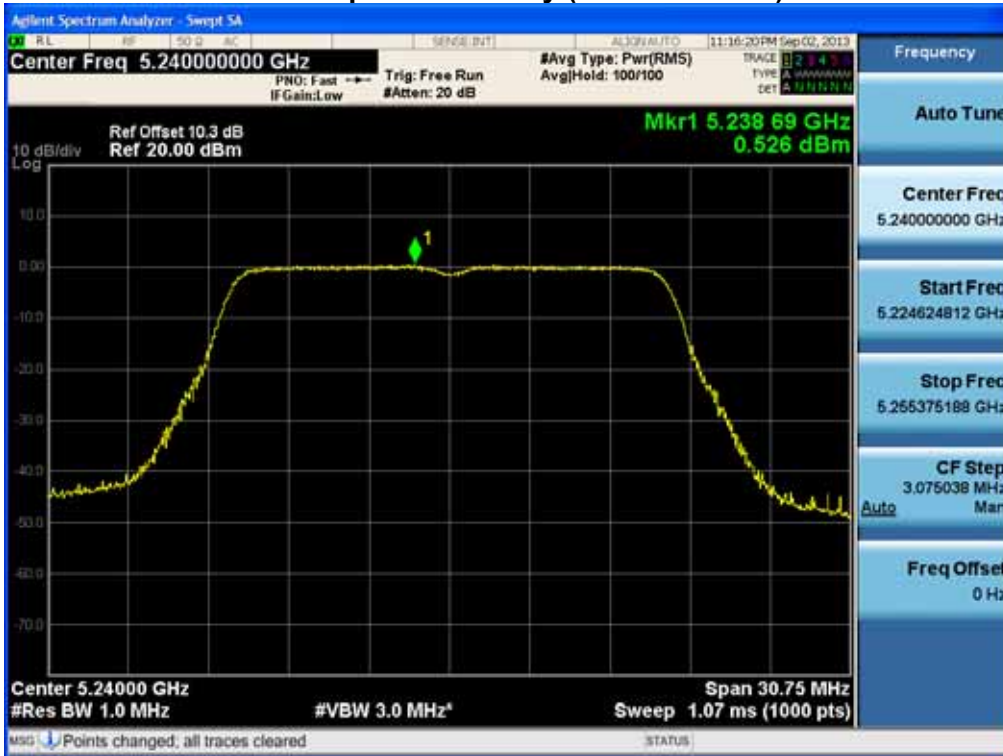




RESULT PLOTS

20 MHz BW

Power Spectral Density (802.11a-CH 48)

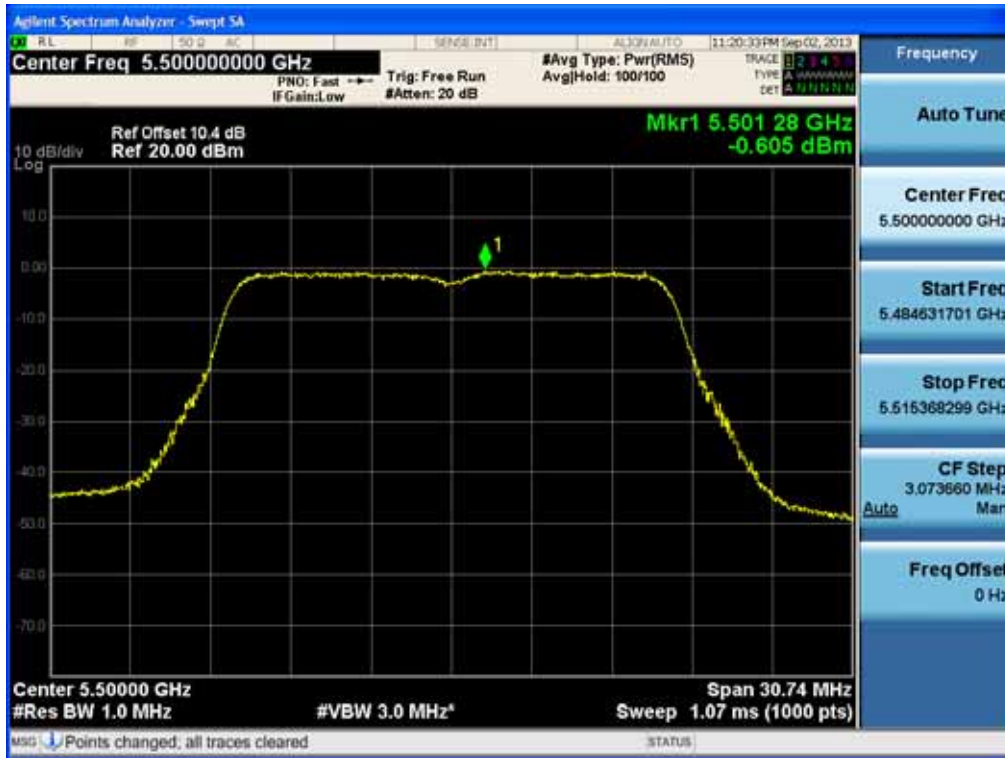


Power Spectral Density (802.11a-CH 52)

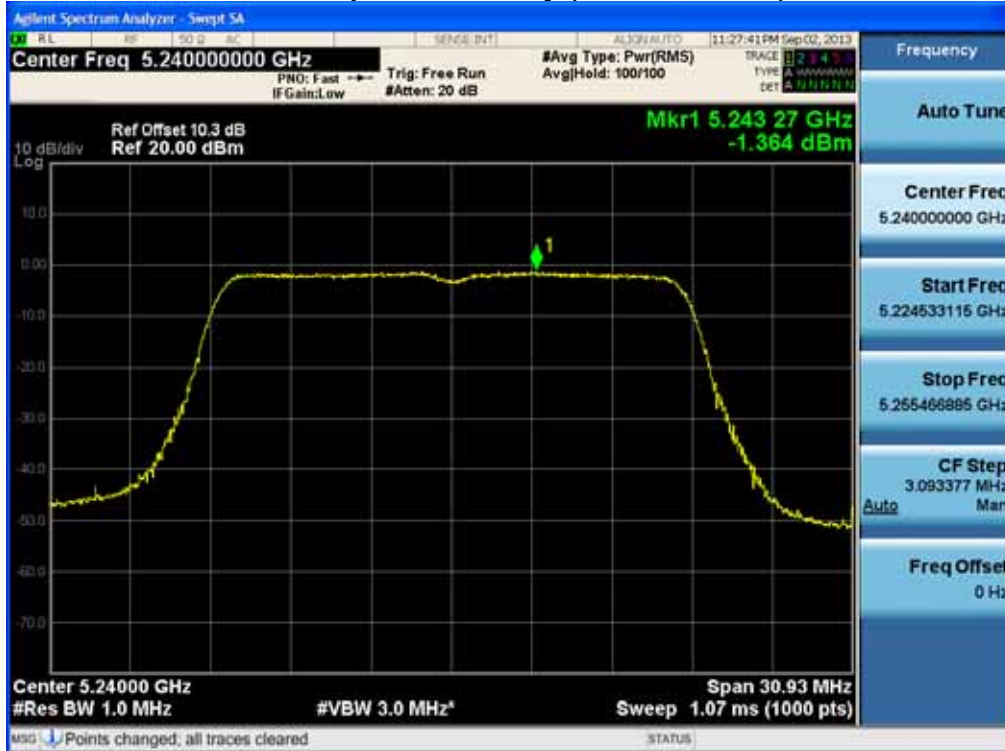


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11a-CH 100)

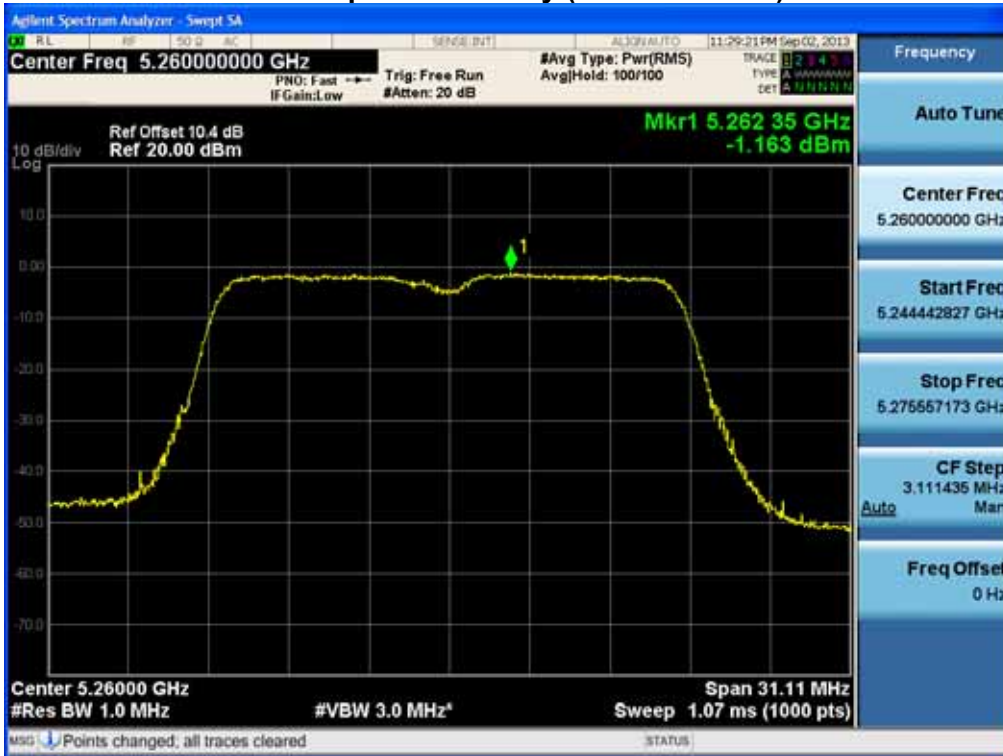


Power Spectral Density (802.11n-CH 48)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11n-CH 52)

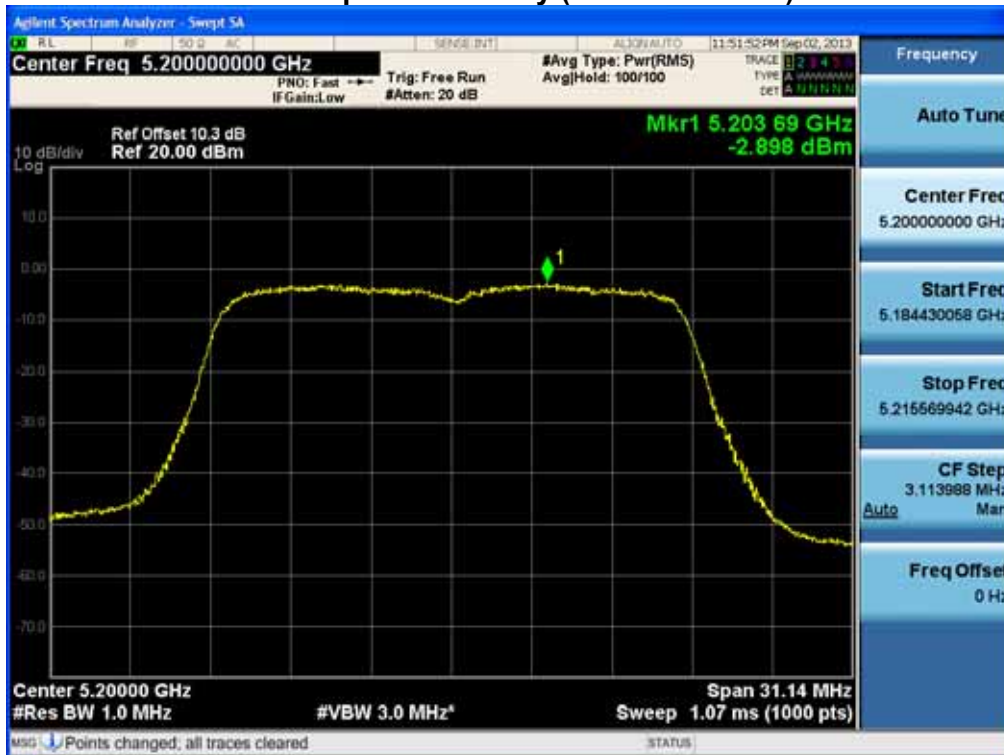


Power Spectral Density (802.11n-CH 100)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11ac-CH 40)

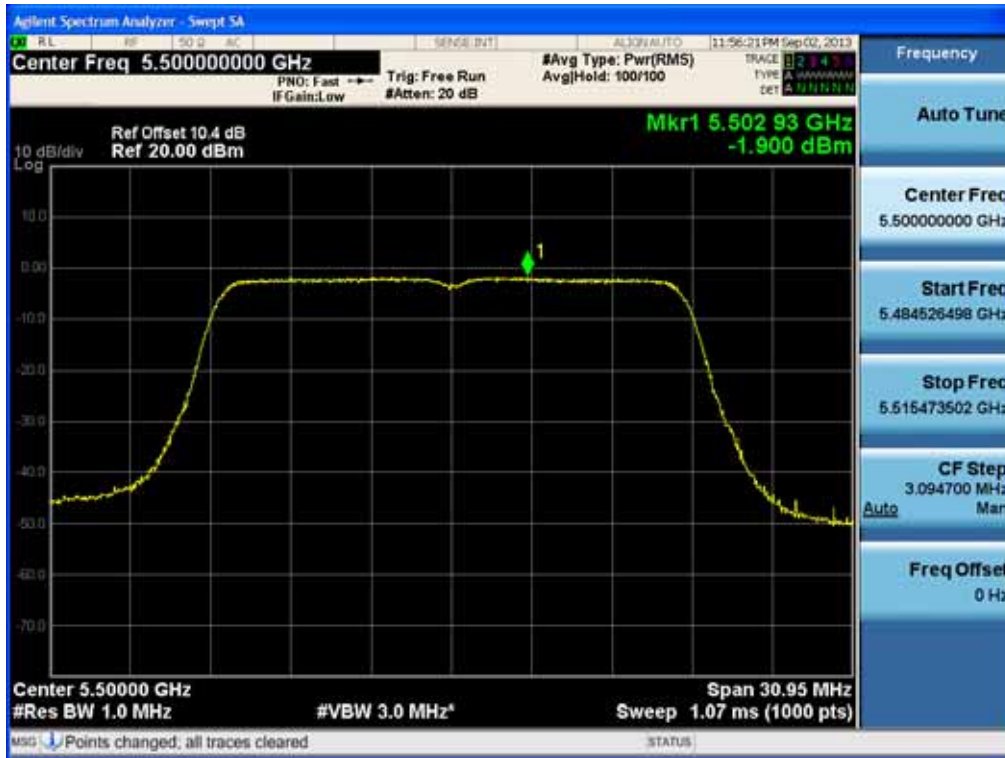


Power Spectral Density (802.11ac-CH 52)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11ac-CH 100)

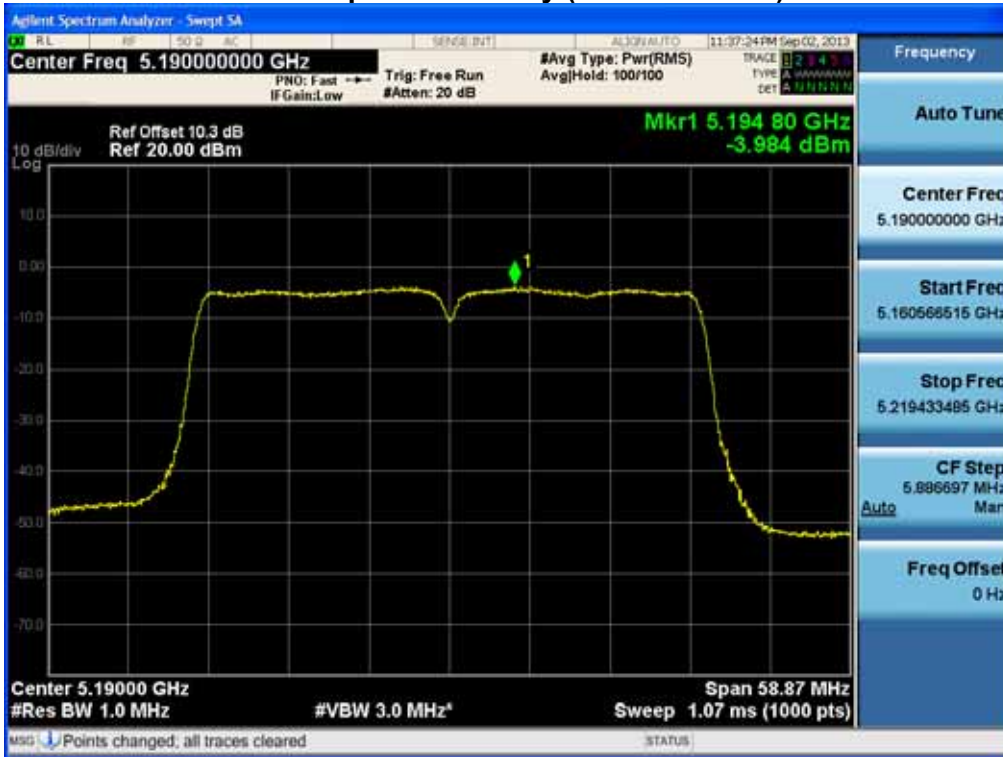


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

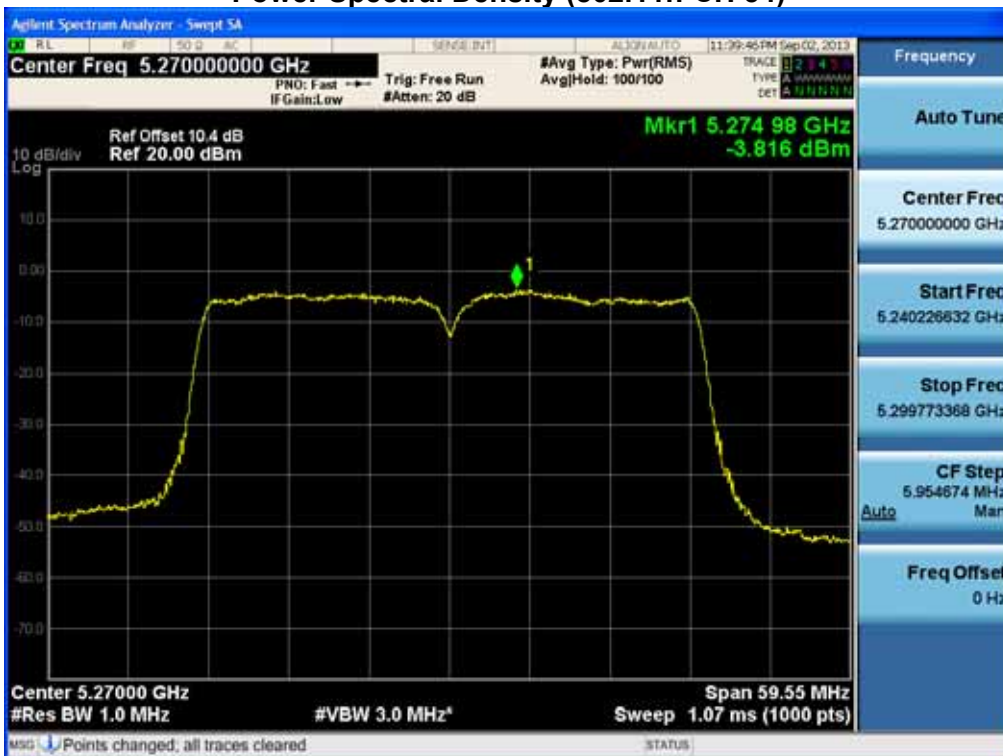


40 MHz BW

Power Spectral Density (802.11n-CH 38)

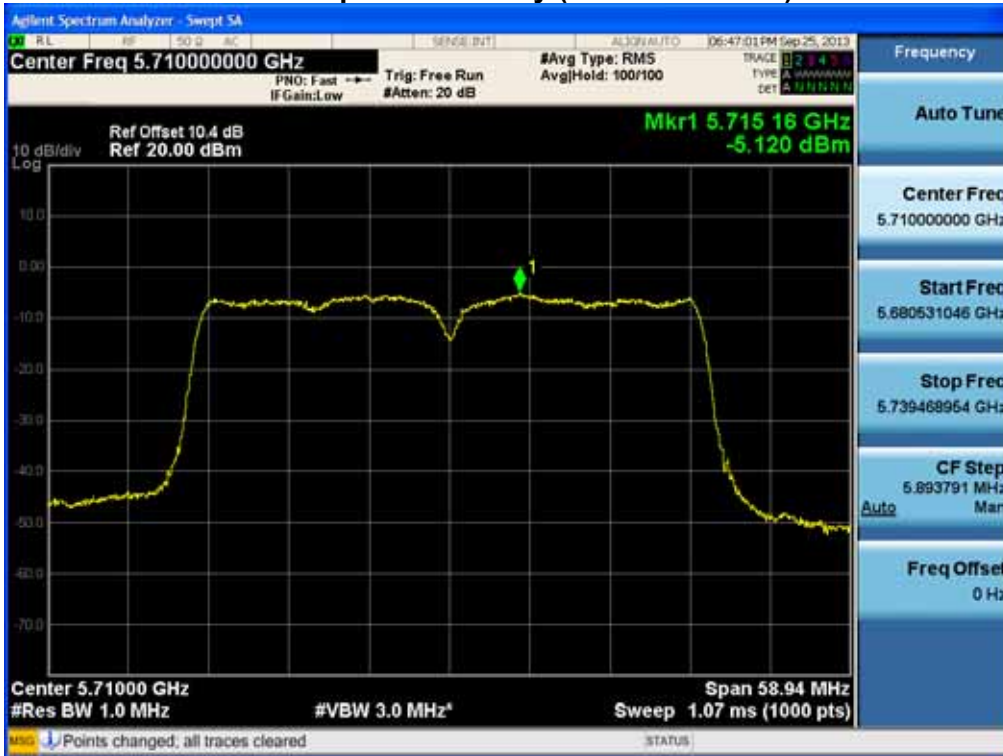


Power Spectral Density (802.11n-CH 54)

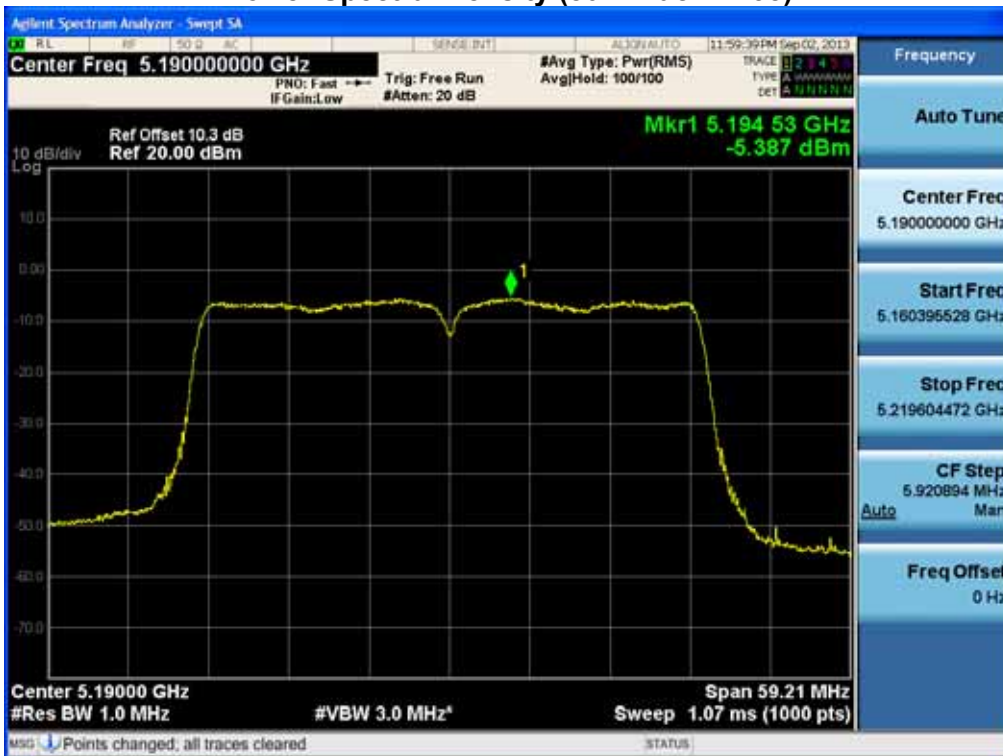


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11n-CH 142)

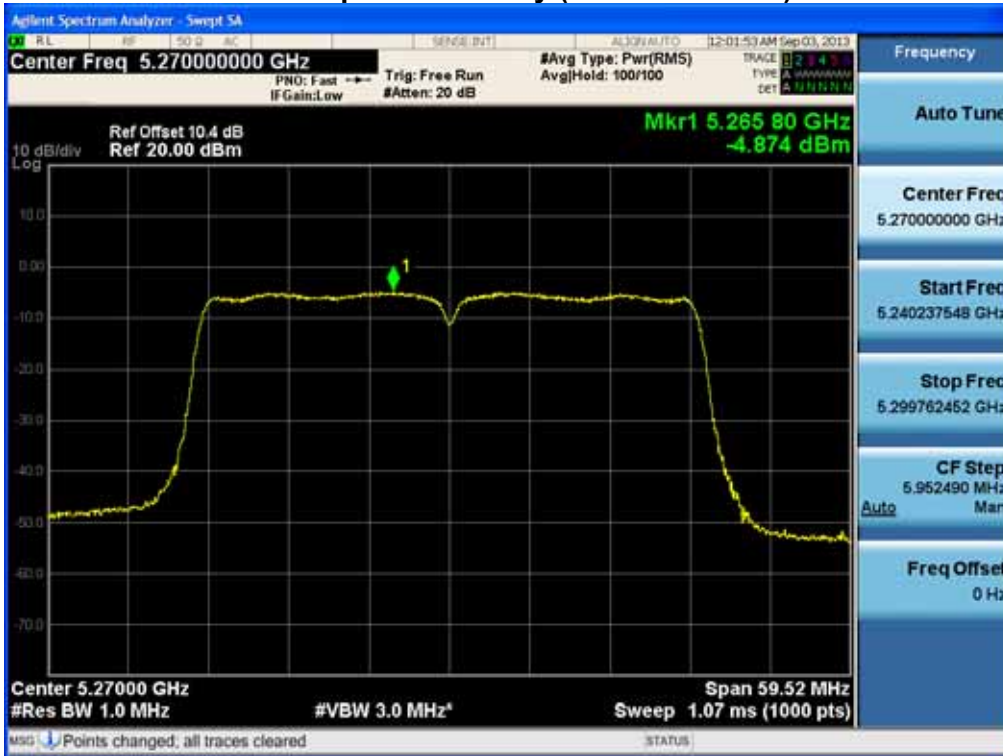


Power Spectral Density (802.11ac-CH 38)

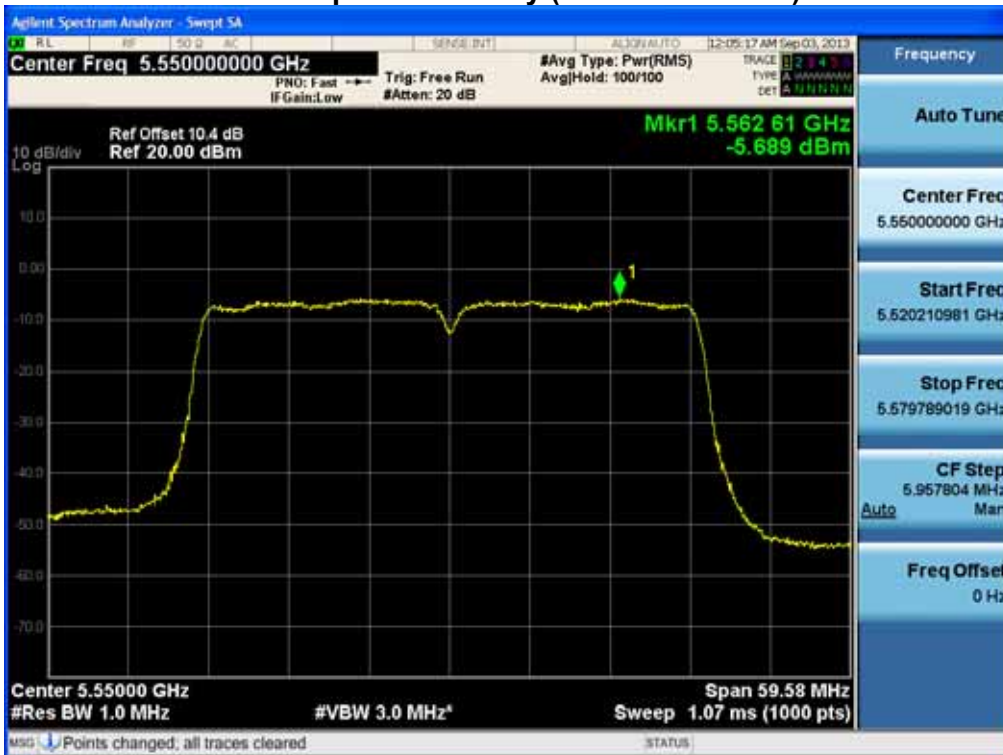


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11ac-CH 54)



Power Spectral Density (802.11ac-CH 110)

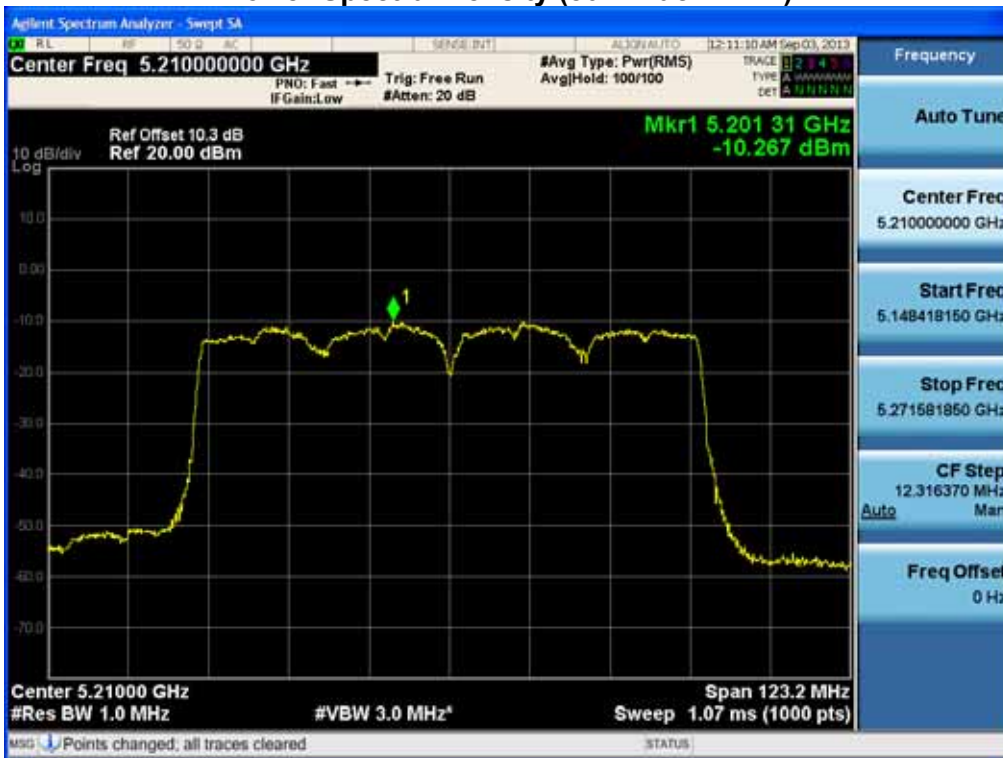


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

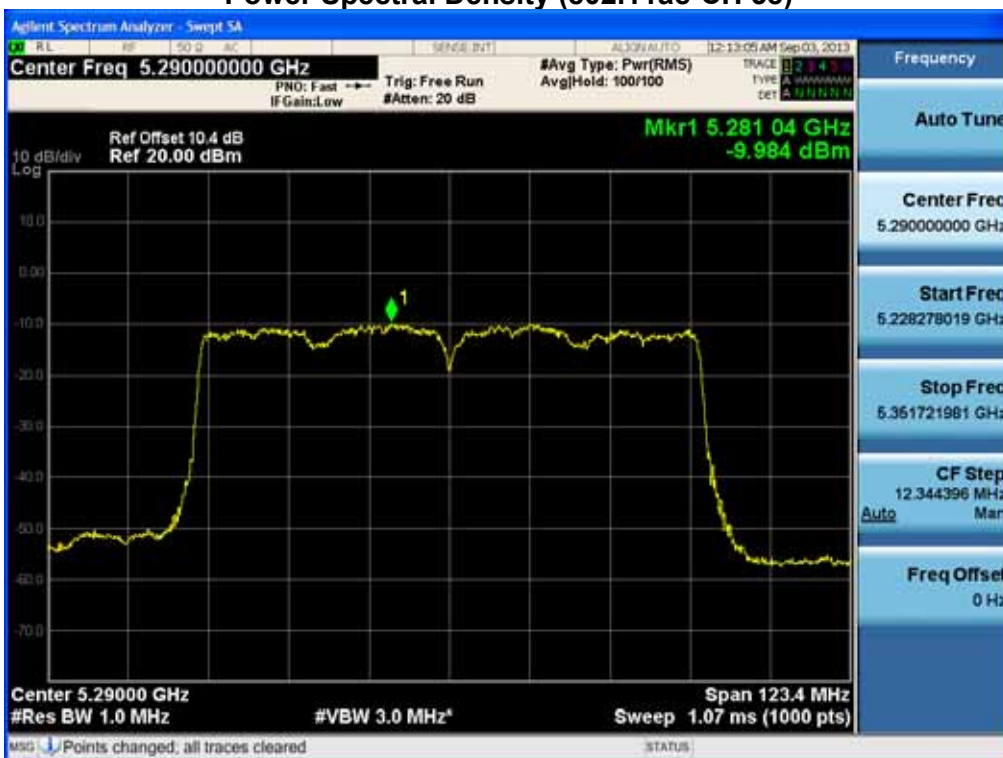


80 MHz BW

Power Spectral Density (802.11ac-CH 42)

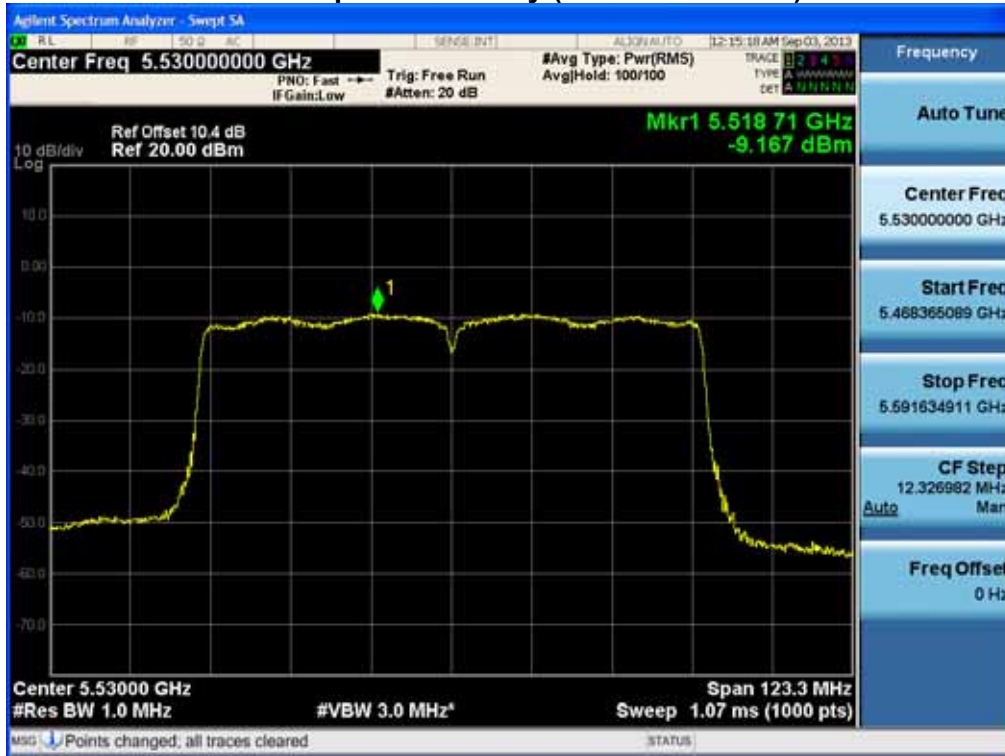


Power Spectral Density (802.11ac-CH 58)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Power Spectral Density (802.11ac-CH 106)

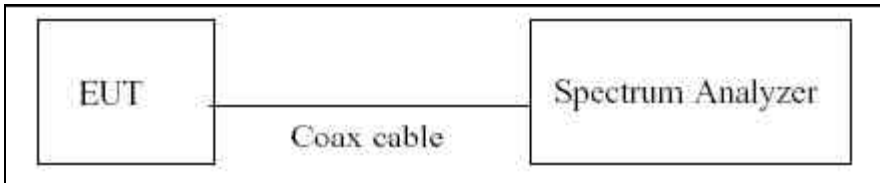


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

8.5 PEAK EXCURSION RATIO

The spectrum analyzer was connected to the antenna terminal while the EUT was operating in the continuous transmission mode at the appropriate center frequencies. The largest permissible difference between the modulation envelope(measured using a peak hold function) and the maximum conducted output power 13 dB/MHz.

TEST CONFIGURATION



TEST PROCEDURE

We tested according to KDB 789033(issued 04/08/2013).

The spectrum analyzer is set to :

1. Span = Set the span to view the entire emission bandwidth.
2. RBW = 1 MHz
3. VBW \geq 3 MHz
4. Detector Mode = Peak
5. Trace Mode = Max hold
6. Allow the sweeps to continue until the trace stabilizes.
7. Use the peak search function to find the peak of the spectrum.
8. Use the procedure to measure the PPSD
9. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

Note :

1. The PSD 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 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.
4. We applied the 15.407 for Ch.144, 142 and 138 in 802.11ac according to KDB 644545 D01 v01r01.

FCC PT.15.407 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC		FCC ID: ZNFLGL22

Band	Frequency(MHz)	Loss(dB)
UNII 1	5180	10.30
	5190	10.29
	5200	10.28
	5230	10.29
	5240	10.34
UNII 2	5260	10.37
	5270	10.38
	5300	10.40
	5310	10.39
	5320	10.39
UNII 2e	5500	10.35
	5510	10.36
	5550	10.41
	5580	10.43
	5670	10.43
	5700	10.30

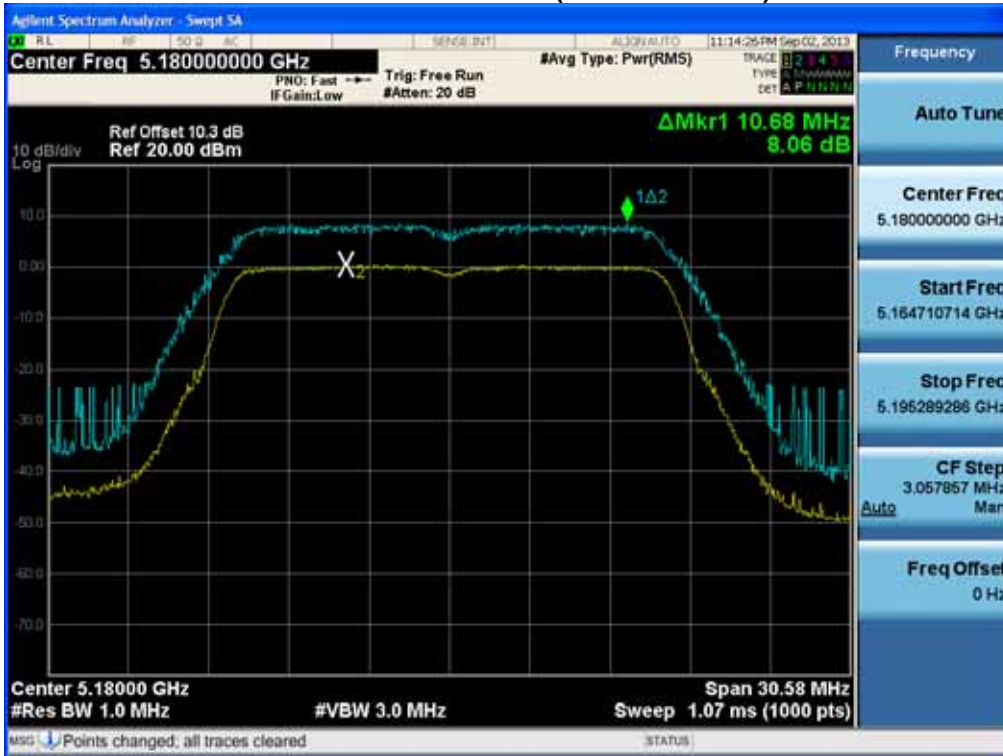
(Actual value of loss for the attenuator and cable combination)



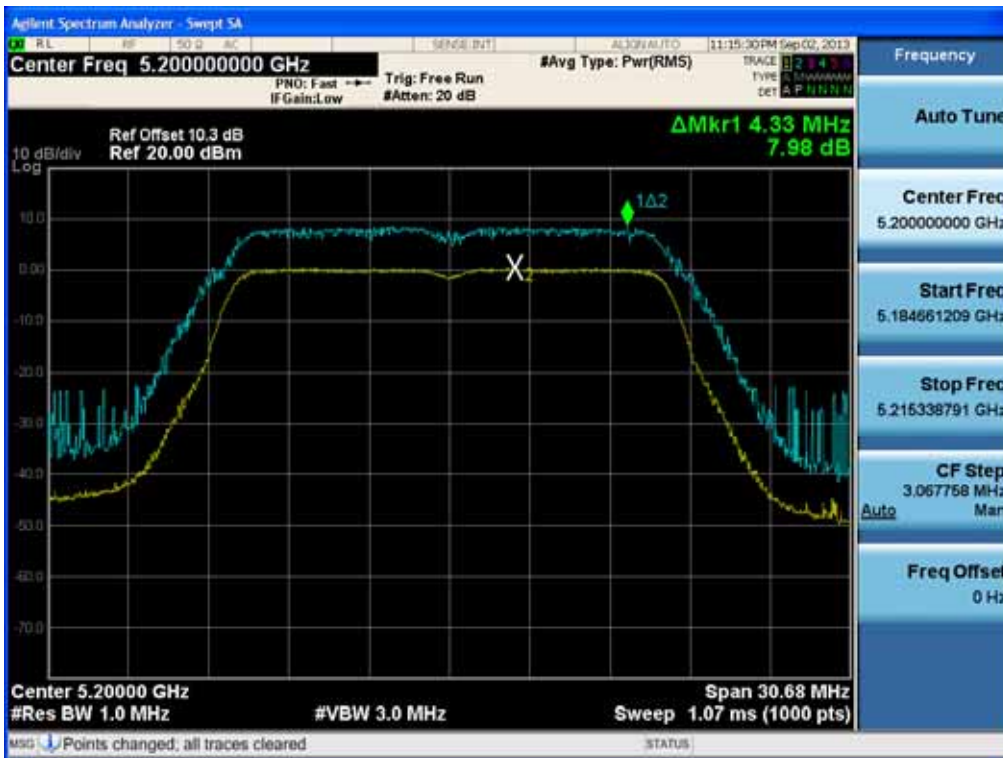
RESULT PLOTS

20 MHz BW

Peak Excursion Ratio (802.11a-CH 36)

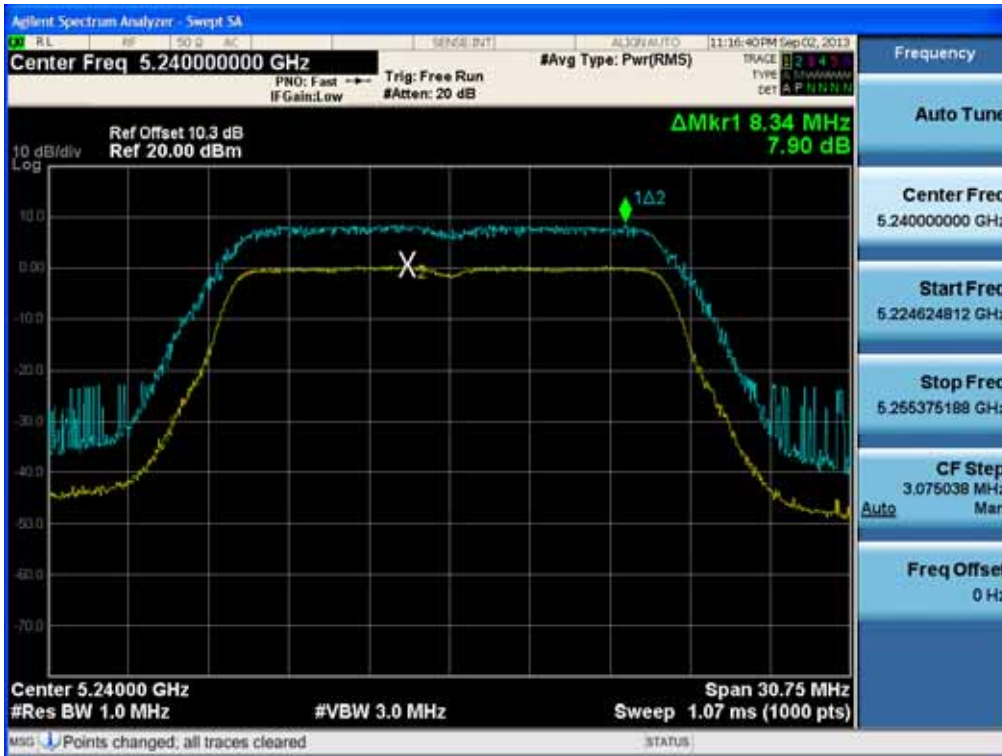


Peak Excursion Ratio (802.11a-CH 40)

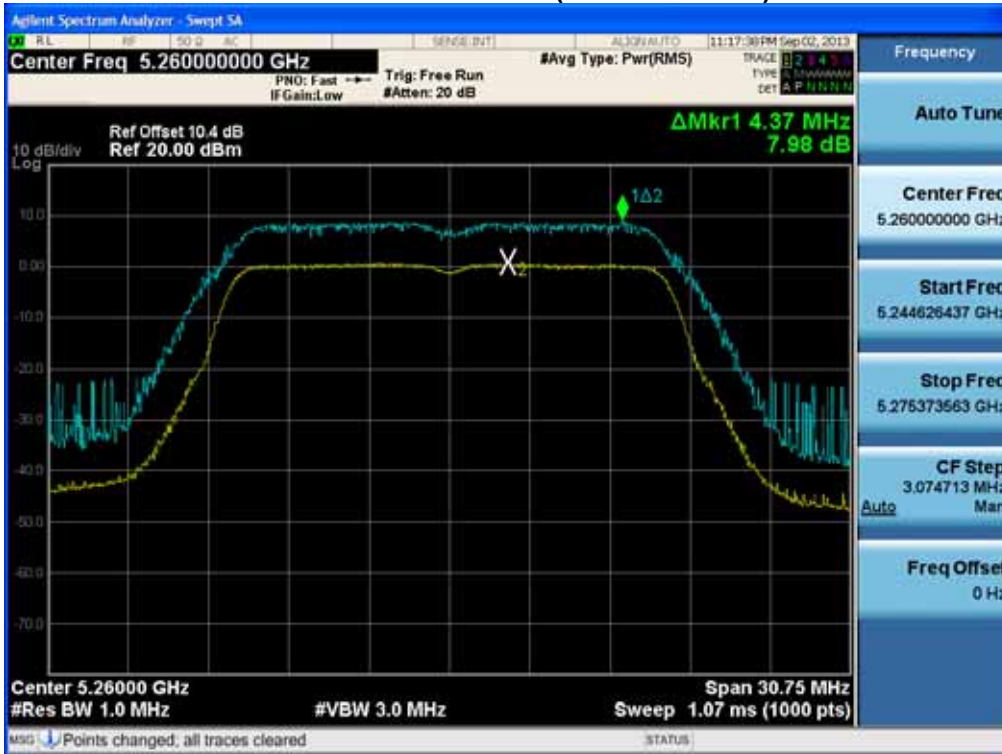


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11a-CH 48)



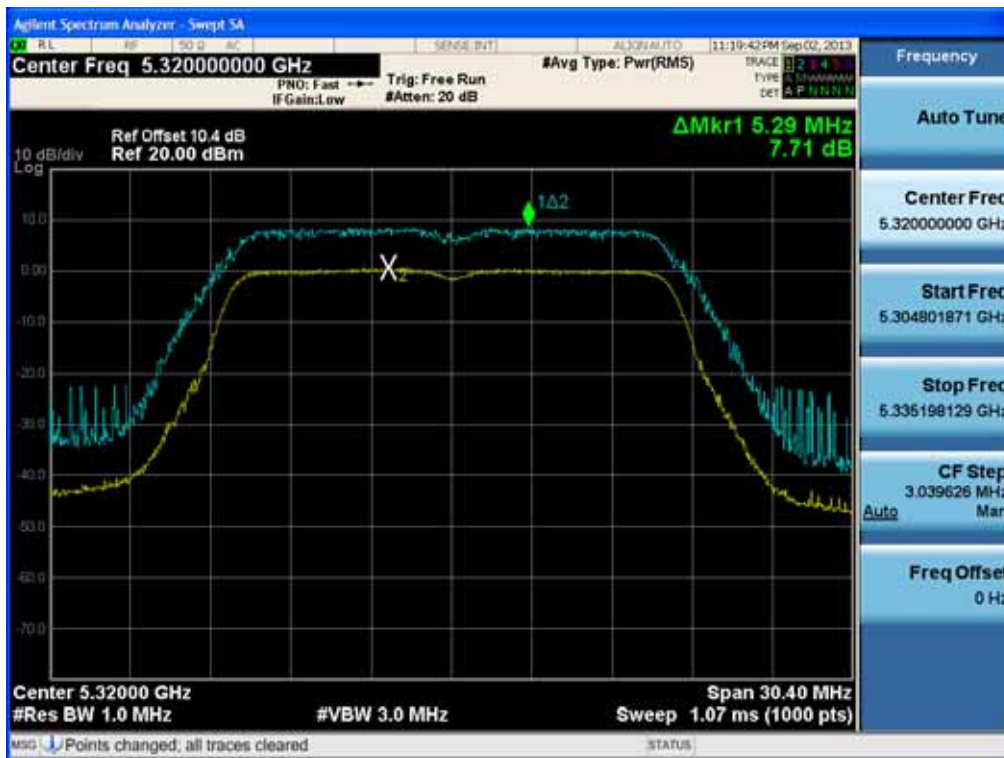
Peak Excursion Ratio (802.11a-CH 52)



Peak Excursion Ratio (802.11a-CH 60)

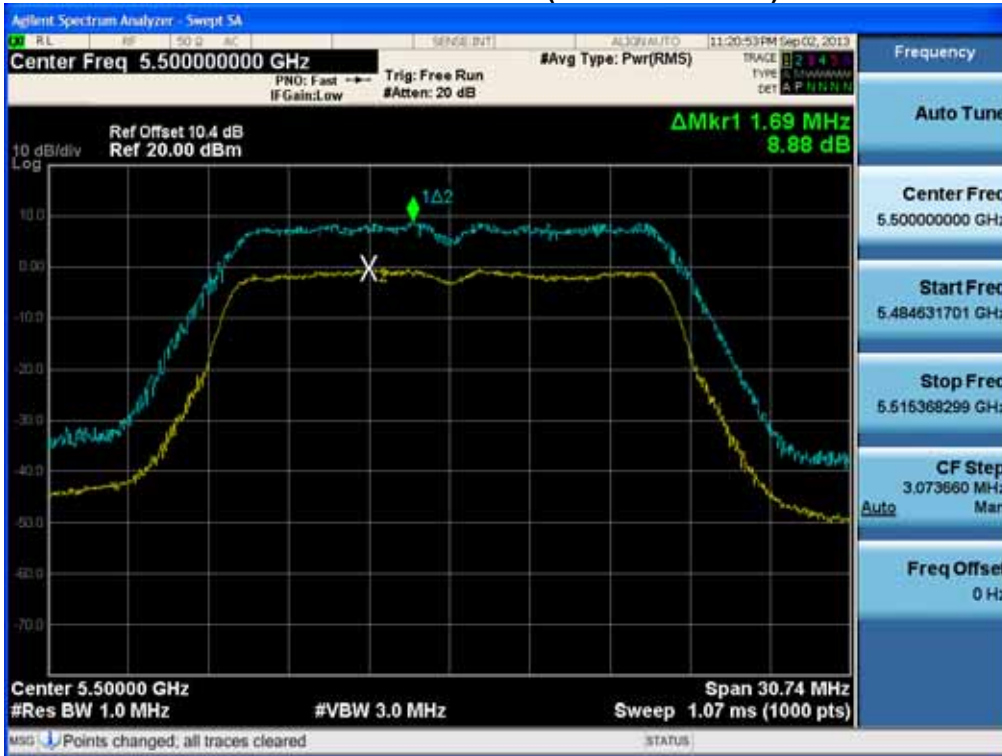


Peak Excursion Ratio (802.11a-CH 64)

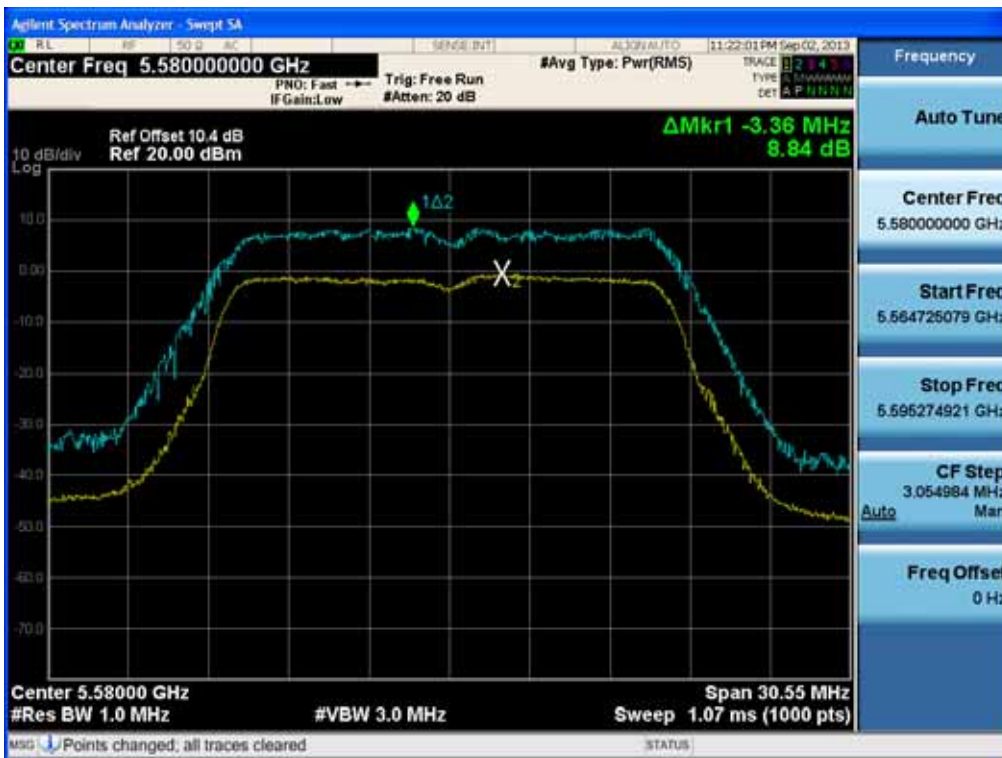


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11a-CH 100)

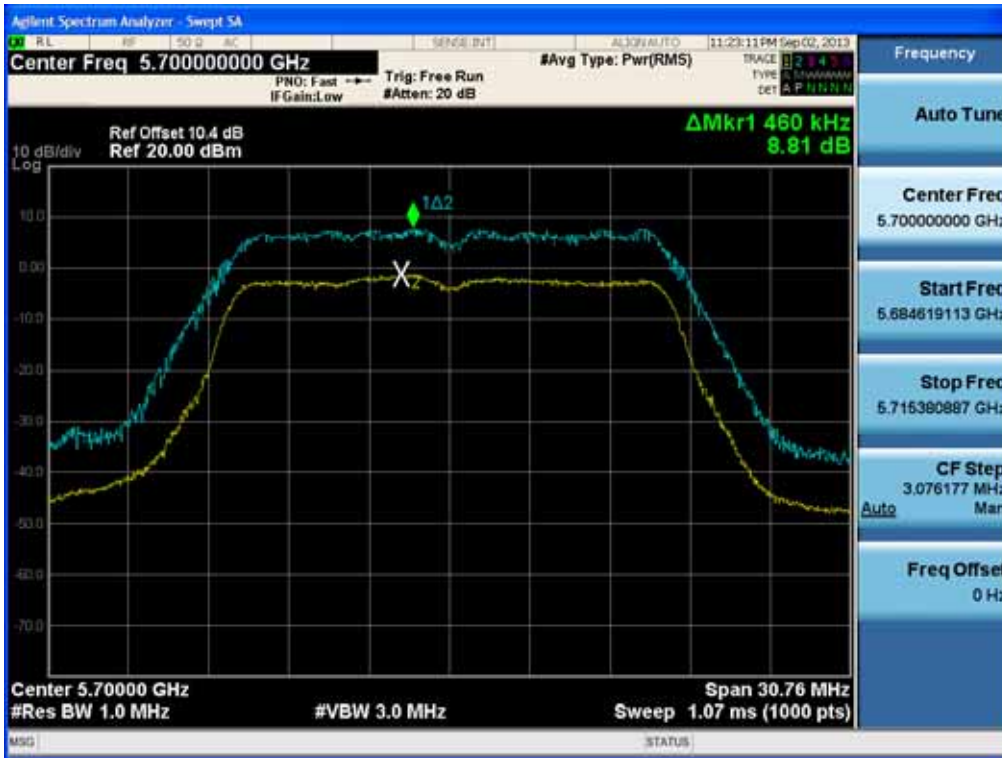


Peak Excursion Ratio (802.11a-CH 116)

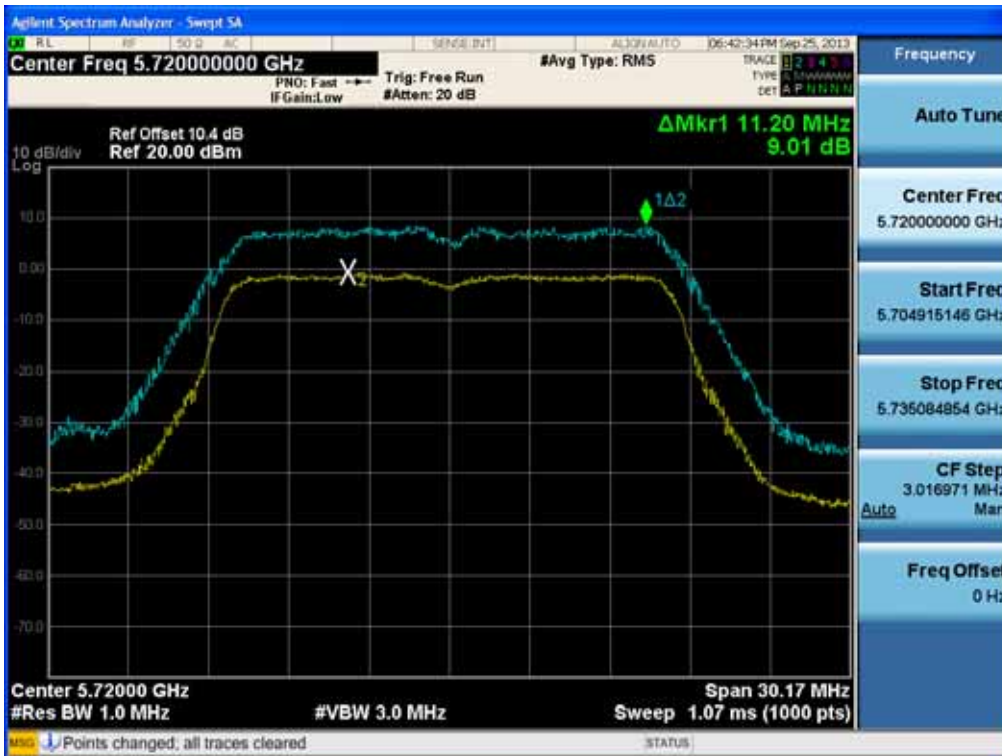


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11a-CH 140)



Peak Excursion Ratio (802.11a-CH 144)

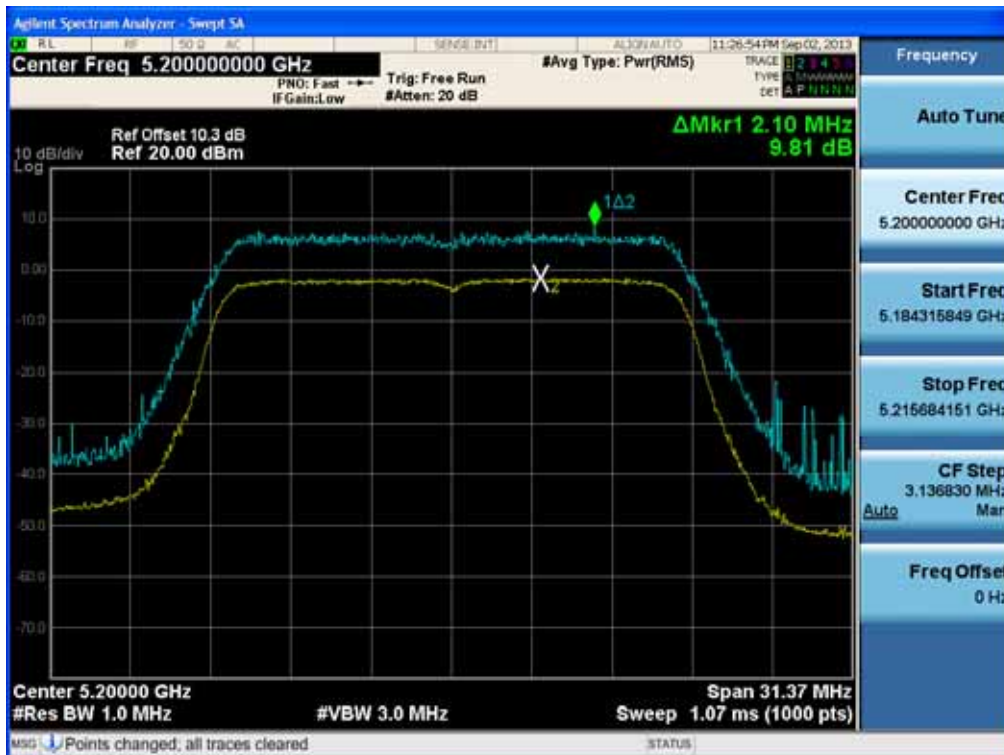


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 36)

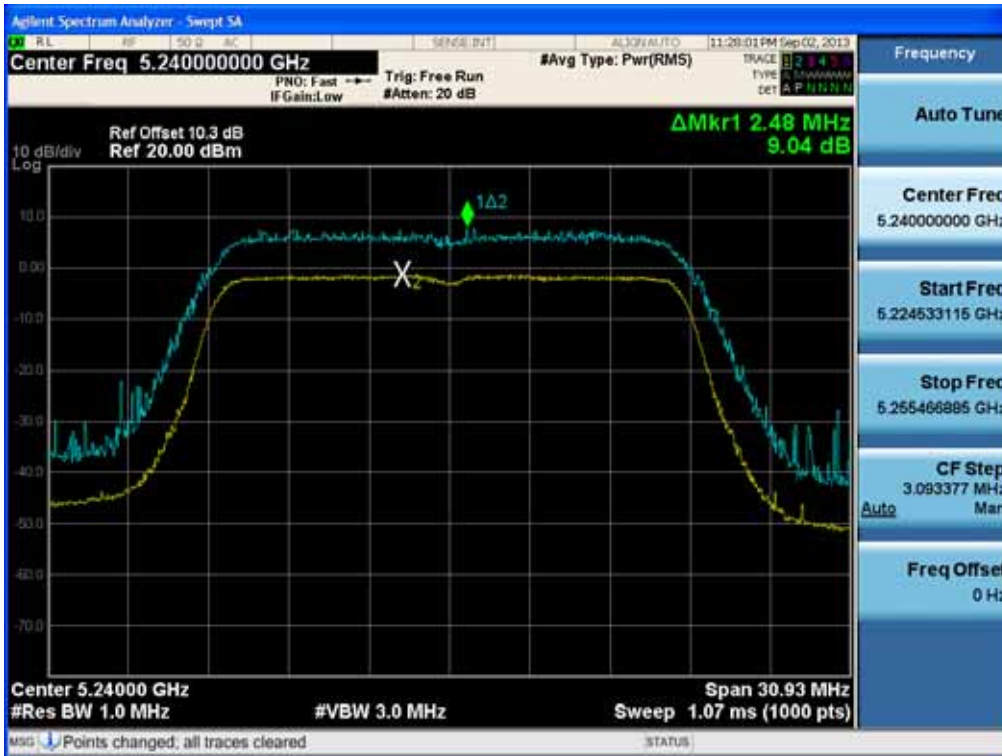


Peak Excursion Ratio (802.11n-CH 40)

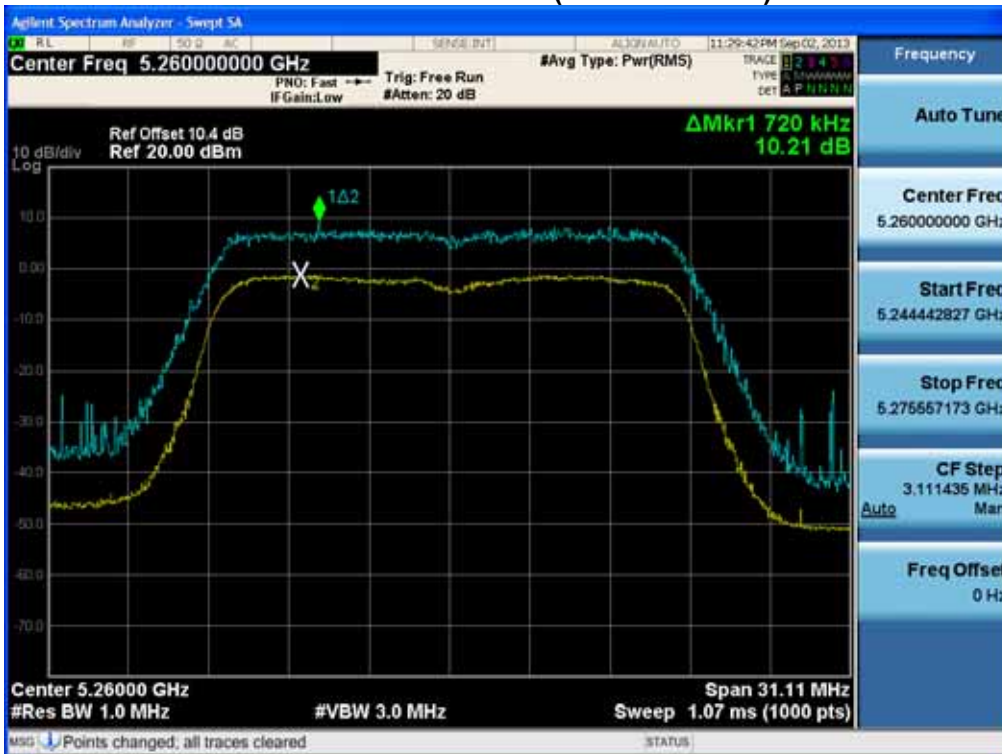


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 48)

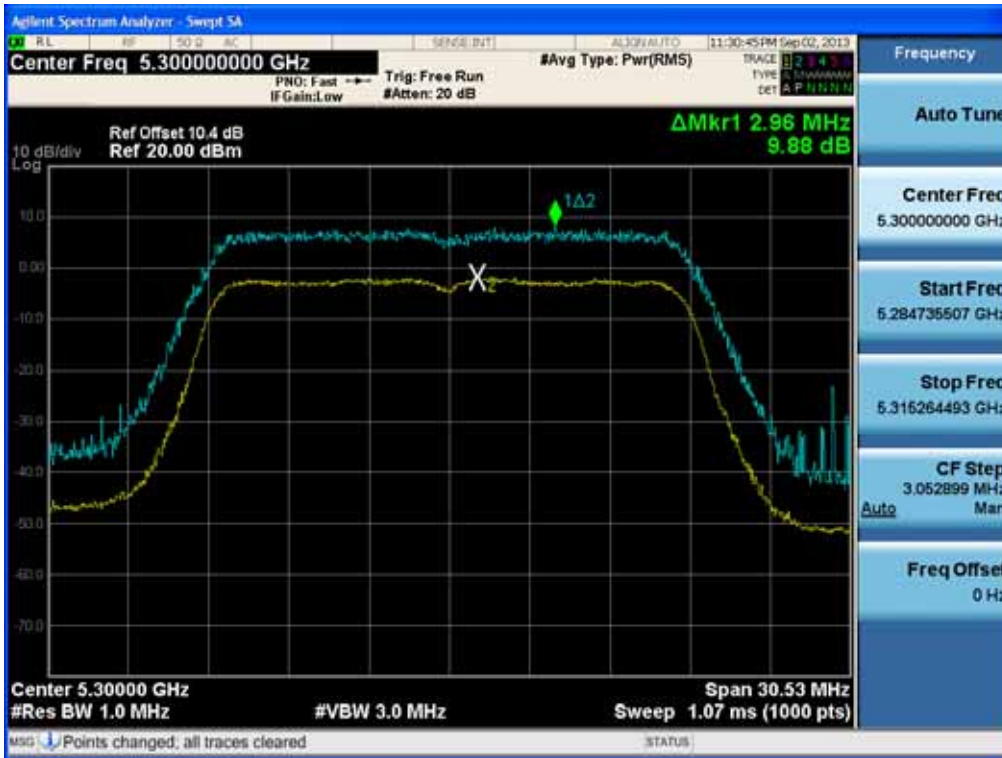


Peak Excursion Ratio (802.11n-CH 52)

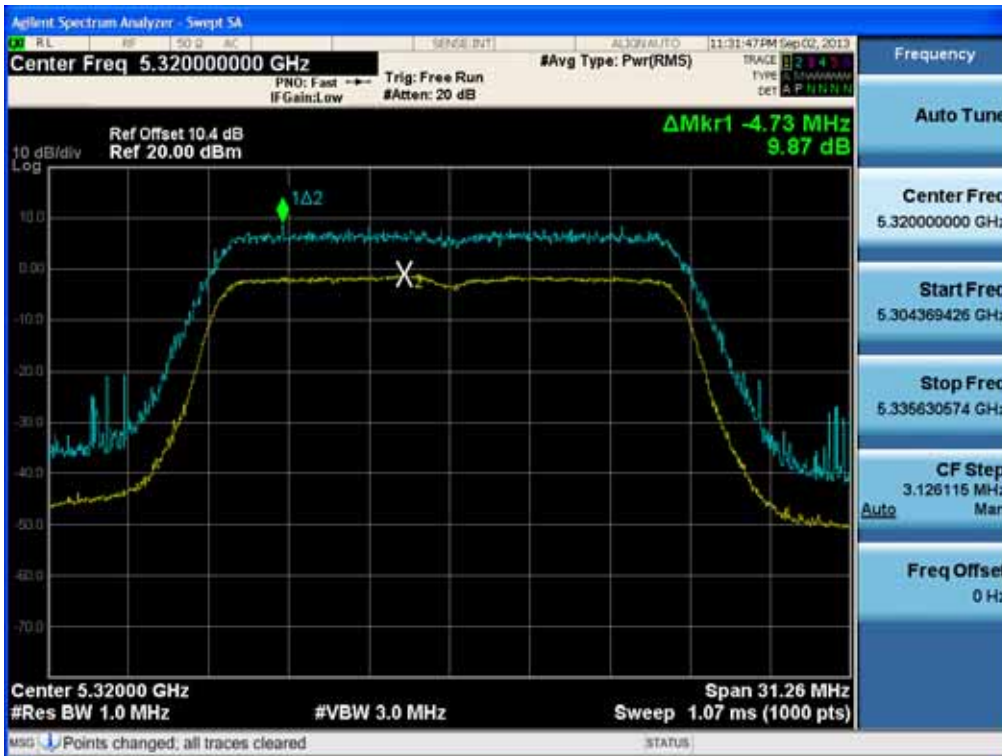


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 60)

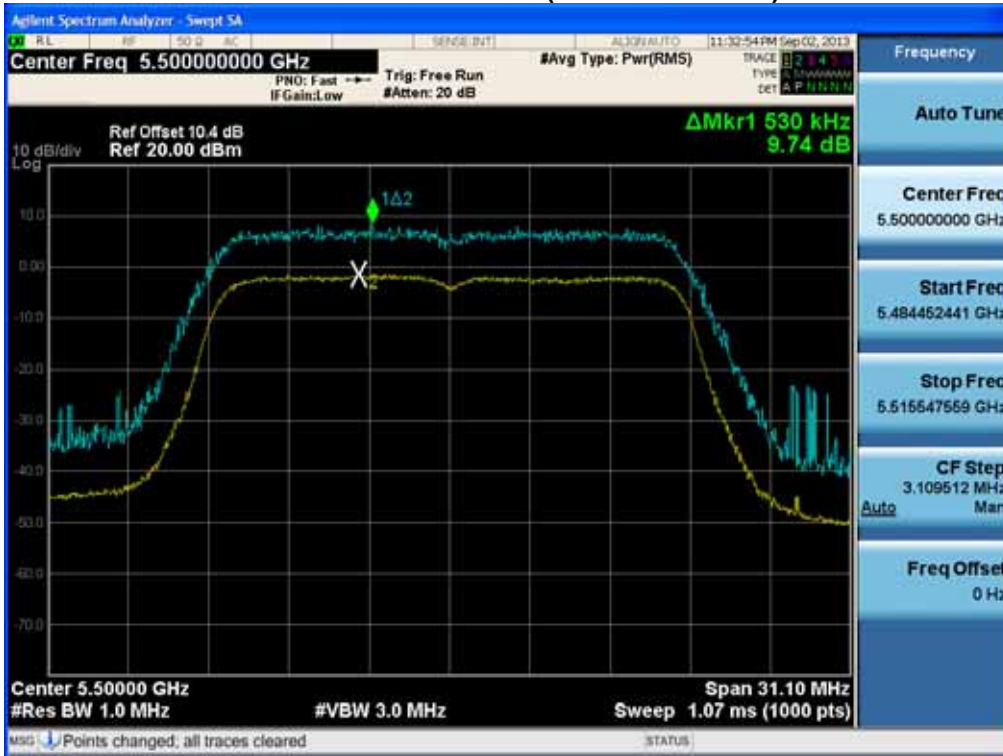


Peak Excursion Ratio (802.11n-CH 64)

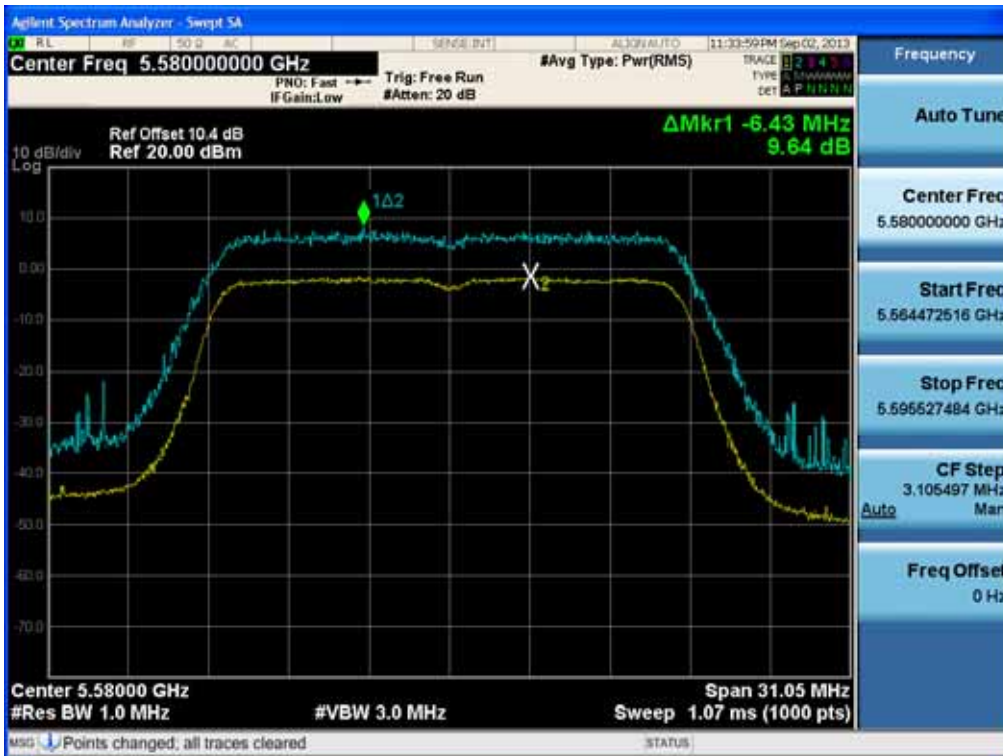


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFGL22

Peak Excursion Ratio (802.11n-CH 100)



Peak Excursion Ratio (802.11n-CH 116)

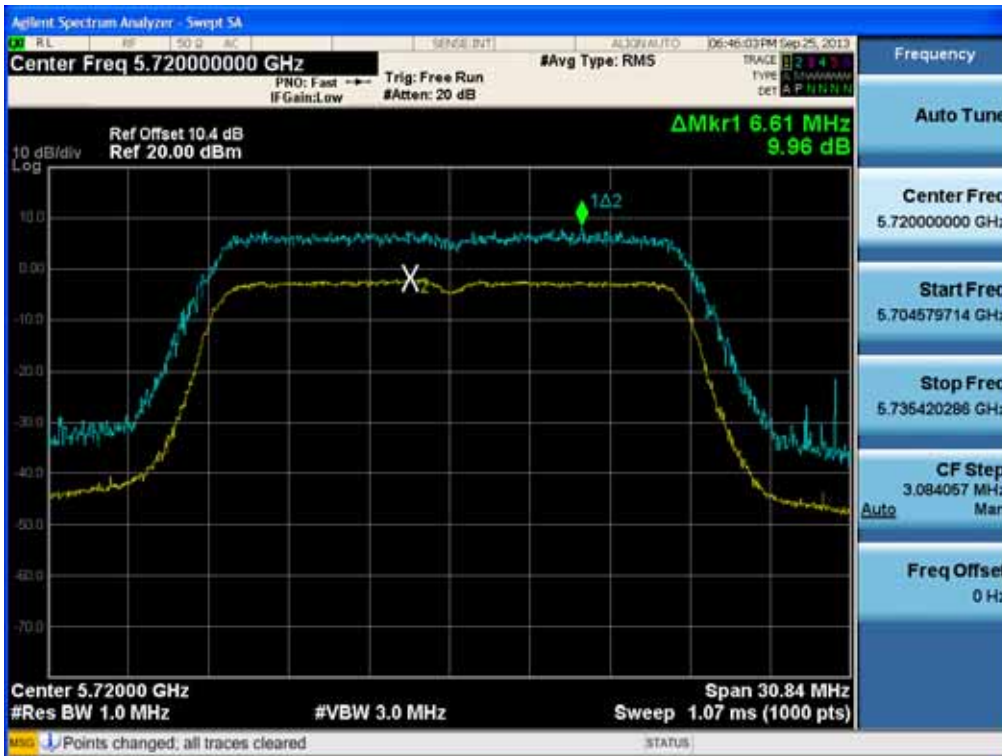


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 140)



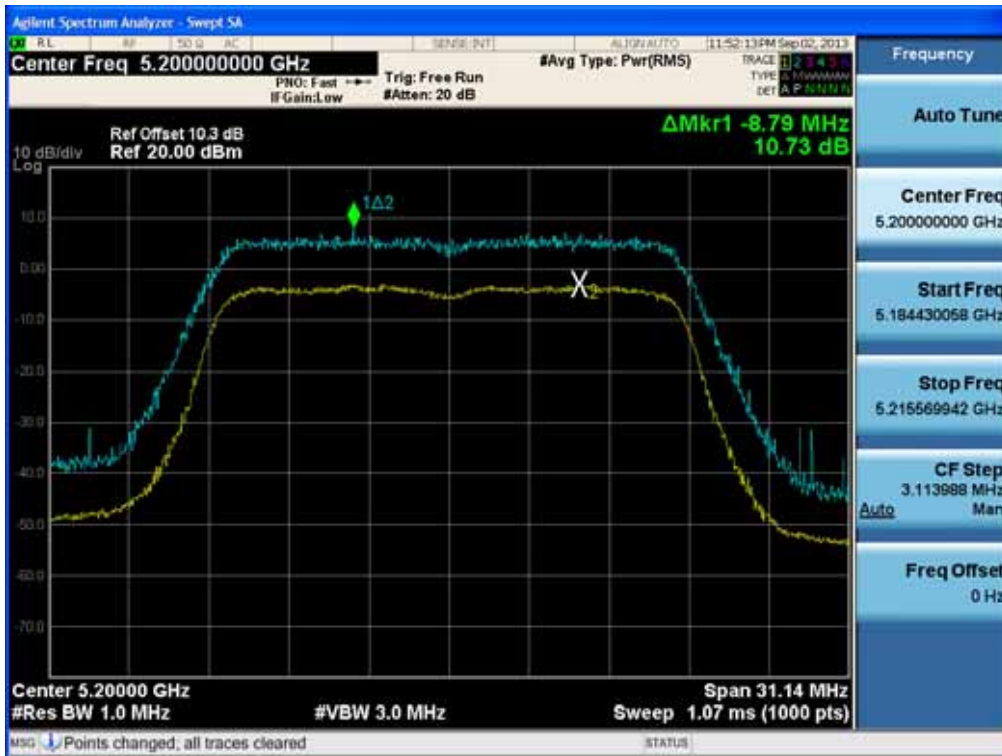
Peak Excursion Ratio (802.11n-CH 144)



Peak Excursion Ratio (802.11ac-CH 36)

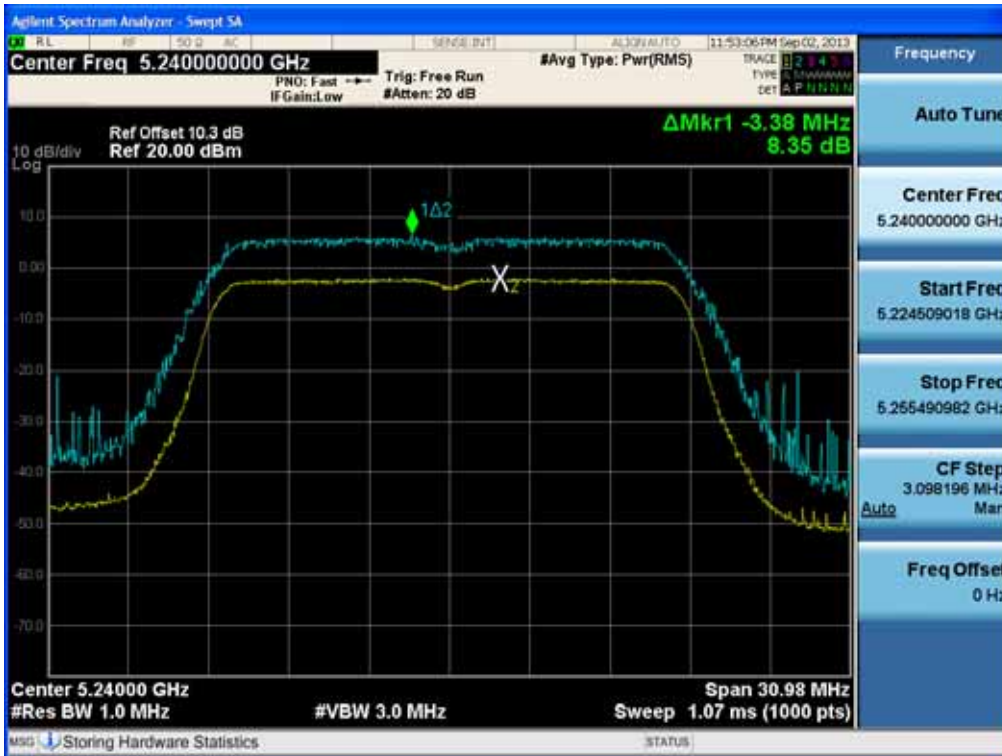


Peak Excursion Ratio (802.11ac-CH 40)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11ac-CH 48)



Peak Excursion Ratio (802.11ac-CH 52)

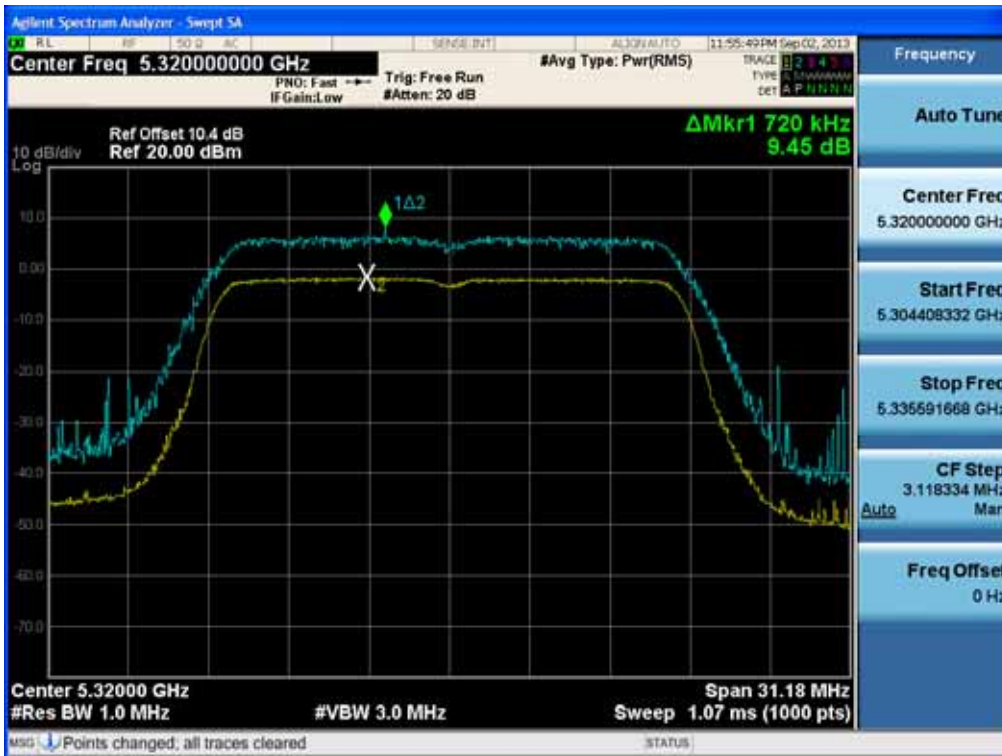


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11ac-CH 60)

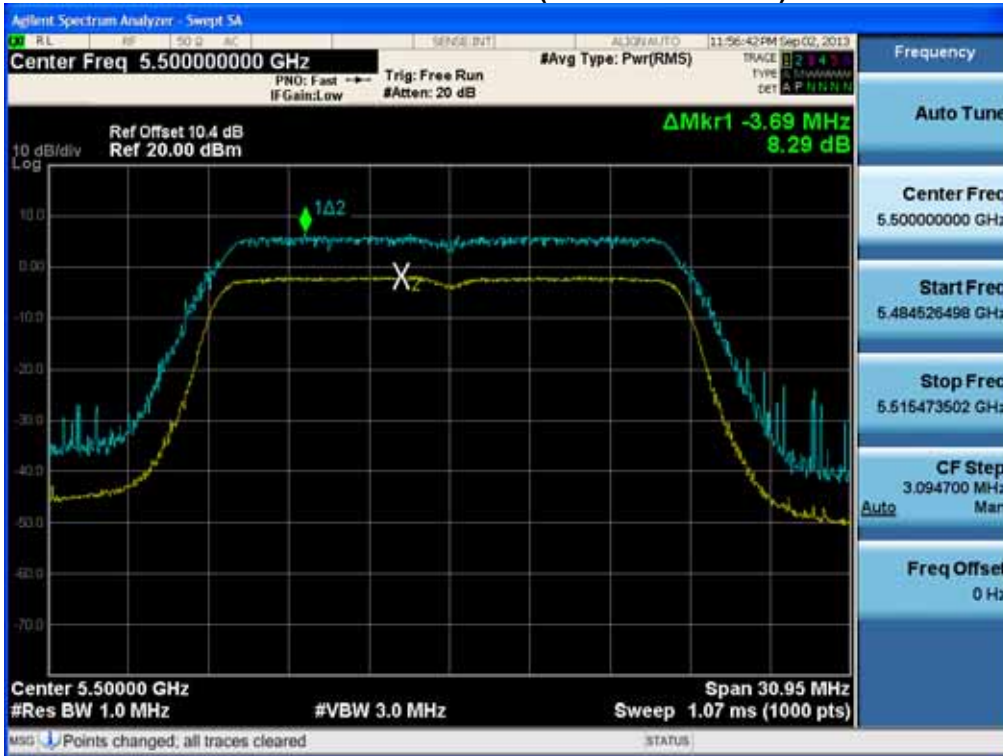


Peak Excursion Ratio (802.11ac-CH 64)

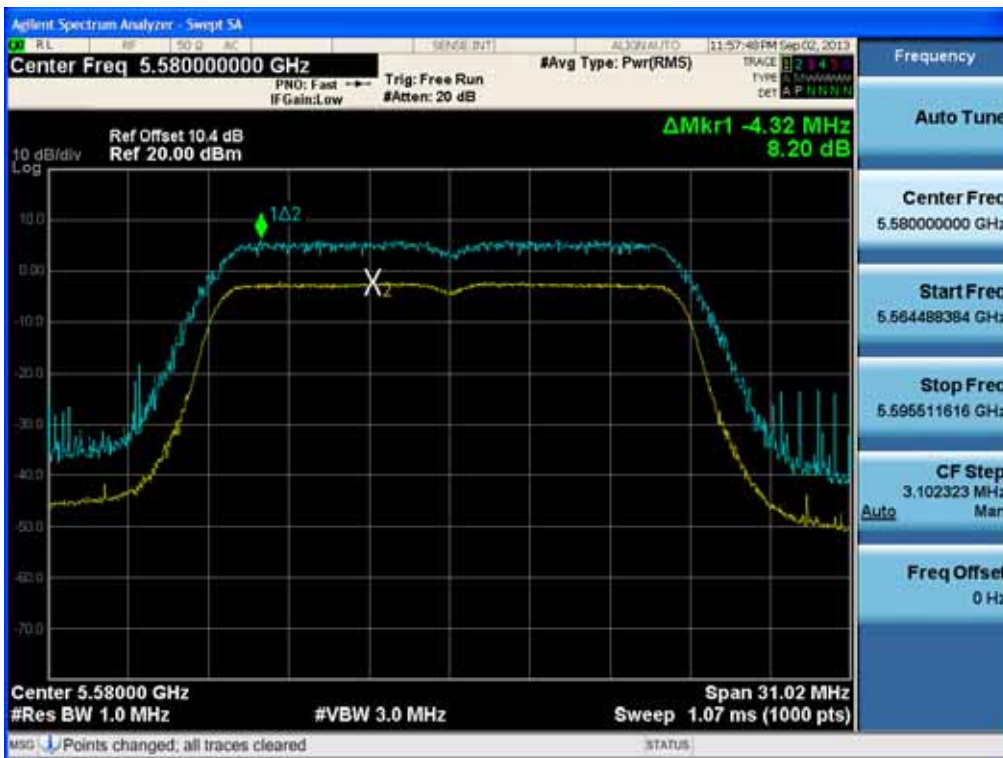


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11ac-CH 100)

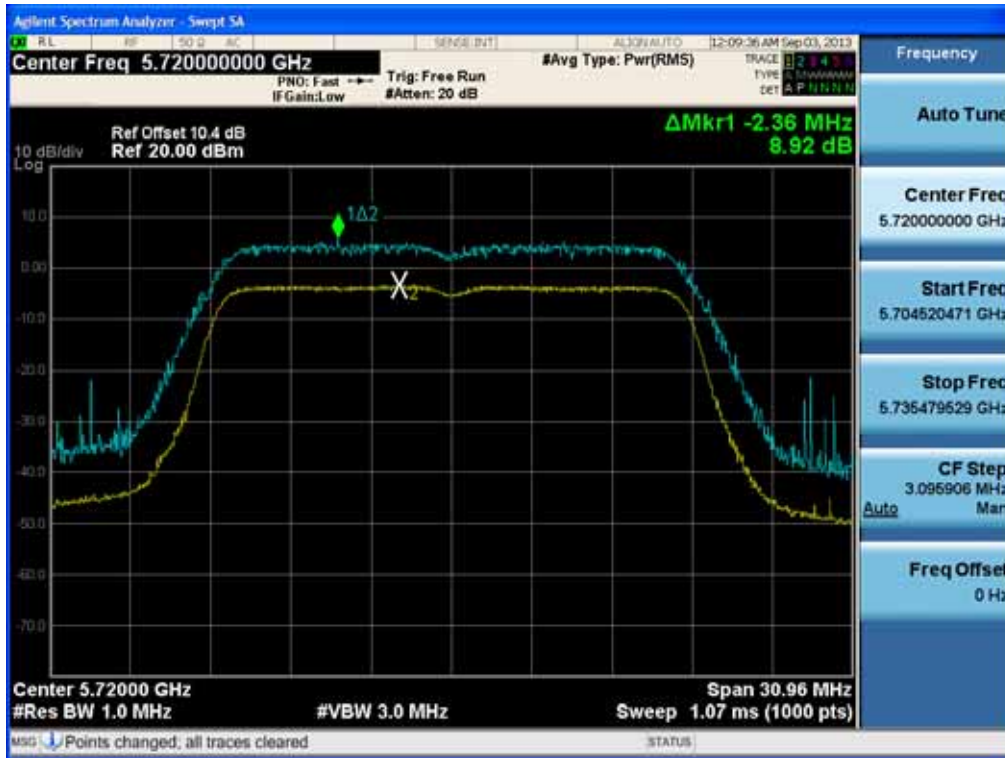


Peak Excursion Ratio (802.11ac-CH 116)



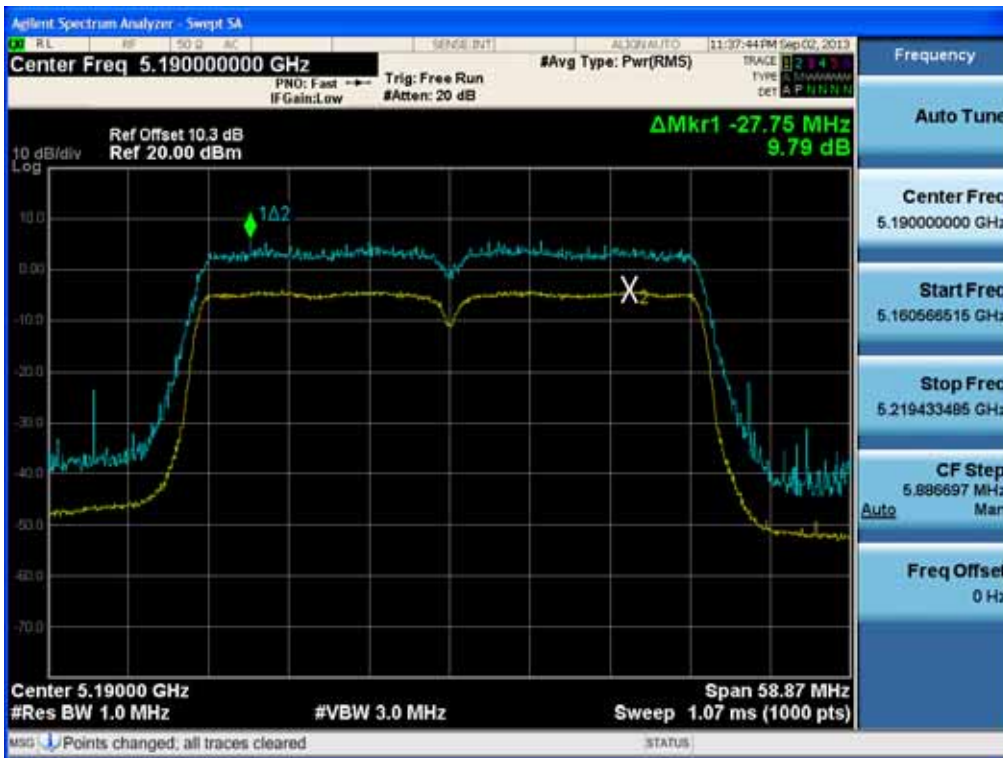
FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11ac-CH 144)

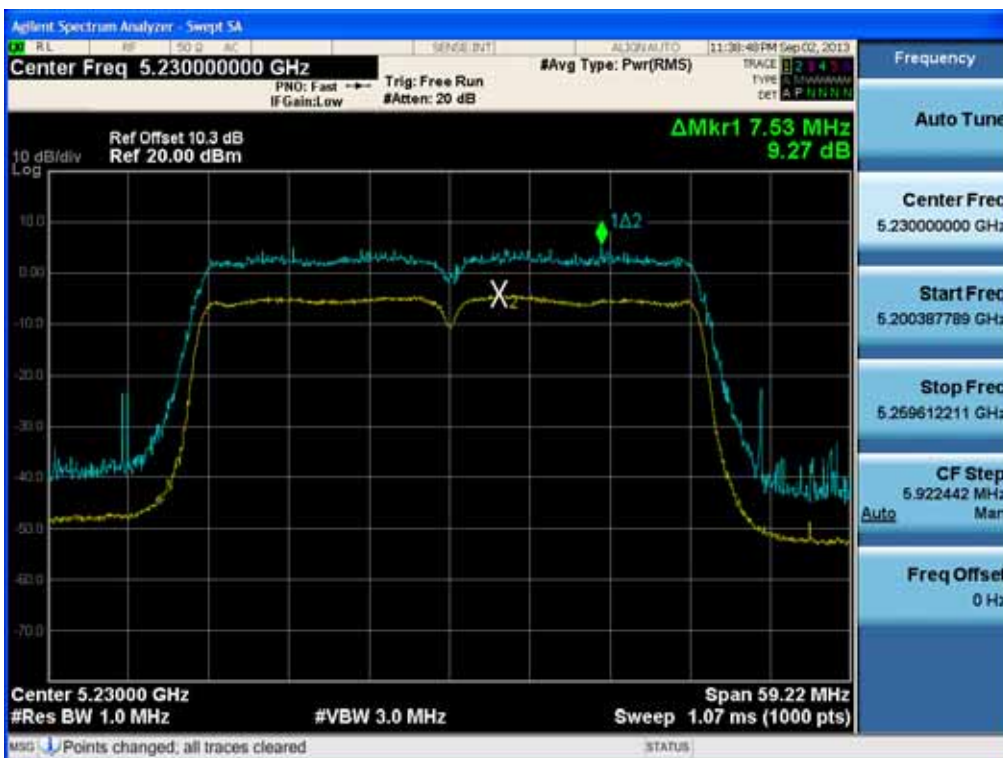


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 38)

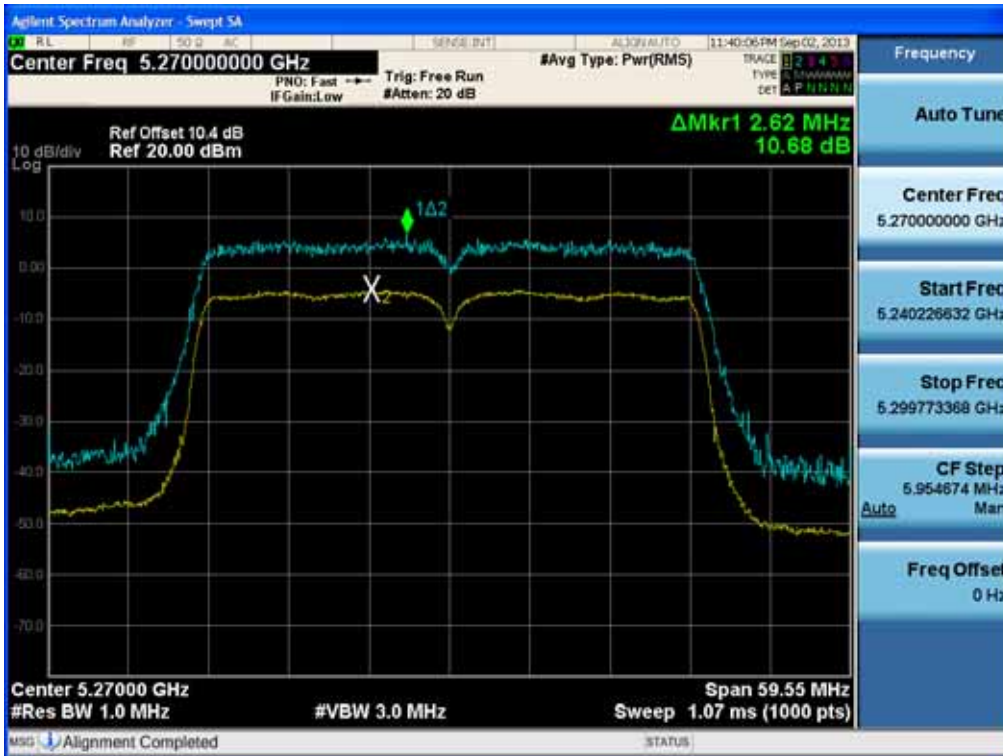


Peak Excursion Ratio (802.11n-CH 46)

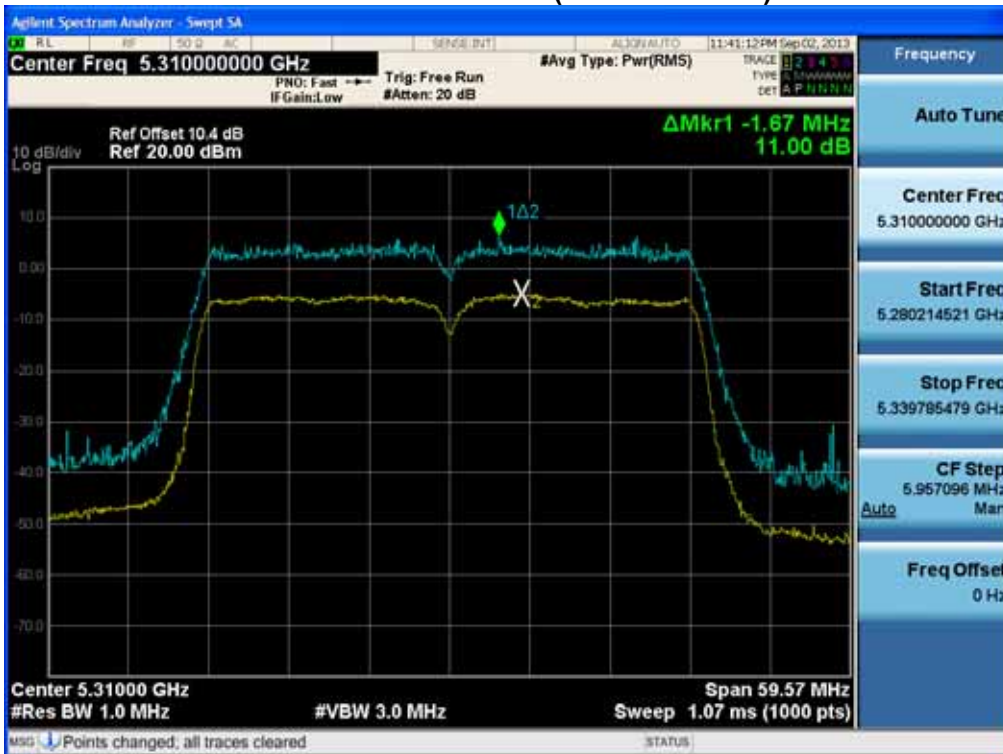


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 54)

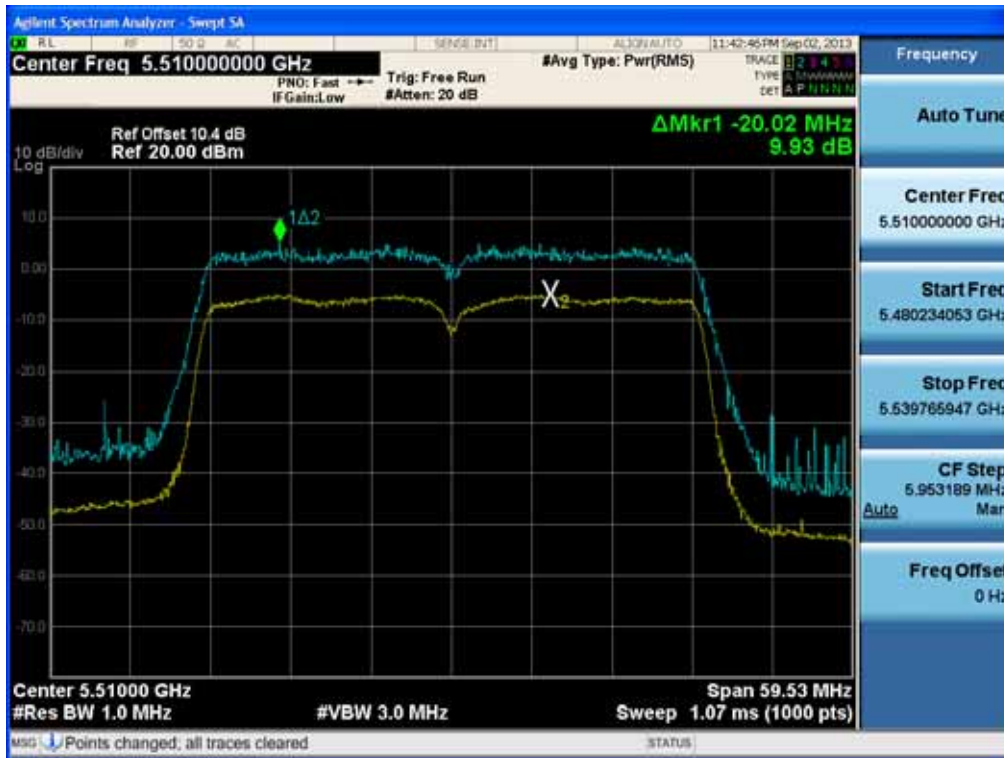


Peak Excursion Ratio (802.11n-CH 62)

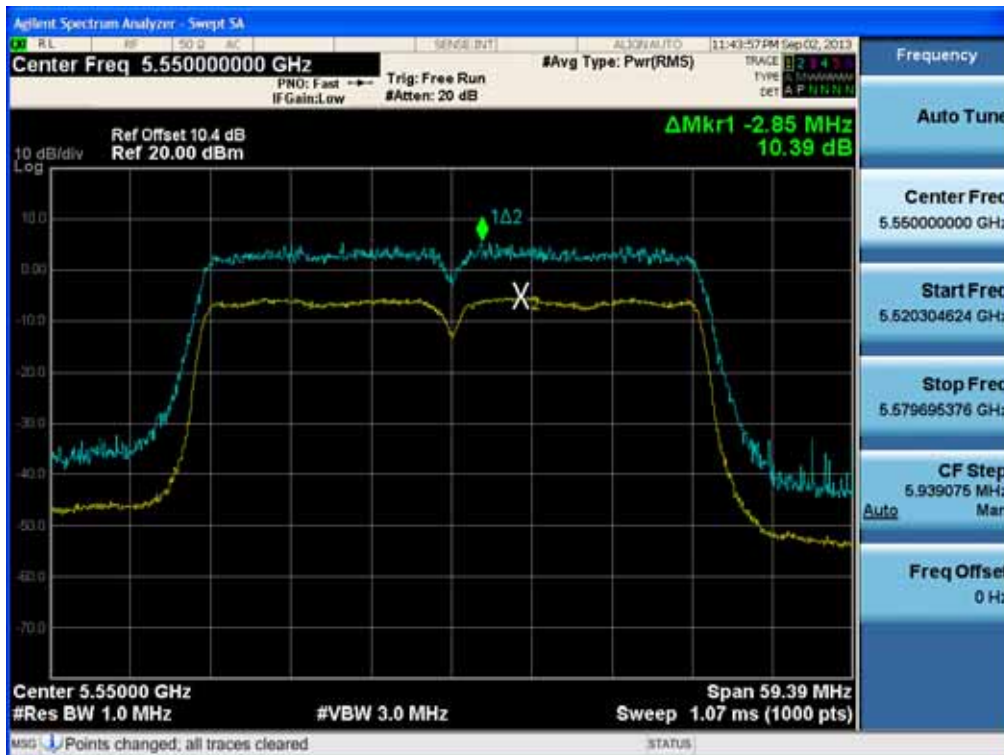


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 102)

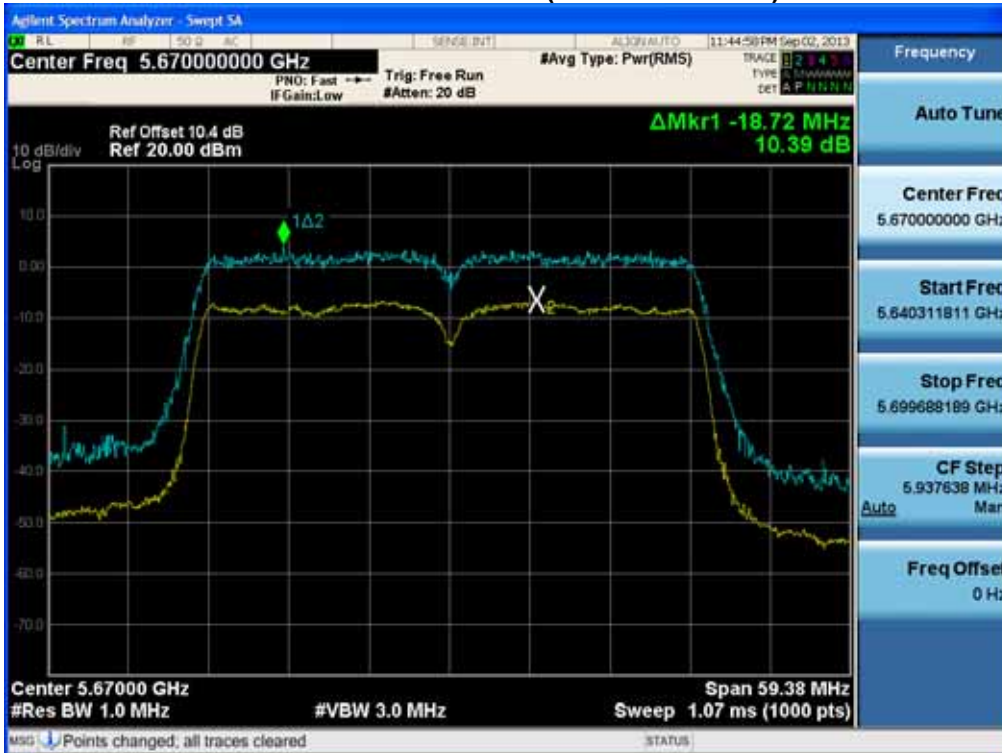


Peak Excursion Ratio (802.11n-CH 110)

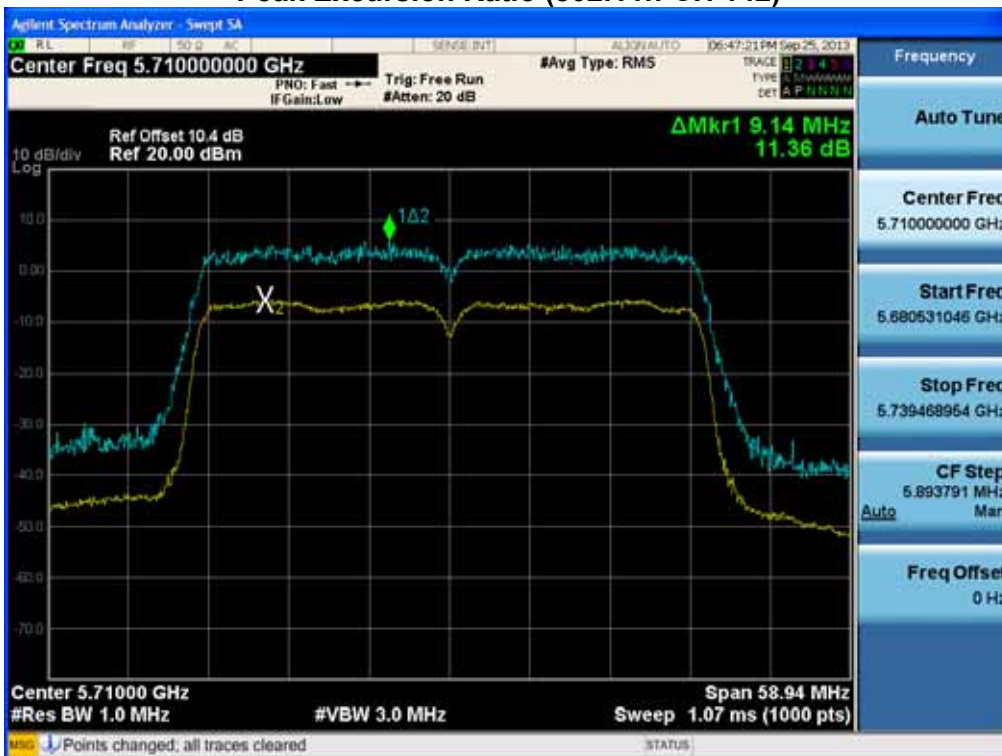


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC	FCC ID: ZNFLGL22

Peak Excursion Ratio (802.11n-CH 134)

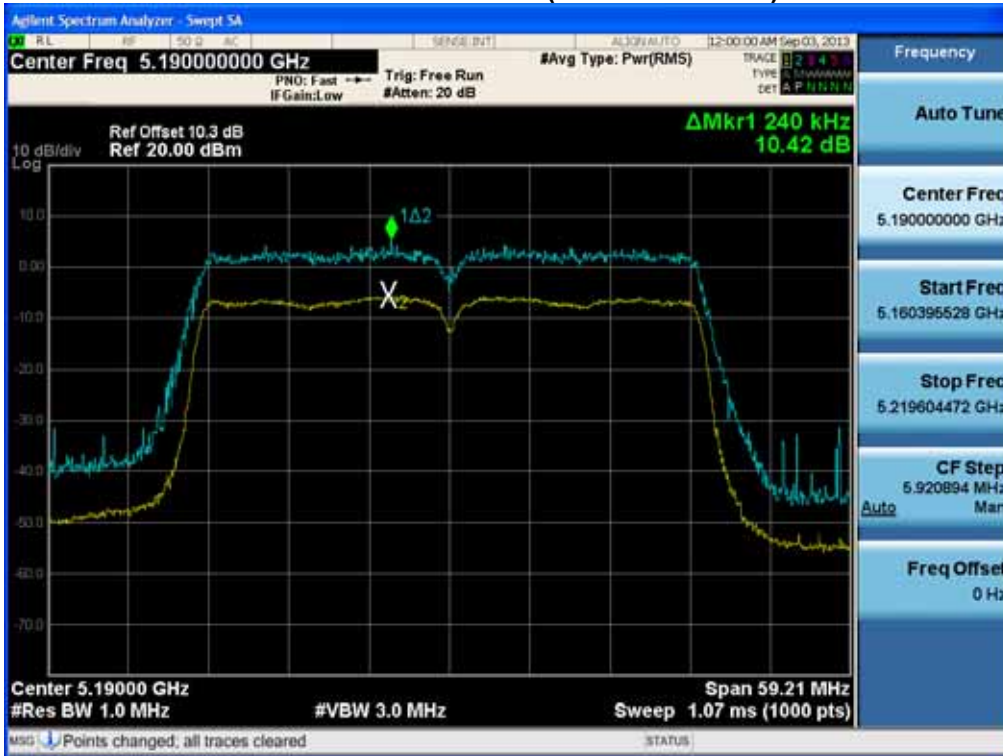


Peak Excursion Ratio (802.11n-CH 142)

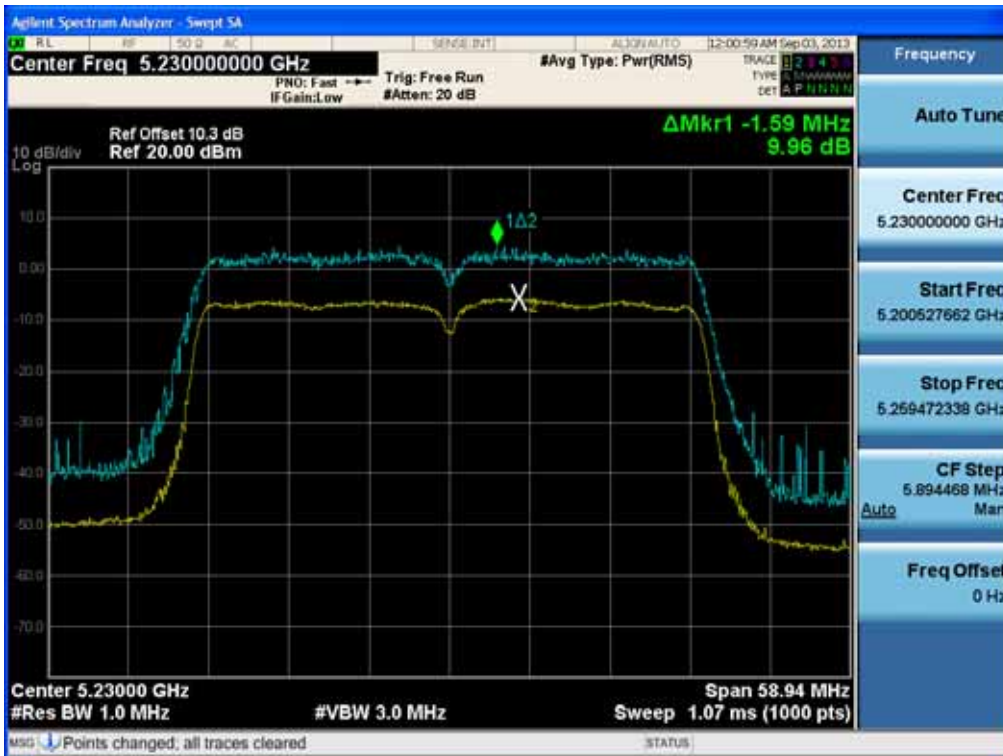


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Peak Excursion Ratio (802.11ac-CH 38)

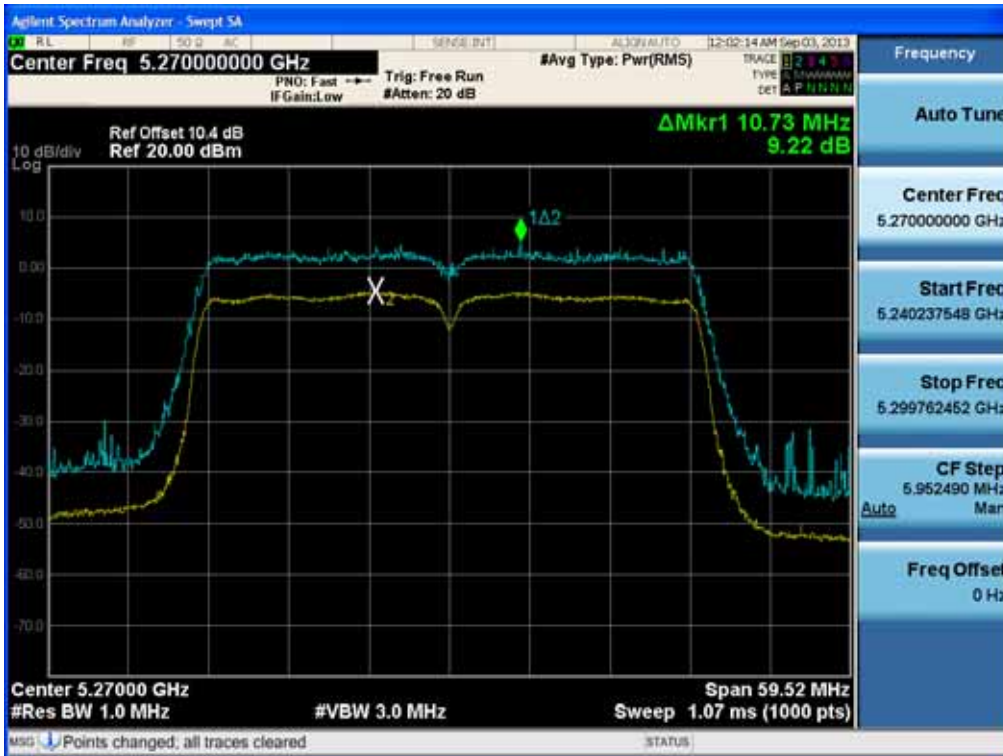


Peak Excursion Ratio (802.11ac-CH 46)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Peak Excursion Ratio (802.11ac-CH 54)

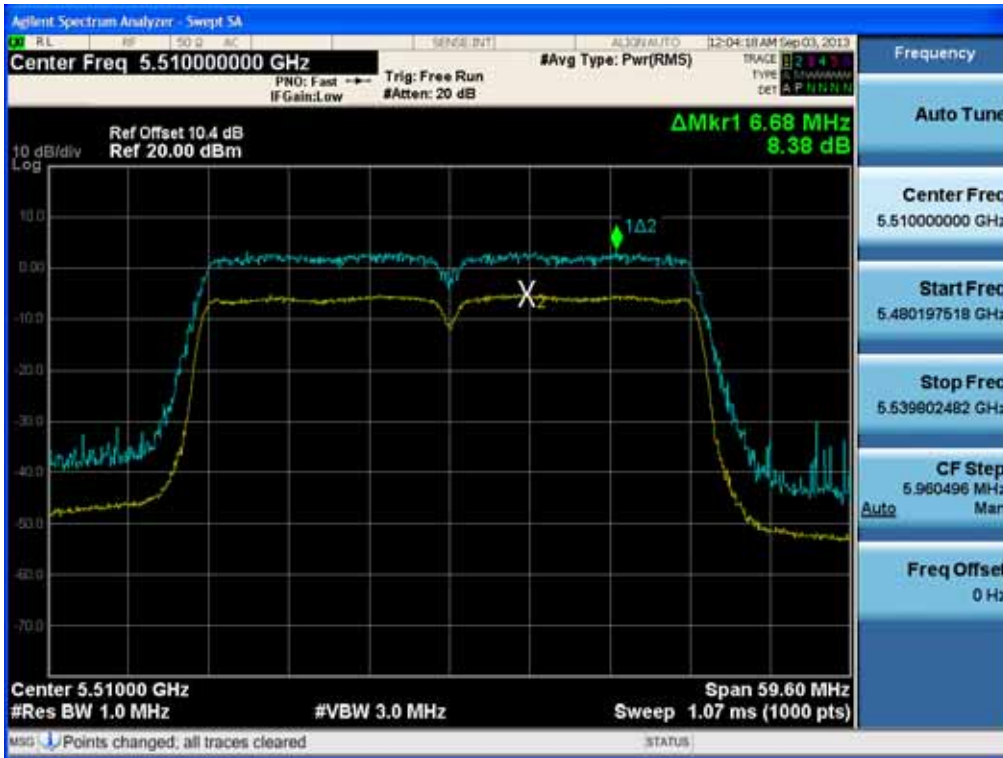


Peak Excursion Ratio (802.11ac-CH 62)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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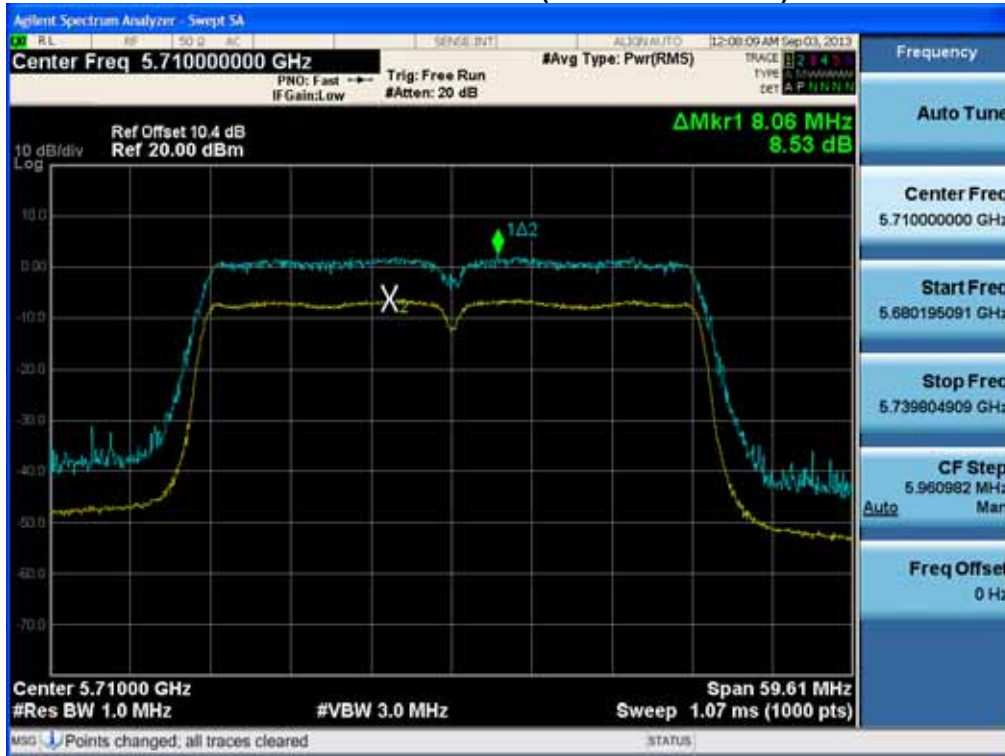
Peak Excursion Ratio (802.11ac-CH 102)



Peak Excursion Ratio (802.11ac-CH 110)



Peak Excursion Ratio (802.11ac-CH 142)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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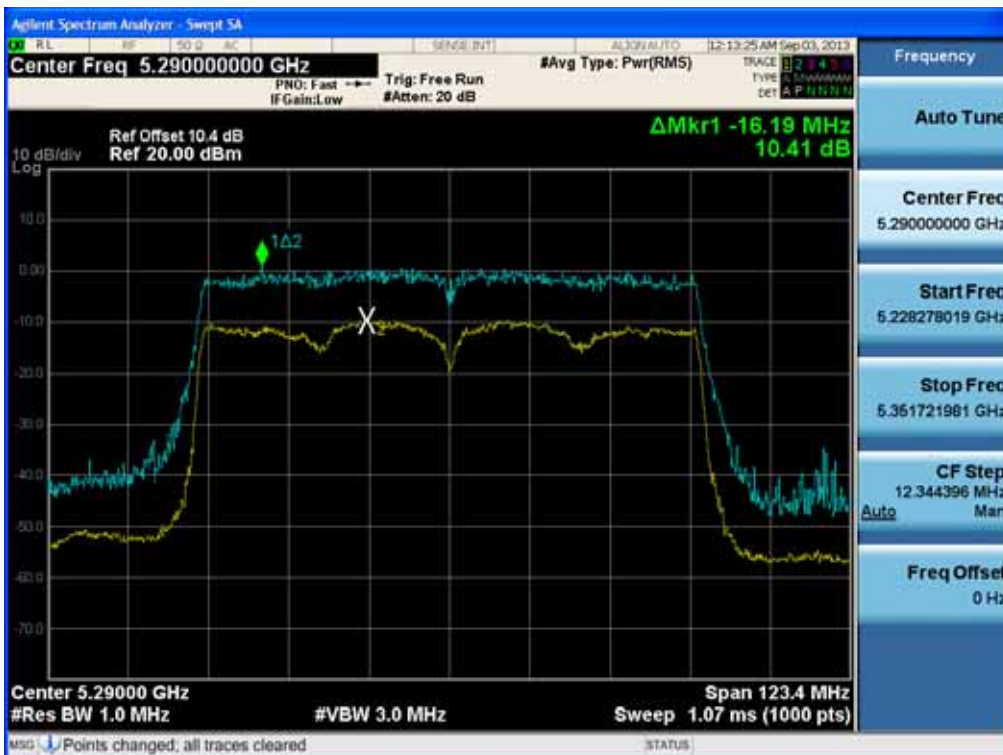


80 MHz BW

Peak Excursion Ratio (802.11ac-CH 42)

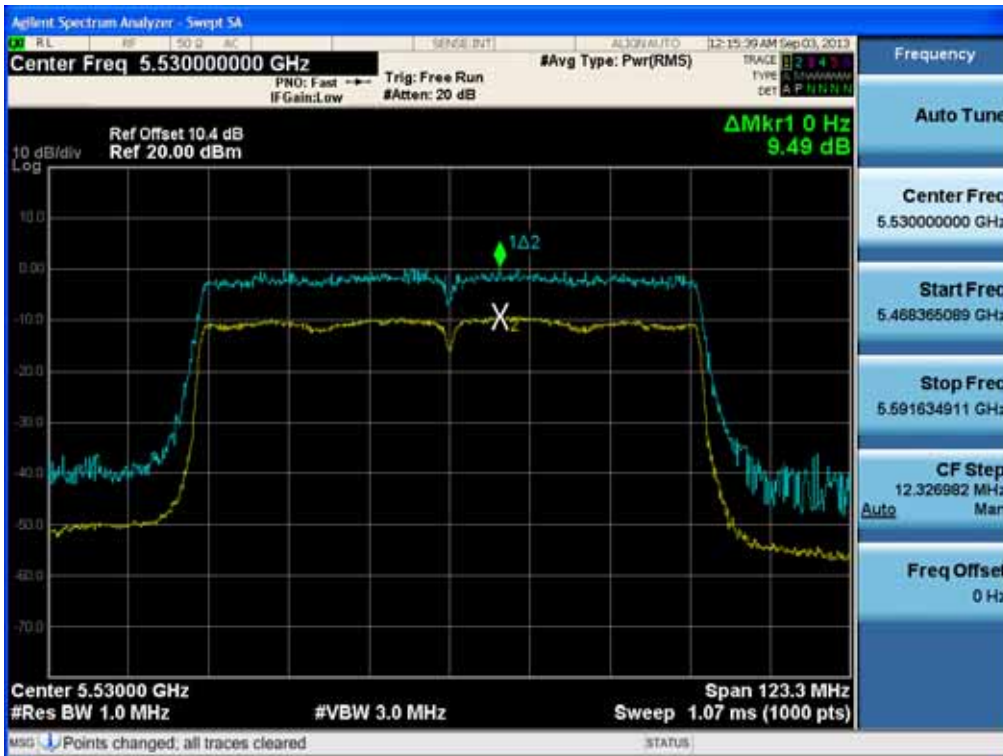


Peak Excursion Ratio (802.11ac-CH 58)

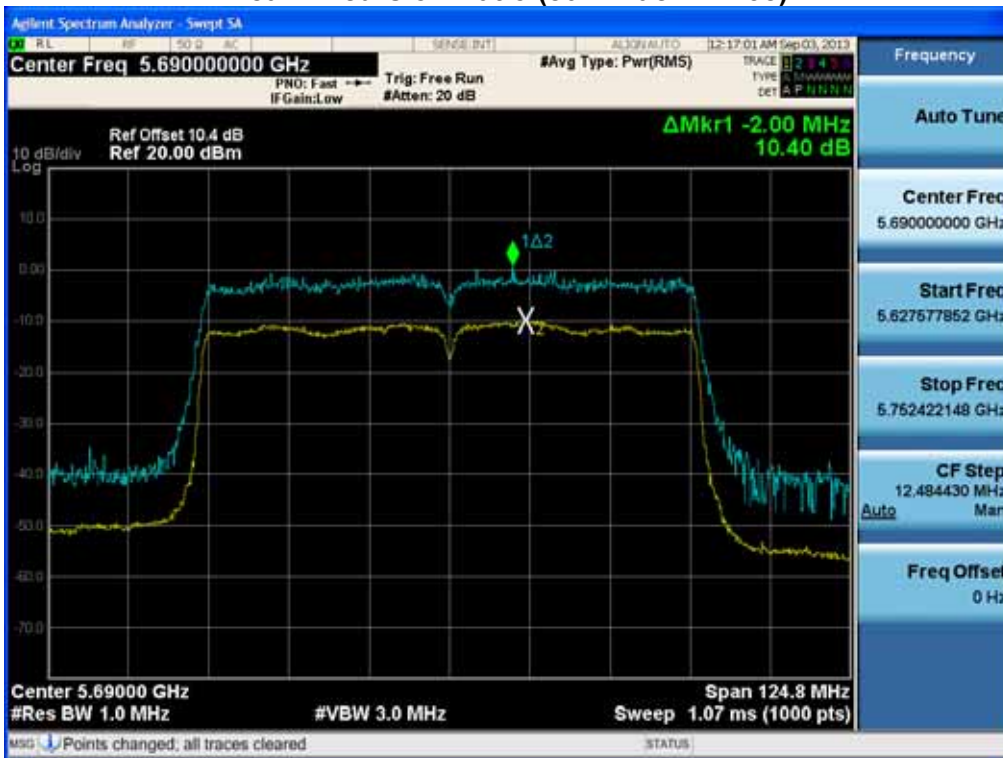


FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Peak Excursion Ratio (802.11ac-CH 106)



Peak Excursion Ratio (802.11ac-CH 138)



FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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8.6 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 and 50 . The temperature was incremented by 10 intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

20 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,180,000,000 Hz
 CHANNEL: 36
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 180 031	31.0
100%		-30	5 180 055	54.7
100%		-20	5 180 049	48.5
100%		-10	5 180 045	45.4
100%		0	5 180 042	41.5
100%		+10	5 180 035	34.7
100%		+30	5 180 028	27.8
100%		+40	5 180 025	25.4
100%		+50	5 180 020	19.8
115%	4.370	+20	5 180 031	31.4
Batt. Endpoint	3.500	+20	5 180 031	30.8

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,260,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 260 029	28.8
100%		-30	5 260 053	52.7
100%		-20	5 260 047	47.1
100%		-10	5 260 044	43.8
100%		0	5 260 041	40.8
100%		+10	5 260 033	32.9
100%		+30	5 260 027	27.3
100%		+40	5 260 024	24.1
100%		+50	5 260 021	20.6
115%		4.370	+20	5 260 029
Batt. Endpoint	3.500	+20	5 260 029	28.5

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC PT.15.407 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
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OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 500 030	30.2
100%		-30	5 500 054	54.3
100%		-20	5 500 048	48.1
100%		-10	5 500 045	44.8
100%		0	5 500 041	40.7
100%		+10	5 500 033	33.4
100%		+30	5 500 027	26.8
100%		+40	5 500 024	24.1
100%		+50	5 500 019	18.9
115%		4.370	+20	5 500 031
Batt. Endpoint	3.500	+20	5 500 030	30.0

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



40 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,190,000,000 Hz
 CHANNEL: 38
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 190 028	28.4
100%		-30	5 190 053	52.8
100%		-20	5 190 047	46.7
100%		-10	5 190 045	44.6
100%		0	5 190 041	40.8
100%		+10	5 190 035	35.4
100%		+30	5 190 026	25.8
100%		+40	5 190 024	23.7
100%		+50	5 190 018	18.4
115%		4.370	+20	5 190 029
Batt. Endpoint	3.500	+20	5 190 028	28.1

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,270,000,000 Hz
 CHANNEL: 54
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 270 030	30.2
100%		-30	5 270 054	53.8
100%		-20	5 270 049	49.4
100%		-10	5 270 046	45.8
100%		0	5 270 041	40.8
100%		+10	5 270 037	36.5
100%		+30	5 270 026	26.4
100%		+40	5 270 025	24.6
100%		+50	5 270 018	18.4
115%	4.370	+20	5 270 031	30.5
Batt. Endpoint	3.500	+20	5 270 030	30.1

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,510,000,000 Hz
 CHANNEL: 102
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 510 031	30.8
100%		-30	5 510 054	53.5
100%		-20	5 510 050	50.1
100%		-10	5 510 046	46.1
100%		0	5 510 042	41.5
100%		+10	5 510 036	35.8
100%		+30	5 510 026	25.8
100%		+40	5 510 025	25.1
100%		+50	5 510 019	18.9
115%		4.370	+20	5 510 031
Batt. Endpoint	3.500	+20	5 510 030	30.4

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



80 MHz BW

OPERATING BAND: UNII Band 1
 OPERATING FREQUENCY: 5,210,000,000 Hz
 CHANNEL: 42
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 210 029.4	29.4
100%		-30	5 210 052.4	52.4
100%		-20	5 210 046.2	46.2
100%		-10	5 210 043.8	43.8
100%		0	5 210 041.5	41.5
100%		+10	5 210 036.4	36.4
100%		+30	5 210 024.7	24.7
100%		+40	5 210 023.4	23.4
100%		+50	5 210 018.1	18.1
115%		4.370	+20	5 210 029.6
Batt. Endpoint	3.500	+20	5 210 029.0	29.0

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.



OPERATING BAND: UNII Band 2
 OPERATING FREQUENCY: 5,290,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 290 028.8	28.8
100%		-30	5 290 051.7	51.7
100%		-20	5 290 045.8	45.8
100%		-10	5 290 043.2	43.2
100%		0	5 290 040.8	40.8
100%		+10	5 290 035.7	35.7
100%		+30	5 290 023.4	23.4
100%		+40	5 290 020.8	20.8
100%		+50	5 290 017.4	17.4
115%	4.370	+20	5 290 029.1	29.1
Batt. Endpoint	3.500	+20	5 290 028.5	28.5

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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OPERATING BAND: UNII Band 3
 OPERATING FREQUENCY: 5,530,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. ()	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 530 030.0	30.0
100%		-30	5 530 053.4	53.4
100%		-20	5 530 046.8	46.8
100%		-10	5 530 043.8	43.8
100%		0	5 530 041.5	41.5
100%		+10	5 530 036.7	36.7
100%		+30	5 530 025.8	25.8
100%		+40	5 530 023.4	23.4
100%		+50	5 530 019.5	19.5
115%		4.370	+20	5 530 030.3
Batt. Endpoint	3.500	+20	5 530 029.8	29.8

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency error noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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8.7 RADIATED MEASUREMENT.

8.7.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

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

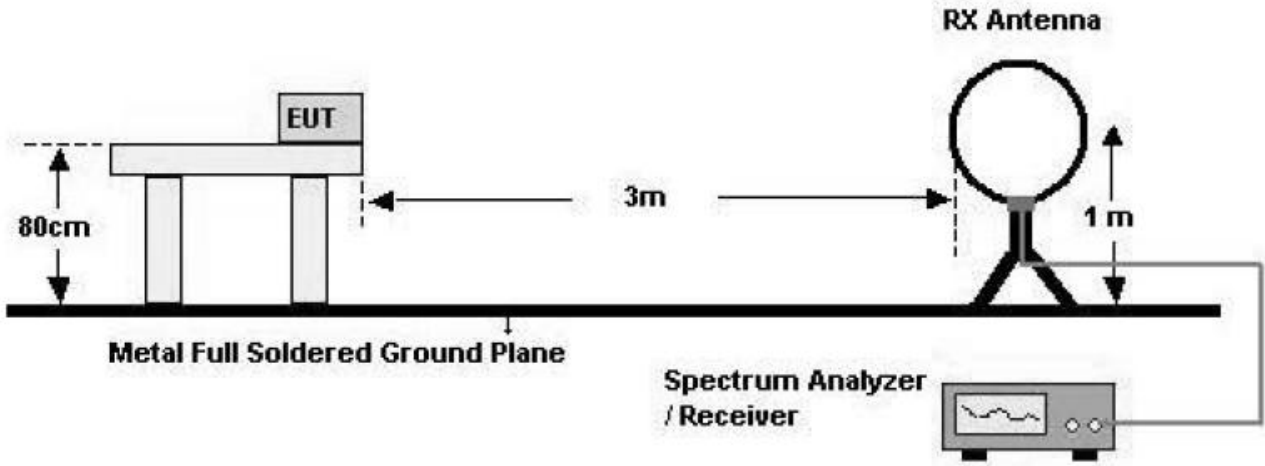
§15.407, KDB 789033

All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBµV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBµV/m.

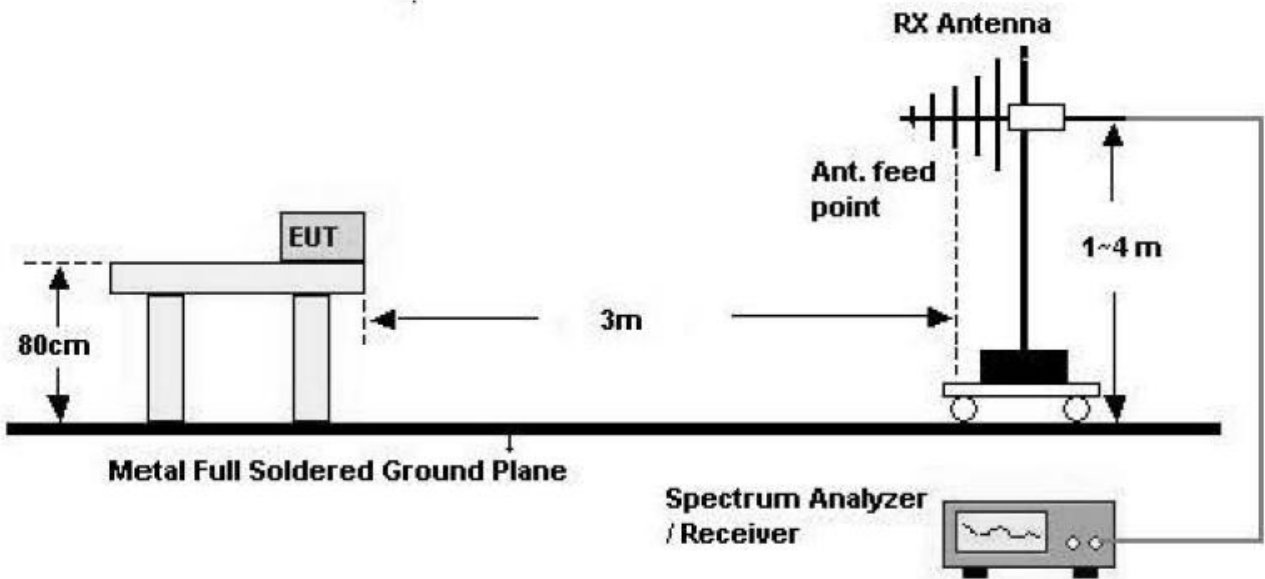
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Test Configuration

Below 30 MHz

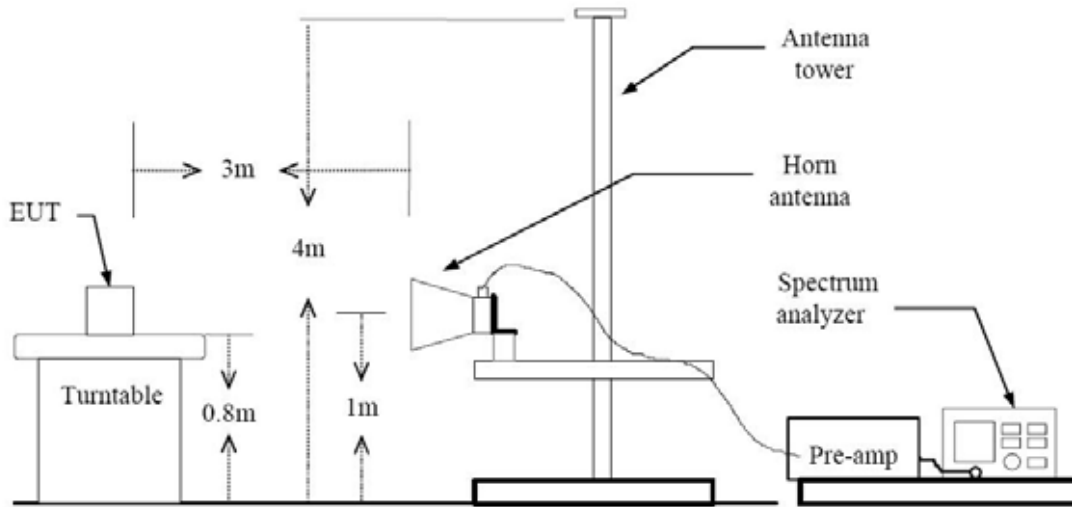


30 MHz - 1 GHz



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Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method H)5) in KDB 789033, issued 04/08/2013 (Peak)

Method H)6)d) in KDB 789033, issued 04/08/2013 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz
2. VBW \geq 3 MHz
3. Detector = Peak
4. Sweep Time = auto
5. Trace mode = max hold
6. Allow sweeps to continue until the trace stabilizes.
7. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.

- Average (Method VB :Averaging using reduced video bandwidth)

1. RBW = 1 MHz
2. VBW
 - 2.1. If the EUT is configured to transmit with duty cycle \geq 98 percent, set VBW \leq RBW/100(i.e., 10 kHz) but not less than 10 Hz.
 - 2.2. If the EUT duty cycle is < 98 percent, set VBW \geq 1/T, where T is the minimum transmission duration.
3. The analyzer is set to linear detector mode.
4. Detector = Peak.

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5. Sweep time = auto.
6. Trace mode = max hold.
7. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

Note :

1. We used the case 2 for 802.11a/n_20/n_40/ac_20/ac_40/ac_80 to perform the average field strength measurements for RSE and radiated band edge test.
2. The actual setting value of VBW for 802.11a/n_20/n_40/ac_20/ac_40/ac_80.
3. We applied the 15.407 for Ch.144, 142 and 138 in 802.11ac according to KDB 644545 D01 v01r01.

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	2.064	2.162	0.95467160	484	1000
n_20	6.5	1.921	2.019	95.15	521	1000
n_40	13.5	0.945	1.045	90.43	1058	3000
ac_20	6.5	1.935	2.035	95.09	517	1000
ac_40	13.5	0.952	1.052	90.49	1050	3000
ac_80	29.3	0.460	0.560	82.14	2174	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	dB /m	dB	(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 (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(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.

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Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	42.55	9.33	V	51.88	68.2	16.32	PK
15540	45.54	14.61	V	60.15	73.98	13.83	PK
15540	31.49	14.61	V	46.10	53.98	7.88	AV
10360	43.09	9.33	H	52.42	68.2	15.78	PK
15540	45.76	14.61	H	60.37	73.98	13.61	PK
15540	31.52	14.61	H	46.13	53.98	7.85	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	42.49	10.13	V	52.62	68.2	15.58	PK
15600	45.39	14.60	V	59.99	73.98	13.99	PK
15600	31.84	14.60	V	46.44	53.98	7.54	AV
10400	42.84	10.13	H	52.97	68.2	15.23	PK
15600	45.53	14.60	H	60.13	73.98	13.85	PK
15600	31.89	14.60	H	46.49	53.98	7.49	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	42.26	10.20	V	52.46	68.2	15.74	PK
15720	46.18	13.47	V	59.65	73.98	14.33	PK
15720	21.85	13.47	V	35.32	53.98	18.66	AV
10480	42.51	10.20	H	52.71	68.2	15.49	PK
15720	46.21	13.47	H	59.68	73.98	14.30	PK
15720	32.88	13.47	H	46.35	53.98	7.63	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	42.89	9.33	V	52.22	68.2	15.98	PK
15540	45.09	14.61	V	59.70	73.98	14.28	PK
15540	31.49	14.61	V	46.10	53.98	7.88	AV
10360	43.24	9.33	H	52.57	68.2	15.63	PK
15540	45.13	14.61	H	59.74	73.98	14.24	PK
15540	31.52	14.61	H	46.13	53.98	7.85	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	42.03	10.13	V	52.16	68.2	16.04	PK
15600	45.25	14.60	V	59.85	73.98	14.13	PK
15600	31.88	14.60	V	46.48	53.98	7.50	AV
10400	42.46	10.13	H	52.59	68.2	15.61	PK
15600	45.27	14.60	H	59.87	73.98	14.11	PK
15600	31.93	14.60	H	46.53	53.98	7.45	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	41.65	10.20	V	51.85	68.2	16.35	PK
15720	47.45	13.47	V	60.92	73.98	13.06	PK
15720	33.02	13.47	V	46.49	53.98	7.49	AV
10480	41.79	10.20	H	51.99	68.2	16.21	PK
15720	47.48	13.47	H	60.95	73.98	13.03	PK
15720	33.11	13.47	H	46.58	53.98	7.40	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	42.89	9.33	V	52.22	68.2	15.98	PK
15540	44.91	14.61	V	59.52	73.98	14.46	PK
15540	31.59	14.61	V	46.20	53.98	7.78	AV
10360	43.23	9.33	H	52.56	68.2	15.64	PK
15540	44.92	14.61	H	59.53	73.98	14.45	PK
15540	31.66	14.61	H	46.27	53.98	7.71	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	41.85	10.13	V	51.98	68.2	16.22	PK
15600	45.12	14.60	V	59.72	73.98	14.26	PK
15600	31.72	14.60	V	46.32	53.98	7.66	AV
10400	42.05	10.13	H	52.18	68.2	16.02	PK
15600	45.14	14.60	H	59.74	73.98	14.24	PK
15600	31.75	14.60	H	46.35	53.98	7.63	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	41.95	10.20	V	52.15	68.2	16.05	PK
15720	47.11	13.47	V	60.58	73.98	13.40	PK
15720	32.89	13.47	V	46.36	53.98	7.62	AV
10480	42.09	10.20	H	52.29	68.2	15.91	PK
15720	47.21	13.47	H	60.68	73.98	13.30	PK
15720	32.91	13.47	H	46.38	53.98	7.60	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10380	41.95	9.70	V	51.65	68.2	16.55	PK
15570	45.49	14.62	V	60.11	73.98	13.87	PK
15570	31.61	14.62	V	46.23	53.98	7.75	AV
10380	41.97	9.70	H	51.67	68.2	16.53	PK
15570	45.51	14.62	H	60.13	73.98	13.85	PK
15570	31.64	14.62	H	46.26	53.98	7.72	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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10460	41.32	10.26	V	51.58	68.2	16.62	PK
15690	46.51	14.33	V	60.84	73.98	13.14	PK
15690	32.84	14.33	V	47.17	53.98	6.81	AV
10460	41.45	10.26	H	51.71	68.2	16.49	PK
15690	46.79	14.33	H	61.12	73.98	12.86	PK
15690	32.88	14.33	H	47.21	53.98	6.77	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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10380	42.30	9.70	V	52.00	68.2	16.20	PK
15570	45.47	14.62	V	60.09	73.98	13.89	PK
15570	31.72	14.62	V	46.34	53.98	7.64	AV
10380	42.37	9.70	H	52.07	68.2	16.13	PK
15570	45.50	14.62	H	60.12	73.98	13.86	PK
15570	31.75	14.62	H	46.37	53.98	7.61	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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10460	41.89	10.26	V	52.15	68.2	16.05	PK
15690	46.19	14.33	V	60.52	73.98	13.46	PK
15690	32.75	14.33	V	47.08	53.98	6.90	AV
10460	42.03	10.26	H	52.29	68.2	15.91	PK
15690	46.26	14.33	H	60.59	73.98	13.39	PK
15690	32.81	14.33	H	47.14	53.98	6.84	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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 1
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10420	41.32	10.43	V	51.75	68.2	16.45	PK
15630	46.25	14.15	V	60.40	73.98	13.58	PK
15630	32.59	14.15	V	46.74	53.98	7.24	AV
10420	41.38	10.43	H	51.81	68.2	16.39	PK
15630	46.29	14.15	H	60.44	73.98	13.54	PK
15630	32.71	14.15	H	46.86	53.98	7.12	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 all data rate in 802.11ac_80 MHz BW. Worst case is 29.3 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	43.28	10.38	V	53.66	68.2	14.54	PK
15780	46.40	14.38	V	60.78	73.98	13.20	PK
15780	32.83	14.38	V	47.21	53.98	6.77	AV
10520	42.89	10.38	H	53.27	68.2	14.93	PK
15780	46.38	14.38	H	60.76	73.98	13.22	PK
15780	32.79	14.38	H	47.17	53.98	6.81	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	44.21	10.39	V	54.60	73.98	19.38	PK
10600	30.27	10.39	V	40.66	53.98	13.32	AV
15900	44.93	14.00	V	58.93	73.98	15.05	PK
15900	31.34	14.00	V	45.34	53.98	8.64	AV
10600	44.29	10.39	H	54.68	73.98	19.30	PK
10600	30.21	10.39	H	40.60	53.98	13.38	AV
15900	44.85	14.00	H	58.85	73.98	15.13	PK
15900	31.32	14.00	H	45.32	53.98	8.66	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	45.21	10.50	V	55.71	73.98	18.27	PK
10640	31.10	10.50	V	41.60	53.98	12.38	AV
15960	44.57	14.27	V	58.84	73.98	15.14	PK
15960	31.07	14.27	V	45.34	53.98	8.64	AV
10640	45.17	10.50	H	55.67	73.98	18.31	PK
10640	31.08	10.50	H	41.58	53.98	12.40	AV
15960	44.52	14.27	H	58.79	73.98	15.19	PK
15960	31.00	14.27	H	45.27	53.98	8.71	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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	42.75	10.38	V	53.13	68.2	15.07	PK
15780	46.41	14.38	V	60.79	73.98	13.19	PK
15780	32.76	14.38	V	47.14	53.98	6.84	AV
10520	42.59	10.38	H	52.97	68.2	15.23	PK
15780	46.39	14.38	H	60.77	73.98	13.21	PK
15780	32.75	14.38	H	47.13	53.98	6.85	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
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. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC		FCC ID: ZNFLGL22



Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	43.44	10.39	V	53.83	73.98	20.15	PK
10600	29.91	10.39	V	40.30	53.98	13.68	AV
15900	44.48	14.00	V	58.48	73.98	15.50	PK
15900	31.40	14.00	V	45.40	53.98	8.58	AV
10600	43.41	10.39	H	53.80	73.98	20.18	PK
10600	29.89	10.39	H	40.28	53.98	13.70	AV
15900	44.39	14.00	H	58.39	73.98	15.59	PK
15900	31.38	14.00	H	45.38	53.98	8.60	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	43.62	10.50	V	54.12	73.98	19.86	PK
10640	30.58	10.50	V	41.08	53.98	12.90	AV
15960	43.93	14.27	V	58.20	73.98	15.78	PK
15960	31.00	14.27	V	45.27	53.98	8.71	AV
10640	43.59	10.50	H	54.09	73.98	19.89	PK
10640	30.52	10.50	H	41.02	53.98	12.96	AV
15960	43.85	14.27	H	58.12	73.98	15.86	PK
15960	30.87	14.27	H	45.14	53.98	8.84	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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	42.70	10.38	V	53.08	68.2	15.12	PK
15780	46.49	14.38	V	60.87	73.98	13.11	PK
15780	32.75	14.38	V	47.13	53.98	6.85	AV
10520	42.65	10.38	H	53.03	68.2	15.17	PK
15780	46.45	14.38	H	60.83	73.98	13.15	PK
15780	32.71	14.38	H	47.09	53.98	6.89	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	41.90	10.39	V	52.29	73.98	21.69	PK
10600	29.24	10.39	V	39.63	53.98	14.35	AV
15900	45.40	14.00	V	59.40	73.98	14.58	PK
15900	31.37	14.00	V	45.37	53.98	8.61	AV
10600	41.84	10.39	H	52.23	73.98	21.75	PK
10600	29.23	10.39	H	39.62	53.98	14.36	AV
15900	45.36	14.00	H	59.36	73.98	14.62	PK
15900	31.35	14.00	H	45.35	53.98	8.63	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	42.96	10.50	V	53.46	73.98	20.52	PK
10640	30.08	10.50	V	40.58	53.98	13.40	AV
15960	44.45	14.27	V	58.72	73.98	15.26	PK
15960	31.19	14.27	V	45.46	53.98	8.52	AV
10640	42.94	10.50	H	53.44	73.98	20.54	PK
10640	30.00	10.50	H	40.50	53.98	13.48	AV
15960	44.38	14.27	H	58.65	73.98	15.33	PK
15960	31.07	14.27	H	45.34	53.98	8.64	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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10540	42.75	10.55	V	53.30	68.2	14.90	PK
15810	45.42	14.26	V	59.68	73.98	14.30	PK
15810	32.43	14.26	V	46.69	53.98	7.29	AV
10540	42.68	10.55	H	53.23	68.2	14.97	PK
15810	45.35	14.26	H	59.61	73.98	14.37	PK
15810	32.41	14.26	H	46.67	53.98	7.31	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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10620	42.48	10.25	V	52.73	73.98	21.25	PK
10620	29.54	10.25	V	39.79	53.98	14.19	AV
15930	44.53	13.62	V	58.15	73.98	15.83	PK
15930	31.07	13.62	V	44.69	53.98	9.29	AV
10620	42.45	10.25	H	52.70	73.98	21.28	PK
10620	29.49	10.25	H	39.74	53.98	14.24	AV
15930	44.51	13.62	H	58.13	73.98	15.85	PK
15930	30.89	13.62	H	44.51	53.98	9.47	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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10540	42.35	10.55	V	52.90	68.2	15.30	PK
15810	47.58	14.26	V	61.84	73.98	12.14	PK
15810	32.42	14.26	V	46.68	53.98	7.30	AV
10540	42.34	10.55	H	52.89	68.2	15.31	PK
15810	47.55	14.26	H	61.81	73.98	12.17	PK
15810	32.41	14.26	H	46.67	53.98	7.31	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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10620	42.17	10.25	V	52.42	73.98	21.56	PK
10620	29.45	10.25	V	39.70	53.98	14.28	AV
15930	44.41	13.62	V	58.03	73.98	15.95	PK
15930	31.01	13.62	V	44.63	53.98	9.35	AV
10620	42.11	10.25	H	52.36	73.98	21.62	PK
10620	29.39	10.25	H	39.64	53.98	14.34	AV
15930	44.35	13.62	H	57.97	73.98	16.01	PK
15930	30.89	13.62	H	44.51	53.98	9.47	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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10580	41.73	10.42	V	52.15	68.2	16.05	PK
15870	44.51	13.96	V	58.47	73.98	15.51	PK
15870	32.29	13.96	V	46.25	53.98	7.73	AV
10580	41.69	10.42	H	52.11	68.2	16.09	PK
15870	44.49	13.96	H	58.45	73.98	15.53	PK
15870	32.27	13.96	H	46.23	53.98	7.75	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 all data rate in 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	51.12	11.28	V	62.40	73.98	11.58	PK
11000	36.58	11.28	V	47.86	53.98	6.12	AV
16500	46.23	14.19	V	60.42	68.2	7.78	PK
11000	50.84	11.28	H	62.12	73.98	11.86	PK
11000	36.51	11.28	H	47.79	53.98	6.19	AV
16500	46.21	14.19	H	60.40	68.2	7.80	PK

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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	52.54	11.10	V	63.64	73.98	10.34	PK
11160	38.52	11.10	V	49.62	53.98	4.36	AV
16740	45.65	15.70	V	61.35	68.2	6.85	PK
11160	52.04	11.10	H	63.14	73.98	10.84	PK
11160	38.44	11.10	H	49.54	53.98	4.44	AV
16740	46.59	15.70	H	62.29	68.2	5.91	PK

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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5700 MHz
Channel No.	140 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11400	50.54	10.97	V	61.51	73.98	12.47	PK
11400	37.32	10.97	V	48.29	53.98	5.69	AV
17100	45.80	17.82	V	63.62	68.2	4.58	PK
11400	50.38	10.97	H	61.35	73.98	12.63	PK
11400	37.28	10.97	H	48.25	53.98	5.73	AV
17100	45.75	17.82	H	63.57	68.2	4.63	PK

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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11440	50.40	10.97	V	61.37	73.98	12.61	PK
11440	35.74	10.97	V	46.71	53.98	7.27	AV
17160	45.65	17.82	V	63.47	68.20	4.73	PK
11440	50.44	10.97	H	61.41	73.98	12.57	PK
11440	35.67	10.97	H	46.64	53.98	7.34	AV
17160	45.63	17.82	H	63.45	68.20	4.75	PK

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 all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.407 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Band :	UNII 2e
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	49.93	11.28	V	61.21	73.98	12.77	PK
11000	35.99	11.28	V	47.27	53.98	6.71	AV
16500	45.74	14.19	V	59.93	68.2	8.27	PK
11000	48.87	11.28	H	60.15	73.98	13.83	PK
11000	35.64	11.28	H	46.92	53.98	7.06	AV
16500	45.69	14.19	H	59.88	68.2	8.32	PK

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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

FCC PT.15.407 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1309FR13-1	Date of Issue: September 26, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN/NFC		FCC ID: ZNFLGL22



Band :	UNII 2e
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	51.94	11.10	V	63.04	73.98	10.94	PK
11160	37.46	11.10	V	48.56	53.98	5.42	AV
16740	45.89	15.70	V	61.59	68.2	6.61	PK
11160	51.27	11.10	H	62.37	73.98	11.61	PK
11160	37.31	11.10	H	48.41	53.98	5.57	AV
16740	45.88	15.70	H	61.58	68.2	6.62	PK

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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5700 MHz
Channel No.	140 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11400	50.71	10.97	V	61.68	73.98	12.30	PK
11400	36.61	10.97	V	47.58	53.98	6.40	AV
17100	45.80	17.82	V	63.62	68.2	4.58	PK
11400	50.61	10.97	H	61.58	73.98	12.40	PK
11400	36.55	10.97	H	47.52	53.98	6.46	AV
17100	45.78	17.82	H	63.60	68.2	4.60	PK

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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11440	50.45	10.97	V	61.42	73.98	12.56	PK
11440	35.77	10.97	V	46.74	53.98	7.24	AV
17160	45.71	17.82	V	63.53	68.20	4.67	PK
11440	50.54	10.97	H	61.51	73.98	12.47	PK
11440	35.71	10.97	H	46.68	53.98	7.30	AV
17160	45.45	17.82	H	63.27	68.20	4.93	PK

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 all data rate in 802.11n_20 MHz BW. Worst case is 6.5 Mbps in 802.11n_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	49.71	11.28	V	60.99	73.98	12.99	PK
11000	34.89	11.28	V	46.17	53.98	7.81	AV
16500	46.61	14.19	V	60.80	68.2	7.40	PK
11000	49.54	11.28	H	60.82	73.98	13.16	PK
11000	34.57	11.28	H	45.85	53.98	8.13	AV
16500	46.52	14.19	H	60.71	68.2	7.49	PK

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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	51.07	11.10	V	62.17	73.98	11.81	PK
11160	36.43	11.10	V	47.53	53.98	6.45	AV
16740	45.31	15.70	V	61.01	68.2	7.19	PK
11160	50.27	11.10	H	61.37	73.98	12.61	PK
11160	36.34	11.10	H	47.44	53.98	6.54	AV
16740	45.28	15.70	H	60.98	68.2	7.22	PK

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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11 ac_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5720 MHz
Channel No.	144 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11440	50.63	10.97	V	61.60	73.98	12.38	PK
11440	35.88	10.97	V	46.85	53.98	7.13	AV
17160	45.76	17.82	V	63.58	68.2	4.62	PK
11440	50.51	10.97	H	61.48	73.98	12.50	PK
11440	35.75	10.97	H	46.72	53.98	7.26	AV
17160	45.59	17.82	H	63.41	68.2	4.79	PK

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 all data rate in 802.11ac_20 MHz BW. Worst case is 6.5 Mbps in 802.11ac_20 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11020	47.28	11.28	V	58.56	73.98	15.42	PK
11020	33.73	11.28	V	45.01	53.98	8.97	AV
16530	45.46	14.83	V	60.29	68.2	7.91	PK
11020	47.05	11.28	H	58.33	73.98	15.65	PK
11020	33.57	11.28	H	44.85	53.98	9.13	AV
16530	45.41	14.83	H	60.24	68.2	7.96	PK

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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5590 MHz
Channel No.	118 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11180	49.83	11.12	V	60.95	73.98	13.03	PK
11180	35.04	11.12	V	46.16	53.98	7.82	AV
16770	46.02	16.52	V	62.54	68.2	5.66	PK
11180	49.75	11.12	H	60.87	73.98	13.11	PK
11180	34.98	11.12	H	46.10	53.98	7.88	AV
16770	45.99	16.52	H	62.51	68.2	5.69	PK

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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5670 MHz
Channel No.	134 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11340	48.37	10.86	V	59.23	73.98	14.75	PK
11340	34.46	10.86	V	45.32	53.98	8.66	AV
17010	44.96	18.15	V	63.11	68.2	5.09	PK
11340	48.21	10.86	H	59.07	73.98	14.91	PK
11340	34.38	10.86	H	45.24	53.98	8.74	AV
17010	44.84	18.15	H	62.99	68.2	5.21	PK

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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11420	47.38	10.73	V	58.11	73.98	15.87	PK
11420	33.35	10.73	V	44.08	53.98	9.90	AV
17130	46.25	18.11	V	64.36	68.20	3.84	PK
11420	47.08	10.73	H	57.81	73.98	16.17	PK
11420	33.14	10.73	H	43.87	53.98	10.11	AV
17130	46.04	18.11	H	64.15	68.20	4.05	PK

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 all data rate in 802.11n_40 MHz BW. Worst case is 13.5 Mbps in 802.11n_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11020	46.49	11.28	V	57.77	73.98	16.21	PK
11020	32.96	11.28	V	44.24	53.98	9.74	AV
16530	46.26	14.83	V	61.09	68.2	7.11	PK
11020	46.41	11.28	H	57.69	73.98	16.29	PK
11020	32.87	11.28	H	44.15	53.98	9.83	AV
16530	46.18	14.83	H	61.01	68.2	7.19	PK

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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5590 MHz
Channel No.	118 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11180	48.63	11.12	V	59.75	73.98	14.23	PK
11180	34.12	11.12	V	45.24	53.98	8.74	AV
16770	46.35	16.52	V	62.87	68.2	5.33	PK
11180	48.56	11.12	H	59.68	73.98	14.30	PK
11180	34.09	11.12	H	45.21	53.98	8.77	AV
16770	46.28	16.52	H	62.80	68.2	5.40	PK

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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_40 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5710 MHz
Channel No.	142 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11420	47.43	10.73	V	58.16	73.98	15.82	PK
11420	33.22	10.73	V	43.95	53.98	10.03	AV
17130	46.18	18.11	V	64.29	68.2	3.91	PK
11420	47.27	10.73	H	58.00	73.98	15.98	PK
11420	33.19	10.73	H	43.92	53.98	10.06	AV
17130	46.08	18.11	H	64.19	68.2	4.01	PK

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 all data rate in 802.11ac_40 MHz BW. Worst case is 13.5 Mbps in 802.11ac_40 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11060	44.59	11.48	V	56.07	73.98	17.91	PK
11060	31.72	11.48	V	43.20	53.98	10.78	AV
16590	45.52	14.42	V	59.94	68.2	8.26	PK
11060	44.27	11.48	H	55.75	73.98	18.23	PK
11060	31.64	11.48	H	43.12	53.98	10.86	AV
16590	45.48	14.42	H	59.90	68.2	8.30	PK

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 all data rate in 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2e
Operation Mode:	802.11ac_80 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5690 MHz
Channel No.	138 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11380	45.02	11.05	V	56.07	73.98	17.91	PK
11380	31.68	11.05	V	42.73	53.98	11.25	AV
17070	45.81	18.08	V	63.89	68.2	4.31	PK
11380	44.98	11.05	H	56.03	73.98	17.95	PK
11380	31.57	11.05	H	42.62	53.98	11.36	AV
17070	45.76	18.08	H	63.84	68.2	4.36	PK

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 all data rate in 802.11ac_80 MHz BW. Worst case is 13.5 Mbps in 802.11ac_80 MHz BW.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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8.7.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

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)).

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	56.52	-0.51	H	56.01	73.98	17.97	PK
5150	40.78	-0.51	H	40.27	53.98	13.71	AV
5150	56.49	-0.51	V	55.98	73.98	18.00	PK
5150	40.56	-0.51	V	40.05	53.98	13.93	AV

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	62.29	-0.51	H	61.78	73.98	12.20	PK
5150	40.51	-0.51	H	40	53.98	13.98	AV
5150	62.08	-0.51	V	61.57	73.98	12.41	PK
5150	40.45	-0.51	V	39.94	53.98	14.04	AV



Band : UNII 1
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5180 MHz
 Channel No. 36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	60.14	-0.51	H	59.63	73.98	14.35	PK
5150	40.27	-0.51	H	39.76	53.98	14.22	AV
5150	60.01	-0.51	V	59.5	73.98	14.48	PK
5150	40.23	-0.51	V	39.72	53.98	14.26	AV

Band : UNII 1
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5190 MHz
 Channel No. 38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	63.68	-0.51	H	63.17	73.98	10.81	PK
5150	43.44	-0.51	H	42.93	53.98	11.05	AV
5150	62.89	-0.51	V	62.38	73.98	11.60	PK
5150	43.41	-0.51	V	42.9	53.98	11.08	AV



Band :	UNII 1
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	61.01	-0.51	H	60.50	73.98	13.48	PK
5150	41.97	-0.51	H	41.46	53.98	12.52	AV
5150	60.89	-0.51	V	60.38	73.98	13.60	PK
5150	41.81	-0.51	V	41.3	53.98	12.68	AV

Band :	UNII 1
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5210 MHz
Channel No.	42 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	63.71	-0.51	H	63.20	73.98	10.78	PK
5150	43.71	-0.51	H	43.2	53.98	10.78	AV
5150	63.48	-0.51	V	62.97	73.98	11.01	PK
5150	43.65	-0.51	V	43.14	53.98	10.84	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	52.96	-0.19	H	52.77	73.98	21.21	PK
5350	38.37	-0.19	H	38.18	53.98	15.80	AV
5350	52.87	-0.19	V	52.68	73.98	21.30	PK
5350	38.32	-0.19	V	38.13	53.98	15.85	AV

Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	54.68	-0.19	H	54.49	73.98	19.49	PK
5350	38.26	-0.19	H	38.07	53.98	15.91	AV
5350	54.49	-0.19	V	54.3	73.98	19.68	PK
5350	38.22	-0.19	V	38.03	53.98	15.95	AV



Band : UNII 2
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5320 MHz
 Channel No. 62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	53.64	-0.19	H	53.45	73.98	20.53	PK
5350	38.38	-0.19	H	38.19	53.98	15.79	AV
5350	53.59	-0.19	V	53.4	73.98	20.58	PK
5350	38.29	-0.19	V	38.1	53.98	15.88	AV

Band : UNII 2
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5310 MHz
 Channel No. 62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	55.29	-0.19	H	55.10	73.98	18.88	PK
5350	38.37	-0.19	H	38.18	53.98	15.80	AV
5350	54.69	-0.19	V	54.5	73.98	19.48	PK
5350	38.20	-0.19	V	38.01	53.98	15.97	AV



Band :	UNII 2
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	54.31	-0.19	H	54.12	73.98	19.86	PK
5350	38.32	-0.19	H	38.13	53.98	15.85	AV
5350	54.02	-0.19	V	53.83	73.98	20.15	PK
5350	38.16	-0.19	V	37.97	53.98	16.01	AV

Band :	UNII 2
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5290 MHz
Channel No.	58 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	57.12	-0.19	H	56.93	73.98	17.05	PK
5350	39.18	-0.19	H	38.99	53.98	14.99	AV
5350	56.89	-0.19	V	56.7	73.98	17.28	PK
5350	39.07	-0.19	V	38.88	53.98	15.10	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Band : UNII 2e
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5500 MHz
 Channel No. 100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	51.27	0.38	H	51.65	73.98	22.33	PK
5460	37.94	0.38	H	38.32	53.98	15.66	AV
*5470	51.51	0.24	H	51.75	68.2	16.45	PK
5460	51.19	0.38	V	51.57	73.98	22.41	PK
5460	37.81	0.38	V	38.19	53.98	15.79	AV
*5470	51.47	0.24	V	51.71	68.2	16.49	PK

Band : UNII 2e
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5700 MHz
 Channel No. 140 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
*5725	58.78	1.05	H	59.83	68.2	8.38	PK
*5725	59.18	1.05	V	60.23	68.2	7.98	PK



Band : UNII 2e
 Operation Mode: 802.11 n_20 MHz BW
 Transfer Rate: 6 Mbps
 Operating Frequency 5500 MHz
 Channel No. 100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	51.26	0.38	H	51.64	73.98	22.34	PK
5460	37.75	0.38	H	38.13	53.98	15.85	AV
*5470	53.94	0.24	H	54.18	68.2	14.02	PK
5460	51.14	0.38	V	51.52	73.98	22.46	PK
5460	37.65	0.38	V	38.03	53.98	15.95	AV
*5470	53.81	0.24	V	54.05	68.2	14.15	PK

Band : UNII 2e
 Operation Mode: 802.11 n_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5700 MHz
 Channel No. 140 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
*5725	63.36	1.05	H	64.41	68.2	3.80	PK
*5725	63.22	1.05	V	64.27	68.2	3.94	AV



Band : UNII 2e
 Operation Mode: 802.11 ac_20 MHz BW
 Transfer Rate: 6.5 Mbps
 Operating Frequency 5500 MHz
 Channel No. 100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	51.28	0.38	H	51.66	73.98	22.32	PK
5460	37.70	0.38	H	38.08	53.98	15.90	AV
*5470	53.41	0.24	H	53.65	68.2	14.55	PK
5460	51.06	0.38	V	51.44	73.98	22.54	PK
5460	37.64	0.38	V	38.02	53.98	15.96	AV
*5470	53.12	0.24	V	53.36	68.2	14.84	PK

Band : UNII 2e
 Operation Mode: 802.11n_40 MHz BW
 Transfer Rate: 13.5 Mbps
 Operating Frequency 5510 MHz
 Channel No. 102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	52.72	0.38	H	53.10	73.98	20.88	PK
5460	37.90	0.38	H	38.28	53.98	15.70	AV
*5470	54.46	0.24	H	54.7	68.2	13.50	PK
5460	51.65	0.38	V	52.03	73.98	21.95	PK
5460	37.73	0.38	V	38.11	53.98	15.87	AV
*5470	54.27	0.24	V	54.51	68.2	13.69	PK



Band :	UNII 2e
Operation Mode:	802.11 n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5670 MHz
Channel No.	134 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
*5725	54.79	1.05	H	55.84	68.2	12.37	PK
*5725	55.06	1.05	V	56.11	68.2	12.10	AV

Band :	UNII 2e
Operation Mode:	802.11 ac_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	52.02	0.38	H	52.40	73.98	21.58	PK
5460	37.95	0.38	H	38.33	53.98	15.65	AV
*5470	53.38	0.24	H	53.62	68.2	14.58	PK
5460	51.77	0.38	V	52.15	73.98	21.83	PK
5460	37.64	0.38	V	38.02	53.98	15.96	AV
*5470	53.28	0.24	V	53.52	68.2	14.68	PK

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Band :	UNII 2e
Operation Mode:	802.11 ac_80 MHz BW
Transfer Rate:	29.3 Mbps
Operating Frequency	5530 MHz
Channel No.	106 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	52.33	0.38	H	52.71	73.98	21.27	PK
5460	39.49	0.38	H	39.87	53.98	14.11	AV
*5470	54.75	0.24	H	54.99	68.2	13.21	PK
5460	52.04	0.38	V	52.42	73.98	21.56	PK
5460	39.25	0.38	V	39.63	53.98	14.35	AV
*5470	54.66	0.24	V	54.9	68.2	13.30	PK

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done all data rate in 802.11a/n/ac mode test. . Worst case of EUT is lowest data rate in 802.11a/n/ac
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. “*” is radiated band edge test frequency.(not restricted band emissions)

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8.8 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 (dB μ V)	
	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 groundplane.
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.
5. We are performed the AC Power Line Conducted Emission test for 6 Mbps, Ch.52 and 802.11a mode in UNII 2. Because 802.11a mode in UNII 2 is worst case.

RESULT PLOTS

Conducted Emissions (Line 1)

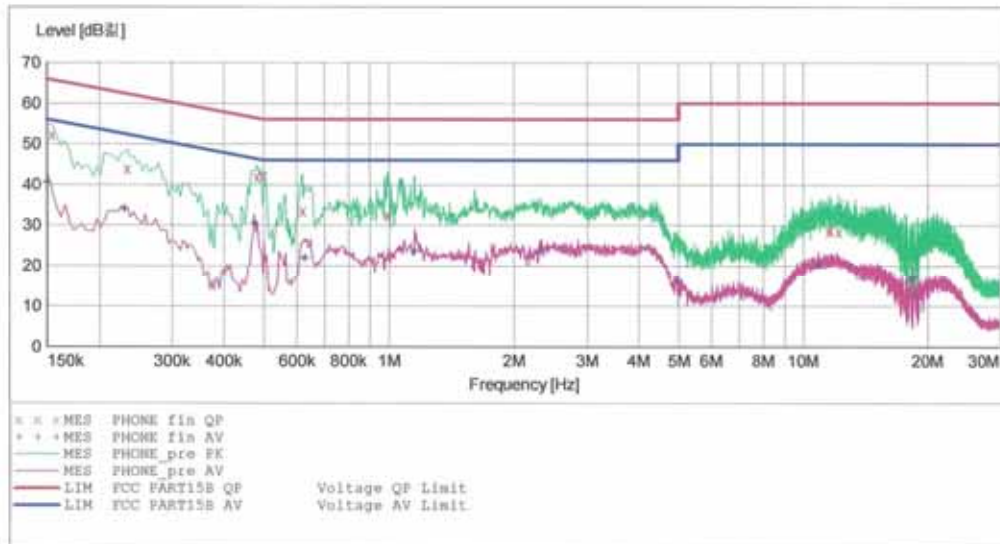
HCT

EMC

EUT: KS1204
 Manufacturer: LG
 Operating Condition: WLAN MODE(UNII)
 Test Site: SHIELD ROOM
 Operator: JC SHIN
 Test Specification: FCC PART15 B
 Comment: H

SCAN TABLE: "FCC CLASS B(H)"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.154001	52.20	9.8	66	13.6	---	---
0.234001	43.90	9.8	62	18.4	---	---
0.482001	41.90	9.8	56	14.4	---	---
0.500000	42.30	9.8	56	13.7	---	---
0.620000	33.50	9.8	56	22.5	---	---
0.992000	32.30	9.8	56	23.7	---	---
11.528000	28.60	10.6	60	31.4	---	---
11.676000	29.00	10.6	60	31.0	---	---
12.192000	28.40	10.6	60	31.6	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-09-04 11:21오전

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150001	40.50	9.8	56	15.5	---	---
0.230001	34.00	9.8	52	18.5	---	---
0.474001	30.60	9.8	46	15.8	---	---
0.628000	21.90	9.8	46	24.1	---	---
1.156000	23.60	9.9	46	22.4	---	---
2.320000	23.70	10.0	46	22.3	---	---
5.000000	16.30	10.2	46	29.7	---	---
10.884000	20.10	10.5	50	29.9	---	---
18.336000	17.00	10.9	50	33.0	---	---

Conducted Emissions (Line 2)

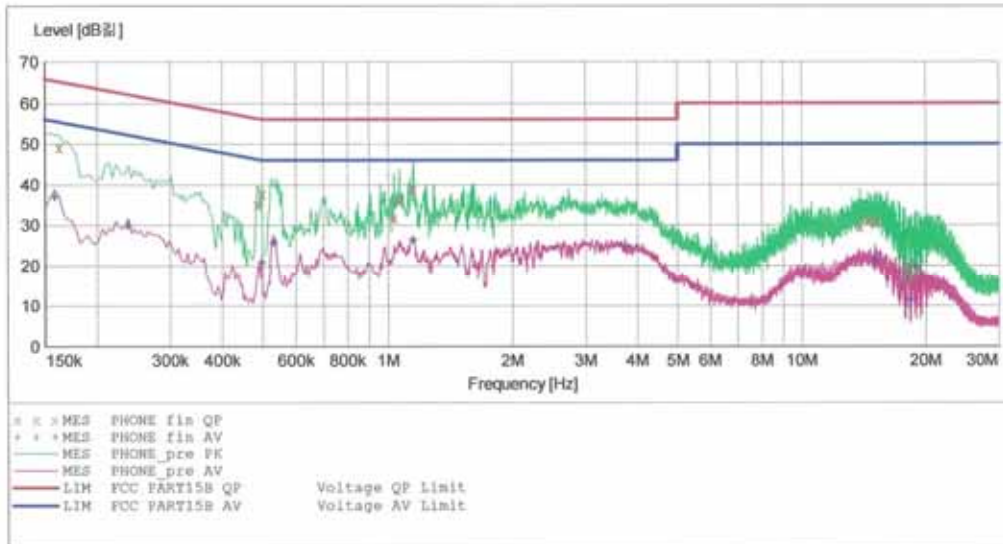
HCT

EMC

EUT: KS1204
 Manufacturer: LG
 Operating Condition: WLAN MODE (UNII)
 Test Site: SHIELD ROOM
 Operator: JC SHIN
 Test Specification: FCC PART15 B
 Comment: N

SCAN TABLE: "FCC CLASS B(N)"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	KN22 CLASS B MaxPeak	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	4.0 kHz	Average MaxPeak	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	4.0 kHz	Average MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

2013-09-04 11:25오전

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.162001	49.10	10.0	65	16.3	---	---
0.486001	35.10	10.0	56	21.1	---	---
0.500000	37.70	10.0	56	18.3	---	---
1.036000	31.80	10.1	56	24.2	---	---
1.068000	36.10	10.1	56	19.9	---	---
1.156000	38.90	10.1	56	17.1	---	---
13.852000	29.50	11.0	60	30.5	---	---
14.496000	31.00	11.0	60	29.0	---	---
15.124000	30.90	11.0	60	29.1	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-09-04 11:25오전

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Line	PE
0.158001	36.90	10.0	56	18.6	---	---
0.238001	29.80	10.0	52	22.3	---	---
0.498001	20.70	10.0	46	25.4	---	---
0.532000	25.60	10.0	46	20.4	---	---
1.152000	26.40	10.1	46	19.6	---	---
3.744000	24.70	10.3	46	21.3	---	---
15.052000	21.00	11.0	50	29.0	---	---
18.340000	11.30	11.2	50	38.7	---	---
18.860000	19.60	11.2	50	30.4	---	---

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9. 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
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/10/2014	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2014	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	10/17/2013	937
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	11/07/2013	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	11/07/2013	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/07/2013	010002156287001199
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
CERNEX	CBLU1183540 / POWER AMP	Annual	07/24/2014	21691
Agilent	8493C / Attenuator(10 dB)	Annual	07/24/2014	76649
WEINSCHL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617

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