUIPMENT

The following test equipment is utilized in making the measurements contained in this report.

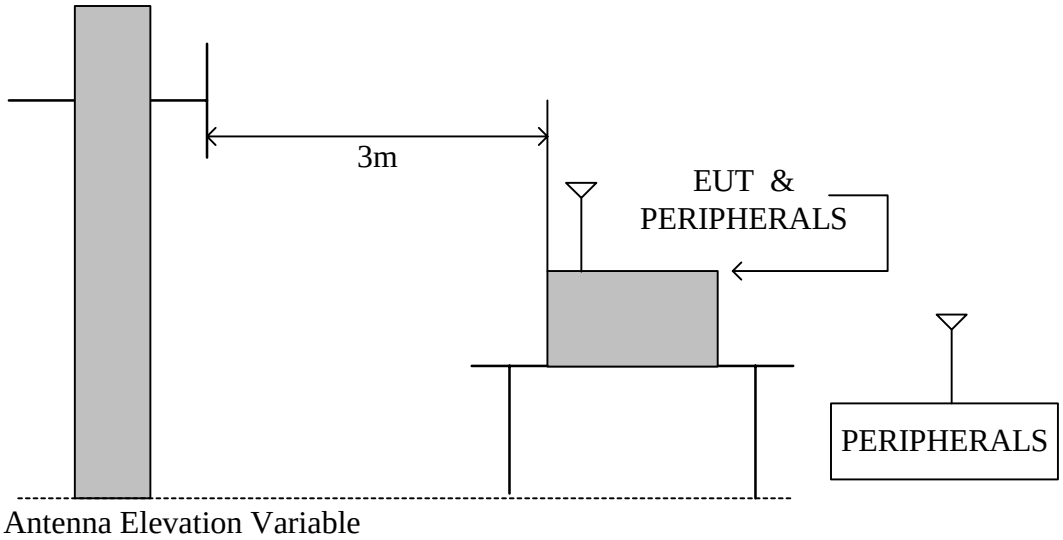
Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
CHASE BILOG ANTENNA	CBL6112B	2817	October 18, 2007	1 Year	FINAL
R/S SPECTRUM ANALYZER	FSEK30	835253/002	October 25, 2007	1 Year	FINAL
AGILENT SPECTRUM ANALYZER	E4446A	MY433602.52	June 06, 2007	1 Year	FINAL
R/S EMI TEST RECEIVER	ESCS30	835418/008	October 16, 2007	1 Year	FINAL
OPEN SITE	----------	No.2	May 07, 2007	1 Year	FINAL
MIYAZAKI N TYPE COAXIAL CABLE	8D-FB	02	May 16, 2007	1 Year	FINAL
Horn Antenna	AH-118	10089	October 18, 2007	1 Year	FINAL
Horn Antenna	AH-840	03077	February 25, 2007	1 Year	FINAL
Agilent Pre-amplifier	8449B	3008A01471	December 25, 2006	1 Year	FINAL
HP Amplifier	8447D	1937A02748	December 25, 2006	1 Year	FINAL
HP High pass filter	84300/80038	002	CAL. ON USE	1 Year	FINAL
HP High pass filter	84300/80039	003	CAL. ON USE	1 Year	FINAL
Loop Antenna ETS-LINDGREN	6502	2356	June 15, 2007	1 Year	FINAL

TEST SETUP

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 to 1GHz.



The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. White measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. White measuring the radiated emission above 1GHz, the EUT was set 1 meters away from the interference-receiving antenna

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Note：

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

TEST RESULTS

No non-compliance noted

8.7.2 WORST-CASE RADIATED EMISSION BELOW 1 GHz

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/21
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	Normal operating	**TEMP & Humidity**	23°C, 50%

Horizontal polarity						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Mark (P/Q/A)
171.62	51.29	-14.13	37.16	43.50	-6.34	P
266.68	52.66	-14.04	38.62	46.00	-7.38	P
299.66	52.98	-13.04	39.94	46.00	-6.06	P
366.59	50.84	-10.476	38.98	46.00	-7.02	P
433.52	46.81	-10.77	36.04	46.00	-9.96	P
749.74	40.35	-5.15	35.20	46.00	-10.80	P
960.23	41.03	-2.06	38.97	54.00	-15.03	P

Vertical polarity						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Mark (P/Q/A)
233.70	47.03	-15.04	31.99	46.00	-14.01	P
298.69	42.94	-13.06	29.87	46.00	-16.13	P
364.65	42.49	-10.478	30.61	46.00	-15.39	P
433.52	49.96	-10.77	39.19	46.00	-6.81	P
497.54	45.73	-9.94	35.79	46.00	-10.21	P
533.43	43.85	-9.31	34.55	46.00	-11.45	P
566.41	41.46	-8.63	32.83	46.00	-13.17	P
796.30	38.79	-4.28	34.52	46.00	-11.48	P

Remark:

1. *Measuring frequencies from 30 MHz to the 1GHz.*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

8.7.3 TRANSMITTER RADIATED EMISSION ABOVE 1 GHz

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/14
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	IEEE 802.11a TX / 5150MHz ~ 5250MHz (CH Low)	**TEMP & Humidity**	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1200.00	55.74	---	-18.49	37.26	---	74.00	54.00	-16.74	P
1470.00	52.76	---	-14.28	38.48	---	74.00	54.00	-15.52	P
1735.00	51.94	---	-13.05	38.89	---	74.00	54.00	-15.11	P
3450.00	48.24	---	-6.86	42.58	---	74.00	54.00	-12.62	P
10368.00	52.36	42.11	5.83	58.19	47.94	74.00	54.00	-6.06	A
15540.00	46.28	38.25	13.85	60.13	52.10	74.00	54.00	-1.90	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	57.74	---	-14.28	43.46	---	74.00	54.00	-10.54	P
2490.00	53.67	---	-8.38	45.28	---	74.00	54.00	-8.72	P
3450.00	48.86	---	-6.86	42.00	---	74.00	54.00	-12.00	P
10356.00	57.28	46.58	5.80	63.08	52.38	74.00	54.00	-1.62	A
15552.00	46.68	38.68	13.85	60.53	52.53	74.00	54.00	-1.47	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) −Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5150MHz ~ 5250MHz (CH Middle)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2665.00	57.83	---	-8.14	49.68	---	74.00	54.00	-4.32	P
10440.00	51.22	39.21	6.04	57.26	45.25	74.00	54.00	-8.75	A
15672.00	46.21	35.11	13.83	60.04	48.94	74.00	54.00	-5.06	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10428.00	55.19	40.22	6.00	61.19	46.22	74.00	54.00	-7.78	A
15660.00	51.29	36.58	13.83	65.12	50.41	74.00	54.00	-3.59	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) −Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5150MHz ~ 5250MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
4650.00	55.39	---	-3.75	51.63	---	74.00	54.00	-2.37	P
10476.00	50.10	44.87	6.14	56.24	51.01	74.00	54.00	-2.99	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10488.00	52.69	42.14	6.17	58.86	48.31	74.00	54.00	-5.69	A
15708.00	45.22	38.14	13.82	59.04	51.96	74.00	54.00	-2.04	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5150 MHz ~ 5250MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10440.00	50.28	39.33	6.04	56.32	45.37	74.00	54.00	-8.63	A
15660.00	45.86	36.58	13.83	59.69	50.41	74.00	54.00	-3.59	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10440.00	52.21	41.62	6.04	58.25	47.66	74.00	54.00	-6.34	A
15660.00	47.22	38.21	13.83	61.05	52.04	74.00	54.00	-1.96	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/16
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5150MHz ~ 5250MHz (CH Middle)	**TEMP & Humidity**	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10440.00	50.35	41.58	6.04	56.39	47.62	74.00	54.00	-6.38	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3165.00	57.06	---	-7.47	49.59	---	74.00	54.00	-4.41	P
10440.00	53.24	45.22	6.04	59.28	51.26	74.00	54.00	-2.74	A
15660.00	49.86	37.45	13.83	63.69	51.28	74.00	54.00	-2.72	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) −Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5150MHz ~ 5250MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10440.00	59.21	43.55	6.04	65.25	49.59	74.00	54.00	-4.41	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2615.00	57.37	---	-8.19	49.17	---	74.00	54.00	-4.83	P
10440.00	54.20	44.17	6.04	60.24	50.21	74.00	54.00	-3.79	A
15660.00	47.99	38.11	13.83	60.472	51.94	74.00	54.00	-2.06	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) −Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/14
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5150MHz ~ 5250MHz (CH Low)	**TEMP & Humidity**	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10380.00	43.60	---	5.87	49.47	---	74.00	54.00	-4.53	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10380.00	54.68	42.68	5.87	60.55	48.55	74.00	54.00	-5.45	A
15552.00	54.68	36.87	13.85	68.53	50.72	74.00	54.00	-3.28	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/16
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5150MHz ~ 5250MHz (CH High)	**TEMP & Humidity**	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10512.00	48.08	36.55	6.21	54.29	42.76	74.00	54.00	-11.24	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2650.00	56.95	---	-8.16	48.79	---	74.00	54.00	-5.21	P
10488.00	51.25	39.55	6.17	57.42	45.72	74.00	54.00	-8.28	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5250MHz ~ 5350MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1500.00	53.19	---	-13.81	39.38	---	74.00	54.00	-14.62	P
1735.00	52.15	---	-13.05	39.10	---	74.00	54.00	-14.90	P
10524.00	52.47	41.58	6.20	58.67	47.78	74.00	54.00	-6.22	A
15780.00	44.60	35.87	13.81	58.41	49.68	74.00	54.00	-4.32	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	57.48	---	-14.28	43.21	---	74.00	54.00	-10.79	P
2500.00	53.12	---	-8.30	44.81	---	74.00	54.00	-9.19	P
3505.00	52.48	---	-6.75	45.73	---	74.00	54.00	-8.27	P
10524.00	57.44	46.25	6.20	63.64	52.45	74.00	54.00	-1.55	A
15780.00	46.98	36.21	13.81	60.79	50.02	74.00	54.00	-3.98	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5250MHz ~ 5350MHz (CH Middle)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10596.00	48.65	37.89	6.19	54.84	44.08	74.00	54.00	-9.92	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3455.00	56.14	---	-6.85	49.29	---	74.00	54.00	-4.71	P
10596.00	50.58	43.55	6.19	56.77	49.74	74.00	54.00	-4.26	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5250MHz ~ 5350MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1500.00	53.41	---	-13.81	39.60	---	74.00	54.00	-14.40	P
1735.00	52.47	---	-13.05	39.43	---	74.00	54.00	-14.57	P
3545.00	49.24	---	-6.68	42.56	---	74.00	54.00	-11.44	P
10644.00	50.28	39.21	6.18	56.46	45.39	74.00	54.00	-8.61	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	57.04	---	-14.28	42.76	---	74.00	54.00	-11.24	P
2500.00	53.00	---	-8.30	44.70	---	74.00	54.00	-9.30	P
3545.00	53.05	---	-6.68	46.37	---	74.00	54.00	-7.63	P
10644.00	57.21	46.57	6.18	63.39	52.75	74.00	54.00	-1.25	A
15972.00	47.25	37.87	13.78	61.03	51.65	74.00	54.00	-2.35	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5250 MHz ~ 5350MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10524.00	49.22	36.58	6.20	55.42	42.78	74.00	54.00	-11.22	A
16872.00	46.21	35.25	15.24	61.45	50.49	74.00	54.00	-3.51	A

Vertical polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3560.00	56.25	---	-6.65	49.60	---	74.00	54.00	-4.40	P
10524.00	50.19	38.02	6.20	56.39	44.22	74.00	54.00	-9.78	A
15780.00	47.14	36.02	13.81	60.95	49.83	74.00	54.00	-4.17	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) −Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	**Test Date**	2007/11/16
Model	65-VF438-P2	**Test By**	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5250MHz ~ 5350MHz (CH Middle)	**TEMP & Humidity**	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2655.00	57.73	---	-8.15	49.57	---	74.00	54.00	-4.43	P
10596.00	54.21	39.25	6.19	60.40	45.44	74.00	54.00	-8.56	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10608.00	53.57	40.85	6.19	59.76	47.04	74.00	54.00	-6.96	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5250MHz ~ 5350MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10632.00	48.21	35.22	6.18	54.39	41.40	74.00	54.00	-12.60	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2615.00	57.37	---	-8.19	49.17	---	74.00	54.00	-4.83	P
10632.00	51.18	40.22	6.18	57.36	46.40	74.00	54.00	-7.60	A
15960.00	45.32	36.58	13.78	59.10	50.36	74.00	54.00	-3.64	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5250MHz ~ 5350MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10500.00	48.21	35.87	6.21	54.42	42.08	74.00	54.00	-11.92	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3855.00	56.62	---	-6.13	50.49	---	74.00	54.00	-3.51	P
10500.00	53.24	40.28	6.21	59.45	46.49	74.00	54.00	-7.51	A
15732.00	48.33	36.85	13.82	62.15	50.67	74.00	54.00	-3.33	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) − Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5250MHz ~ 5350MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
10620.00	41.98	---	6.18	48.17	---	74.00	54.00	-5.83	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3550.00	55.84	---	-6.67	49.18	---	74.00	54.00	-4.82	P
10620.00	54.18	42.55	6.18	60.36	48.73	74.00	54.00	-5.27	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5470MHz ~ 5725MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1500.00	53.60	---	-13.81	39.79	---	74.00	54.00	-14.21	P
1735.00	52.14	---	-13.05	39.09	---	74.00	54.00	-14.91	P
3665.00	53.40	---	-6.46	46.94	---	74.00	54.00	-7.06	P
11004.00	57.21	46.65	6.11	63.32	52.76	74.00	54.00	-1.24	A
16500.00	45.68	37.28	14.18	59.86	51.46	74.00	54.00	-2.54	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	56.85	---	-14.28	42.57	---	74.00	54.00	-11.43	P
2500.00	55.27	---	-8.30	46.96	---	74.00	54.00	-7.04	P
3665.00	52.80	---	-6.46	46.34	---	74.00	54.00	-7.66	P
10992.00	58.25	46.86	6.10	64.35	52.96	74.00	54.00	-1.04	A
16500.00	46.22	38.23	14.18	60.40	52.41	74.00	54.00	-1.59	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5470MHz ~ 5725MHz (CH Middle)	TEMP & Humidity	23°C, 51%

Horizontal polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2530.00	57.52	---	-8.27	49.24	---	74.00	54.00	-4.76	P
11196.00	53.31	43.18	6.67	59.98	49.85	74.00	54.00	-4.15	A
16800.00	47.31	35.28	15.04	62.35	50.32	74.00	54.00	-3.68	A

Vertical polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3095.00	57.29	---	-7.62	49.68	---	74.00	54.00	-4.32	P
11196.00	57.33	46.38	6.67	64.00	53.05	74.00	54.00	-0.95	A
16800.00	46.68	37.37	15.04	61.72	52.41	74.00	54.00	-1.59	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11a TX / 5470MHz ~ 5725MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1780.00	58.45	---	-12.90	45.55	---	74.00	54.00	-8.45	P
11400.00	50.19	40.11	7.27	57.46	47.38	74.00	54.00	-6.62	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	60.64	---	-14.28	46.36	---	74.00	54.00	-7.64	P
11412.00	51.28	42.58	7.31	58.59	48.69	74.00	54.00	-5.31	A
17100.00	46.36	34.58	15.65	62.01	50.23	74.00	54.00	-3.77	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5470 MHz ~ 5725MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11004.00	54.87	43.68	6.11	60.98	49.79	74.00	54.00	-4.21	A
16512.00	44.87	37.58	14.21	59.08	51.79	74.00	54.00	-2.21	A

Vertical polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
3670.00	57.42	---	-6.45	50.96	---	74.00	54.00	-3.04	P
11004.00	58.12	46.58	6.11	64.23	52.69	74.00	54.00	-2.51	A
16500.00	46.58	38.36	14.18	60.76	52.54	74.00	54.00	-1.46	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5470MHz ~ 5725MHz (CH Middle)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11208.00	52.18	43.28	6.71	58.89	49.99	74.00	54.00	-4.01	A
16800.00	48.24	35.18	15.04	63.28	50.22	74.00	54.00	-3.78	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1550.00	58.90	---	-13.65	45.25	---	74.00	54.00	-8.75	P
11196.00	58.21	45.58	6.67	64.88	52.25	74.00	54.00	-1.75	A
16800.00	50.22	37.11	15.04	65.26	52.15	74.00	54.00	-0.475	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT20 TX / 5470MHz ~ 5725MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11400.00	51.05	34.18	7.27	58.32	41.45	74.00	54.00	-12.55	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	60.22	---	-14.28	45.94	---	74.00	54.00	-8.06	P
11400.00	53.21	44.14	7.27	60.48	51.41	74.00	54.00	-2.59	A
17100.00	45.36	36.11	15.65	61.01	51.76	74.00	54.00	-2.24	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5470MHz ~ 5725MHz (CH Low)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11016.00	54.25	43.21	6.15	60.40	49.36	74.00	54.00	-4.64	A
16548.00	45.88	34.87	14.32	60.20	49.19	74.00	54.00	-4.81	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11016.00	57.21	46.77	6.15	63.36	52.92	74.00	54.00	-1.08	A
16548.00	45.69	35.18	14.32	60.01	49.50	74.00	54.00	-4.50	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/16
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5470MHz ~ 5725MHz (CH Middle)	TEMP & Humidity	23°C, 51%

Horizontal polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
2255.00	57.80	---	-10.21	47.59	---	74.00	54.00	-6.41	P
11172.00	52.17	43.58	6.60	58.77	50.18	74.00	54.00	-3.82	A

Vertical polarity

Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11182.00	56.87	45.88	6.60	63.47	52.48	74.00	54.00	-1.52	A
16777.00	47.28	34.88	14.97	62.25	49.85	74.00	54.00	-4.15	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/11/14
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	IEEE 802.11n HT40 TX / 5470MHz ~ 5725MHz (CH High)	TEMP & Humidity	23°C, 51%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
11388.00	53.38	42.89	7.24	60.62	50.13	74.00	54.00	-3.87	A

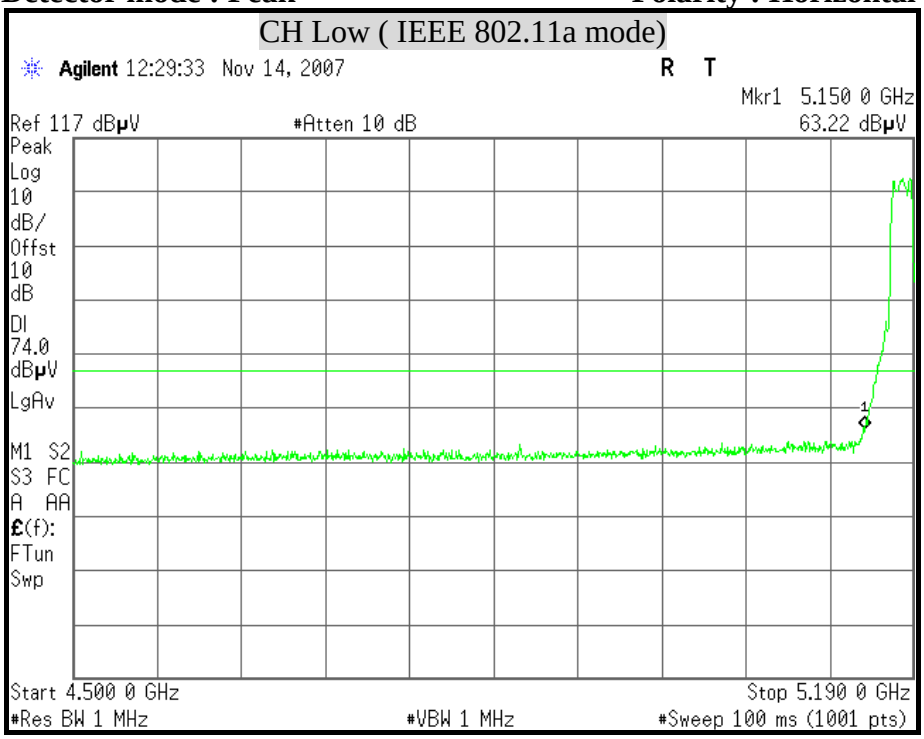
Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1470.00	61.55	---	-14.28	47.27	---	74.00	54.00	-6.73	P
11376.00	51.68	42.22	7.20	58.88	49.42	74.00	54.00	-4.58	A

Remark:

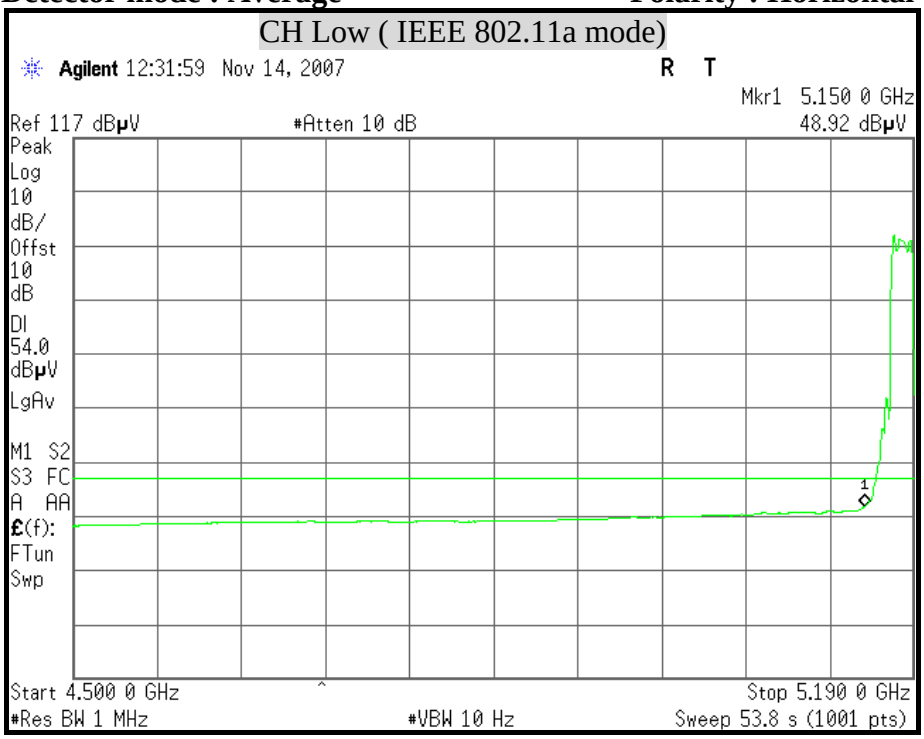
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) =Result (dBuV/m) –Average limit (dBuV/m).*

8.7.4 RESTRICTED BAND EDGES

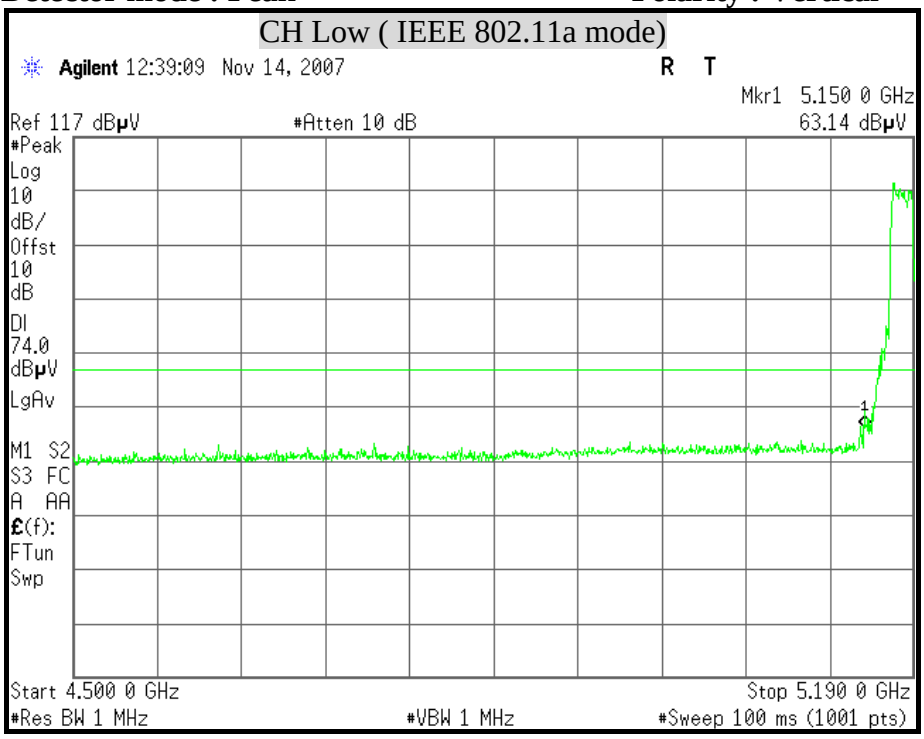
Detector mode : Peak **Polarity : Horizontal**



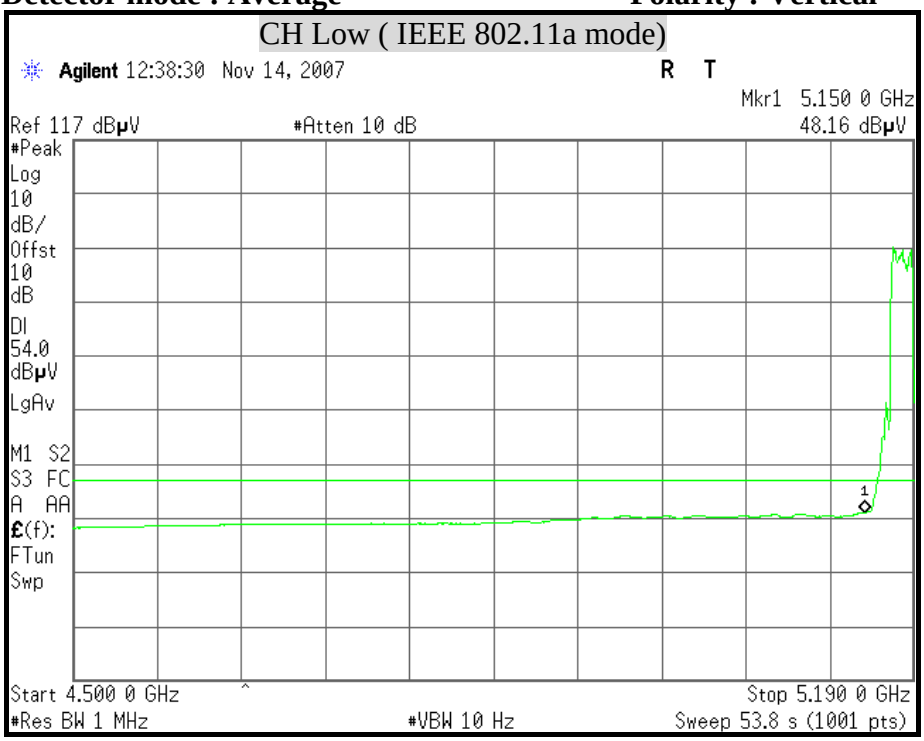
Detector mode : Average **Polarity : Horizontal**



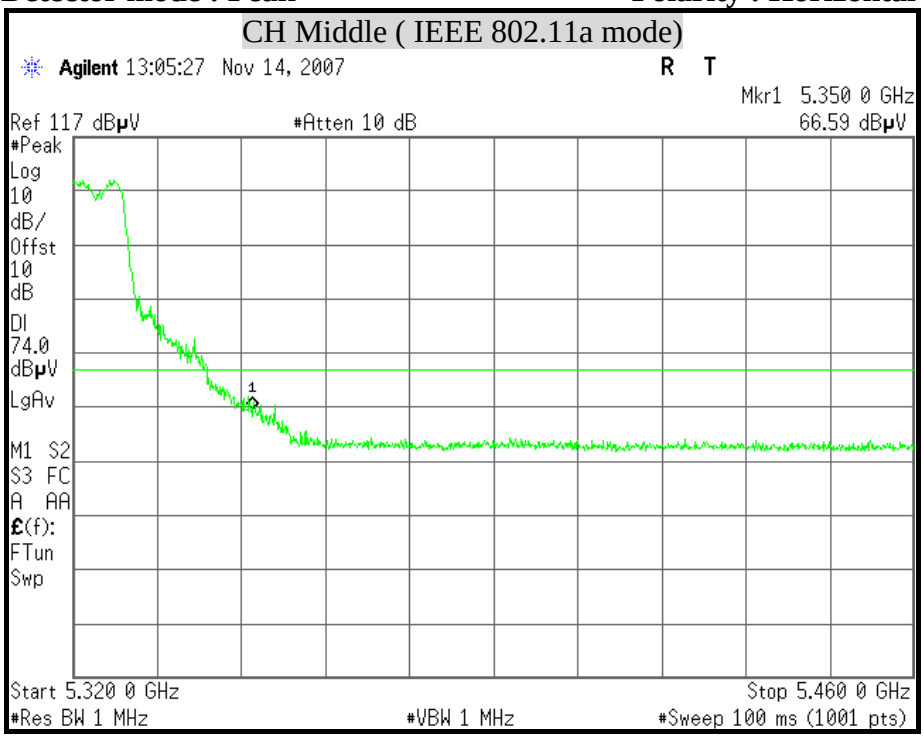
Detector mode : Peak **Polarity : Vertical**



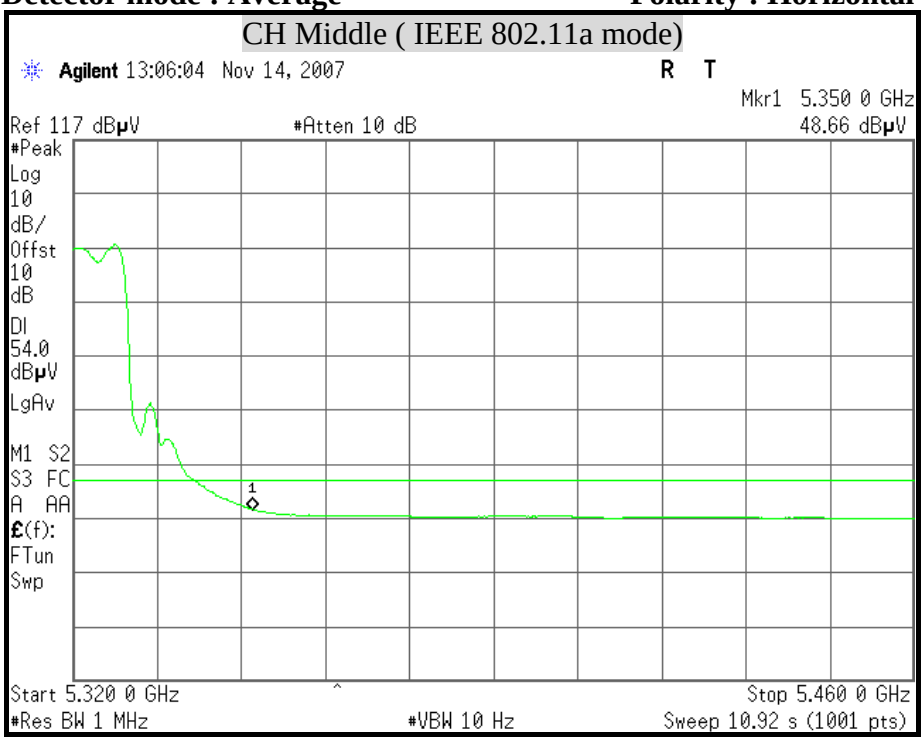
Detector mode : Average **Polarity : Vertical**



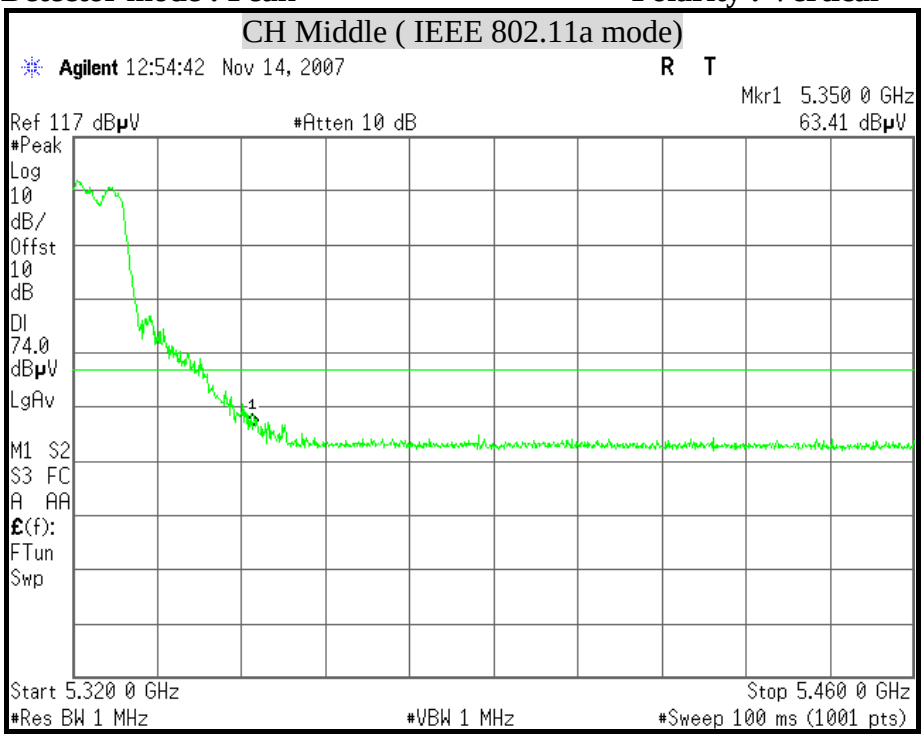
Detector mode : Peak **Polarity : Horizontal**



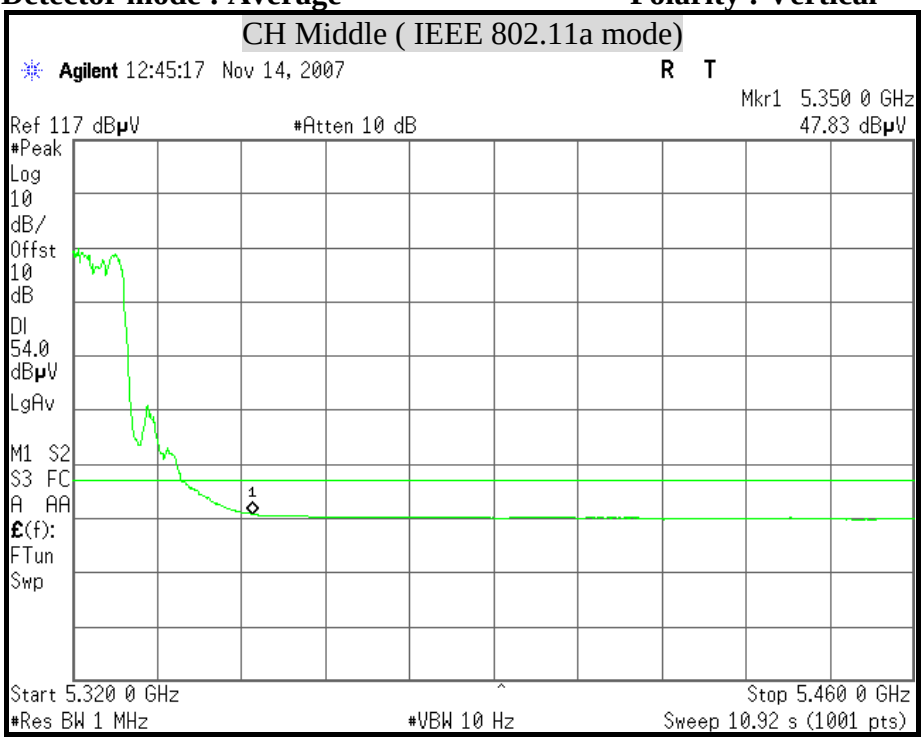
Detector mode : Average **Polarity : Horizontal**



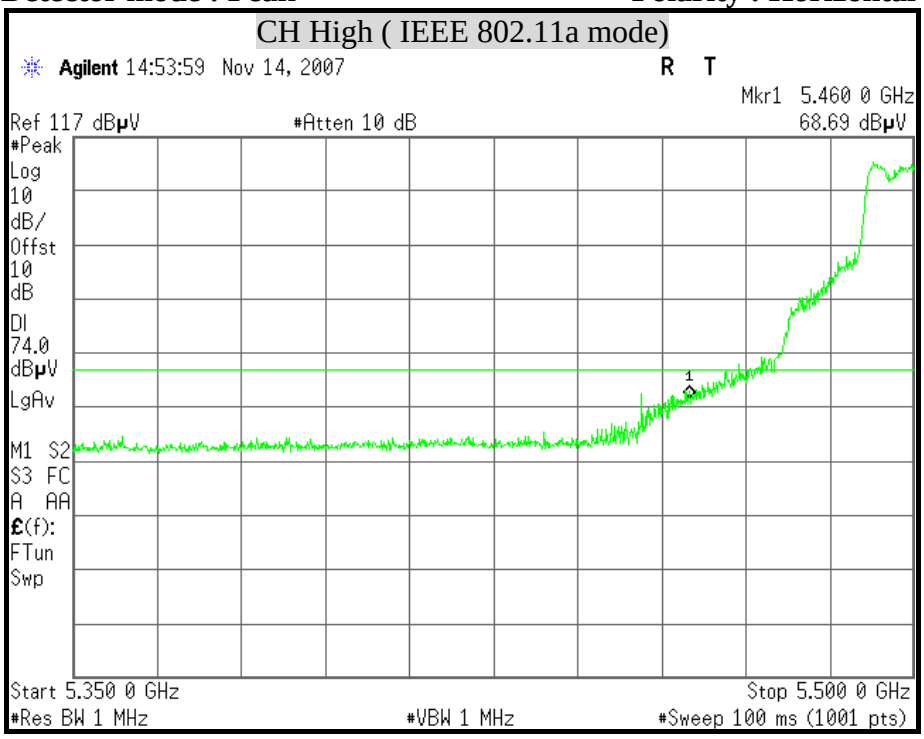
Detector mode : Peak **Polarity : Vertical**



Detector mode : Average **Polarity : Vertical**

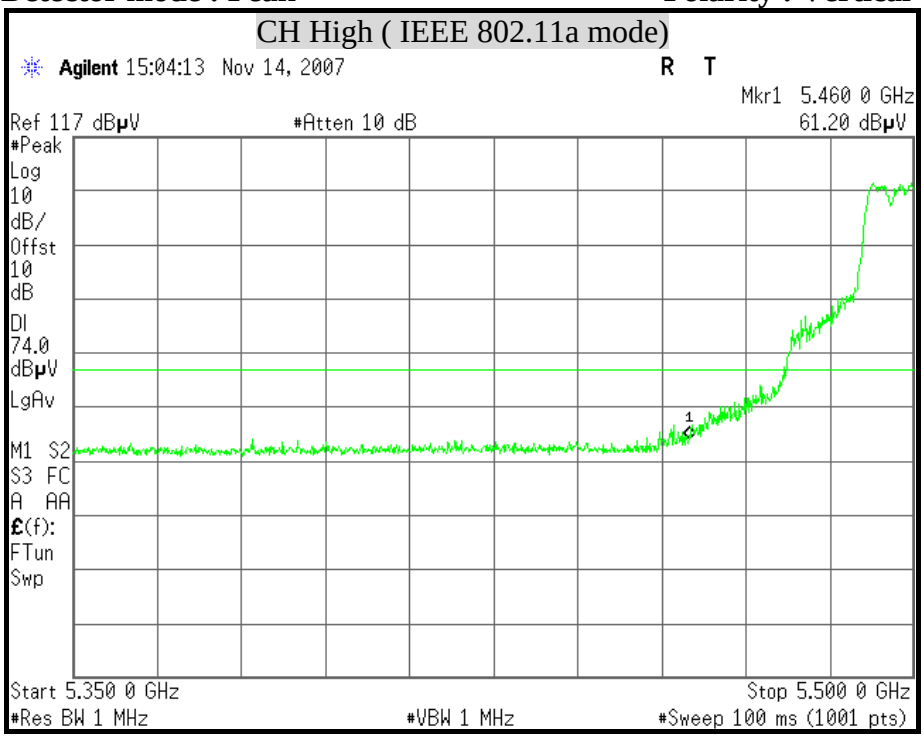


Detector mode : Peak **Polarity : Horizontal**



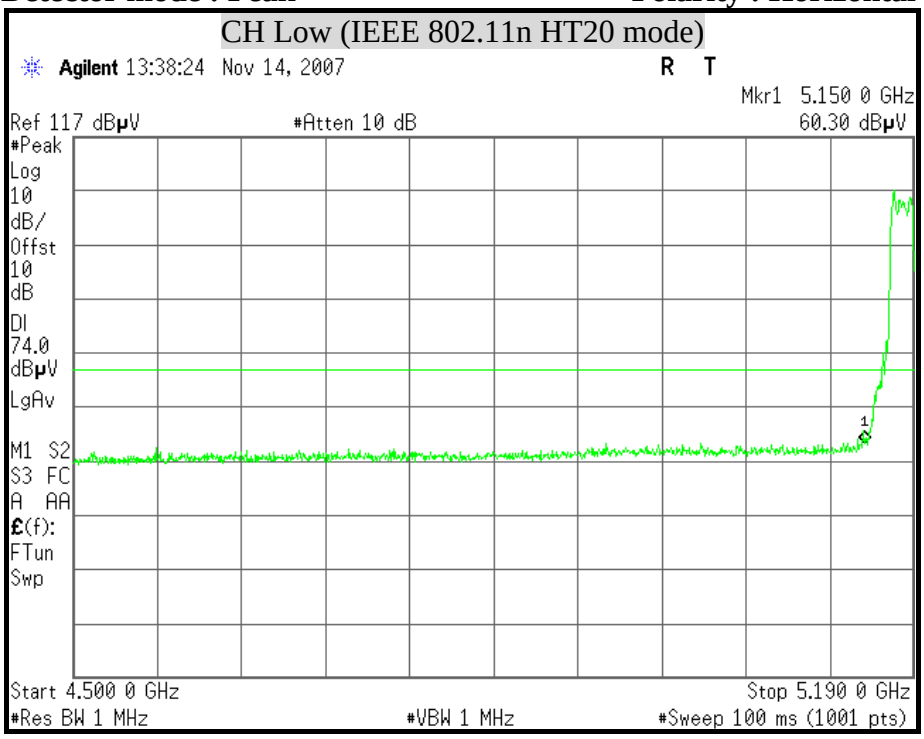
Detector mode : Average **Polarity : Horizontal**

Detector mode : Peak **Polarity : Vertical**

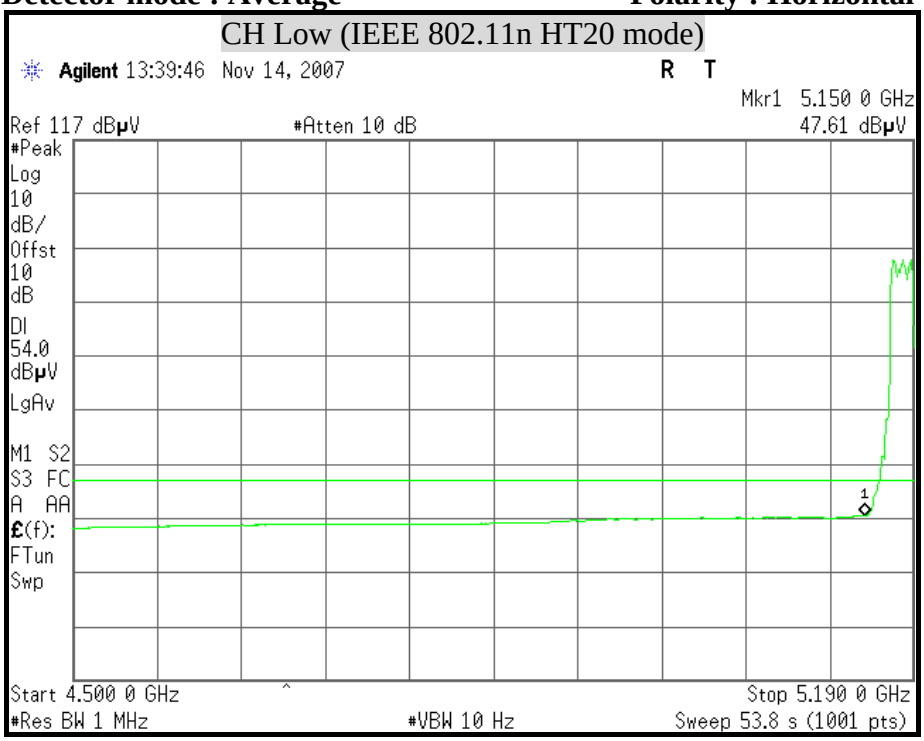


Detector mode : Average **Polarity : Vertical**

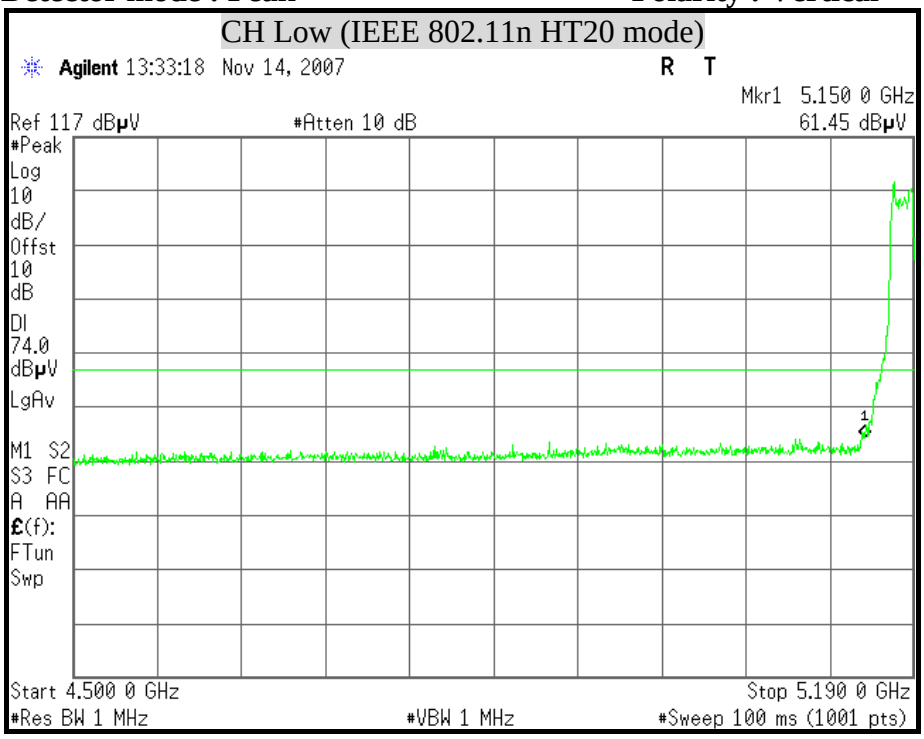
Detector mode : Peak **Polarity : Horizontal**



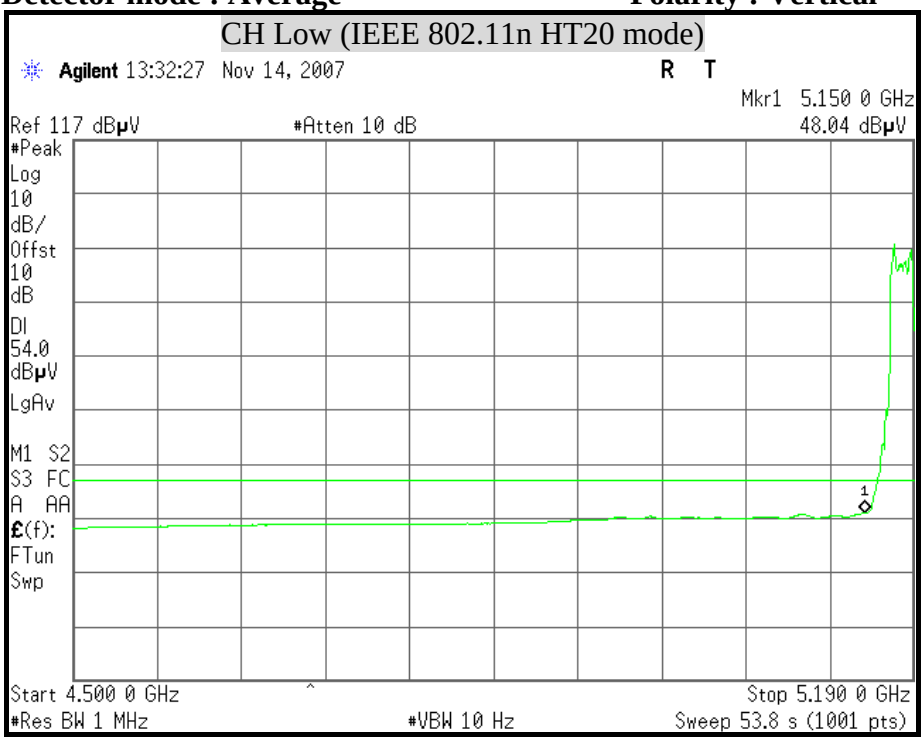
Detector mode : Average **Polarity : Horizontal**



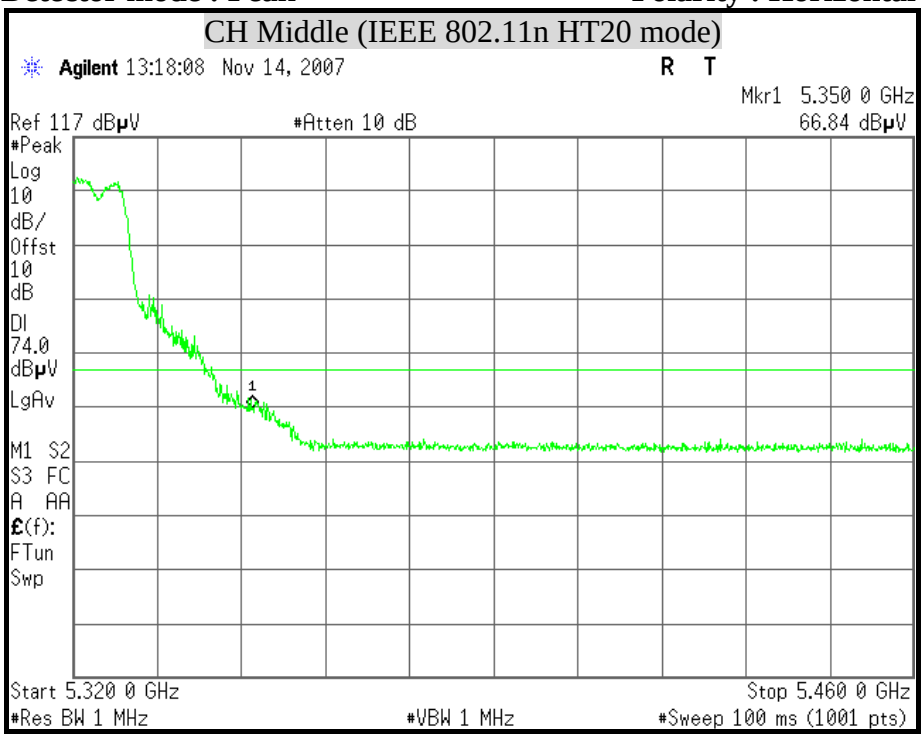
Detector mode : Peak **Polarity : Vertical**



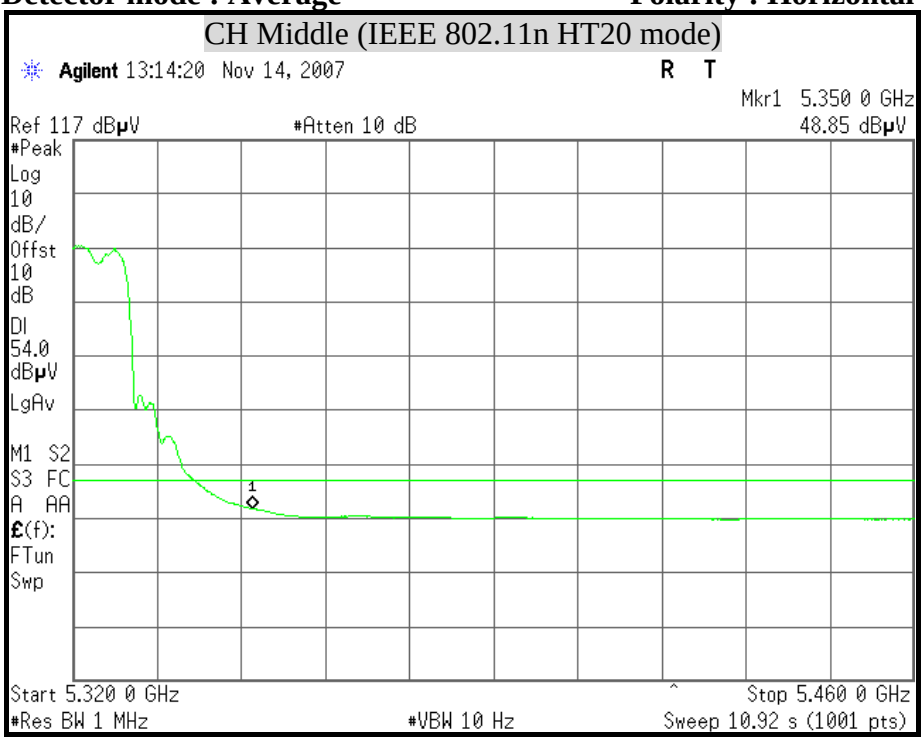
Detector mode : Average **Polarity : Vertical**



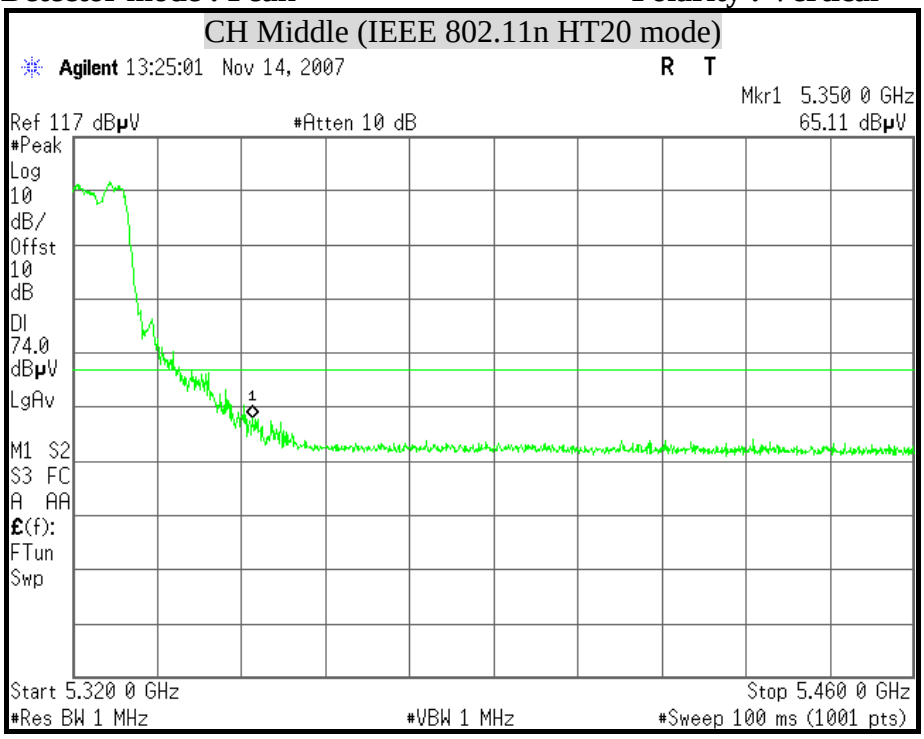
Detector mode : Peak **Polarity : Horizontal**



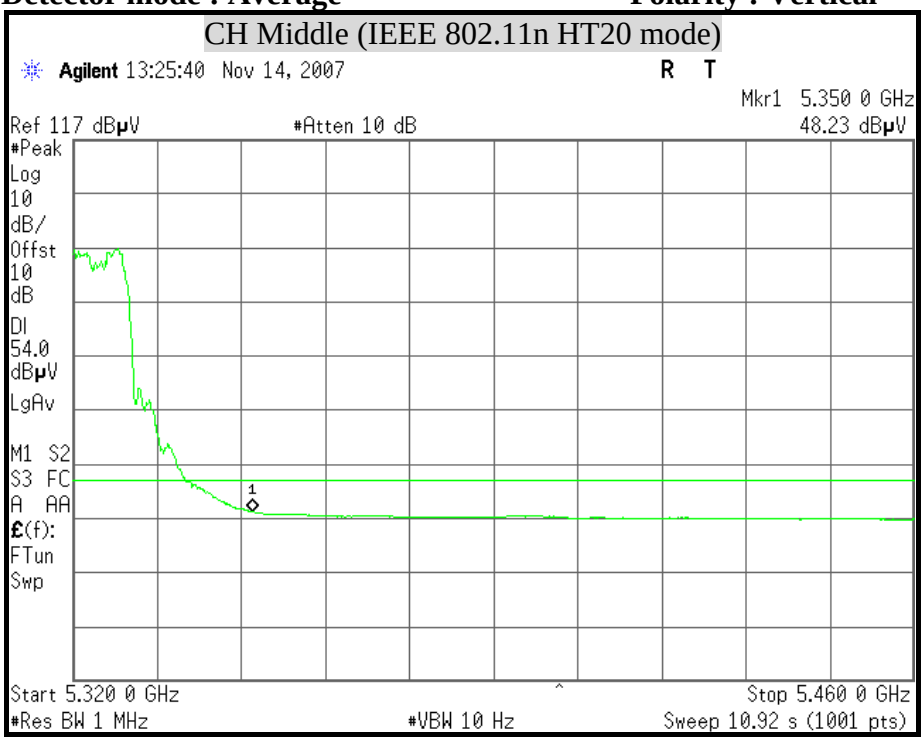
Detector mode : Average **Polarity : Horizontal**



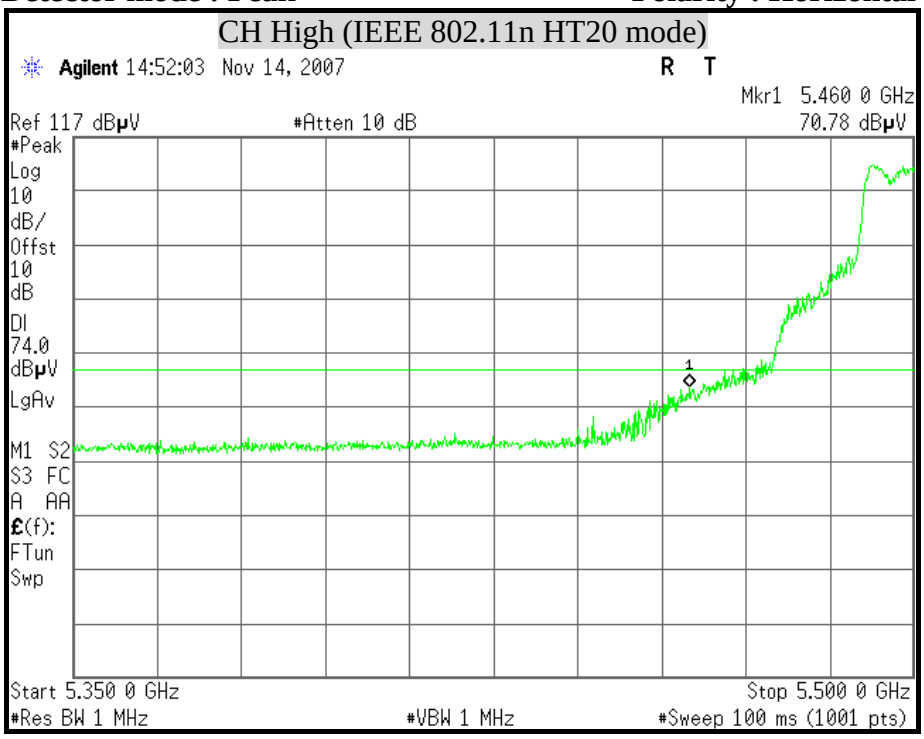
Detector mode : Peak **Polarity : Vertical**



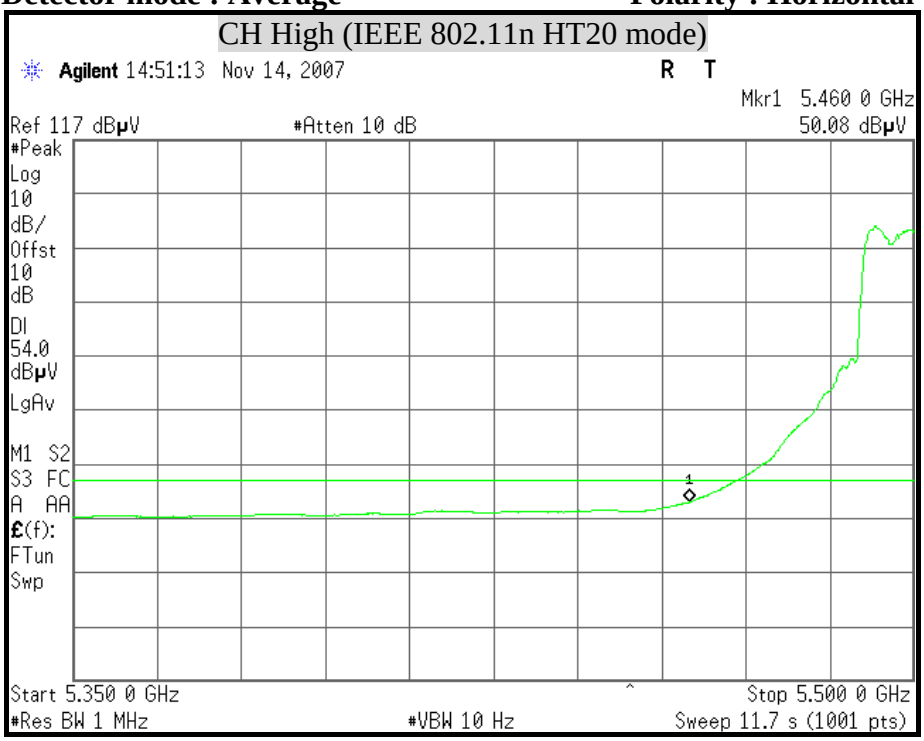
Detector mode : Average **Polarity : Vertical**



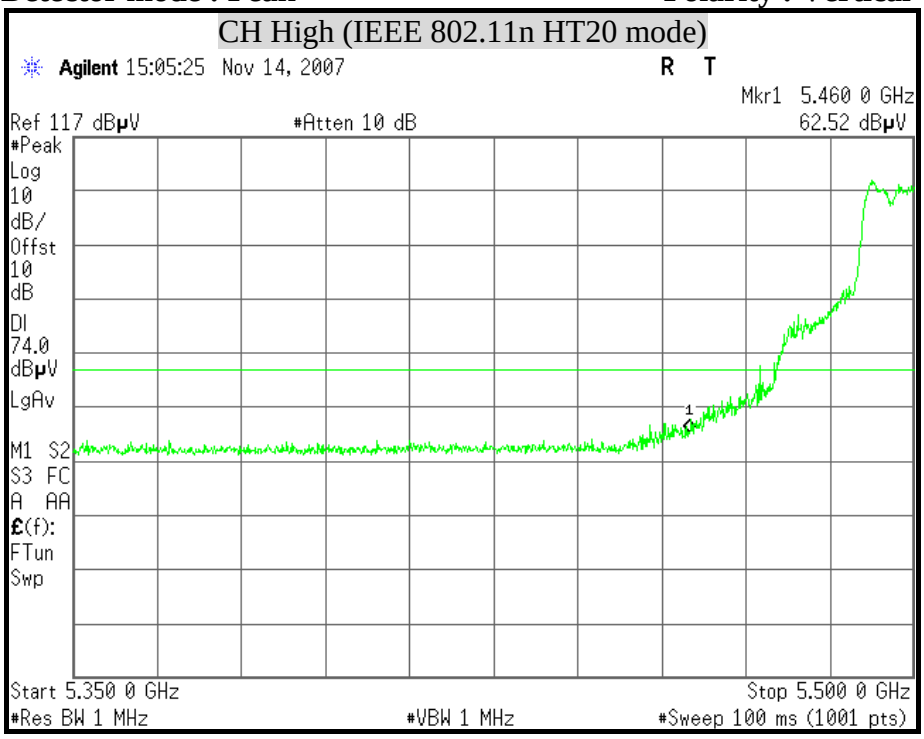
Detector mode : Peak **Polarity : Horizontal**



Detector mode : Average **Polarity : Horizontal**

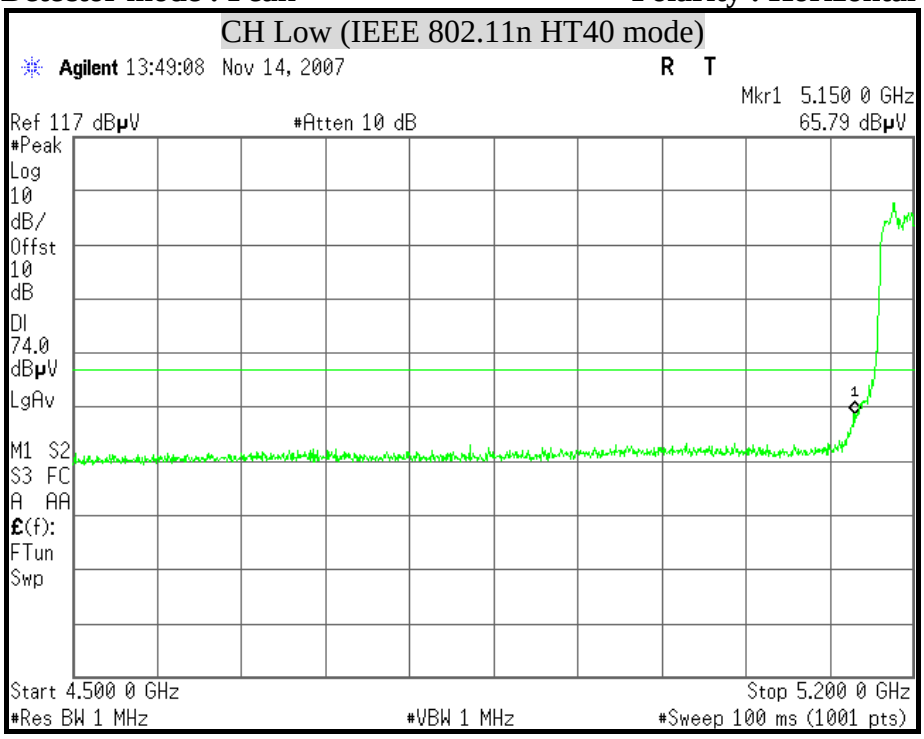


Detector mode : Peak **Polarity : Vertical**

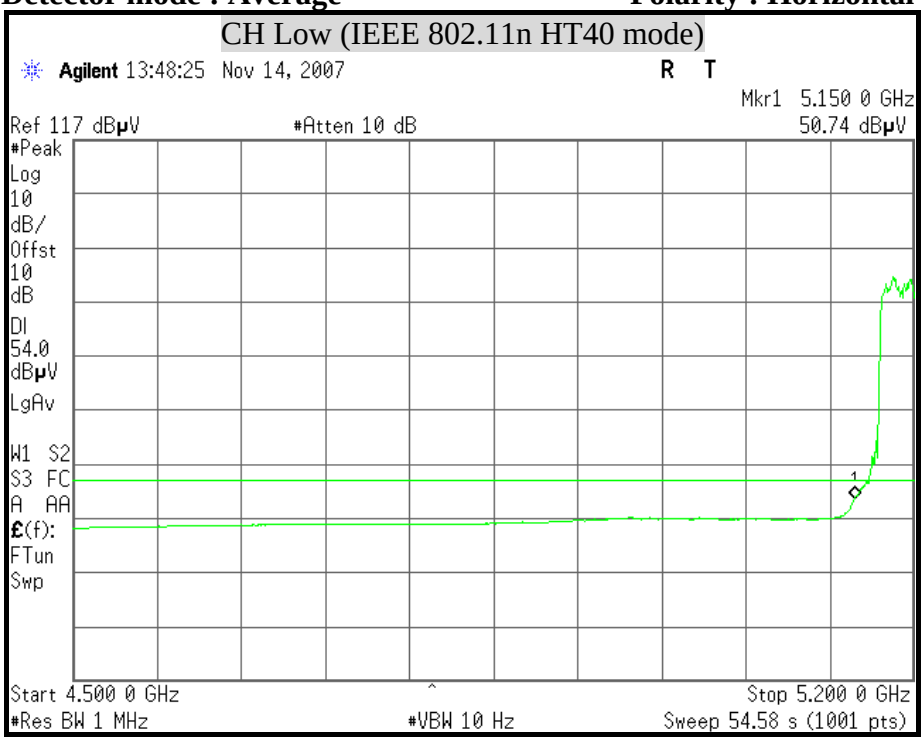


Detector mode : Average **Polarity : Vertical**

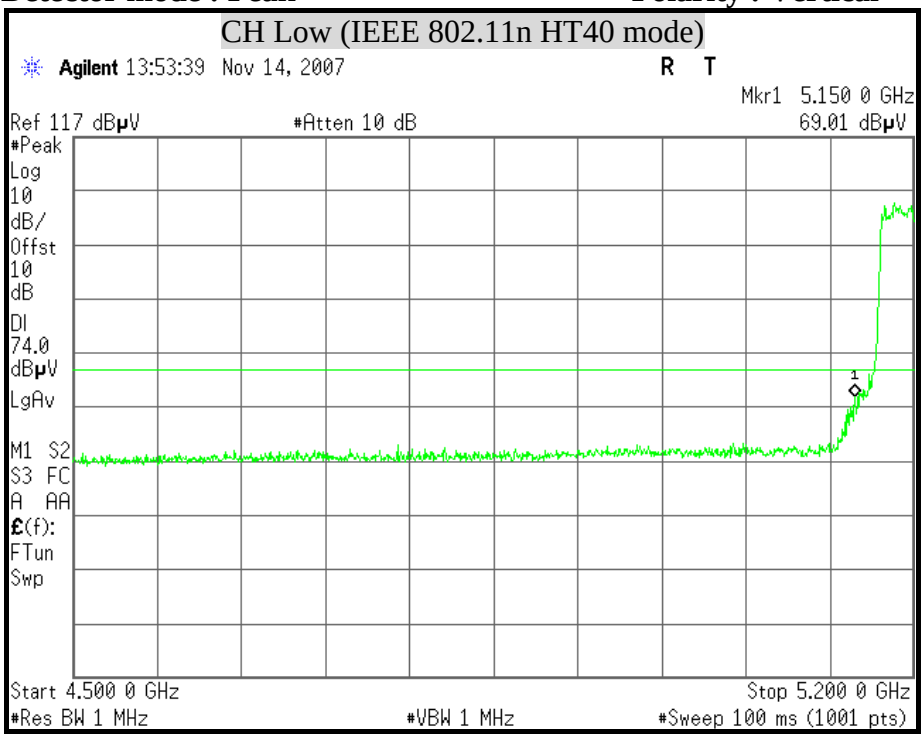
Detector mode : Peak **Polarity : Horizontal**



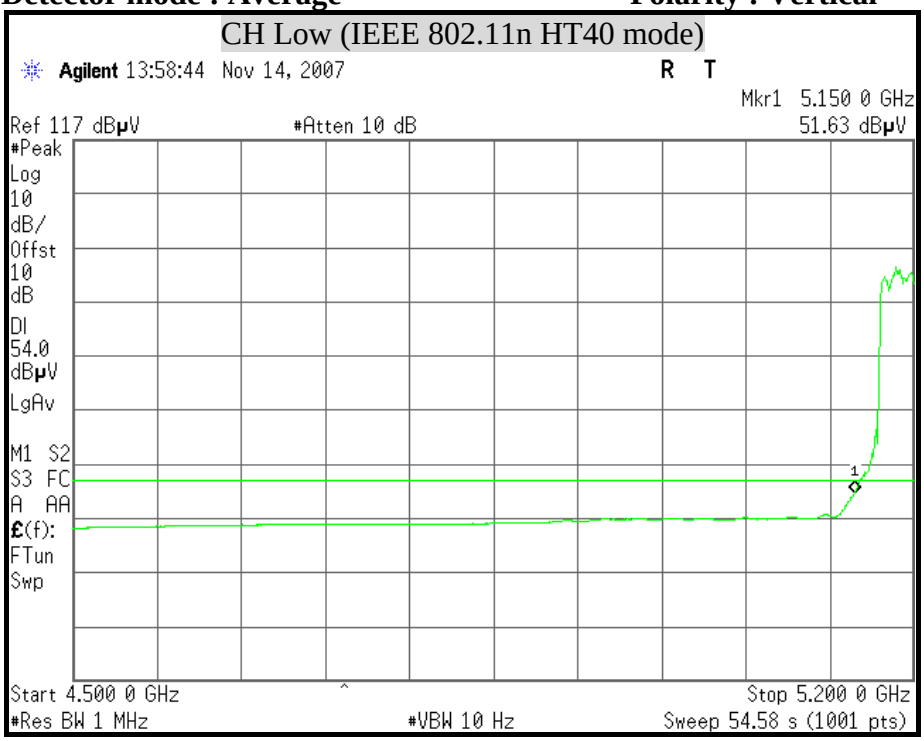
Detector mode : Average **Polarity : Horizontal**



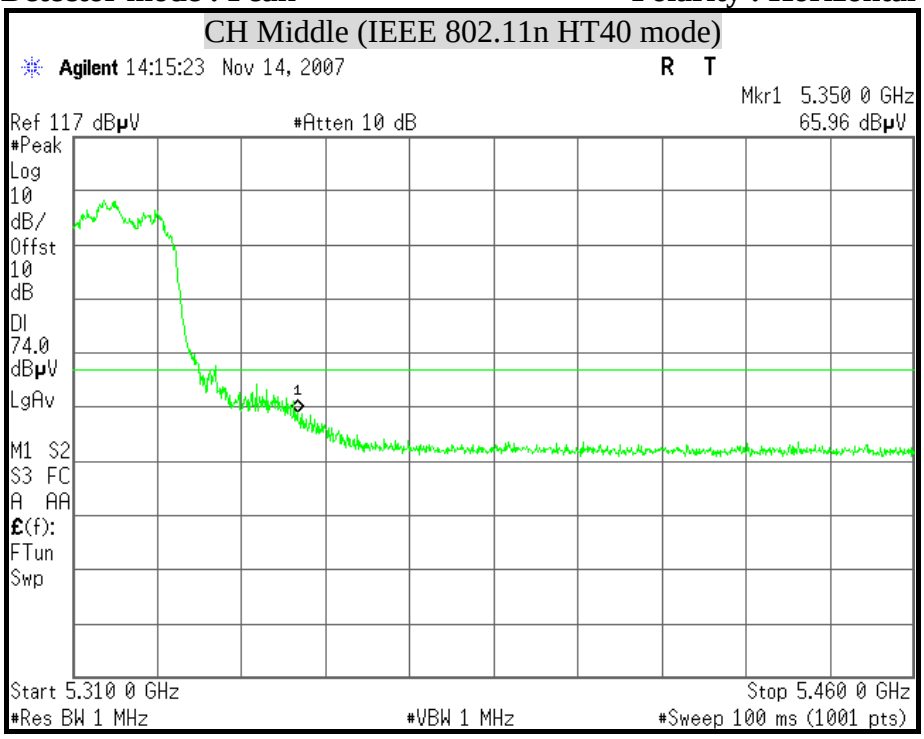
Detector mode : Peak **Polarity : Vertical**



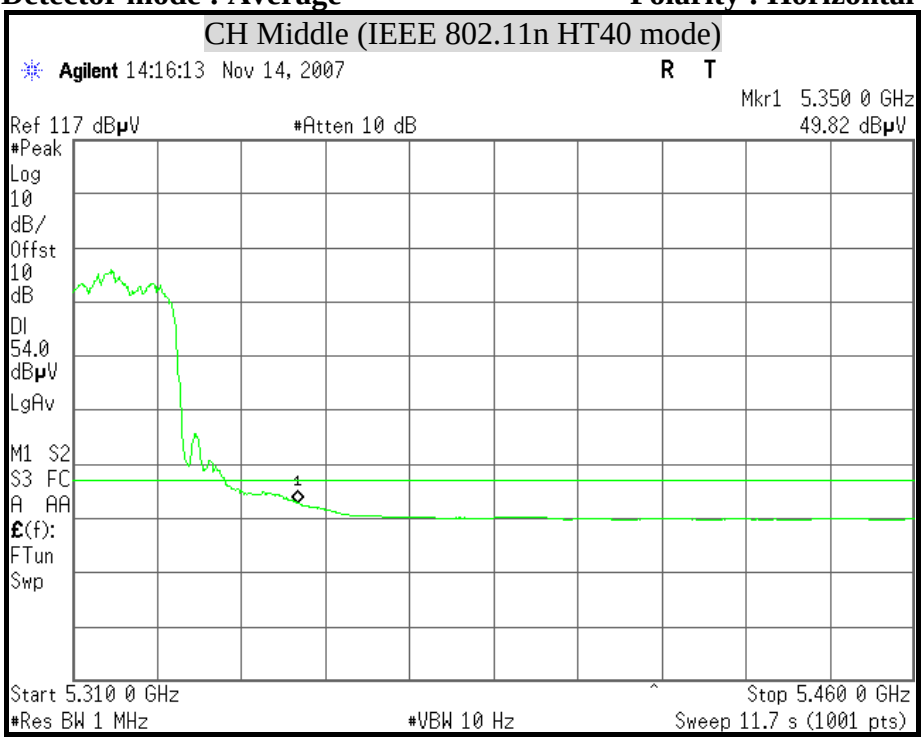
Detector mode : Average **Polarity : Vertical**



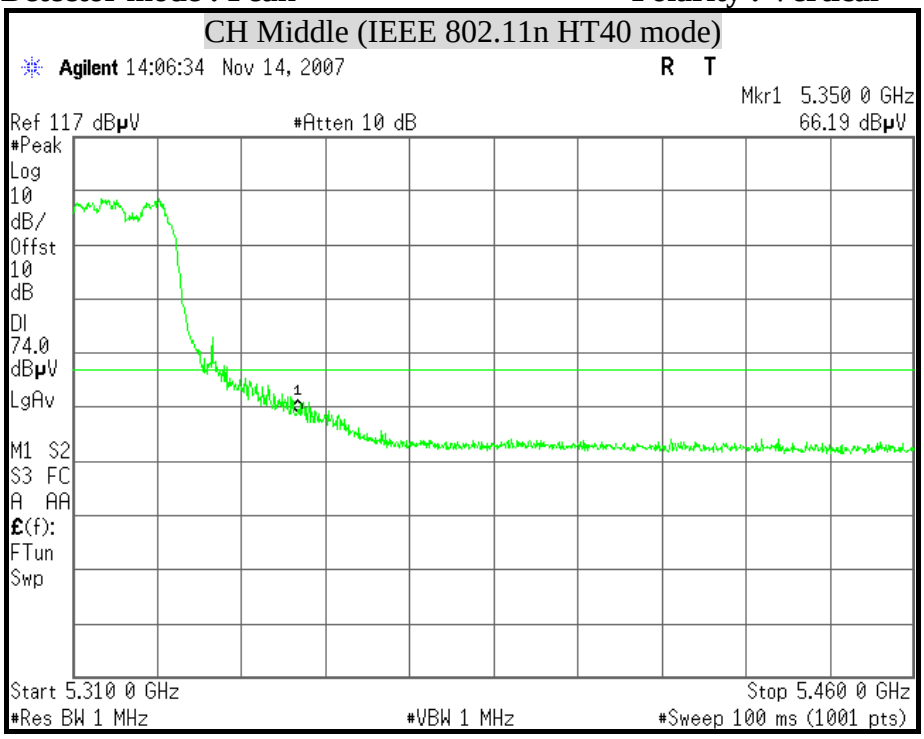
Detector mode : Peak **Polarity : Horizontal**



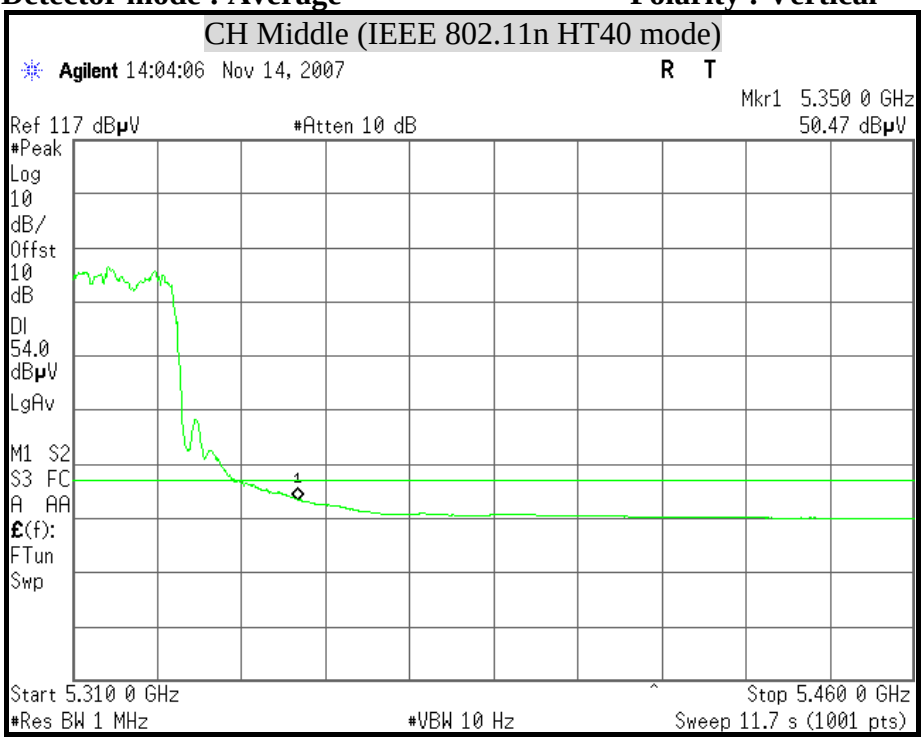
Detector mode : Average **Polarity : Horizontal**



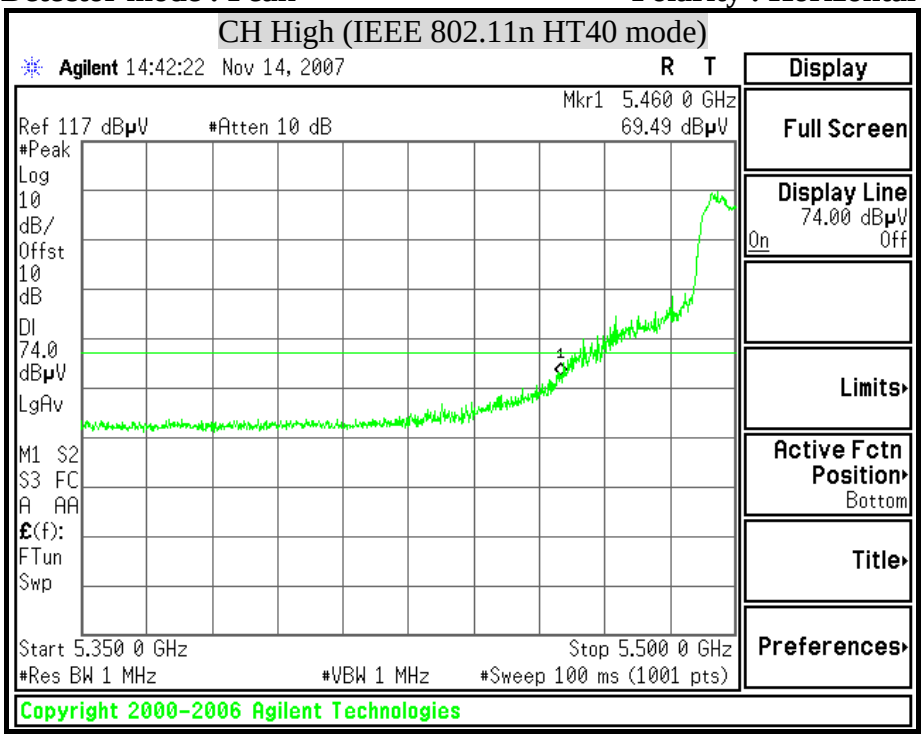
Detector mode : Peak **Polarity : Vertical**



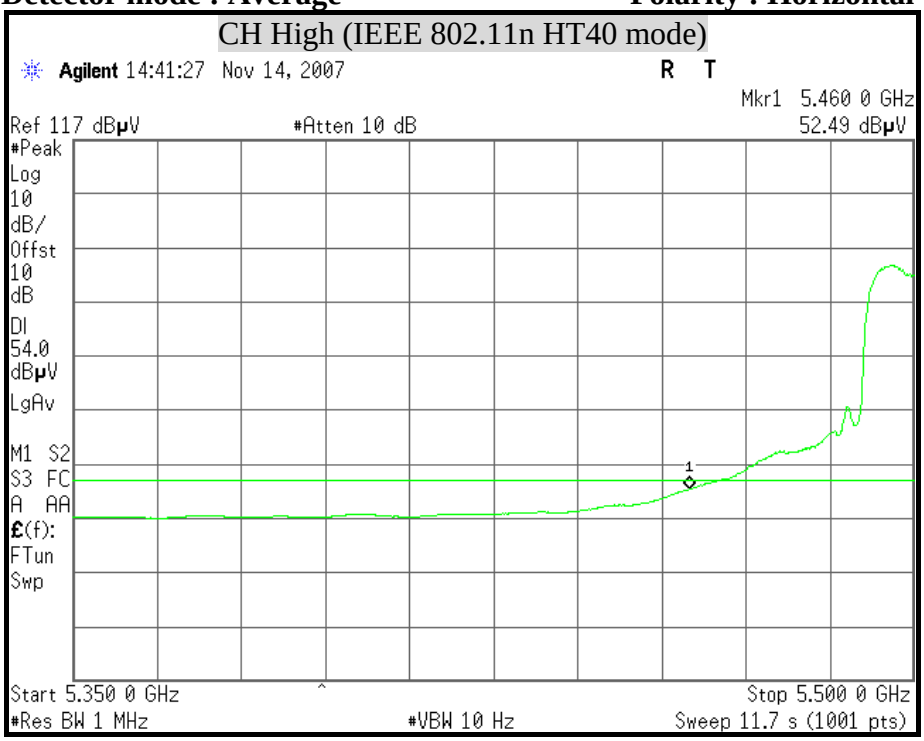
Detector mode : Average **Polarity : Vertical**



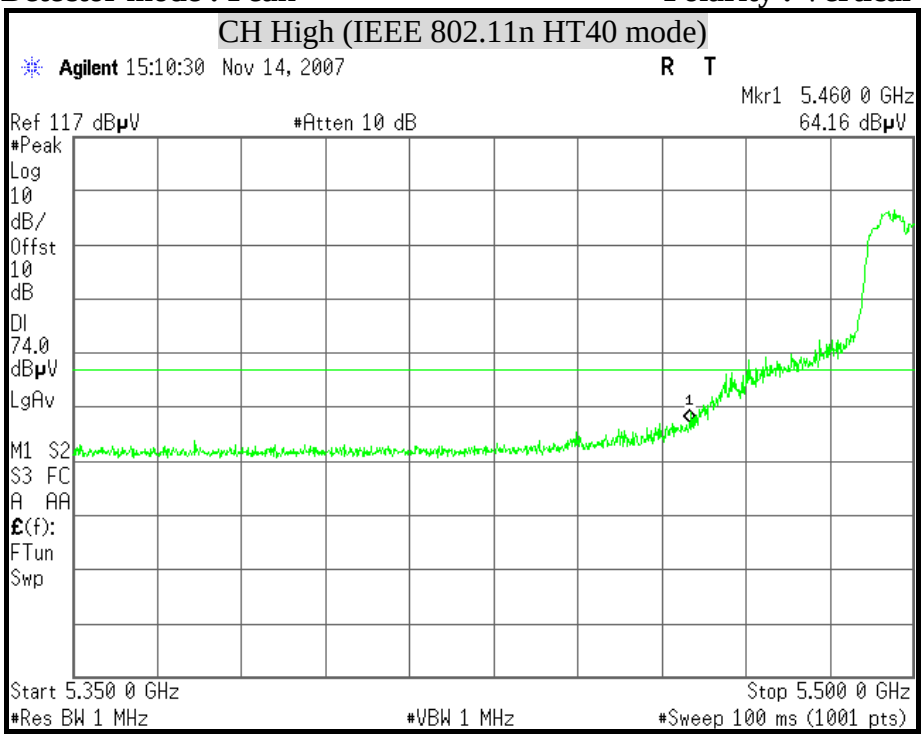
Detector mode : Peak **Polarity : Horizontal**



Detector mode : Average **Polarity : Horizontal**



Detector mode : Peak **Polarity : Vertical**



Detector mode : Average **Polarity : Vertical**

8.8 POWERLINE CONDUCTED EMISSIONS

LIMITS

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

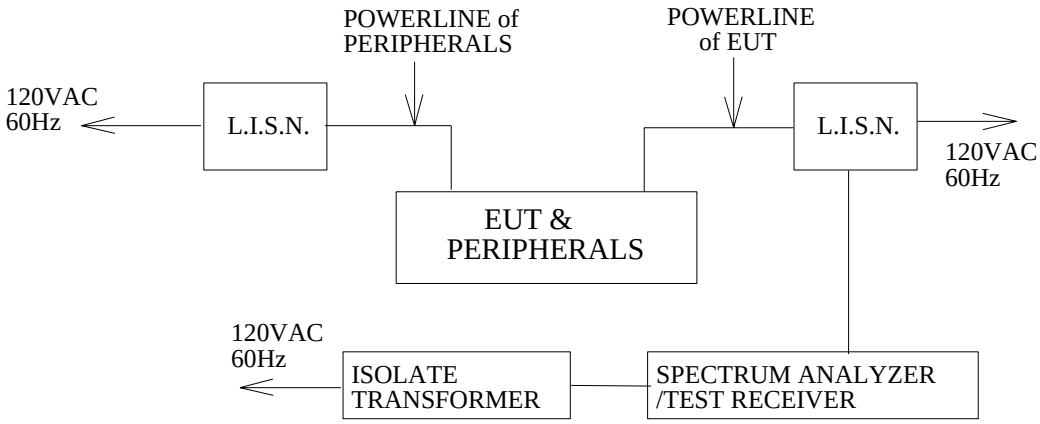
Frequency of Emission (MHz)	Conducted limit (dBμv)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

TEST EQUIPMENT

The following test equipment is used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
SCHWARZBECK L.I.S.N	NSLK 8127	8127-465	July 09, 2007	1 Year	FINAL
CHASE L.I.S.N	NNLK 8129	8129118	January 26, 2007	1 Year	FINAL
R & S TEST RECEIVER	ESHS30	838550/003	January 31, 2007	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	ESH3-Z2	10117	September 17, 2007	1 Year	FINAL
BELDEN N TYPE COAXIAL CABLE	8268 M17/164	003	September 14, 2007	1 Year	FINAL

TEST SETUP



TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80cm above the horizontal ground plane. The EUT IS CONFIGURED IN ACCORDANCE WITH ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both quasi-peak detection and average detection measurements.

Line conducted data is recorded for both NEUTRAL and LINE.

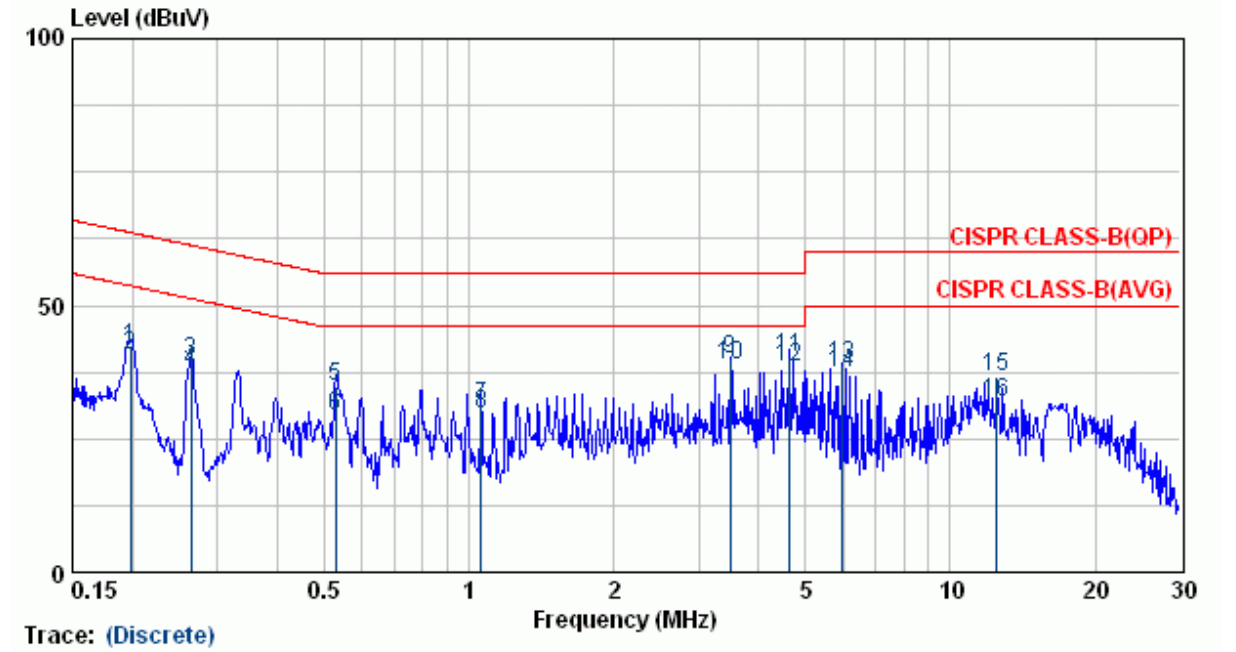
TEST RESULTS

No non-compliance noted

CONDUCTED RF VOLTAGE MEASUREMENT

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/12/03
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	TX Mode	TEMP & Humidity	24.5°C, 54%

LINE



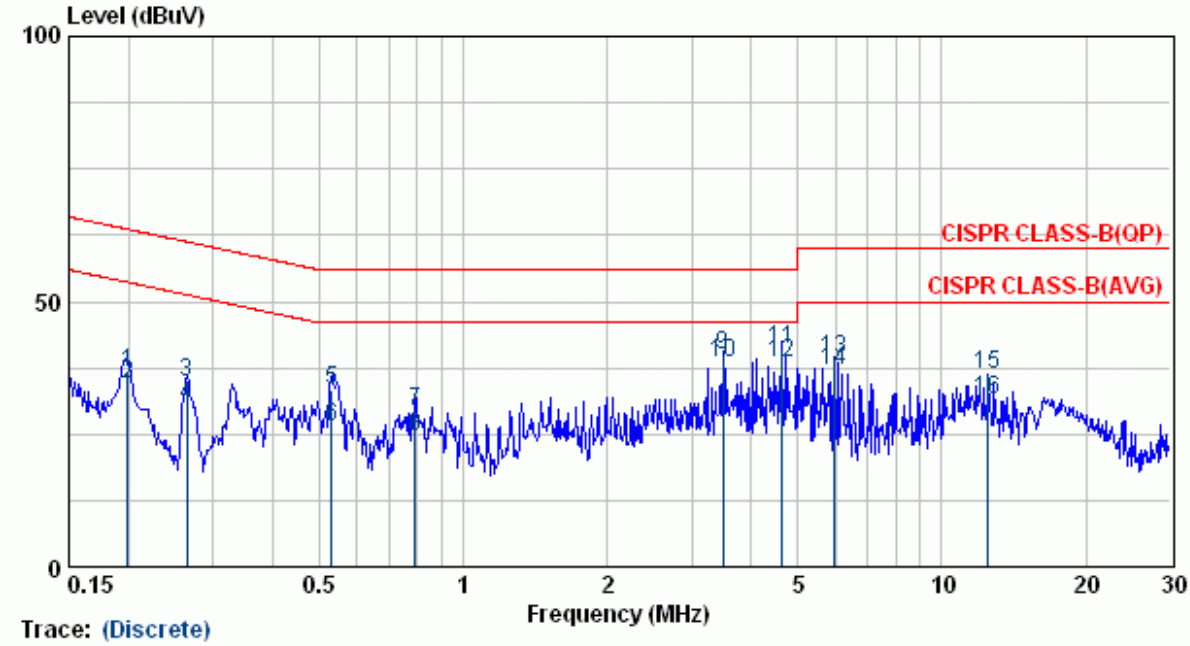
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.198	0.10	42.17	40.55	42.27	40.65	63.68	53.68	-21.41	-13.03
0.264	0.10	39.28	37.65	39.38	37.75	61.29	51.29	-21.91	-13.54
0.529	0.10	34.57	29.19	34.67	29.29	56.00	46.00	-21.33	-16.71
1.060	0.10	31.01	29.66	31.11	29.76	56.00	46.00	-24.89	-16.24
3.486	0.20	39.69	38.49	39.89	38.69	56.00	46.00	-16.11	-7.31
4.628	0.20	40.16	38.19	40.36	38.39	56.00	46.00	-15.64	-7.61
5.951	0.29	38.58	37.05	38.87	37.34	60.00	50.00	-21.13	-12.66
12.502	0.50	36.17	31.49	36.67	31.99	60.00	50.00	-23.33	-18.01

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	WLAN USB Stick a/b/g/n Adapter	Test Date	2007/12/03
Model	65-VF438-P2	Test By	Jason Chang
Test Mode	TX Mode	TEMP & Humidity	24.5°C, 54%

NEUTRAL



Freq.	Corr. Factor	Reading Value dBuV		Emission Level dBuV		Limit dBuV		Margin dBuV	
MHz	dB	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.199	0.20	36.51	34.37	36.71	34.57	63.65	53.65	-26.94	-19.08
0.265	0.20	34.77	30.19	34.97	30.39	61.28	51.28	-26.31	-20.89
0.532	0.20	33.22	26.19	33.42	26.39	56.00	46.00	-22.58	-19.61
0.794	0.20	28.97	24.48	29.17	24.68	56.00	46.00	-26.83	-21.32
3.485	0.20	39.61	38.26	39.81	38.46	56.00	46.00	-16.19	-7.54
4.628	0.20	40.72	38.42	40.92	38.62	56.00	46.00	-15.08	-7.38
5.951	0.29	38.74	36.78	39.03	37.07	60.00	50.00	-20.97	-12.93
12.501	0.50	35.61	31.17	36.11	31.67	60.00	50.00	-23.89	-18.33

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

9. ANTENNA REQUIREMENT

9.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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

9.2 ANTENNA CONNECTED CONSTRUCTION

5.15~5.35GHz :

The antenna used for this product is Printed antenna. The peak Gain of this antenna is 0.47dBi .

5.47~5.725GHz :

The antenna used for this product is Printed antenna. The peak Gain of this antenna is 1.85dBi .