

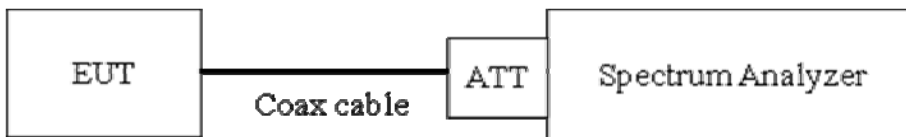
9.5 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Requirements and limit, §15.247(d)

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

Limit : 20 dBc

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. (Procedure 11.0 in KDB 558074, issued 04/09/2013)

RBW = 100 kHz

VBW $\geq 3 \times$ RBW

Set span to encompass the spectrum to be examined

Detector = Peak

Trace Mode = max hold

Sweep time = auto couple

Ensure that the number of measurement points $\geq$ Span/RBW

Allow trace to fully stabilize.

Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 10th harmonic range with the transmitter set to the lowest, middle, and highest channels.

Note :

1. The band edge results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 2.4 GHz and 5.8 GHz range that was rounded off to the closest tenth dB. So,

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20.5 dB is offset for 2.4 GHz Band and 21.0 dB is offset for 5.8 GHz Band.

Actual value of loss for the attenuator and cable combination is below table. We used the particular cable type that is supported by manufacture.

Band	Loss(dB)
2.4 GHz	20.5
5.8 GHz	21.0

(Actual value of loss for the attenuator and cable combination)

4. In order to simplify the report, attached plots were only the worst case channel and data rate.

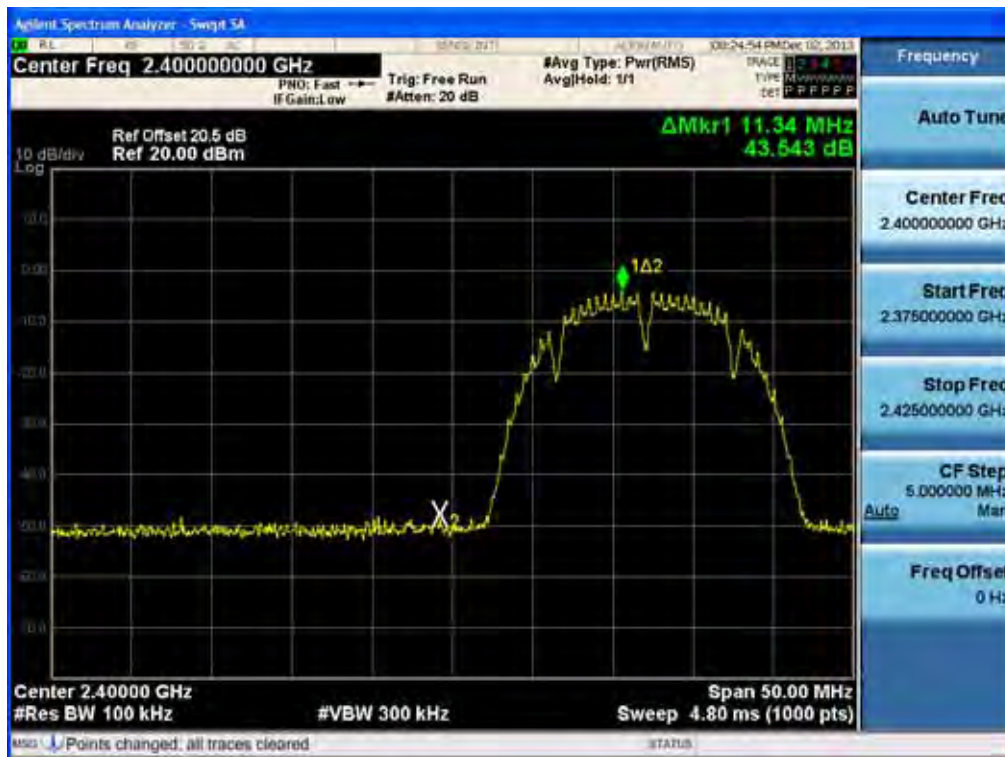
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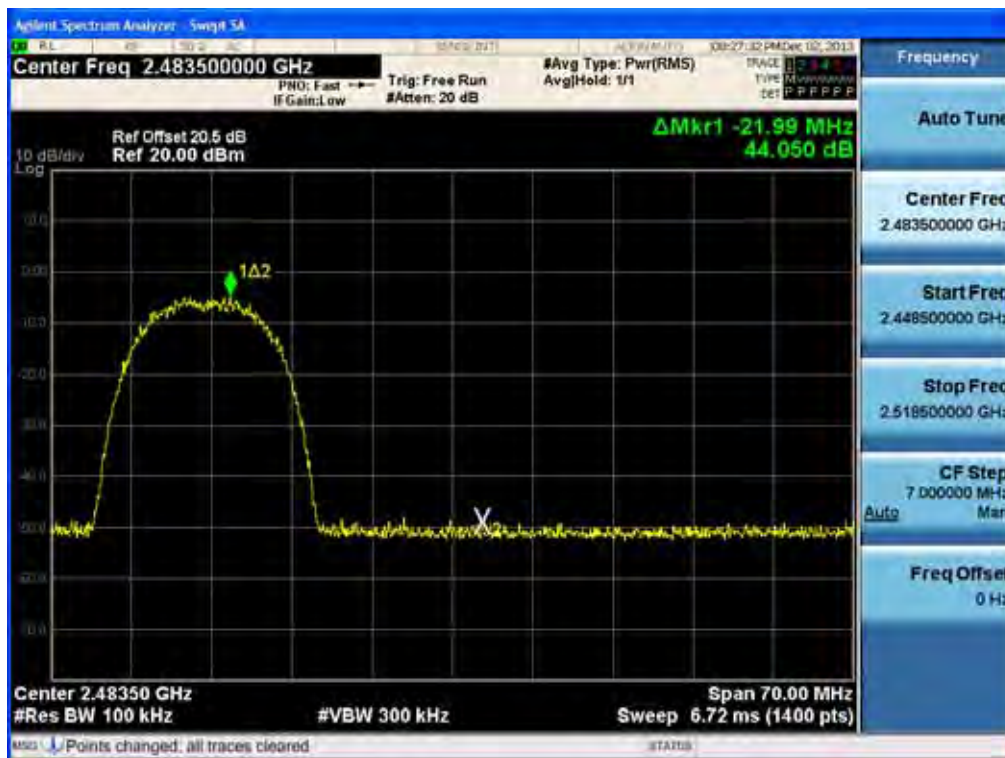
Monitoring Port Ant.1

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

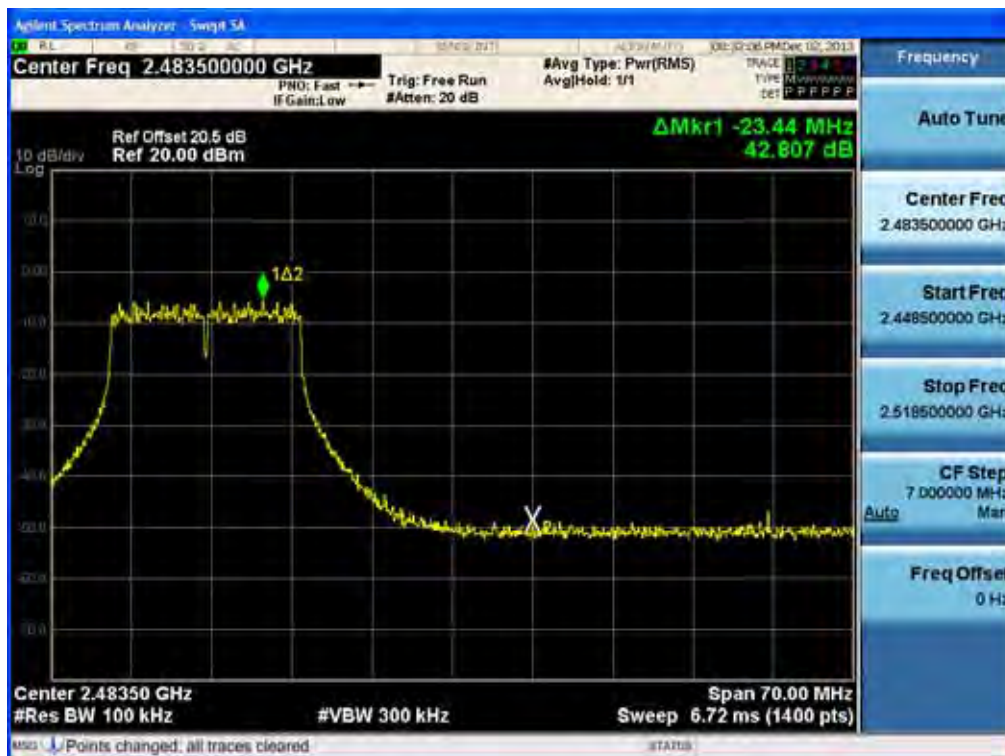


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BandEdge (802.11g-CH1)



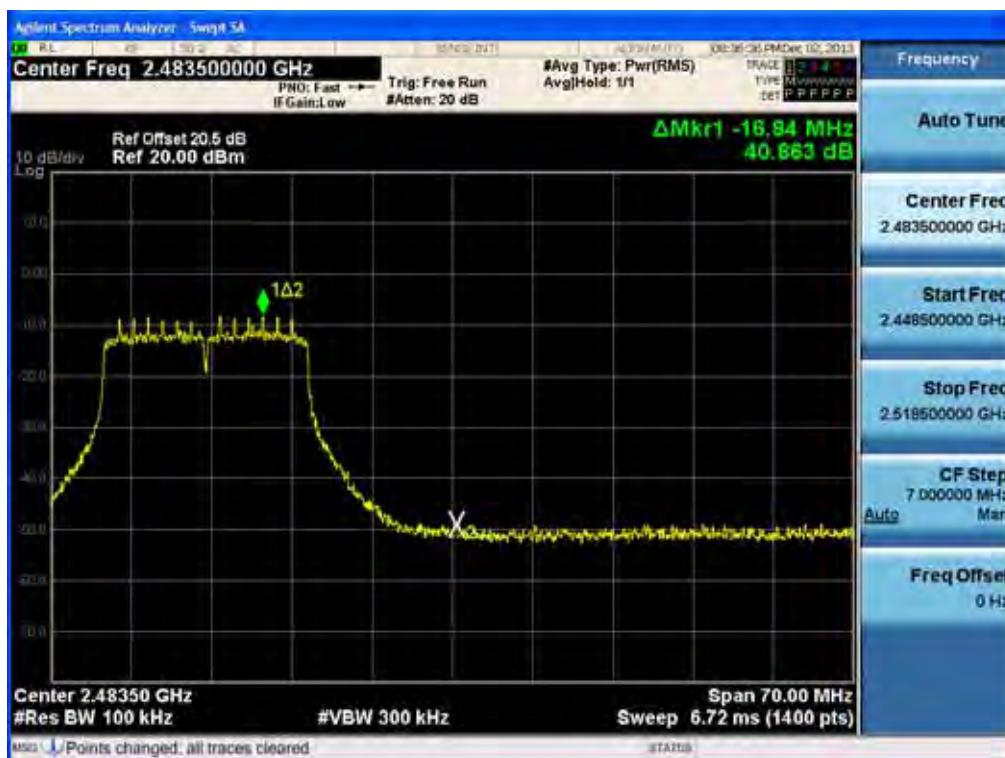
BandEdge (802.11g-CH11)



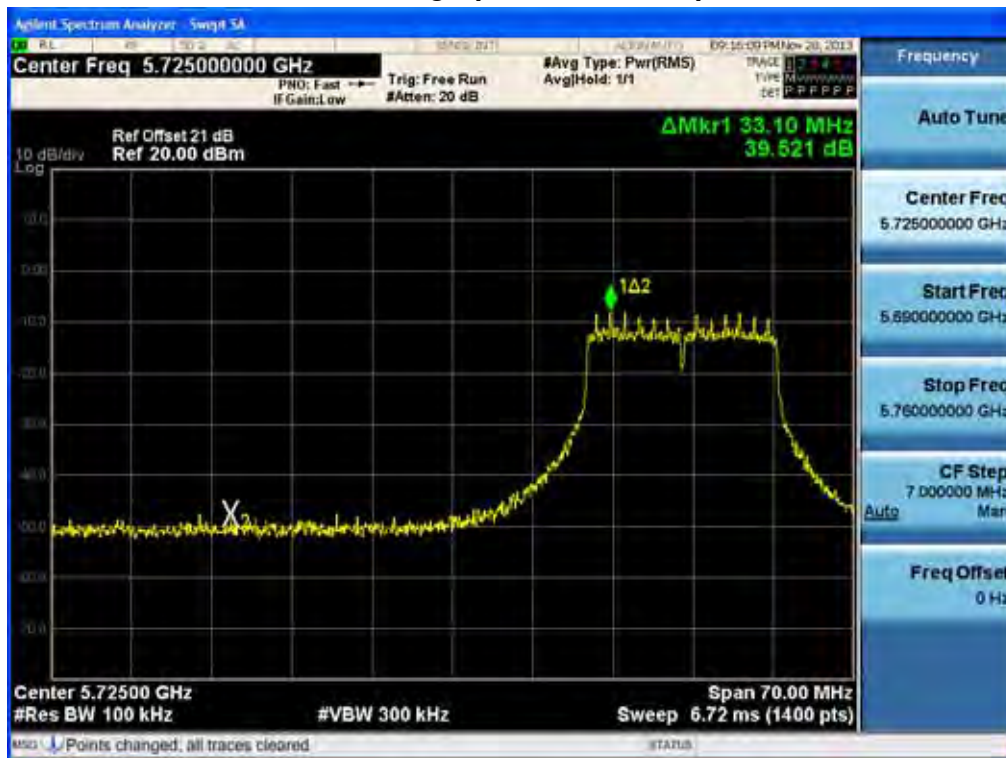
BandEdge (802.11n-CH1)



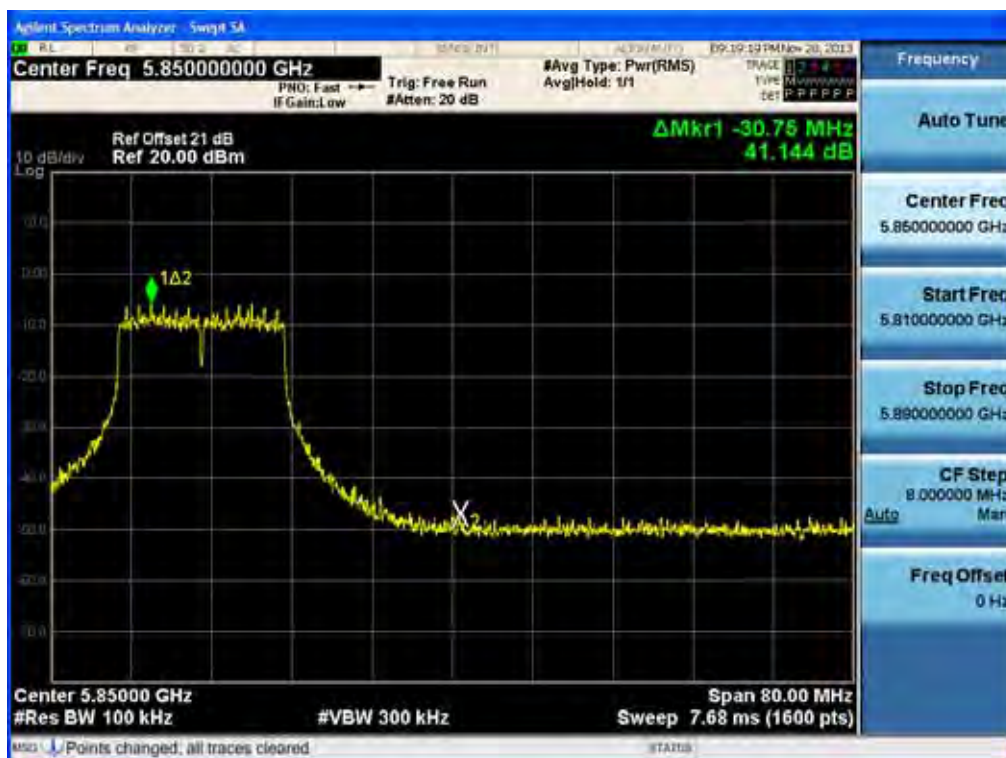
BandEdge (802.11n-CH11)



BandEdge (802.11a-CH 149)



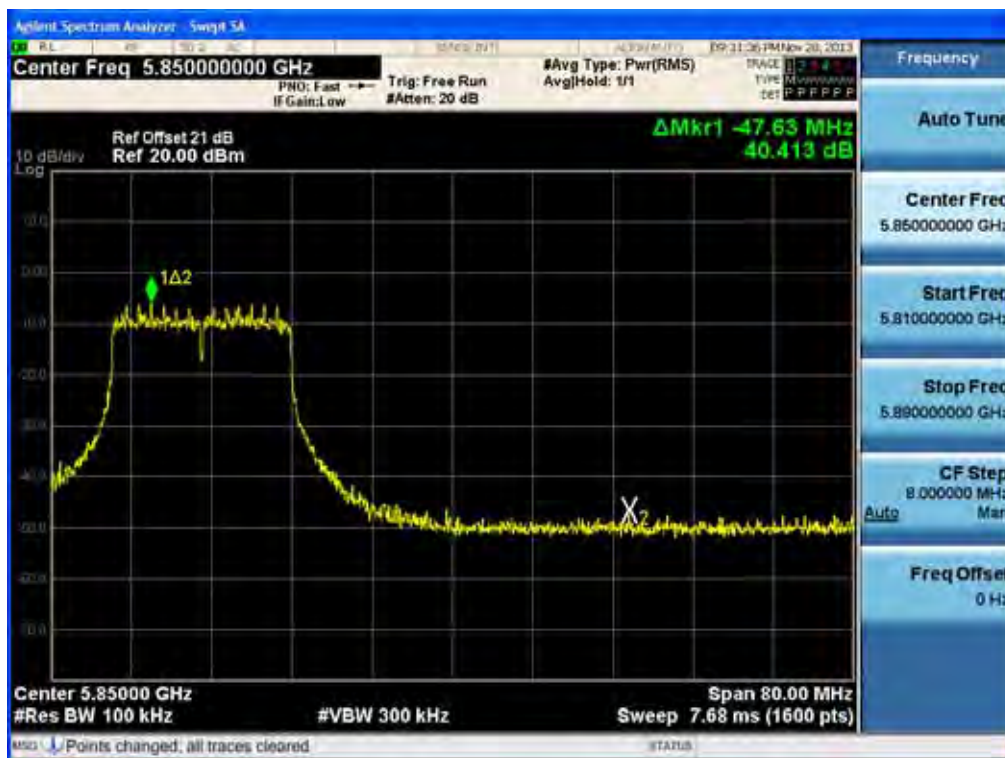
BandEdge (802.11a-CH 165)



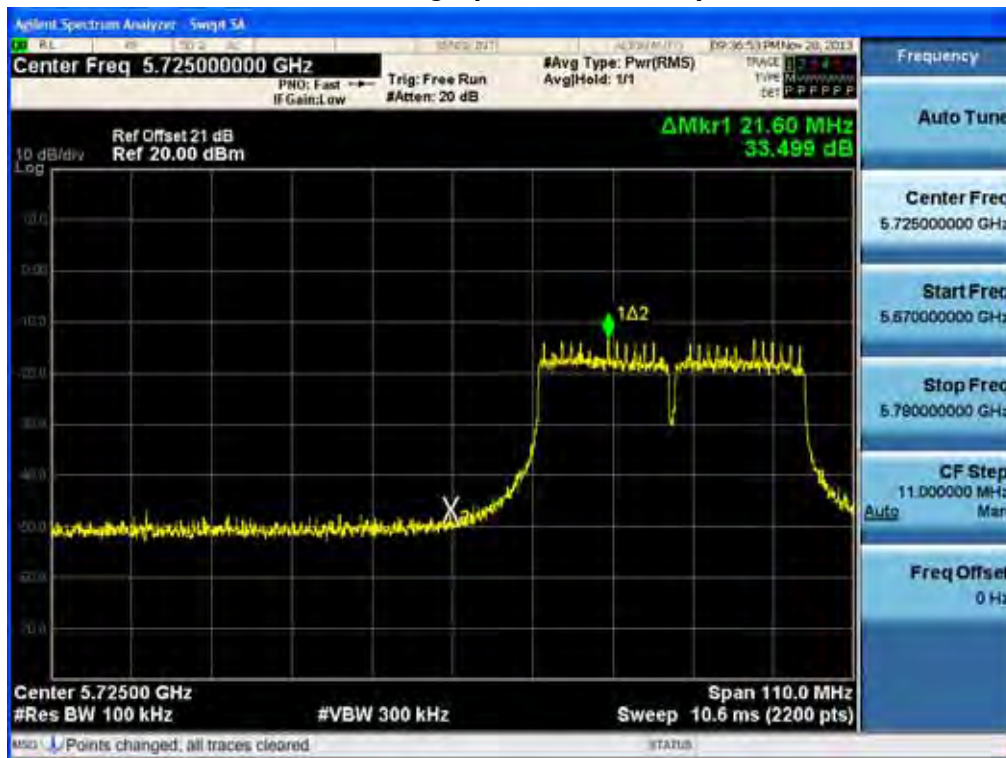
BandEdge (802.11n-CH 149)



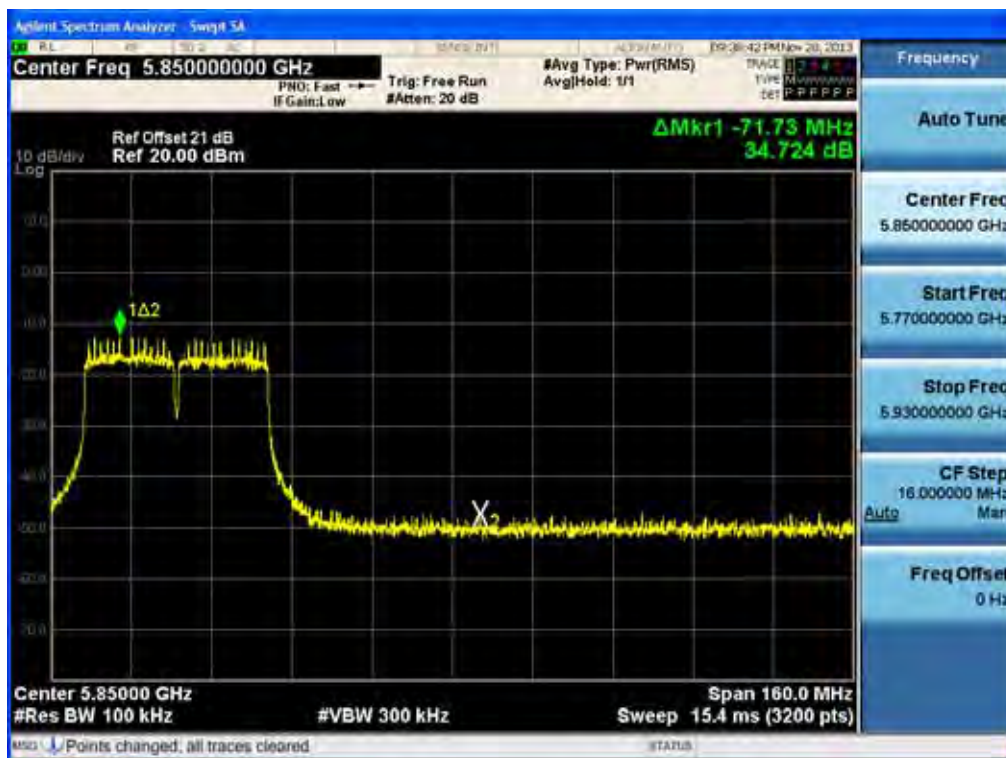
BandEdge (802.11n-CH 165)



BandEdge (802.11n-CH 151)



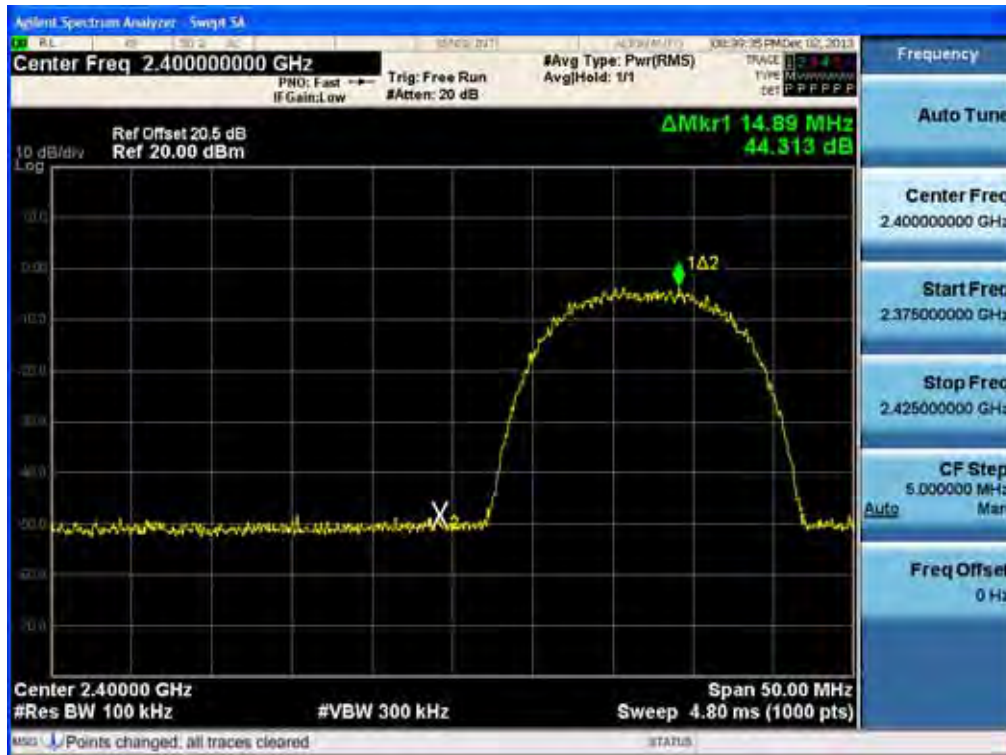
BandEdge (802.11n-CH 159)



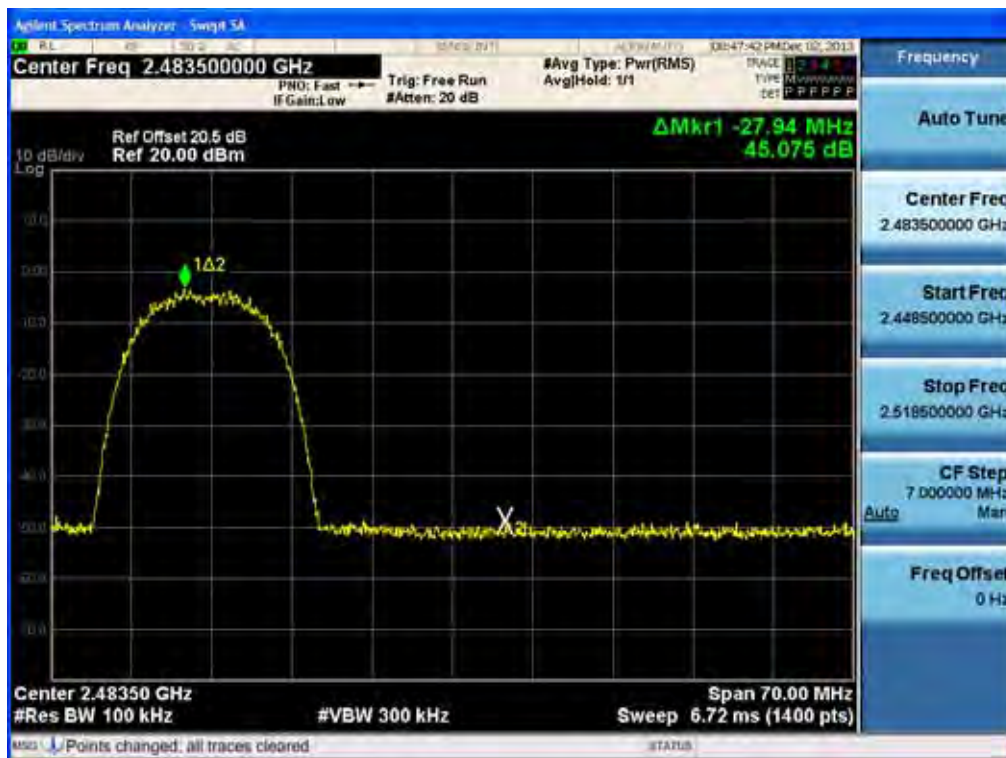
Monitoring Port Ant.2

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

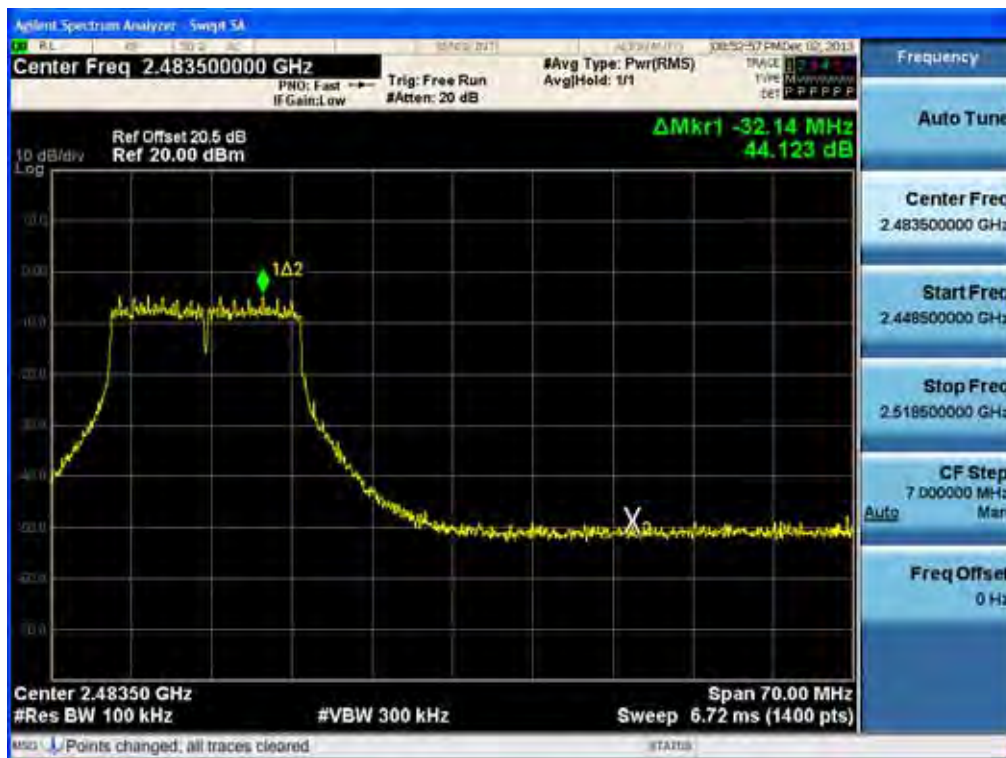


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BandEdge (802.11g-CH1)



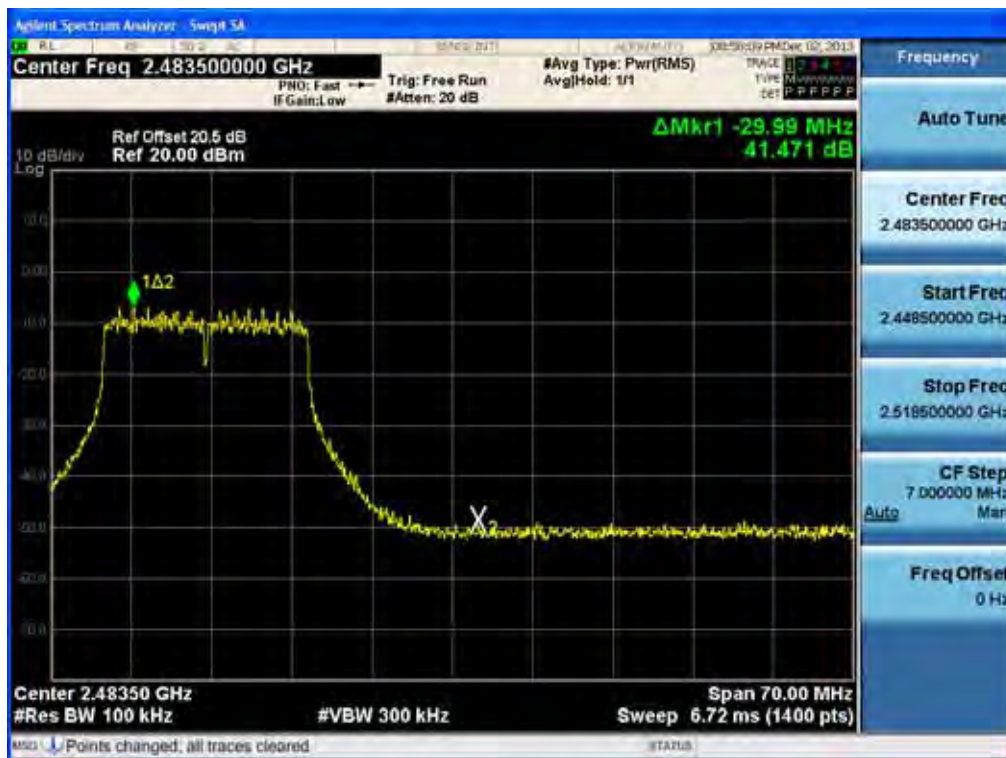
BandEdge (802.11g-CH11)



BandEdge (802.11n-CH1)



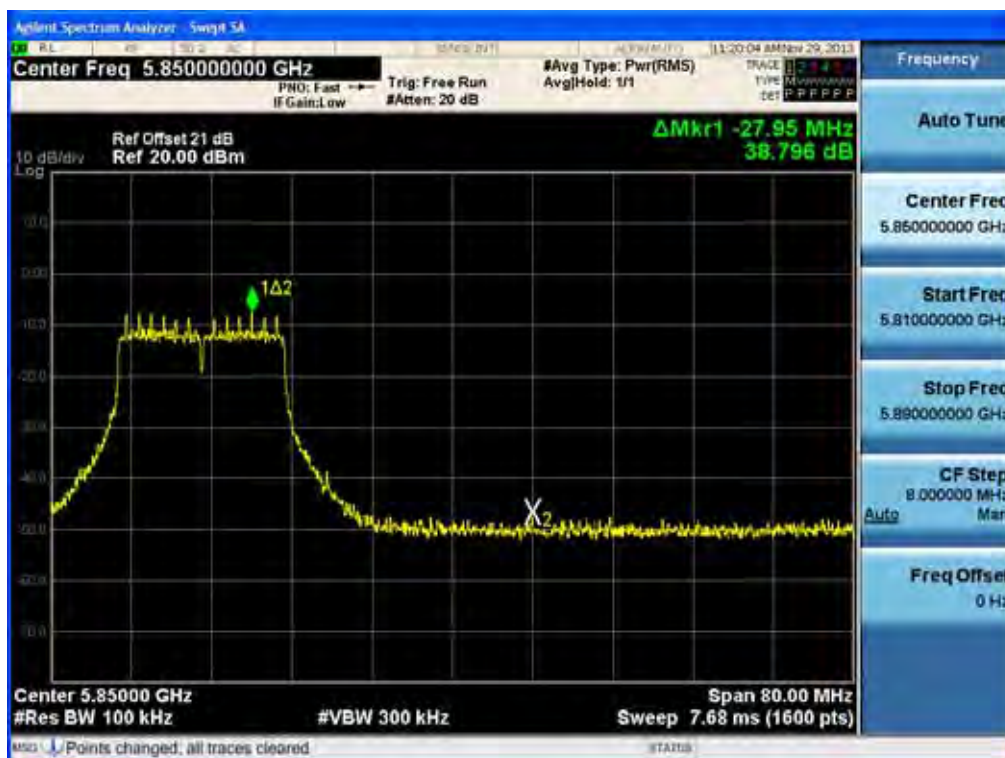
BandEdge (802.11n-CH11)



BandEdge (802.11a-CH 149)



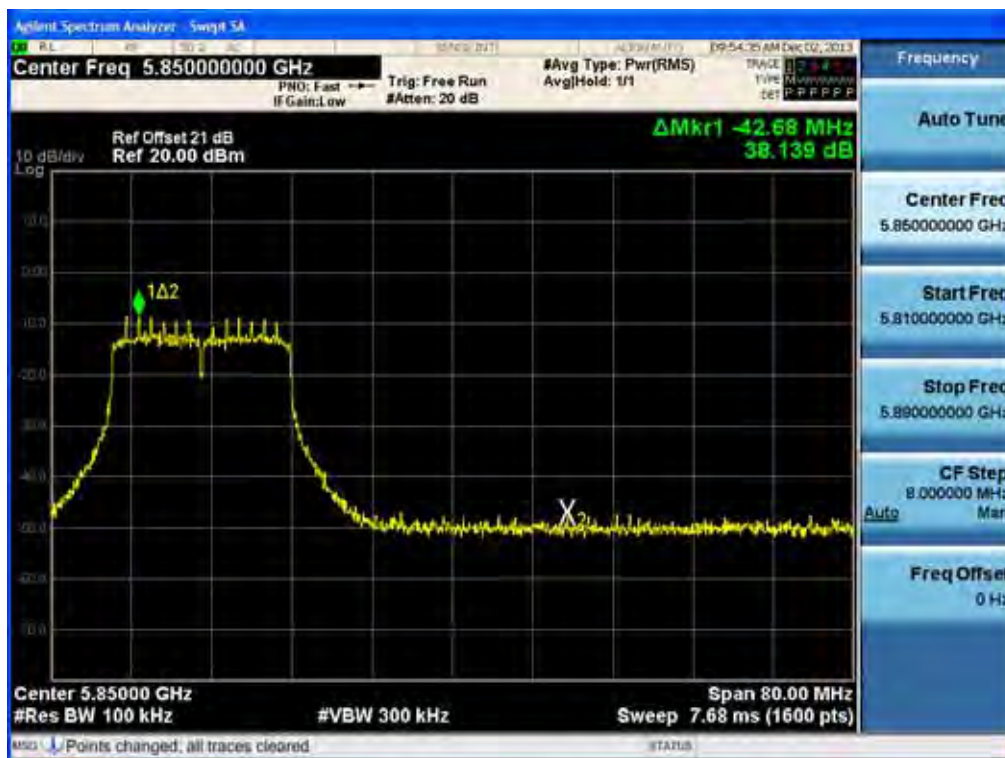
BandEdge (802.11a-CH 165)



BandEdge (802.11n-CH 149)



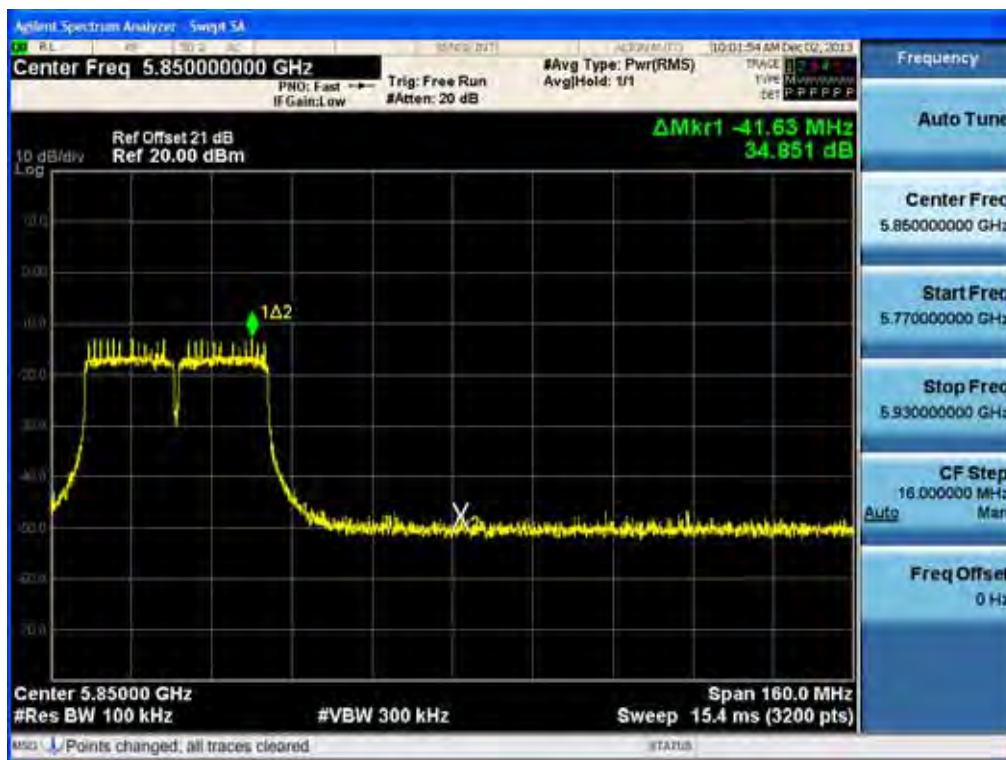
BandEdge (802.11n-CH 165)



BandEdge (802.11n-CH 151)



BandEdge (802.11n-CH 159)

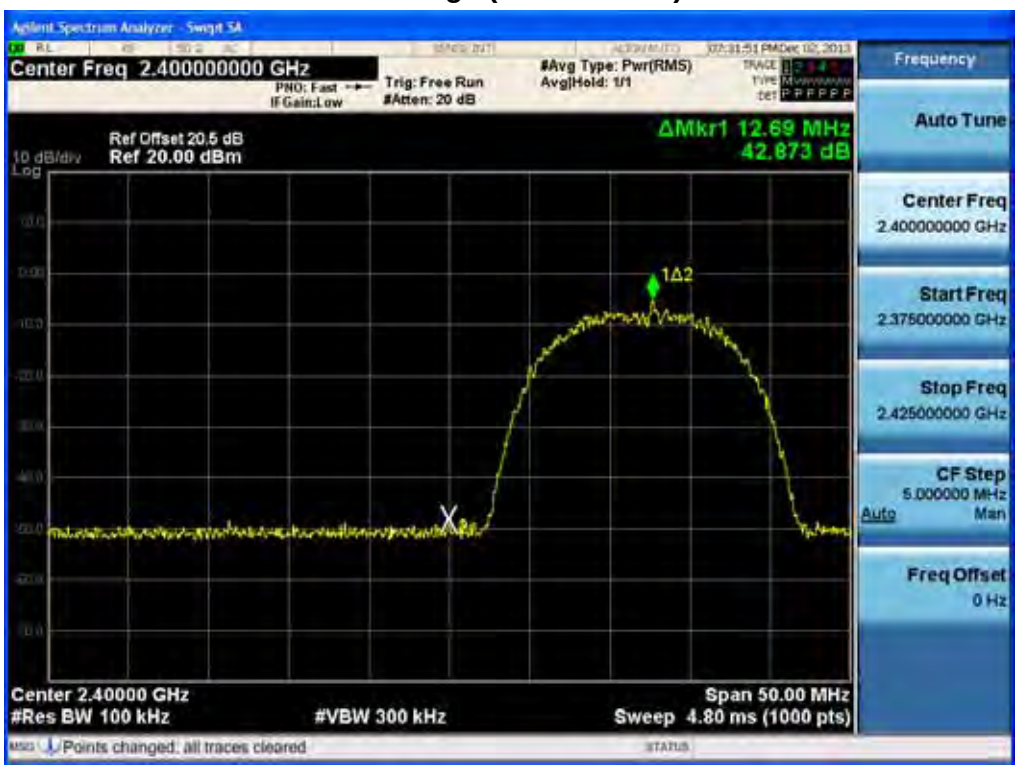




Service Port Ant.1

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

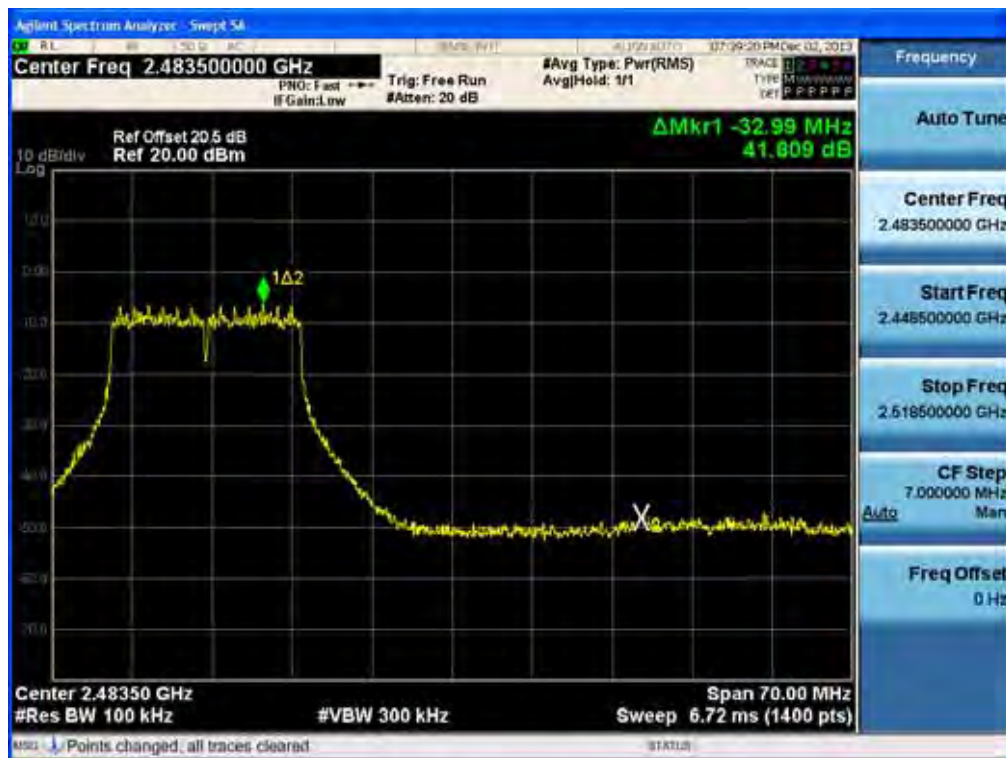


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BandEdge (802.11g-CH1)



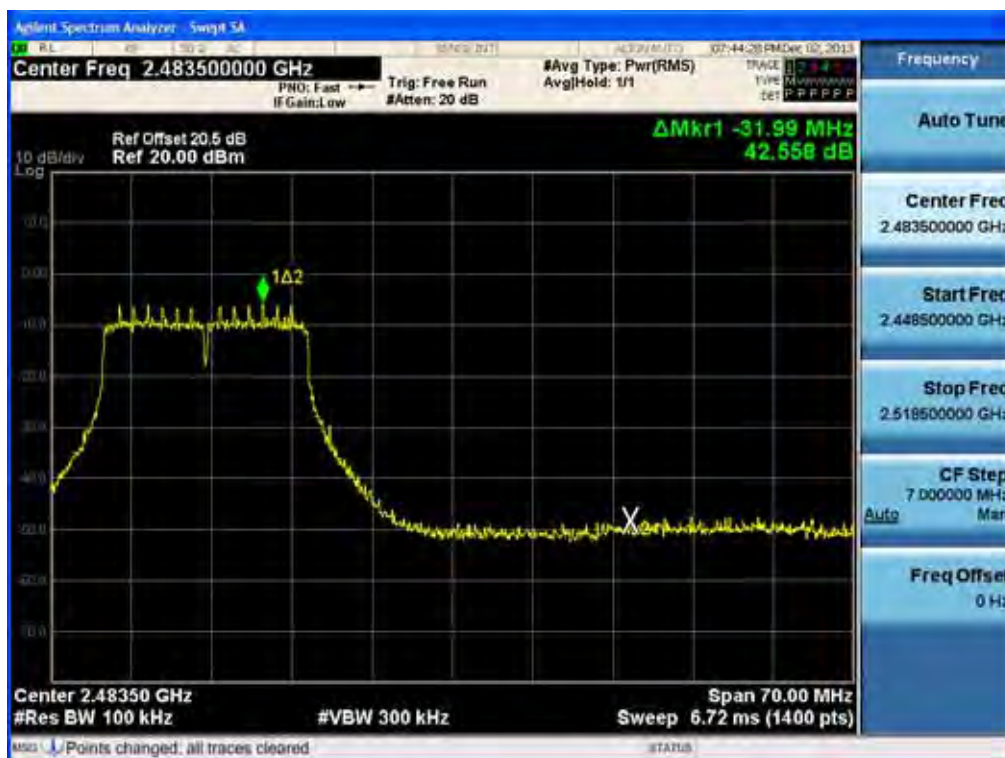
BandEdge (802.11g-CH11)



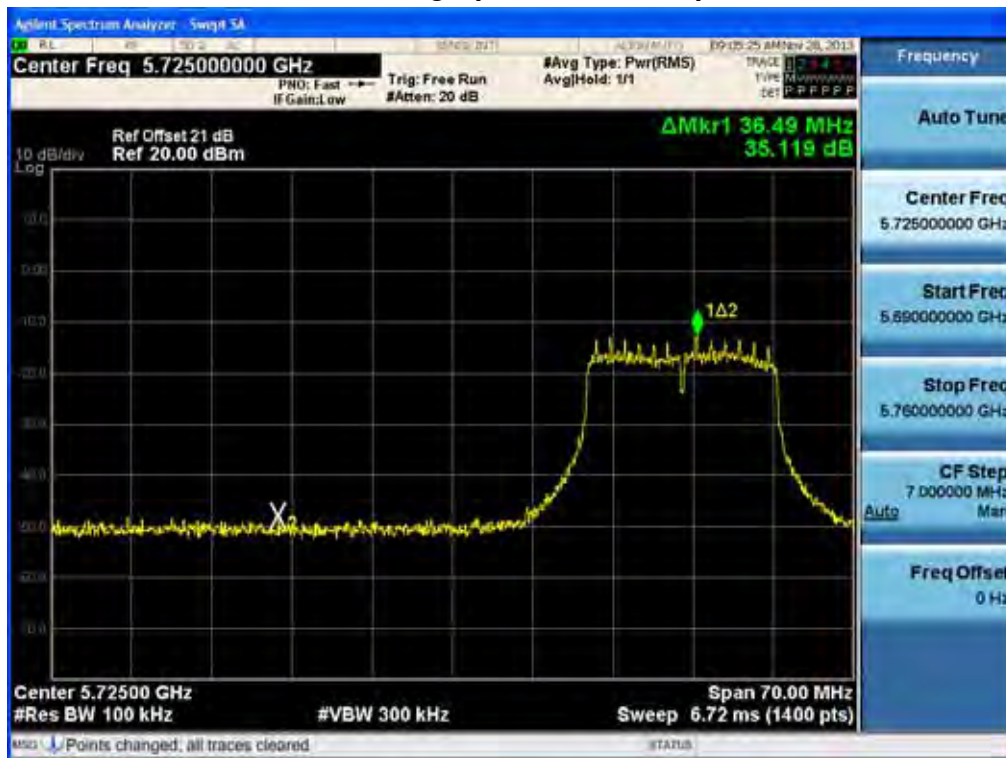
BandEdge (802.11n-CH1)



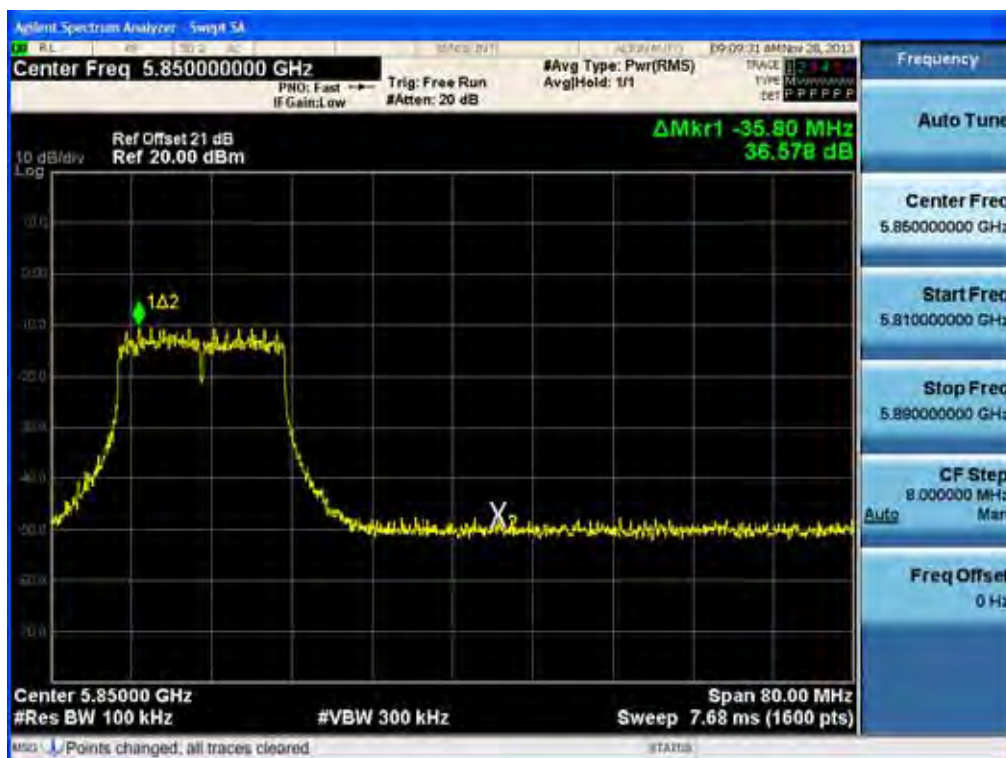
BandEdge (802.11n-CH11)



BandEdge (802.11a-CH 149)



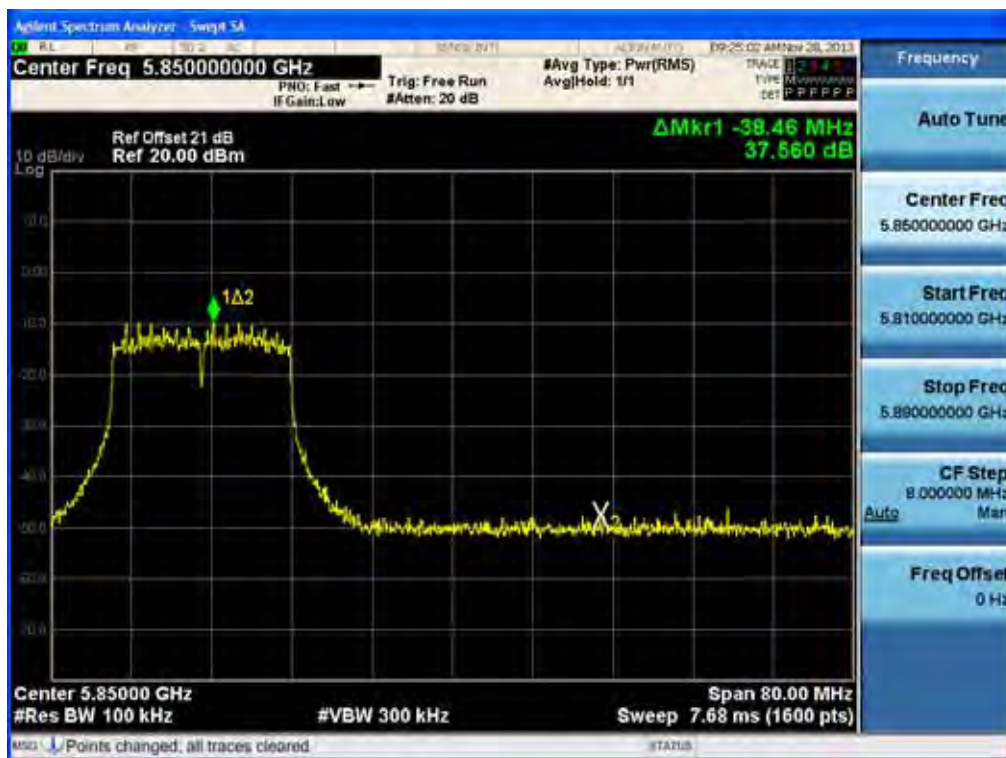
BandEdge (802.11a-CH 165)



BandEdge (802.11n-CH 149)



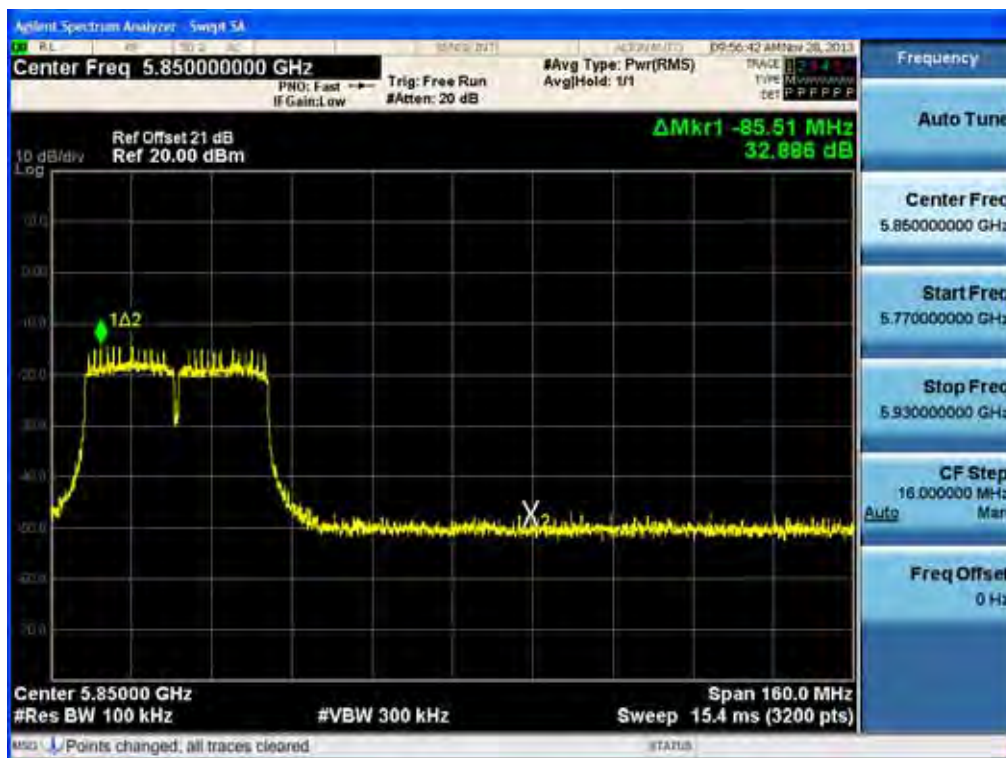
BandEdge (802.11n-CH 165)



BandEdge (802.11n-CH 151)



BandEdge (802.11n-CH 159)

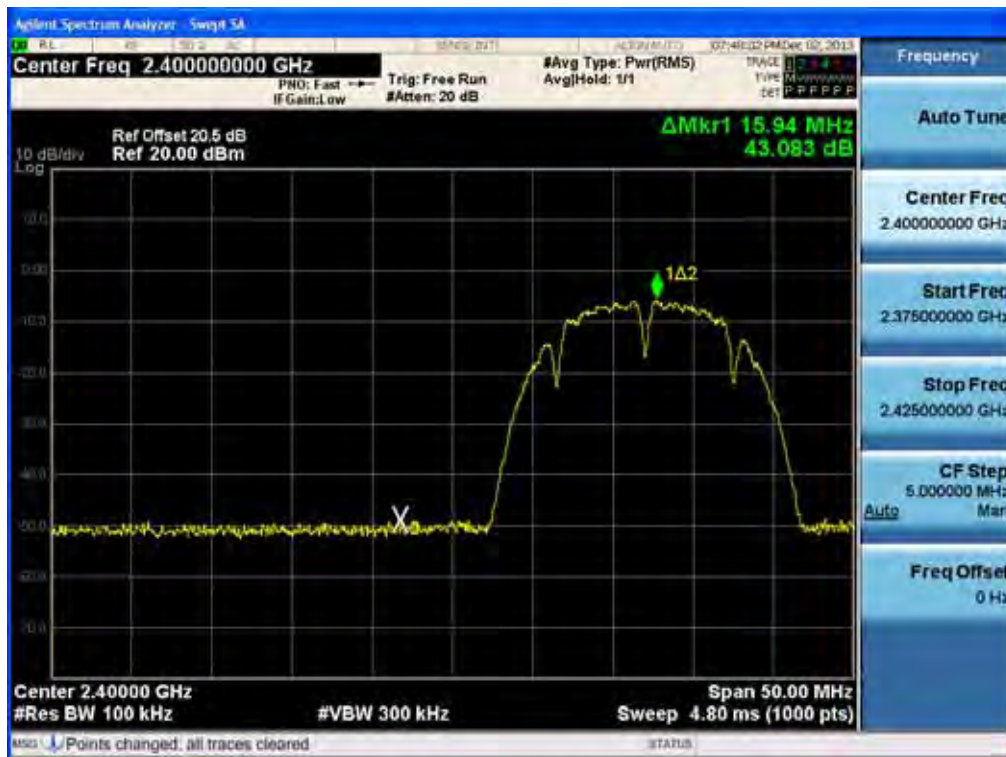




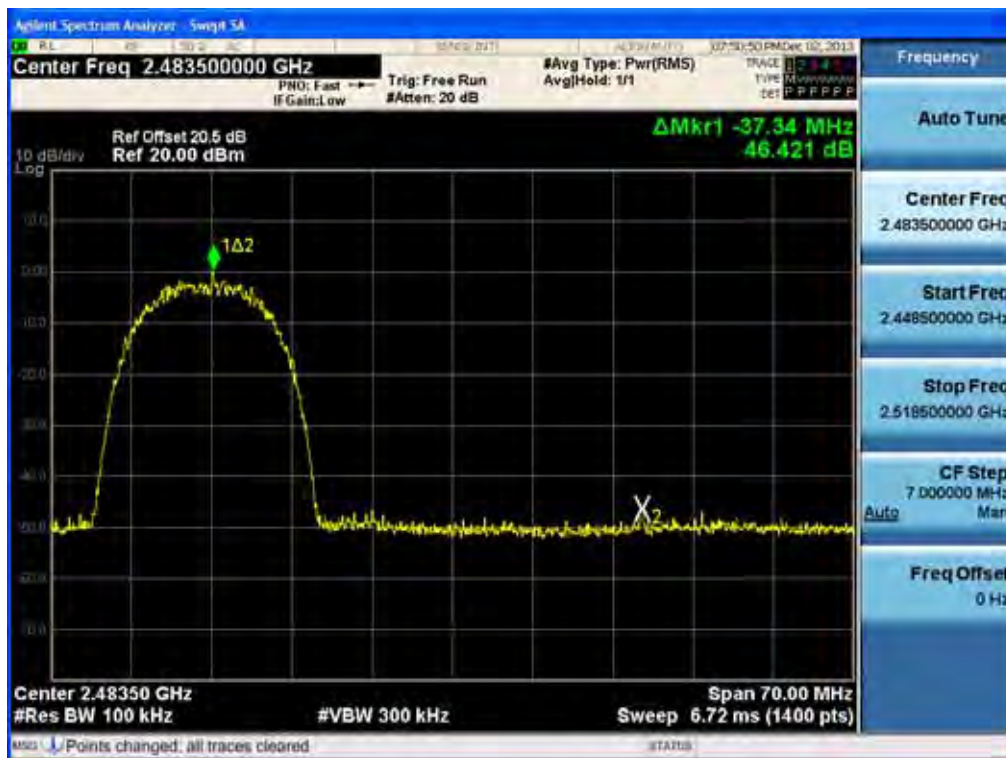
Service Port Ant.2

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

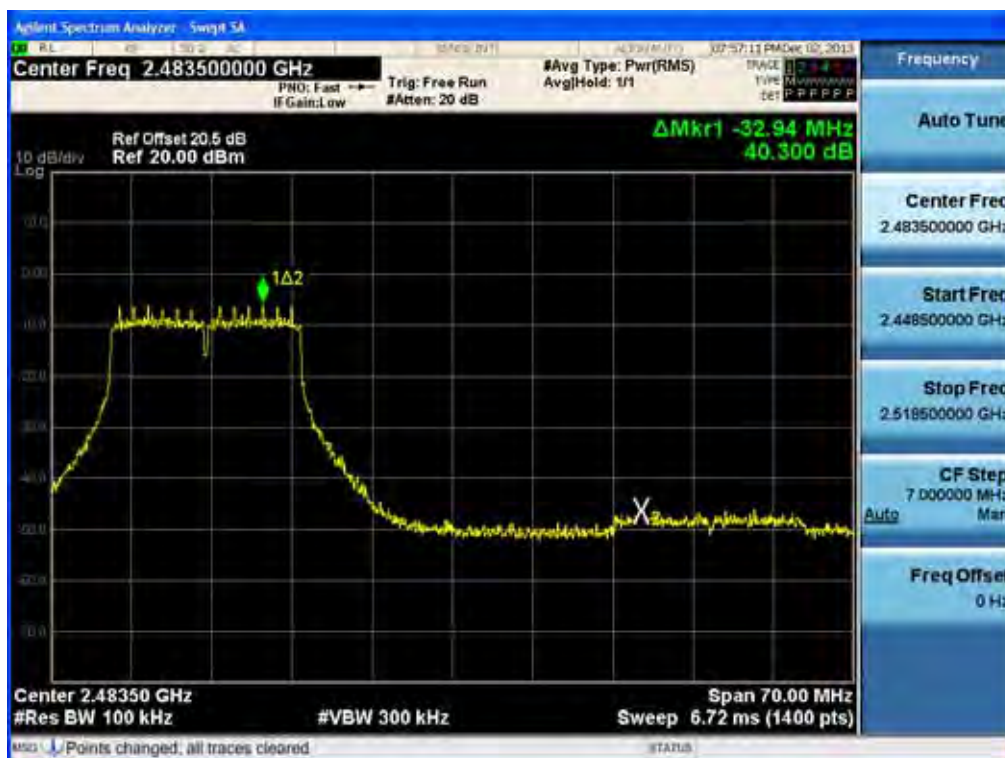


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BandEdge (802.11g-CH1)



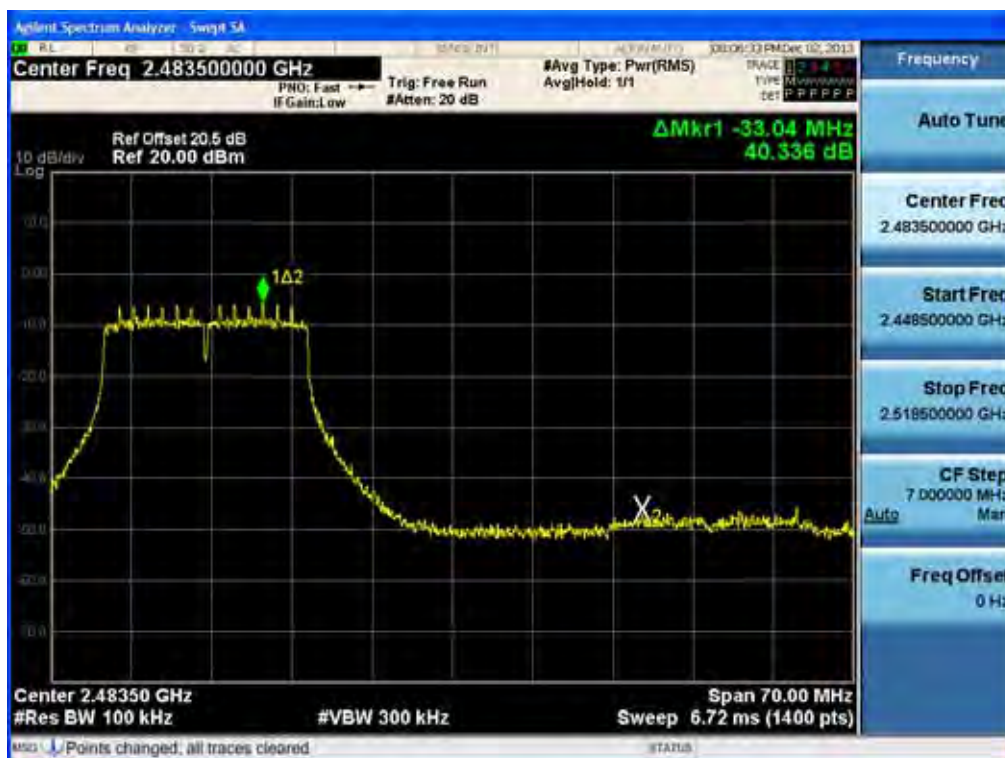
BandEdge (802.11g-CH11)



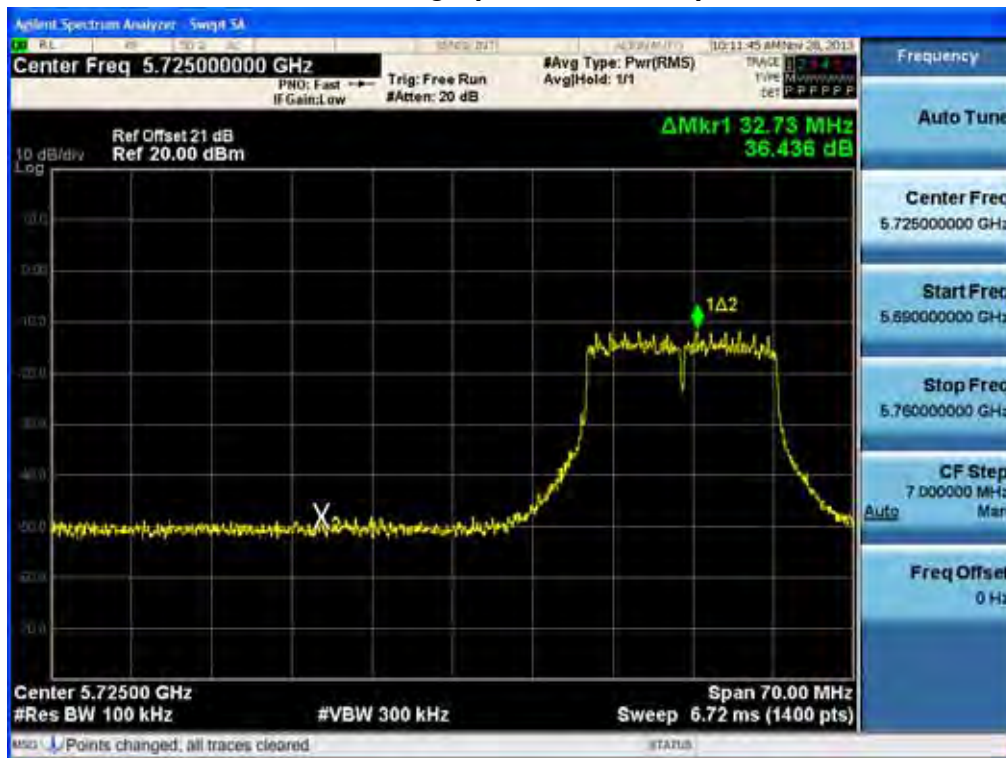
BandEdge (802.11n-CH1)



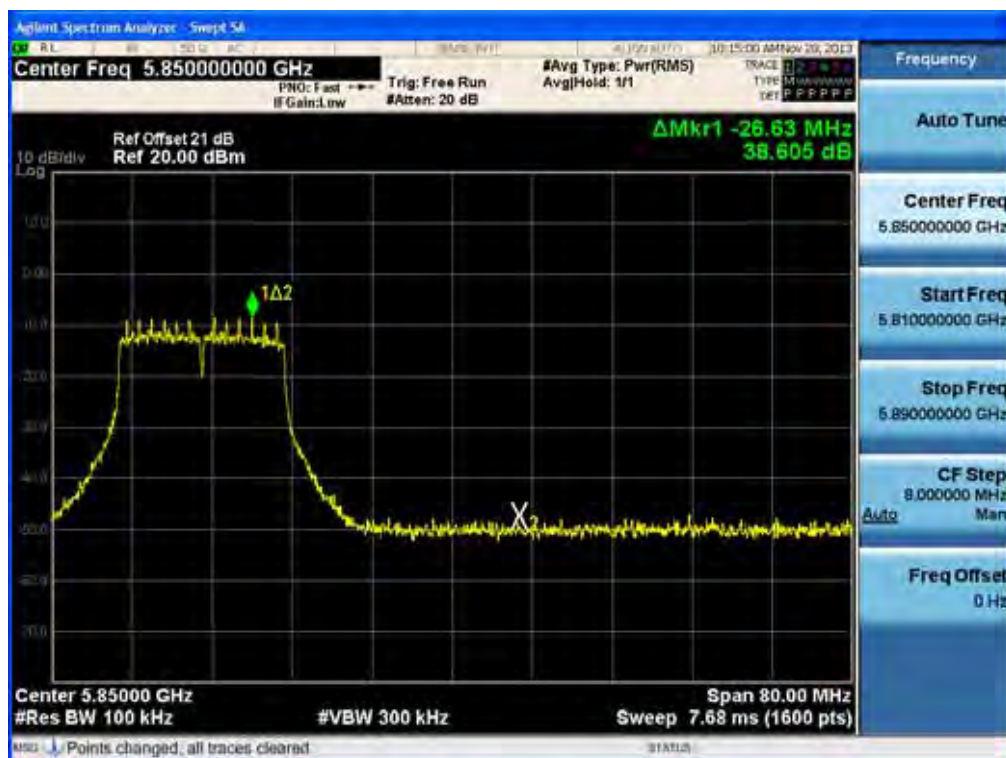
BandEdge (802.11n-CH11)



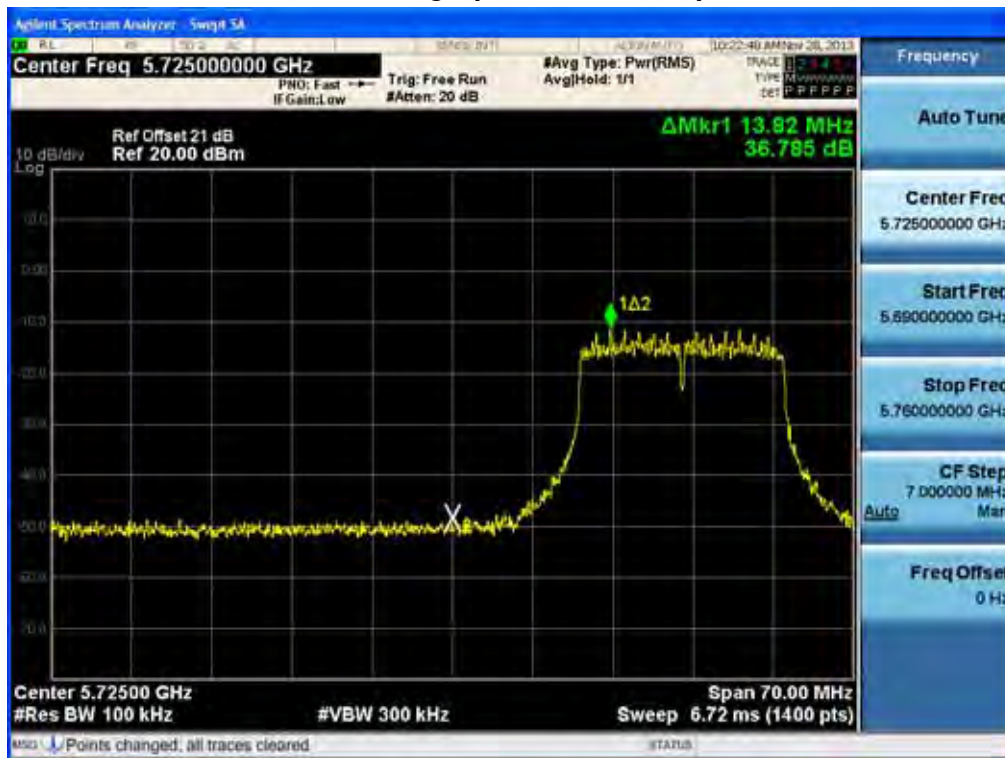
BandEdge (802.11a-CH 149)



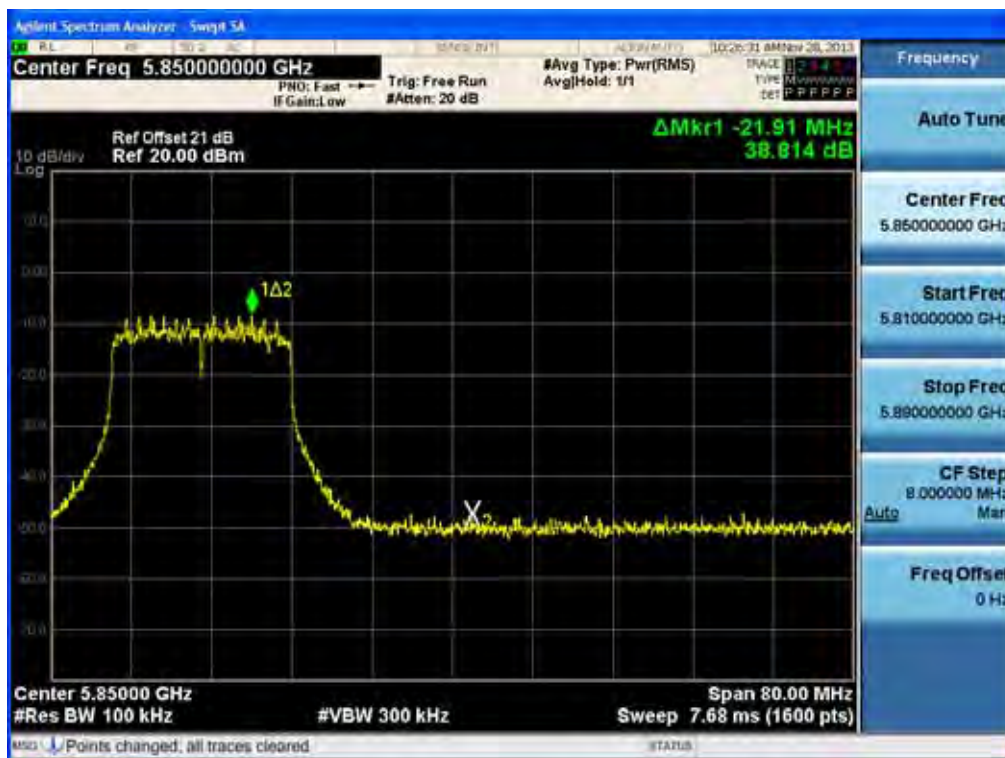
BandEdge (802.11a-CH 165)



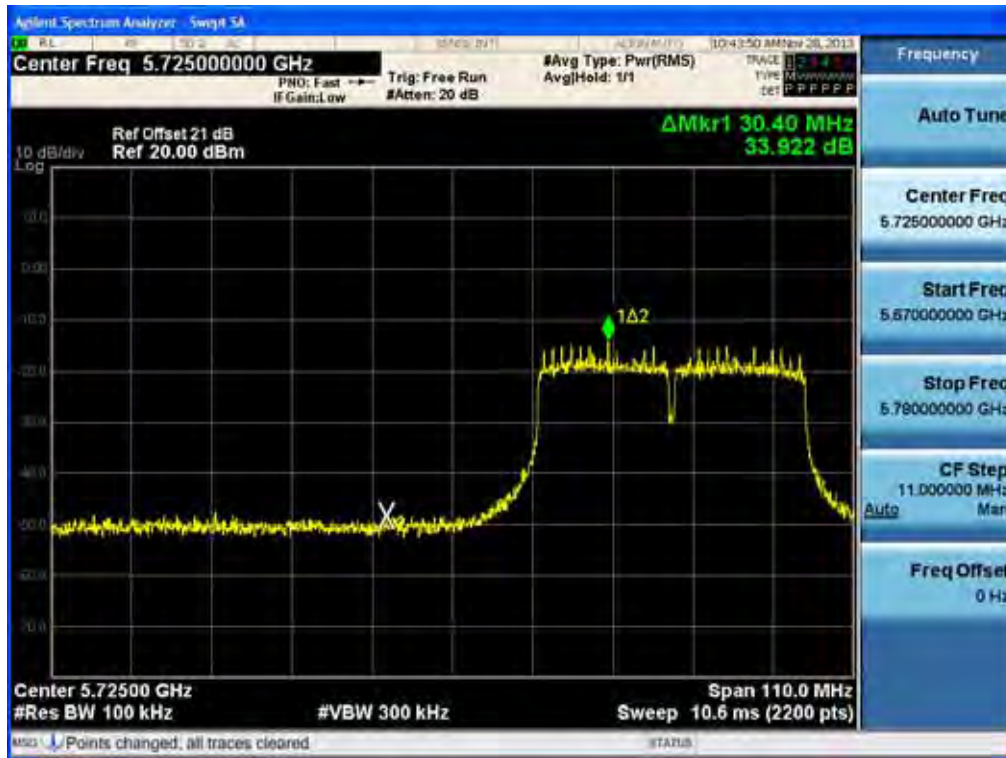
BandEdge (802.11n-CH 149)



BandEdge (802.11n-CH 165)



BandEdge (802.11n-CH 151)



BandEdge (802.11n-CH 159)





Service Port Ant.3

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

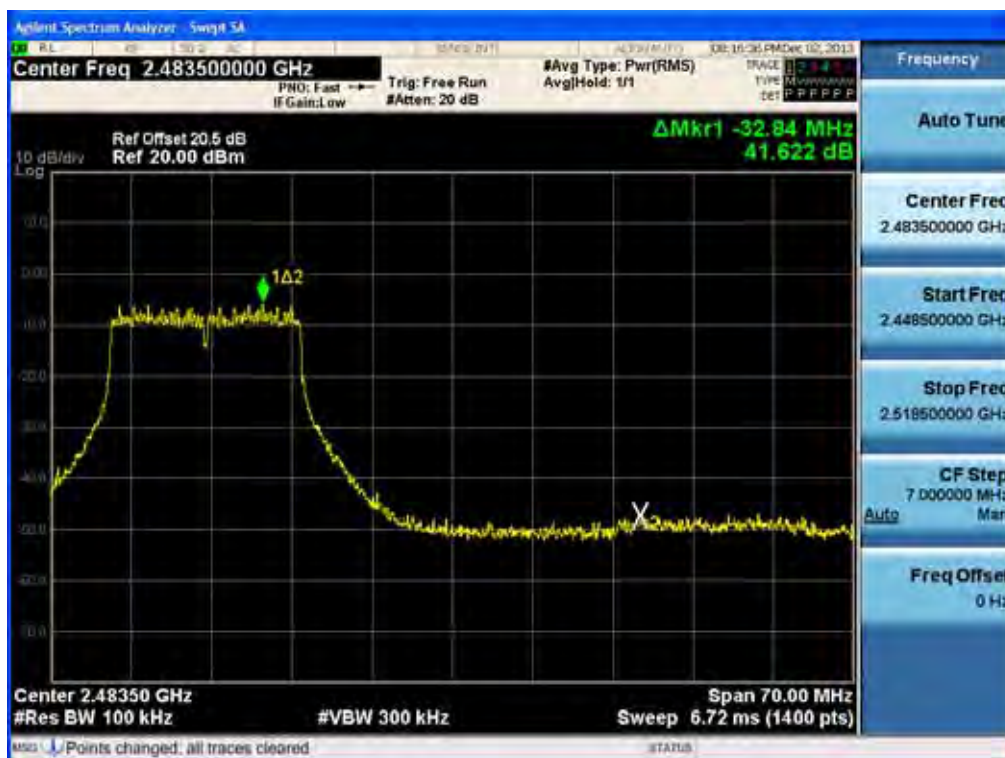


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BandEdge (802.11g-CH1)



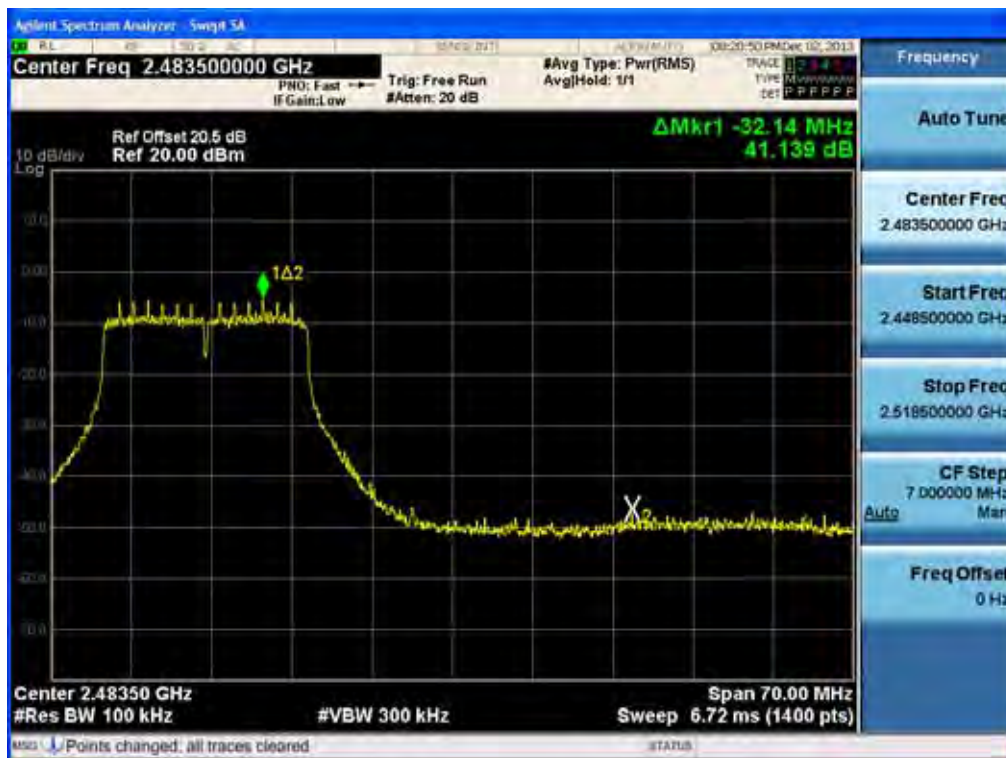
BandEdge (802.11g-CH11)



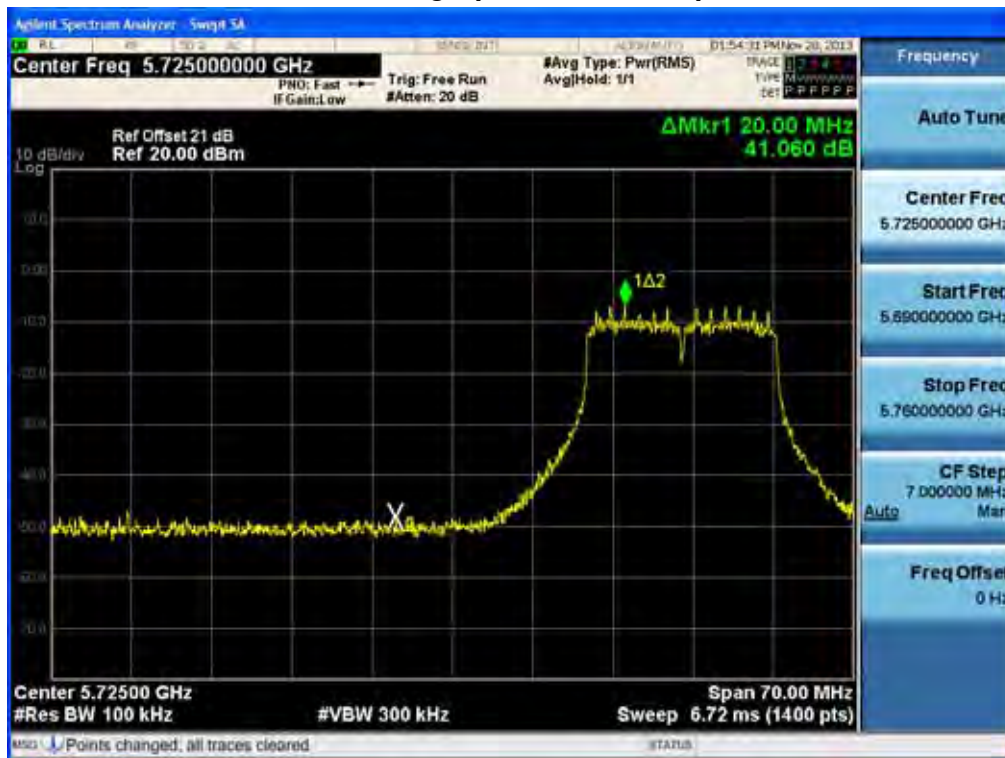
BandEdge (802.11n-CH1)



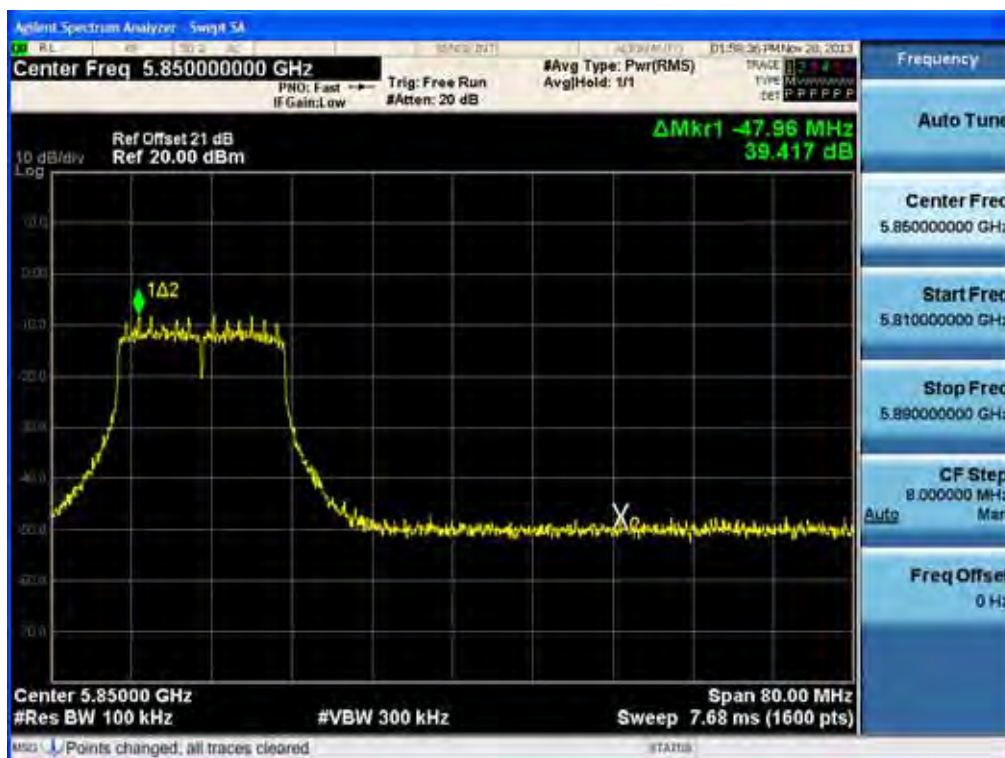
BandEdge (802.11n-CH11)



BandEdge (802.11a-CH 149)



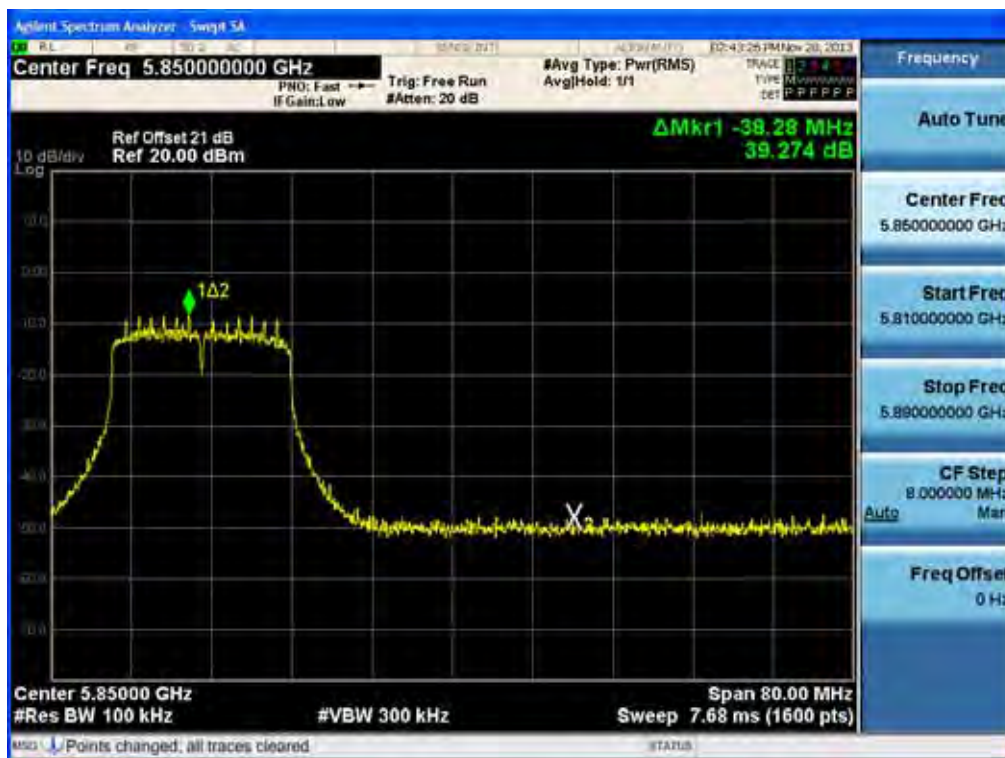
BandEdge (802.11a-CH 165)



BandEdge (802.11n-CH 149)



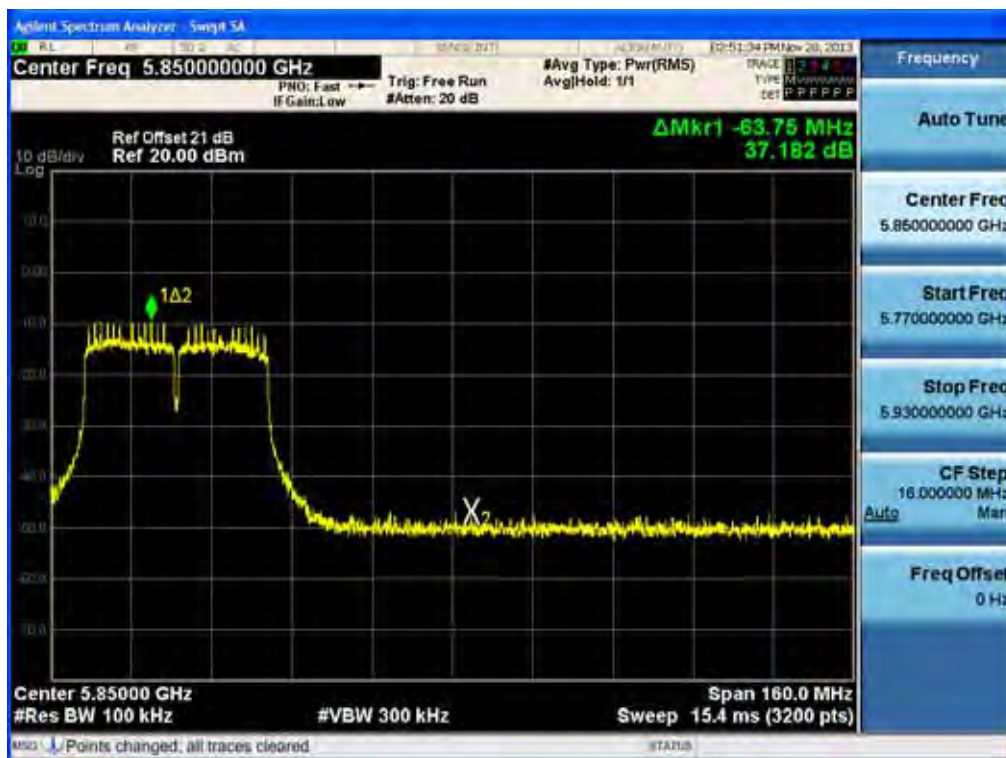
BandEdge (802.11n-CH 165)



BandEdge (802.11n-CH 151)

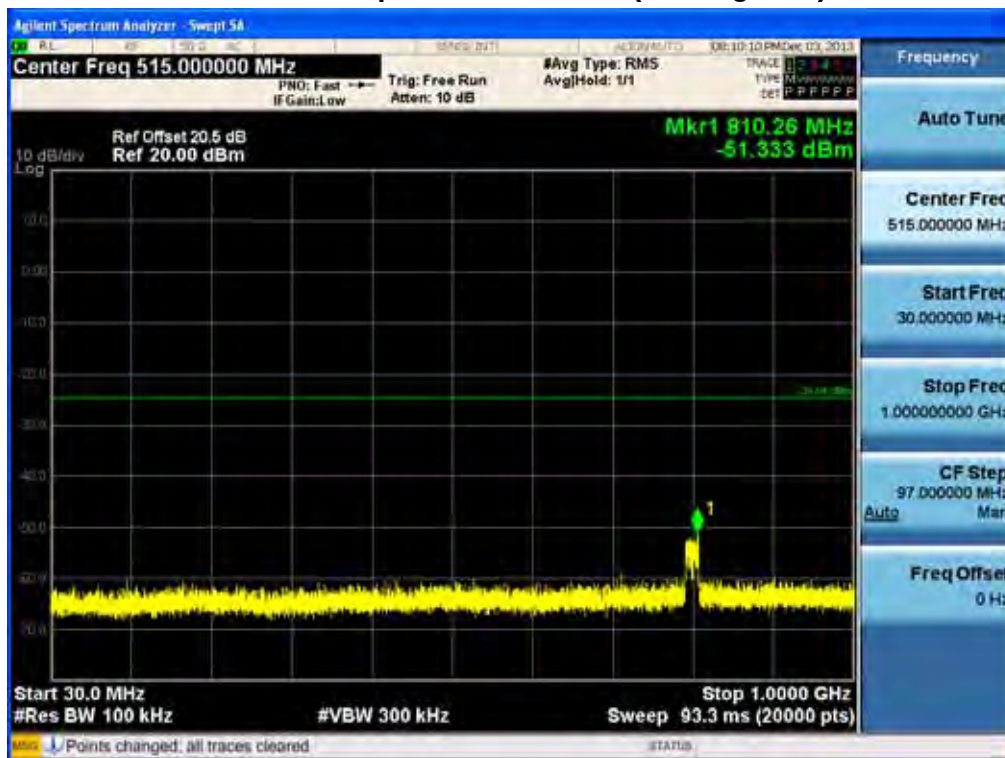


BandEdge (802.11n-CH 159)



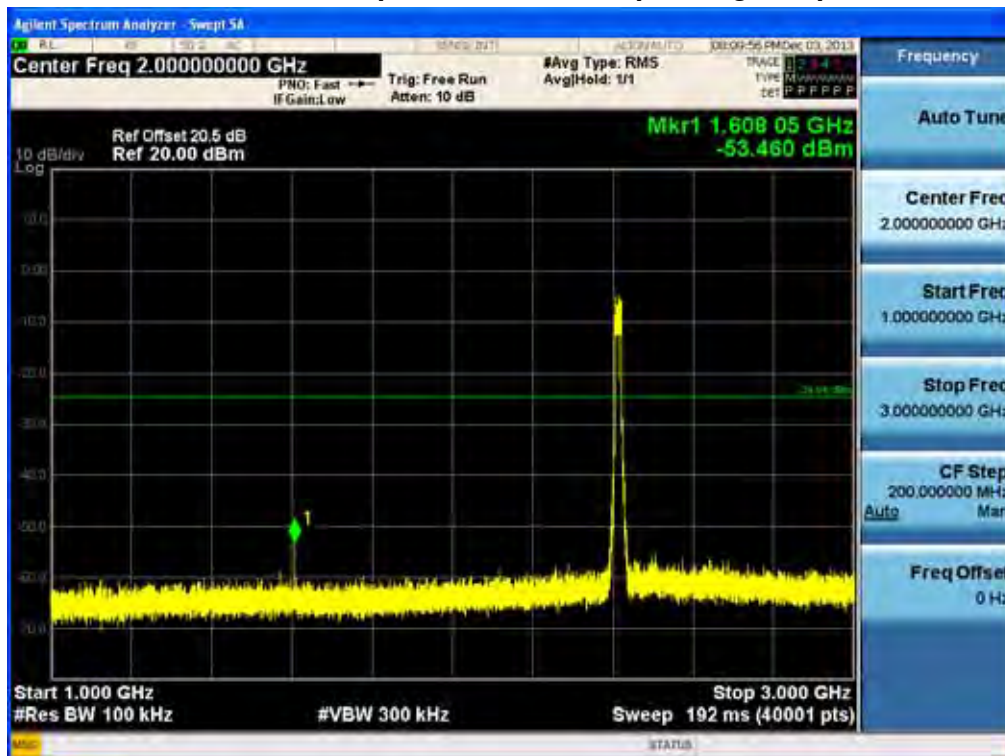
Monitoring Port Ant.1 30 MHz ~ 1 GHz

Conducted Spurious Emission (802.11g-CH1)



1 GHz ~ 3 GHz

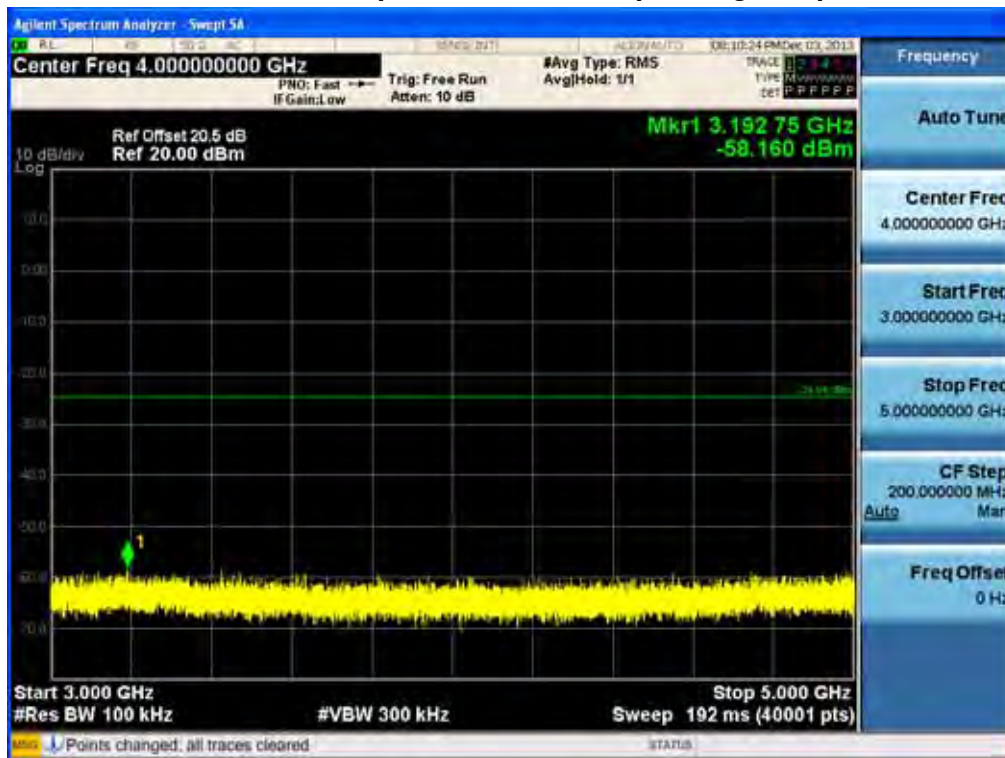
Conducted Spurious Emission (802.11g-CH1)



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3 GHz ~ 5 GHz

Conducted Spurious Emission (802.11g-CH1)



5 GHz ~ 7 GHz

Conducted Spurious Emission (802.11g-CH1)



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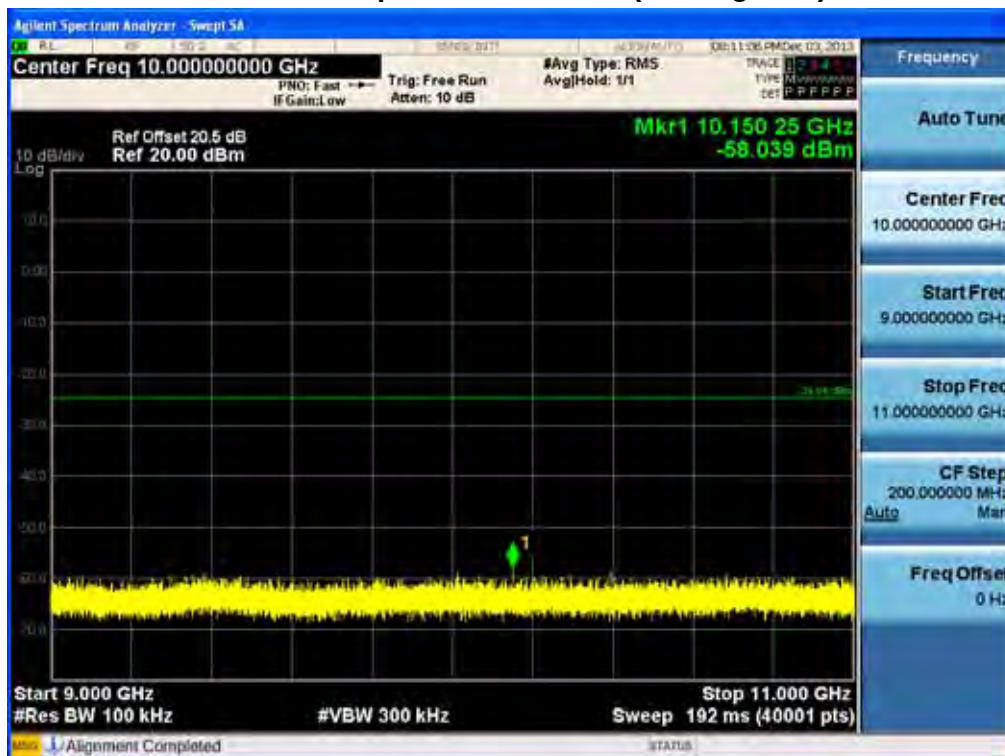
7 GHz ~ 9 GHz

Conducted Spurious Emission (802.11g-CH1)



9 GHz ~ 11 GHz

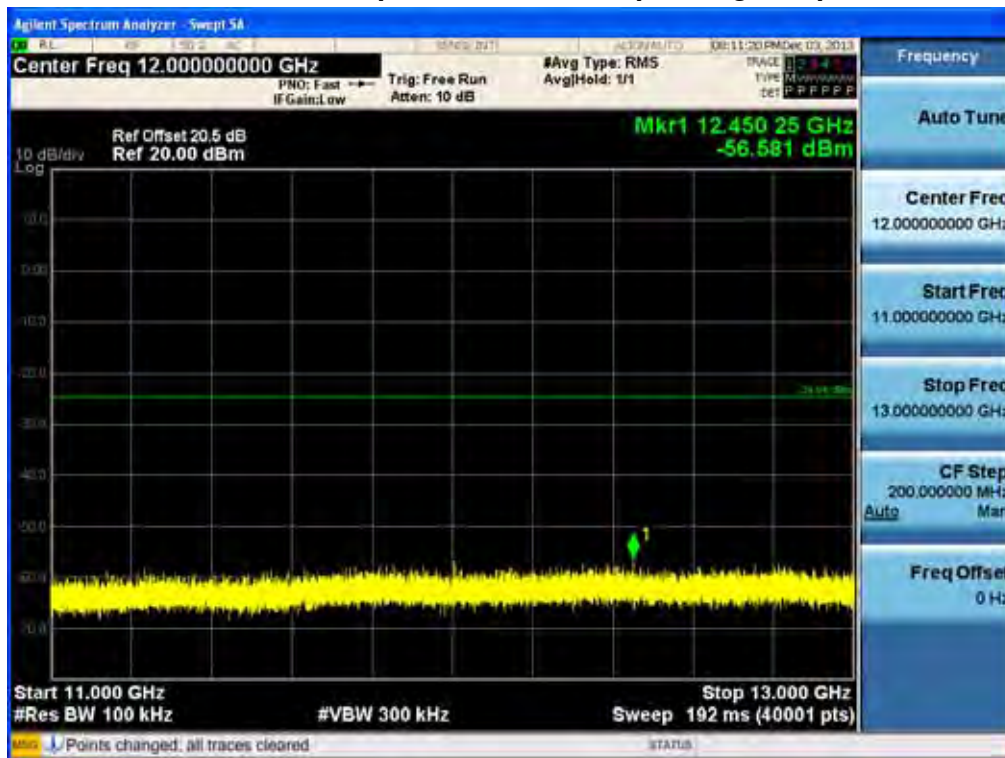
Conducted Spurious Emission (802.11g-CH1)



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11 GHz ~ 13 GHz

Conducted Spurious Emission (802.11g-CH1)



13 GHz ~ 15 GHz

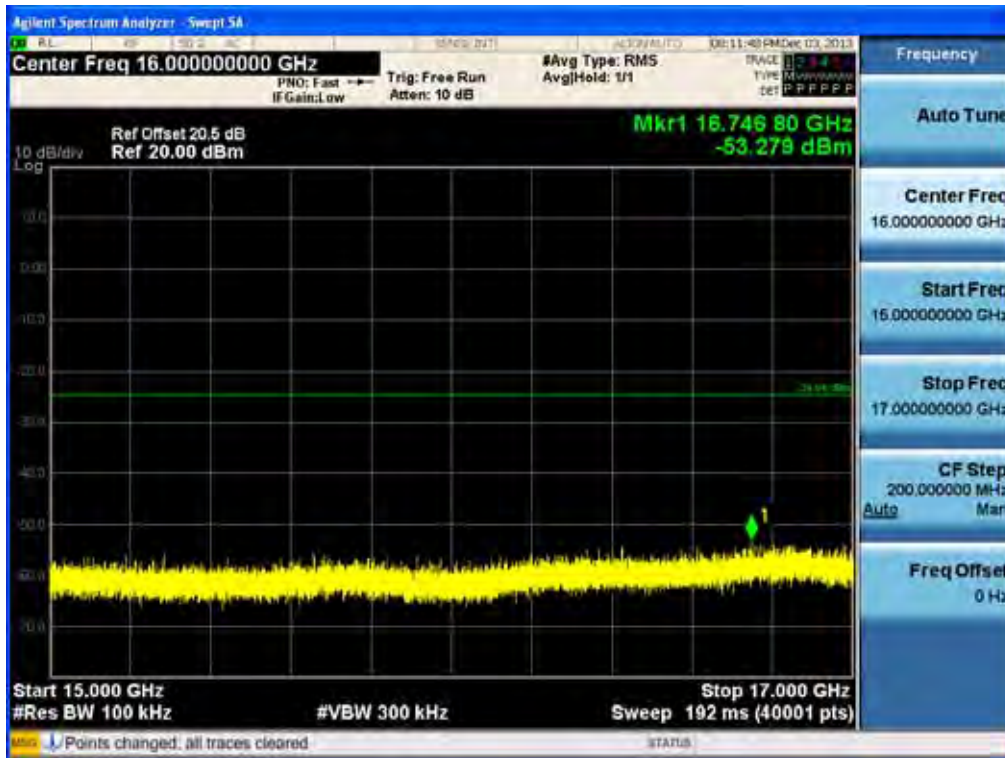
Conducted Spurious Emission (802.11g-CH1)



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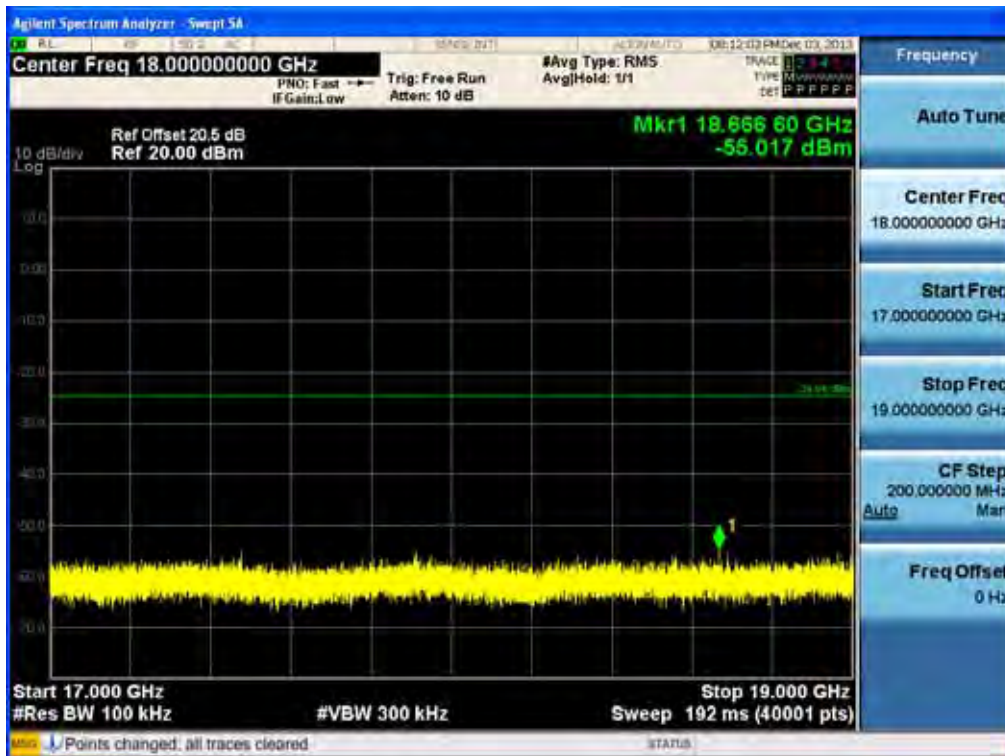
15 GHz ~ 17 GHz

Conducted Spurious Emission (802.11g-CH1)



17 GHz ~ 19 GHz

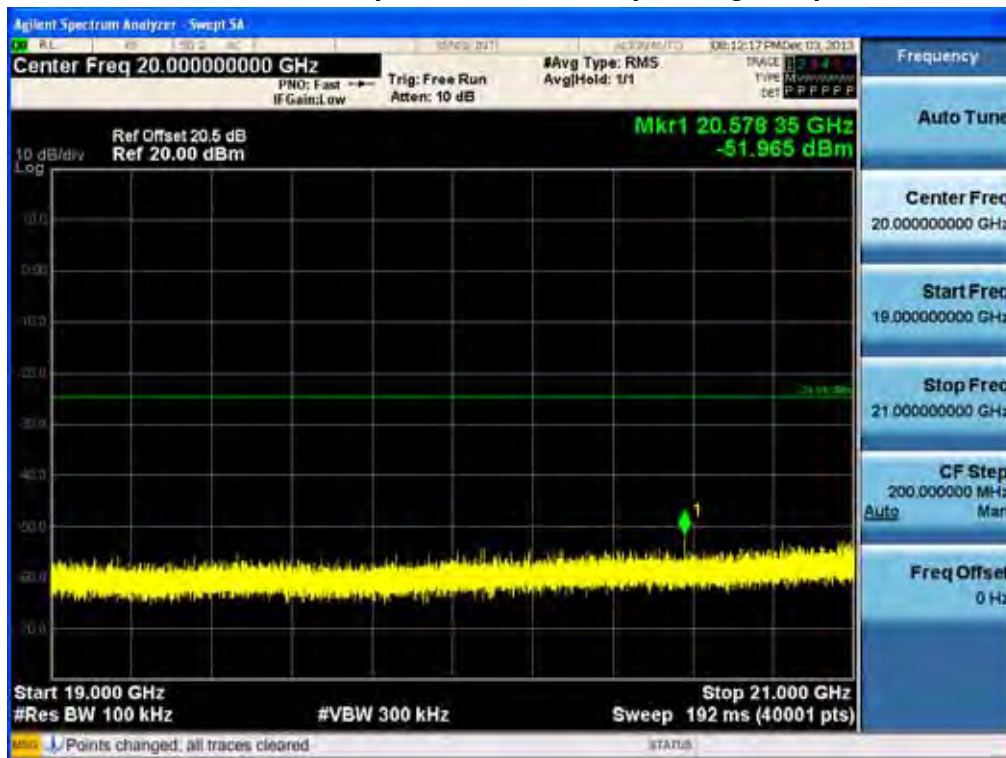
Conducted Spurious Emission (802.11g-CH1)



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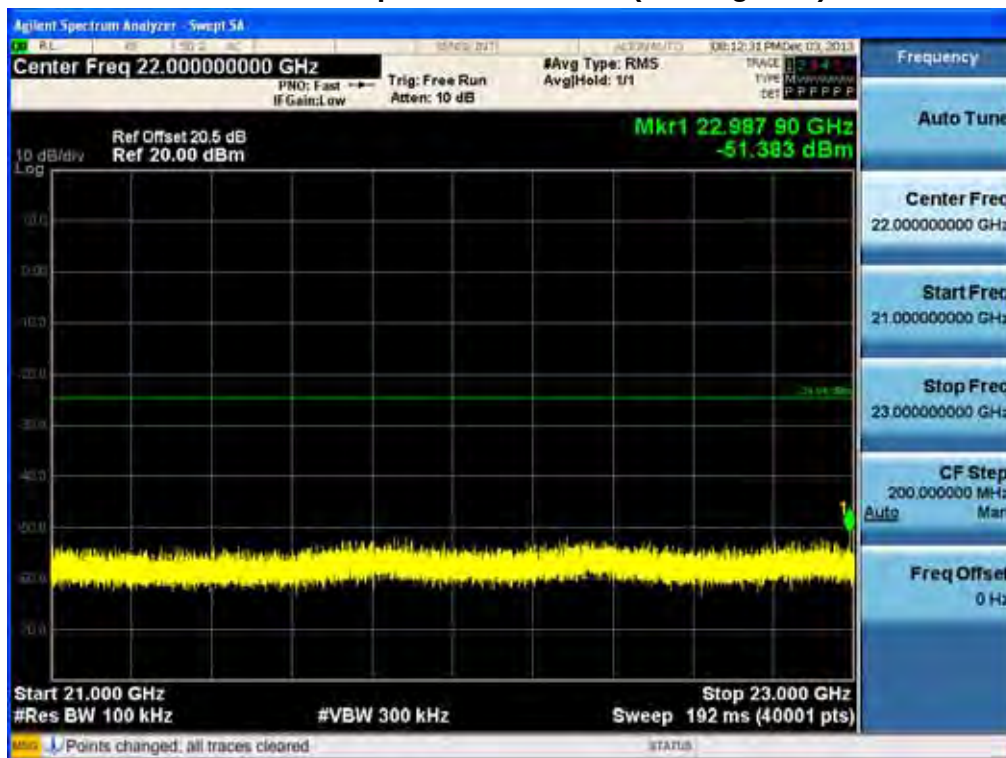
19 GHz ~ 21 GHz

19nducted Spurious Emission (802.11g-CH1)



21 GHz ~ 23 GHz

Conducted Spurious Emission (802.11g-CH1)



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23 GHz ~ 25 GHz

Conducted Spurious Emission (802.11g-CH1)



30 MHz ~ 1.6 GHz

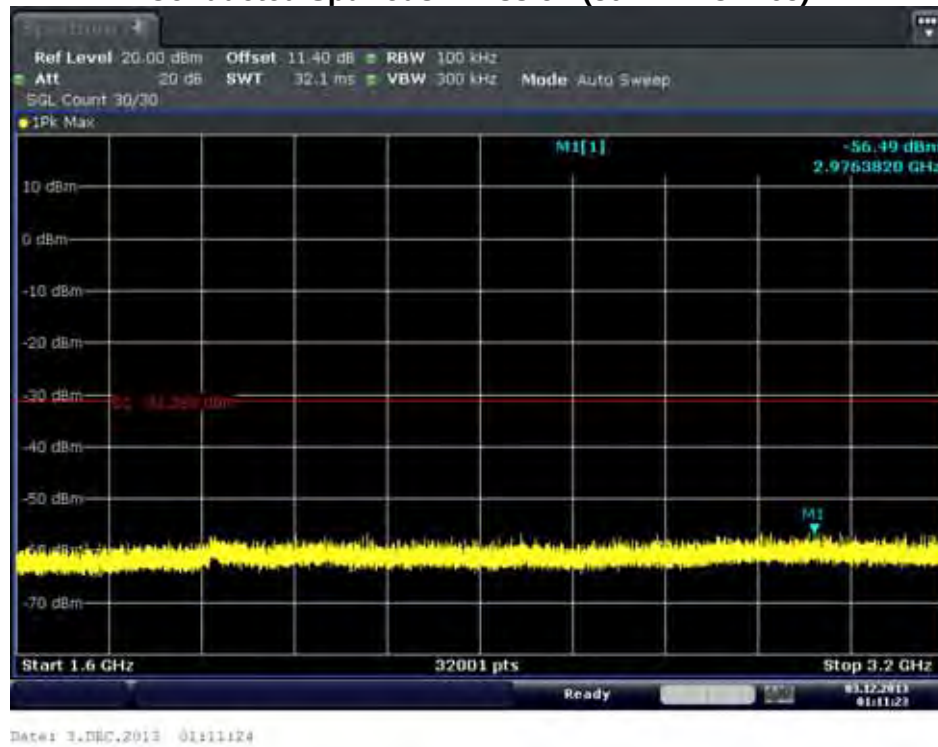
Conducted Spurious Emission (802.11n-CH165)



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1.6 GHz ~ 3.2 GHz

Conducted Spurious Emission (802.11n-CH165)



3.2 GHz ~ 4.8 GHz

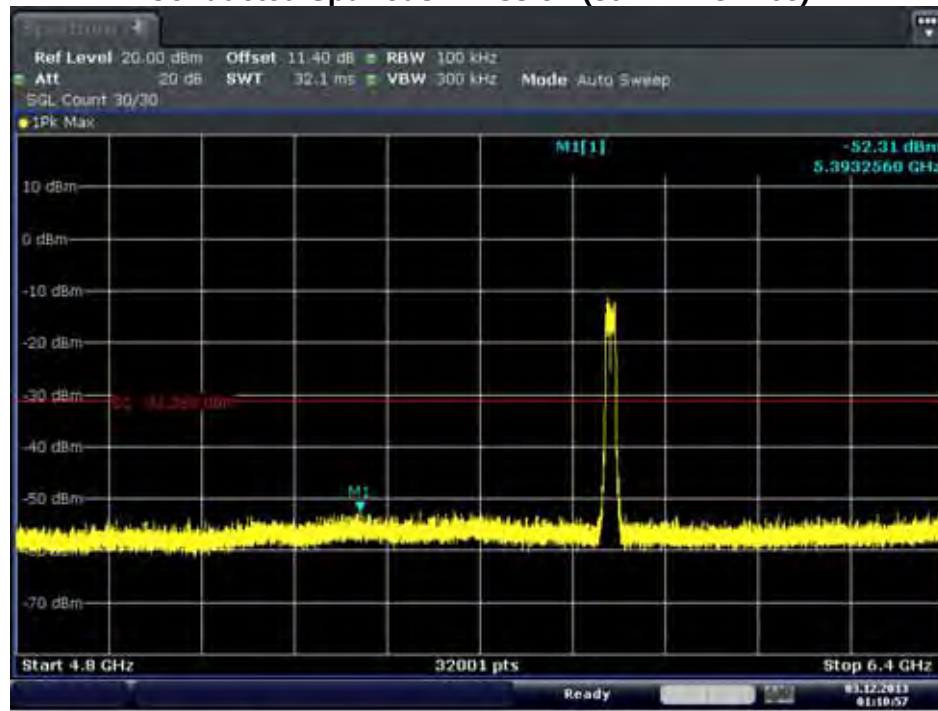
Conducted Spurious Emission (802.11n-CH165)



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4.8 GHz ~ 6.4 GHz

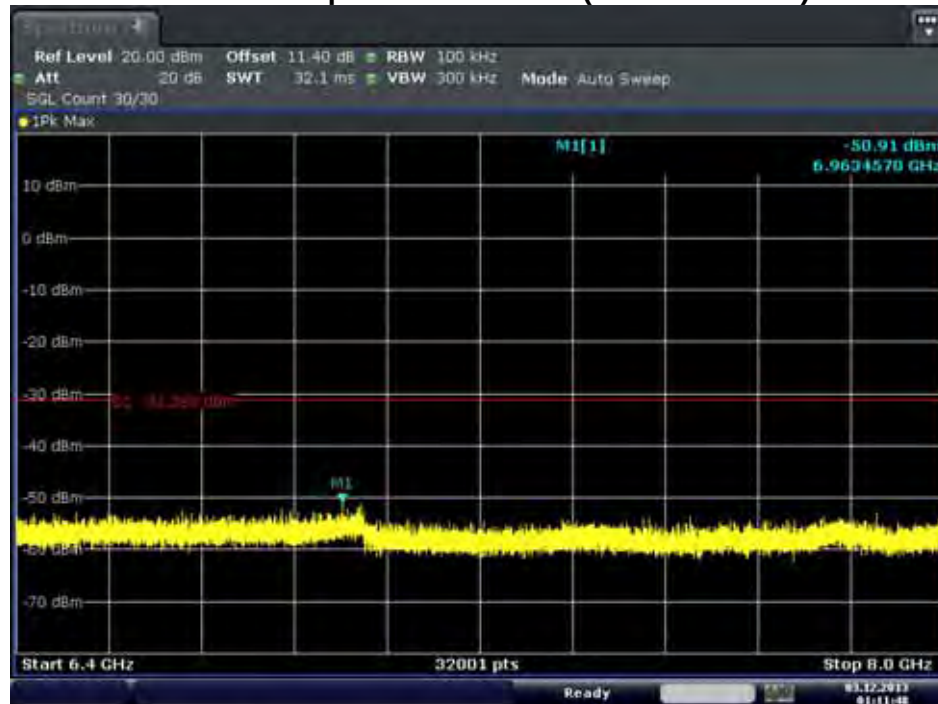
Conducted Spurious Emission (802.11n-CH165)



Date: 3.DEC.2013 01:10:57

6.4 GHz ~ 8 GHz

Conducted Spurious Emission (802.11n-CH165)

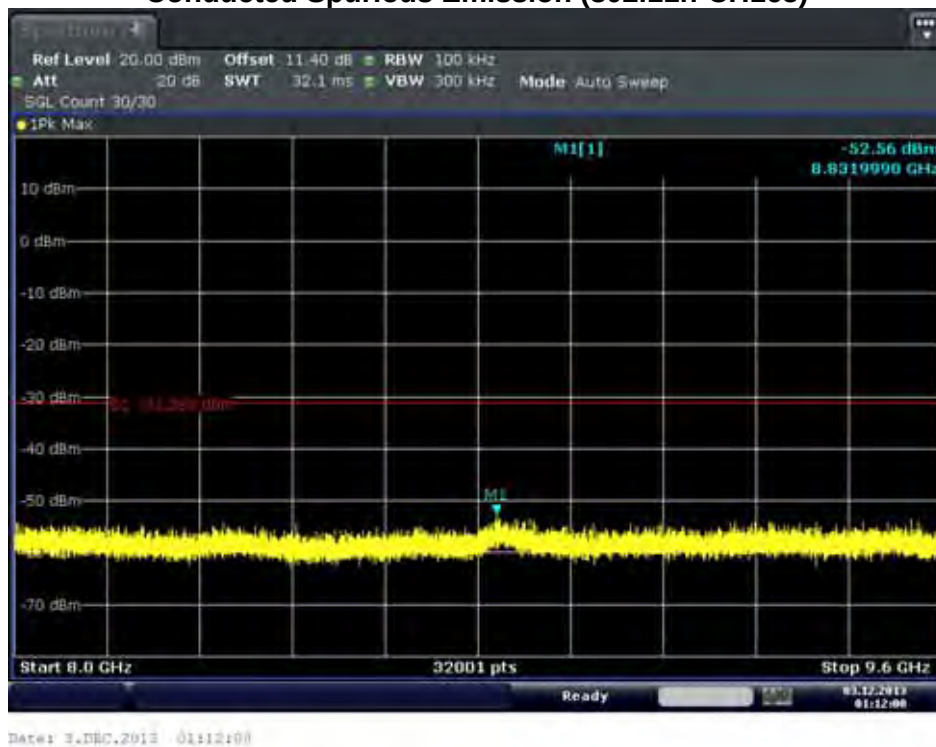


Date: 3.DEC.2013 01:11:48

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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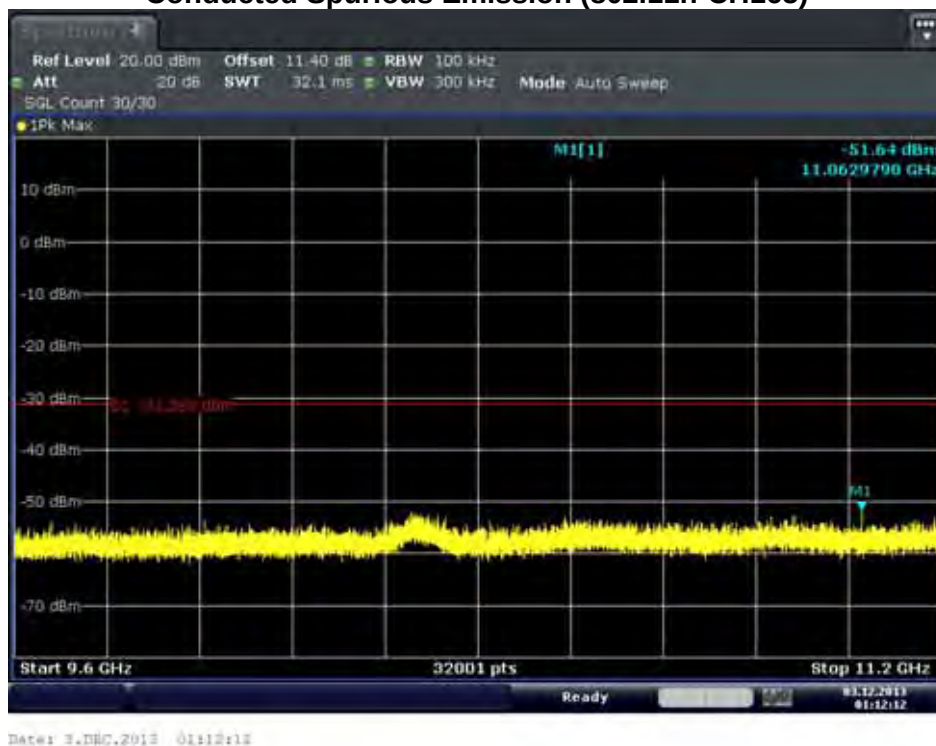
8 GHz ~ 9.6 GHz

Conducted Spurious Emission (802.11n-CH165)



9.6 GHz ~ 11.2 GHz

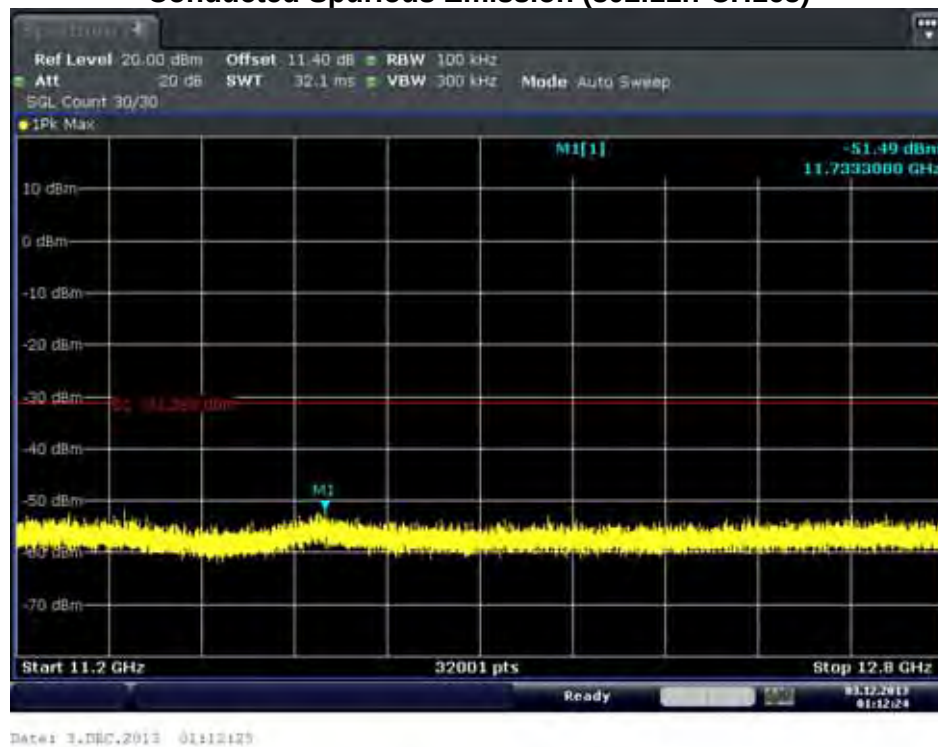
Conducted Spurious Emission (802.11n-CH165)



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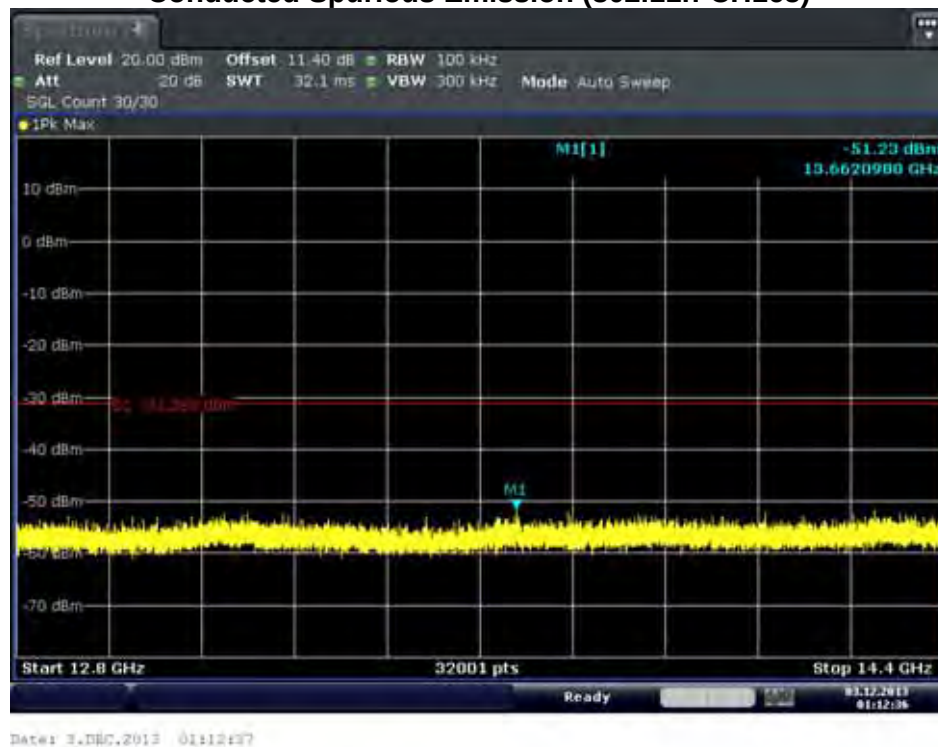
11.2 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11n-CH165)



12.8 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11n-CH165)



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14.4 GHz ~ 16 GHz

Conducted Spurious Emission (802.11n-CH165)



16 GHz ~ 17.6 GHz

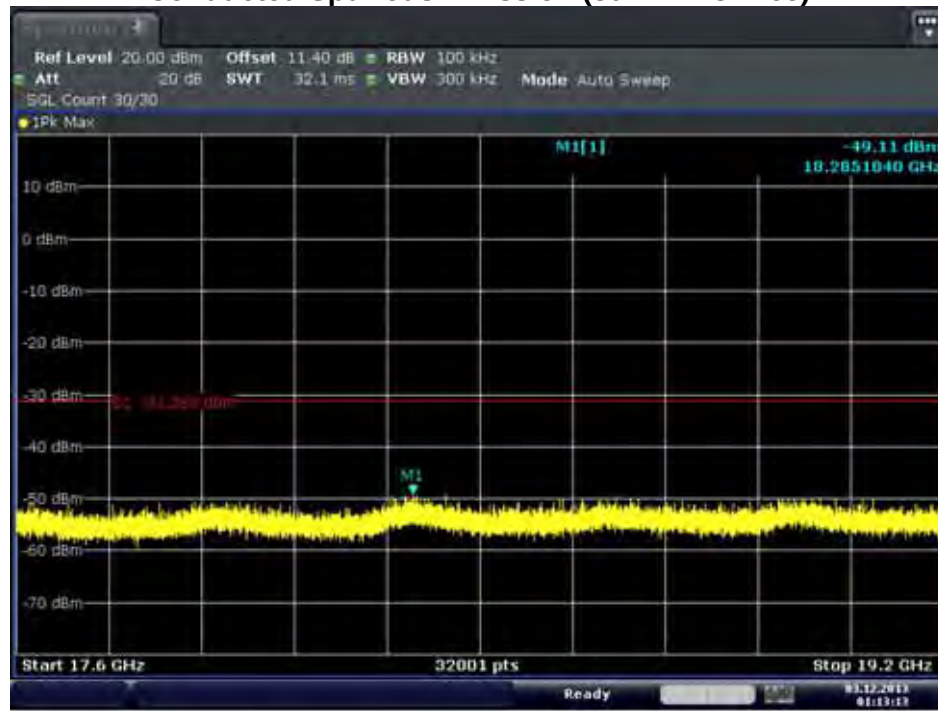
Conducted Spurious Emission (802.11n-CH165)



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Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

17.6 GHz ~ 19.2 GHz

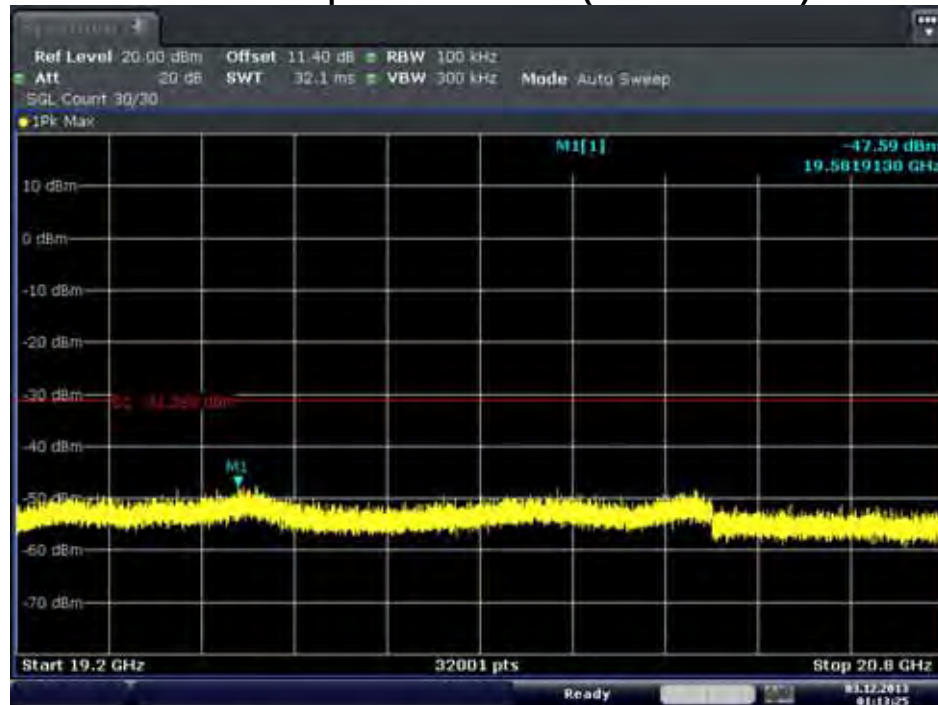
Conducted Spurious Emission (802.11n-CH165)



Date: 11/DEC/2013 01:13:13

19.2 GHz ~ 20.8 GHz

Conducted Spurious Emission (802.11n-CH165)

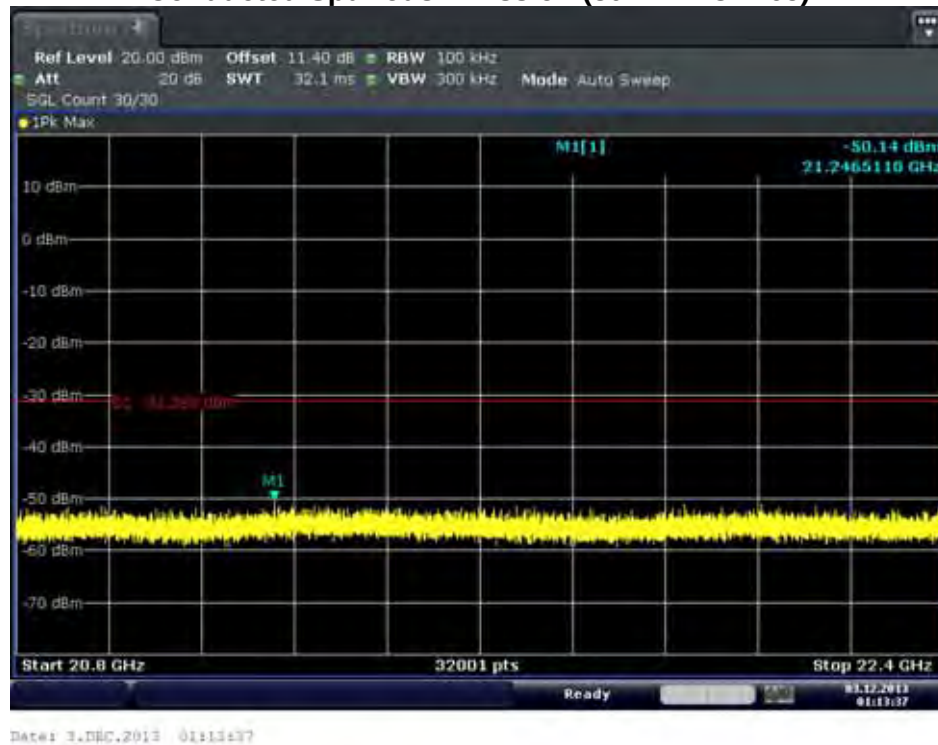


Date: 11/DEC/2013 01:13:25

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

20.8 GHz ~ 22.4 GHz

Conducted Spurious Emission (802.11n-CH165)



22.4 GHz ~ 24 GHz

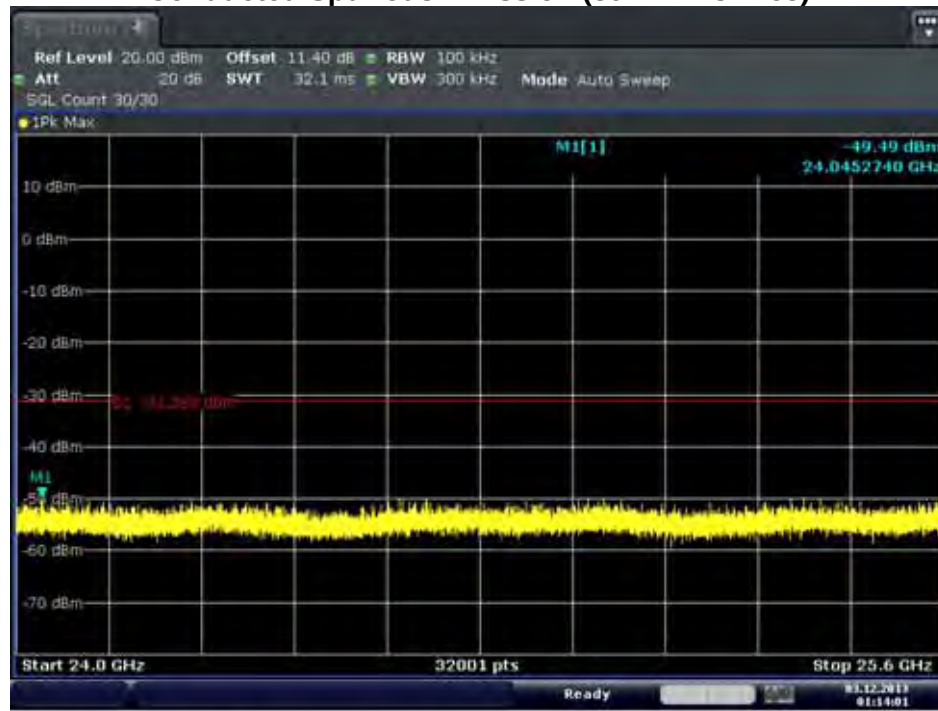
Conducted Spurious Emission (802.11n-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

24 GHz ~ 25.6 GHz

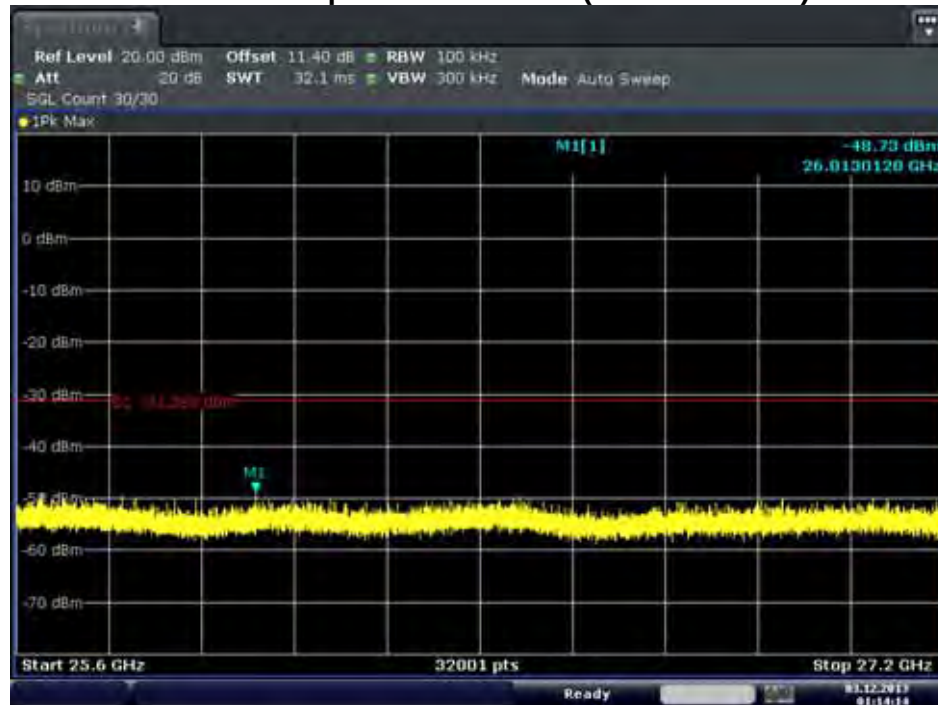
Conducted Spurious Emission (802.11n-CH165)



Date: 11/DEC/2013 01:14:02

25.6 GHz ~ 27.2 GHz

Conducted Spurious Emission (802.11n-CH165)



Date: 11/DEC/2013 01:14:14

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

27.2 GHz ~ 28.8 GHz

Conducted Spurious Emission (802.11n-CH165)



28.8 GHz ~ 30.4 GHz

Conducted Spurious Emission (802.11n-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

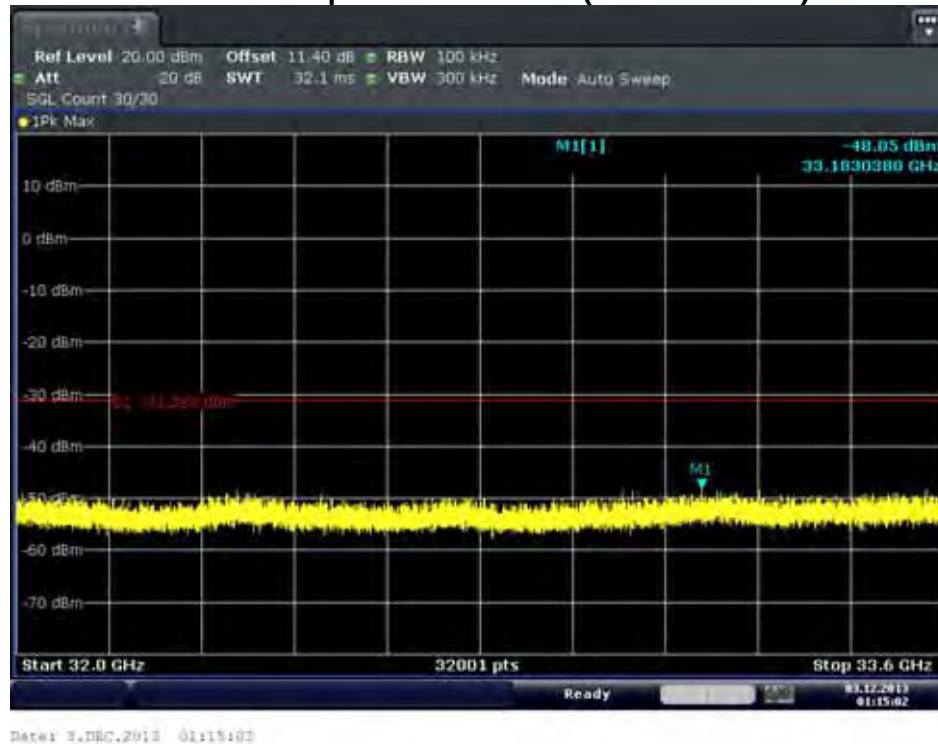
30.4 GHz ~ 32 GHz

Conducted Spurious Emission (802.11n-CH165)



32 GHz ~ 33.6 GHz

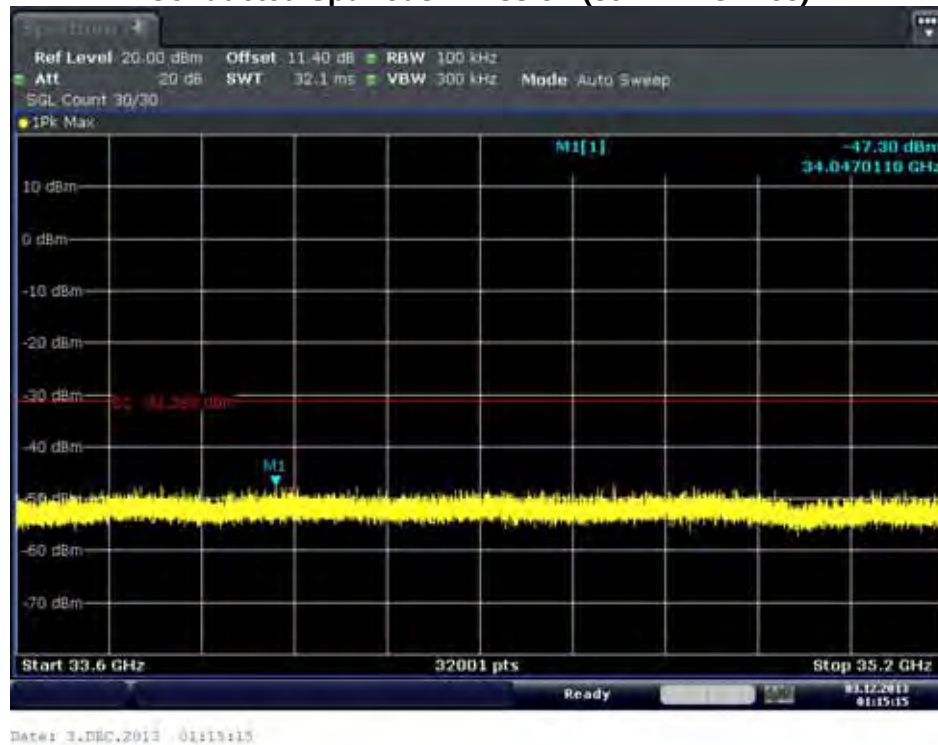
Conducted Spurious Emission (802.11n-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

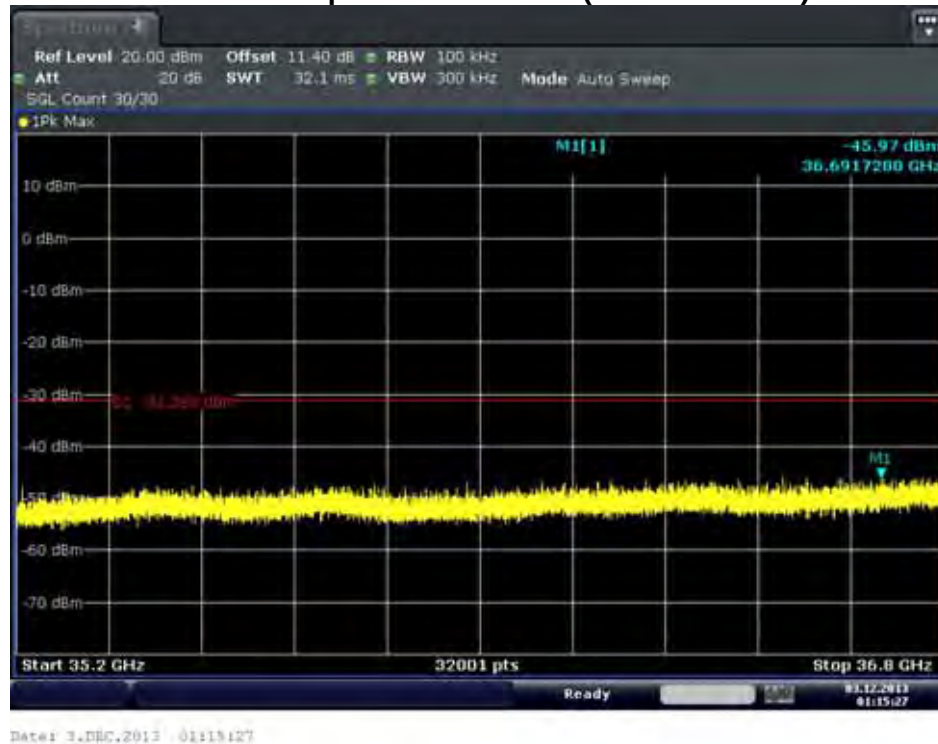
33.6 GHz ~ 35.2 GHz

Conducted Spurious Emission (802.11n-CH165)



35.2 GHz ~ 36.8 GHz

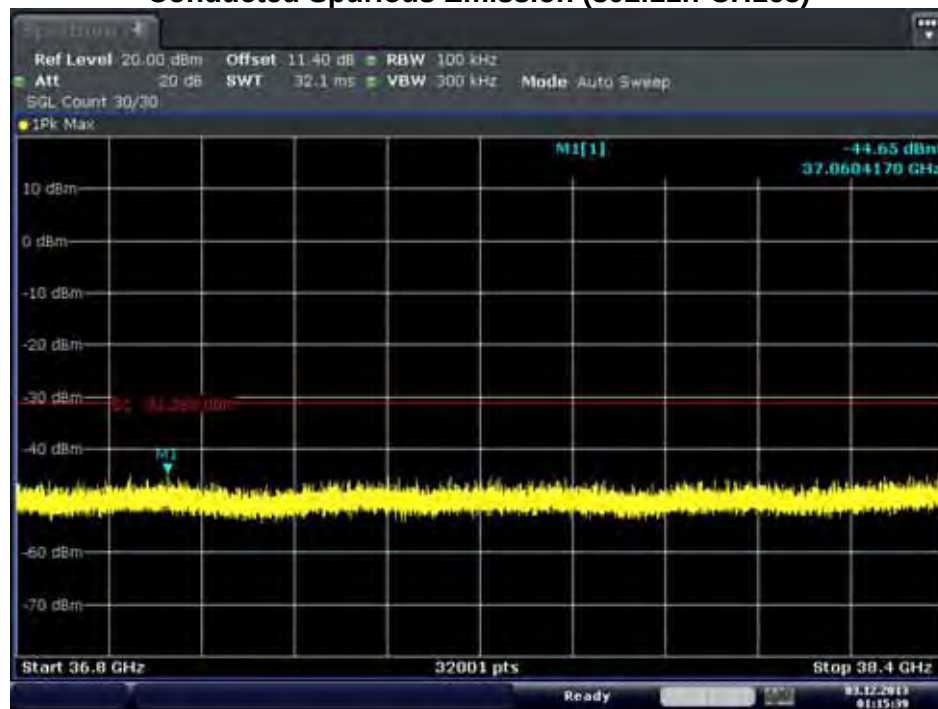
Conducted Spurious Emission (802.11n-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

36.8 GHz ~ 38.4 GHz

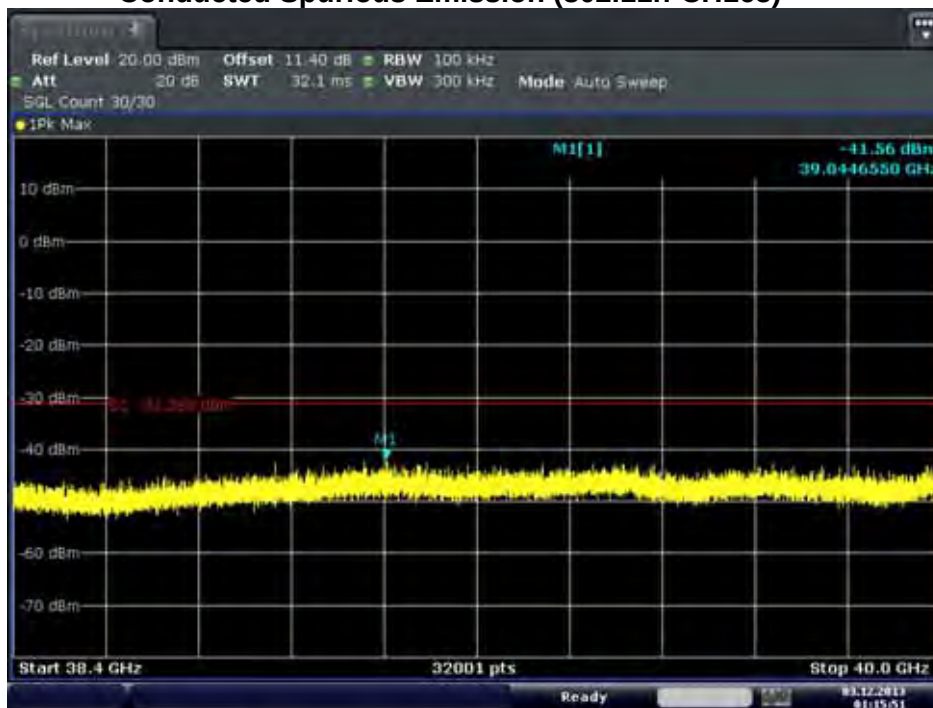
Conducted Spurious Emission (802.11n-CH165)



Date: 3.DEC.2013 01:15:39

38.4 GHz ~ 40 GHz

Conducted Spurious Emission (802.11n-CH165)

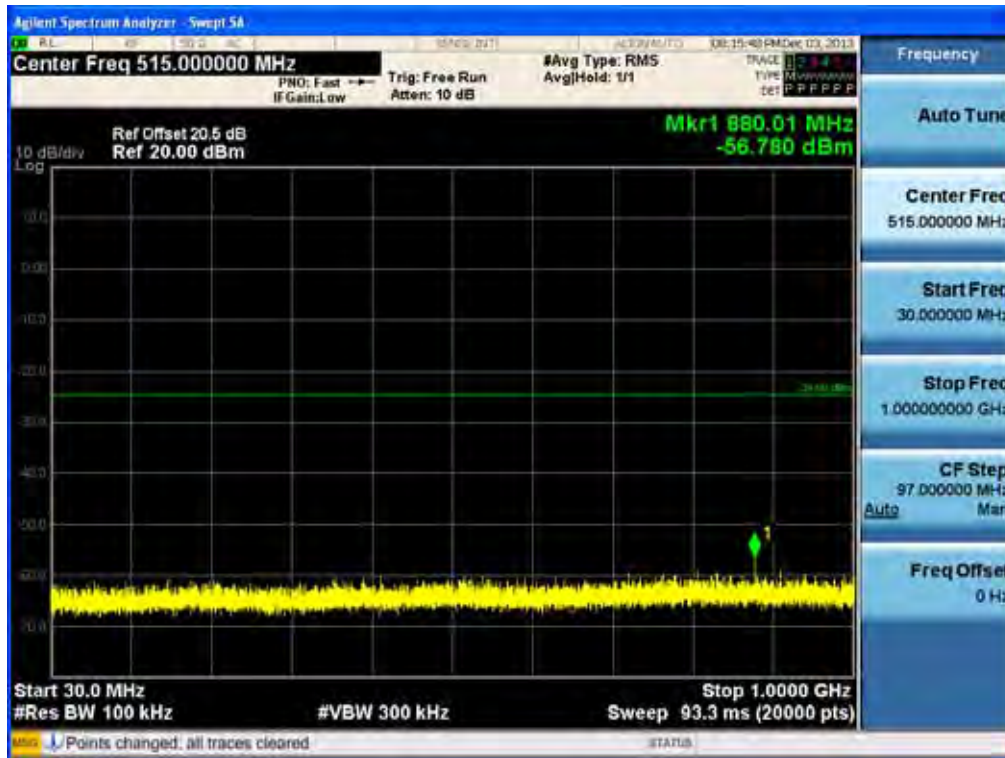


Date: 3.DEC.2013 01:15:51

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

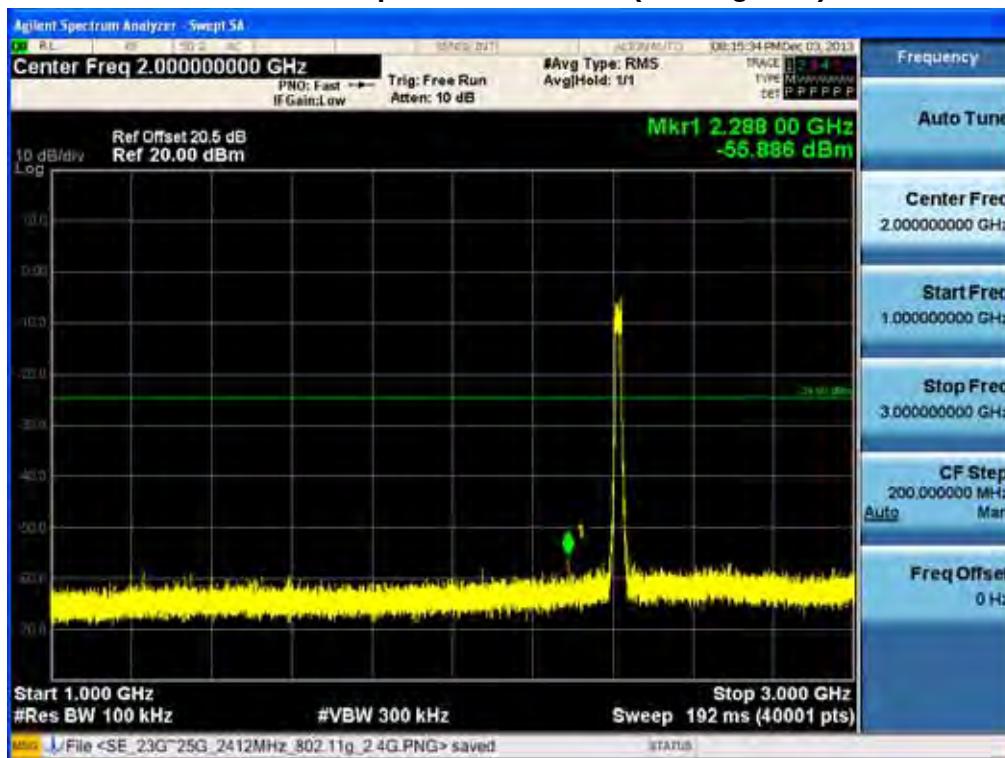
Monitoring Port Ant.2 30 MHz ~ 1 GHz

Conducted Spurious Emission (802.11g-CH1)



1 GHz ~ 3 GHz

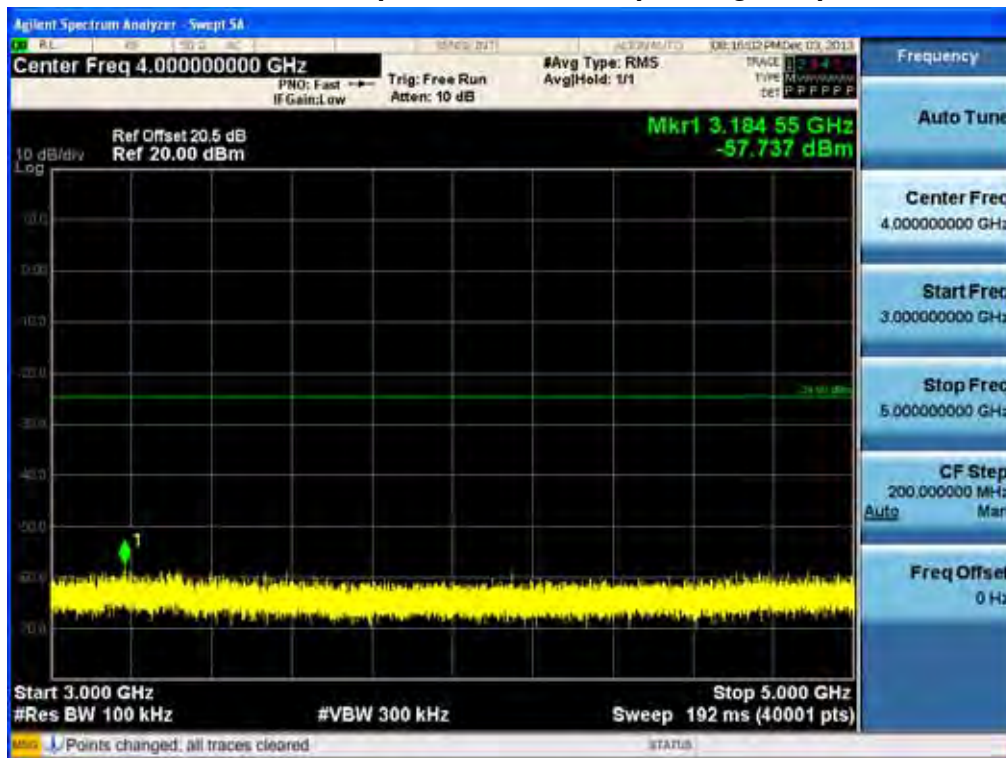
Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

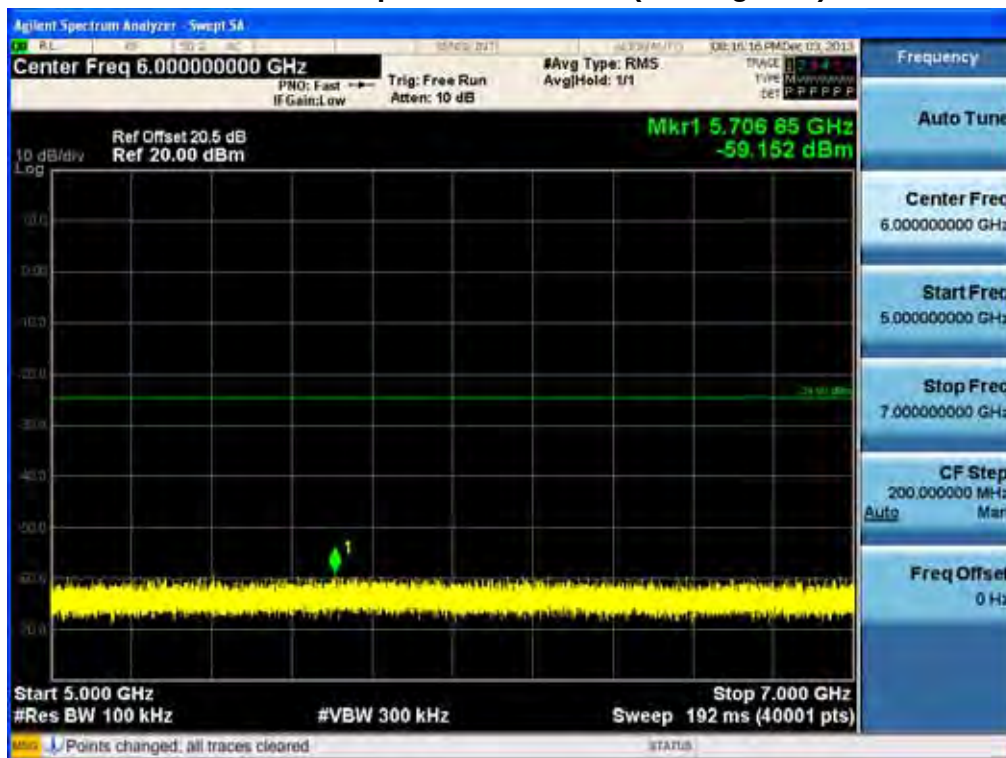
3 GHz ~ 5 GHz

Conducted Spurious Emission (802.11g-CH1)



5 GHz ~ 7 GHz

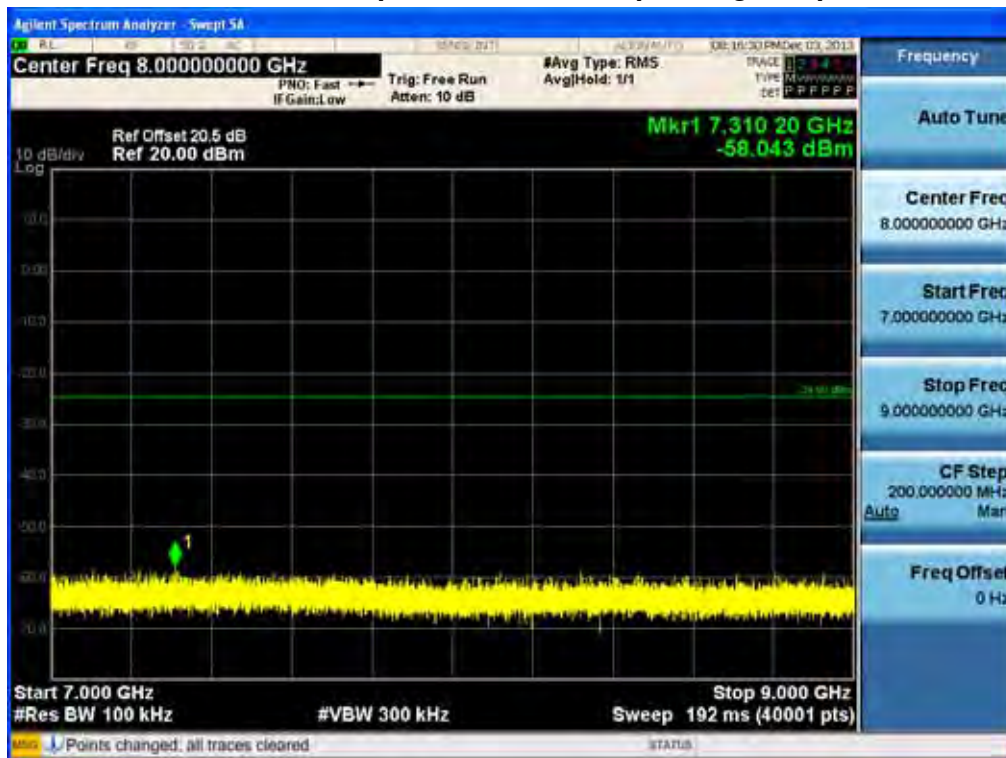
Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

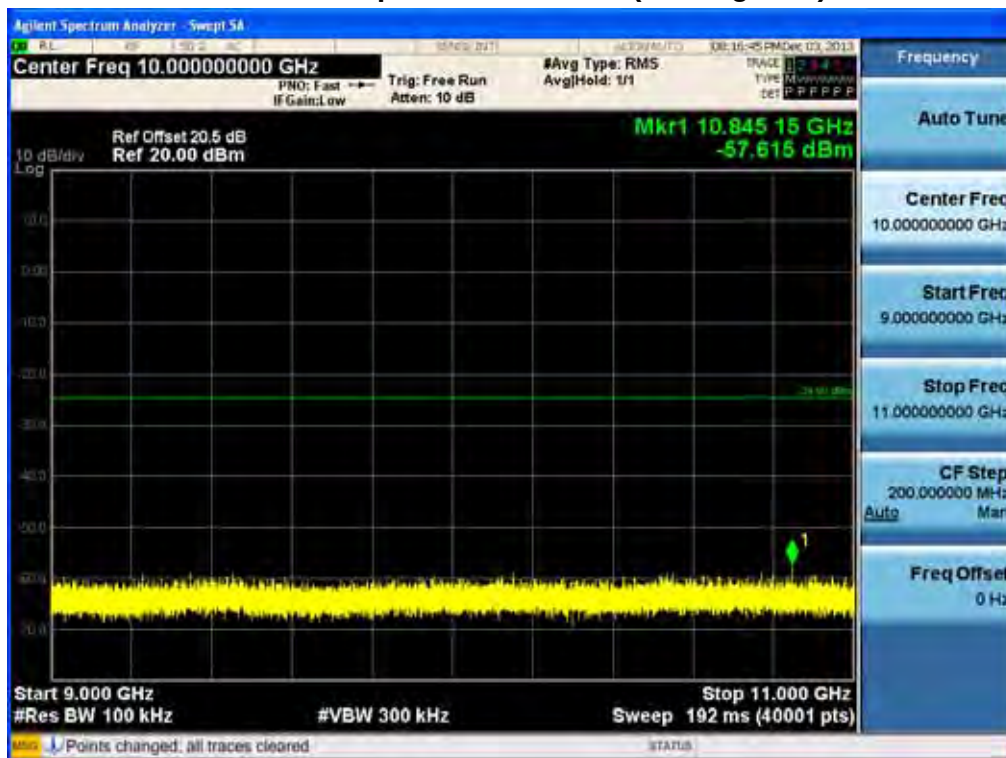
7 GHz ~ 9 GHz

Conducted Spurious Emission (802.11g-CH1)



9 GHz ~ 11 GHz

Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

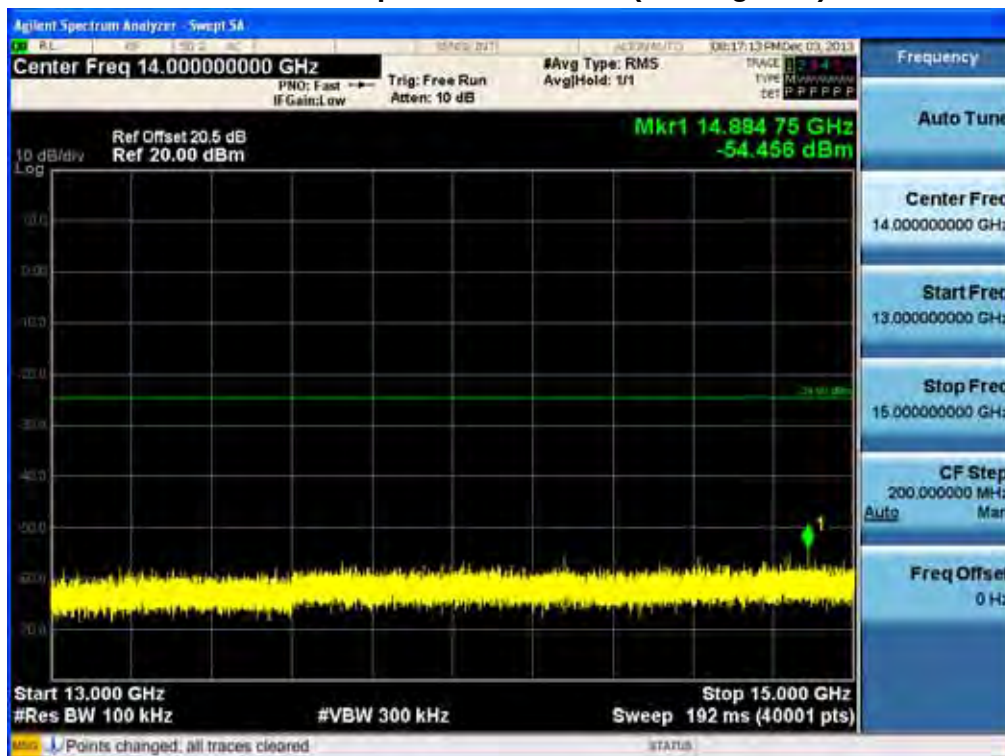
11 GHz ~ 13 GHz

Conducted Spurious Emission (802.11g-CH1)



13 GHz ~ 15 GHz

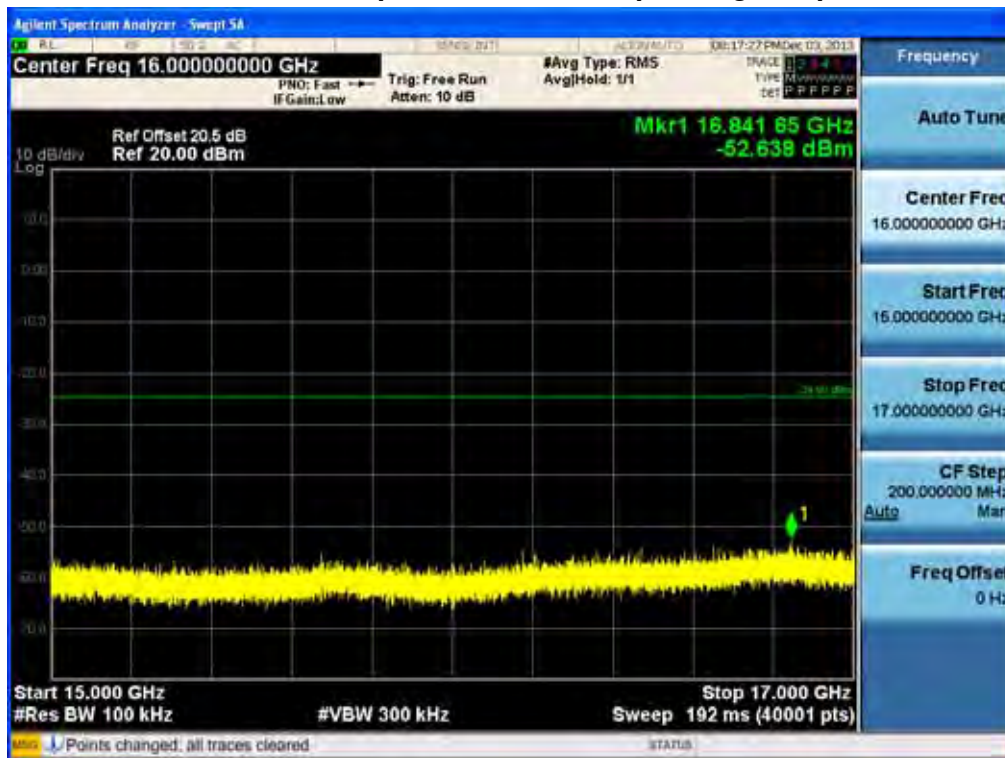
Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

15 GHz ~ 17 GHz

Conducted Spurious Emission (802.11g-CH1)



17 GHz ~ 19 GHz

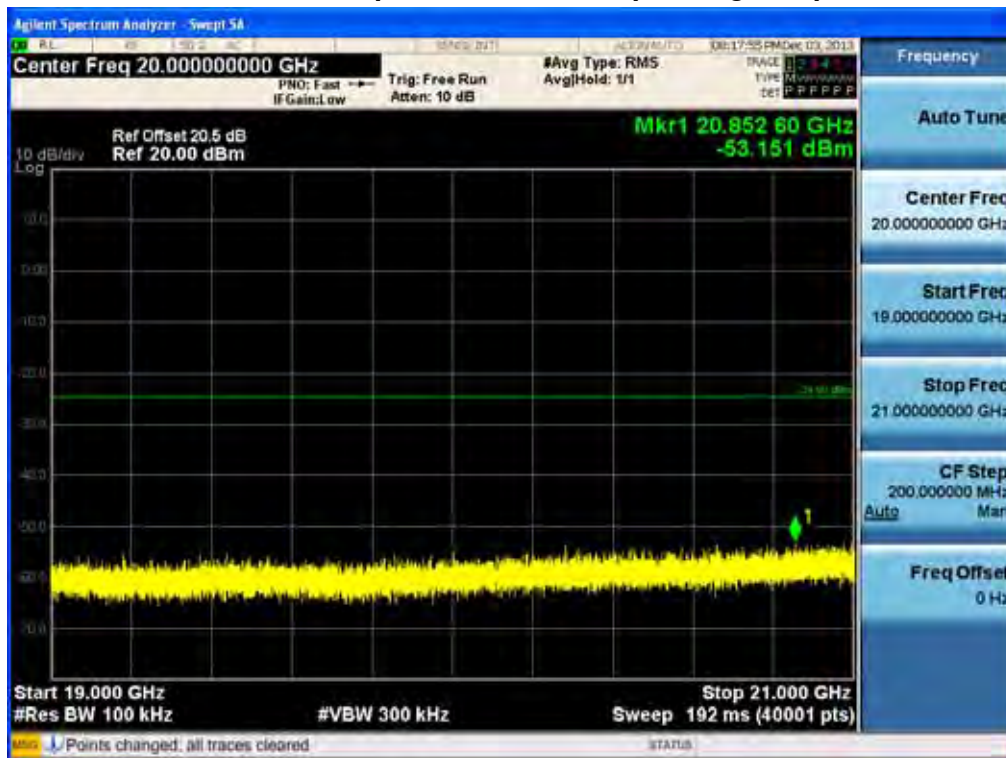
Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

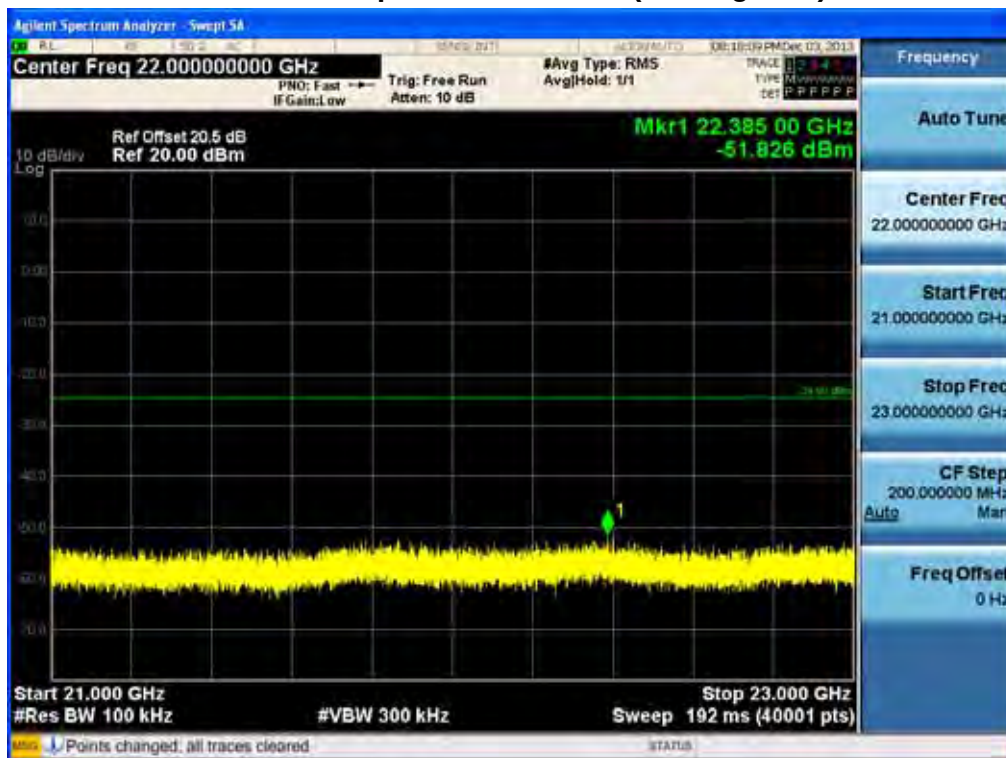
19 GHz ~ 21 GHz

Inducted Spurious Emission (802.11g-CH1)



21 GHz ~ 23 GHz

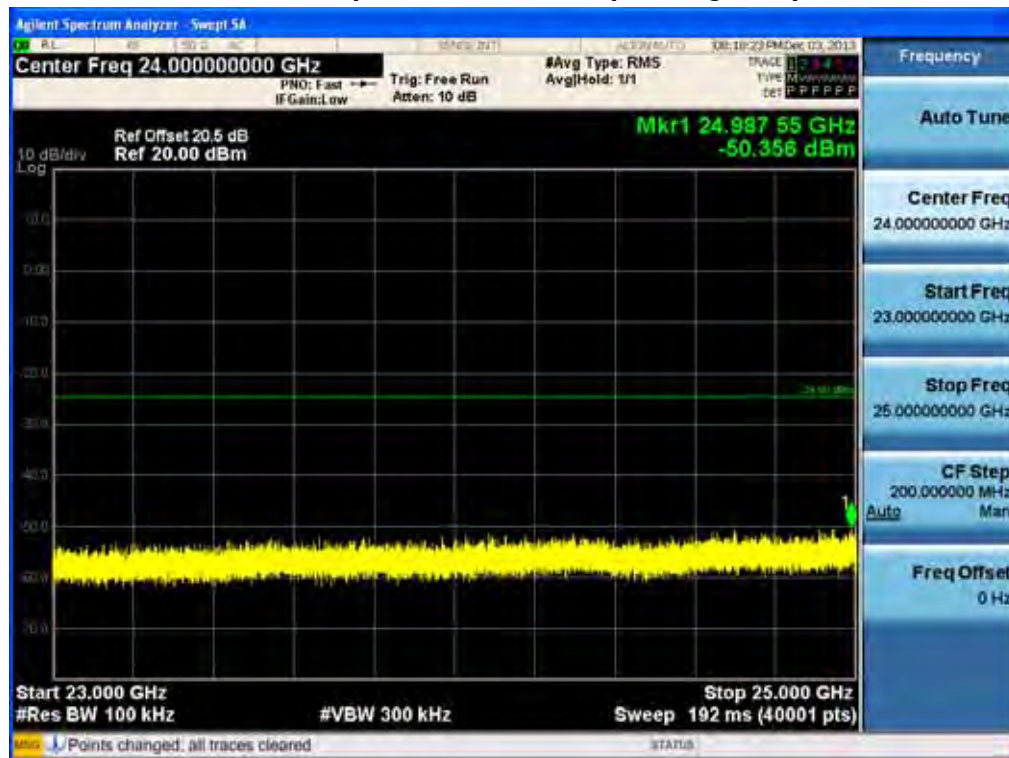
Conducted Spurious Emission (802.11g-CH1)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

23 GHz ~ 25 GHz

Conducted Spurious Emission (802.11g-CH1)



30 MHz ~ 1.6 GHz

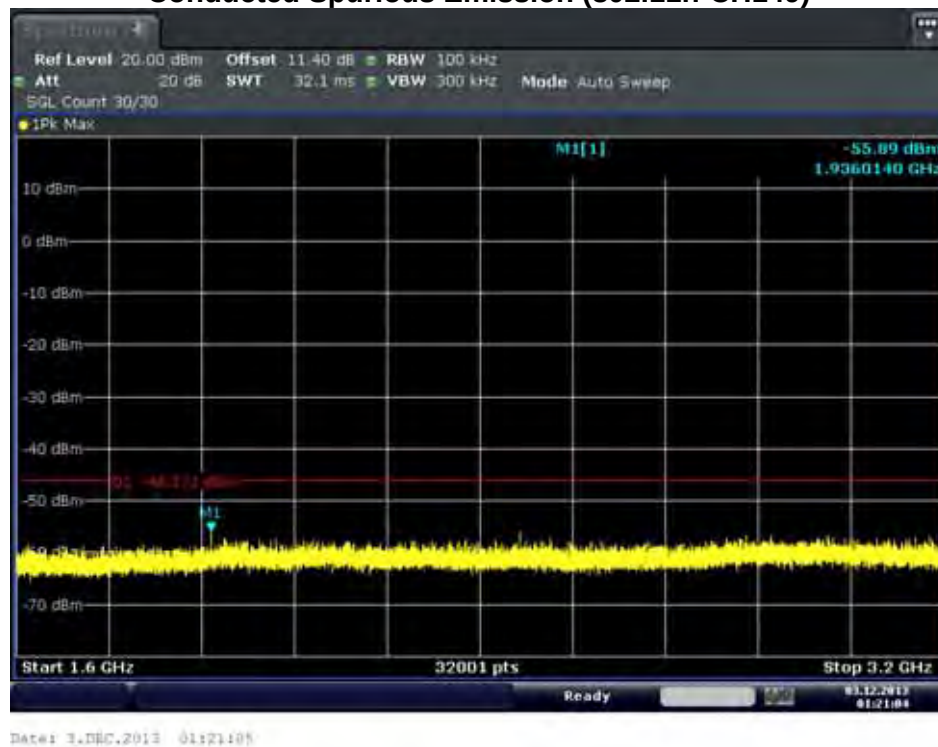
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

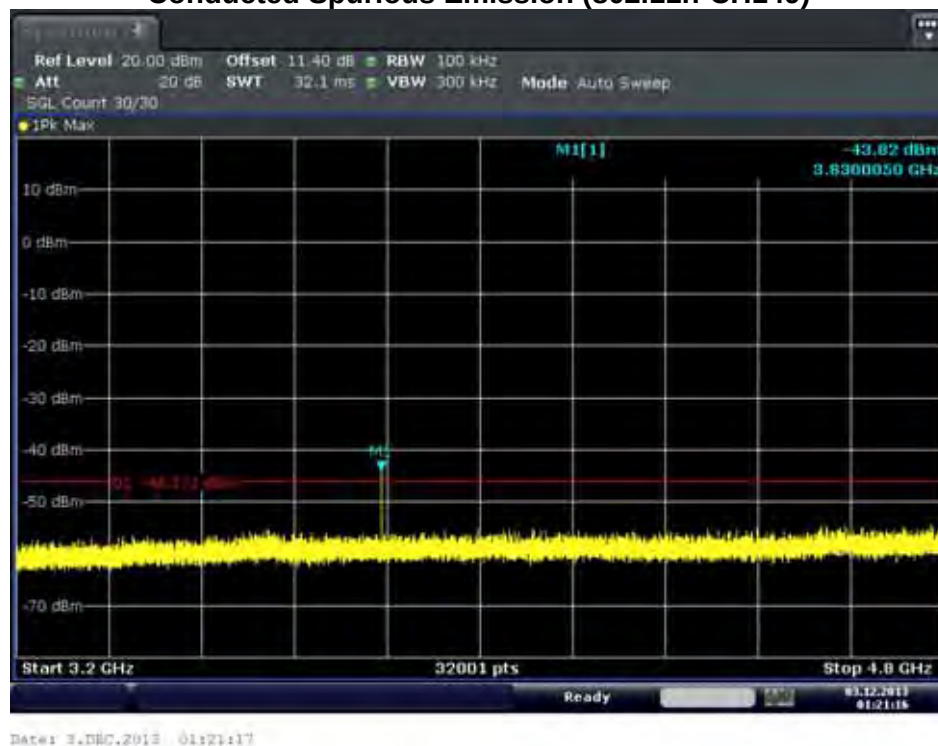
1.6 GHz ~ 3.2 GHz

Conducted Spurious Emission (802.11n-CH149)



3.2 GHz ~ 4.8 GHz

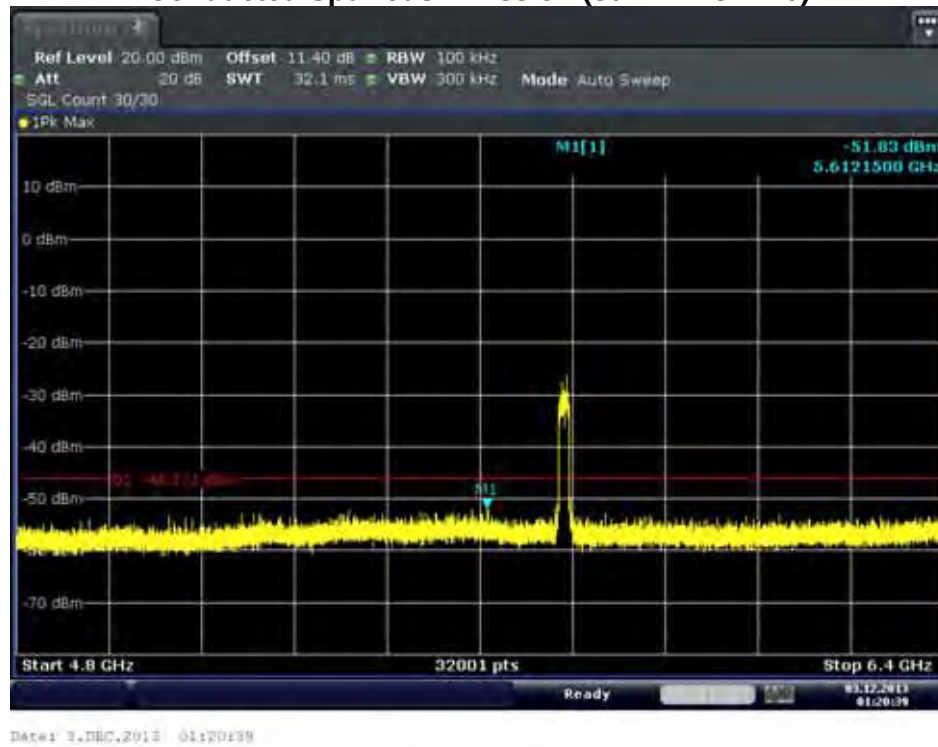
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

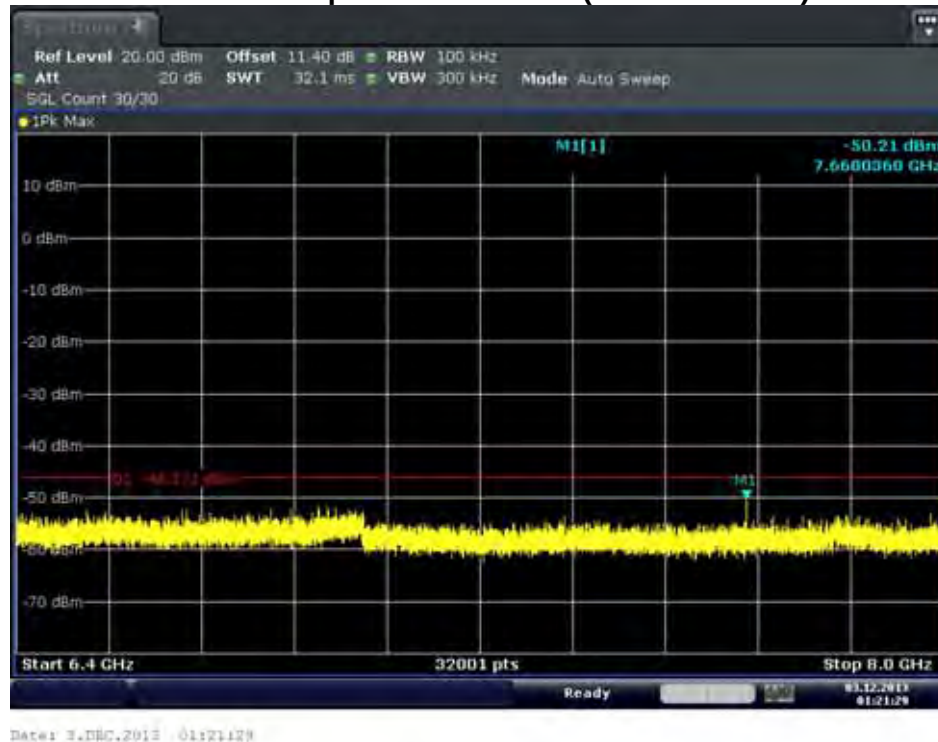
4.8 GHz ~ 6.4 GHz

Conducted Spurious Emission (802.11n-CH149)



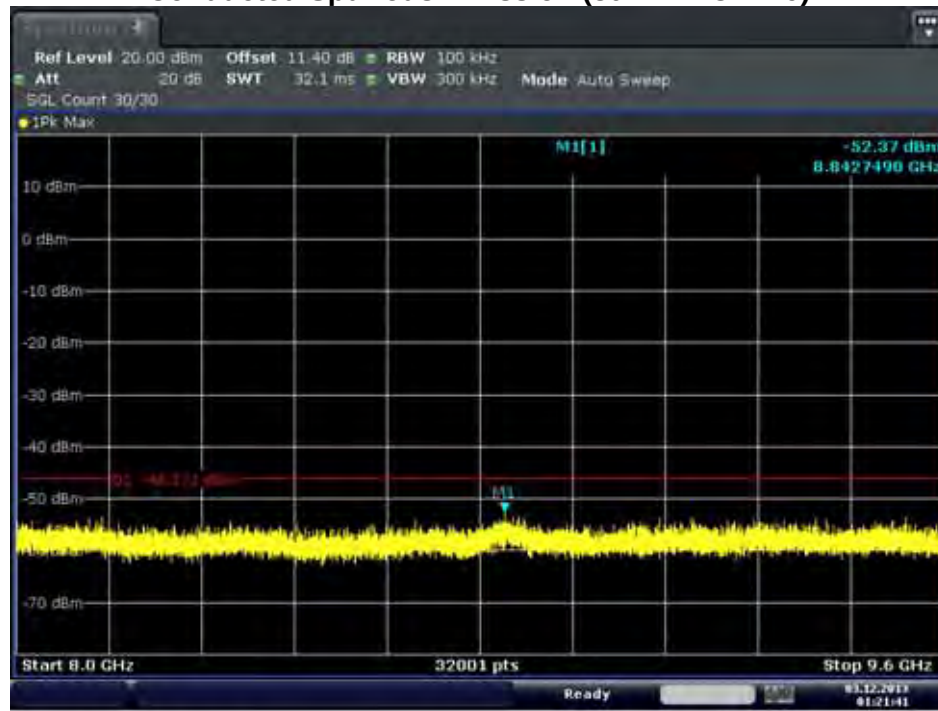
6.4 GHz ~ 8 GHz

Conducted Spurious Emission (802.11n-CH149)



8 GHz ~ 9.6 GHz

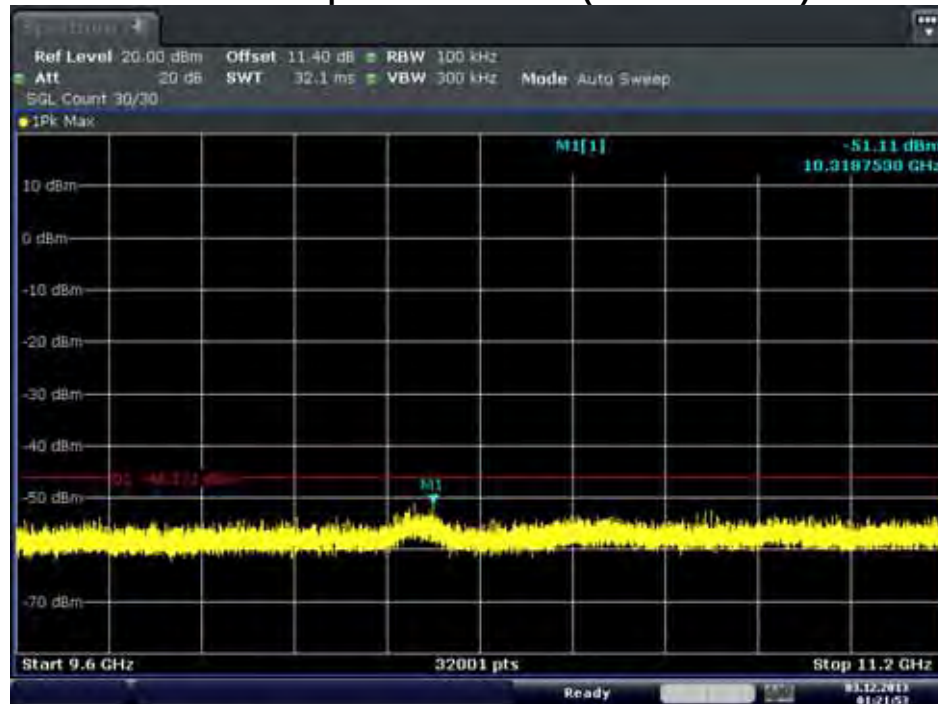
Conducted Spurious Emission (802.11n-CH149)



DATE: 3.DEC.2013 01:21:41

9.6 GHz ~ 11.2 GHz

Conducted Spurious Emission (802.11n-CH149)

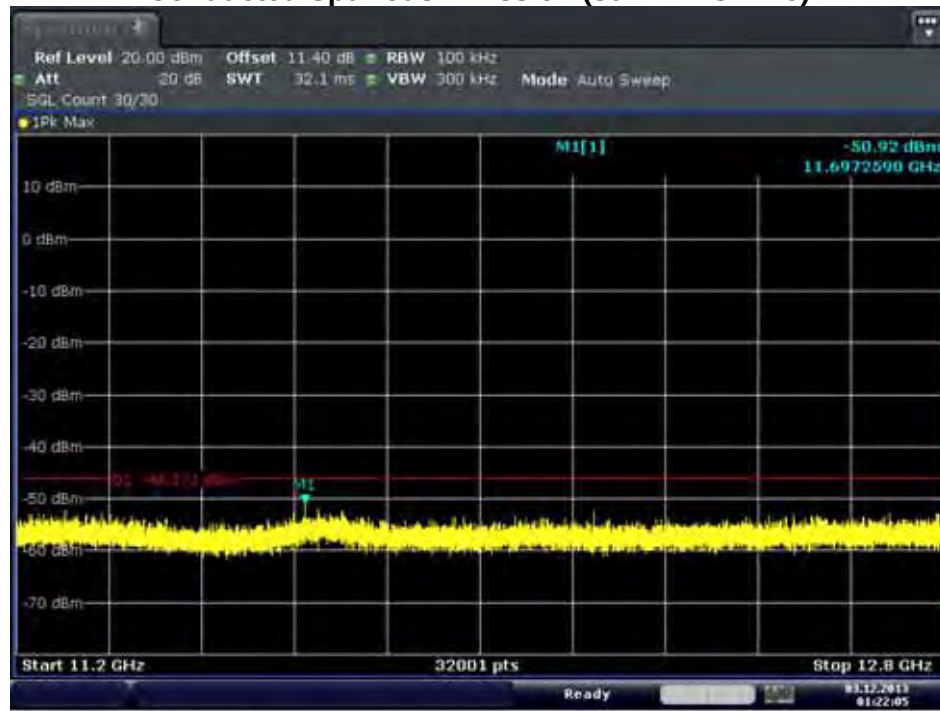


DATE: 3.DEC.2013 01:21:53

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

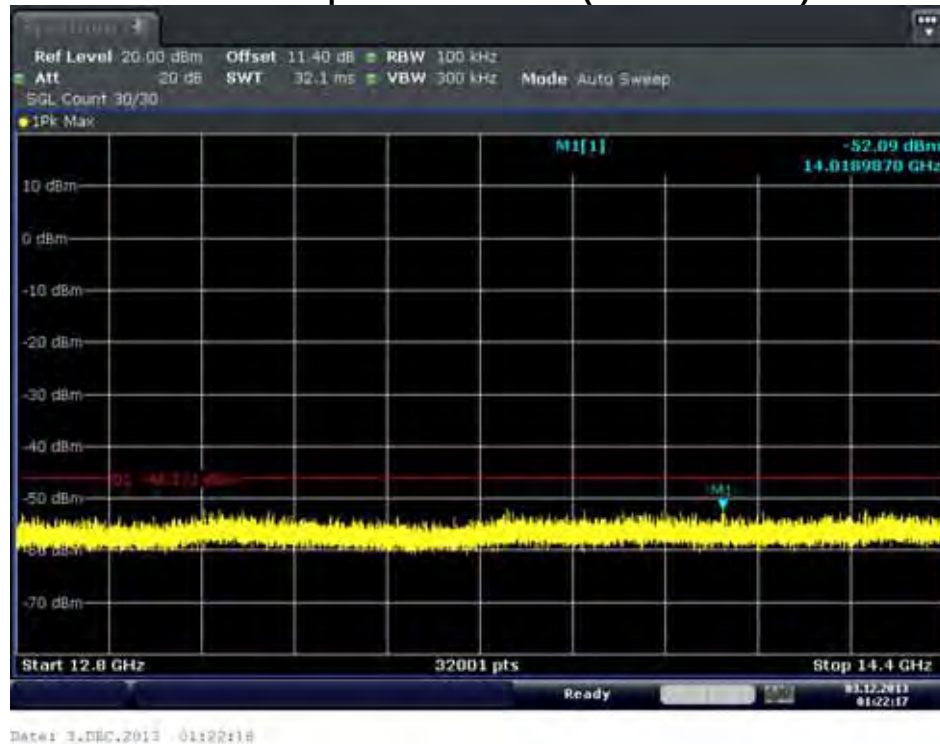
11.2 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11n-CH149)



12.8 GHz ~ 12.8 GHz

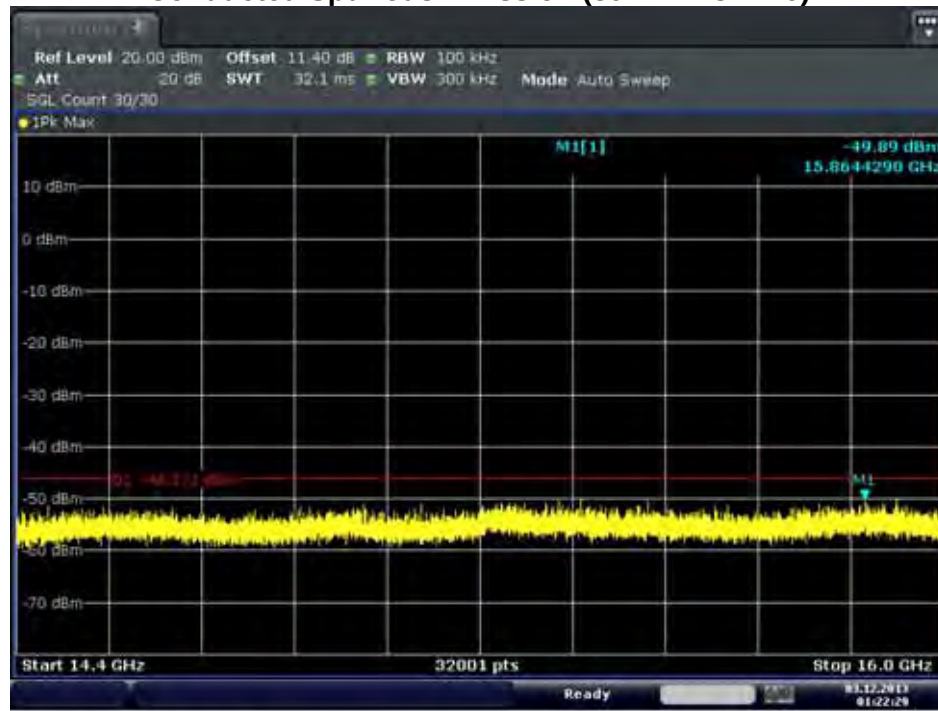
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

14.4 GHz ~ 16 GHz

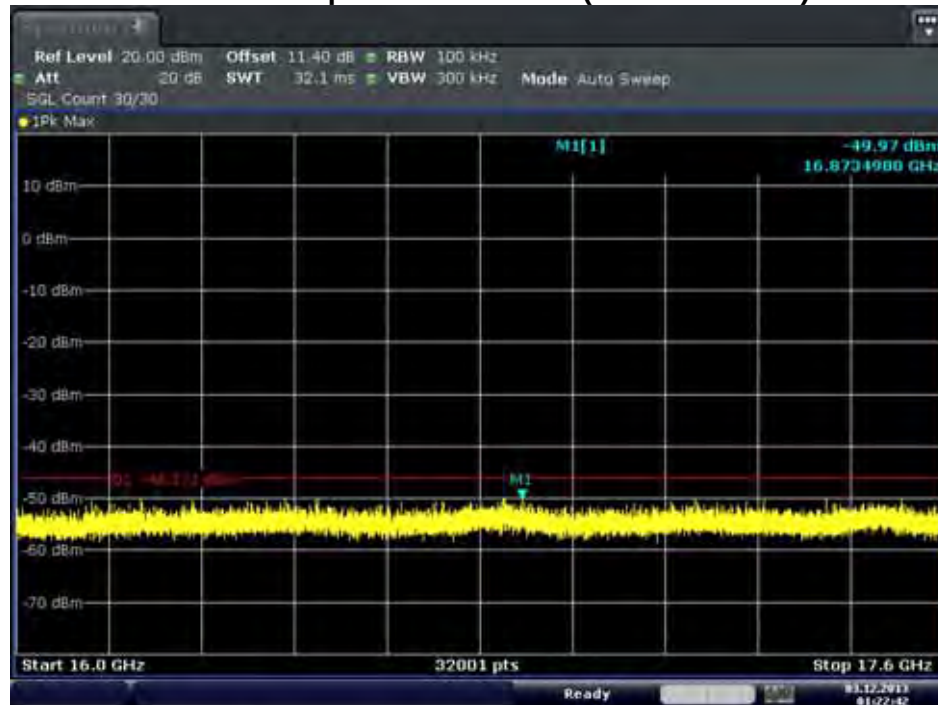
Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:22:30

16 GHz ~ 17.6 GHz

Conducted Spurious Emission (802.11n-CH149)

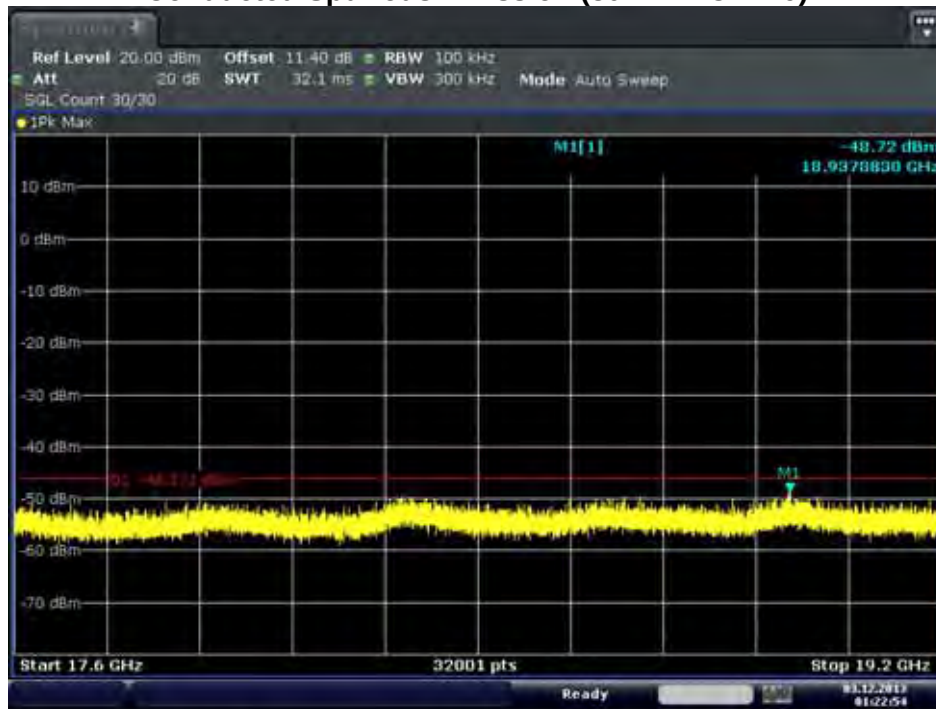


Date: 3.DEC.2013 01:22:42

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

17.6 GHz ~ 19.2 GHz

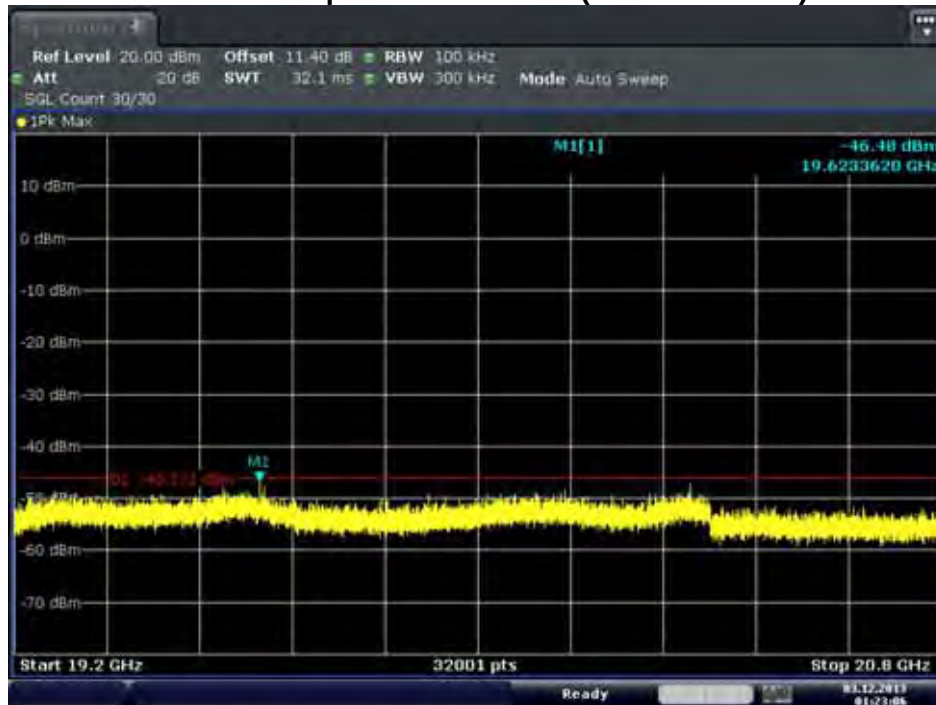
Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:22:54

19.2 GHz ~ 20.8 GHz

Conducted Spurious Emission (802.11n-CH149)

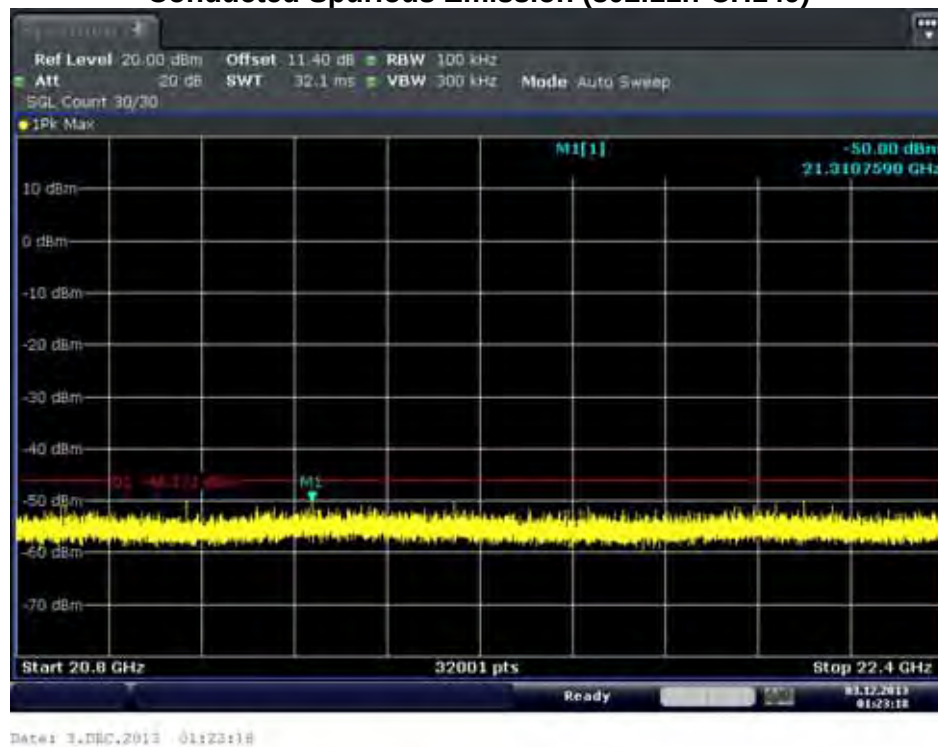


Date: 3.DEC.2013 01:23:06

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

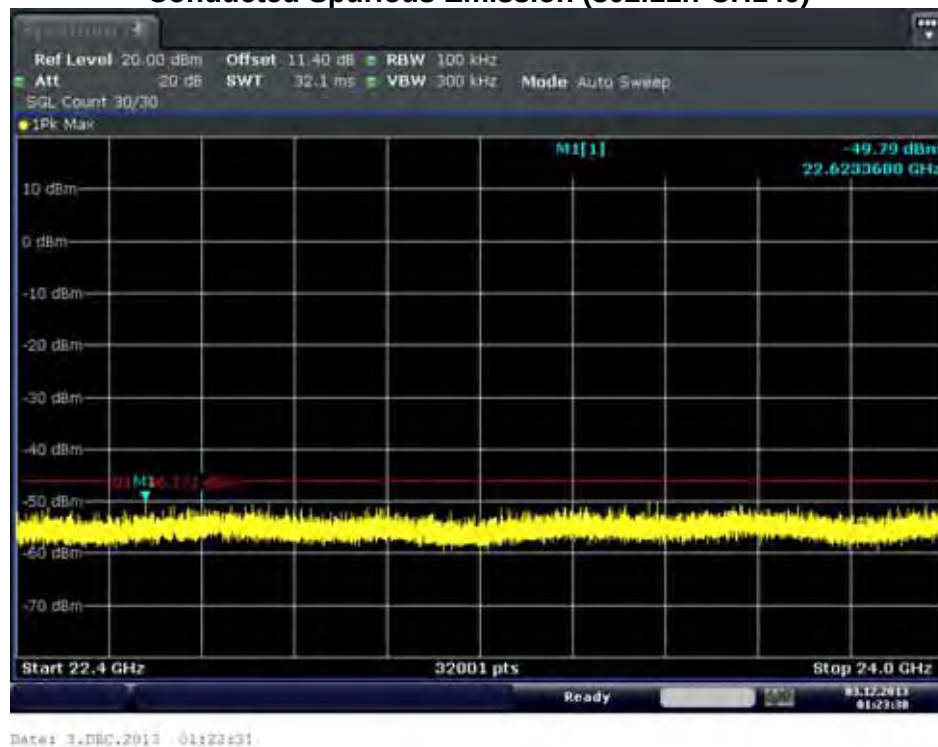
20.8 GHz ~ 22.4 GHz

Conducted Spurious Emission (802.11n-CH149)



22.4 GHz ~ 24 GHz

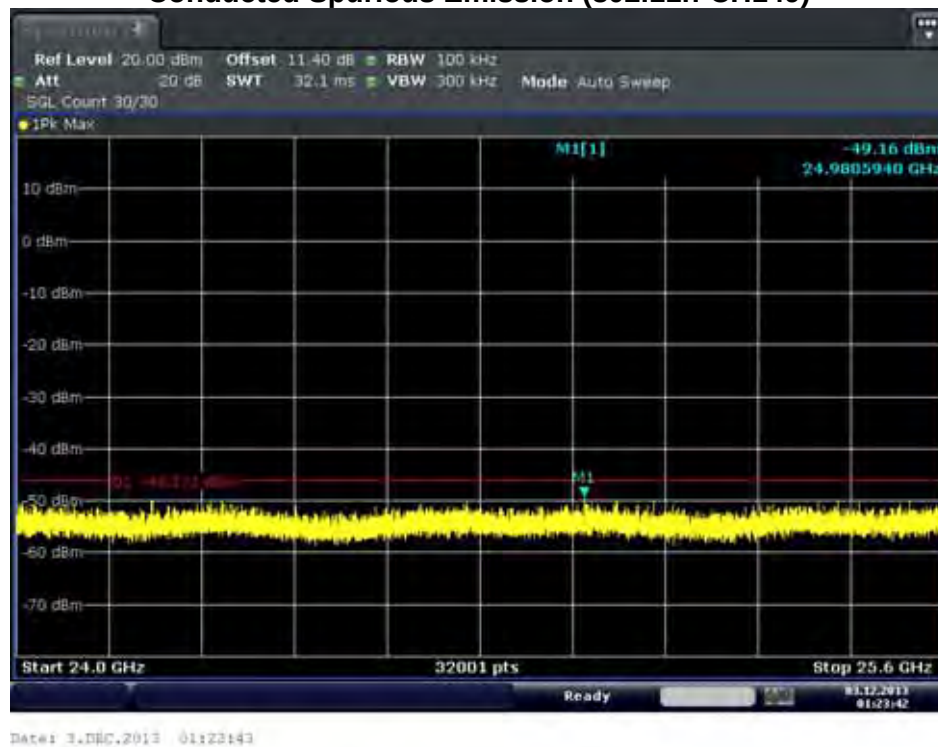
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

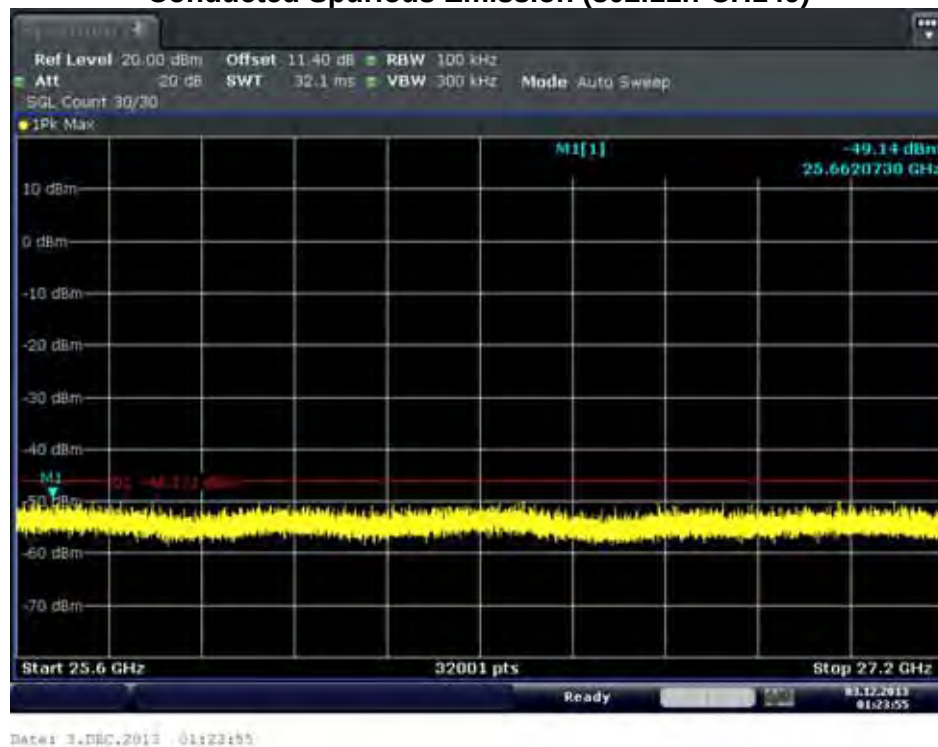
24 GHz ~ 25.6 GHz

Conducted Spurious Emission (802.11n-CH149)



25.6 GHz ~ 27.2 GHz

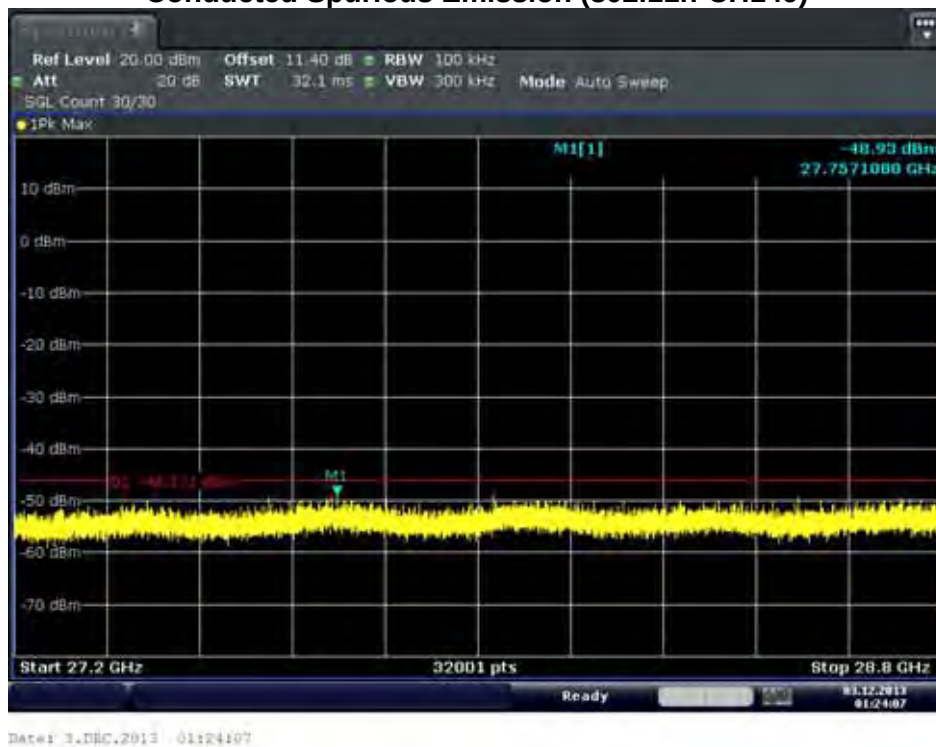
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

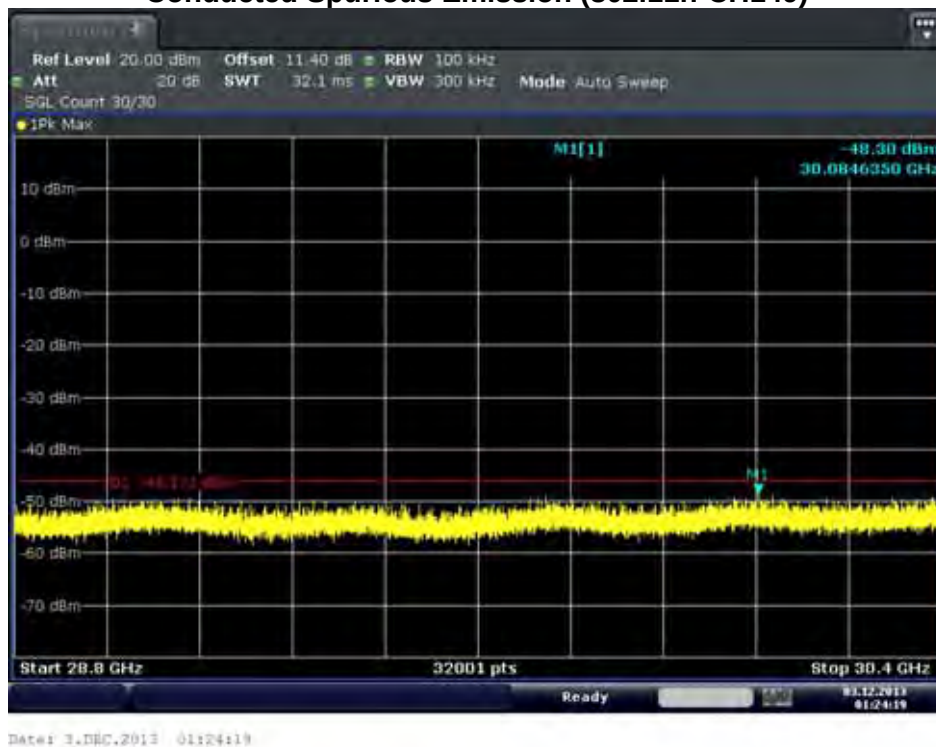
27.2 GHz ~ 28.8 GHz

Conducted Spurious Emission (802.11n-CH149)



28.8 GHz ~ 30.4 GHz

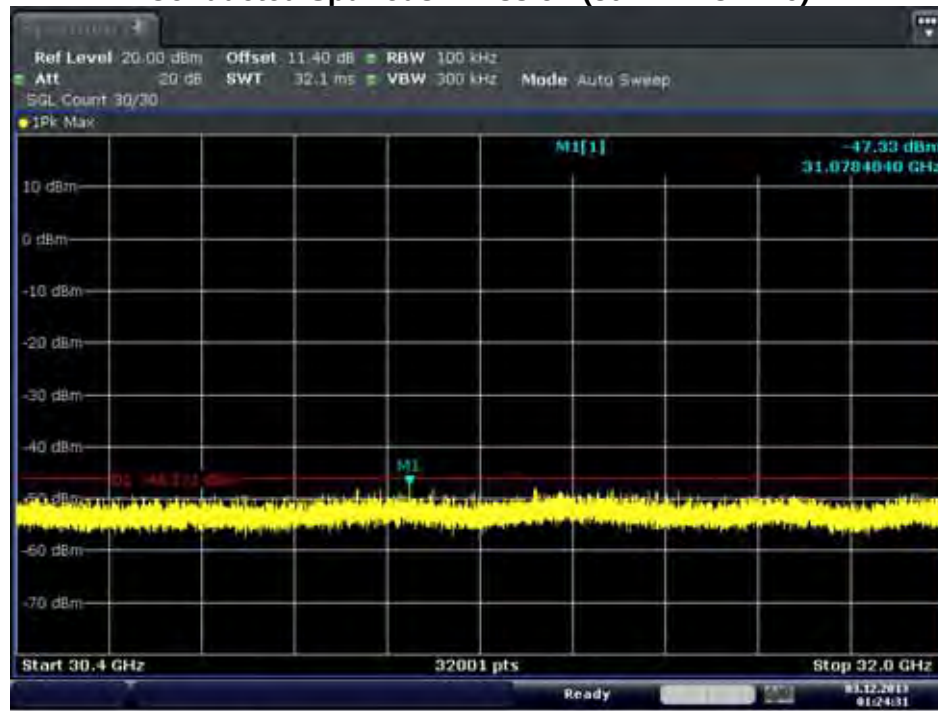
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

30.4 GHz ~ 32 GHz

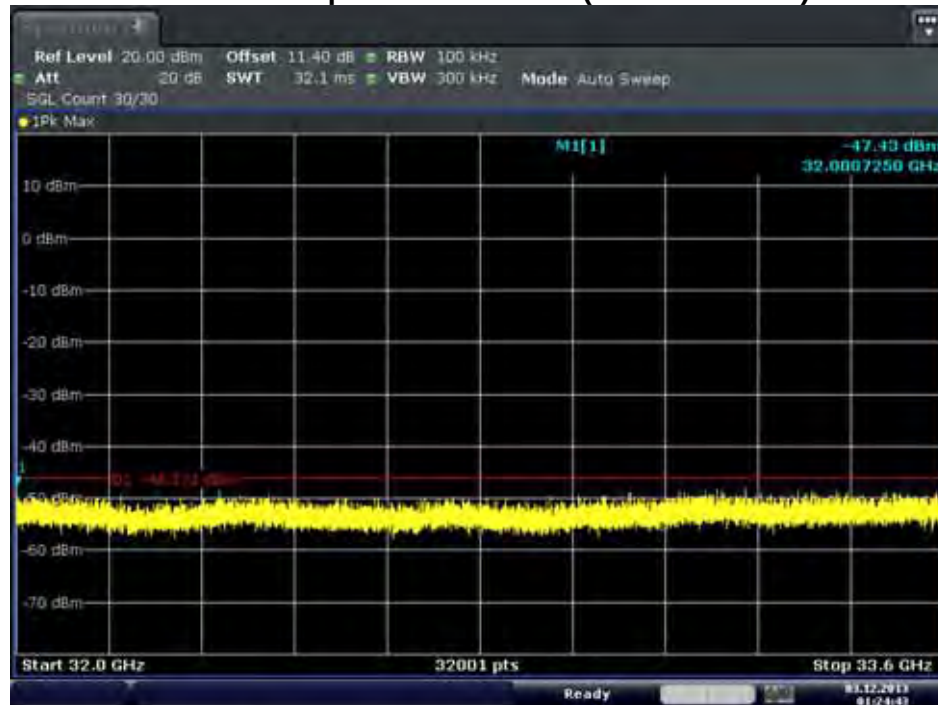
Conducted Spurious Emission (802.11n-CH149)



Date: 11/DEC/2013 01:24:31

32 GHz ~ 33.6 GHz

Conducted Spurious Emission (802.11n-CH149)

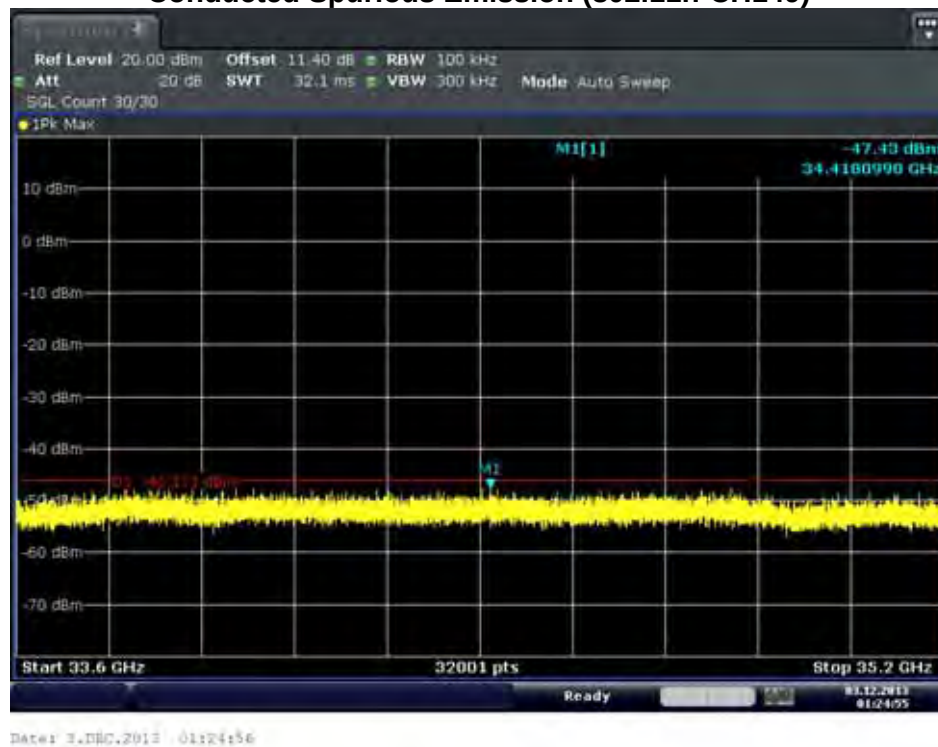


Date: 11/DEC/2013 01:24:43

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

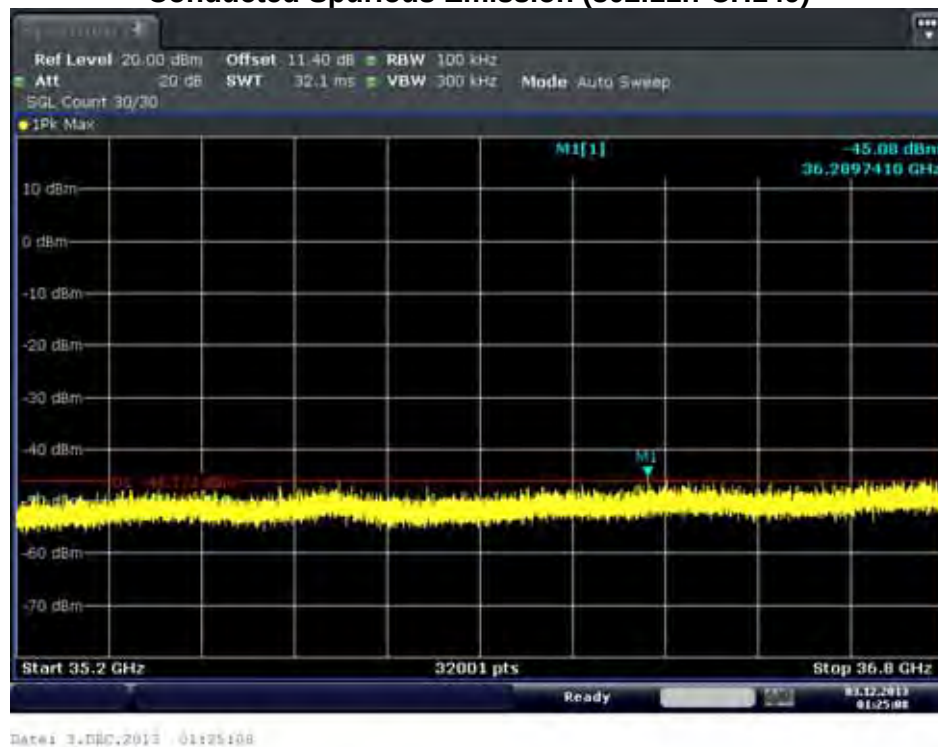
33.6 GHz ~ 35.2 GHz

Conducted Spurious Emission (802.11n-CH149)



35.2 GHz ~ 36.8 GHz

Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

36.8 GHz ~ 38.4 GHz

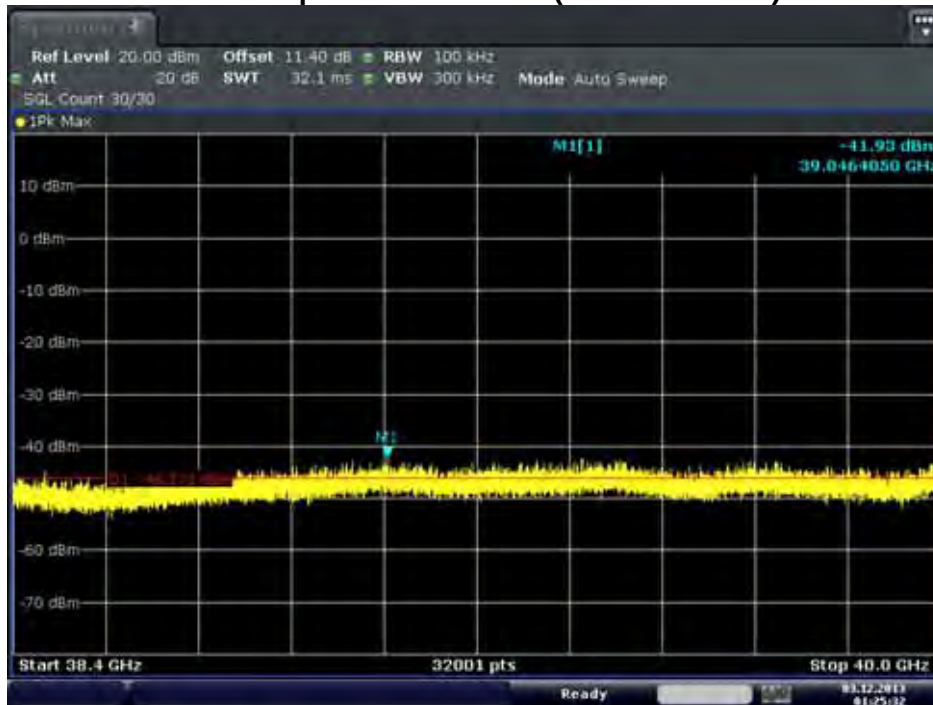
Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:25:28

38.4 GHz ~ 40 GHz

Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:25:32

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

Service Port Ant.1
30 MHz ~ 1 GHz

Conducted Spurious Emission (802.11n-CH6)



1 GHz ~ 3 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

3 GHz ~ 5 GHz

Conducted Spurious Emission (802.11n-CH6)



5 GHz ~ 7 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

7 GHz ~ 9 GHz

Conducted Spurious Emission (802.11n-CH6)



9 GHz ~ 11 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

11 GHz ~ 13 GHz

Conducted Spurious Emission (802.11n-CH6)



13 GHz ~ 15 GHz

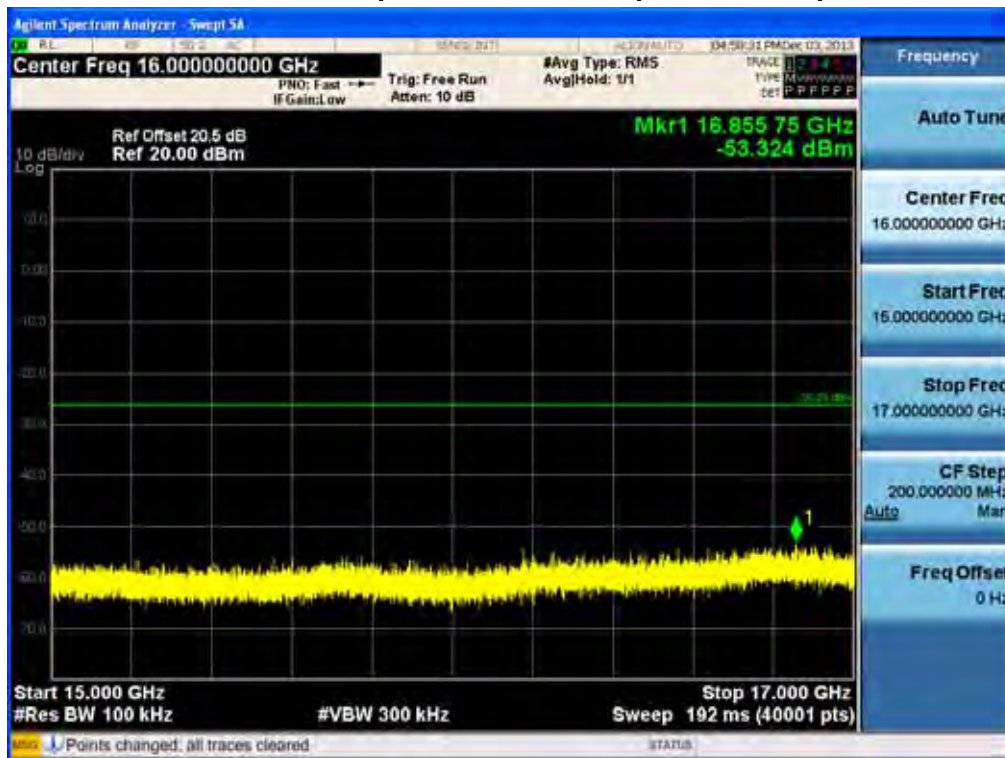
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

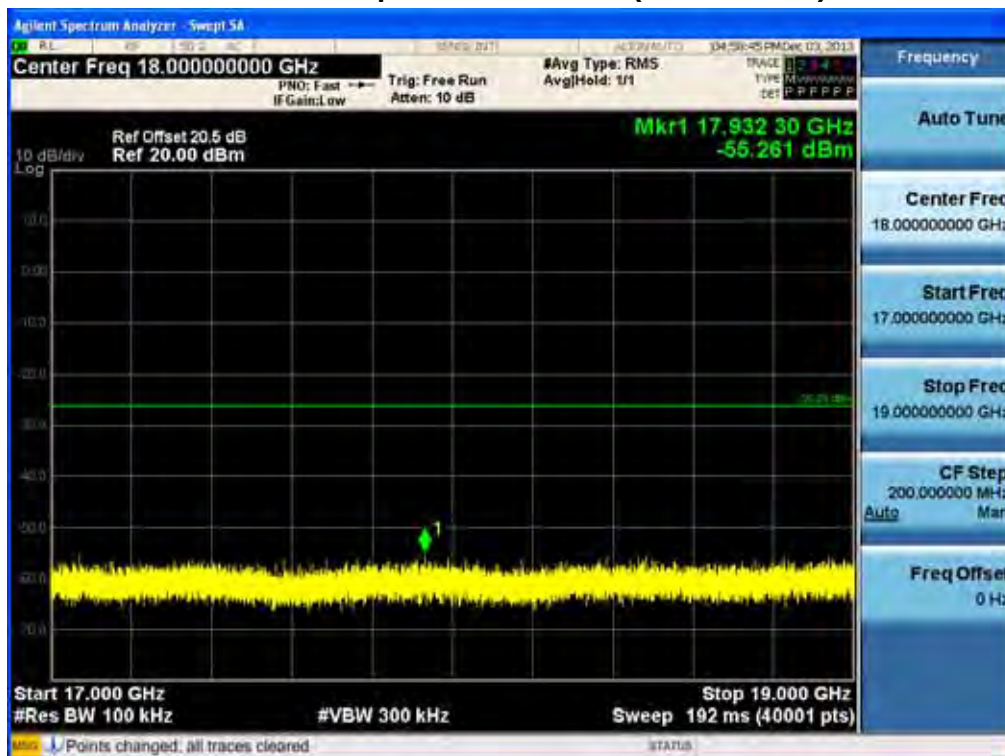
15 GHz ~ 17 GHz

Conducted Spurious Emission (802.11n-CH6)



17 GHz ~ 19 GHz

Conducted Spurious Emission (802.11n-CH6)



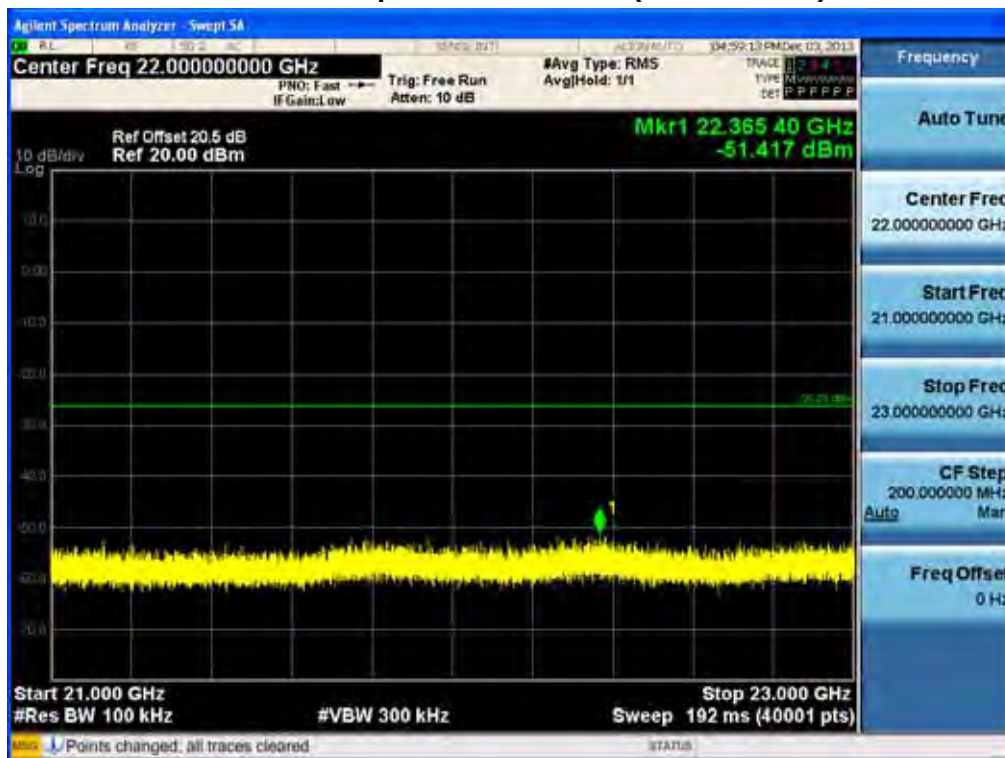
19 GHz ~ 21 GHz

19nducted Spurious Emission (802.11n-CH6)



21 GHz ~ 23 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

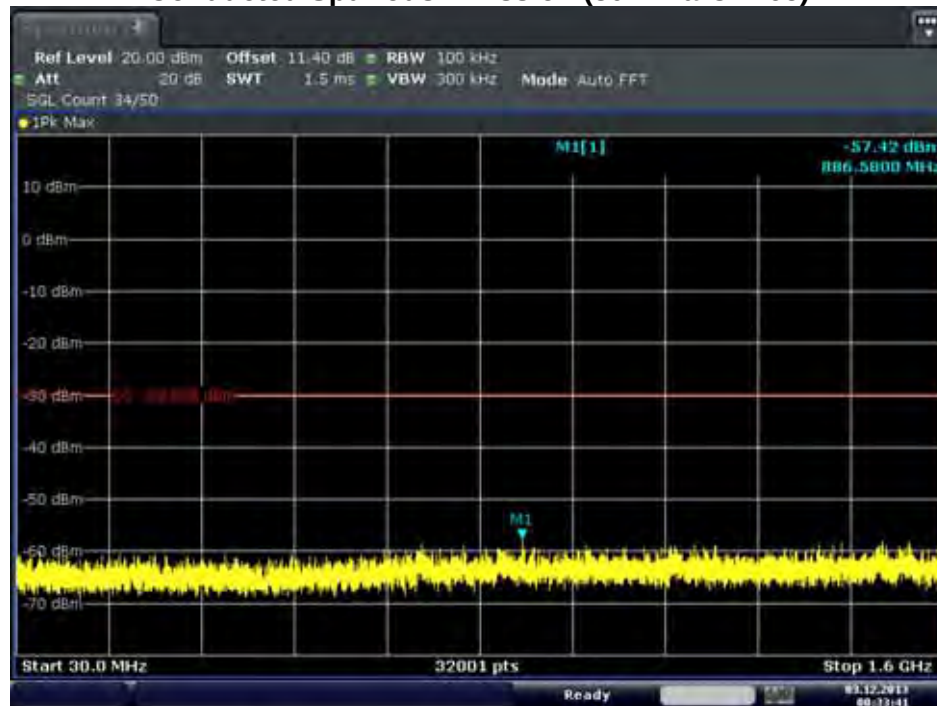
23 GHz ~ 25 GHz

Conducted Spurious Emission (802.11n-CH6)



30 MHz ~ 1.6 GHz

Conducted Spurious Emission (802.11a-CH165)

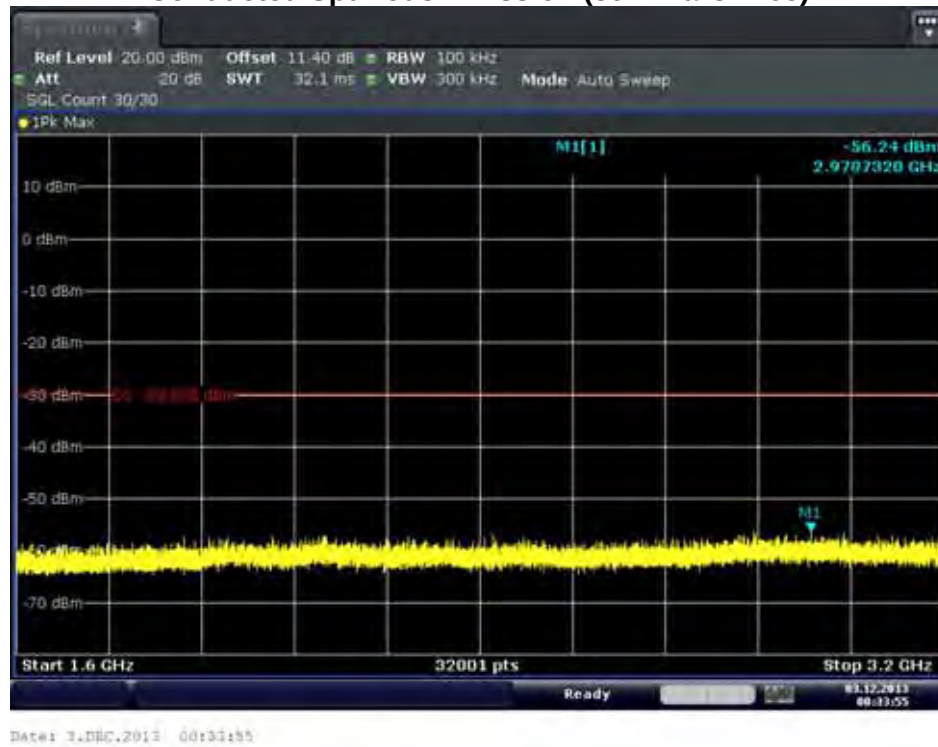


Date: 1, DEC, 2013 00:33:41

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

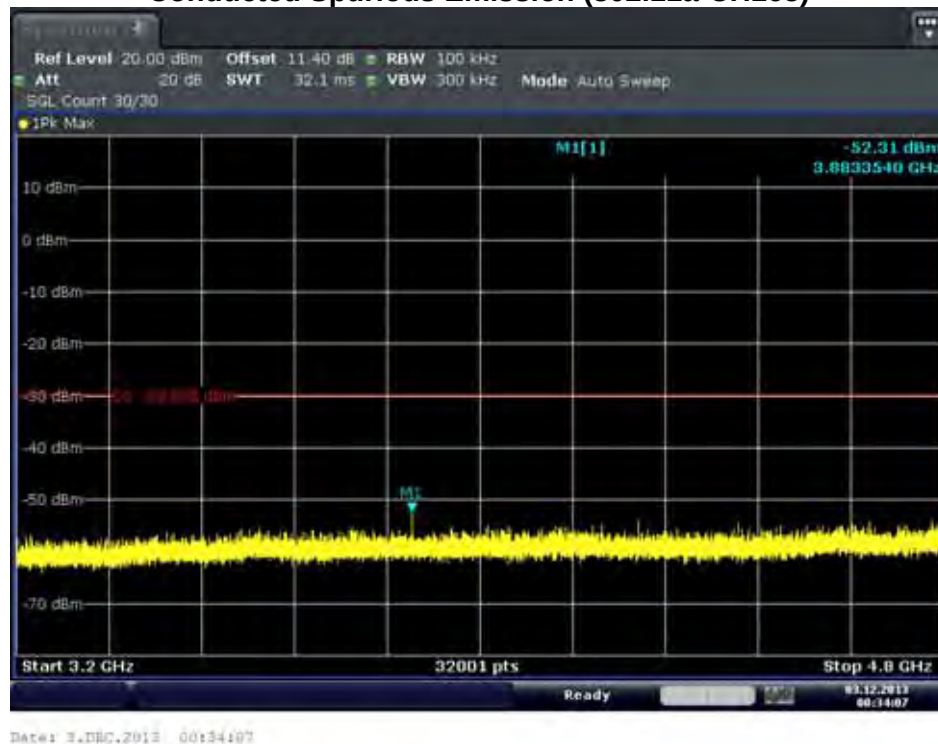
1.6 GHz ~ 3.2 GHz

Conducted Spurious Emission (802.11a-CH165)



3.2 GHz ~ 4.8 GHz

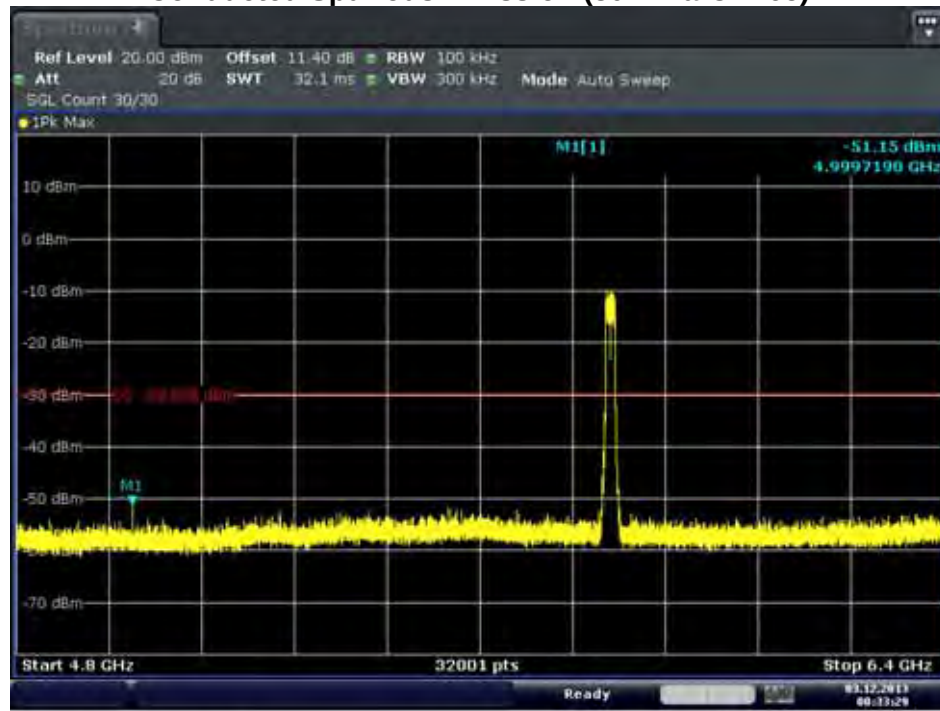
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

4.8 GHz ~ 6.4 GHz

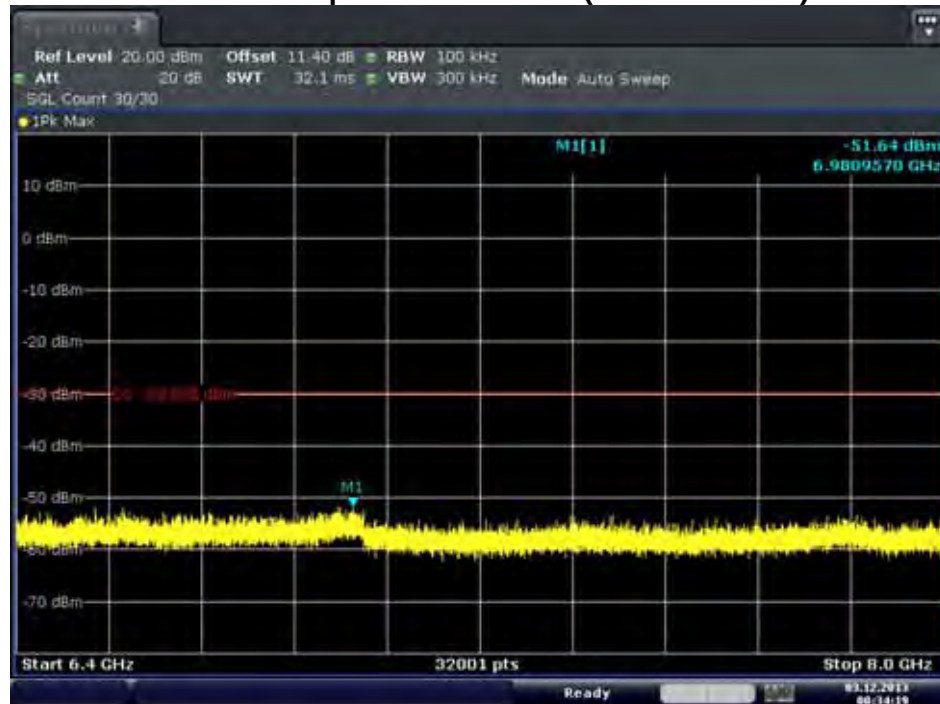
Conducted Spurious Emission (802.11a-CH165)



DATE: 3.DEC.2013 00:13:29

6.4 GHz ~ 8 GHz

Conducted Spurious Emission (802.11a-CH165)

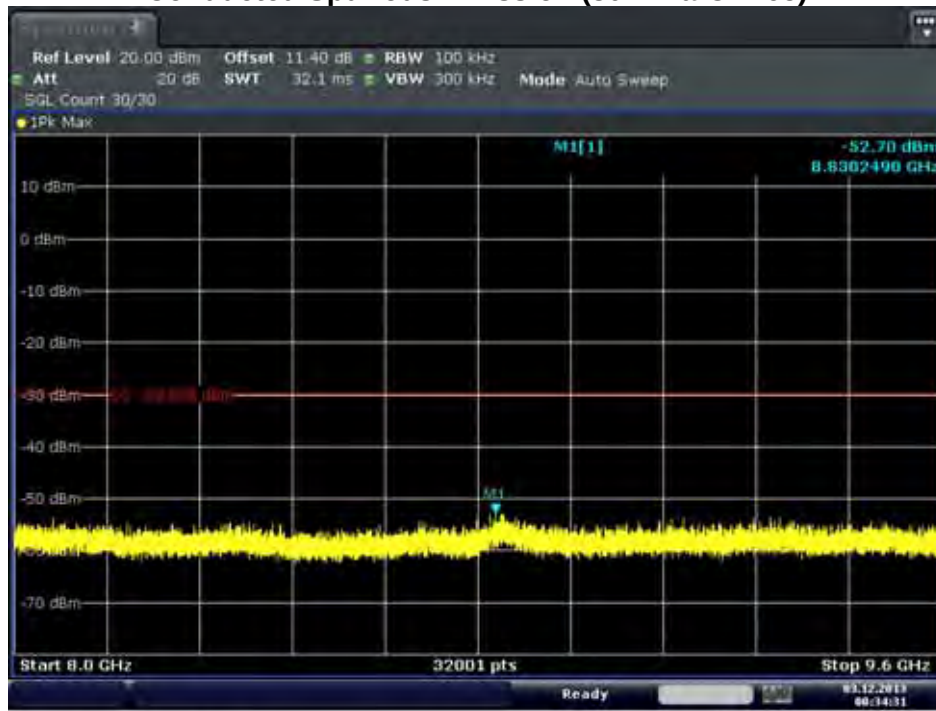


DATE: 3.DEC.2013 00:14:19

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

8 GHz ~ 9.6 GHz

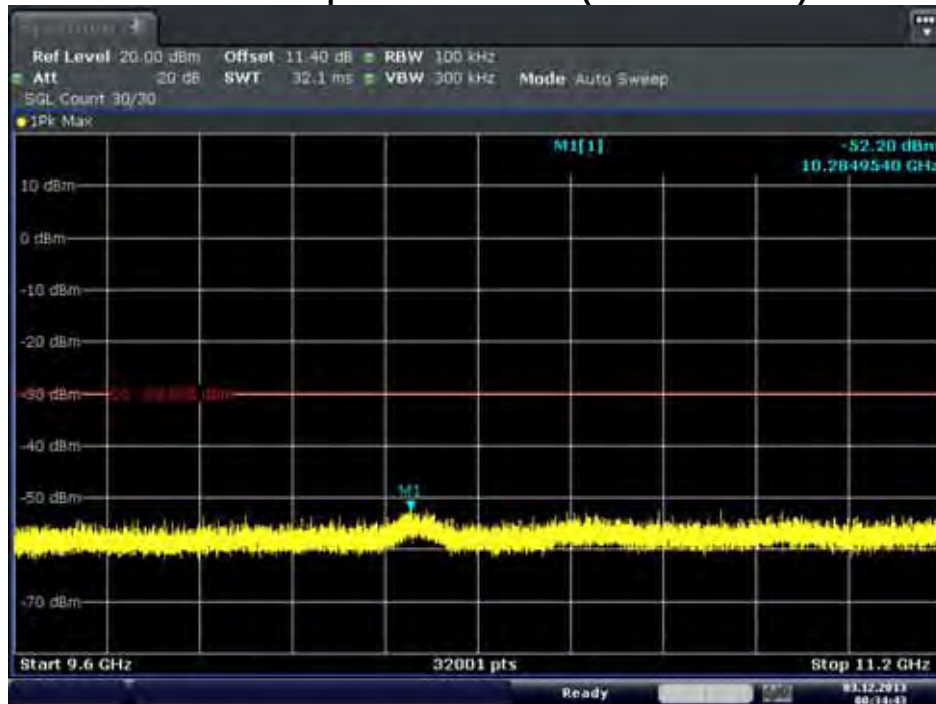
Conducted Spurious Emission (802.11a-CH165)



DATE: 1.DEC.2013 00:14:32

9.6 GHz ~ 11.2 GHz

Conducted Spurious Emission (802.11a-CH165)

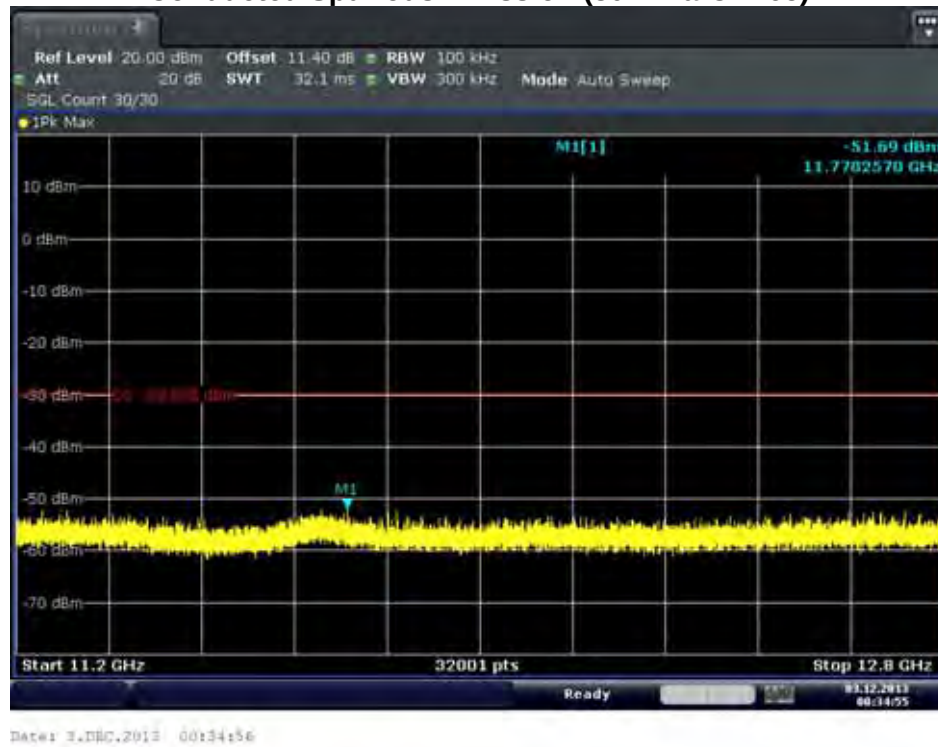


DATE: 1.DEC.2013 00:14:44

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

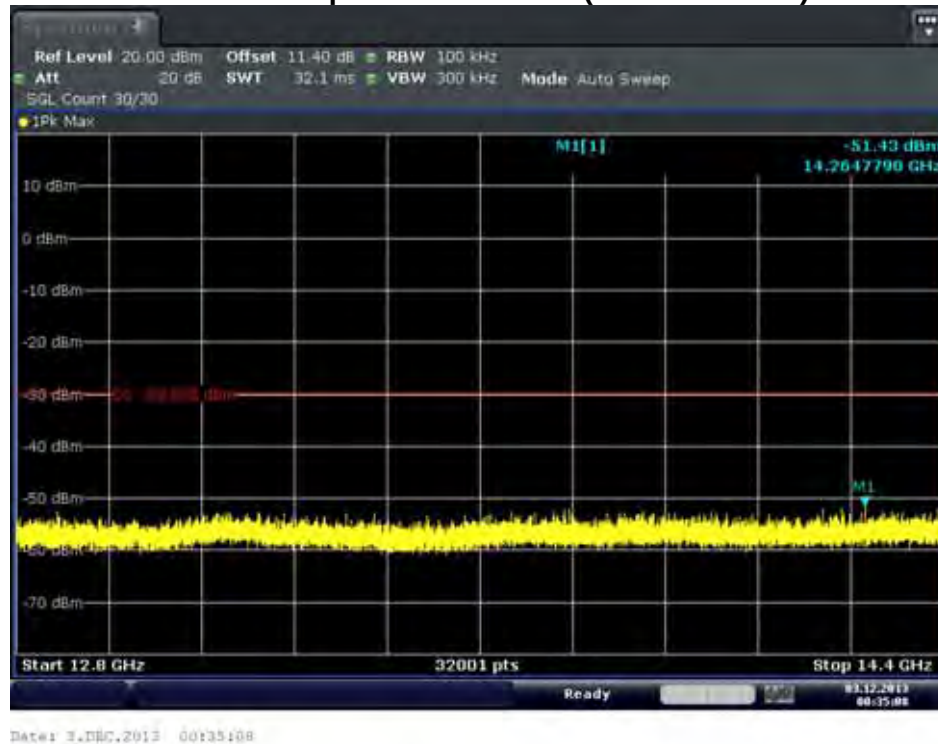
11.2 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11a-CH165)



12.8 GHz ~ 12.8 GHz

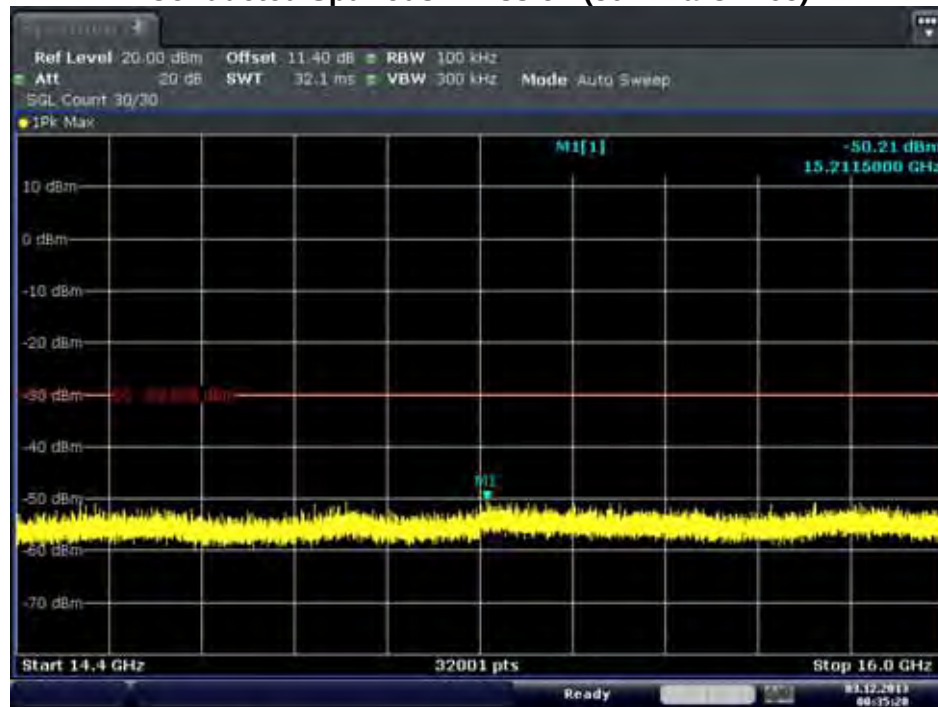
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

14.4 GHz ~ 16 GHz

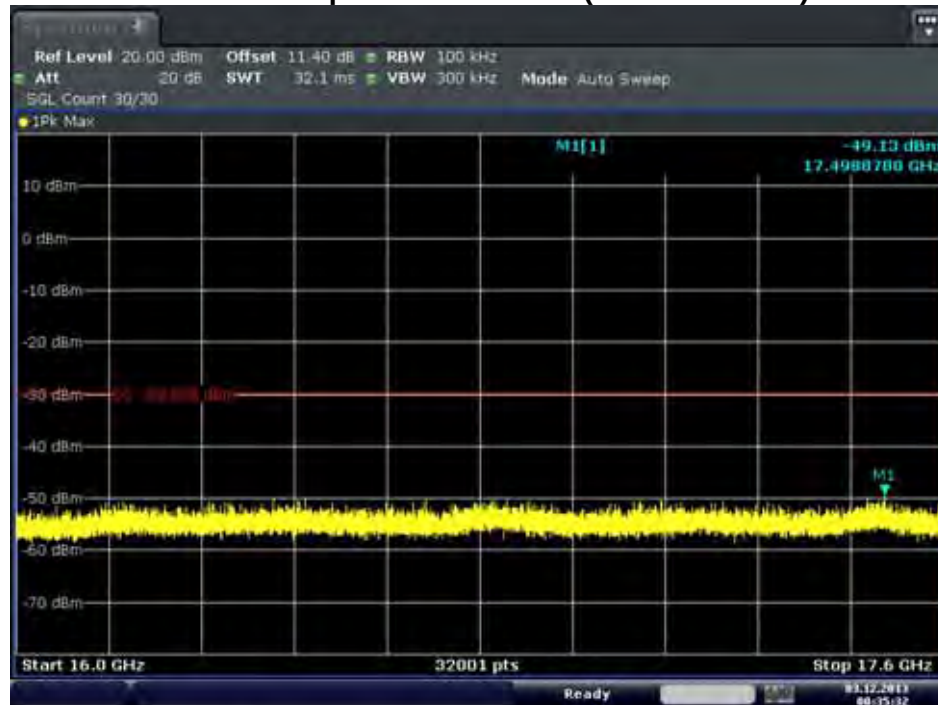
Conducted Spurious Emission (802.11a-CH165)



Date: 11.DEC.2013 00:35:28

16 GHz ~ 17.6 GHz

Conducted Spurious Emission (802.11a-CH165)

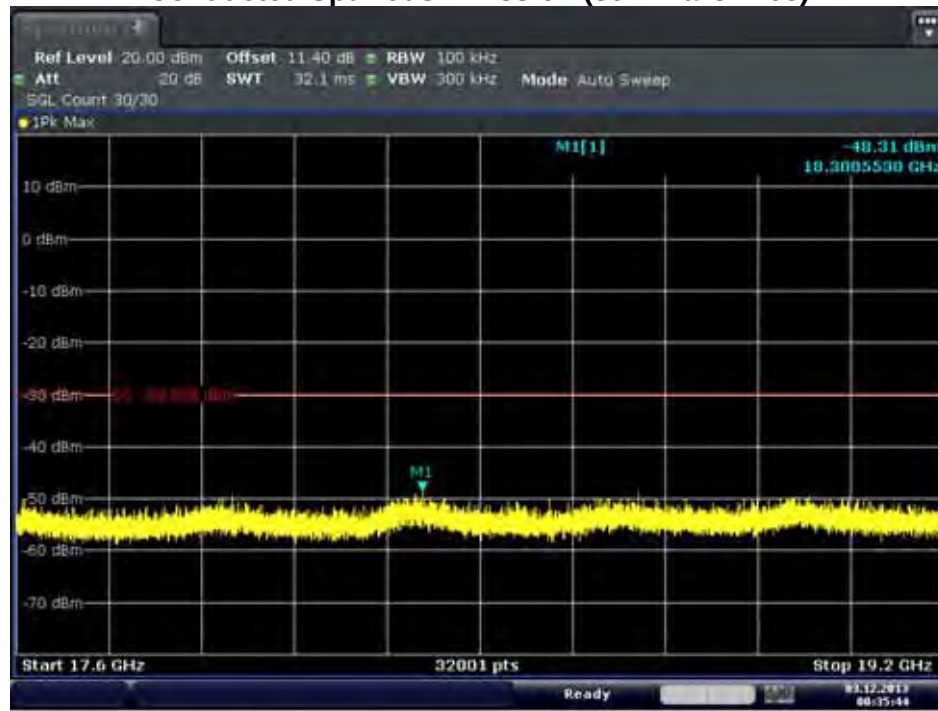


Date: 11.DEC.2013 00:35:32

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

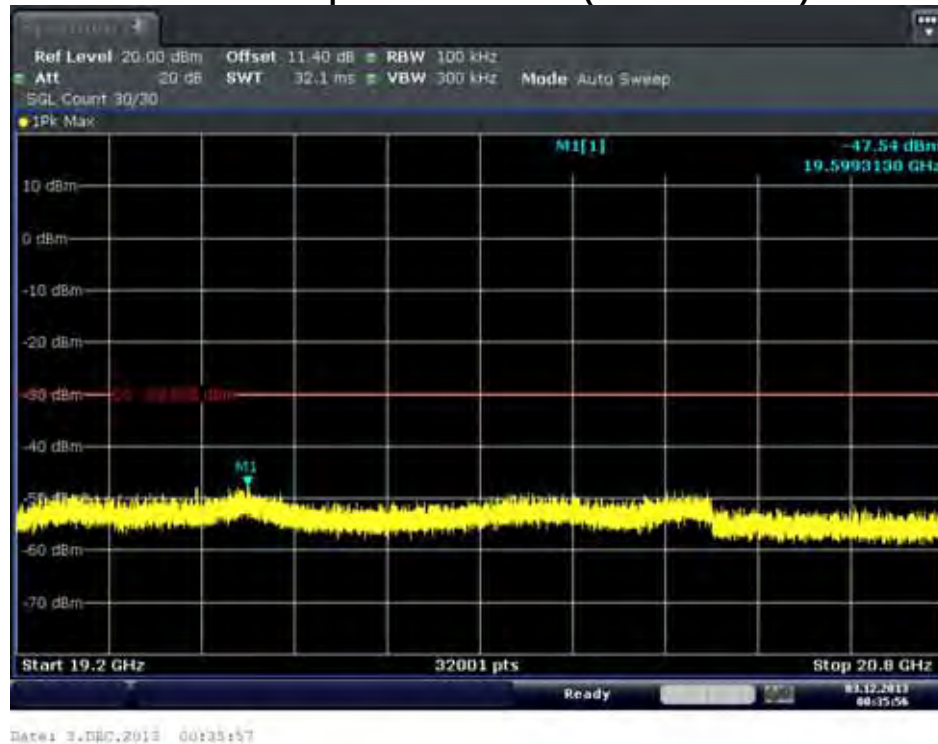
17.6 GHz ~ 19.2 GHz

Conducted Spurious Emission (802.11a-CH165)



19.2 GHz ~ 20.8 GHz

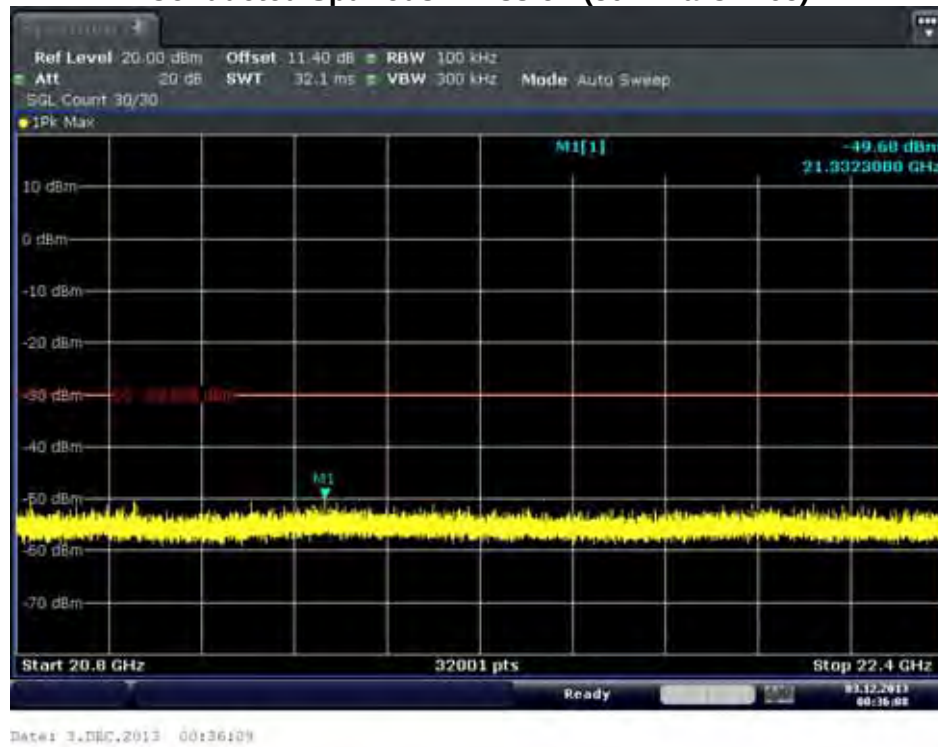
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

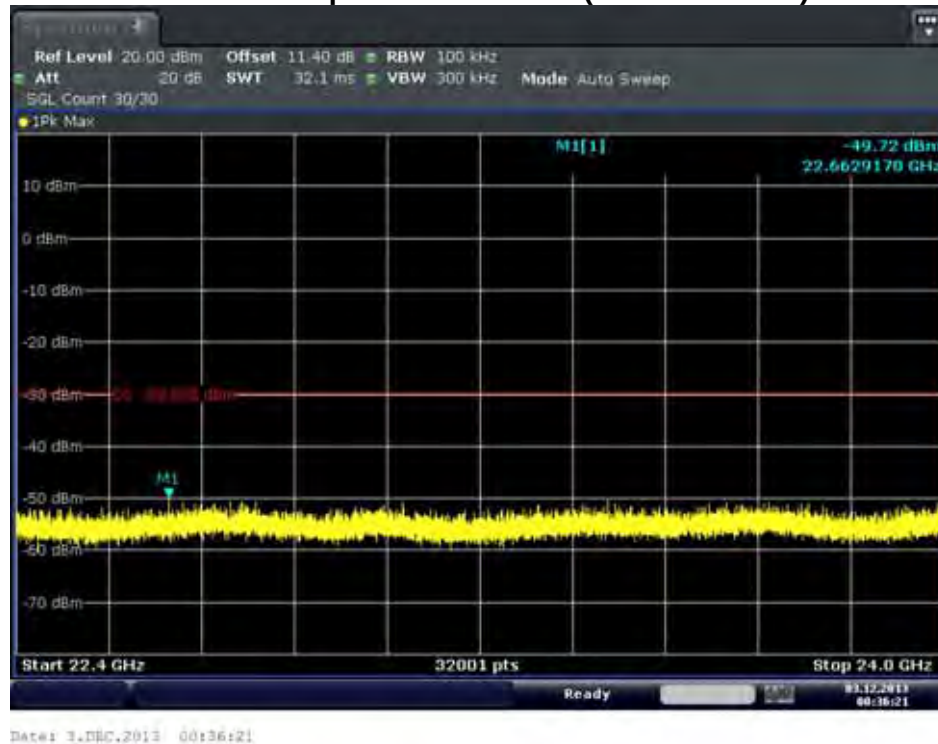
20.8 GHz ~ 22.4 GHz

Conducted Spurious Emission (802.11a-CH165)



22.4 GHz ~ 24 GHz

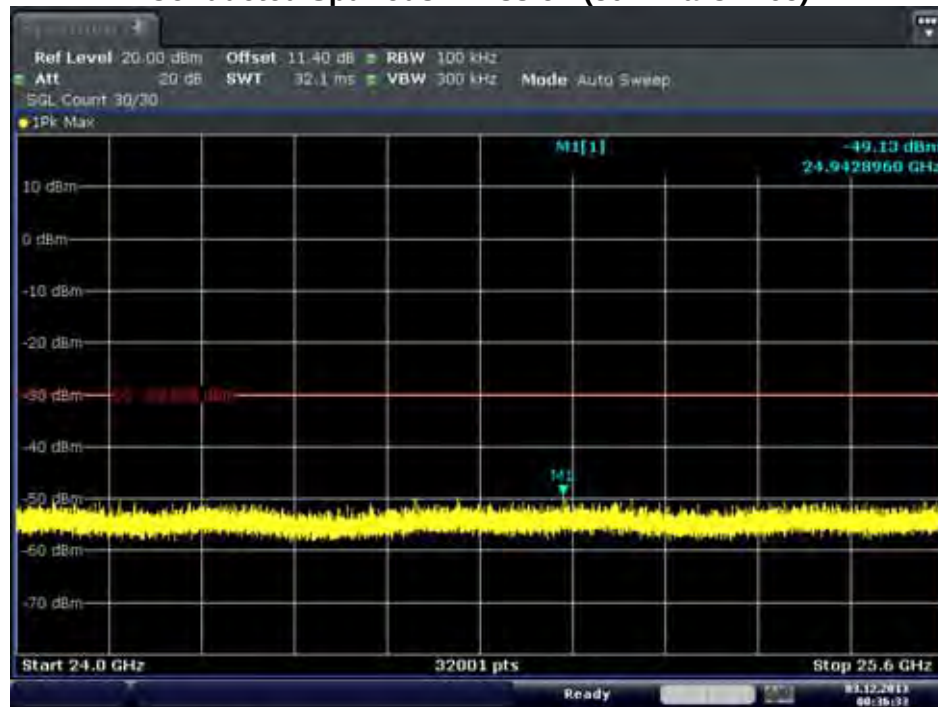
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

24 GHz ~ 25.6 GHz

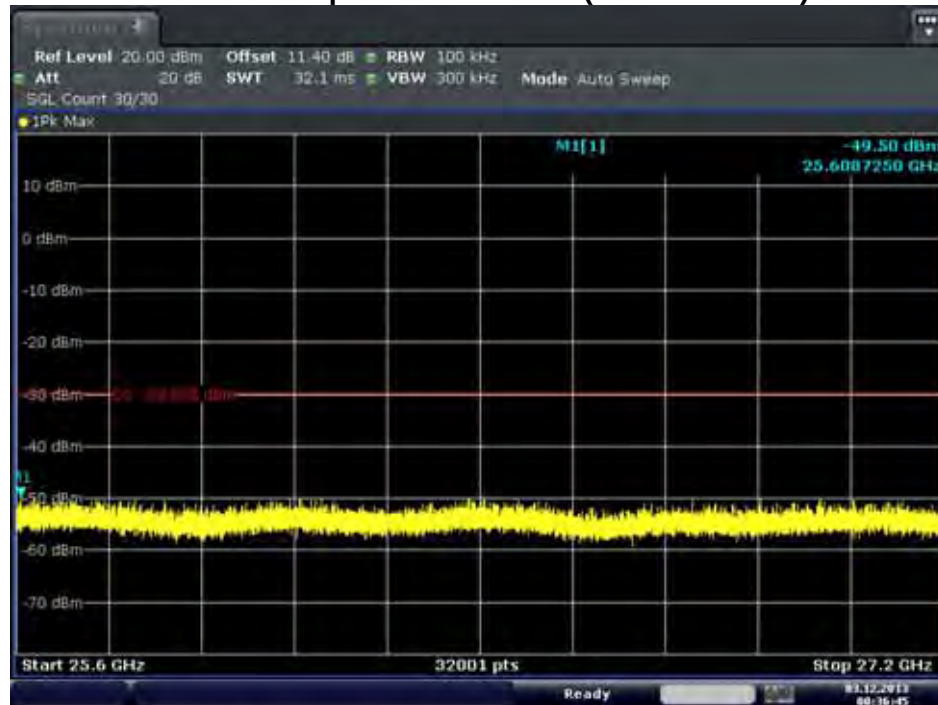
Conducted Spurious Emission (802.11a-CH165)



Date: 11/DEC/2013 00:36:33

25.6 GHz ~ 27.2 GHz

Conducted Spurious Emission (802.11a-CH165)

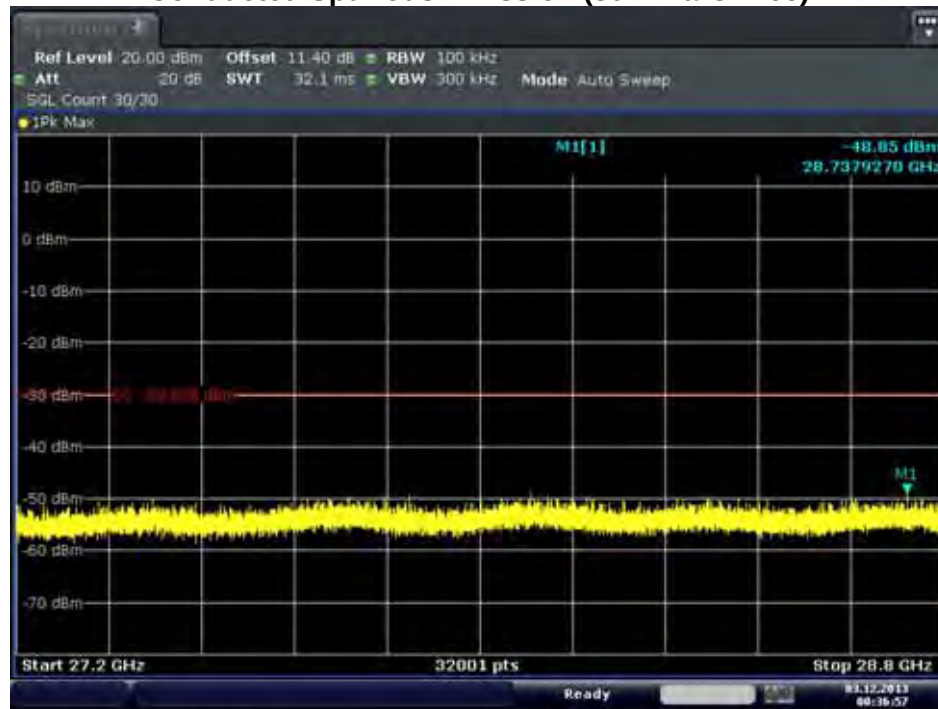


Date: 11/DEC/2013 00:36:45

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

27.2 GHz ~ 28.8 GHz

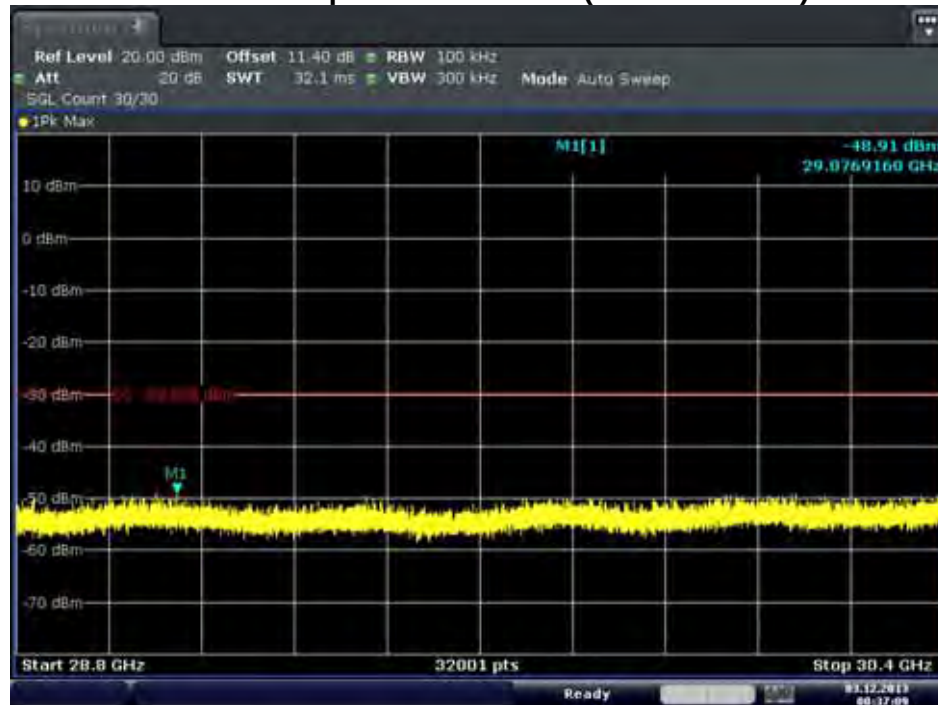
Conducted Spurious Emission (802.11a-CH165)



Date: 11/12/2013 00:36:57

28.8 GHz ~ 30.4 GHz

Conducted Spurious Emission (802.11a-CH165)

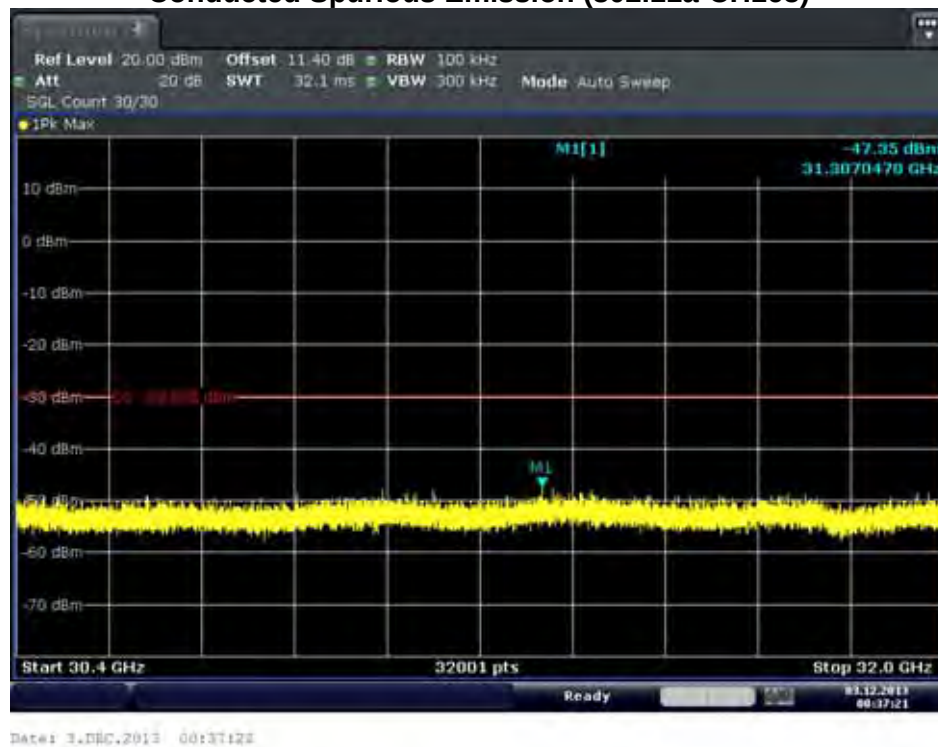


Date: 11/12/2013 00:37:09

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

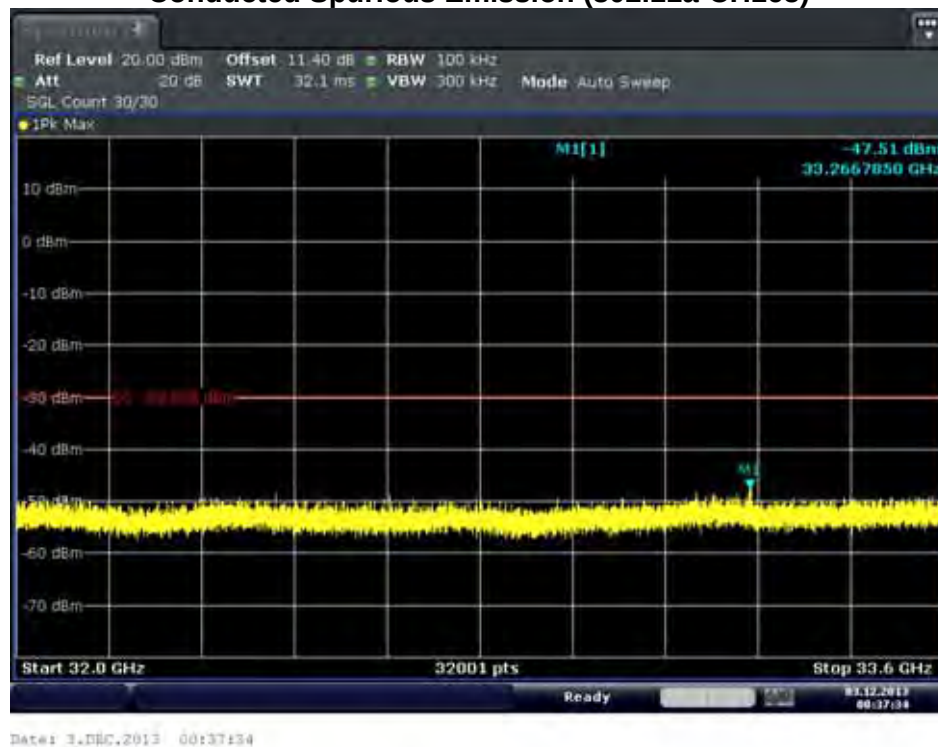
30.4 GHz ~ 32 GHz

Conducted Spurious Emission (802.11a-CH165)



32 GHz ~ 33.6 GHz

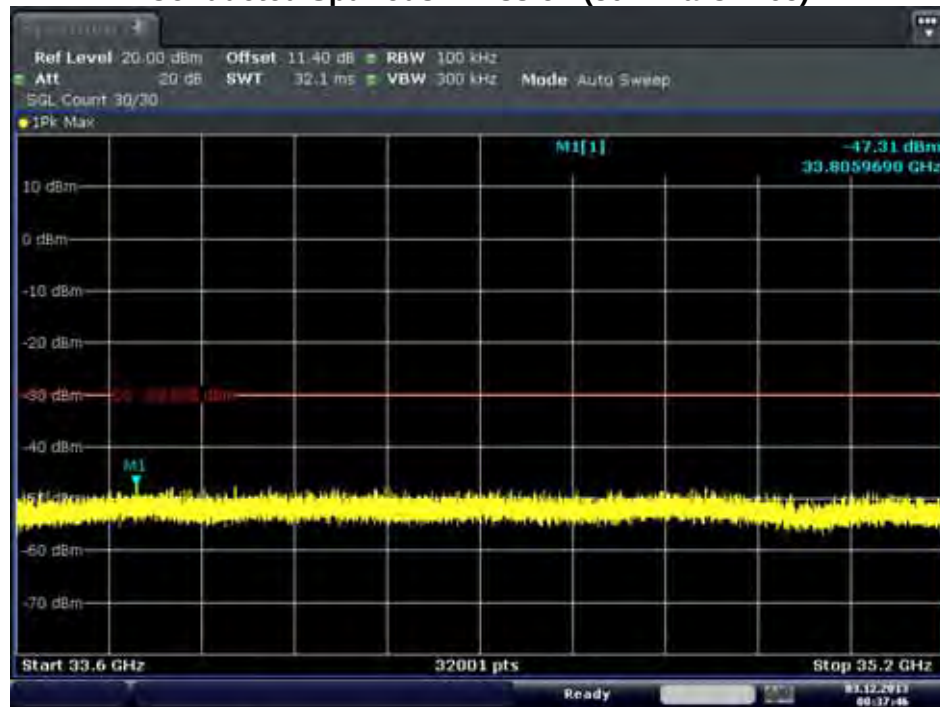
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

33.6 GHz ~ 35.2 GHz

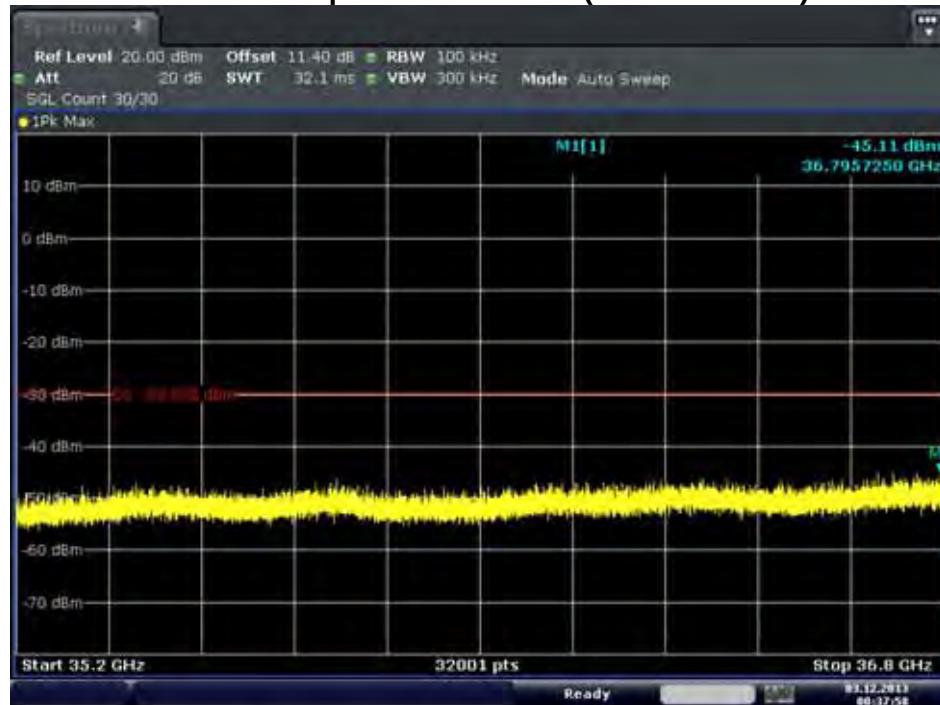
Conducted Spurious Emission (802.11a-CH165)



Date: 11.DEC.2013 00:37:46

35.2 GHz ~ 36.8 GHz

Conducted Spurious Emission (802.11a-CH165)

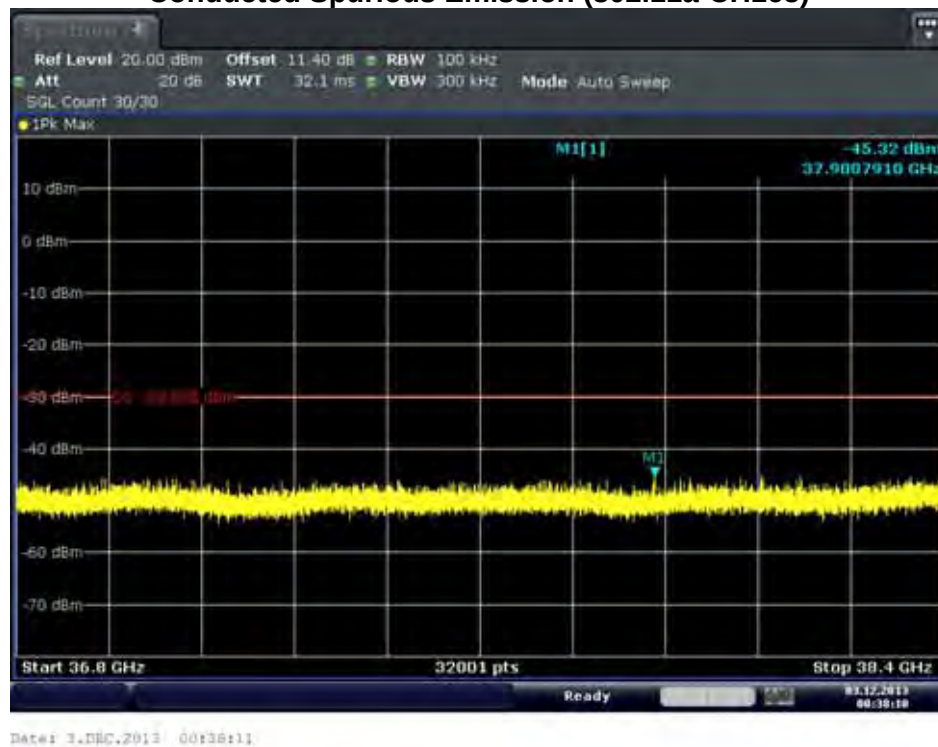


Date: 11.DEC.2013 00:37:58

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

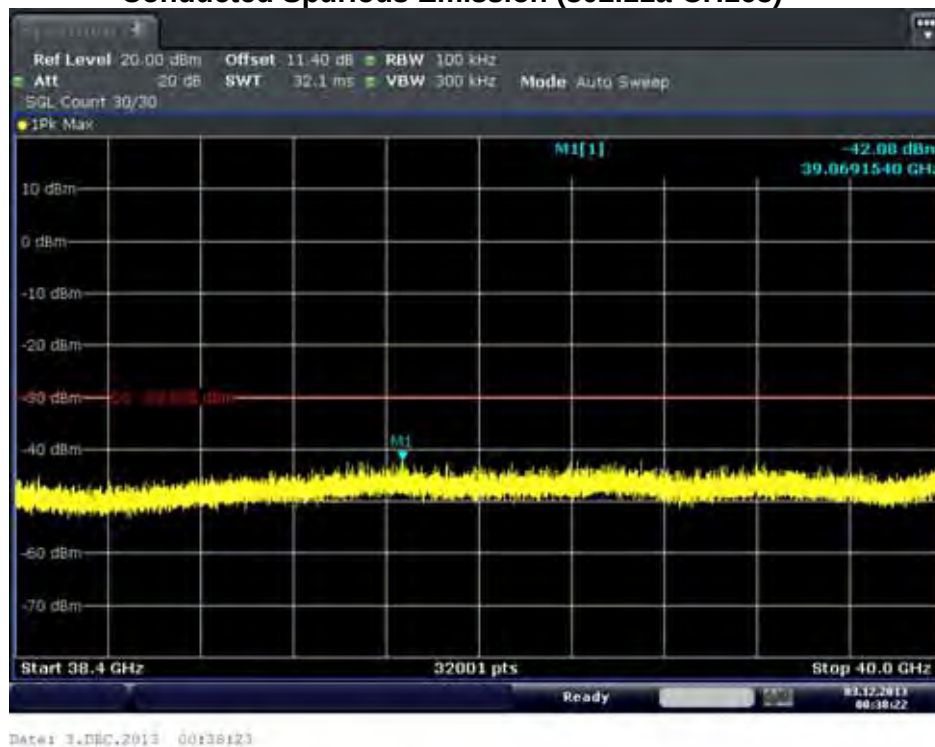
36.8 GHz ~ 38.4 GHz

Conducted Spurious Emission (802.11a-CH165)



38.4 GHz ~ 40 GHz

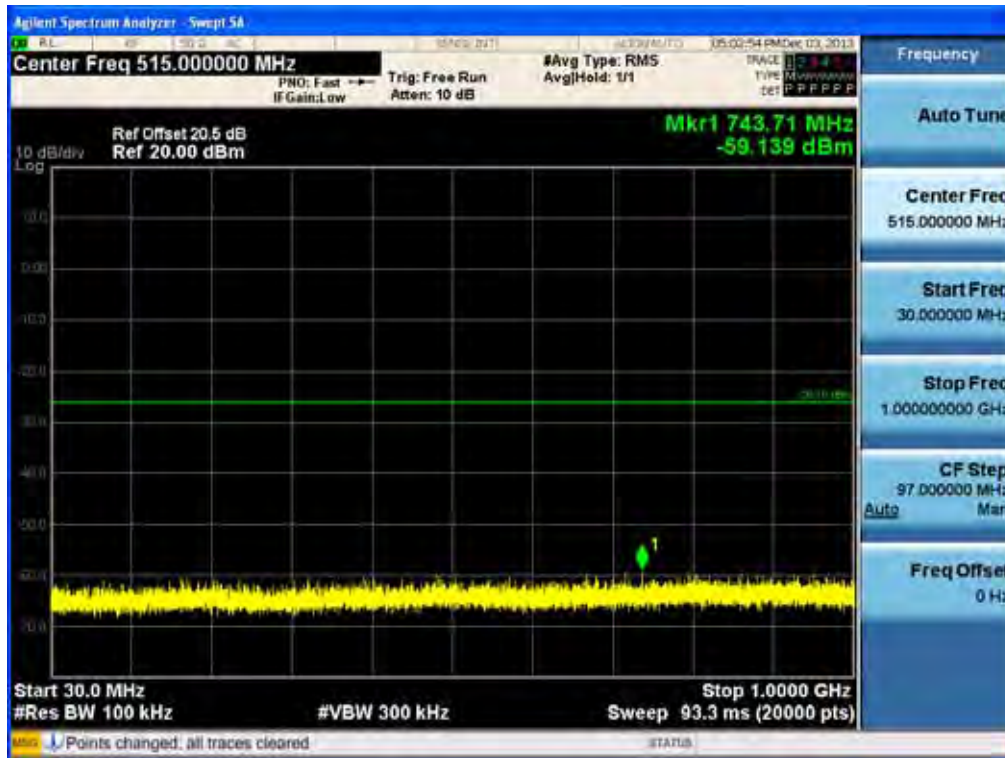
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

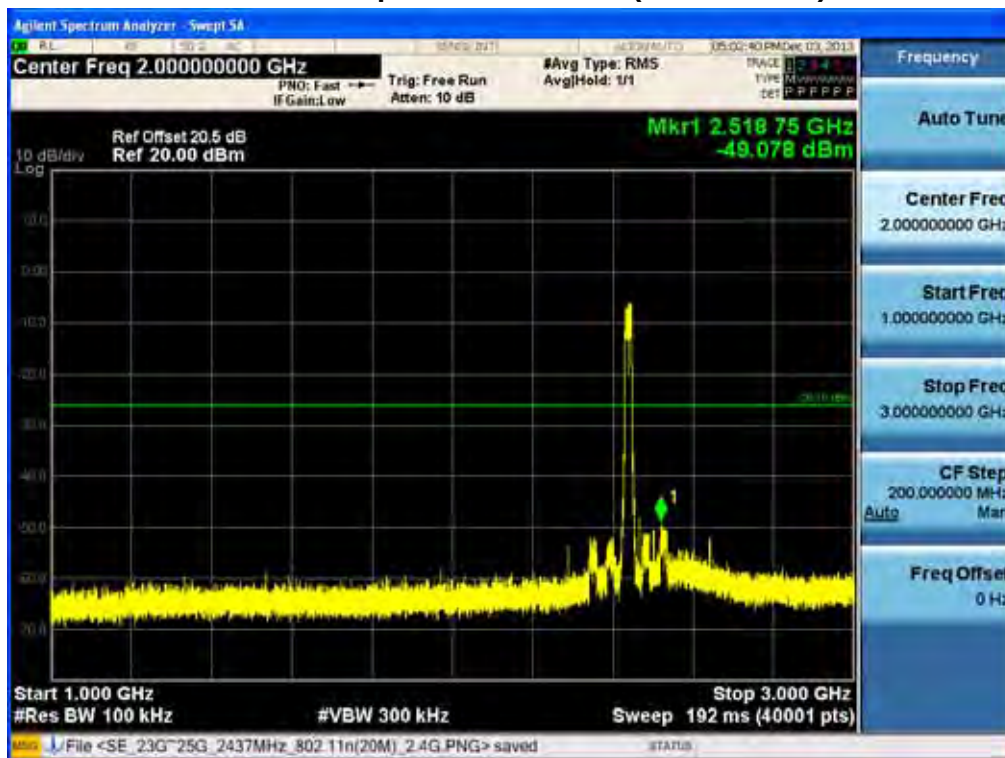
Service Port Ant.2
30 MHz ~ 1 GHz

Conducted Spurious Emission (802.11n-CH6)



1 GHz ~ 3 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

3 GHz ~ 5 GHz

Conducted Spurious Emission (802.11n-CH6)



5 GHz ~ 7 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

7 GHz ~ 9 GHz

Conducted Spurious Emission (802.11n-CH6)



9 GHz ~ 11 GHz

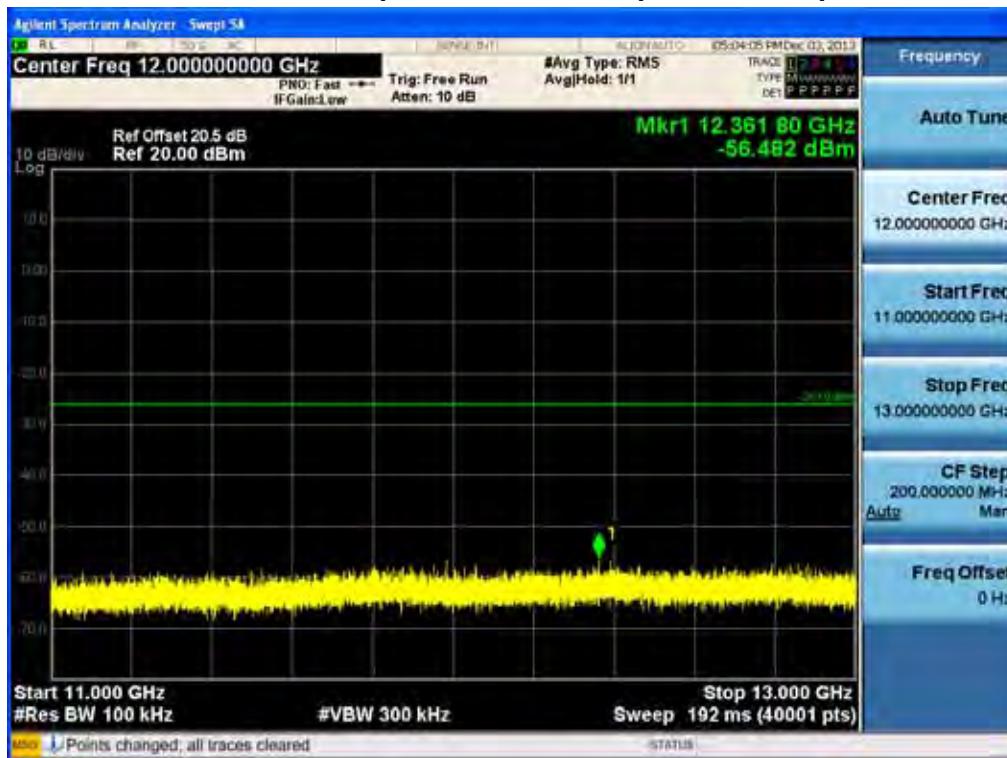
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

11 GHz ~ 13 GHz

Conducted Spurious Emission (802.11n-CH6)



13 GHz ~ 15 GHz

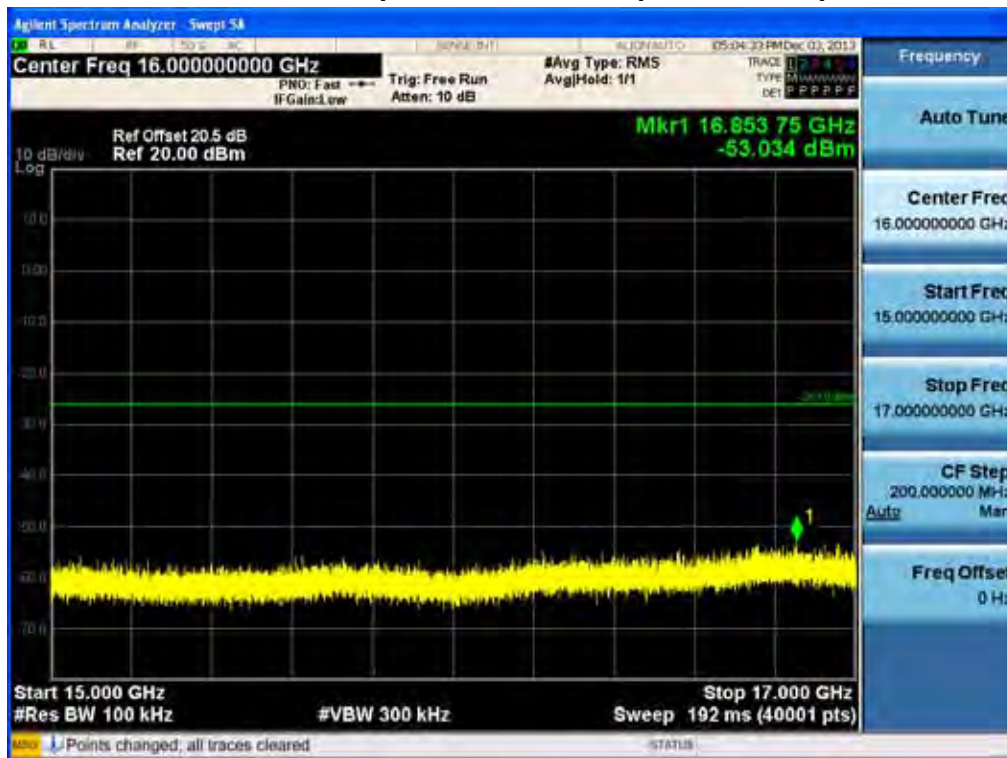
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

15 GHz ~ 17 GHz

Conducted Spurious Emission (802.11n-CH6)



17 GHz ~ 19 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

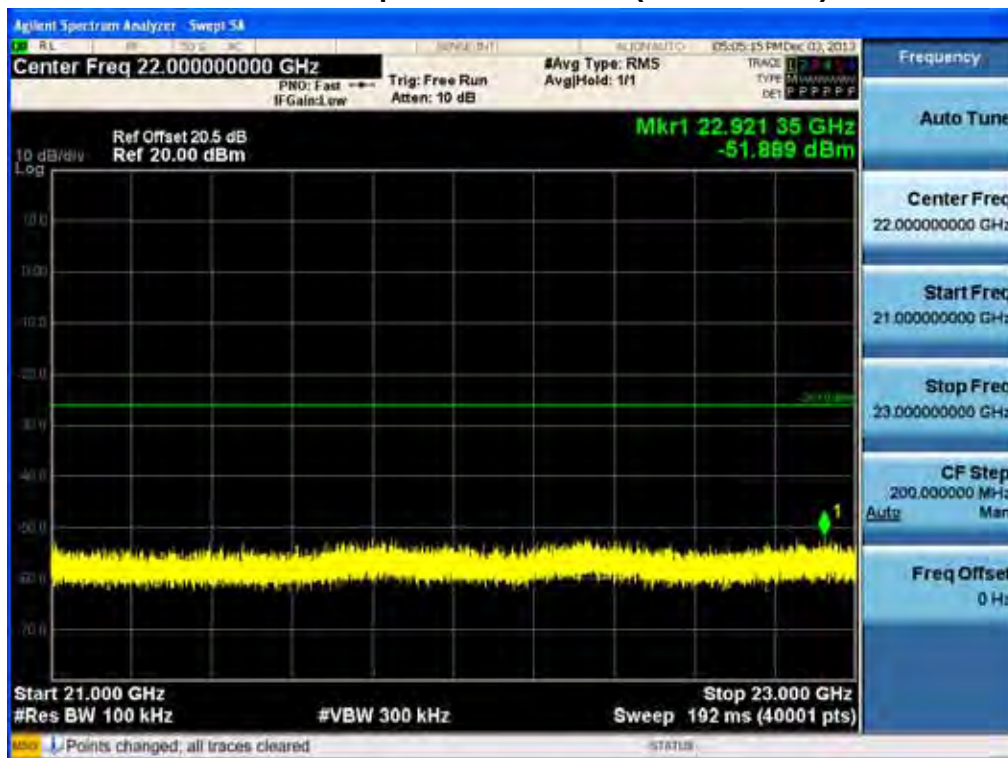
19 GHz ~ 21 GHz

Inducted Spurious Emission (802.11n-CH6)



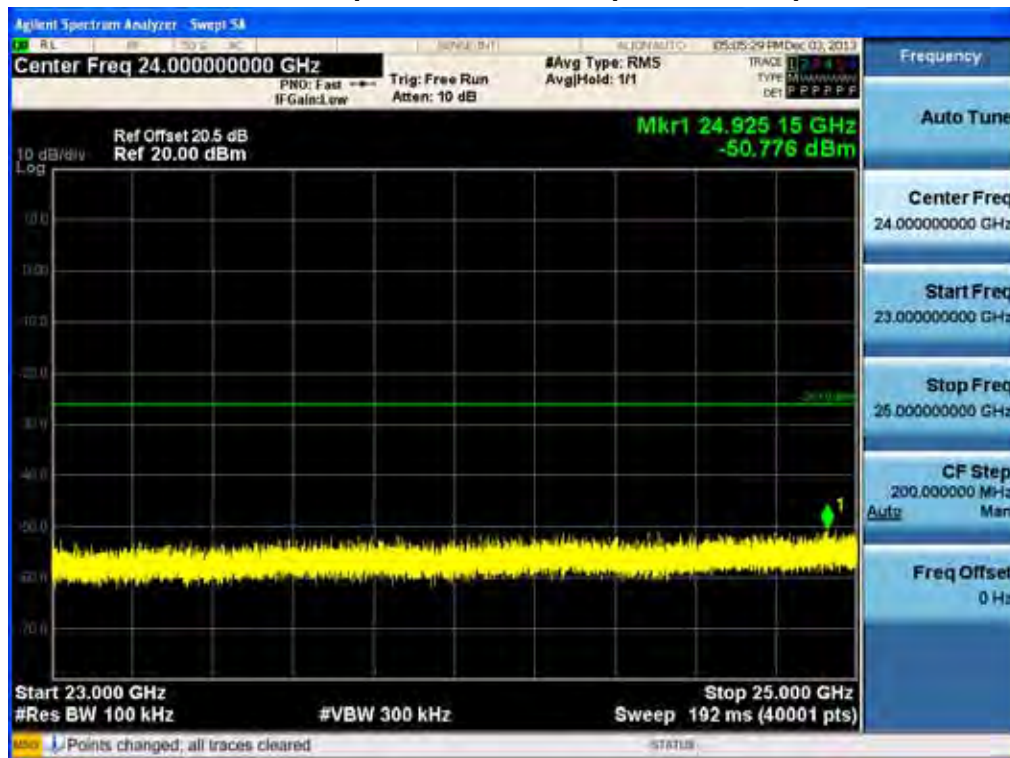
21 GHz ~ 23 GHz

Conducted Spurious Emission (802.11n-CH6)



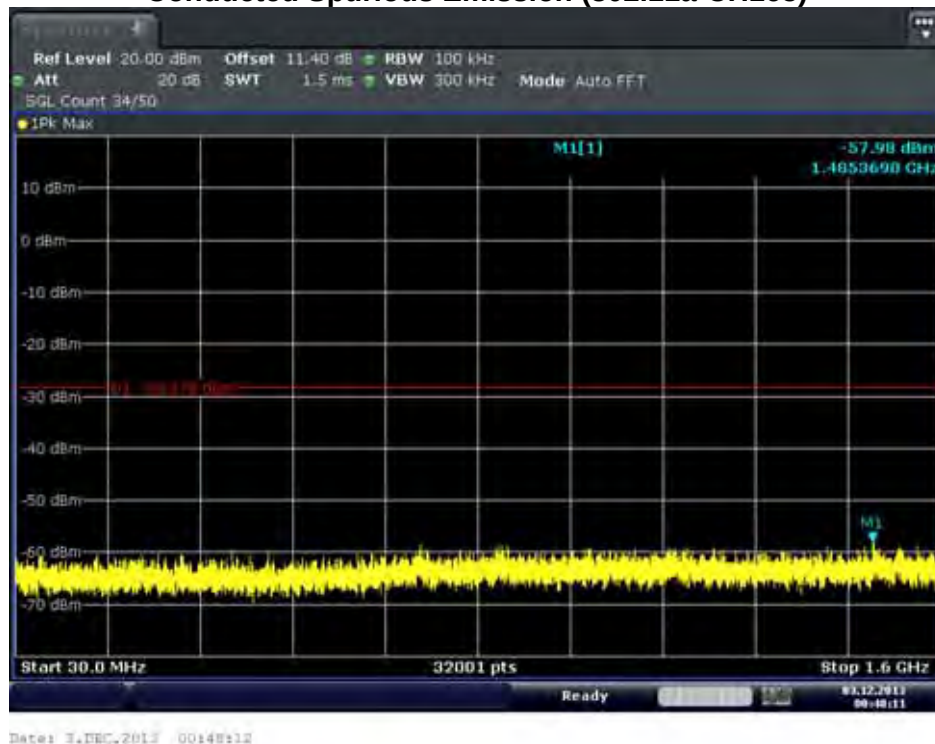
23 GHz ~ 25 GHz

Conducted Spurious Emission (802.11n-CH6)



30 MHz ~ 1.6 GHz

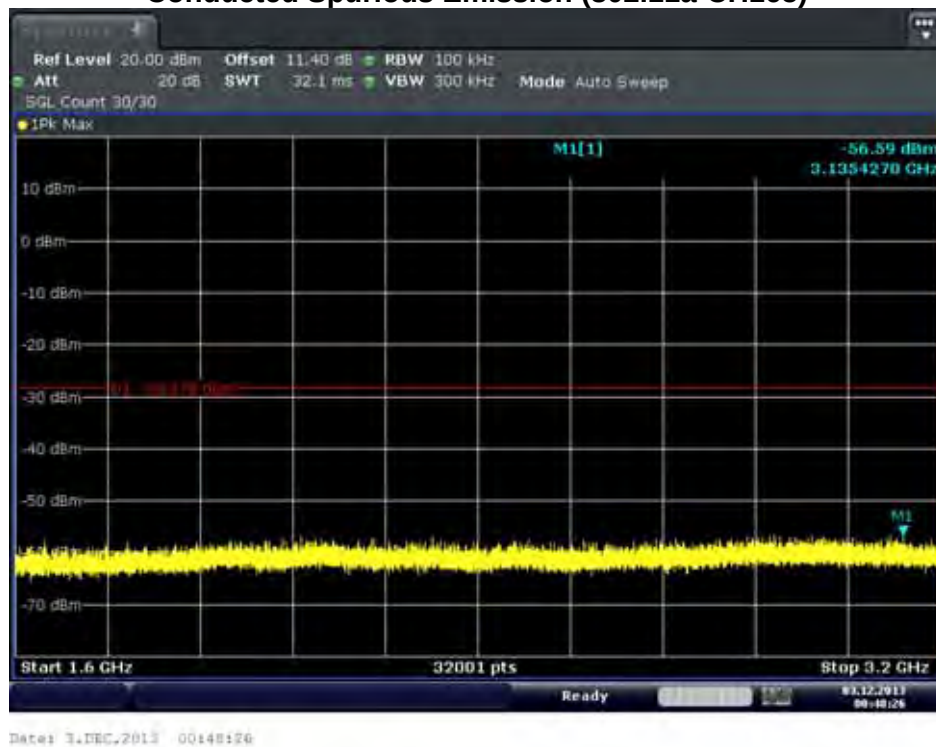
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

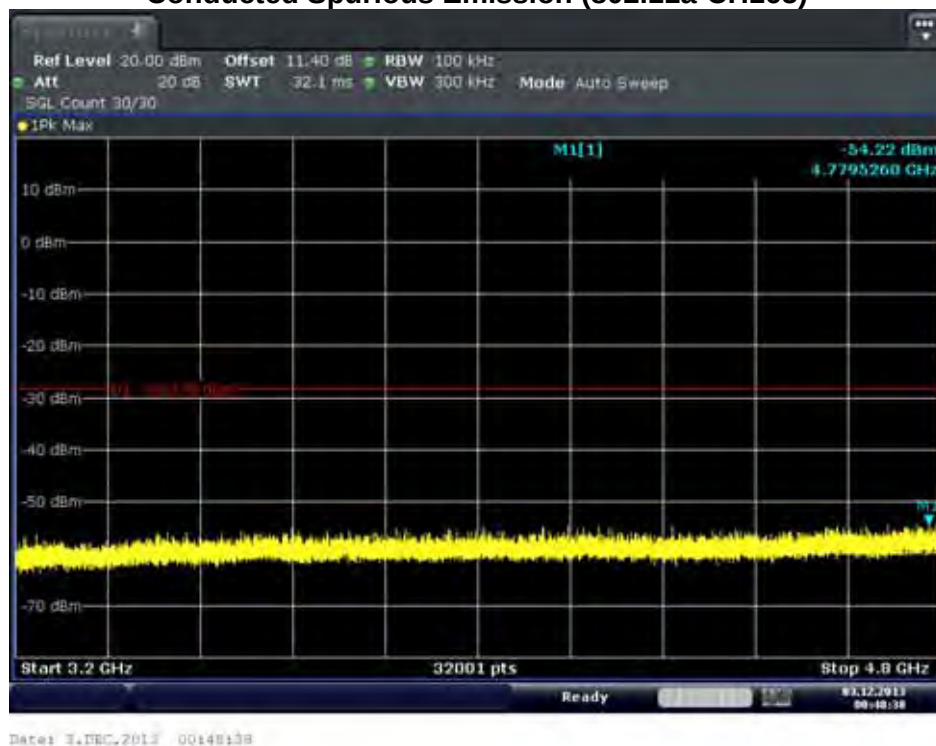
1.6 GHz ~ 3.2 GHz

Conducted Spurious Emission (802.11a-CH165)



3.2 GHz ~ 4.8 GHz

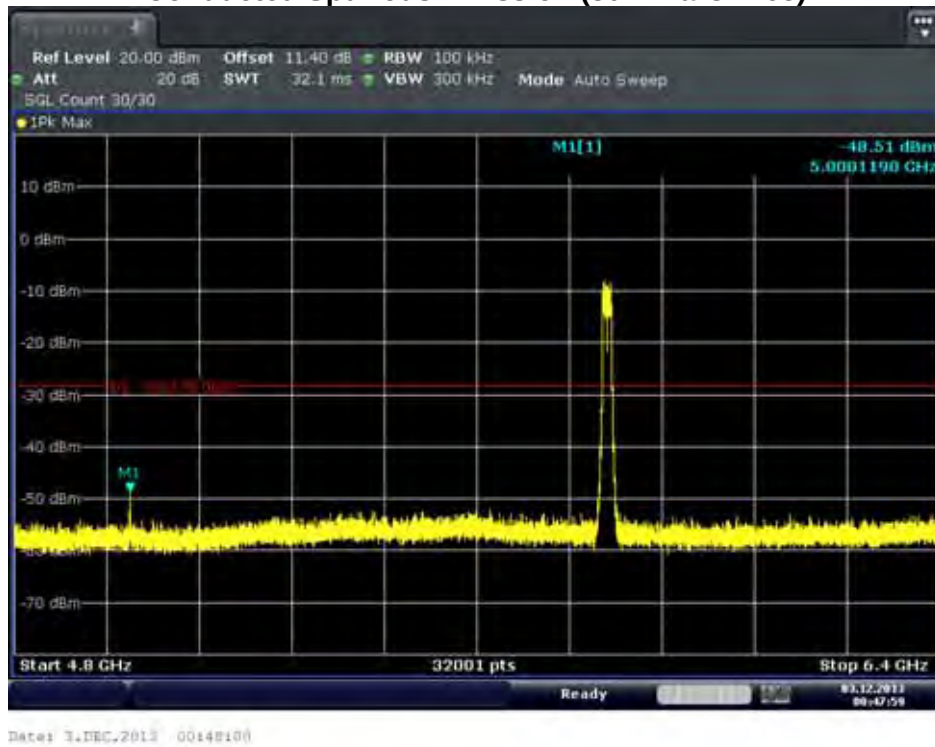
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

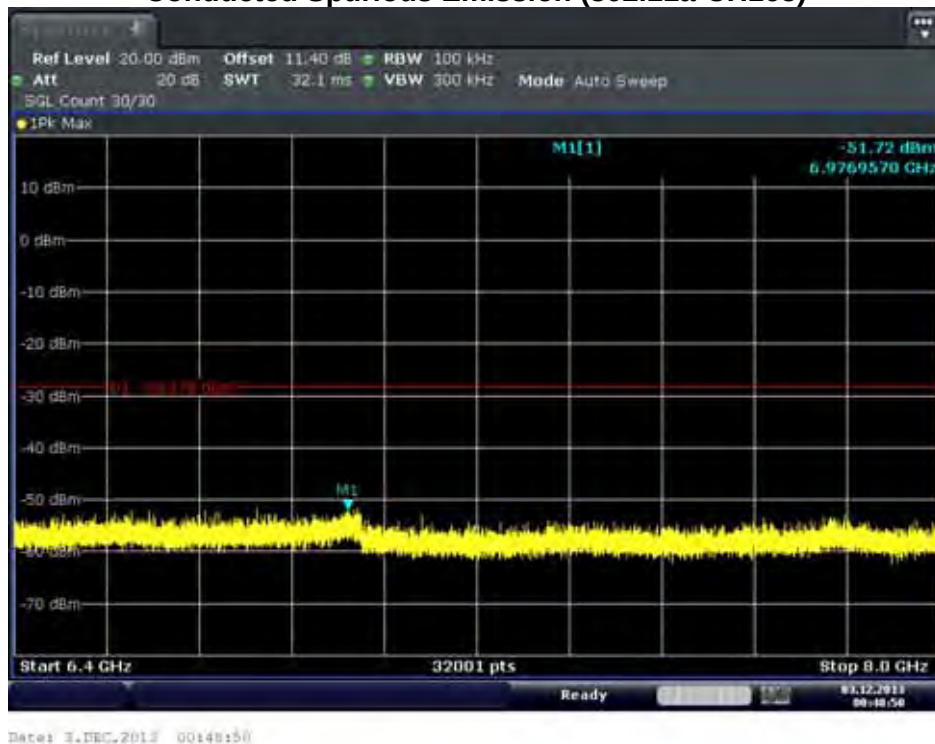
4.8 GHz ~ 6.4 GHz

Conducted Spurious Emission (802.11a-CH165)



6.4 GHz ~ 8 GHz

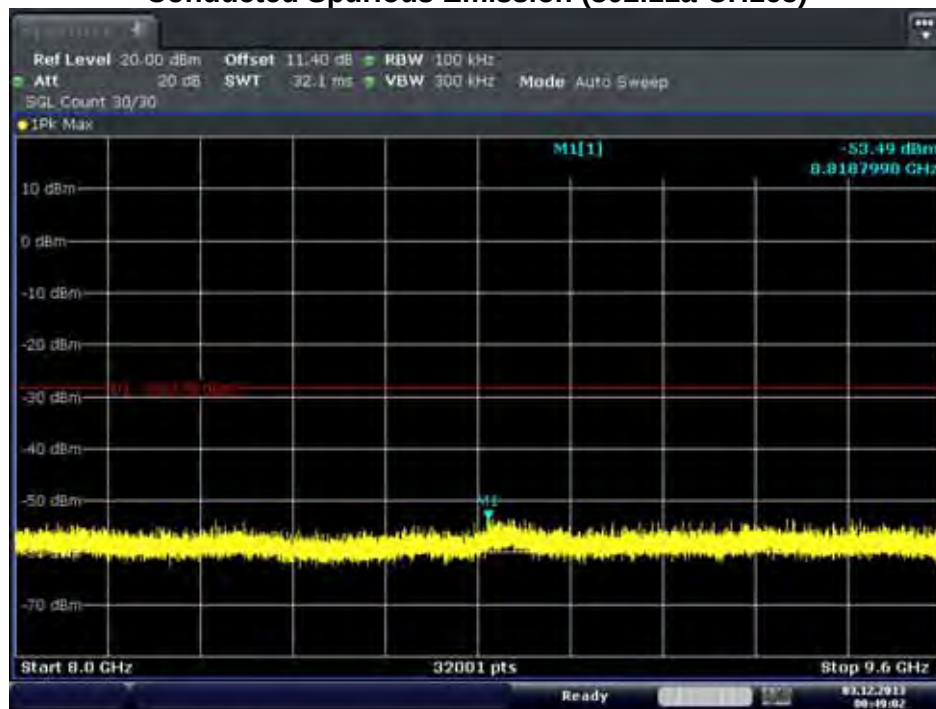
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

8 GHz ~ 9.6 GHz

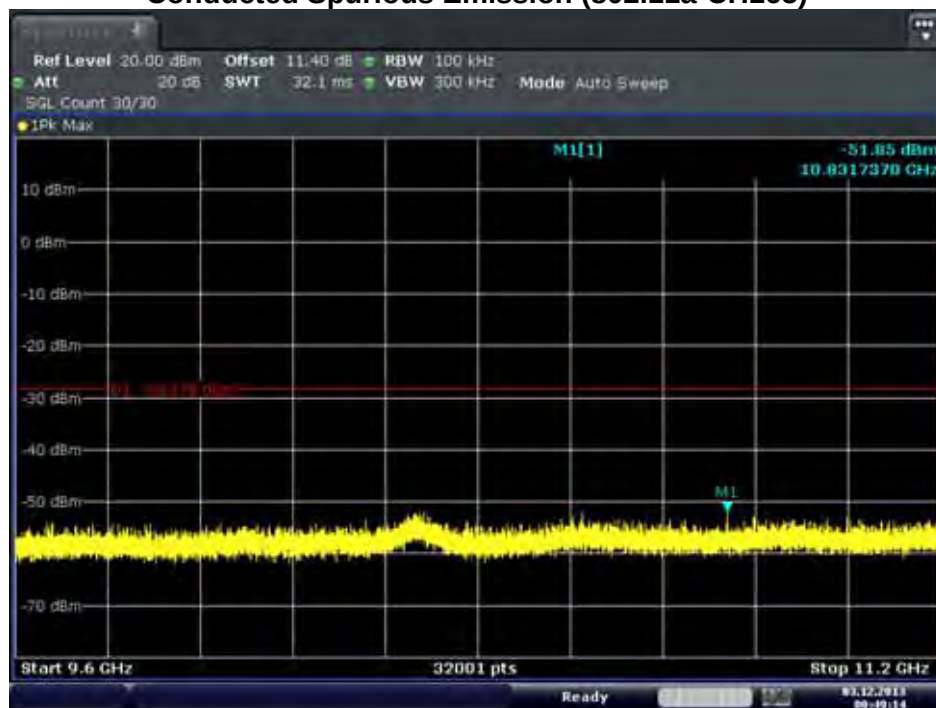
Conducted Spurious Emission (802.11a-CH165)



Date: 3.DEC.2013 00:49:02

9.6 GHz ~ 11.2 GHz

Conducted Spurious Emission (802.11a-CH165)

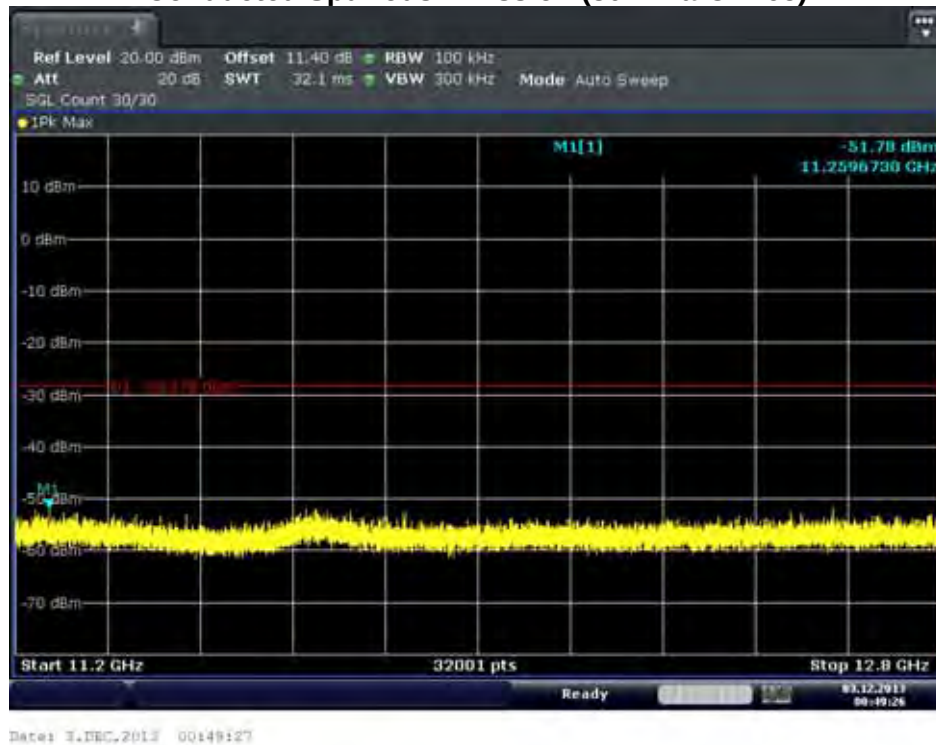


Date: 3.DEC.2013 00:49:14

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

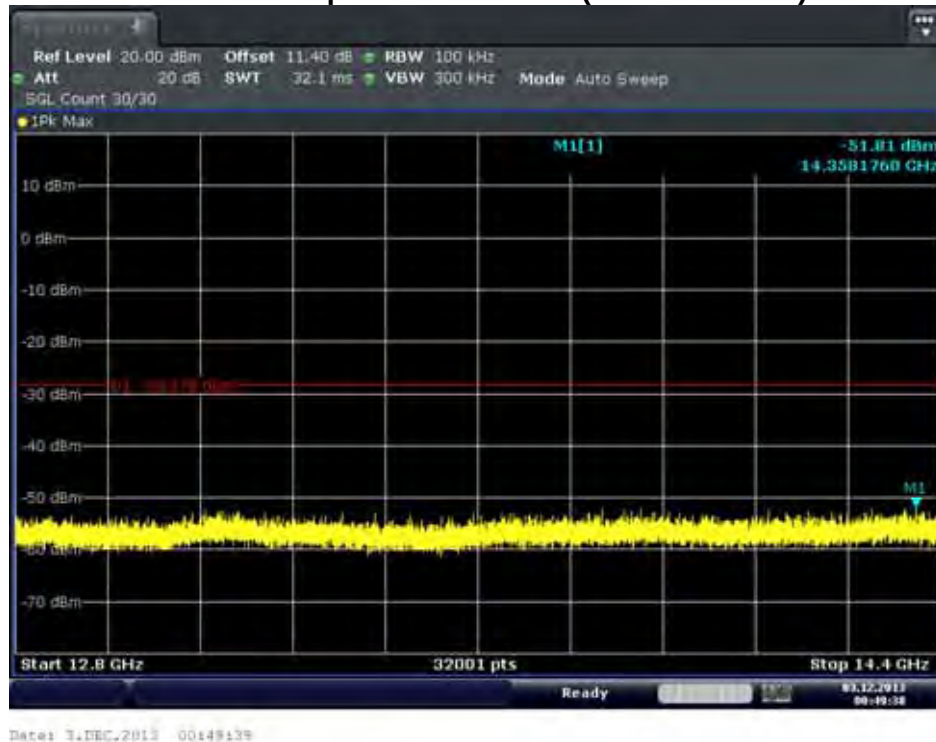
11.2 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11a-CH165)



12.8 GHz ~ 12.8 GHz

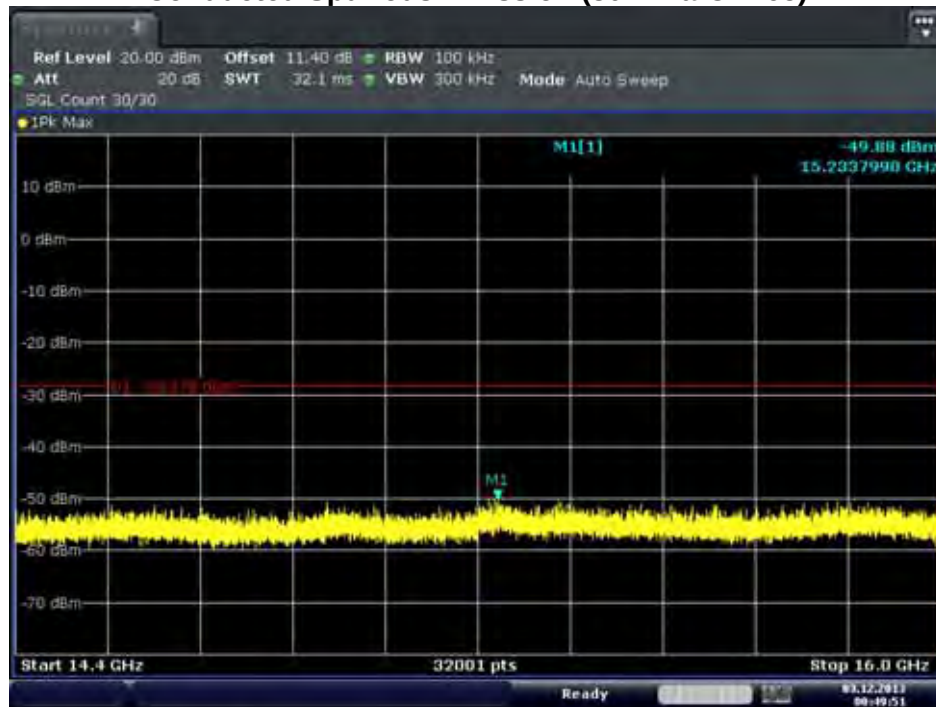
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

14.4 GHz ~ 16 GHz

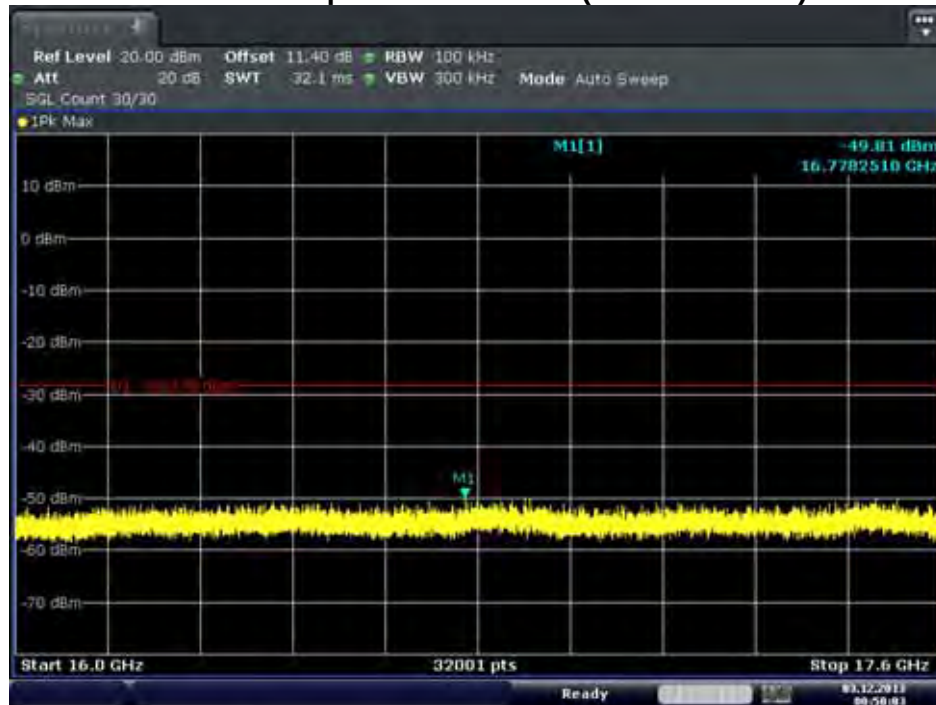
Conducted Spurious Emission (802.11a-CH165)



Date: 11.DEC.2013 00:49:51

16 GHz ~ 17.6 GHz

Conducted Spurious Emission (802.11a-CH165)

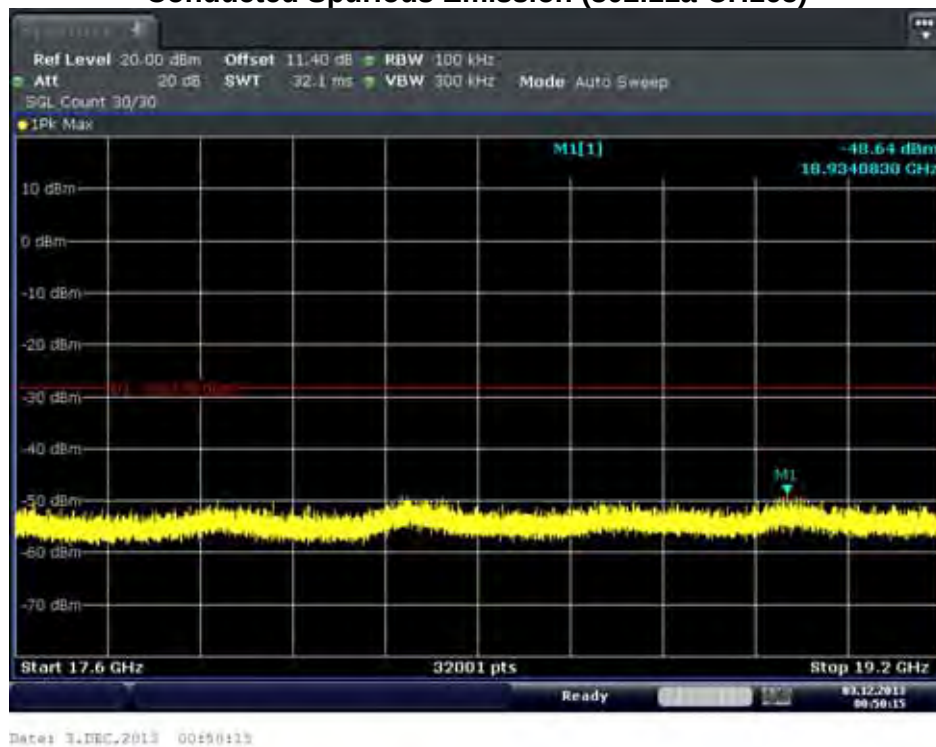


Date: 11.DEC.2013 00:50:03

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

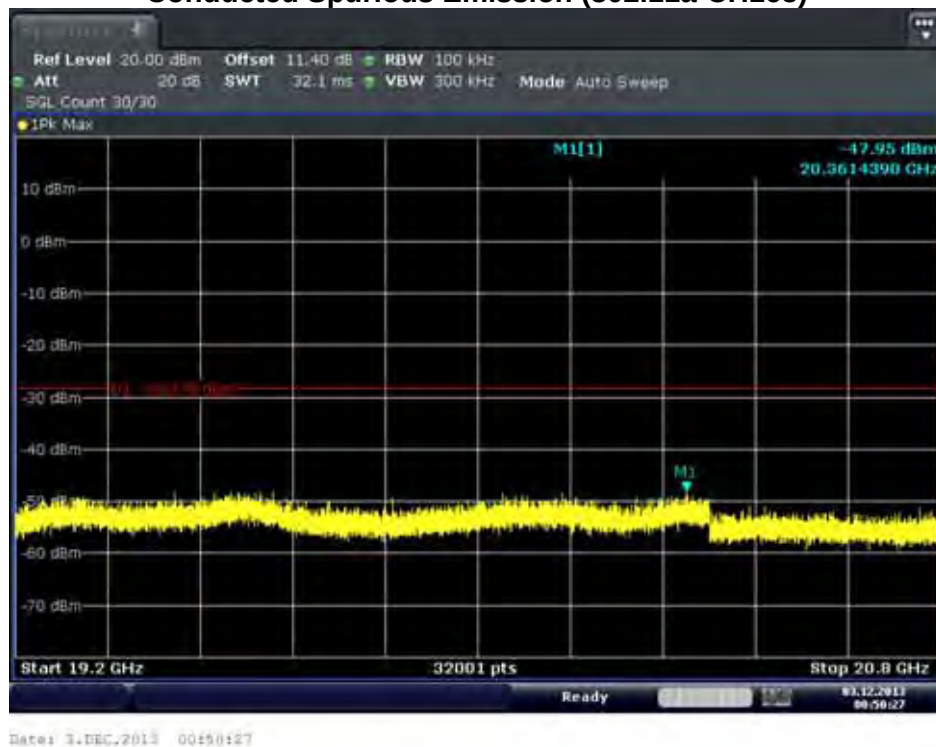
17.6 GHz ~ 19.2 GHz

Conducted Spurious Emission (802.11a-CH165)



19.2 GHz ~ 20.8 GHz

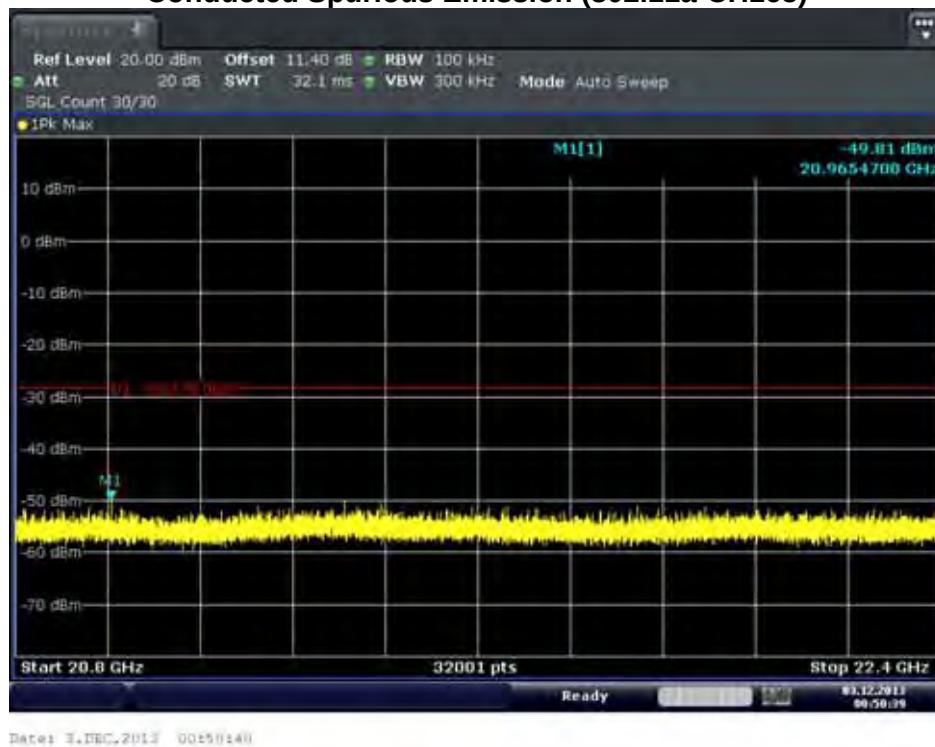
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

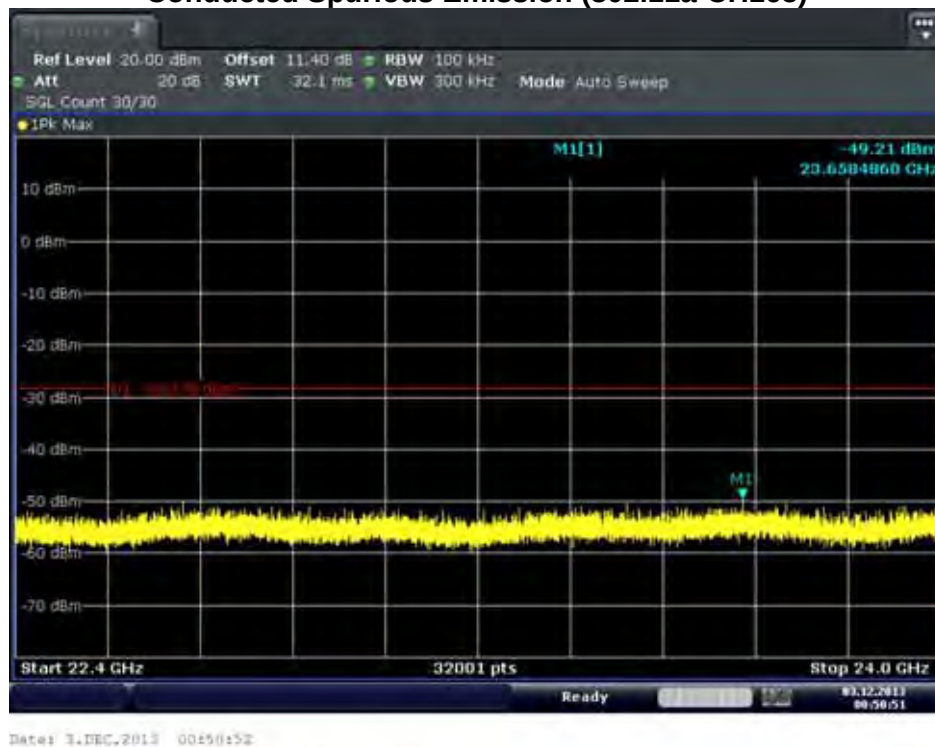
20.8 GHz ~ 22.4 GHz

Conducted Spurious Emission (802.11a-CH165)



22.4 GHz ~ 24 GHz

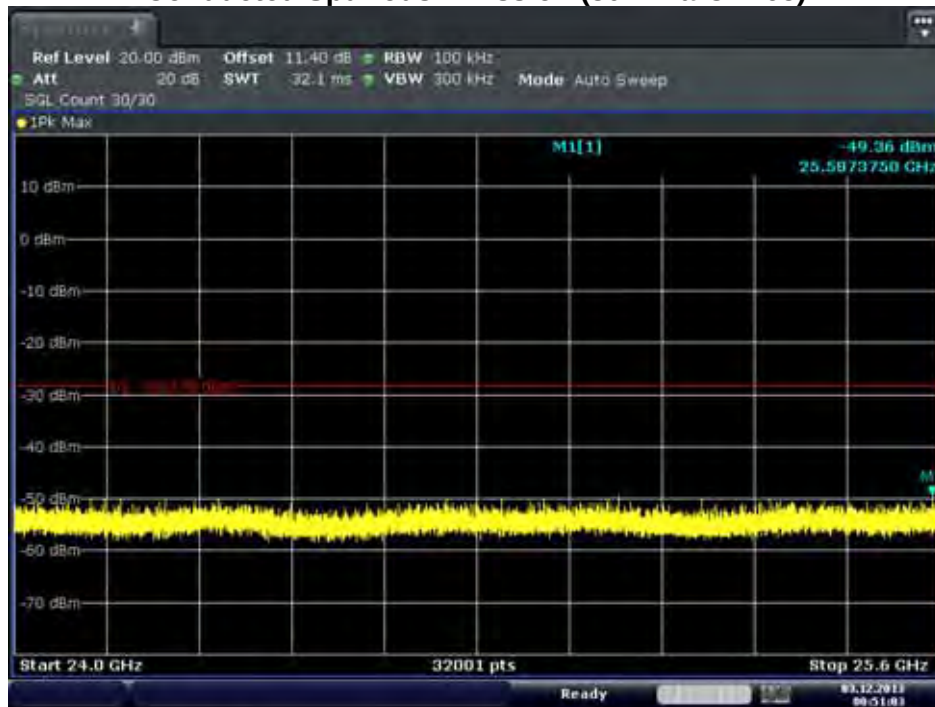
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

24 GHz ~ 25.6 GHz

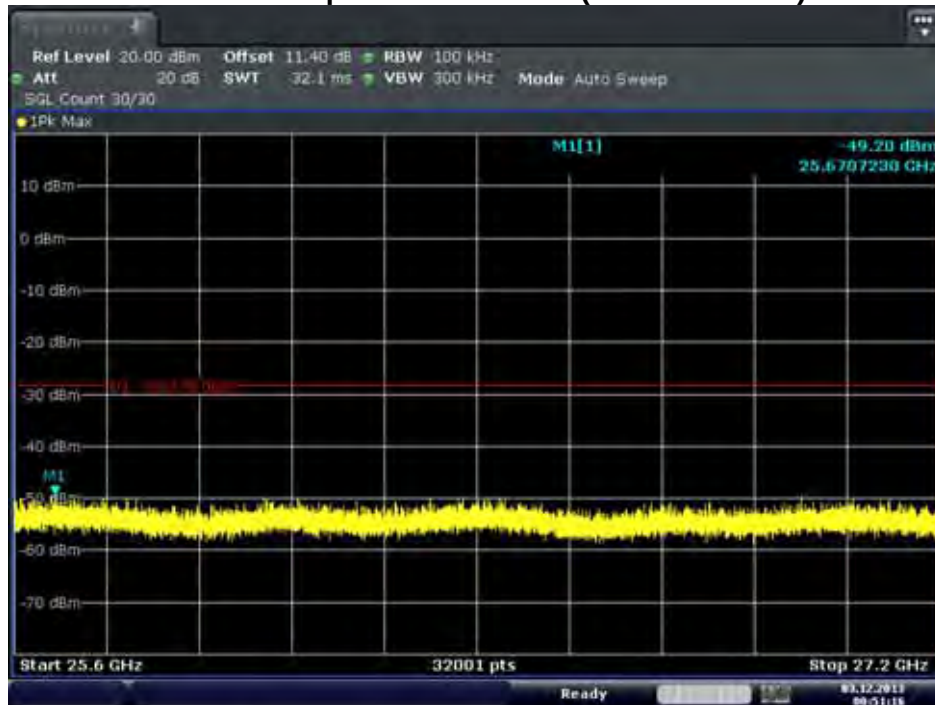
Conducted Spurious Emission (802.11a-CH165)



Date: 3.DEC.2013 00:51:04

25.6 GHz ~ 27.2 GHz

Conducted Spurious Emission (802.11a-CH165)

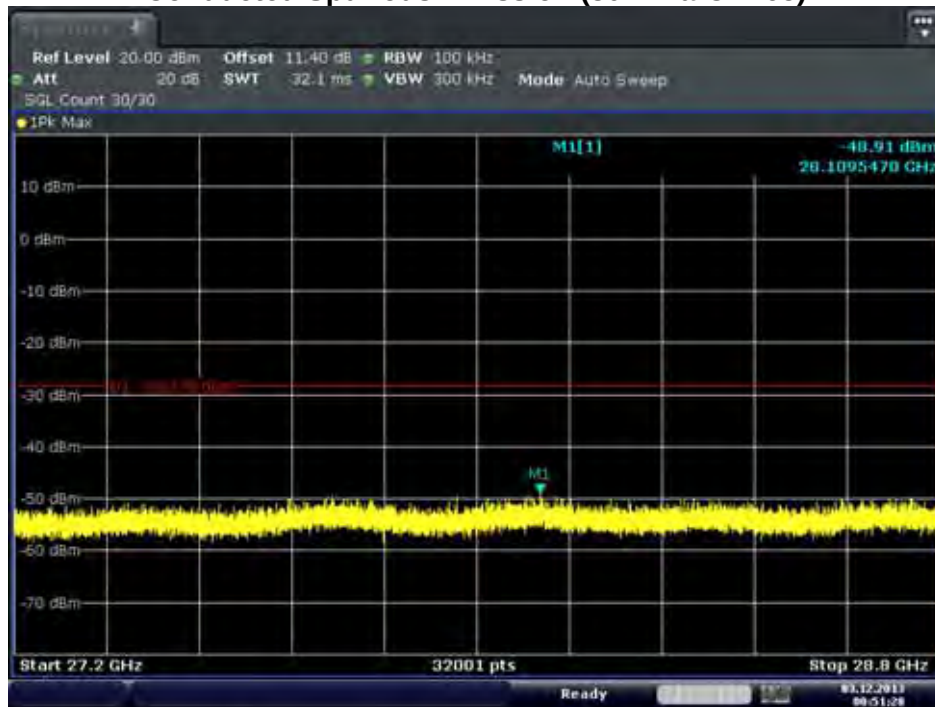


Date: 3.DEC.2013 00:51:16

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

27.2 GHz ~ 28.8 GHz

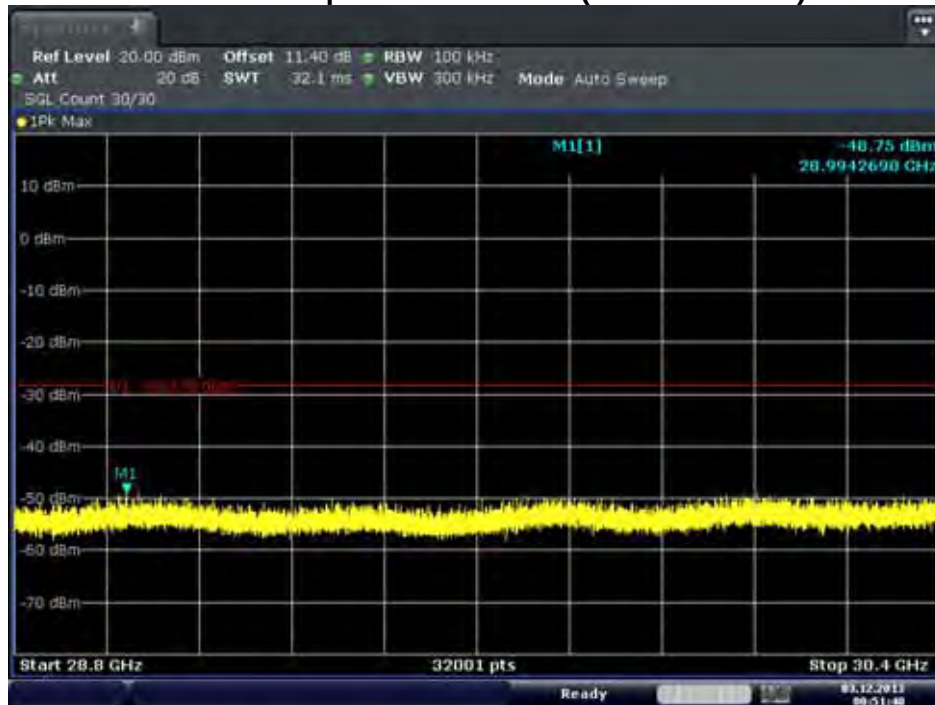
Conducted Spurious Emission (802.11a-CH165)



Date: 3.DEC.2013 00:51:28

28.8 GHz ~ 30.4 GHz

Conducted Spurious Emission (802.11a-CH165)

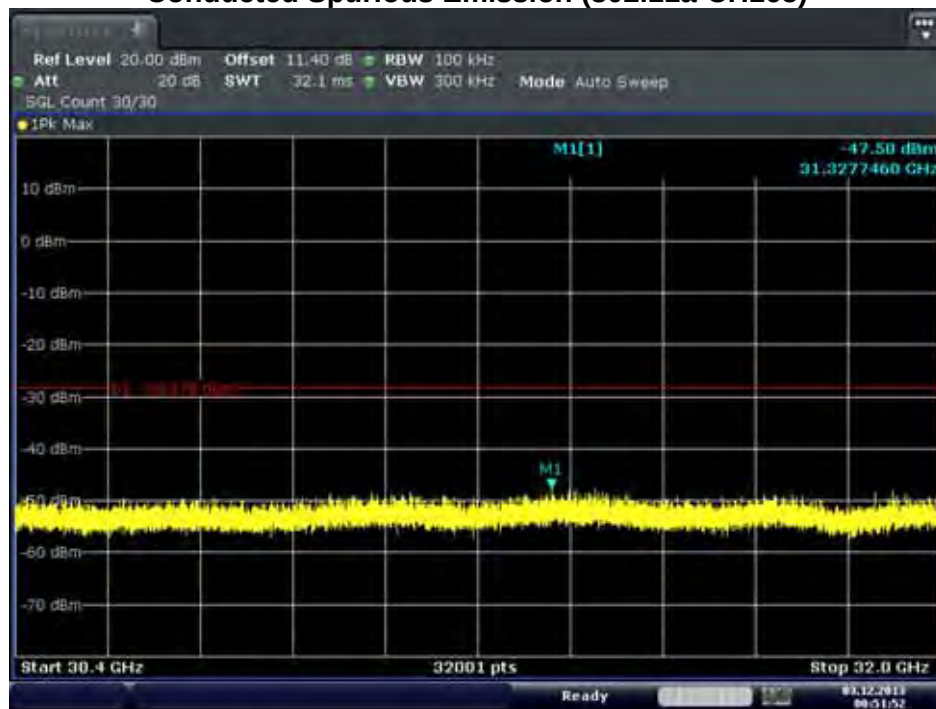


Date: 3.DEC.2013 00:51:40

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

30.4 GHz ~ 32 GHz

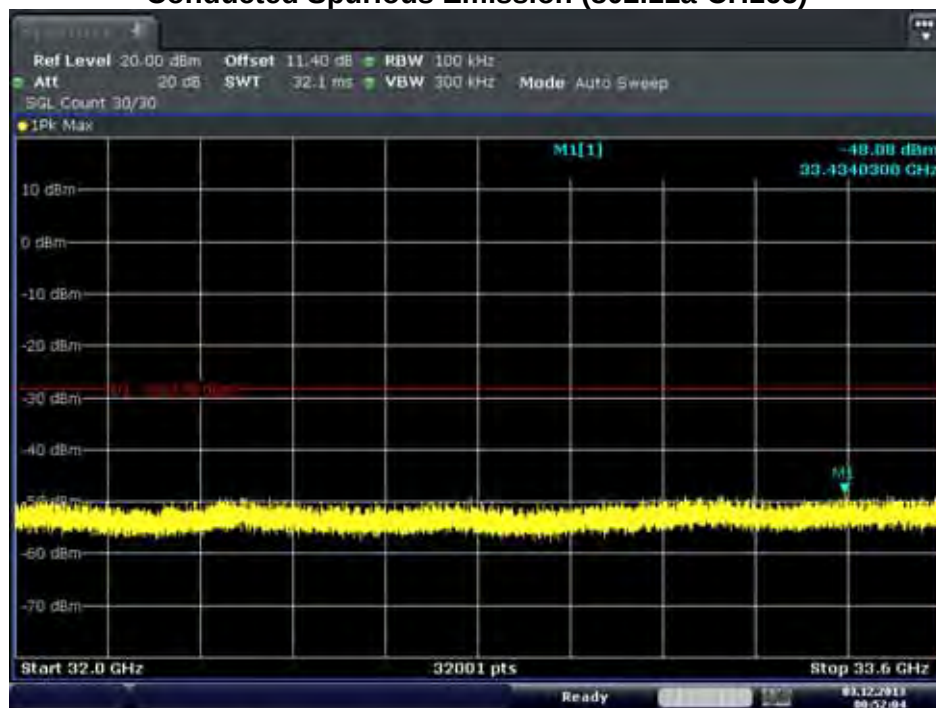
Conducted Spurious Emission (802.11a-CH165)



Date: 11.DEC.2013 00:51:53

32 GHz ~ 33.6 GHz

Conducted Spurious Emission (802.11a-CH165)

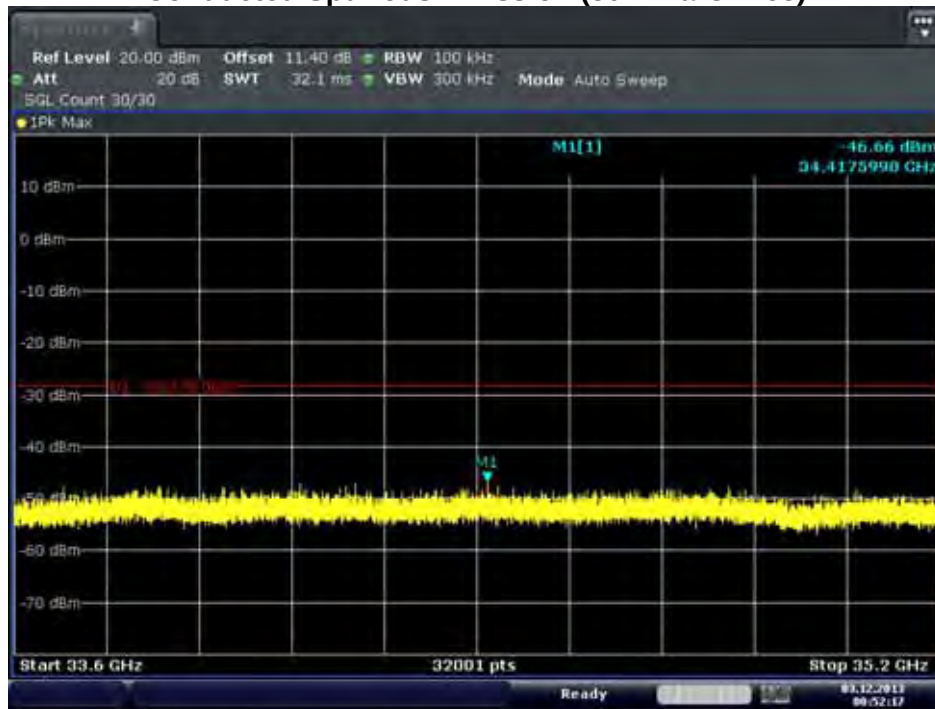


Date: 11.DEC.2013 00:52:05

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

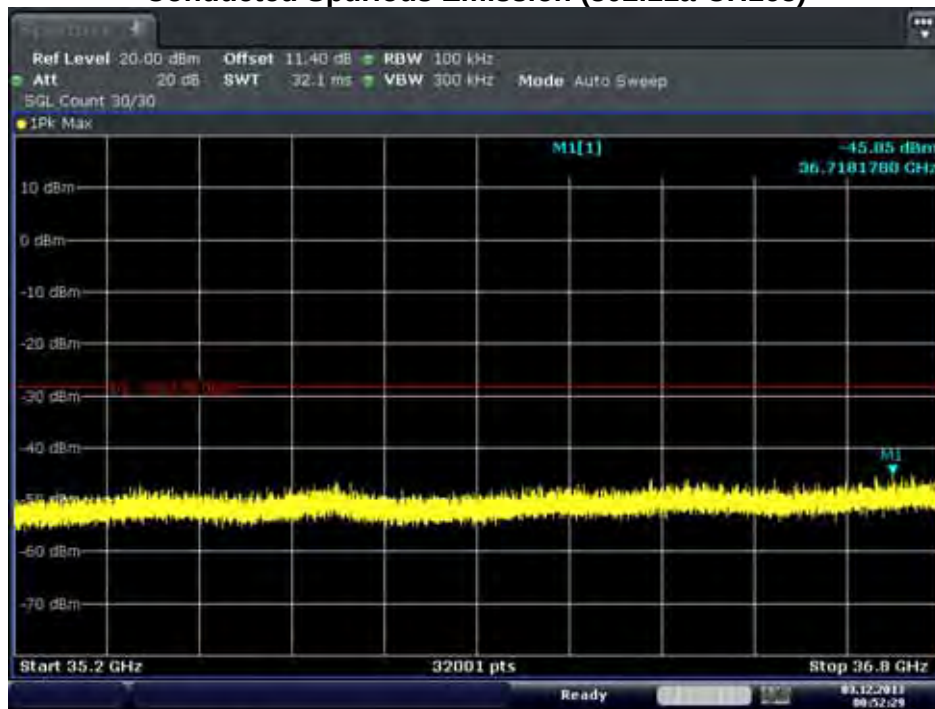
33.6 GHz ~ 35.2 GHz

Conducted Spurious Emission (802.11a-CH165)



35.2 GHz ~ 36.8 GHz

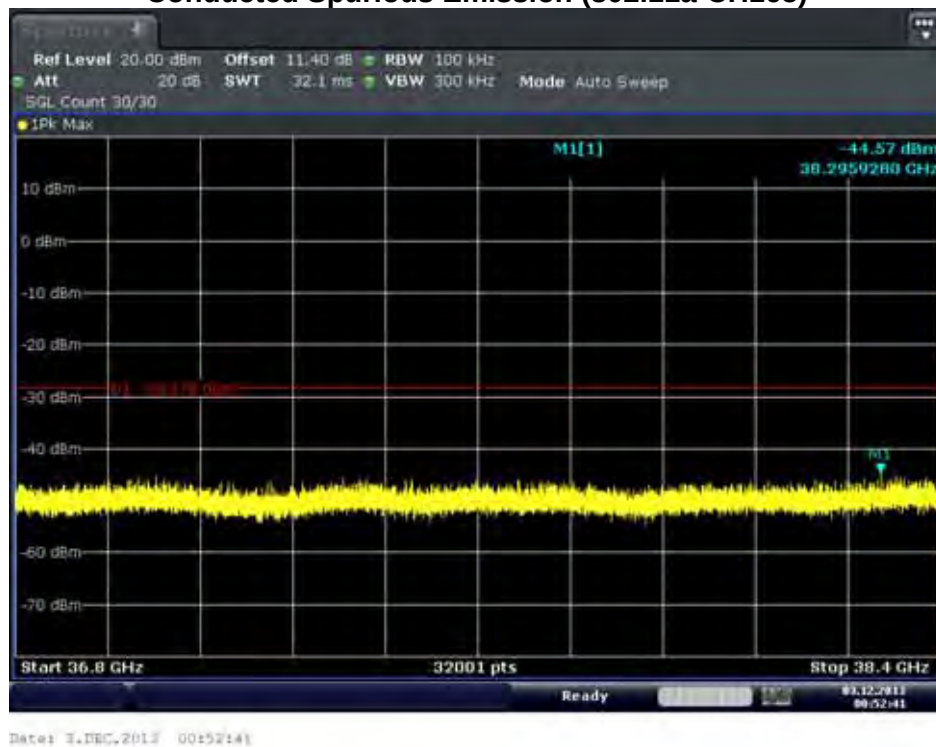
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

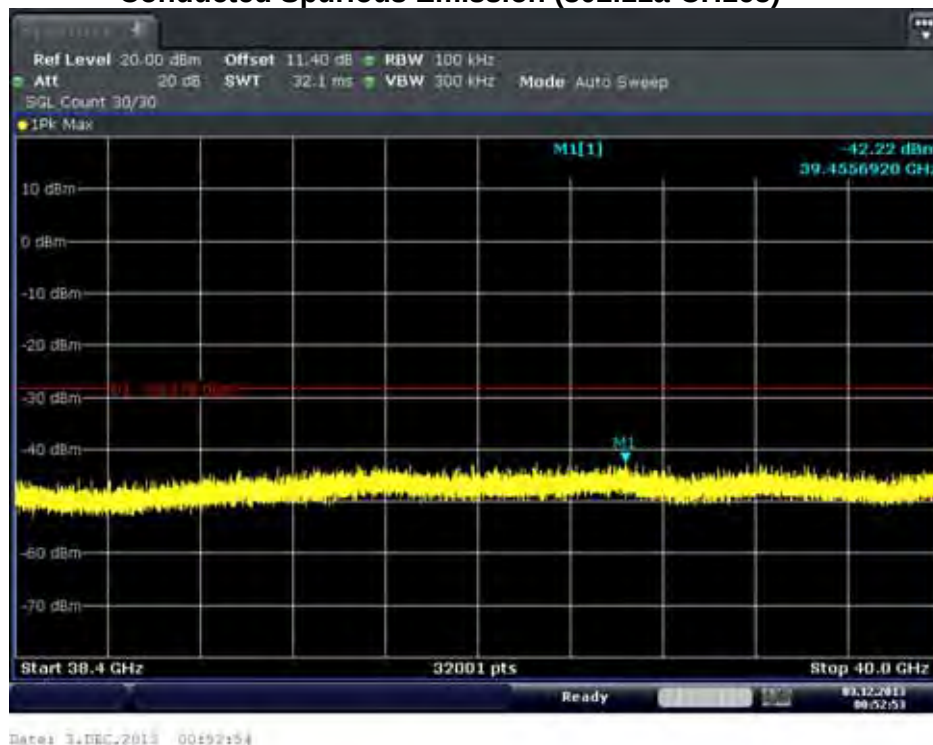
36.8 GHz ~ 38.4 GHz

Conducted Spurious Emission (802.11a-CH165)



38.4 GHz ~ 40 GHz

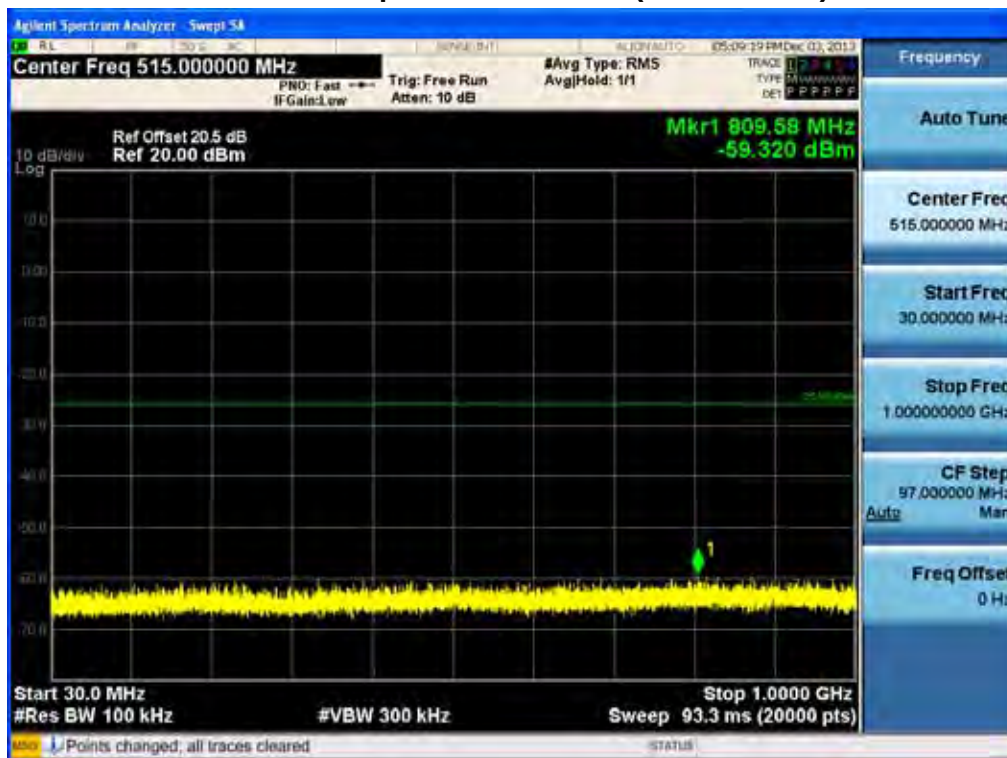
Conducted Spurious Emission (802.11a-CH165)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

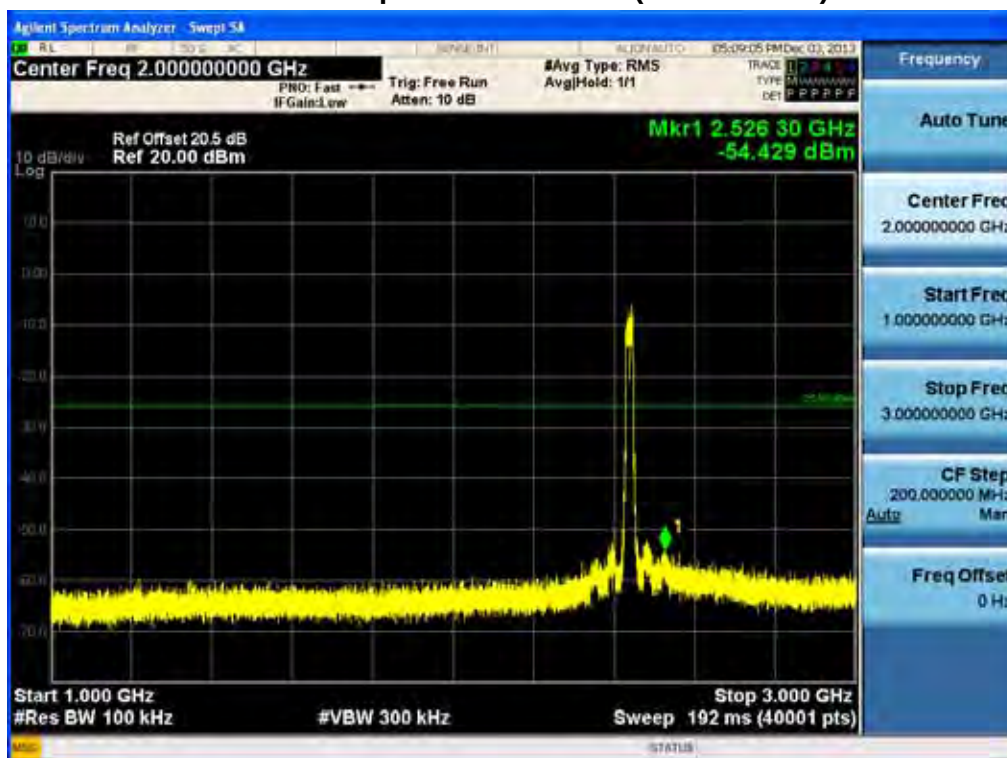
Service Port Ant.3
30 MHz ~ 1 GHz

Conducted Spurious Emission (802.11n-CH6)



1 GHz ~ 3 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

3 GHz ~ 5 GHz

Conducted Spurious Emission (802.11n-CH6)



5 GHz ~ 7 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

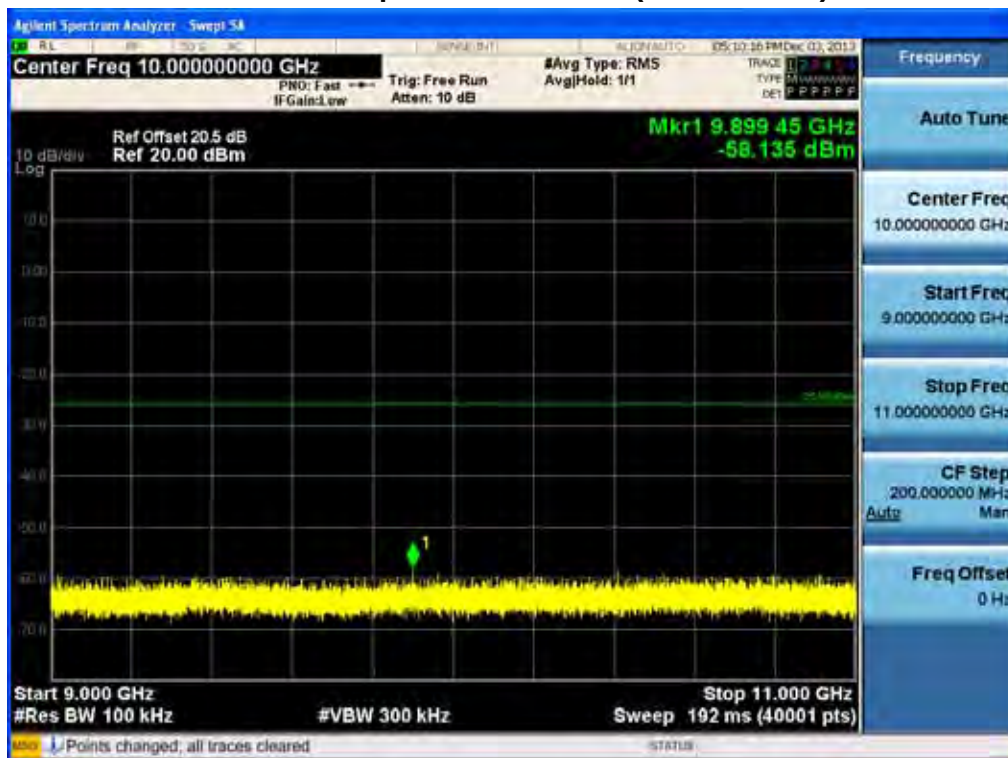
7 GHz ~ 9 GHz

Conducted Spurious Emission (802.11n-CH6)



9 GHz ~ 11 GHz

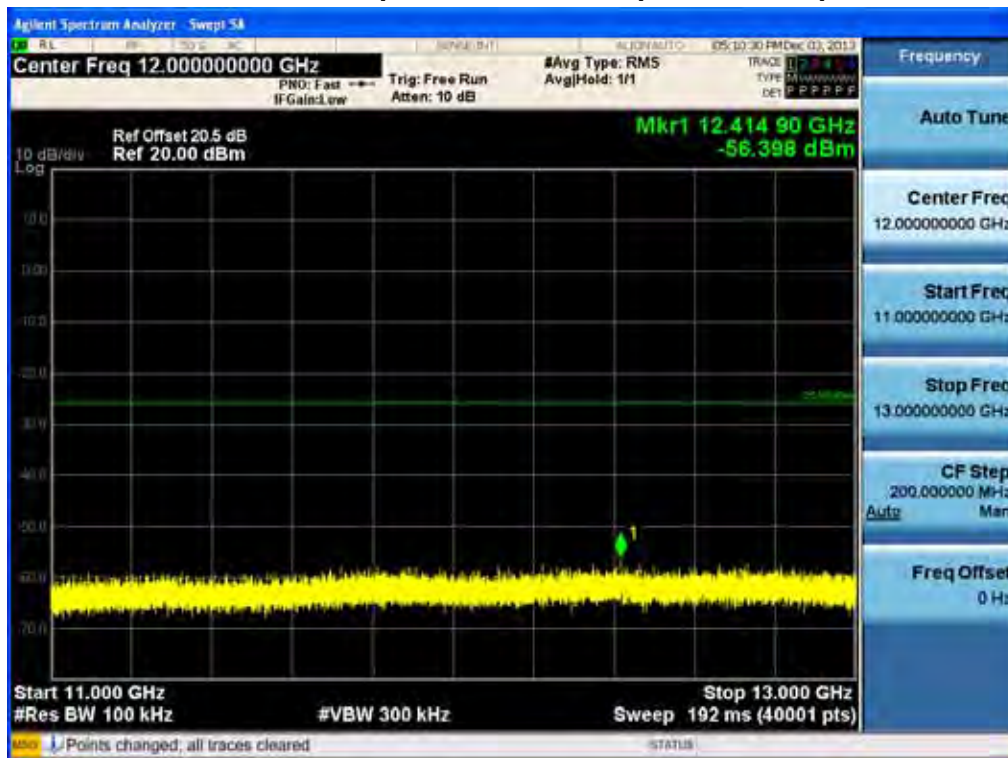
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

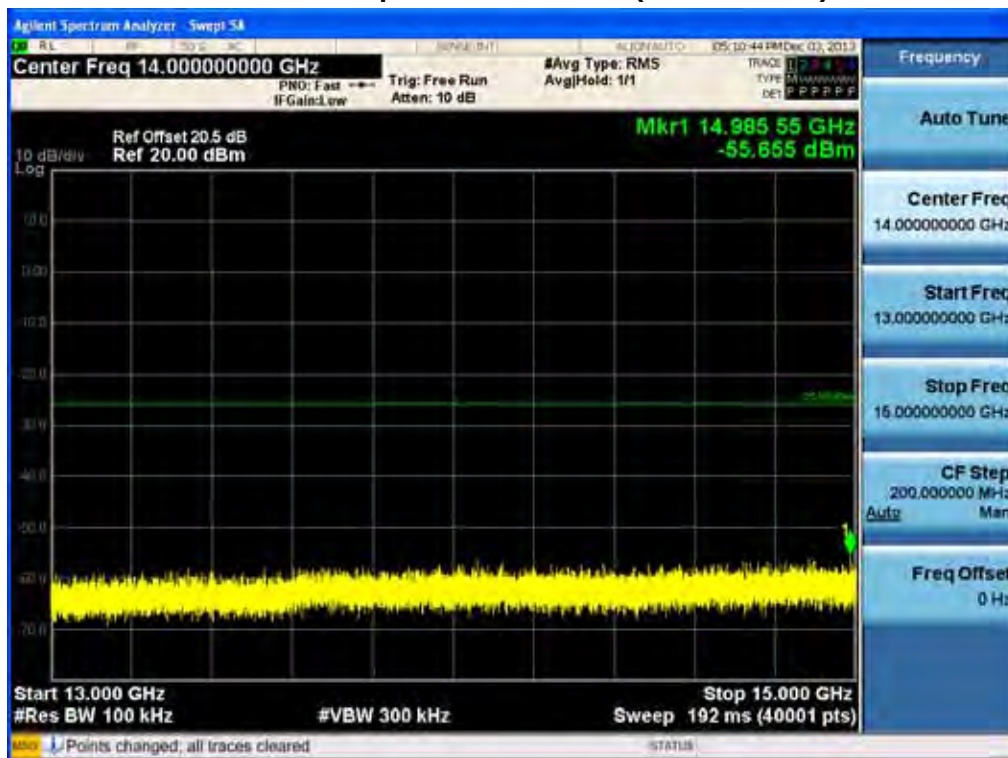
11 GHz ~ 13 GHz

Conducted Spurious Emission (802.11n-CH6)



13 GHz ~ 15 GHz

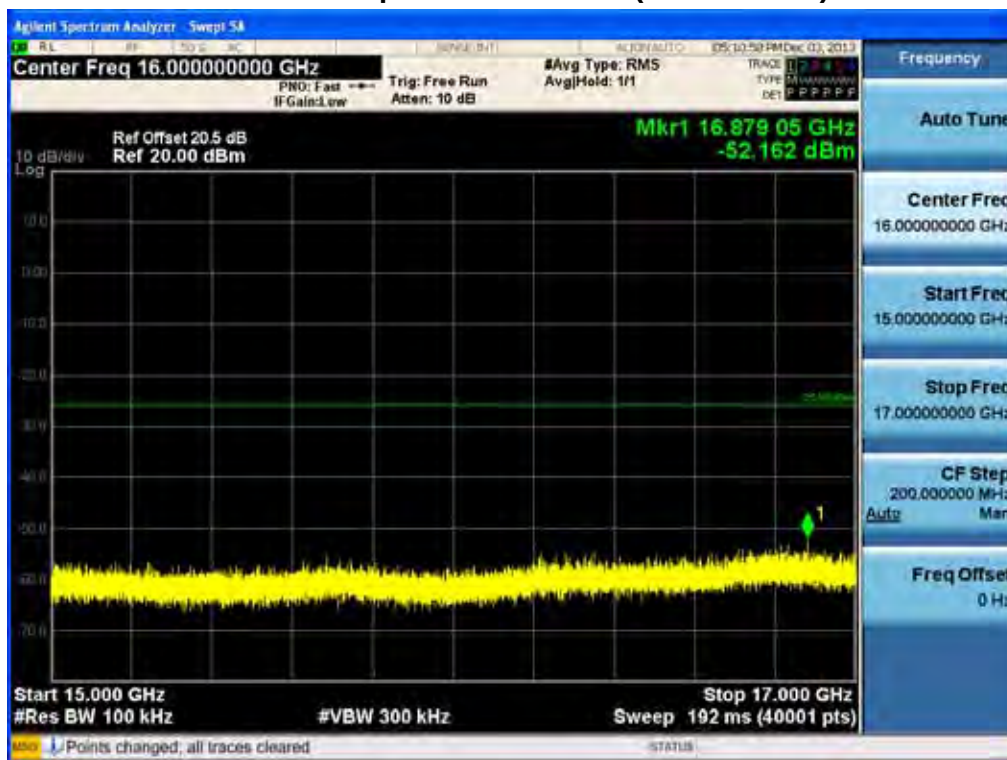
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

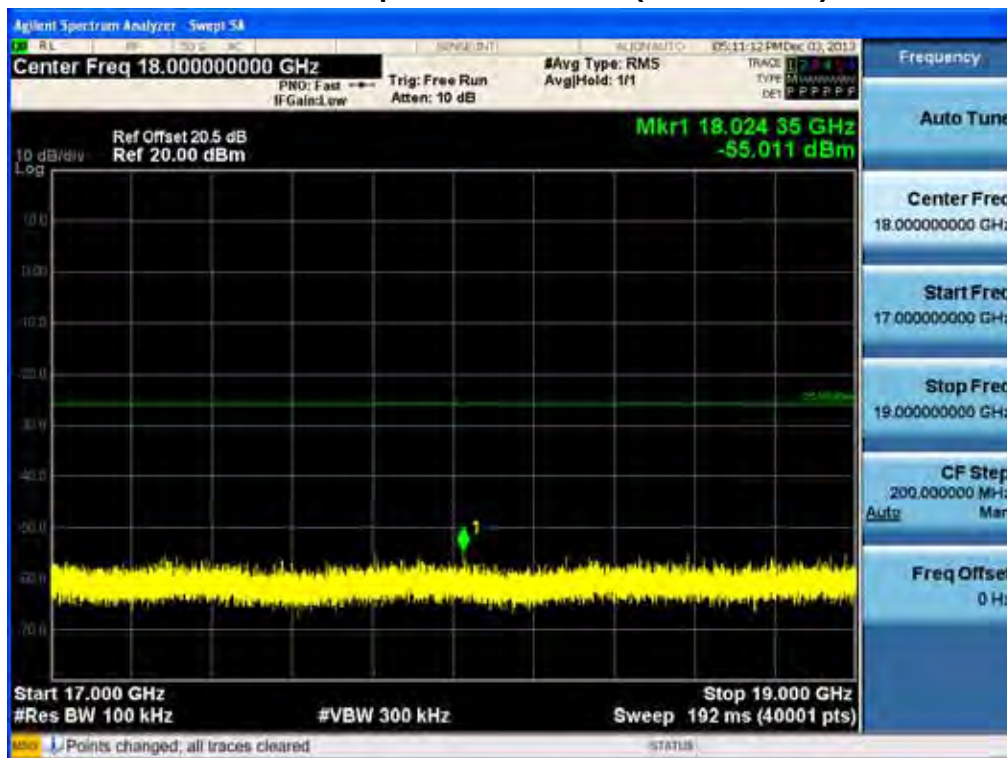
15 GHz ~ 17 GHz

Conducted Spurious Emission (802.11n-CH6)



17 GHz ~ 19 GHz

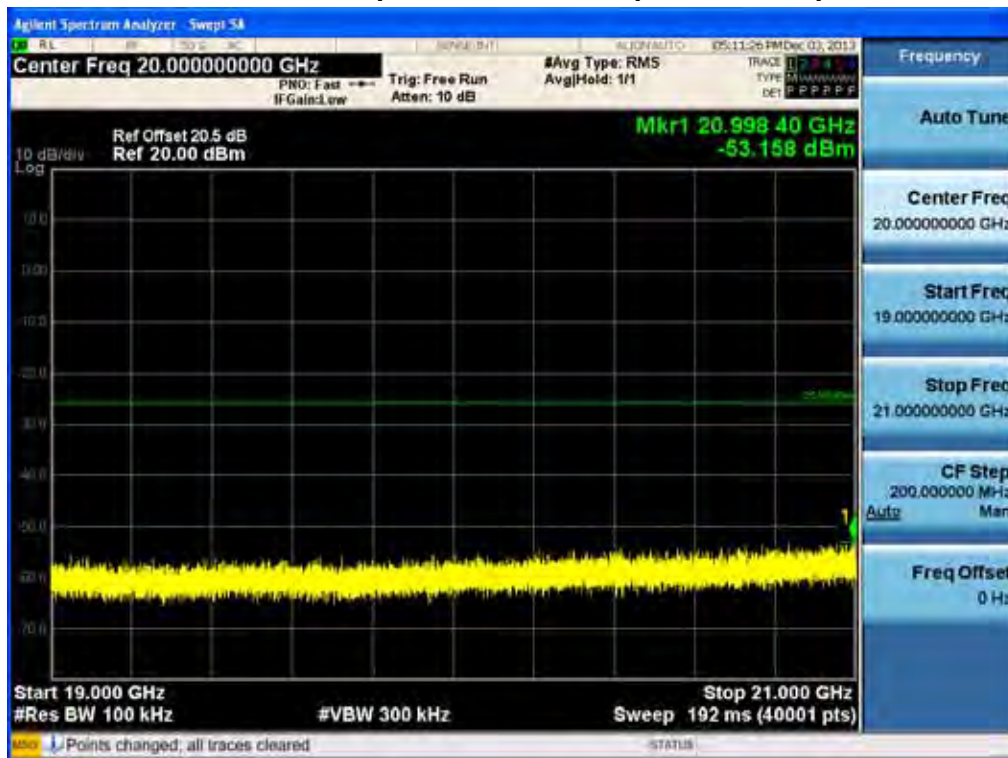
Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

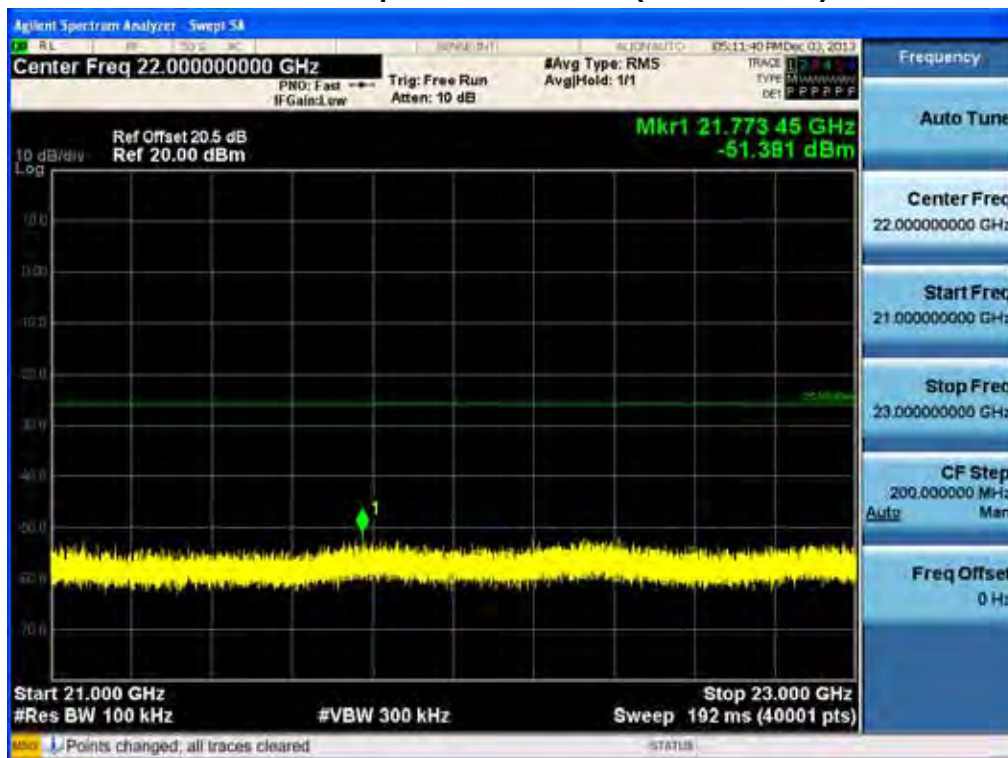
19 GHz ~ 21 GHz

19ducted Spurious Emission (802.11n-CH6)



21 GHz ~ 23 GHz

Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

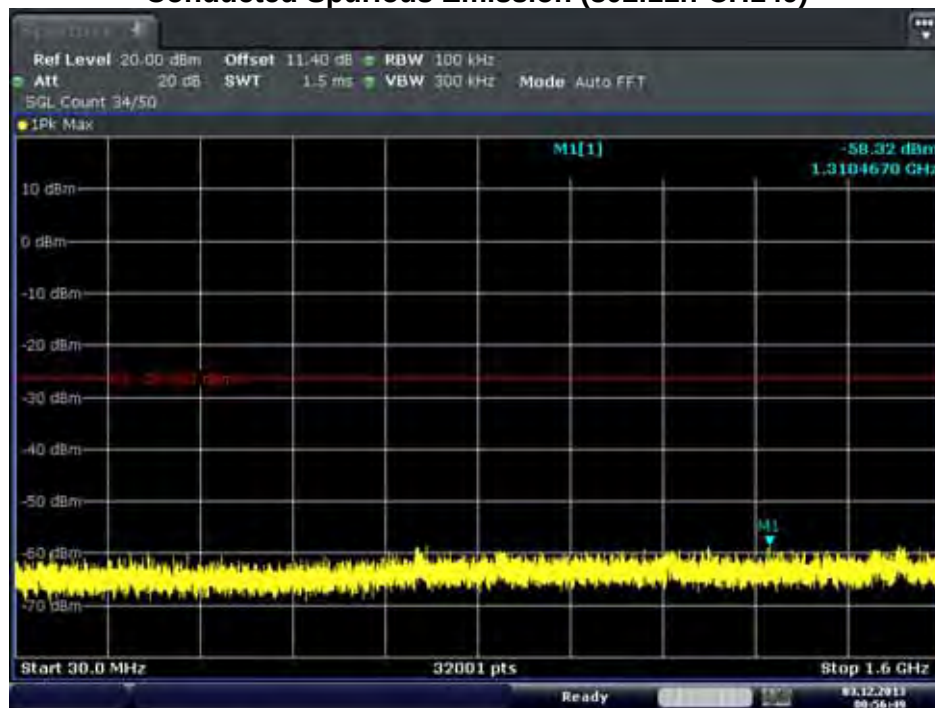
23 GHz ~ 25 GHz

Conducted Spurious Emission (802.11n-CH6)



30 MHz ~ 1.6 GHz

Conducted Spurious Emission (802.11n-CH149)

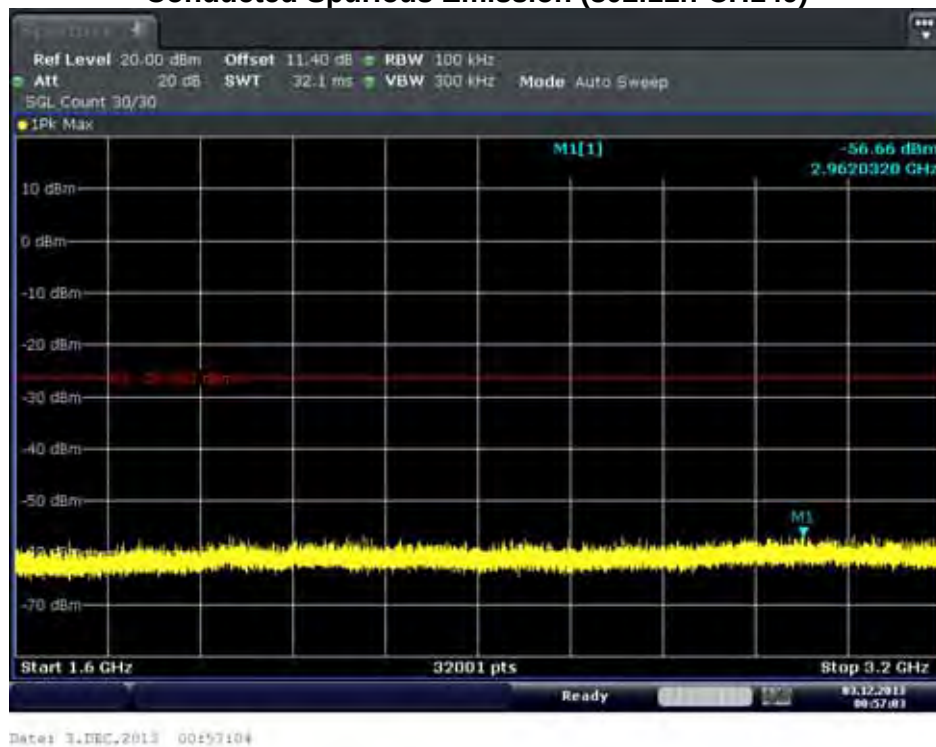


Date: 3, DEC, 2013 00:56:58

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

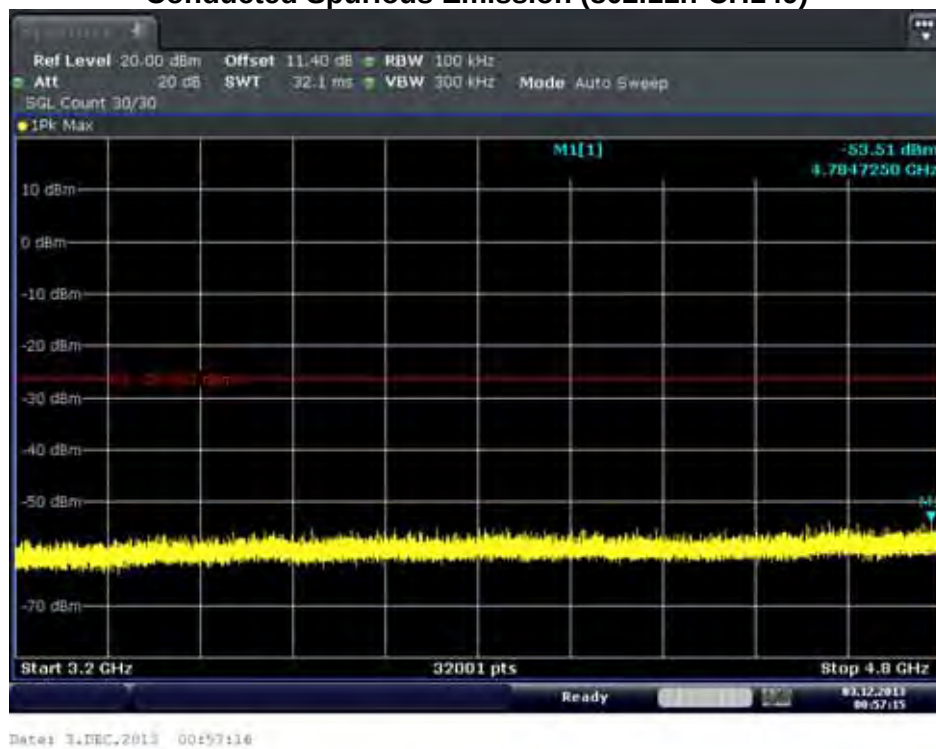
1.6 GHz ~ 3.2 GHz

Conducted Spurious Emission (802.11n-CH149)



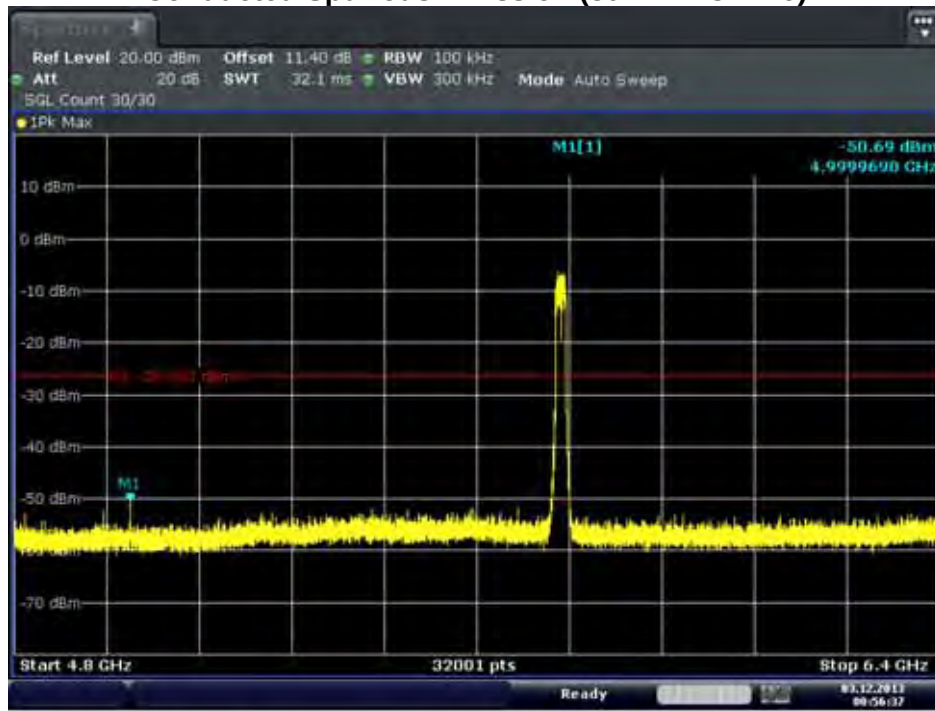
3.2 GHz ~ 4.8 GHz

Conducted Spurious Emission (802.11n-CH149)



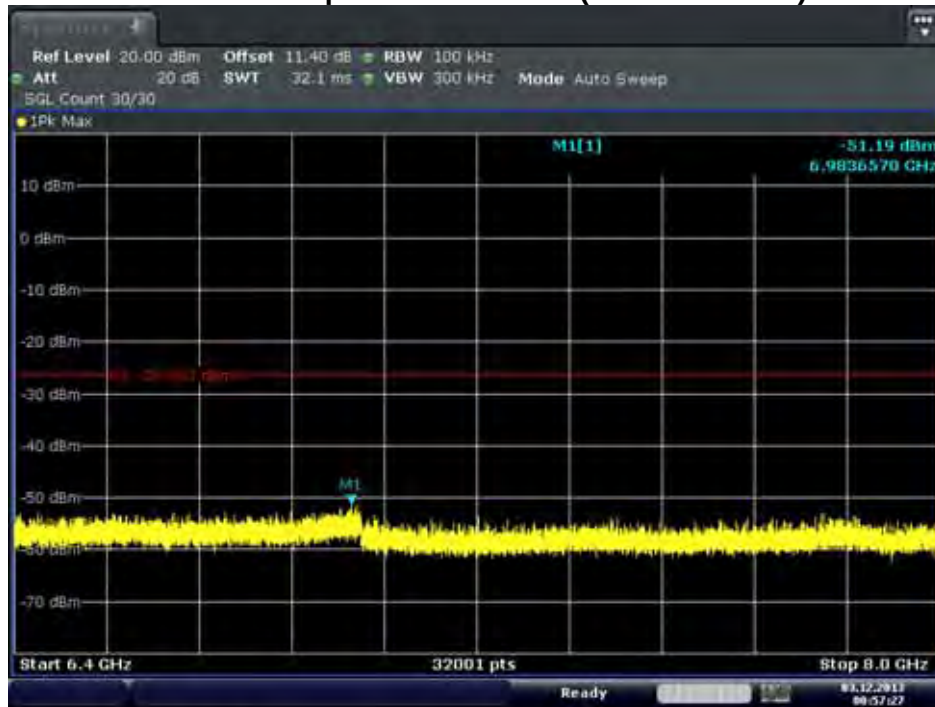
4.8 GHz ~ 6.4 GHz

Conducted Spurious Emission (802.11n-CH149)



6.4 GHz ~ 8 GHz

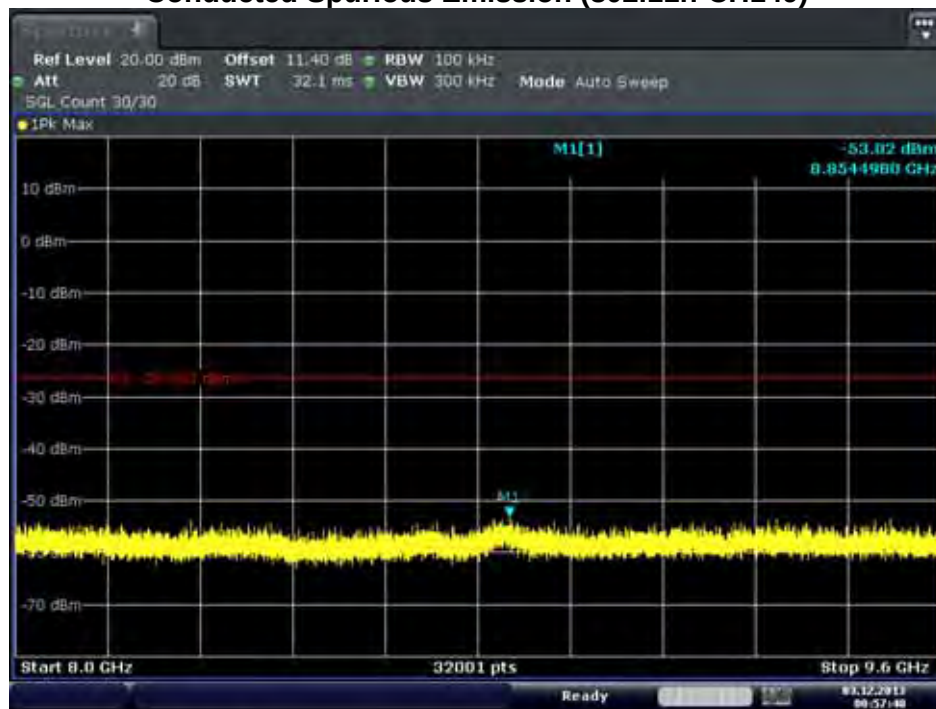
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

8 GHz ~ 9.6 GHz

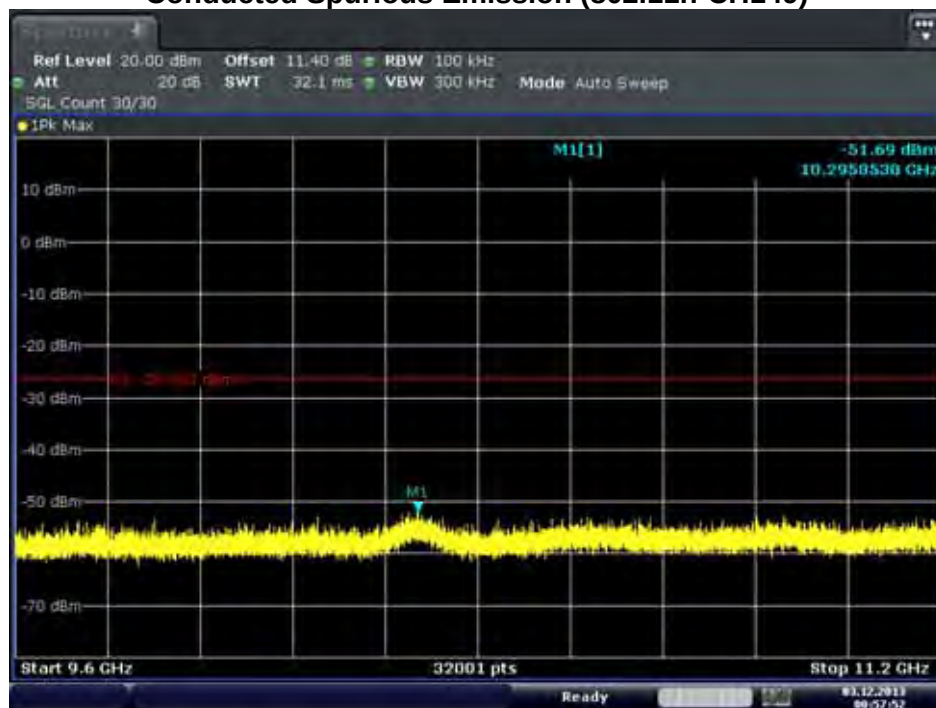
Conducted Spurious Emission (802.11n-CH149)



Date: 11.DEC.2013 00:57:40

9.6 GHz ~ 11.2 GHz

Conducted Spurious Emission (802.11n-CH149)

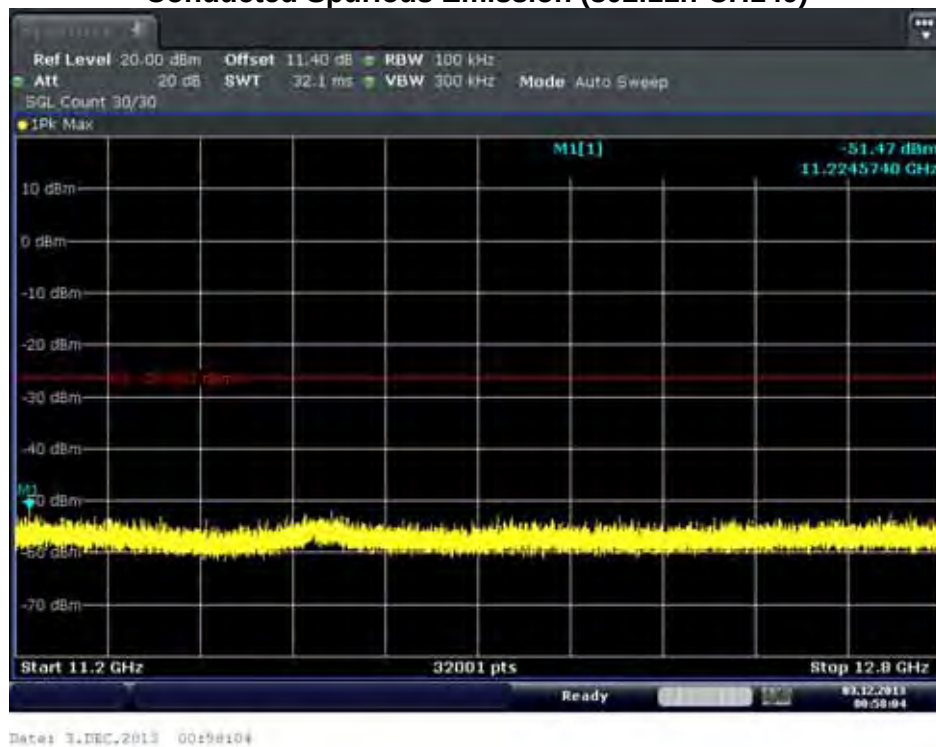


Date: 11.DEC.2013 00:57:52

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

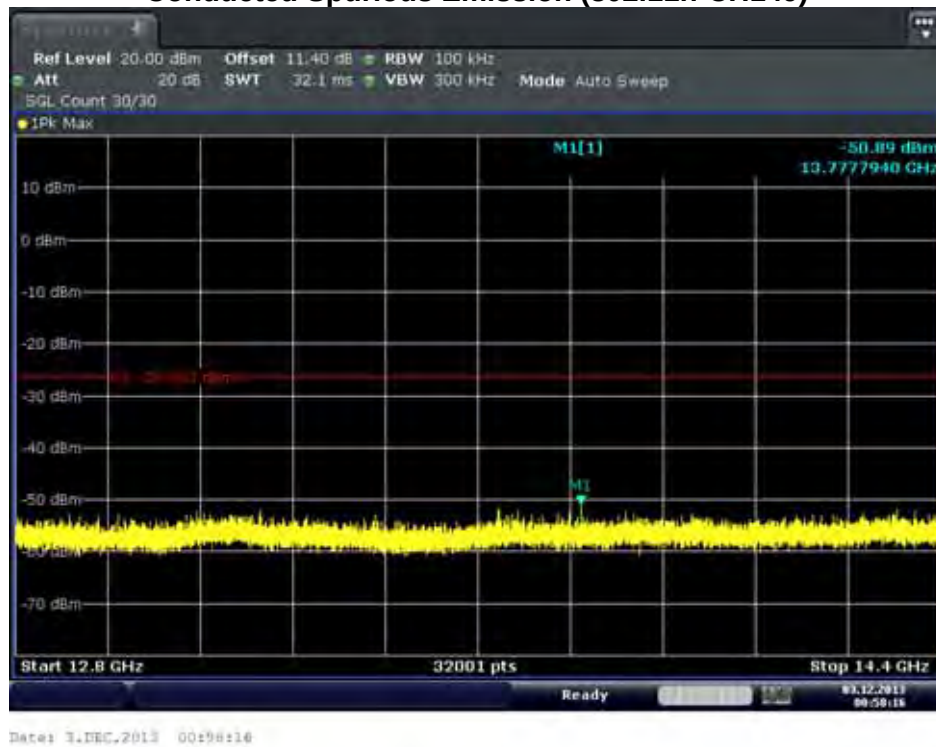
11.2 GHz ~ 12.8 GHz

Conducted Spurious Emission (802.11n-CH149)



12.8 GHz ~ 12.8 GHz

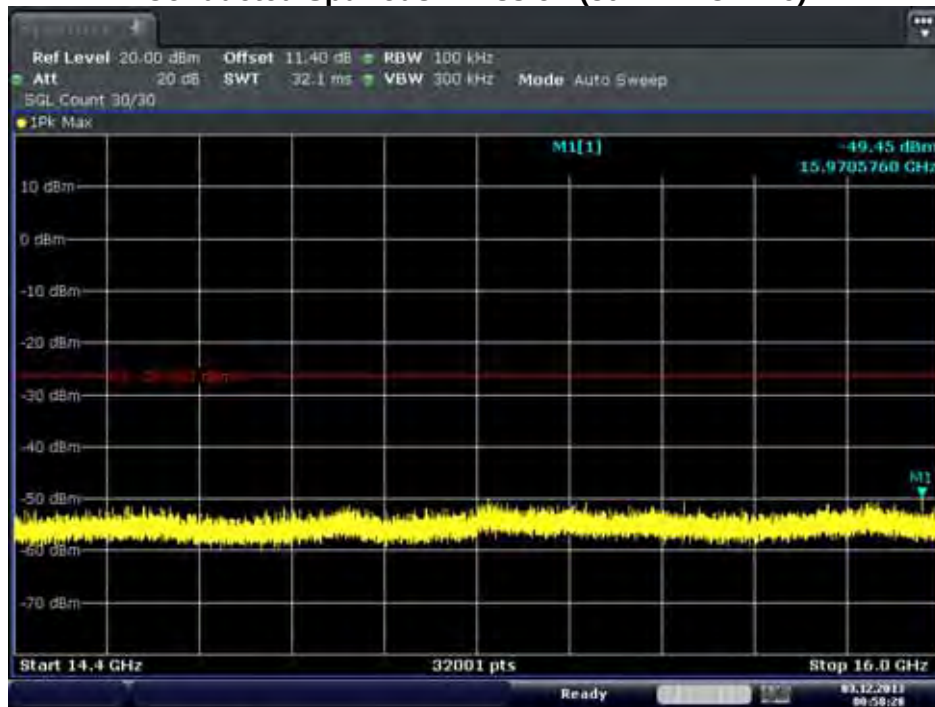
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

14.4 GHz ~ 16 GHz

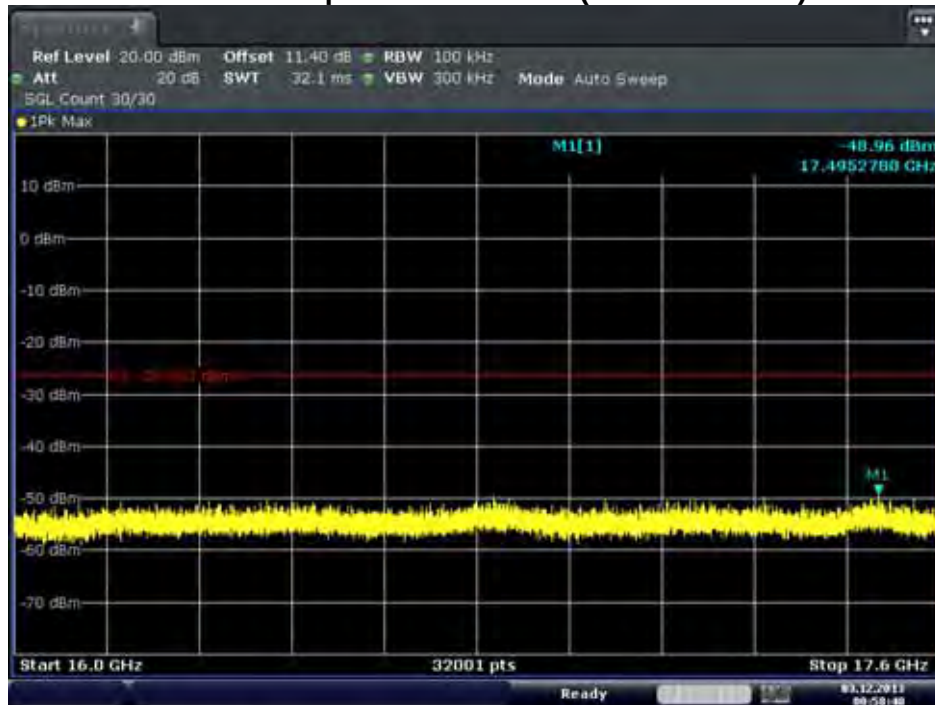
Conducted Spurious Emission (802.11n-CH149)



Date: 11.DEC.2013 00:59:28

16 GHz ~ 17.6 GHz

Conducted Spurious Emission (802.11n-CH149)

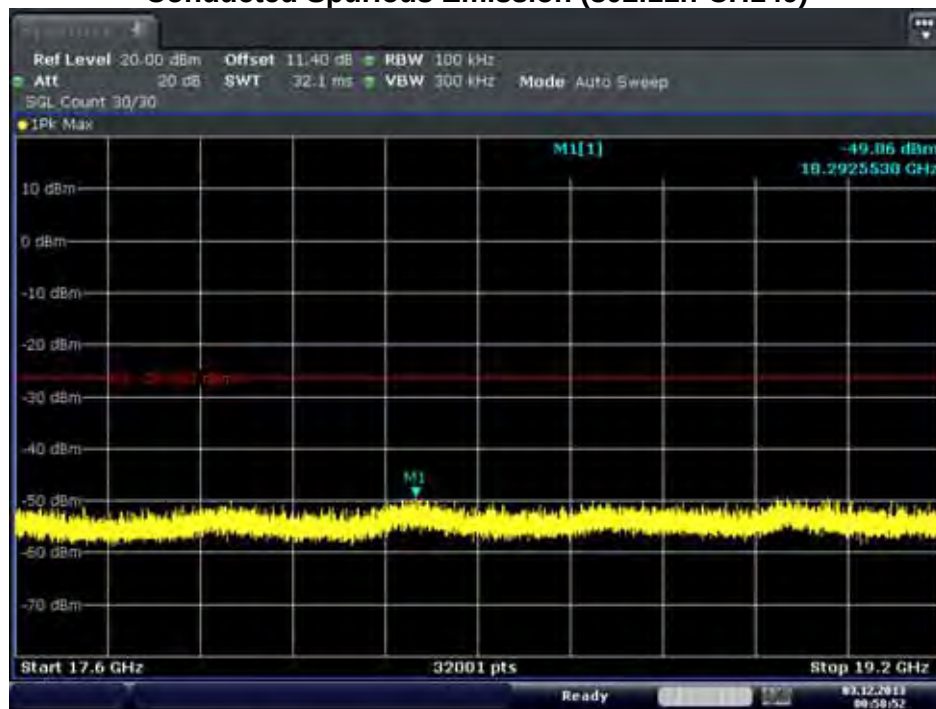


Date: 11.DEC.2013 00:59:40

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

17.6 GHz ~ 19.2 GHz

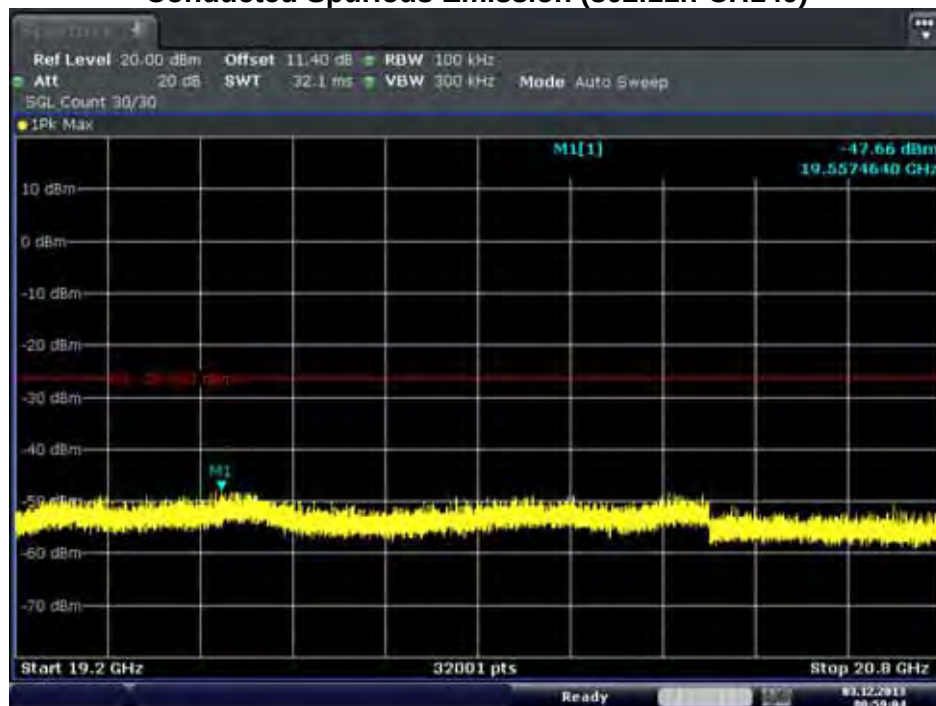
Conducted Spurious Emission (802.11n-CH149)



Date: 31.DEC.2013 00:59:53

19.2 GHz ~ 20.8 GHz

Conducted Spurious Emission (802.11n-CH149)

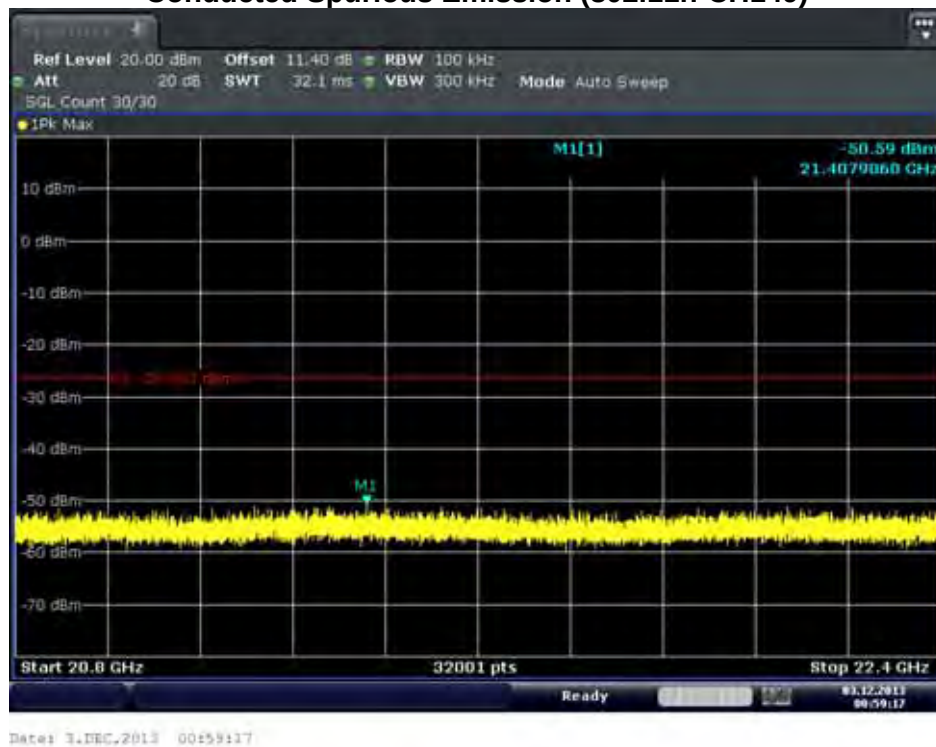


Date: 31.DEC.2013 00:59:55

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

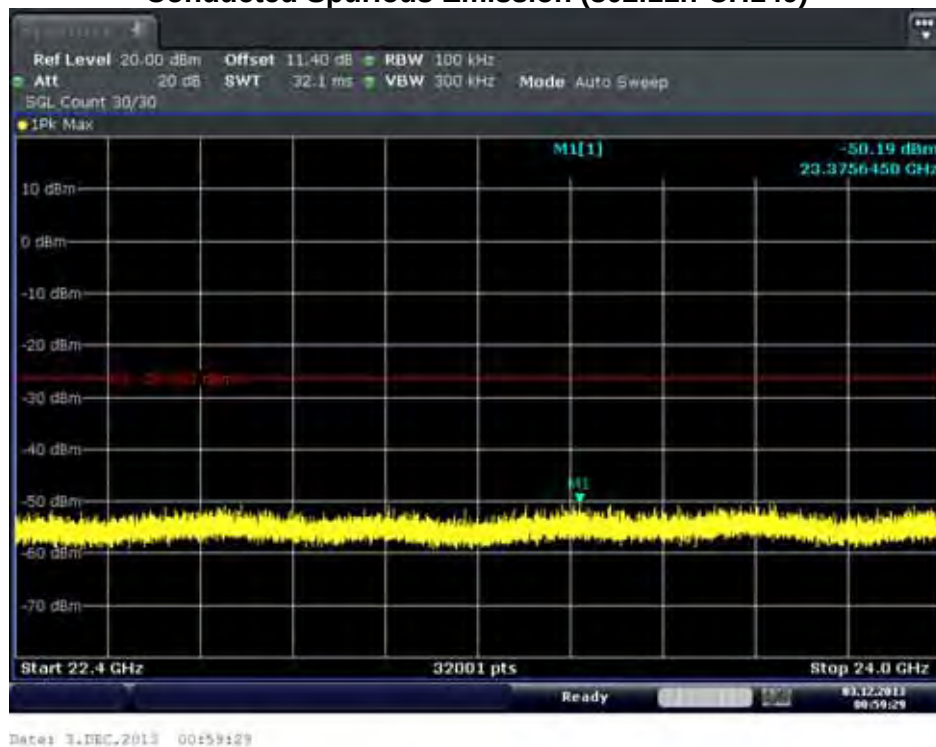
20.8 GHz ~ 22.4 GHz

Conducted Spurious Emission (802.11n-CH149)



22.4 GHz ~ 24 GHz

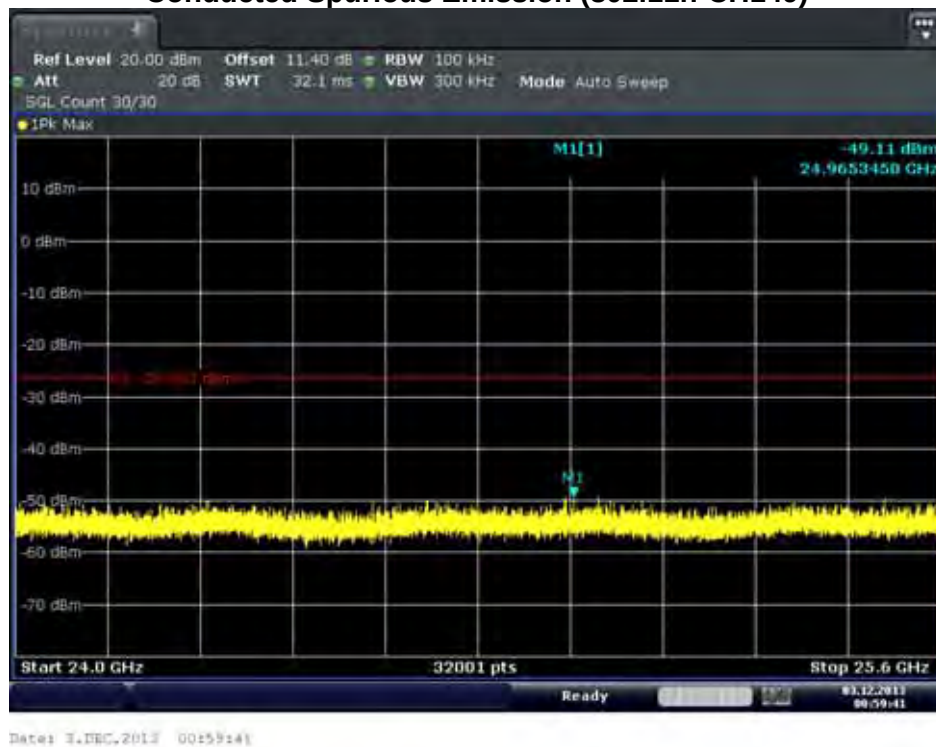
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

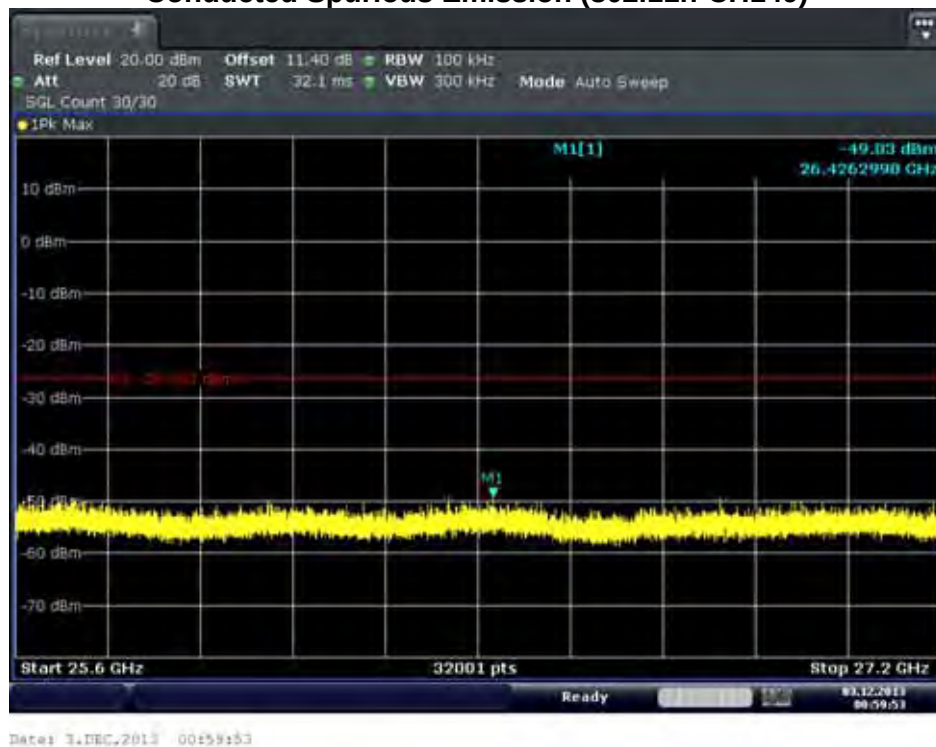
24 GHz ~ 25.6 GHz

Conducted Spurious Emission (802.11n-CH149)



25.6 GHz ~ 27.2 GHz

Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

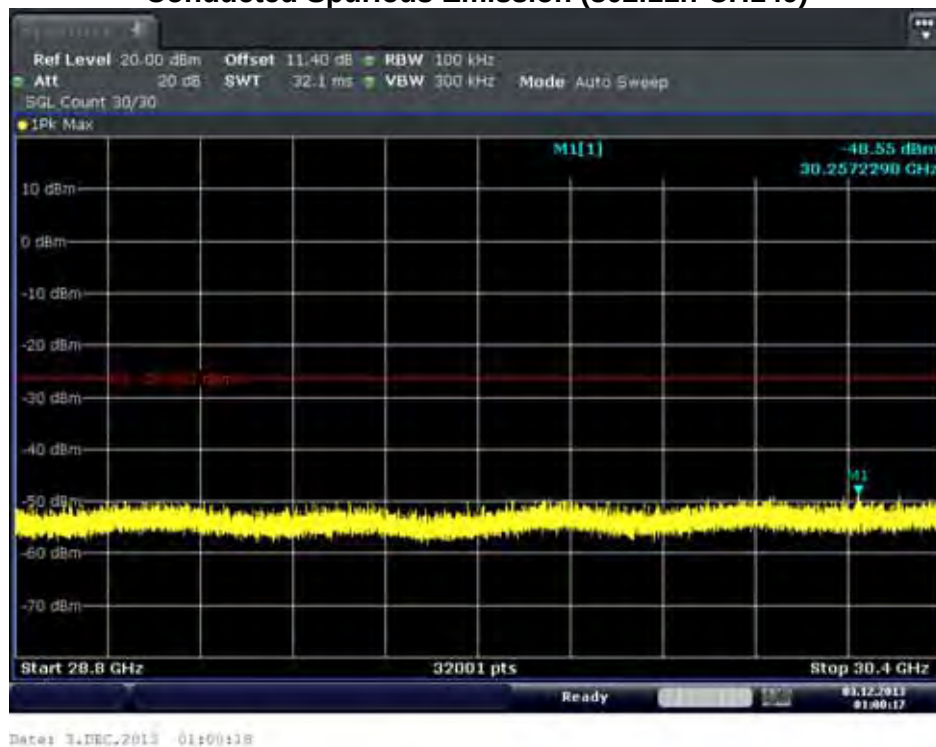
27.2 GHz ~ 28.8 GHz

Conducted Spurious Emission (802.11n-CH149)



28.8 GHz ~ 30.4 GHz

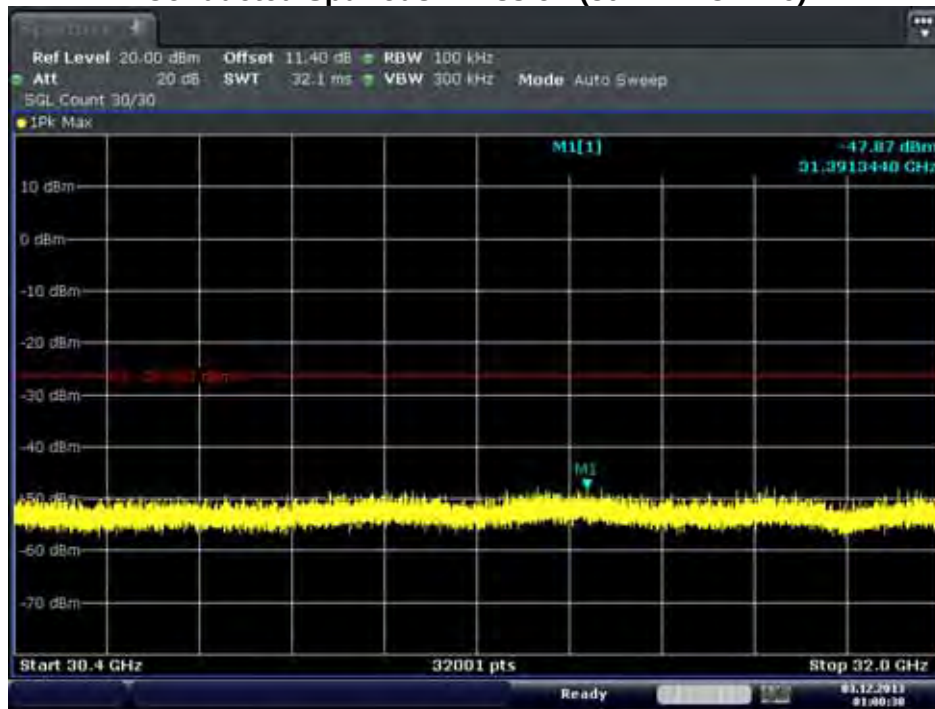
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

30.4 GHz ~ 32 GHz

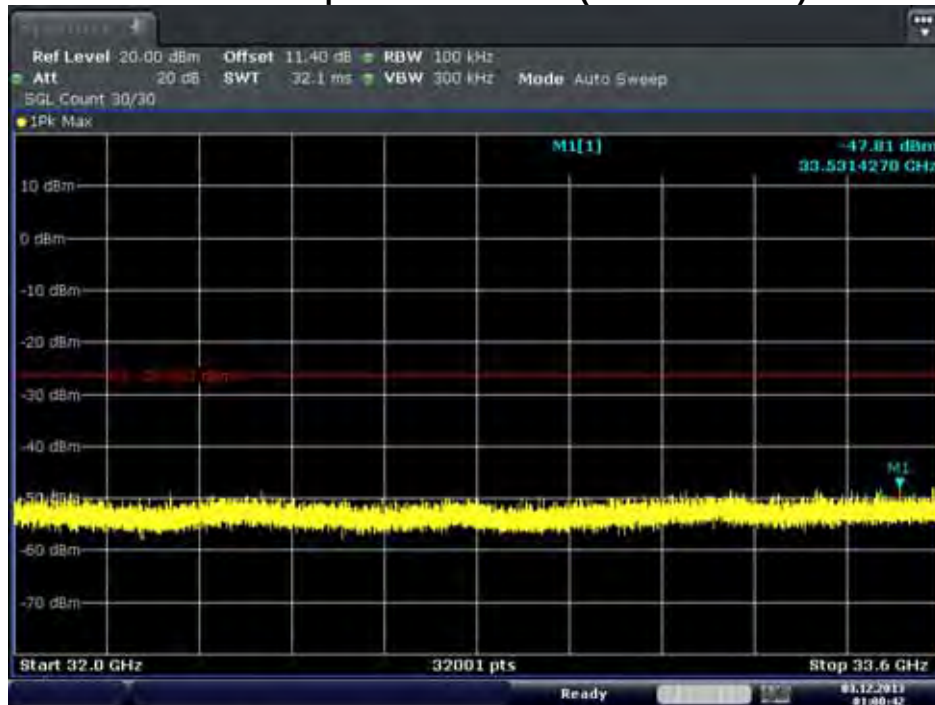
Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:00:30

32 GHz ~ 33.6 GHz

Conducted Spurious Emission (802.11n-CH149)

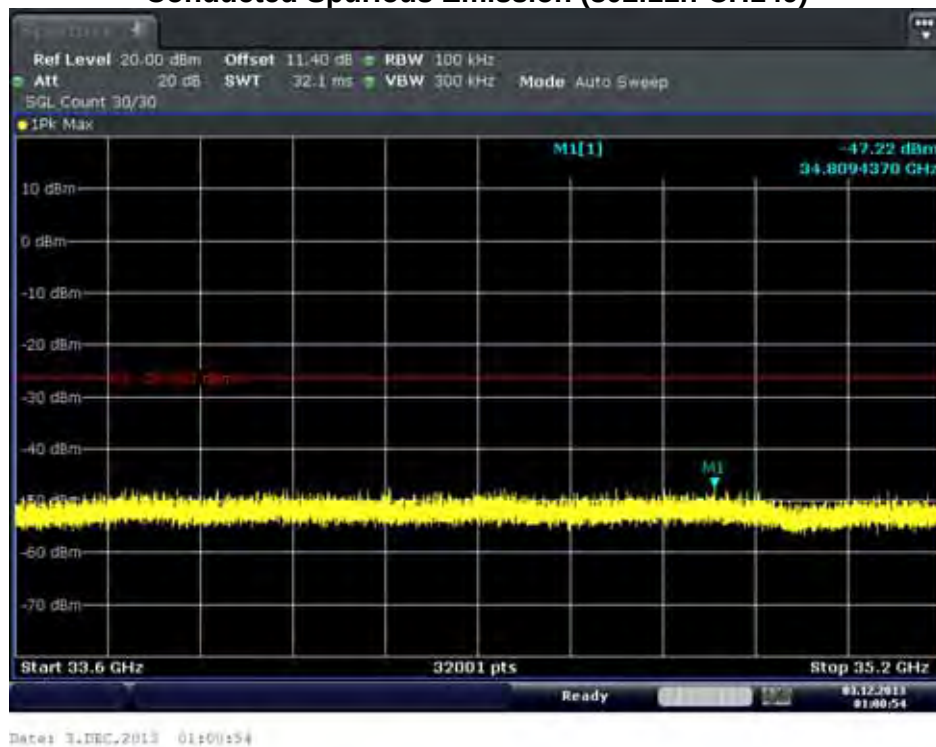


Date: 3.DEC.2013 01:00:42

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

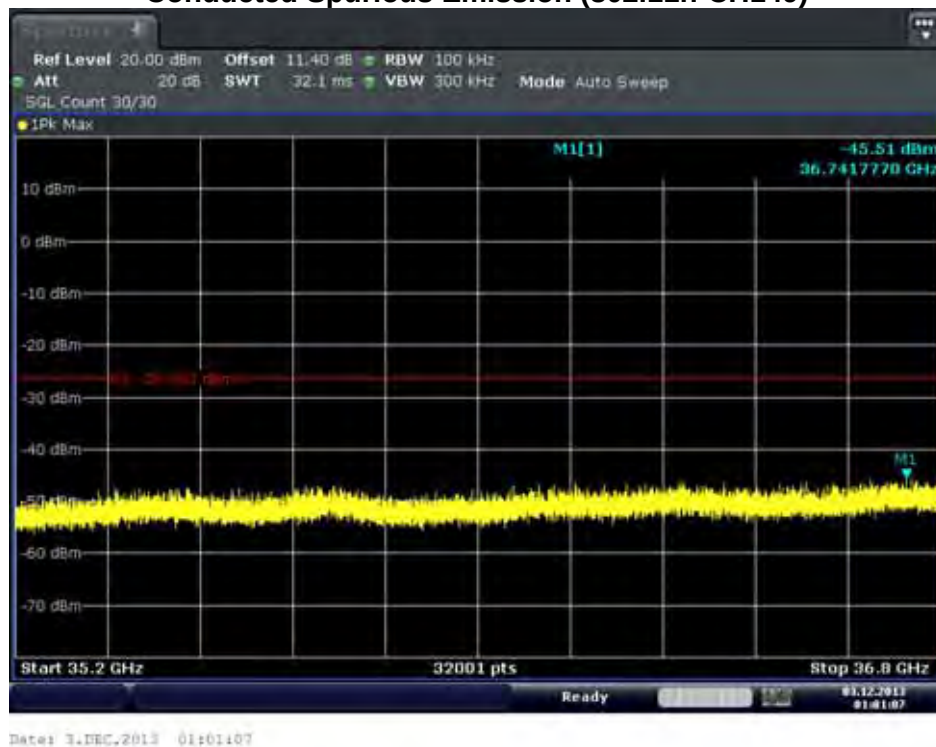
33.6 GHz ~ 35.2 GHz

Conducted Spurious Emission (802.11n-CH149)



35.2 GHz ~ 36.8 GHz

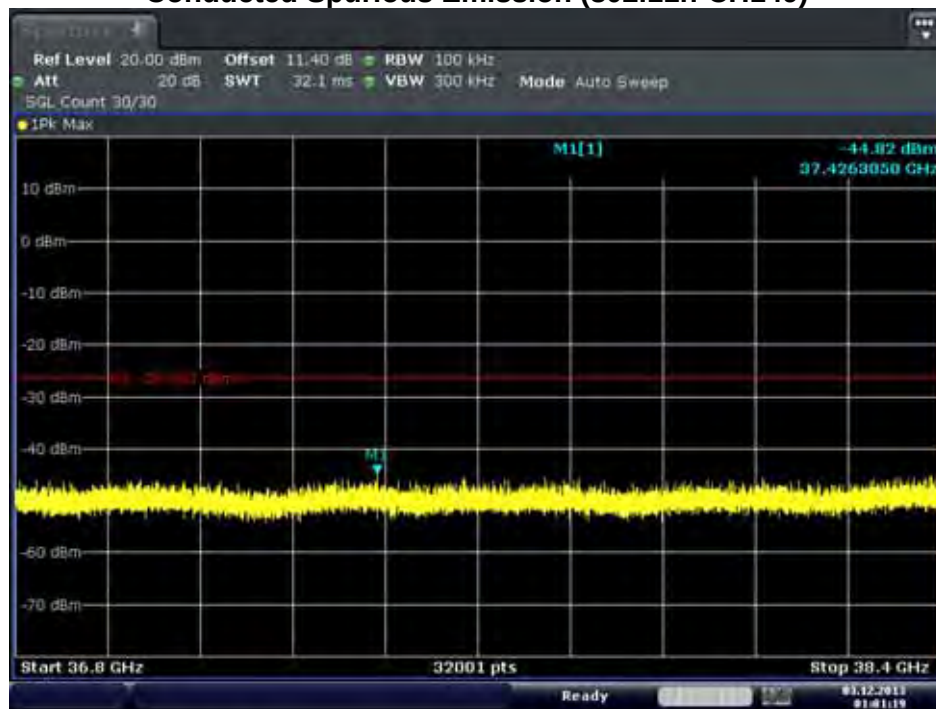
Conducted Spurious Emission (802.11n-CH149)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

36.8 GHz ~ 38.4 GHz

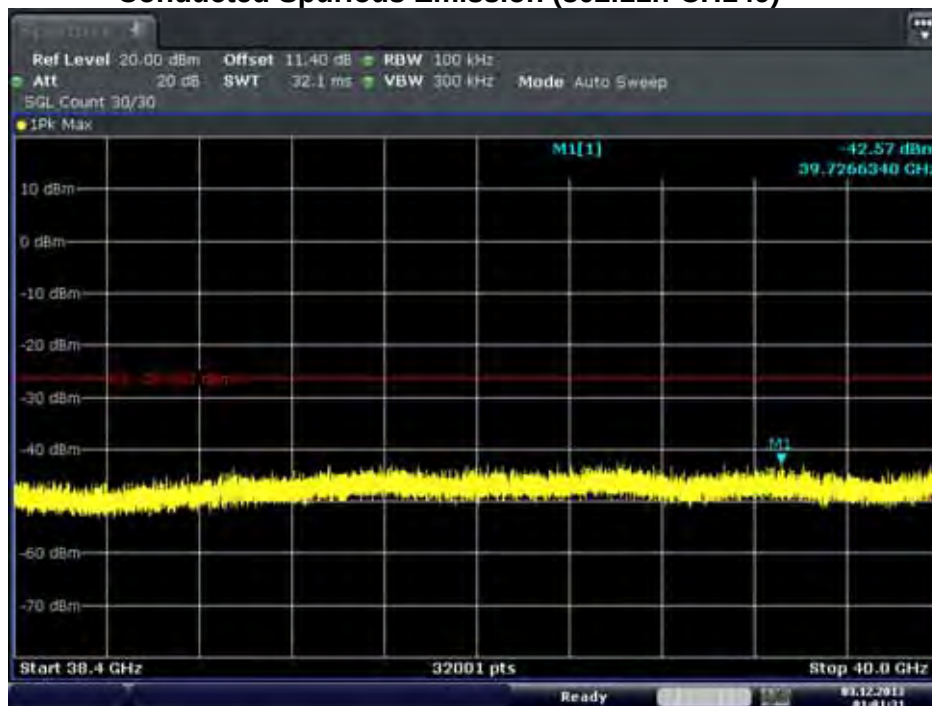
Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:01:20

38.4 GHz ~ 40 GHz

Conducted Spurious Emission (802.11n-CH149)



Date: 3.DEC.2013 01:01:32

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

9.6 RADIATED MEASUREMENT.

9.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

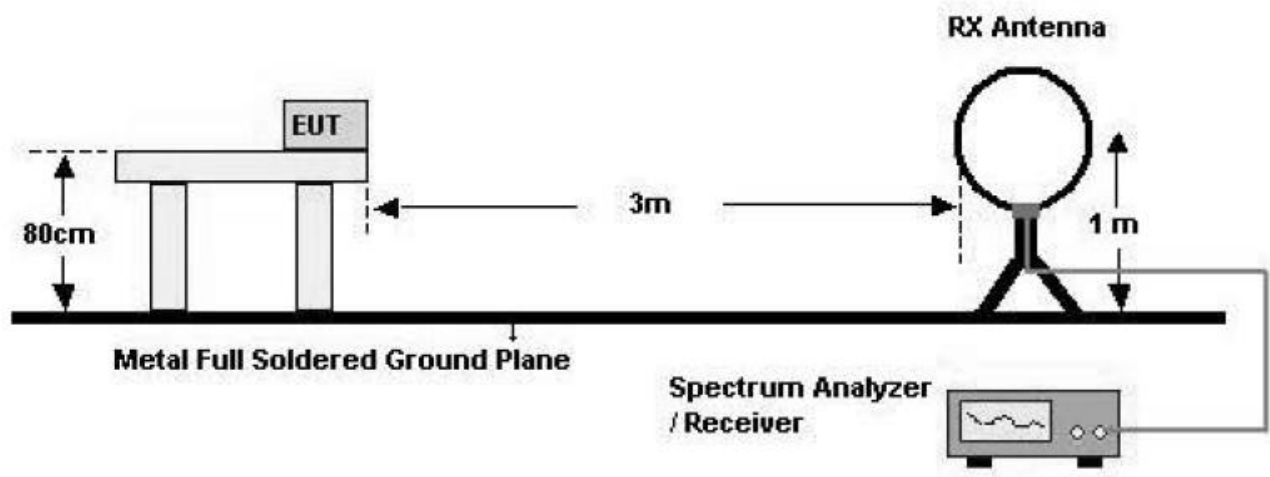
■ Test case

Monitoring	SISO	Ant 1
		Ant 2
	MIMO	Ant 1 & 2
Service	SISO	Ant 1
		Ant 2
		Ant 3
	MIMO	Ant 1 & 2
		Ant 1 & 2 & 3

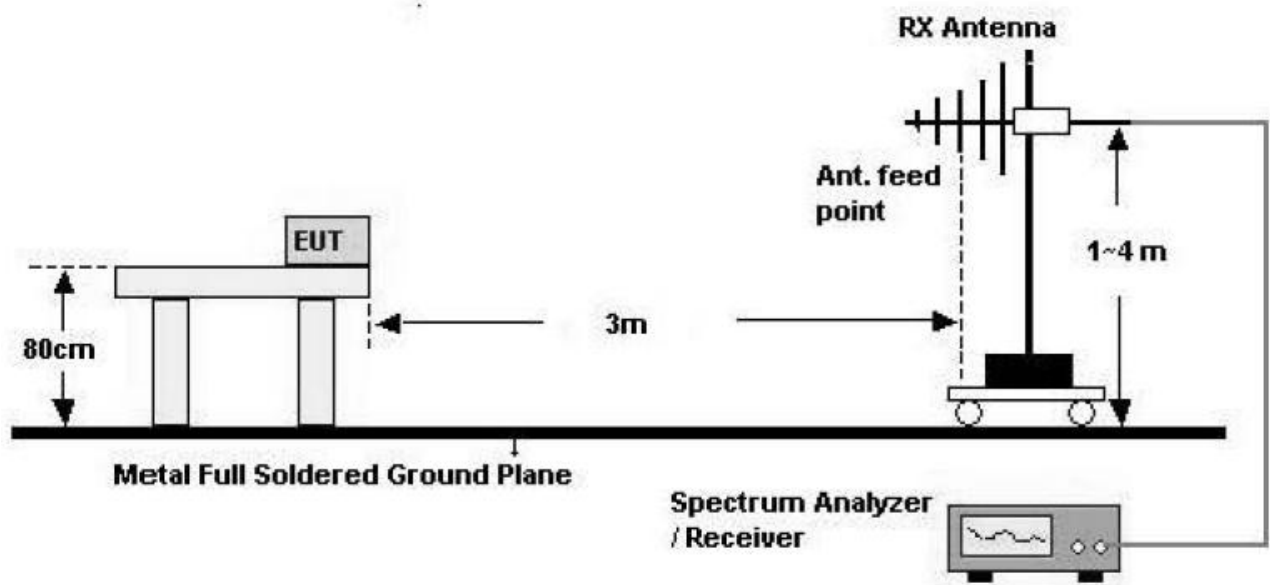
Note : We have done all test case. Worst case is Ant 1 & 2 for monitoring and Ant 1 & 2 & 3 for service. So, we attached the results of only worst case.

Test Configuration

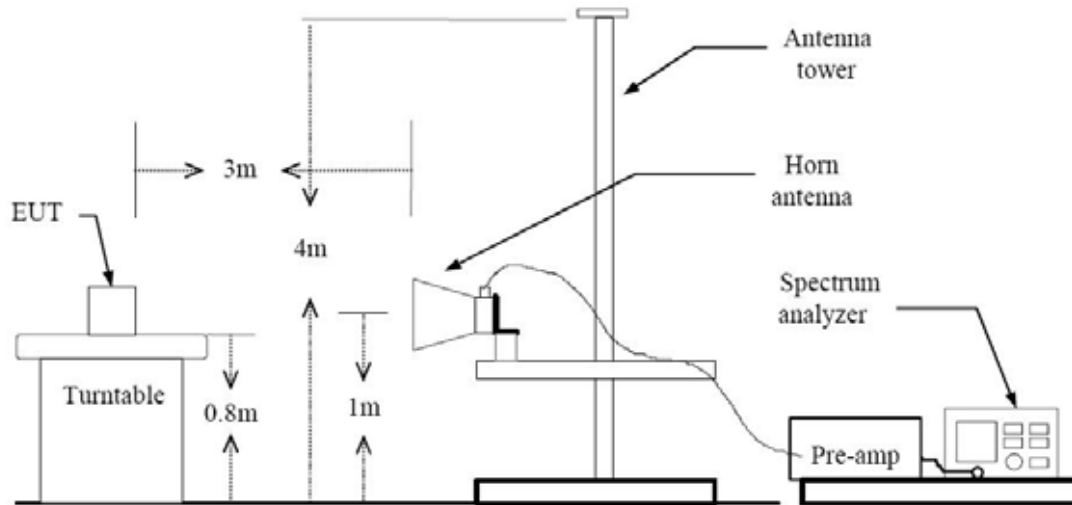
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method 12.2.4 in KDB 558074, issued 04/09/2013 (Peak)

Method 12.2.5.1 in KDB 558074, issued 04/09/2013(Average Case 1)

Method 12.2.5.3 in KDB 558074, issued 04/09/2013(Average Case 2)

Spectrum Setting

- Peak

Peak emission levels are measured by setting the instrument as follows:

RBW = cf. Table 1.

VBW $\geq 3 \times$ RBW.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes.

(Note that the required measurement time may be longer for low duty cycle applications).

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

- Average

Case 1

If the EUT can be configured or modified to transmit continuously (duty cycle ≥ 98 percent) then the average emission levels shall be measured using the following method (with EUT transmitting continuously).

RBW = 1 MHz (unless otherwise specified).

VBW $\geq 3 \times$ RBW.

Detector = RMS, if span/(# of points in sweep) $\leq$ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).

3) As an alternative, the detector and averaging type may be set for linear voltage averaging.

4) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.

Sweep time = auto.

Perform a trace average of at least 100 traces.

Case 2

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is not constant (i.e., duty cycle variations exceed ± 2 percent), then the following procedure shall be used:

Set RBW = 1 MHz.

Set VBW $\geq 1/T$.

Video bandwidth mode or display mode

3) The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).

4) As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow max hold to run for at least 50 times (1/duty cycle) traces.

Note :

1. We used the case 1 for 802.11b mode and the case 2 for 802.11a/g/n_20/n_40 to perform the average filed strength measurements for RSE and radiated band edge test.
2. The actual setting value of VBW for 802.11a/g/n_20/n_40.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

Monitoring

Mode	Worst Data rate (Mbps)	T _{on} (ms)	T _{total} (ms)	Duty Cycle (%)	VBW(1/T) (Hz)	The actual setting value of VBW (Hz)
g	6	2.020	2.070	97.6	495.0	1000
a	6	2.020	2.070	97.6	495.0	1000
n_20	6.5	1.885	1.930	97.7	530.5	1000
n_40	13.5	0.926	0.960	96.5	1079.9	3000

Service

Mode	Worst Data rate (Mbps)	T _{on} (ms)	T _{total} (ms)	Duty Cycle (%)	VBW(1/T) (Hz)	The actual setting value of VBW (Hz)
a	6	1.335	1.405	95.0	749.1	1000
g	6	1.335	1.405	95.0	749.1	1000
n_20	6.5	1.269	1.317	96.4	788.0	1000
n_40	13.5	0.630	0.664	94.9	1587.3	3000

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V/m	dBm /m	dBm	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dB μ V) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V/m	dBm /m	dBm	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Monitoring MIMO (Ant 1 & 2)

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.72	-1.98	V	47.74	73.98	26.24	PK
4824	39.04	-1.98	V	37.06	53.98	16.92	AV
7236	44.78	7.60	V	52.38	73.98	21.60	PK
7236	32.06	7.60	V	39.66	53.98	14.32	AV
4824	53.74	-1.98	H	51.76	73.98	22.22	PK
4824	48.04	-1.98	H	46.06	53.98	7.92	AV
7236	44.43	7.60	H	52.03	73.98	21.95	PK
7236	33.69	7.60	H	41.29	53.98	12.69	AV

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	48.54	-1.92	V	46.62	73.98	27.36	PK
4874	38.72	-1.92	V	36.80	53.98	17.18	AV
7311	45.43	7.38	V	52.81	73.98	21.17	PK
7311	32.04	7.38	V	39.42	53.98	14.56	AV
4874	52.04	-1.92	H	50.12	73.98	23.86	PK
4874	45.16	-1.92	H	43.24	53.98	10.74	AV
7311	45.92	7.38	H	53.30	73.98	20.68	PK
7311	31.68	7.38	H	39.06	53.98	14.92	AV

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	49.72	-1.93	V	47.79	73.98	26.19	PK
4924	38.09	-1.93	V	36.16	53.98	17.82	AV
7386	45.72	7.28	V	53.00	73.98	20.98	PK
7386	31.25	7.28	V	38.53	53.98	15.45	AV
4924	52.78	-1.93	H	50.85	73.98	23.13	PK
4924	46.54	-1.93	H	44.61	53.98	9.37	AV
7386	44.68	7.28	H	51.96	73.98	22.02	PK
7386	32.14	7.28	H	39.42	53.98	14.56	AV

Notes:

11. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: 802.11 g

Transfer Rate: 6 Mbps

Operating Frequency: 2412

Channel No. 01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.58	-1.98	V	47.60	73.98	26.38	PK
4824	37.68	-1.98	V	35.70	53.98	18.28	AV
7236	44.94	7.60	V	52.54	73.98	21.44	PK
7236	31.54	7.60	V	39.14	53.98	14.84	AV
4824	54.75	-1.98	H	52.77	73.98	21.21	PK
4824	40.64	-1.98	H	38.66	53.98	15.32	AV
7236	43.95	7.60	H	51.55	73.98	22.43	PK
7236	31.08	7.60	H	38.68	53.98	15.30	AV

Operation Mode: 802.11 g

Transfer Rate: 6 Mbps

Operating Frequency: 2437

Channel No. 06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.72	-1.92	V	47.80	73.98	26.18	PK
4874	36.00	-1.92	V	34.08	53.98	19.90	AV
7311	44.18	7.38	V	51.56	73.98	22.42	PK
7311	32.10	7.38	V	39.48	53.98	14.50	AV
4874	53.00	-1.92	H	51.08	73.98	22.90	PK
4874	39.01	-1.92	H	37.09	53.98	16.89	AV
7311	45.06	7.38	H	52.44	73.98	21.54	PK
7311	31.78	7.38	H	39.16	53.98	14.82	AV

Operation Mode:	802.11 g
Transfer Rate:	6 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	48.58	-1.93	V	46.65	73.98	27.33	PK
4924	37.95	-1.93	V	36.02	53.98	17.96	AV
7386	44.78	7.28	V	52.06	73.98	21.92	PK
7386	32.64	7.28	V	39.92	53.98	14.06	AV
4924	53.56	-1.93	H	51.63	73.98	22.35	PK
4924	40.24	-1.93	H	38.31	53.98	15.67	AV
7386	44.72	7.28	H	52.00	73.98	21.98	PK
7386	32.92	7.28	H	40.20	53.98	13.78	AV

Notes:

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
- We have done 802.11g mode and all data rate. Worst data rate is the lowest data of each mode.
- We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: 802.11 n

Transfer Rate: 6.5 Mbps

Operating Frequency: 2412

Channel No. 01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.49	-1.98	V	47.51	73.98	26.47	PK
4824	37.72	-1.98	V	35.74	53.98	18.24	AV
7236	46.00	7.60	V	53.60	73.98	20.38	PK
7236	31.05	7.60	V	38.65	53.98	15.33	AV
4824	54.10	-1.98	H	52.12	73.98	21.86	PK
4824	41.03	-1.98	H	39.05	53.98	14.93	AV
7236	43.55	7.60	H	51.15	73.98	22.83	PK
7236	33.00	7.60	H	40.60	53.98	13.38	AV

Operation Mode: 802.11 n

Transfer Rate: 6.5 Mbps

Operating Frequency: 2437

Channel No. 06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.72	-1.92	V	47.80	73.98	26.18	PK
4874	36.92	-1.92	V	35.00	53.98	18.98	AV
7311	46.04	7.38	V	53.42	73.98	20.56	PK
7311	32.04	7.38	V	39.42	53.98	14.56	AV
4874	50.00	-1.92	H	48.08	73.98	25.90	PK
4874	37.60	-1.92	H	35.68	53.98	18.30	AV
7311	44.72	7.38	H	52.10	73.98	21.88	PK
7311	31.06	7.38	H	38.44	53.98	15.54	AV

Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	48.75	-1.93	V	46.82	73.98	27.16	PK
4924	37.45	-1.93	V	35.52	53.98	18.46	AV
7386	46.51	7.28	V	53.79	73.98	20.19	PK
7386	32.84	7.28	V	40.12	53.98	13.86	AV
4924	53.78	-1.93	H	51.85	73.98	22.13	PK
4924	42.00	-1.93	H	40.07	53.98	13.91	AV
7386	46.03	7.28	H	53.31	73.98	20.67	PK
7386	32.30	7.28	H	39.58	53.98	14.40	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	62.84	-6.10	V	56.74	73.98	17.24	PK
11490	50.10	-6.10	V	44.00	53.98	9.98	AV
11490	63.72	-6.10	H	57.62	73.98	16.36	PK
11490	50.03	-6.10	H	43.93	53.98	10.05	AV

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	62.87	-5.57	V	57.30	73.98	16.68	PK
11570	49.72	-5.57	V	44.15	53.98	9.83	AV
11570	64.06	-5.57	H	58.49	73.98	15.49	PK
11570	50.72	-5.57	H	45.15	53.98	8.83	AV

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	62.72	-6.63	V	56.09	73.98	17.89	PK
11650	50.78	-6.63	V	44.15	53.98	9.83	AV
11650	63.72	-6.63	H	57.09	73.98	16.89	PK
11650	50.64	-6.63	H	44.01	53.98	9.97	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	62.58	-6.10	V	56.48	73.98	17.50	PK
11490	49.74	-6.10	V	43.64	53.98	10.34	AV
11490	64.13	-6.10	H	58.03	73.98	15.95	PK
11490	51.03	-6.10	H	44.93	53.98	9.05	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	63.05	-5.57	V	57.48	73.98	16.50	PK
11570	49.74	-5.57	V	44.17	53.98	9.81	AV
11570	63.00	-5.57	H	57.43	73.98	16.55	PK
11570	50.14	-5.57	H	44.57	53.98	9.41	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	63.74	-6.63	V	57.11	73.98	16.87	PK
11650	50.42	-6.63	V	43.79	53.98	10.19	AV
11650	62.43	-6.63	H	55.80	73.98	18.18	PK
11650	51.04	-6.63	H	44.41	53.98	9.57	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n_20 MHz BW mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11510	61.95	-6.26	V	55.69	73.98	18.29	PK
11510	48.54	-6.26	V	42.28	53.98	11.70	AV
11510	62.42	-6.26	H	56.16	73.98	17.82	PK
11510	48.94	-6.26	H	42.68	53.98	11.30	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11590	63.10	-5.92	V	57.18	73.98	16.80	PK
11590	48.04	-5.92	V	42.12	53.98	11.86	AV
11590	61.24	-5.92	H	55.32	73.98	18.66	PK
11590	48.72	-5.92	H	42.80	53.98	11.18	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n_40 MHz BW mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

Service MIMO (Ant 1 & 2 & 3)

Operation Mode: 802.11 b

Transfer Rate: 1 Mbps

Operating Frequency: 2412

Channel No. 01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	48.95	-1.98	V	46.97	73.98	27.01	PK
4824	36.42	-1.98	V	34.44	53.98	19.54	AV
7236	46.04	7.60	V	53.64	73.98	20.34	PK
7236	32.54	7.60	V	40.14	53.98	13.84	AV
4824	48.20	-1.98	H	46.22	73.98	27.76	PK
4824	38.00	-1.98	H	36.02	53.98	17.96	AV
7236	44.73	7.60	H	52.33	73.98	21.65	PK
7236	32.89	7.60	H	40.49	53.98	13.49	AV

Operation Mode: 802.11 b

Transfer Rate: 1 Mbps

Operating Frequency: 2437

Channel No. 06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	48.02	-1.92	V	46.10	73.98	27.88	PK
4874	35.78	-1.92	V	33.86	53.98	20.12	AV
7311	48.02	7.38	V	55.40	73.98	18.58	PK
7311	33.62	7.38	V	41.00	53.98	12.98	AV
4874	48.74	-1.92	H	46.82	73.98	27.16	PK
4874	39.01	-1.92	H	37.09	53.98	16.89	AV
7311	45.80	7.38	H	53.18	73.98	20.80	PK
7311	34.53	7.38	H	41.91	53.98	12.07	AV

Operation Mode:	802.11 b
Transfer Rate:	1 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	48.95	-1.93	V	47.02	73.98	26.96	PK
4924	38.14	-1.93	V	36.21	53.98	17.77	AV
7386	45.94	7.28	V	53.22	73.98	20.76	PK
7386	33.72	7.28	V	41.00	53.98	12.98	AV
4924	49.64	-1.93	H	47.71	73.98	26.27	PK
4924	38.75	-1.93	H	36.82	53.98	17.16	AV
7386	45.64	7.28	H	52.92	73.98	21.06	PK
7386	35.01	7.28	H	42.29	53.98	11.69	AV

Notes:

11. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11b mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: 802.11 g

Transfer Rate: 6 Mbps

Operating Frequency: 2412

Channel No. 01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	49.74	-1.98	V	47.76	73.98	26.22	PK
4824	34.65	-1.98	V	32.67	53.98	21.31	AV
7236	45.43	7.60	V	53.03	73.98	20.95	PK
7236	32.00	7.60	V	39.60	53.98	14.38	AV
4824	48.85	-1.98	H	46.87	73.98	27.11	PK
4824	34.14	-1.98	H	32.16	53.98	21.82	AV
7236	47.04	7.60	H	54.64	73.98	19.34	PK
7236	32.12	7.60	H	39.72	53.98	14.26	AV

Operation Mode: 802.11 g

Transfer Rate: 6 Mbps

Operating Frequency: 2437

Channel No. 06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	49.00	-1.92	V	47.08	73.98	26.90	PK
4874	35.02	-1.92	V	33.10	53.98	20.88	AV
7311	45.54	7.38	V	52.92	73.98	21.06	PK
7311	33.04	7.38	V	40.42	53.98	13.56	AV
4874	49.72	-1.92	H	47.80	73.98	26.18	PK
4874	34.25	-1.92	H	32.33	53.98	21.65	AV
7311	45.54	7.38	H	52.92	73.98	21.06	PK
7311	33.00	7.38	H	40.38	53.98	13.60	AV

Operation Mode:	802.11 g
Transfer Rate:	6 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	51.00	-1.93	V	49.07	73.98	24.91	PK
4924	35.58	-1.93	V	33.65	53.98	20.33	AV
7386	46.74	7.28	V	54.02	73.98	19.96	PK
7386	31.09	7.28	V	38.37	53.98	15.61	AV
4924	48.72	-1.93	H	46.79	73.98	27.19	PK
4924	35.49	-1.93	H	33.56	53.98	20.42	AV
7386	46.04	7.28	H	53.32	73.98	20.66	PK
7386	31.54	7.28	H	38.82	53.98	15.16	AV

Notes:

11. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11g mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: 802.11 n

Transfer Rate: 6.5 Mbps

Operating Frequency: 2412

Channel No. 01 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	50.14	-1.98	V	48.16	73.98	25.82	PK
4824	35.55	-1.98	V	33.57	53.98	20.41	AV
7236	46.24	7.60	V	53.84	73.98	20.14	PK
7236	32.00	7.60	V	39.60	53.98	14.38	AV
4824	48.58	-1.98	H	46.60	73.98	27.38	PK
4824	36.04	-1.98	H	34.06	53.98	19.92	AV
7236	46.05	7.60	H	53.65	73.98	20.33	PK
7236	33.04	7.60	H	40.64	53.98	13.34	AV

Operation Mode: 802.11 n

Transfer Rate: 6.5 Mbps

Operating Frequency: 2437

Channel No. 06 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	48.58	-1.92	V	46.66	73.98	27.32	PK
4874	34.54	-1.92	V	32.62	53.98	21.36	AV
7311	47.04	7.38	V	54.42	73.98	19.56	PK
7311	31.95	7.38	V	39.33	53.98	14.65	AV
4874	49.14	-1.92	H	47.22	73.98	26.76	PK
4874	32.80	-1.92	H	30.88	53.98	23.10	AV
7311	48.78	7.38	H	56.16	73.98	17.82	PK
7311	32.56	7.38	H	39.94	53.98	14.04	AV

Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	51.03	-1.93	V	49.10	73.98	24.88	PK
4924	35.49	-1.93	V	33.56	53.98	20.42	AV
7386	44.78	7.28	V	52.06	73.98	21.92	PK
7386	33.00	7.28	V	40.28	53.98	13.70	AV
4924	48.95	-1.93	H	47.02	73.98	26.96	PK
4924	35.72	-1.93	H	33.79	53.98	20.19	AV
7386	44.87	7.28	H	52.15	73.98	21.83	PK
7386	31.64	7.28	H	38.92	53.98	15.06	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n mode and all data rate. Worst data rate is the lowest data of each mode.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	62.74	-6.10	V	56.64	73.98	17.34	PK
11490	50.04	-6.10	V	43.94	53.98	10.04	AV
11490	62.74	-6.10	H	56.64	73.98	17.34	PK
11490	48.97	-6.10	H	42.87	53.98	11.11	AV

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	63.49	-5.57	V	57.92	73.98	16.06	PK
11570	48.74	-5.57	V	43.17	53.98	10.81	AV
11570	62.00	-5.57	H	56.43	73.98	17.55	PK
11570	48.74	-5.57	H	43.17	53.98	10.81	AV

Band :	5.8 GHz
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	63.05	-6.63	V	56.42	73.98	17.56	PK
11650	47.23	-6.63	V	40.60	53.98	13.38	AV
11650	63.04	-6.63	H	56.41	73.98	17.57	PK
11650	47.48	-6.63	H	40.85	53.98	13.13	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5745 MHz
Channel No.	149 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11490	61.49	-6.10	V	55.39	73.98	18.59	PK
11490	48.72	-6.10	V	42.62	53.98	11.36	AV
11490	61.14	-6.10	H	55.04	73.98	18.94	PK
11490	48.94	-6.10	H	42.84	53.98	11.14	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5785 MHz
Channel No.	157 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11570	62.18	-5.57	V	56.61	73.98	17.37	PK
11570	47.24	-5.57	V	41.67	53.98	12.31	AV
11570	61.45	-5.57	H	55.88	73.98	18.10	PK
11570	48.74	-5.57	H	43.17	53.98	10.81	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5825 MHz
Channel No.	165 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11650	62.39	-6.63	V	55.76	73.98	18.22	PK
11650	48.72	-6.63	V	42.09	53.98	11.89	AV
11650	62.44	-6.63	H	55.81	73.98	18.17	PK
11650	48.13	-6.63	H	41.50	53.98	12.48	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n_20 MHz BW mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5755 MHz
Channel No.	151 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11510	63.25	-6.26	V	56.99	73.98	16.99	PK
11510	48.75	-6.26	V	42.49	53.98	11.49	AV
11510	62.74	-6.26	H	56.48	73.98	17.50	PK
11510	47.48	-6.26	H	41.22	53.98	12.76	AV

Band :	5.8 GHz
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5795 MHz
Channel No.	159 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL-AMP G [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11590	62.01	-5.92	V	56.09	73.98	17.89	PK
11590	47.72	-5.92	V	41.80	53.98	12.18	AV
11590	61.03	-5.92	H	55.11	73.98	18.87	PK
11590	47.79	-5.92	H	41.87	53.98	12.11	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11n_40 MHz BW mode and all data rate. Worst data rate is the lowest data of each mode
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Test Report No. HCTR1312FR20-1	Date of Issue: January 02, 2014	EUT Type: WLAN Access Point	FCC ID: A3LWEA303I

9.6.2 RADIATED RESTRICTED BAND EDGES

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Monitoring MIMO (Ant 1 & 2)

Operation Mode:	802.11g
Transfer Rate:	6 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	38.50	31.47	H	69.97	73.98	4.01	PK
2390.0	18.49	31.47	H	31.47	53.98	22.51	AV
2390.0	28.03	31.47	V	59.50	73.98	14.48	PK
2390.0	14.11	31.47	V	45.58	53.98	8.40	AV
2483.5	36.54	31.46	H	68.00	73.98	5.98	PK
2483.5	19.03	31.46	H	50.49	53.98	3.49	AV
2483.5	27.70	31.46	V	59.16	73.98	14.82	PK
2483.5	14.02	31.46	V	45.48	53.98	8.50	AV

Operation Mode: 802.11b

Transfer Rate: 1 Mbps

Operating Frequency: 2412 MHz, 2462 MHz

Channel No. 01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	25.43	31.47	H	56.90	73.98	17.08	PK
2390.0	14.92	31.47	H	46.39	53.98	7.59	AV
2390.0	26.04	31.47	V	57.51	73.98	16.47	PK
2390.0	15.46	31.47	V	46.93	53.98	7.05	AV
2483.5	25.96	31.46	H	57.42	73.98	16.56	PK
2483.5	14.23	31.46	H	45.69	53.98	8.29	AV
2483.5	25.94	31.46	V	57.40	73.98	16.58	PK
2483.5	13.42	31.46	V	44.88	53.98	9.10	AV

Operation Mode: 802.11n

Transfer Rate: 6.5 Mbps

Operating Frequency: 2412 MHz, 2462 MHz

Channel No. 01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	38.92	31.47	H	70.39	73.98	3.59	PK
2390.0	17.08	31.47	H	48.55	53.98	5.43	AV
2390.0	28.40	31.47	V	59.87	73.98	14.11	PK
2390.0	14.02	31.47	V	45.49	53.98	8.49	AV
2483.5	32.08	31.46	H	63.54	73.98	10.44	PK
2483.5	14.78	31.46	H	46.24	53.98	7.74	AV
2483.5	26.18	31.46	V	57.64	73.98	16.34	PK
2483.5	13.64	31.46	V	45.10	53.98	8.88	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss
2. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Service MIMO (Ant 1 & 2 & 3)

Operation Mode:	802.11g
Transfer Rate:	6 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	30.65	31.47	H	62.12	73.98	11.86	PK
2390.0	19.12	31.47	H	50.59	53.98	3.39	AV
2390.0	26.78	31.47	V	58.25	73.98	15.73	PK
2390.0	14.64	31.47	V	46.11	53.98	7.87	AV
2483.5	31.54	31.46	H	63.00	73.98	10.98	PK
2483.5	19.00	31.46	H	50.46	53.98	3.52	AV
2483.5	30.21	31.46	V	61.67	73.98	12.31	PK
2483.5	13.78	31.46	V	45.24	53.98	8.74	AV

Operation Mode:	802.11b
Transfer Rate:	1 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	28.72	31.47	H	60.19	73.98	13.79	PK
2390.0	18.72	31.47	H	50.19	53.98	3.79	AV
2390.0	27.00	31.47	V	58.47	73.98	15.51	PK
2390.0	14.56	31.47	V	46.03	53.98	7.95	AV
2483.5	28.72	31.46	H	60.18	73.98	13.80	PK
2483.5	18.95	31.46	H	50.41	53.98	3.57	AV
2483.5	25.32	31.46	V	56.78	73.98	17.20	PK
2483.5	15.04	31.46	V	46.50	53.98	7.48	AV

Operation Mode:	802.11n
Transfer Rate:	6.5 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	01 Ch, 11 Ch

Frequency [MHz]	Reading [dBuV/m]	AN.+CL [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	31.94	31.47	H	63.41	73.98	10.57	PK
2390.0	18.76	31.47	H	50.23	53.98	3.75	AV
2390.0	28.43	31.47	V	59.90	73.98	14.08	PK
2390.0	13.52	31.47	V	44.99	53.98	8.99	AV
2483.5	31.42	31.46	H	62.88	73.98	11.10	PK
2483.5	18.79	31.46	H	50.25	53.98	3.73	AV
2483.5	30.14	31.46	V	61.60	73.98	12.38	PK
2483.5	13.94	31.46	V	45.40	53.98	8.58	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss
2. We have done 802.11b/g/n mode and all data rate. Worst data rate is the lowest data of each mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

9.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

Note : We don't perform powerline conducted emission test. Because the manufacturer does not sell the POE.

10. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	02/06/2014	100073
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	12/17/2014	3150
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	04/16/2014	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	04/25/2014	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	05/14/2014	MY51110063
Audix	AM4000/ Antenna Position Tower	N/A	N/A	060520-AM
Audix	Turn Table	N/A	N/A	N/A
Audix	EM 1000/ Controller	N/A	N/A	13
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/10/2014	10094
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	07/05/2015	1151
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/30/2014	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	02/08/2014	839117/011
Agilent	N1911A/Power Meter	Annual	01/22/2014	MY45100523
Agilent	N1921A /POWER SENSOR	Annual	07/11/2014	MY45241059
Wainwright Instrument	WHF3.0/18G-10EF / High Pass Filter	Annual	02/08/2014	F6
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	04/16/2014	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	04/16/2014	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	03/19/2014	1
Hewlett Packard	11636B/Power Divider	Annual	10/22/2014	11377
Agilent	87300B/Directional Coupler	Annual	12/24/2013	3116A03621
Hewlett Packard	11667B / Power Splitter	Annual	05/29/2014	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	10/29/2014	3110117
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	04/24/2014	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	04/25/2014	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
Agilent	8493C / Attenuator(10 dB)	Annual	07/24/2014	76649
Rohde & Schwarz	FSV40/Spectrum Analyzer	Annual	06/10/2014	1307.9002K40- 100931-NK
CERNEX	CBL06185030 / POWER AMP	Annual	07/24/2014	22965
CERNEX	CBLU1183540 / POWER AMP	Annual	07/24/2014	22964
CERNEX	CBL18265035 / POWER AMP	Annual	07/24/2014	22966