

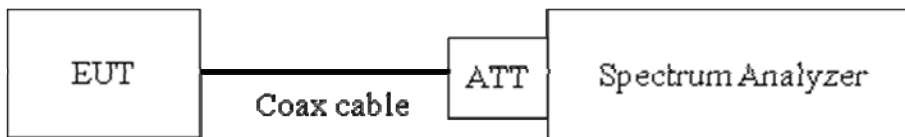
8.4 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Requirements and limit, §15.247(d)

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

Limit : 20 dBc

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. (Procedure 10.1.2 in KDB 558074, issued 10/04/2012)

RBW = 100 kHz (Upon 1 GHz = 1 MHz)

VBW ≥ 300 kHz (Upon 1 GHz = 3 MHz)

Set span to encompass the spectrum to be examined

Detector = Peak

Trace Mode = max hold

Sweep = auto couple

Allow the trace to stabilize (this may take some time, depending on the extent of the span).

Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Measurements are made over the 30 MHz to 40 GHz range with the transmitter set to the lowest, middle, and highest channels.

Note :

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

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loss for the attenuator and cable combination is below table.

So, 10.1 dB is offset. And the offset gap in the 2.4 GHz range do not affect the band edge final result.

Band	Frequency(MHz)	Loss(dB)
2.4 GHz	2412	10.11
	2437	10.10
	2462	10.12

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

4. In case of conducted spurious emissions test, please check factors below table.

FACTORS FOR FREQUENCY

Freq(MHz)	Factor(dB)
30	10.37
100	10.16
200	10.15
300	10.14
400	10.18
500	10.19
600	10.20
700	10.30
800	10.25
900	10.28
1000	10.29
2000	10.17
2412*	10.11
2437*	10.10
2462*	10.12
3000	10.26
4000	10.31
5000	9.85
6000	10.20
7000	10.60
8000	10.53
9000	10.23
10000	10.41
11000	10.65
12000	11.19
13000	10.97
14000	11.42
15000	12.01
16000	11.77
17000	10.78
18000	10.76
19000	11.15
20000	10.75
21000	10.82
22000	10.82
23000	11.26
24000	11.08
25000	11.18
26000	10.90

Note : 1. ** is fundamental frequency range.

2. Factor = Cable loss + Attenuator loss

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RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)



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BandEdge (802.11g-CH1)



BandEdge (802.11g-CH11)



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BandEdge (802.11n-CH1)

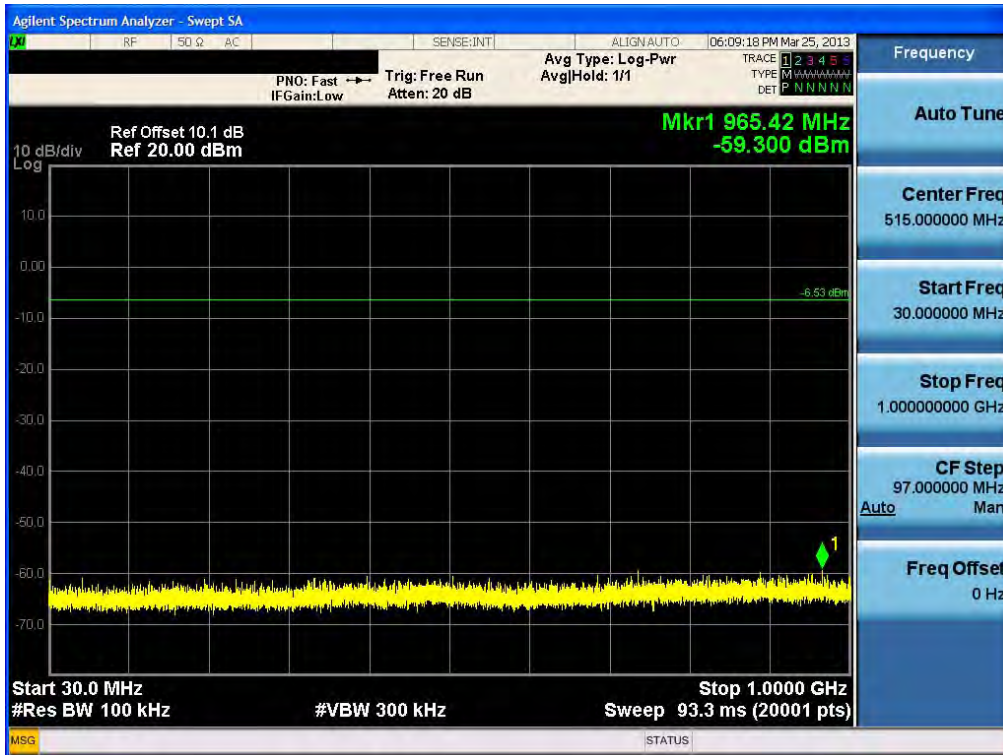


BandEdge (802.11n-CH11)

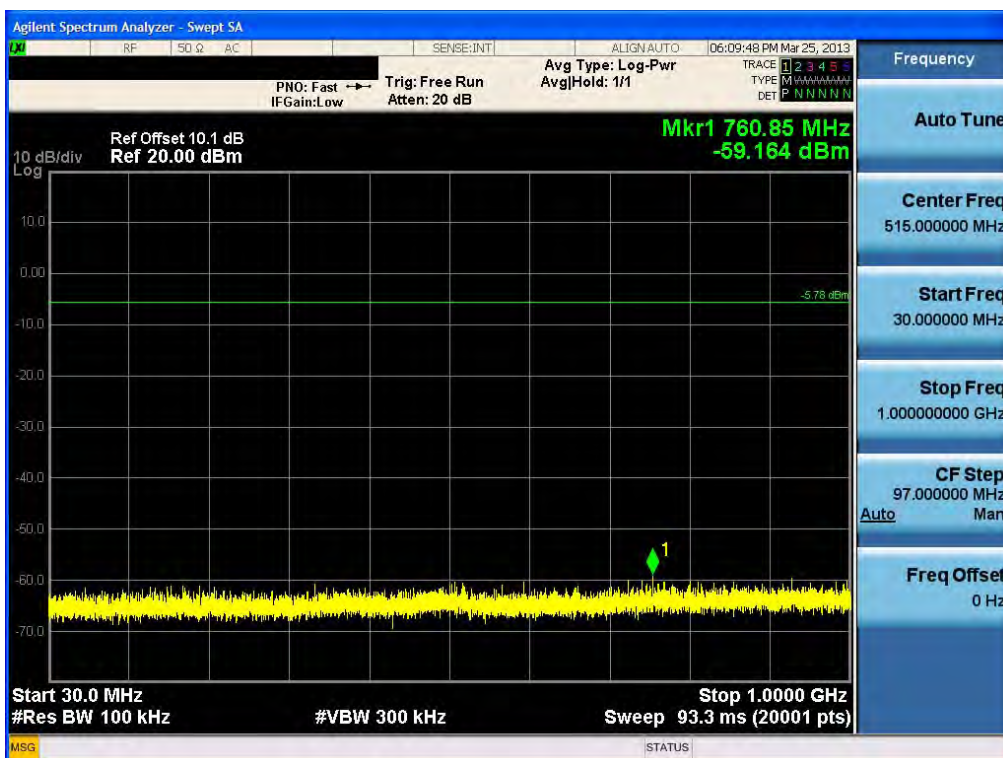


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Conducted Spurious Emission (802.11b-CH1)

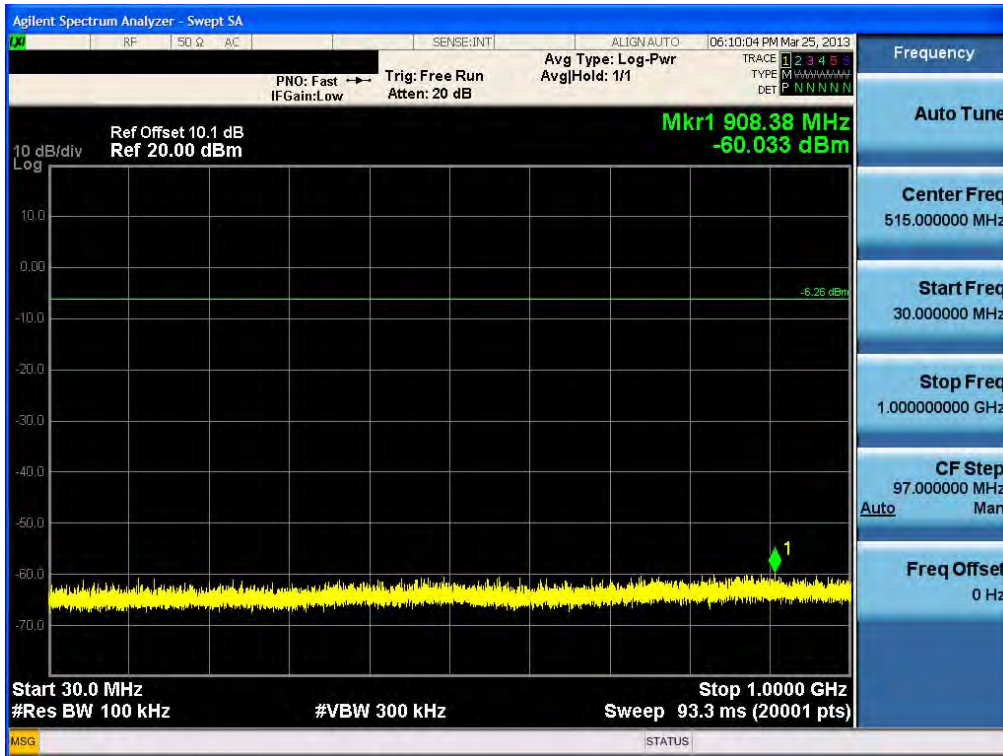


Conducted Spurious Emission (802.11b-CH6)

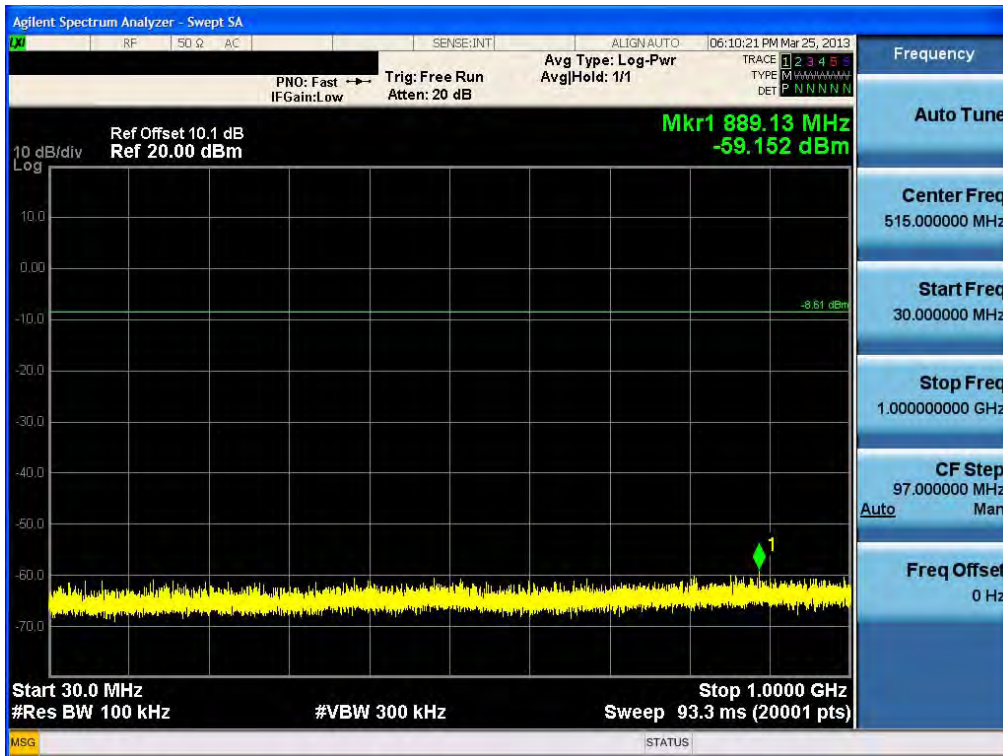


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Conducted Spurious Emission (802.11b-CH11)

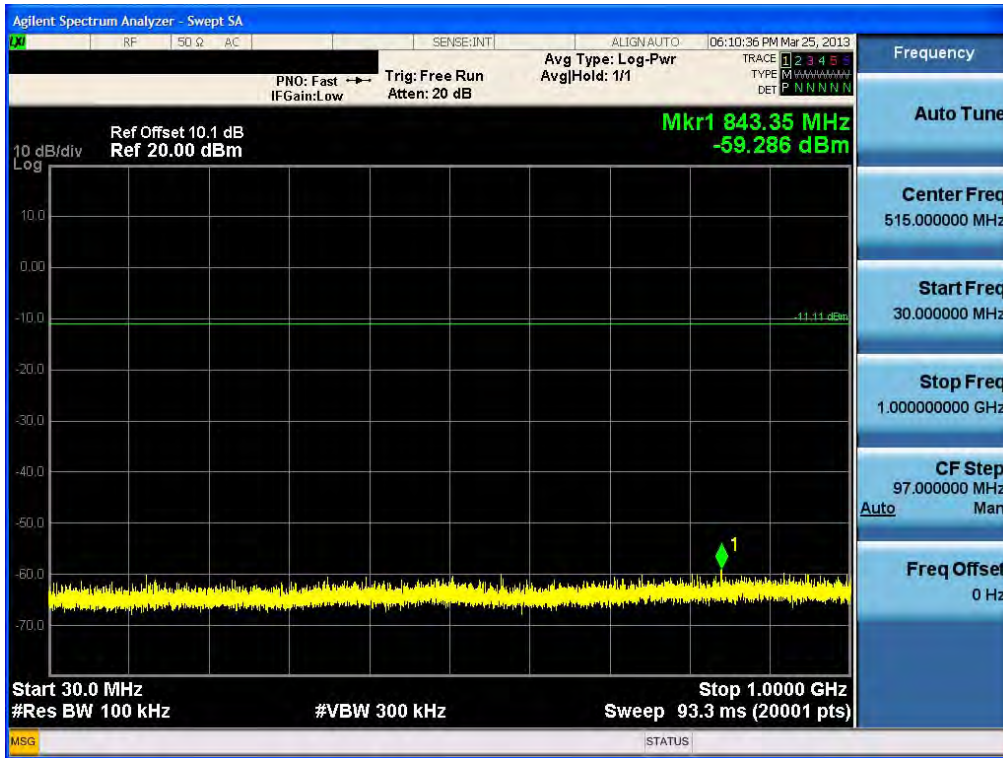


Conducted Spurious Emission (802.11g-CH1)

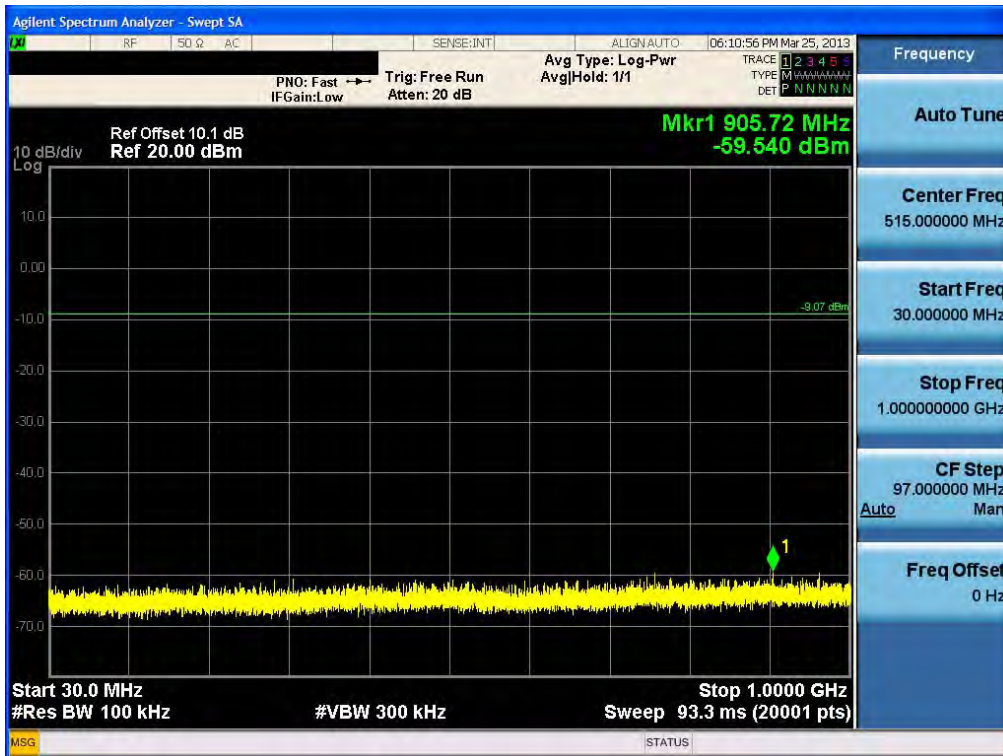


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Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

Conducted Spurious Emission (802.11g-CH6)

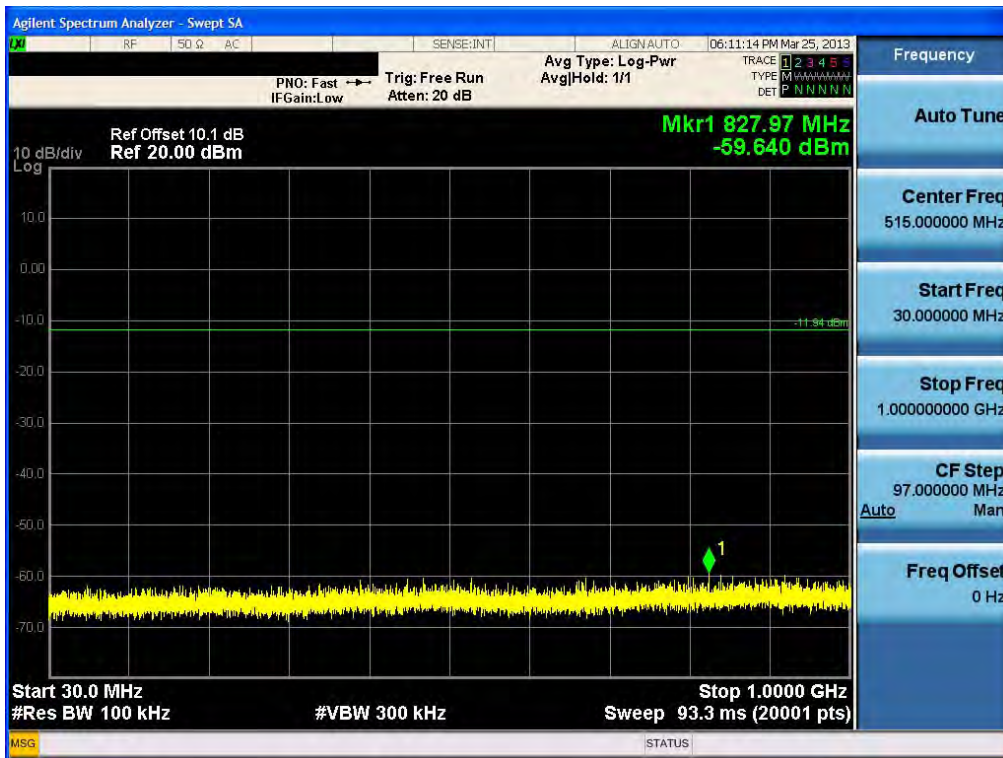


Conducted Spurious Emission (802.11g-CH11)

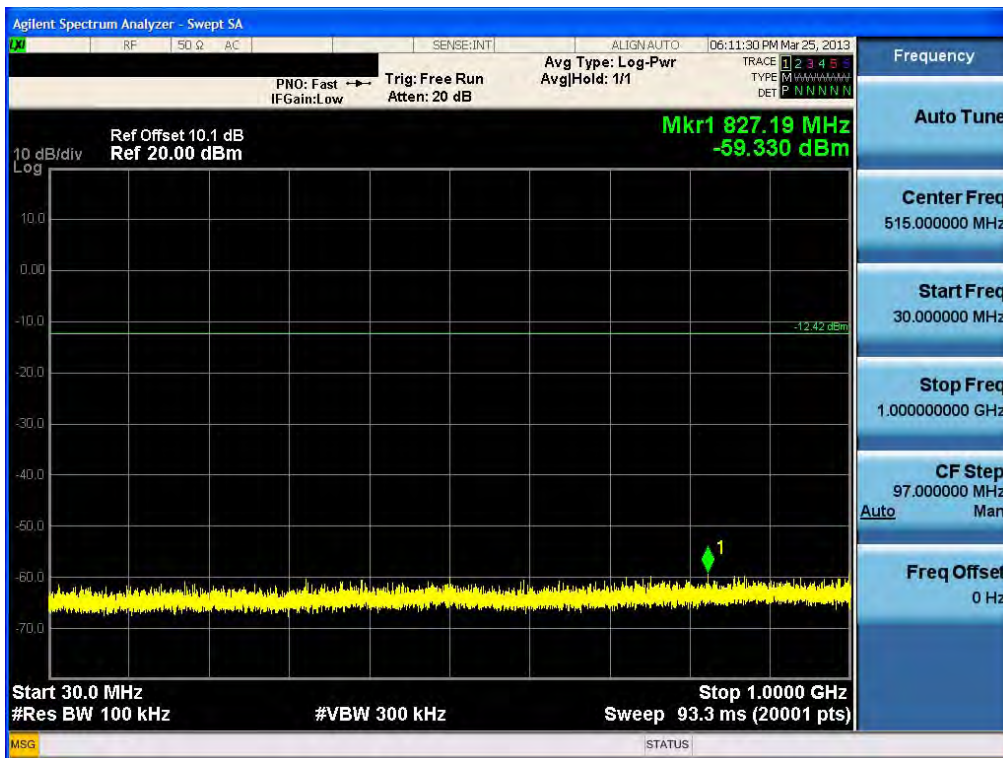


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Conducted Spurious Emission (802.11n-CH1)

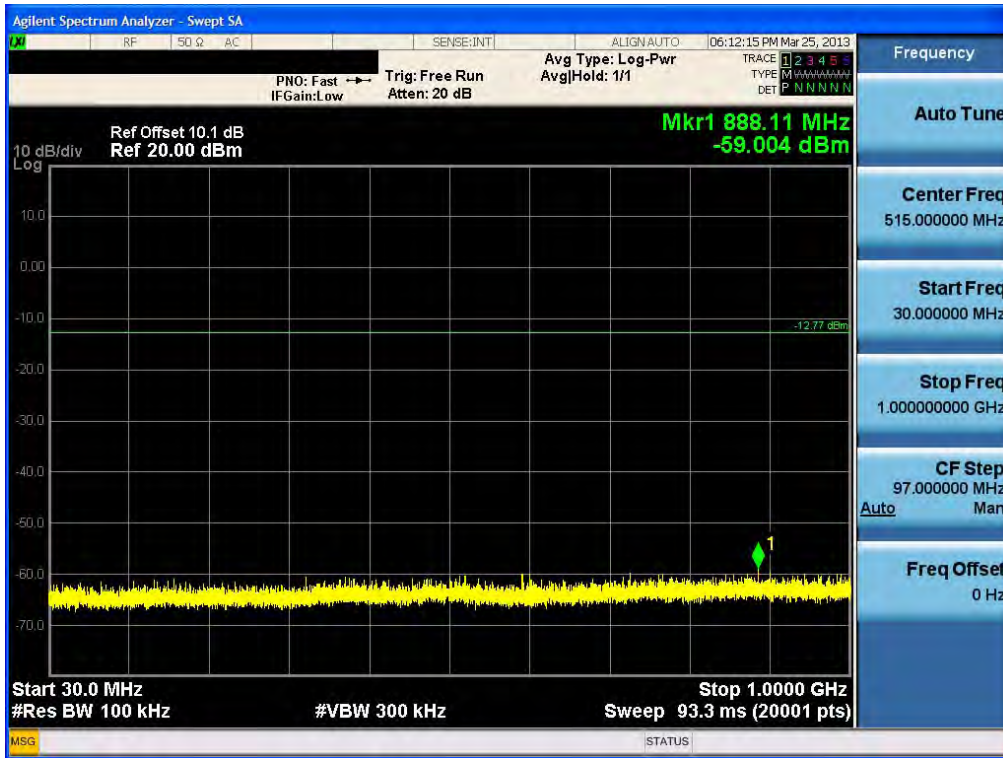


Conducted Spurious Emission (802.11n-CH6)



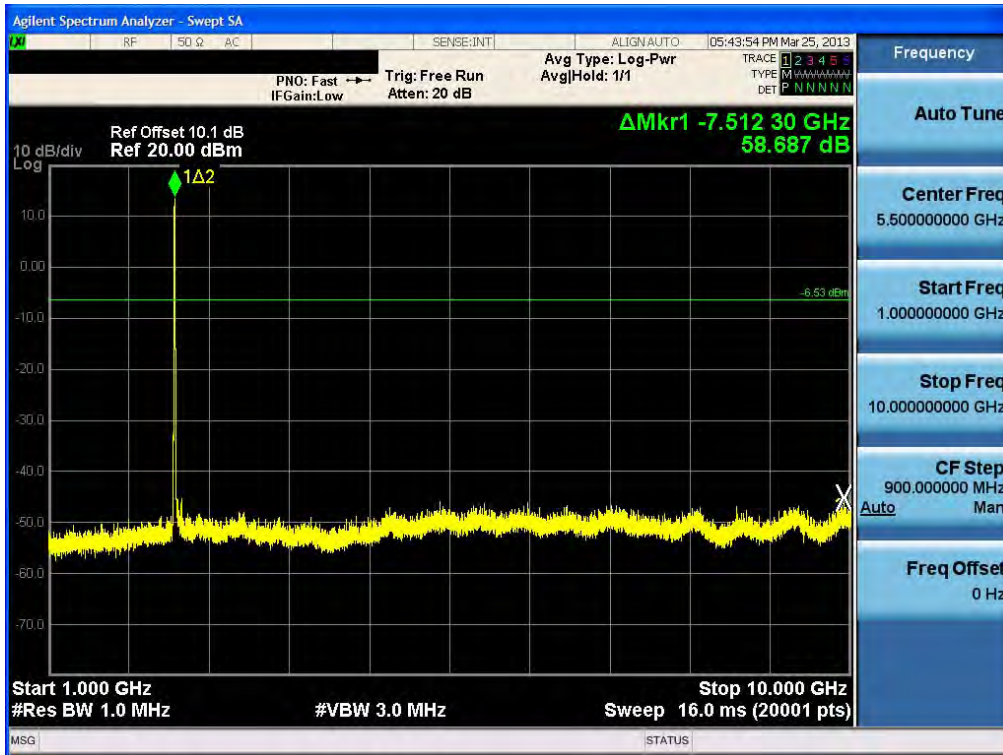
FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

Conducted Spurious Emission (802.11n-CH11)

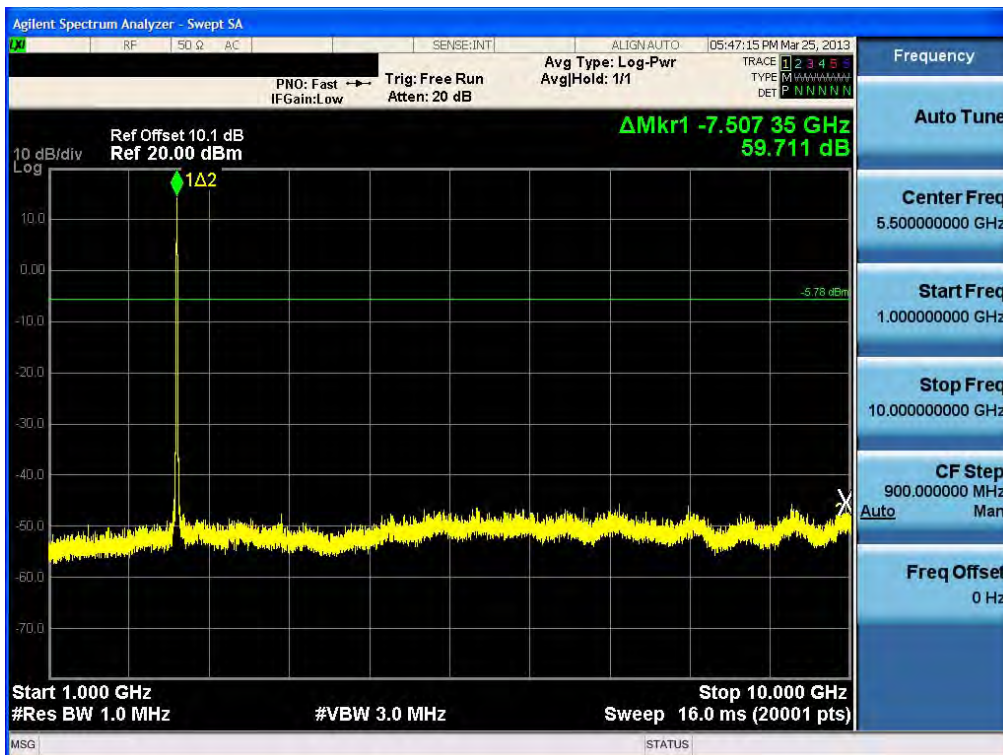


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Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

Conducted Spurious Emission (802.11b-CH1)

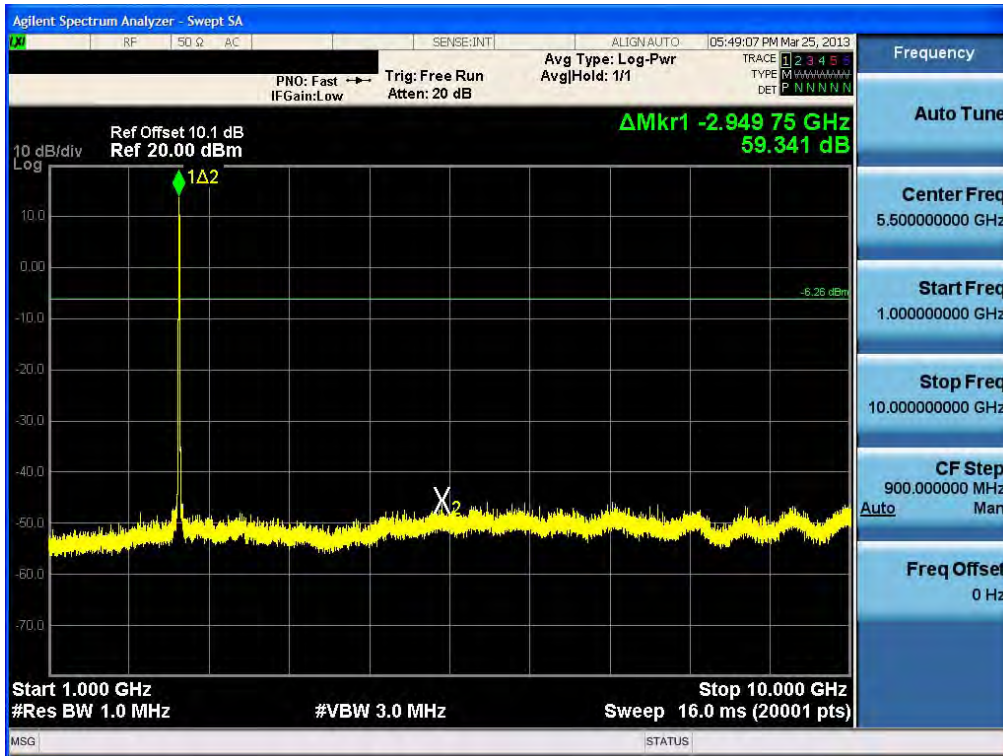


Conducted Spurious Emission (802.11b-CH6)

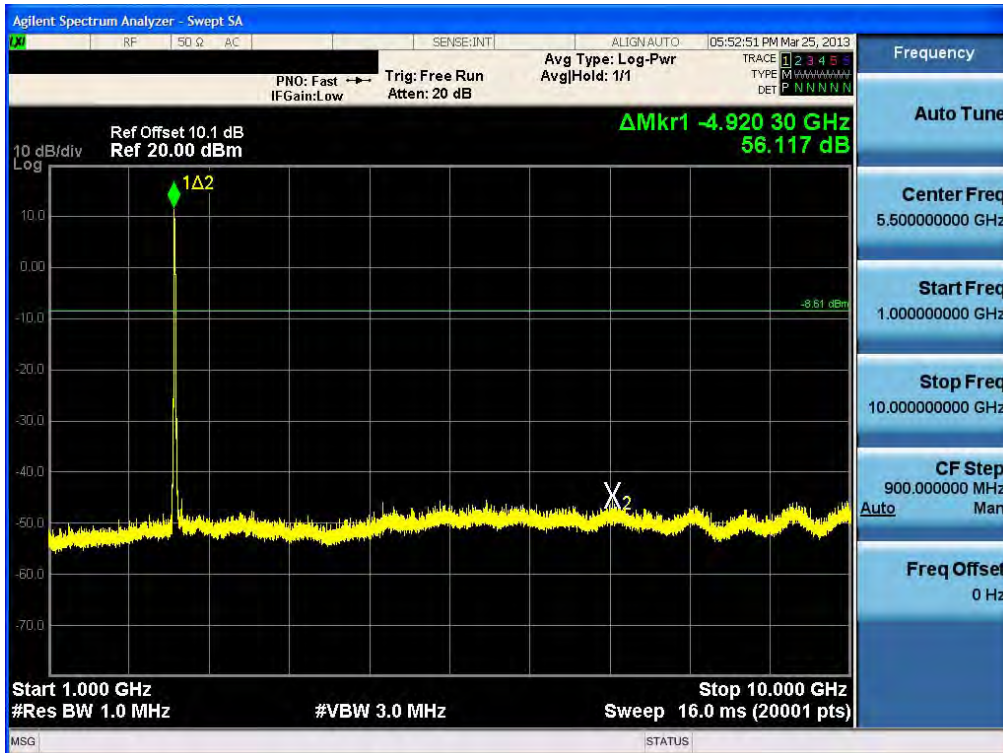


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Conducted Spurious Emission (802.11b-CH11)

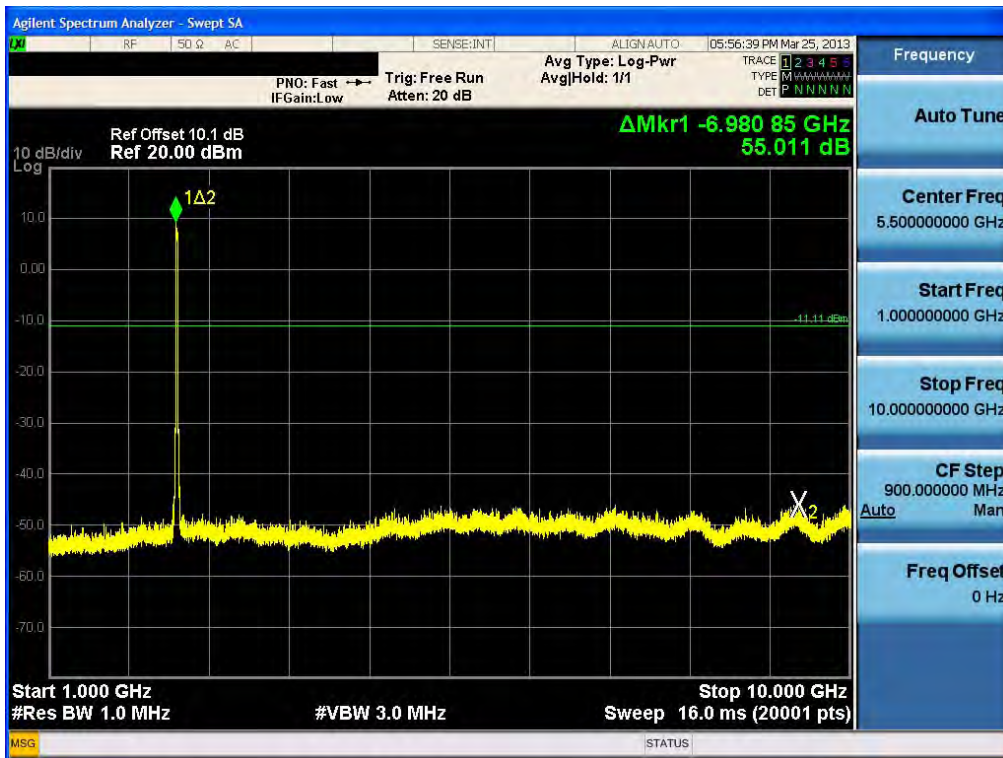


Conducted Spurious Emission (802.11g-CH11)

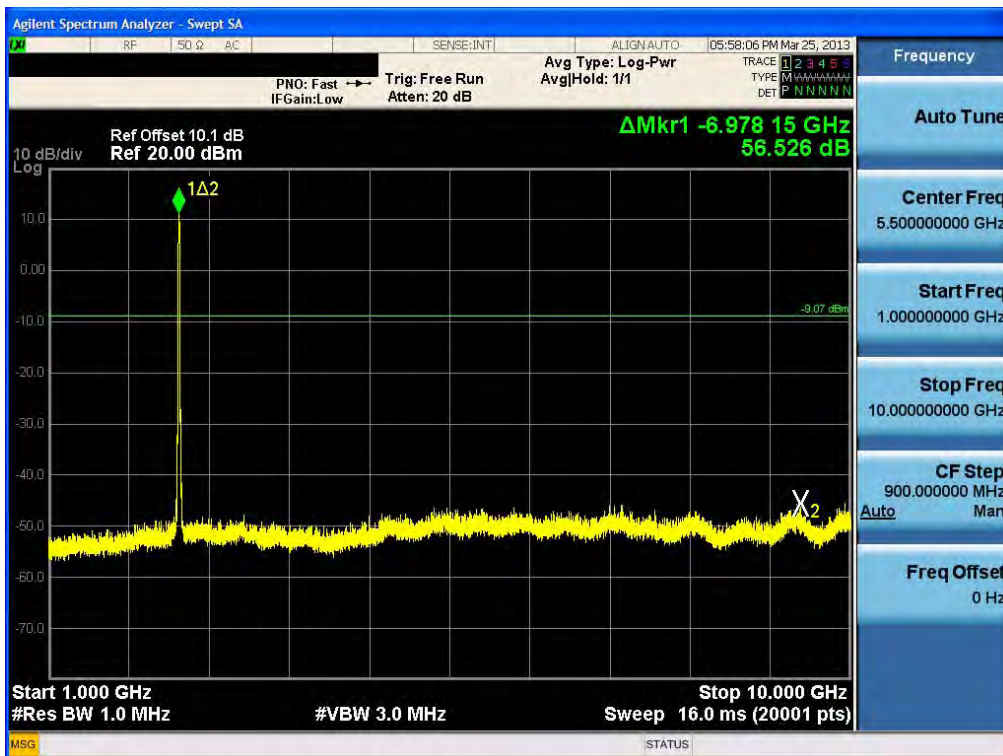


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Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

Conducted Spurious Emission (802.11g-CH6)

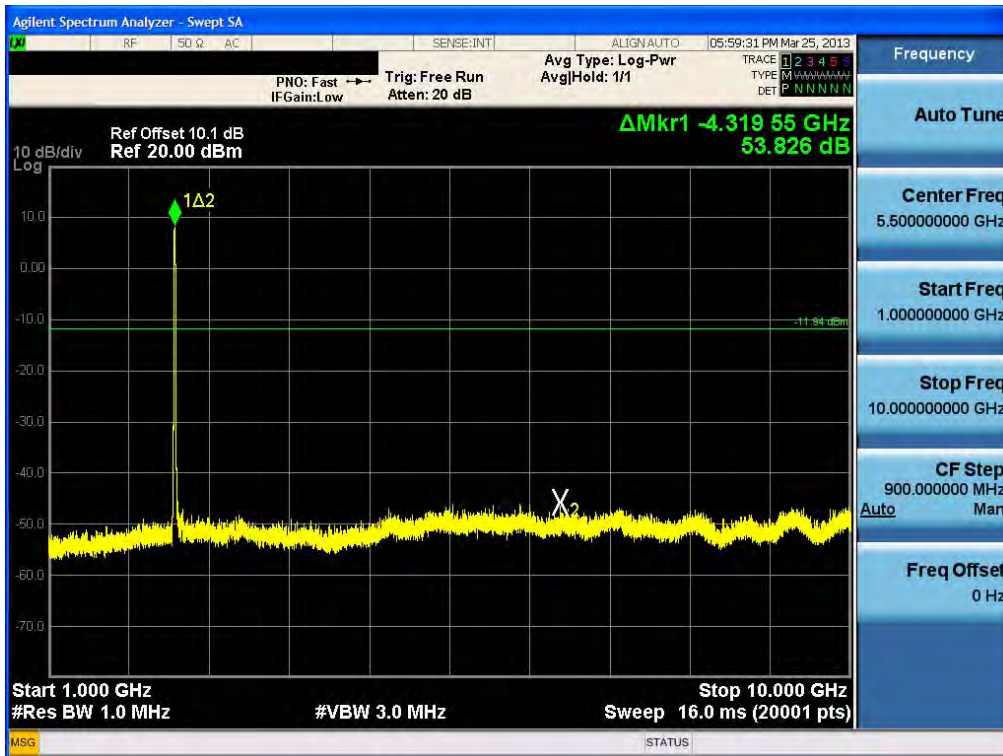


Conducted Spurious Emission (802.11g-CH11)

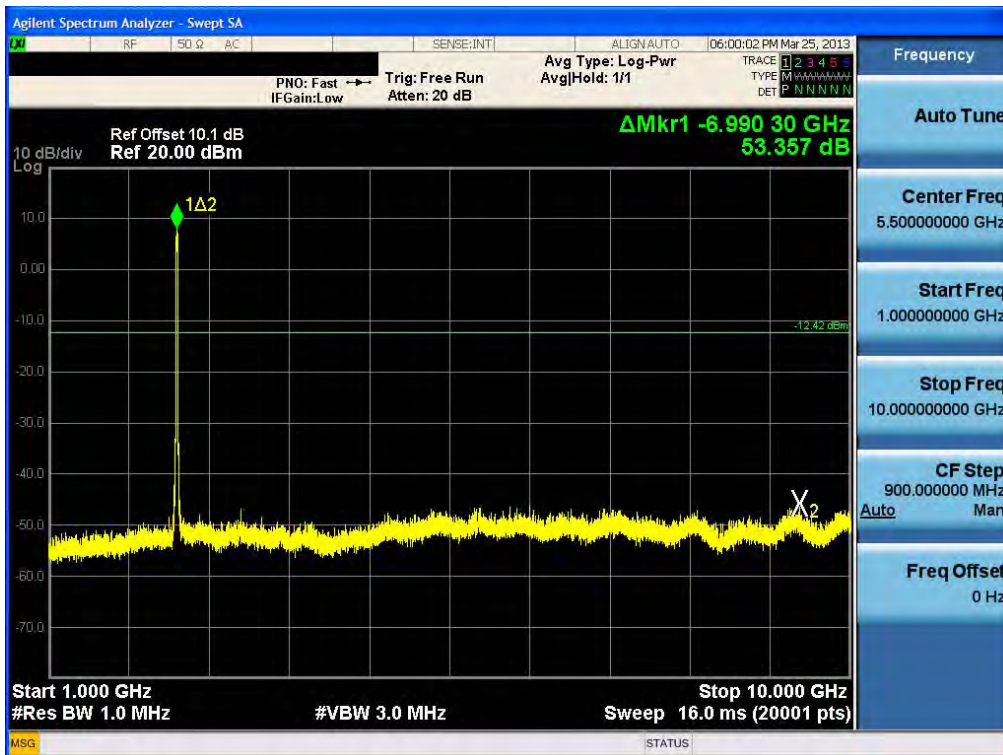


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Conducted Spurious Emission (802.11n-CH1)

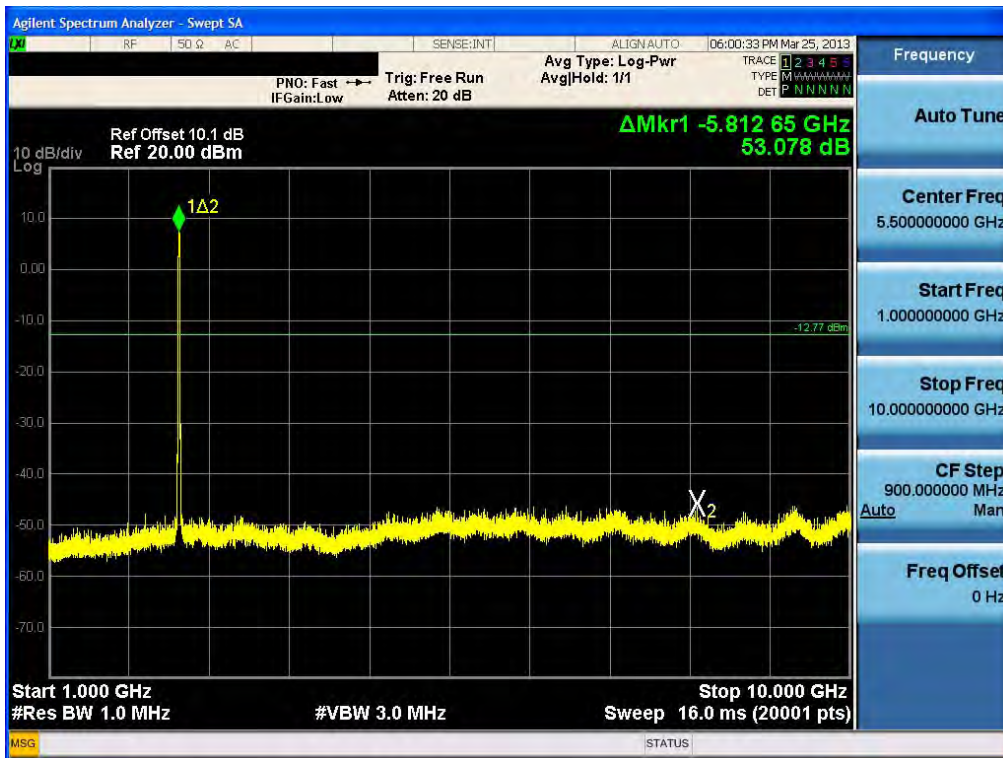


Conducted Spurious Emission (802.11n-CH6)



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Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

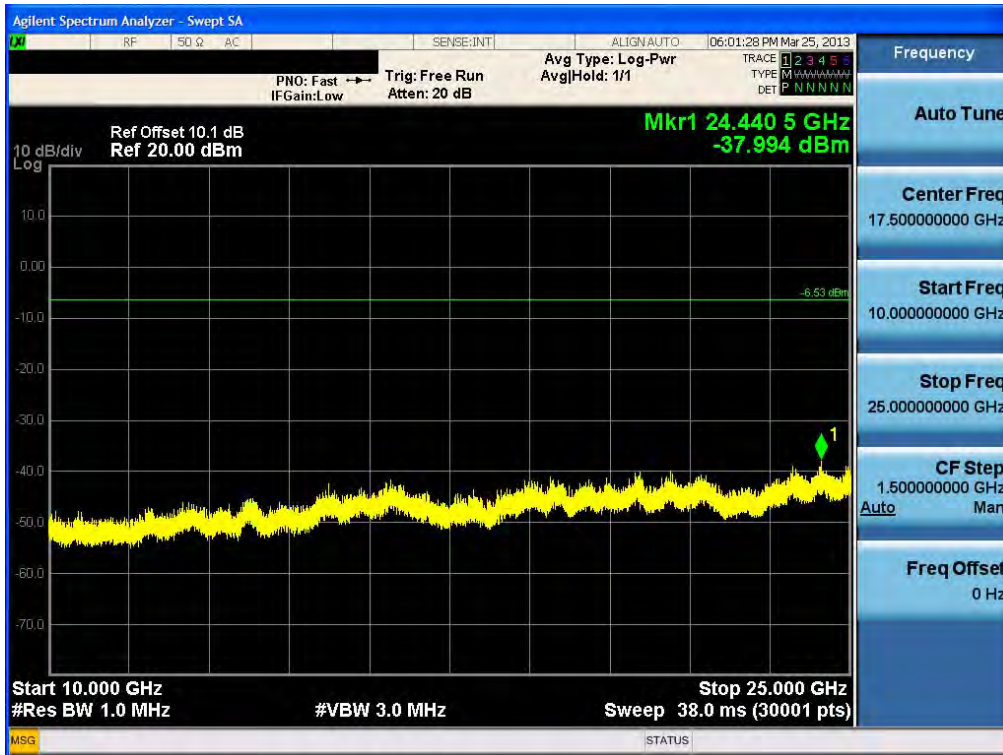
Conducted Spurious Emission (802.11n-CH11)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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10 GHz ~ 25 GHz

Conducted Spurious Emission (802.11b-CH1)



Conducted Spurious Emission (802.11b-CH6)

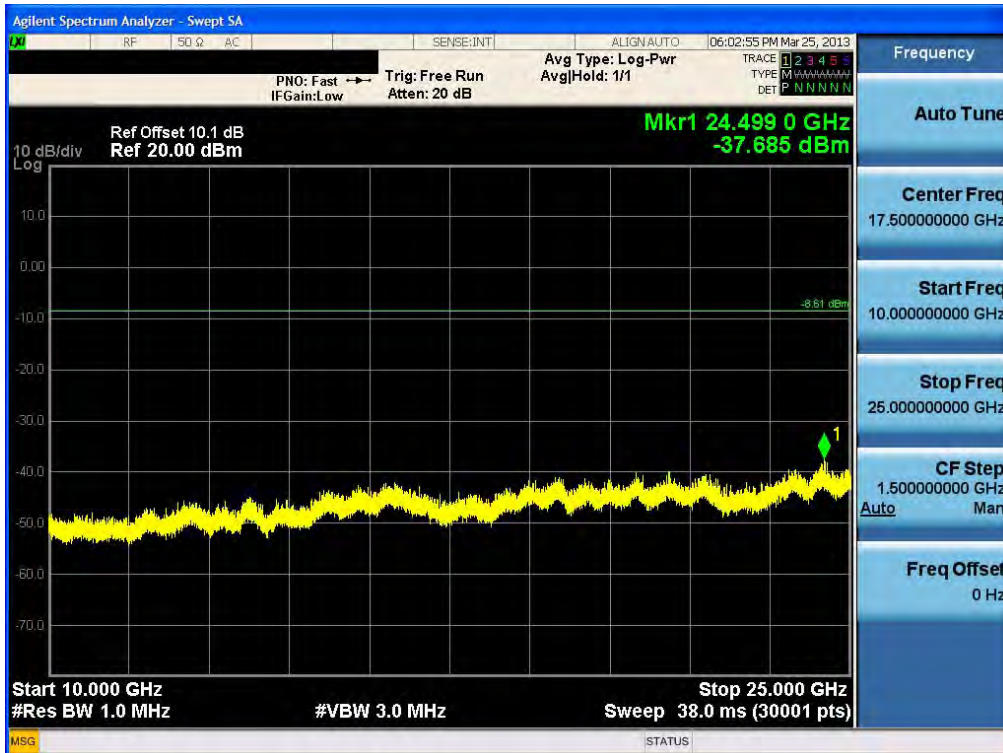


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNF716

Conducted Spurious Emission (802.11b-CH11)



Conducted Spurious Emission (802.11g-CH11)



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Conducted Spurious Emission (802.11g-CH6)

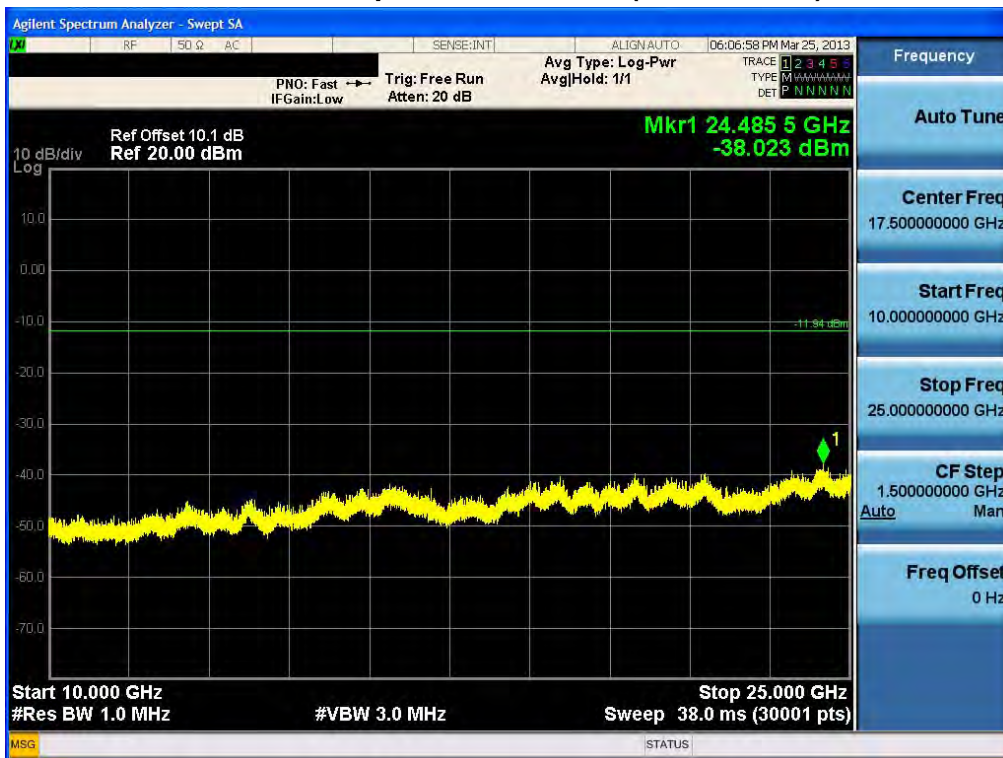


Conducted Spurious Emission (802.11g-CH11)



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Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN	FCC ID: ZNFP716

Conducted Spurious Emission (802.11n-CH1)



Conducted Spurious Emission (802.11n-CH6)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Conducted Spurious Emission (802.11n-CH11)



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8.5 RADIATED MEASUREMENT.

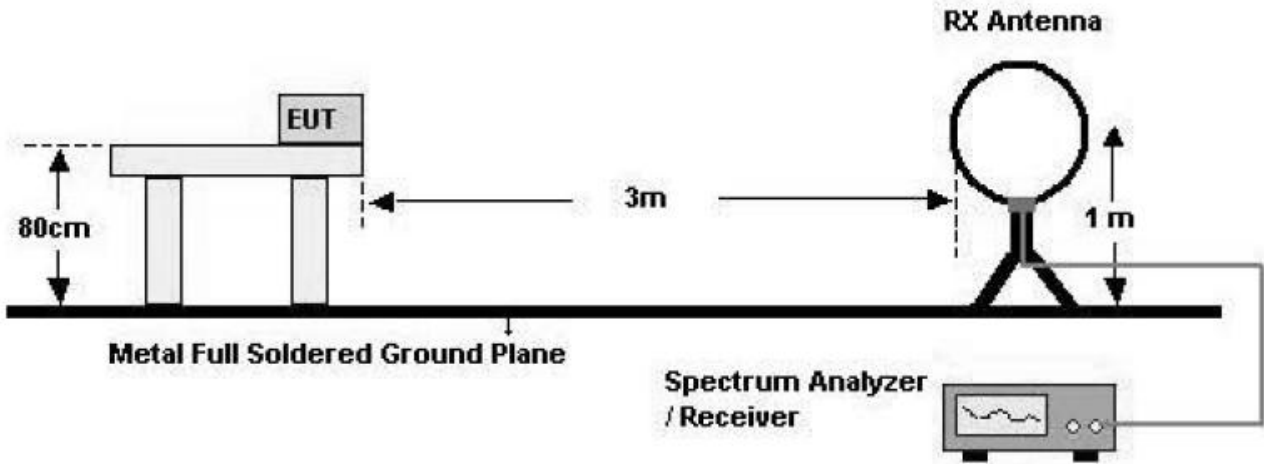
8.5.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

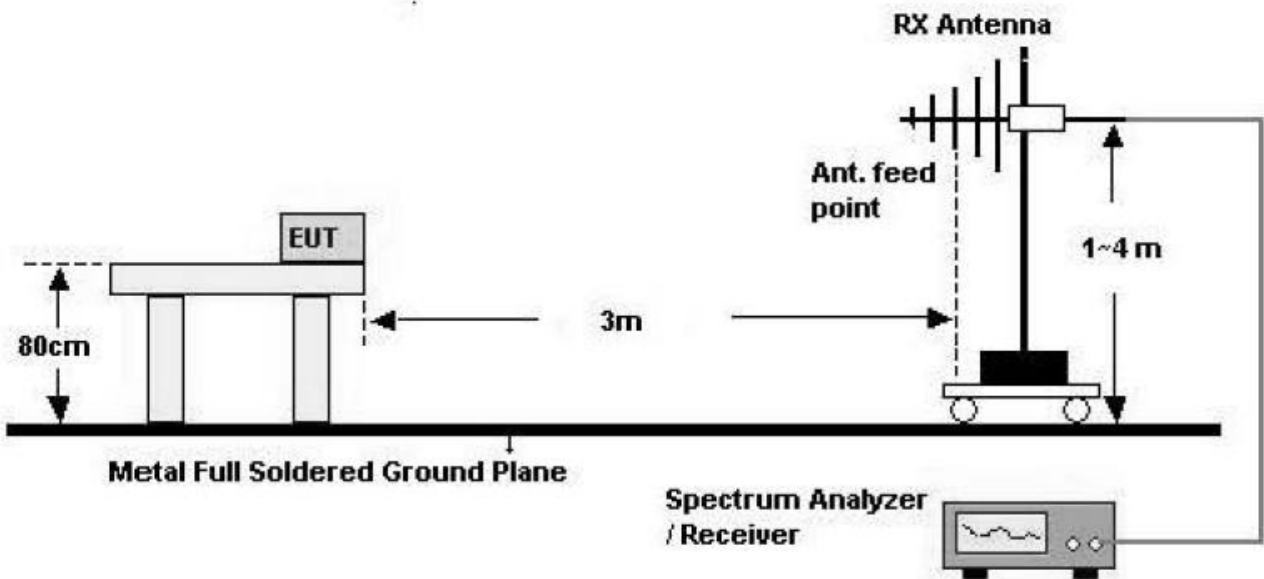
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

Below 30 MHz

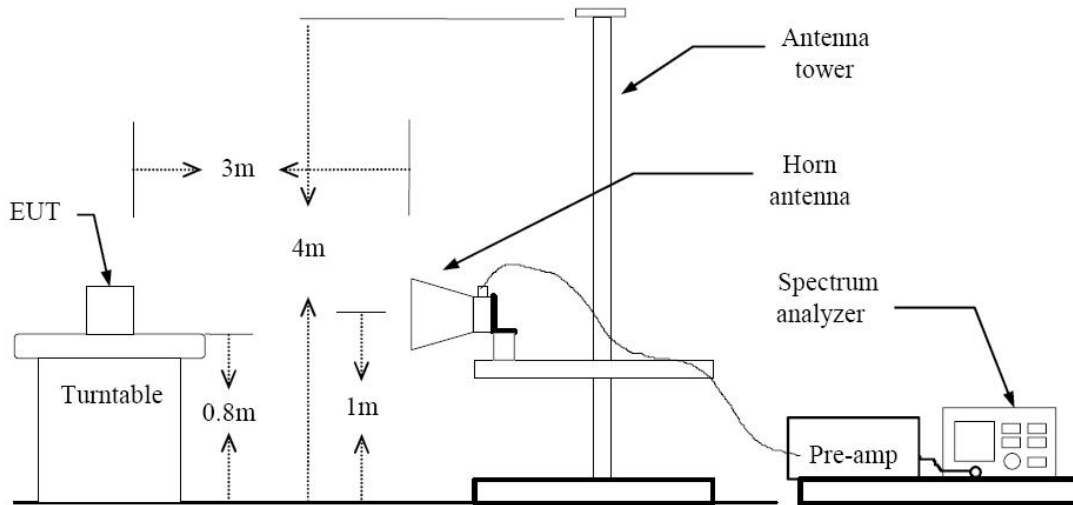


30 MHz - 1 GHz



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Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method 10.2.3.2 in KDB 558074, issued 10/04/2012 (Peak)

Method 10.2.3.3 in KDB 558074, issued 10/04/2012(Average)

Spectrum Setting

- Peak (Method 10.2.3.2 in KDB 558074, issued 10/04/2012)

RBW = 1 MHz

VBW \geq 3 x RBW

Detector = Peak

Trace = Max hold

Sweep = auto couple

- Average (Method 10.2.3.3 in KDB 558074, issued 10/04/2012)

RBW = 1 MH

VBW \geq 3 x RBW

Span = least 1MHz

Detector Mode = Power average (RMS) or sample detector when RMS not available

Trace average at least 100 traces in power averaging(RMS) mode

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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.

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.



Above 1 GHz

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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	54.70	-0.79	V	53.91	74	20.09	PK
4824	46.40	-0.79	V	45.61	54	8.39	AV
7236	50.32	9.08	V	59.4	74	14.60	PK
7236	36.32	9.08	V	45.4	54	8.60	AV
4824	55.20	-0.79	H	54.41	74	19.59	PK
4824	47.45	-0.79	H	46.66	54	7.34	AV
7236	49.50	9.08	H	58.58	74	15.42	PK
7236	36.06	9.08	H	45.14	54	8.86	AV

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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	51.68	-0.79	V	50.89	74	23.11	PK
4824	40.29	-0.79	V	39.5	54	14.50	AV
7236	49.67	9.08	V	58.75	74	15.25	PK
7236	38.22	9.08	V	47.3	54	6.70	AV
4824	52.79	-0.79	H	52	74	22.00	PK
4824	41.12	-0.79	H	40.33	54	13.67	AV
7236	49.75	9.08	H	58.83	74	15.17	PK
7236	37.98	9.08	H	47.06	54	6.94	AV



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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4824	51.84	-0.79	V	51.05	74	22.95	PK
4824	40.05	-0.79	V	39.26	54	14.74	AV
7236	49.62	9.08	V	58.7	74	15.30	PK
7236	37.96	9.08	V	47.04	54	6.96	AV
4824	51.66	-0.79	H	50.87	74	23.13	PK
4824	40.69	-0.79	H	39.9	54	14.10	AV
7236	49.39	9.08	H	58.47	74	15.53	PK
7236	38.01	9.08	H	47.09	54	6.91	AV

Notes:

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

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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	53.83	-0.37	V	53.46	74	20.54	PK
4874	44.77	-0.37	V	44.40	54	9.60	AV
7311	48.85	8.64	V	57.49	74	16.51	PK
7311	35.18	8.64	V	43.82	54	10.18	AV
4874	53.27	-0.37	H	52.90	74	21.10	PK
4874	44.01	-0.37	H	43.64	54	10.36	AV
7311	48.65	8.64	H	57.29	74	16.71	PK
7311	35.16	8.64	H	43.80	54	10.20	AV

Operation Mode: 802.11 g
 Transfer Rate: 6 Mbps
 Operating Frequency: 2437
 Channel No. 06 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	51.58	-0.37	V	51.21	74	22.79	PK
4874	39.14	-0.37	V	38.77	54	15.23	AV
7311	50.28	8.64	V	58.92	74	15.08	PK
7311	37.37	8.64	V	46.01	54	7.99	AV
4874	51.15	-0.37	H	50.78	74	23.22	PK
4874	39.38	-0.37	H	39.01	54	14.99	AV
7311	48.88	8.64	H	57.52	74	16.48	PK
7311	37.30	8.64	H	45.94	54	8.06	AV



Operation Mode:	802.11 n
Transfer Rate:	6.5 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4874	50.35	-0.37	V	49.98	74	24.02	PK
4874	39.00	-0.37	V	38.63	54	15.37	AV
7311	49.26	8.64	V	57.90	74	16.10	PK
7311	38.07	8.64	V	46.71	54	7.29	AV
4874	50.84	-0.37	H	50.47	74	23.53	PK
4874	39.31	-0.37	H	38.94	54	15.06	AV
7311	48.29	8.64	H	56.93	74	17.07	PK
7311	37.39	8.64	H	46.03	54	7.97	AV

Notes:

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

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR11-1	Date of Issue: April 16, 2013	EUT Type: Cellular/PCS GSM/GPRS/EDGE Rx only/WCDMA/HSDPA/HSUPA Phone with Bluetooth/WLAN		FCC ID: ZNFP716



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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	52.37	-0.15	V	52.22	74	21.78	PK
4924	42.76	-0.15	V	42.61	54	11.39	AV
7386	49.34	9.06	V	58.4	74	15.6	PK
7386	36.09	9.06	V	45.15	54	8.85	AV
4924	52.01	-0.15	H	51.86	74	22.14	PK
4924	39.21	-0.15	H	39.06	54	14.94	AV
7386	49.56	9.06	H	58.62	74	15.38	PK
7386	35.80	9.06	H	44.86	54	9.14	AV

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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	50.77	-0.15	V	50.62	74	23.38	PK
4924	39.08	-0.15	V	38.93	54	15.07	AV
7386	49.54	9.06	V	58.6	74	15.4	PK
7386	38.17	9.06	V	47.23	54	6.77	AV
4924	51.63	-0.15	H	51.48	74	22.52	PK
4924	39.49	-0.15	H	39.34	54	14.66	AV
7386	49.89	9.06	H	58.95	74	15.05	PK
7386	38.16	9.06	H	47.22	54	6.78	AV



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

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4924	49.98	-0.15	V	49.83	74	24.17	PK
4924	38.86	-0.15	V	38.71	54	15.29	AV
7386	49.02	9.06	V	58.08	74	15.92	PK
7386	37.97	9.06	V	47.03	54	6.97	AV
4924	50.81	-0.15	H	50.66	74	23.34	PK
4924	39.44	-0.15	H	39.29	54	14.71	AV
7386	48.94	9.06	H	58	74	16.00	PK
7386	37.96	9.06	H	47.02	54	6.98	AV

Notes:

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

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
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8.5.2 RADIATED RESTRICTED BAND EDGES

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

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

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

Frequency [MHz]	Reading dBuV	AN.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	28.26	33.90	H	62.16	74	11.84	PK
2390.0	15.41	33.90	H	49.31	54	4.69	AV
2390.0	31.00	33.90	V	64.90	74	9.10	PK
2390.0	15.27	33.90	V	49.17	54	4.83	AV
2483.5	25.22	33.99	H	59.21	74	14.79	PK
2483.5	14.03	33.99	H	48.02	54	5.98	AV
2483.5	25.68	33.99	V	59.67	74	14.33	PK
2483.5	14.16	33.99	V	48.15	54	5.85	AV



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

Frequency [MHz]	Reading dBuV	AN.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	24.99	33.90	H	58.89	74	15.11	PK
2390.0	11.87	33.90	H	45.77	54	8.23	AV
2390.0	24.92	33.90	V	58.82	74	15.18	PK
2390.0	11.83	33.90	V	45.73	54	8.27	AV
2483.5	24.73	33.99	H	58.72	74	15.28	PK
2483.5	11.58	33.99	H	45.57	54	8.43	AV
2483.5	24.12	33.99	V	58.11	74	15.89	PK
2483.5	11.63	33.99	V	45.62	54	8.38	AV

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

Frequency [MHz]	Reading dBuV	AN.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	29.37	33.90	H	63.27	74	10.73	PK
2390.0	13.08	33.90	H	46.98	54	7.02	AV
2390.0	26.36	33.90	V	60.26	74	13.74	PK
2390.0	12.87	33.90	V	46.77	54	7.23	AV
2483.5	24.85	33.99	H	58.84	74	15.16	PK
2483.5	11.62	33.99	H	45.61	54	8.39	AV
2483.5	25.54	33.99	V	59.53	74	14.47	PK
2483.5	11.83	33.99	V	45.82	54	8.18	AV

Notes:

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

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8.6 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 ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for 11 Mbps, Ch.6 and 802.11b. Because 802.11b mode is worst case.

■ RESULT PLOTS

Conducted Emissions (Line 1)

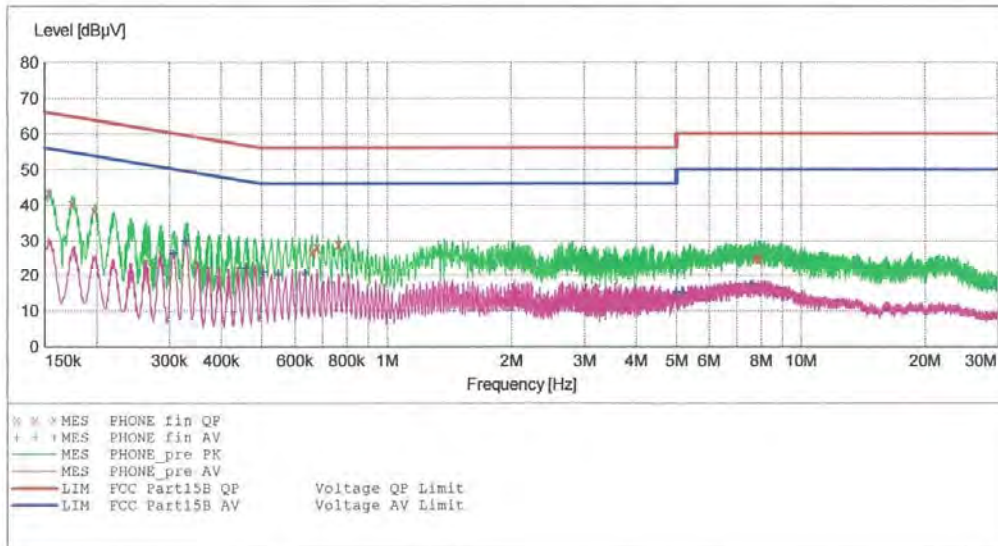
HCT

EMC

EUT: LG-P716
 Manufacturer: LG
 Operating Condition: WLAN MODE
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 B
 Comment: H

SCAN TABLE: "FCC PART 15 B(H)"

Short Description:			FCC PART 15 CLASS B				Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
150.0 kHz	500.0 kHz	1.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "PHONE_fin_QP"

3/25/2013 5:05PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.153010	43.50	9.8	66	22.3	---	---
0.174010	40.40	9.7	65	24.4	---	---
0.198010	38.30	9.7	64	25.4	---	---
0.660000	26.80	9.8	56	29.2	---	---
0.680000	28.10	9.8	56	27.9	---	---
0.764000	29.00	9.8	56	27.0	---	---
7.776000	25.00	10.3	60	35.0	---	---
7.876000	25.10	10.3	60	34.9	---	---
7.928000	24.90	10.3	60	35.1	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

3/25/2013 5:05PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.306010	26.40	9.7	50	23.7	---	---
0.328010	29.80	9.7	50	19.7	---	---
0.459010	22.00	9.8	47	24.7	---	---
0.504000	21.00	9.8	46	25.0	---	---
0.548000	20.40	9.8	46	25.6	---	---
0.636000	20.50	9.8	46	25.5	---	---
5.000000	15.20	10.2	46	30.8	---	---
5.176000	15.00	10.2	50	35.0	---	---
7.640000	17.40	10.3	50	32.6	---	---

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Conducted Emissions (Line 2)

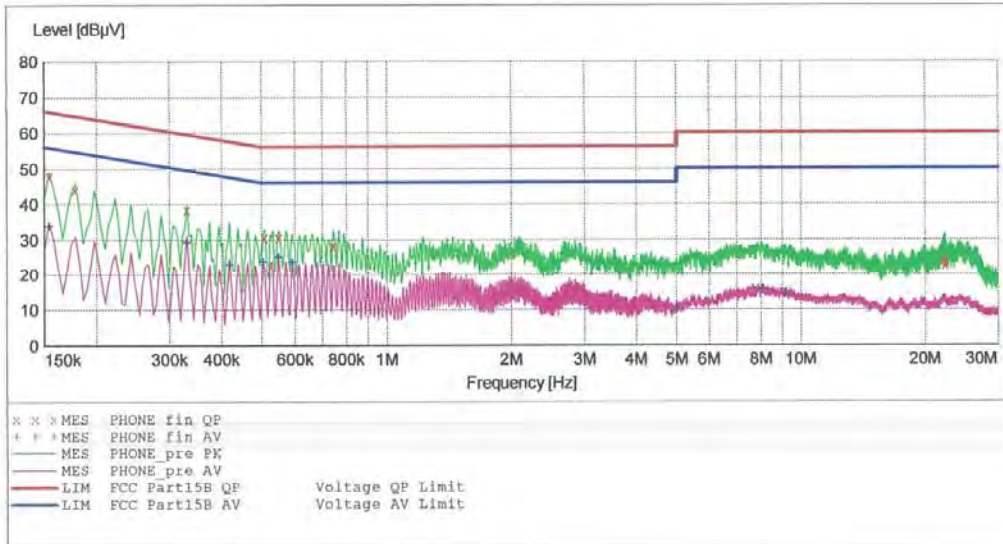
HCT

EMC

EUT: LG-P716
 Manufacturer: LG
 Operating Condition: WLAN MODE
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 CLASS B
 Comment: N

SCAN TABLE: "FCC PART 15 B(N)"

Short Description:			FCC PART 15 CLASS B			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.154010	47.90	10.0	66	17.9	---	---
0.178010	44.00	9.9	65	20.6	---	---
0.330010	38.50	9.9	60	20.9	---	---
0.508000	30.60	10.0	56	25.4	---	---
0.548000	30.60	10.0	56	25.4	---	---
0.744000	28.20	10.0	56	27.8	---	---
22.164000	24.10	12.2	60	35.9	---	---
22.308000	22.60	12.2	60	37.4	---	---
22.388000	23.50	12.2	60	36.5	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

3/25/2013 4:58PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.154010	33.70	10.0	56	22.1	---	---
0.330010	29.10	9.9	50	20.4	---	---
0.418010	22.80	10.0	48	24.7	---	---
0.504000	23.70	10.0	46	22.3	---	---
0.548000	25.00	10.0	46	21.0	---	---
0.592000	23.60	10.0	46	22.4	---	---
5.000000	9.70	10.4	46	36.3	---	---
8.084000	15.60	10.6	50	34.4	---	---
9.184000	14.40	10.6	50	35.6	---	---

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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	05/03/2015	3125
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	05/03/2013	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	05/02/2013	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	07/31/2013	MY51110020
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	09/11/2013	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2013	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2013	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	E4416A /Power Meter	Annual	11/07/2013	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	05/02/2013	MY4442009
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	05/02/2013	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	05/02/2013	1
Hewlett Packard	11636B/Power Divider	Annual	11/07/2013	11377
Hewlett Packard	11667B / Power Splitter	Annual	06/05/2013	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	11/07/2013	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	05/02/2013	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
MITEQ	AMF-6D-001180-35-20P/ POWER AMP	Annual	07/30/2013	990893
Agilent	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617
CERNEX	CBLU1183540 / POWER AMP	Annual	07/27/2013	21691

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