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	49.87	-0.37	V	49.50	74	24.50	PK
4874	36.43	-0.37	V	36.06	54	17.94	AV
7311	48.91	8.64	V	57.55	74	16.45	PK
7311	35.24	8.64	V	43.88	54	10.12	AV
4874	51.12	-0.37	H	50.75	74	23.25	PK
4874	36.55	-0.37	H	36.18	54	17.82	AV
7311	49.49	8.64	H	58.13	74	15.87	PK
7311	35.29	8.64	H	43.93	54	10.07	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.
7. We used the case 1 for 802.11b and the case 2 for 802.11g/n mode to perform the average filed strength measurements.

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	53.86	-0.15	V	53.71	74	20.29	PK
4924	46.70	-0.15	V	46.55	54	7.45	AV
7386	49.73	9.06	V	58.79	74	15.21	PK
7386	37.80	9.06	V	46.86	54	7.14	AV
4924	54.03	-0.15	H	53.88	74	20.12	PK
4924	46.73	-0.15	H	46.58	54	7.42	AV
7386	48.98	9.06	H	58.04	74	15.96	PK
7386	37.78	9.06	H	46.84	54	7.16	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	49.52	-0.15	V	49.37	74	24.63	PK
4924	36.99	-0.15	V	36.84	54	17.16	AV
7386	49.77	9.06	V	58.83	74	15.17	PK
7386	35.88	9.06	V	44.94	54	9.06	AV
4924	50.49	-0.15	H	50.34	74	23.66	PK
4924	37.35	-0.15	H	37.2	54	16.8	AV
7386	48.93	9.06	H	57.99	74	16.01	PK
7386	35.94	9.06	H	45.00	54	9.00	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	49.03	-0.15	V	48.88	74	25.12	PK
4924	36.51	-0.15	V	36.36	54	17.64	AV
7386	48.94	9.06	V	58	74	16.00	PK
7386	35.48	9.06	V	44.54	54	9.46	AV
4924	49.42	-0.15	H	49.27	74	24.73	PK
4924	36.30	-0.15	H	36.15	54	17.85	AV
7386	49.14	9.06	H	58.2	74	15.80	PK
7386	35.99	9.06	H	45.05	54	8.95	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.
7. We used the case 1 for 802.11b and the case 2 for 802.11g/n mode to perform the average filed strength measurements.

8.6.2 RADIATED RESTRICTED BAND EDGES

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

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

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	31.93	33.90	H	65.83	74	8.17	PK
2390.0	15.11	33.90	H	49.01	54	4.99	AV
2390.0	25.20	33.90	V	59.10	74	14.90	PK
2390.0	12.39	33.90	V	46.29	54	7.71	AV
2483.5	36.16	33.99	H	70.15	74	3.85	PK
2483.5	13.87	33.99	H	47.86	54	6.14	AV
2483.5	25.92	33.99	V	59.91	74	14.09	PK
2483.5	12.17	33.99	V	46.16	54	7.84	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	25.38	33.90	H	59.28	74	14.72	PK
2390.0	13.89	33.90	H	47.79	54	6.21	AV
2390.0	25.18	33.90	V	59.08	74	14.92	PK
2390.0	13.48	33.90	V	47.38	54	6.62	AV
2483.5	25.30	33.99	H	59.29	74	14.71	PK
2483.5	13.60	33.99	H	47.59	54	6.41	AV
2483.5	25.20	33.99	V	59.19	74	14.81	PK
2483.5	13.42	33.99	V	47.41	54	6.59	AV

Operation Mode: 802.11n

Transfer Rate: 39 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	29.59	33.90	H	63.49	74	10.51	PK
2390.0	13.87	33.90	H	47.77	54	6.23	AV
2390.0	28.93	33.90	V	62.83	74	11.17	PK
2390.0	13.54	33.90	V	47.44	54	6.56	AV
2483.5	35.35	33.99	H	69.34	74	4.66	PK
2483.5	14.46	33.99	H	48.45	54	5.55	AV
2483.5	27.75	33.99	V	61.74	74	12.26	PK
2483.5	12.30	33.99	V	46.29	54	7.71	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.
4. We used the case 1 for 802.11b and the case 2 for 802.11g/n mode to perform the average filed strength measurements.

8.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

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

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

Test Configuration

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

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for 11 Mbps, Ch.1 and 802.11b. Because 802.11b mode is worst case.

▣ RESULT PLOTS

Conducted Emissions (Line 1)

HCT

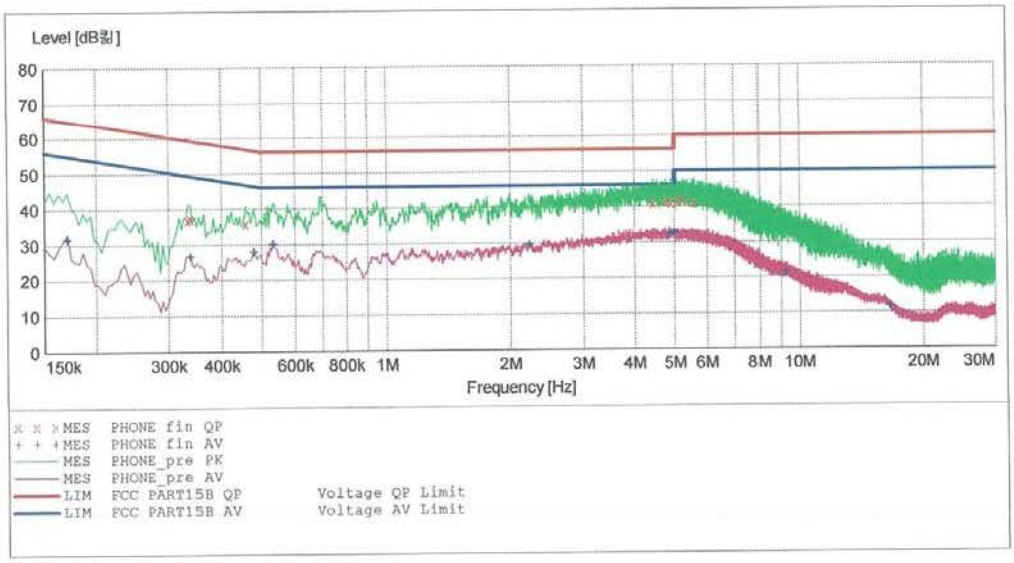
EMC

```
EUT:                    LG-E410j
Manufacturer:           LG
Operating Condition:    WLAN MODE
Test Site:              SHIELD ROOM
Operator:               JC SHIN
Test Specification:     FCC PART15 B
Comment:                H
```

SCAN TABLE: "FCC CLASS B(H)"

Short Description: KN22 CLASS B

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



MEASUREMENT RESULT: "PHONE_fin QP"

2013-06-30 2:45오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.334001	37.00	9.8	59	22.4	---	---
0.338001	37.40	9.8	59	21.9	---	---
0.458001	36.00	9.8	57	20.7	---	---
4.448000	41.10	10.2	56	14.9	---	---
4.760000	41.40	10.2	56	14.6	---	---
4.904000	40.90	10.2	56	15.1	---	---
5.068000	41.50	10.2	60	18.5	---	---
5.248000	41.70	10.2	60	18.3	---	---
5.568000	41.10	10.2	60	18.9	---	---

Page 1/2 2013-06-30 2:45오후 HCT EMC LAB

MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-30 2:45오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.170001	31.50	9.8	55	23.5	---	---
0.338001	26.60	9.8	49	22.7	---	---
0.478001	28.00	9.8	46	18.4	---	---
0.532000	30.10	9.8	46	15.9	---	---
2.224000	29.40	10.0	46	16.6	---	---
4.860000	32.30	10.2	46	13.7	---	---
5.000000	32.50	10.2	46	13.5	---	---
9.256000	21.30	10.4	50	28.7	---	---
16.596000	11.70	10.8	50	38.3	---	---

Conducted Emissions (Line 2)

HCT

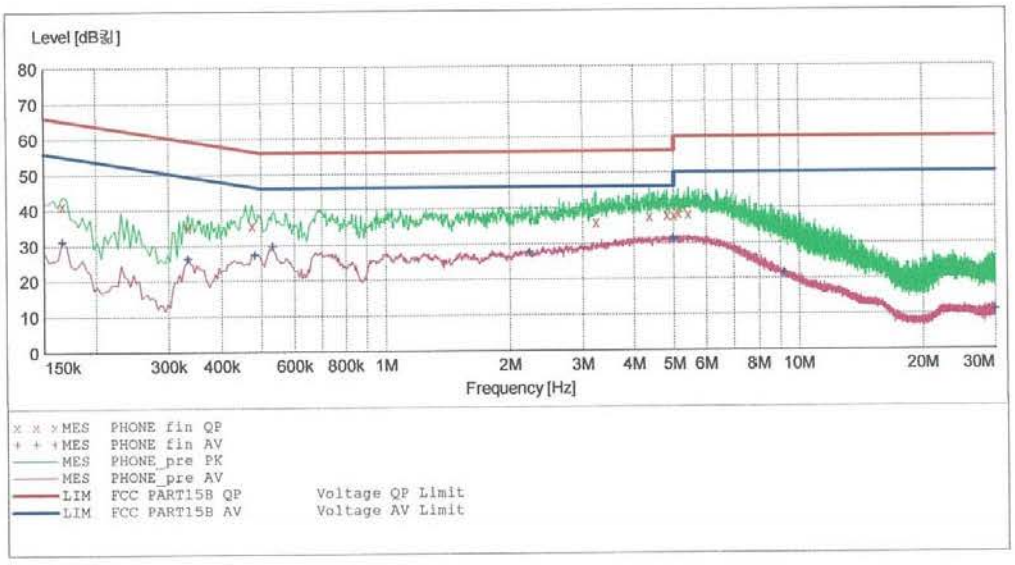
EMC

```
EUT:                    LG-E410j
Manufacturer:           LG
Operating Condition:    WLAN MODE
Test Site:              SHIELD ROOM
Operator:               JC SHIN
Test Specification:     FCC PART15 B
Comment:                N
```

SCAN TABLE: "FCC CLASS B(N)"

Short Description: KN22 CLASS B

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



MEASUREMENT RESULT: "PHONE_fin QP"

2013-06-30 2:49오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.166001	41.30	10.0	65	23.9	---	---
0.334001	35.10	10.0	59	24.2	---	---
0.474001	35.70	10.0	56	20.7	---	---
3.244000	35.90	10.3	56	20.1	---	---
4.372000	37.60	10.3	56	18.4	---	---
4.812000	37.90	10.4	56	18.1	---	---
5.000000	37.70	10.4	56	18.3	---	---
5.144000	38.40	10.4	60	21.6	---	---
5.440000	38.10	10.4	60	21.9	---	---

Page 1/2 2013-06-30 2:49오후 HCT EMC LAB

MEASUREMENT RESULT: "PHONE_fin AV"

2013-06-30 2:49오후

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.166001	31.10	10.0	55	24.0	---	---
0.334001	26.20	10.0	49	23.1	---	---
0.482001	27.20	10.0	46	19.1	---	---
0.532000	29.70	10.0	46	16.3	---	---
2.232000	27.60	10.2	46	18.4	---	---
4.992000	31.40	10.4	46	14.6	---	---
5.000000	30.90	10.4	46	15.1	---	---
9.200000	21.60	10.7	50	28.4	---	---
29.956000	11.00	11.8	50	39.0	---	---

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	09/11/2013	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	E4416A /Power Meter	Annual	11/07/2013	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	04/16/2014	MY44420O9
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	07/27/2013	21691
Agilent	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHEL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617