12.4 Test Data for 5 150 MHz ~ 5 250 MHz Band

-. Test Date : December 16, 2013

-. Result : Pass

Voltage (Vdc)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
5.75	5 180 000 000	5 179 979 446	-20.554
5.00		5 179 979 444	-20.556
4.25		5 179 979 445	-20.555
5.75	5 200 000 000	5 199 979 322	-20.678
5.00		5 199 979 314	-20.686
4.25		5 199 979 341	-20.659
5.75	5 240 000 000	5 239 979 183	-20.817
5.00		5 239 979 142	-20.858
4.25		5 239 979 153	-20.847

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

12.5 Test Data for 5 250 MHz ~ 5 350 MHz Band

-. Test Date : December 16, 2013

-. Result : Pass

Voltage (Vdc)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
5.75	5 260 000 000	5 259 979 073	-20.927
5.00		5 259 979 032	-20.968
4.25		5 259 979 063	-20.937
5.75	5 300 000 000	5 299 978 942	-21.058
5.00		5 299 978 963	-21.037
4.25		5 299 978 955	-21.045
5.75	5 320 000 000	5 319 978 755	-21.245
5.00		5 319 978 722	-21.278
4.25		5 319 978 763	-21.237

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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12.6 Test Data for 5 470 MHz ~ 5 725 MHz Band

-. Test Date : December 16, 2013

-. Result : Pass

Voltage (Vdc)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
5.75	5 500 000 000	5 499 978 104	-21.896
5.00		5 499 978 121	-21.879
4.25		5 499 978 094	-21.906
5.75	5 600 000 000	5 599 977 632	-22.368
5.00		5 599 977 653	-22.347
4.25		5 599 977 636	-22.364
5.75	5 700 000 000	5 699 977 113	-22.887
5.00		5 699 977 142	-22.858
4.25		5 699 977 152	-22.848

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13. RADIATED SPURIOUS EMISSIONS

13.1 Operating environment

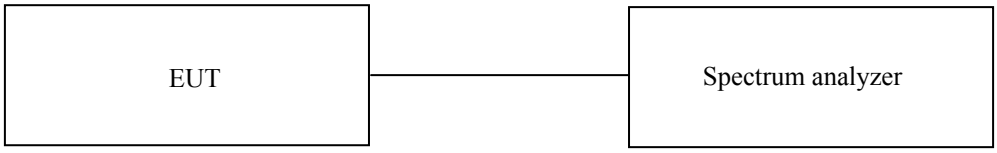
Temperature : 20 °C

Relative humidity : 45 % R.H.

13.2 Test set-up for conducted measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The frequency spectrum from 30 MHz to 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



13.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	May 03, 2013(1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	May 27, 2013(1Y)
■-	310N	Sonoma Instrument	AMPLIFIER	312544	May 21, 2013(1Y)
■ -	83051A	Agilent	Microwave System Preamplifer	3950M00201	May 22, 2013(1Y)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	May 20, 2013(1Y)
■ -	SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	10041	Jan. 25, 2013(1Y)
■ -	MA220	HD	Turn Table	N/A	N/A
■ -	HD240	HD	Antenna Mast	N/A	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	Apr. 24, 2012(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D294	Sep. 30, 2013 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jun. 17, 2013 (2Y)

All test equipment used is calibrated on a regular basis.

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13.4 Test data for Frequency 5 150 band

13.4.1 Test data for 802.11a RLAN Mode

13.4.1.1 Test data for Antenna 0

13.4.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.80	H	11.50	2.30	33.10	39.50	43.50	4.00
239.52	53.10	H	13.30	3.20	33.00	36.60	46.00	9.40
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.30	H	22.70	6.10	32.90	39.20	46.00	6.80
961.19	42.60	V	23.80	6.50	31.90	41.00	54.00	13.00
Middle Channel								
119.24	57.20	H	11.50	2.30	33.10	37.90	43.50	5.60
239.52	52.50	H	13.30	3.20	33.00	36.00	46.00	10.00
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.20	H	22.70	6.10	32.90	38.10	46.00	7.90
961.19	40.70	V	23.80	6.50	31.90	39.10	54.00	14.90
High Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	48.90	H	20.30	5.10	33.30	41.00	46.00	5.00
839.94	44.10	H	22.70	6.10	32.90	40.00	46.00	6.00
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	40.65	Peak	H	38.60	16.30	42.50	53.05	68.20	15.15
	31.89	Average	H				44.29	53.98	9.69
	41.13	Peak	V				53.53	68.20	14.67
	32.11	Average	V				44.51	53.98	9.47
Middle Channel									
10 400.00	41.81	Peak	H	38.60	16.30	42.50	54.21	68.20	13.99
	32.95	Average	H				45.35	53.98	8.63
	40.87	Peak	V				53.27	68.20	14.93
	32.42	Average	V				44.82	53.98	9.16
High Channel									
10 480.00	41.22	Peak	H	38.60	16.40	42.50	53.72	68.20	14.48
	32.08	Average	H				44.58	53.98	9.40
	41.12	Peak	V				53.62	68.20	14.58
	32.35	Average	V				44.85	53.98	9.13

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.1.2 Test data for Antenna 1

13.4.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
119.24	58.40	H	11.50	2.30	33.10	39.10	43.50	4.40
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	44.00	H	22.70	6.10	32.90	39.90	46.00	6.10
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
Middle Channel								
119.24	57.70	H	11.50	2.30	33.10	38.40	43.50	5.10
239.52	52.20	H	13.30	3.20	33.00	35.70	46.00	10.30
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.20	H	22.70	6.10	32.90	38.10	46.00	7.90
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60
High Channel								
119.24	58.10	H	11.50	2.30	33.10	38.80	43.50	4.70
239.52	53.60	H	13.30	3.20	33.00	37.10	46.00	8.90
600.36	48.60	H	20.30	5.10	33.30	40.70	46.00	5.30
839.94	43.70	H	22.70	6.10	32.90	39.60	46.00	6.40
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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13.4.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	40.92	Peak	H	38.60	16.30	42.50	53.32	68.20	14.88
	31.98	Average	H				44.38	53.98	9.60
	41.25	Peak	V				53.65	68.20	14.55
	31.44	Average	V				43.84	53.98	10.14
Middle Channel									
10 400.00	41.70	Peak	H	38.60	16.30	42.50	54.10	68.20	14.10
	32.84	Average	H				45.24	53.98	8.74
	41.04	Peak	V				53.44	68.20	14.76
	32.01	Average	V				44.41	53.98	9.57
High Channel									
10 480.00	41.69	Peak	H	38.60	16.40	42.50	54.19	68.20	14.01
	32.18	Average	H				44.68	53.98	9.30
	40.81	Peak	V				53.31	68.20	14.89
	32.09	Average	V				44.59	53.98	9.39

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

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13.4.2 Test data for 802.11n_HT20 RLAN Mode

13.4.2.1 Test data for Antenna 0

13.4.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.10	H	11.50	2.30	33.10	37.80	43.50	5.70
239.52	54.00	H	13.30	3.20	33.00	37.50	46.00	8.50
600.36	47.30	H	20.30	5.10	33.30	39.40	46.00	6.60
839.94	44.30	H	22.70	6.10	32.90	40.20	46.00	5.80
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60
Middle Channel								
119.24	58.70	H	11.50	2.30	33.10	39.40	43.50	4.10
239.52	52.90	H	13.30	3.20	33.00	36.40	46.00	9.60
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	42.20	V	23.80	6.50	31.90	40.60	54.00	13.40
High Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.90	H	20.30	5.10	33.30	40.00	46.00	6.00
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.40	V	23.80	6.50	31.90	39.80	54.00	14.20

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	41.22	Peak	H	38.60	16.30	42.50	53.62	68.20	14.58
	32.43	Average	H				44.83	53.98	9.15
	41.70	Peak	V				54.10	68.20	14.10
	31.78	Average	V				44.18	53.98	9.80
Middle Channel									
10 400.00	41.24	Peak	H	38.60	16.30	42.50	53.64	68.20	14.56
	31.24	Average	H				43.64	53.98	10.34
	41.80	Peak	V				54.20	68.20	14.00
	31.94	Average	V				44.34	53.98	9.64
High Channel									
10 480.00	41.74	Peak	H	38.60	16.40	42.50	54.24	68.20	13.96
	31.84	Average	H				44.34	53.98	9.64
	42.68	Peak	V				55.18	68.20	13.02
	32.81	Average	V				45.31	53.98	8.67

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.2.2 Test data for Antenna 1

13.4.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	44.00	H	22.70	6.10	32.90	39.90	46.00	6.10
961.19	42.50	V	23.80	6.50	31.90	40.90	54.00	13.10
Middle Channel								
119.24	57.90	H	11.50	2.30	33.10	38.60	43.50	4.90
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	48.70	H	20.30	5.10	33.30	40.80	46.00	5.20
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30
High Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.30	H	20.30	5.10	33.30	39.40	46.00	6.60
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.30	V	23.80	6.50	31.90	39.70	54.00	14.30

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	41.00	Peak	H	38.60	16.30	42.50	53.40	68.20	14.80
	31.98	Average	H				44.38	53.98	9.60
	41.01	Peak	V				53.41	68.20	14.79
	32.04	Average	V				44.44	53.98	9.54
Middle Channel									
10 400.00	41.66	Peak	H	38.60	16.30	42.50	54.06	68.20	14.14
	31.48	Average	H				43.88	53.98	10.10
	41.22	Peak	V				53.62	68.20	14.58
	31.39	Average	V				43.79	53.98	10.19
High Channel									
10 480.00	42.31	Peak	H	38.60	16.40	42.50	54.81	68.20	13.39
	32.11	Average	H				44.61	53.98	9.37
	41.99	Peak	V				54.49	68.20	13.71
	33.48	Average	V				45.98	53.98	8.00

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.2.3 Test data for Multiple transmit

13.4.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.20	H	11.50	2.30	33.10	37.90	43.50	5.60
239.52	51.80	H	13.30	3.20	33.00	35.30	46.00	10.70
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.70	H	22.70	6.10	32.90	38.60	46.00	7.40
961.19	41.40	V	23.80	6.50	31.90	39.80	54.00	14.20
Middle Channel								
119.24	58.10	H	11.50	2.30	33.10	38.80	43.50	4.70
239.52	53.00	H	13.30	3.20	33.00	36.50	46.00	9.50
600.36	49.20	H	20.30	5.10	33.30	41.30	46.00	4.70
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	42.80	V	23.80	6.50	31.90	41.20	54.00	12.80
High Channel								
119.24	58.80	H	11.50	2.30	33.10	39.50	43.50	4.00
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	43.50	H	22.70	6.10	32.90	39.40	46.00	6.60
961.19	42.40	V	23.80	6.50	31.90	40.80	54.00	13.20

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 360.00	41.05	Peak	H	38.60	16.30	42.50	53.45	68.20	14.75
	32.06	Average	H				44.46	53.98	9.52
	41.25	Peak	V				53.65	68.20	14.55
	32.16	Average	V				44.56	53.98	9.42
Middle Channel									
10 400.00	42.16	Peak	H	38.60	16.30	42.50	54.56	68.20	13.64
	31.54	Average	H				43.94	53.98	10.04
	41.75	Peak	V				54.15	68.20	14.05
	31.61	Average	V				44.01	53.98	9.97
High Channel									
10 480.00	41.36	Peak	H	38.60	16.40	42.50	53.86	68.20	14.34
	32.21	Average	H				44.71	53.98	9.27
	42.33	Peak	V				54.83	68.20	13.37
	32.88	Average	V				45.38	53.98	8.60

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.3 Test data for 802.11n_HT40 RLAN Mode

13.4.3.1 Test data for Antenna 0

13.4.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.70	H	11.50	2.30	33.10	39.40	43.50	4.10
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	43.90	H	22.70	6.10	32.90	39.80	46.00	6.20
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
High Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	52.90	H	13.30	3.20	33.00	36.40	46.00	9.60
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	43.70	H	22.70	6.10	32.90	39.60	46.00	6.40
961.19	42.20	V	23.80	6.50	31.90	40.60	54.00	13.40

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 380.00	42.18	Peak	H	38.60	16.30	42.50	54.58	68.20	13.62
	32.00	Average	H				44.40	53.98	9.58
	42.67	Peak	V				55.07	68.20	13.13
	33.39	Average	V				45.79	53.98	8.19
High Channel									
10 460.00	42.73	Peak	H	38.60	16.40	42.50	55.23	68.20	12.97
	32.39	Average	H				44.89	53.98	9.09
	43.25	Peak	V				55.75	68.20	12.45
	31.24	Average	V				43.74	53.98	10.24

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.3.2 Test data for Antenna 1

13.4.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.70	H	11.50	2.30	33.10	39.40	43.50	4.10
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	48.50	H	20.30	5.10	33.30	40.60	46.00	5.40
839.94	43.50	H	22.70	6.10	32.90	39.40	46.00	6.60
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80
High Channel								
119.24	57.30	H	11.50	2.30	33.10	38.00	43.50	5.50
239.52	52.50	H	13.30	3.20	33.00	36.00	46.00	10.00
600.36	48.00	H	20.30	5.10	33.30	40.10	46.00	5.90
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.50	V	23.80	6.50	31.90	39.90	54.00	14.10

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 380.00	41.93	Peak	H	38.60	16.30	42.50	54.33	68.20	13.87
	31.97	Average	H				44.37	53.98	9.61
	42.79	Peak	V				55.19	68.20	13.01
	33.50	Average	V				45.90	53.98	8.08
High Channel									
10 460.00	42.73	Peak	H	38.60	16.40	42.50	55.23	68.20	12.97
	32.92	Average	H				45.42	53.98	8.56
	43.11	Peak	V				55.61	68.20	12.59
	31.55	Average	V				44.05	53.98	9.93

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.3.3 Test data for Multiple transmit

13.4.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.4.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.40	H	11.50	2.30	33.10	38.10	43.50	5.40
239.52	51.80	H	13.30	3.20	33.00	35.30	46.00	10.70
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	43.00	H	22.70	6.10	32.90	38.90	46.00	7.10
961.19	41.50	V	23.80	6.50	31.90	39.90	54.00	14.10
High Channel								
119.24	57.40	H	11.50	2.30	33.10	38.10	43.50	5.40
239.52	52.30	H	13.30	3.20	33.00	35.80	46.00	10.20
600.36	47.50	H	20.30	5.10	33.30	39.60	46.00	6.40
839.94	42.30	H	22.70	6.10	32.90	38.20	46.00	7.80
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.4.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 380.00	42.63	Peak	H	38.60	16.30	42.50	55.03	68.20	13.17
	32.55	Average	H				44.95	53.98	9.03
	42.31	Peak	V				54.71	68.20	13.49
	33.46	Average	V				45.86	53.98	8.12
High Channel									
10 460.00	42.25	Peak	H	38.60	16.40	42.50	54.75	68.20	13.45
	32.94	Average	H				45.44	53.98	8.54
	43.64	Peak	V				56.14	68.20	12.06
	31.21	Average	V				43.71	53.98	10.27

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5 Test data for Frequency 5 250 band

13.5.1 Test data for 802.11a RLAN Mode

13.5.1.1 Test data for Antenna 0

13.5.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.40	H	11.50	2.30	33.10	38.10	43.50	5.40
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.90	H	20.30	5.10	33.30	40.00	46.00	6.00
839.94	43.00	H	22.70	6.10	32.90	38.90	46.00	7.10
961.19	41.30	V	23.80	6.50	31.90	39.70	54.00	14.30
Middle Channel								
119.24	58.50	H	11.50	2.30	33.10	39.20	43.50	4.30
239.52	53.40	H	13.30	3.20	33.00	36.90	46.00	9.10
600.36	48.70	H	20.30	5.10	33.30	40.80	46.00	5.20
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	42.00	V	23.80	6.50	31.90	40.40	54.00	13.60
High Channel								
119.24	58.40	H	11.50	2.30	33.10	39.10	43.50	4.40
239.52	53.60	H	13.30	3.20	33.00	37.10	46.00	8.90
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.90	H	22.70	6.10	32.90	39.80	46.00	6.20
961.19	42.00	V	23.80	6.50	31.90	40.40	54.00	13.60

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	40.45	Peak	H	38.80	16.50	42.50	53.25	68.20	14.95
	31.82	Average	H				44.62	53.98	9.36
	40.79	Peak	V				53.59	68.20	14.61
	32.02	Average	V				44.82	53.98	9.16
Middle Channel									
10 600.00	41.86	Peak	H	39.10	16.50	42.50	54.96	73.98	19.02
	32.99	Average	H				46.09	53.98	7.89
	41.48	Peak	V				54.58	73.98	19.40
	32.12	Average	V				45.22	53.98	8.76
High Channel									
10 640.00	40.87	Peak	H	39.10	16.50	42.50	53.97	73.98	20.01
	32.64	Average	H				45.74	53.98	8.24
	40.83	Peak	V				53.93	73.98	20.05
	31.99	Average	V				45.09	53.98	8.89

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.1.2 Test data for Antenna 1

13.5.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.40	H	11.50	2.30	33.10	39.10	43.50	4.40
239.52	53.60	H	13.30	3.20	33.00	37.10	46.00	8.90
600.36	48.40	H	20.30	5.10	33.30	40.50	46.00	5.50
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	42.20	V	23.80	6.50	31.90	40.60	54.00	13.40
Middle Channel								
119.24	56.90	H	11.50	2.30	33.10	37.60	43.50	5.90
239.52	52.70	H	13.30	3.20	33.00	36.20	46.00	9.80
600.36	48.00	H	20.30	5.10	33.30	40.10	46.00	5.90
839.94	43.00	H	22.70	6.10	32.90	38.90	46.00	7.10
961.19	40.90	V	23.80	6.50	31.90	39.30	54.00	14.70
High Channel								
119.24	58.70	H	11.50	2.30	33.10	39.40	43.50	4.10
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	48.60	H	20.30	5.10	33.30	40.70	46.00	5.30
839.94	44.10	H	22.70	6.10	32.90	40.00	46.00	6.00
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	41.00	Peak	H	38.80	16.50	42.50	53.80	68.20	14.40
	32.38	Average	H				45.18	53.98	8.80
	41.10	Peak	V				53.90	68.20	14.30
	31.96	Average	V				44.76	53.98	9.22
Middle Channel									
10 600.00	42.01	Peak	H	39.10	16.50	42.50	55.11	73.98	18.87
	32.87	Average	H				45.97	53.98	8.01
	41.70	Peak	V				54.80	73.98	19.18
	32.59	Average	V				45.69	53.98	8.29
High Channel									
10 640.00	41.31	Peak	H	39.10	16.50	42.50	54.41	73.98	19.57
	31.76	Average	H				44.86	53.98	9.12
	41.34	Peak	V				54.44	73.98	19.54
	32.28	Average	V				45.38	53.98	8.60

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.2 Test data for 802.11n_HT20 RLAN Mode

13.5.2.1 Test data for Antenna 0

13.5.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.50	H	11.50	2.30	33.10	39.20	43.50	4.30
239.52	53.80	H	13.30	3.20	33.00	37.30	46.00	8.70
600.36	49.10	H	20.30	5.10	33.30	41.20	46.00	4.80
839.94	44.00	H	22.70	6.10	32.90	39.90	46.00	6.10
961.19	42.10	V	23.80	6.50	31.90	40.50	54.00	13.50
Middle Channel								
119.24	58.50	H	11.50	2.30	33.10	39.20	43.50	4.30
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	48.90	H	20.30	5.10	33.30	41.00	46.00	5.00
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	41.90	V	23.80	6.50	31.90	40.30	54.00	13.70
High Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	43.70	H	22.70	6.10	32.90	39.60	46.00	6.40
961.19	42.10	V	23.80	6.50	31.90	40.50	54.00	13.50

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	41.12	Peak	H	38.80	16.50	42.50	53.92	68.20	14.28
	31.96	Average	H				44.76	53.98	9.22
	41.27	Peak	V				54.07	68.20	14.13
	31.57	Average	V				44.37	53.98	9.61
Middle Channel									
10 600.00	41.88	Peak	H	39.10	16.50	42.50	54.98	73.98	19.00
	31.81	Average	H				44.91	53.98	9.07
	42.07	Peak	V				55.17	73.98	18.81
	31.73	Average	V				44.83	53.98	9.15
High Channel									
10 640.00	41.37	Peak	H	39.10	16.50	42.50	54.47	73.98	19.51
	31.37	Average	H				44.47	53.98	9.51
	42.04	Peak	V				55.14	73.98	18.84
	32.72	Average	V				45.82	53.98	8.16

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.2.2 Test data for Antenna 1

13.5.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	48.60	H	20.30	5.10	33.30	40.70	46.00	5.30
839.94	44.00	H	22.70	6.10	32.90	39.90	46.00	6.10
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30
Middle Channel								
119.24	57.60	H	11.50	2.30	33.10	38.30	43.50	5.20
239.52	52.10	H	13.30	3.20	33.00	35.60	46.00	10.40
600.36	47.90	H	20.30	5.10	33.30	40.00	46.00	6.00
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	40.90	V	23.80	6.50	31.90	39.30	54.00	14.70
High Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	54.20	H	13.30	3.20	33.00	37.70	46.00	8.30
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.20	H	22.70	6.10	32.90	38.10	46.00	7.90
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	41.03	Peak	H	38.80	16.50	42.50	53.83	68.20	14.37
	32.50	Average	H				45.30	53.98	8.68
	41.18	Peak	V				53.98	68.20	14.22
	31.51	Average	V				44.31	53.98	9.67
Middle Channel									
10 600.00	41.37	Peak	H	39.10	16.50	42.50	54.47	73.98	19.51
	31.62	Average	H				44.72	53.98	9.26
	41.86	Peak	V				54.96	73.98	19.02
	31.37	Average	V				44.47	53.98	9.51
High Channel									
10 640.00	41.56	Peak	H	39.10	16.50	42.50	54.66	73.98	19.32
	32.20	Average	H				45.30	53.98	8.68
	42.73	Peak	V				55.83	73.98	18.15
	33.52	Average	V				46.62	53.98	7.36

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.5.2.3 Test data for Multiple transmit

13.5.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.10	H	11.50	2.30	33.10	37.80	43.50	5.70
239.52	51.80	H	13.30	3.20	33.00	35.30	46.00	10.70
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	43.00	H	22.70	6.10	32.90	38.90	46.00	7.10
961.19	41.30	V	23.80	6.50	31.90	39.70	54.00	14.30
Middle Channel								
119.24	57.70	H	11.50	2.30	33.10	38.40	43.50	5.10
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	48.00	H	20.30	5.10	33.30	40.10	46.00	5.90
839.94	42.80	H	22.70	6.10	32.90	38.70	46.00	7.30
961.19	41.30	V	23.80	6.50	31.90	39.70	54.00	14.30
High Channel								
119.24	58.70	H	11.50	2.30	33.10	39.40	43.50	4.10
239.52	53.40	H	13.30	3.20	33.00	36.90	46.00	9.10
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	44.20	H	22.70	6.10	32.90	40.10	46.00	5.90
961.19	42.20	V	23.80	6.50	31.90	40.60	54.00	13.40

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 520.00	41.27	Peak	H	38.80	16.50	42.50	54.07	68.20	14.13
	32.43	Average	H				45.23	53.98	8.75
	40.97	Peak	V				53.77	68.20	14.43
	32.25	Average	V				45.05	53.98	8.93
Middle Channel									
10 600.00	41.85	Peak	H	39.10	16.50	42.50	54.95	73.98	19.03
	31.86	Average	H				44.96	53.98	9.02
	41.79	Peak	V				54.89	73.98	19.09
	31.76	Average	V				44.86	53.98	9.12
High Channel									
10 640.00	41.91	Peak	H	39.10	16.50	42.50	55.01	73.98	18.97
	31.40	Average	H				44.50	53.98	9.48
	41.89	Peak	V				54.99	73.98	18.99
	32.95	Average	V				46.05	53.98	7.93

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3 Test data for 802.11n_HT40 RLAN Mode

13.5.3.1 Test data for Antenna 0

13.5.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.70	H	11.50	2.30	33.10	38.40	43.50	5.10
239.52	51.90	H	13.30	3.20	33.00	35.40	46.00	10.60
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	42.70	H	22.70	6.10	32.90	38.60	46.00	7.40
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60
High Channel								
119.24	57.20	H	11.50	2.30	33.10	37.90	43.50	5.60
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.30	H	20.30	5.10	33.30	39.40	46.00	6.60
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.10	V	23.80	6.50	31.90	39.50	54.00	14.50

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 540.00	41.92	Peak	H	38.80	16.50	42.50	54.72	68.20	13.48
	32.38	Average	H				45.18	53.98	8.80
	42.91	Peak	V				55.71	68.20	12.49
	32.96	Average	V				45.76	53.98	8.22
High Channel									
10 620.00	42.28	Peak	H	39.10	16.50	42.50	55.38	73.98	18.60
	32.59	Average	H				45.69	53.98	8.29
	42.93	Peak	V				56.03	73.98	17.95
	31.24	Average	V				44.34	53.98	9.64

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.2 Test data for Antenna 1

13.5.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.20	H	11.50	2.30	33.10	38.90	43.50	4.60
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.40	H	22.70	6.10	32.90	39.30	46.00	6.70
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80
High Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	52.50	H	13.30	3.20	33.00	36.00	46.00	10.00
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.80	H	22.70	6.10	32.90	38.70	46.00	7.30
961.19	40.70	V	23.80	6.50	31.90	39.10	54.00	14.90

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 540.00	41.84	Peak	H	38.80	16.50	42.50	54.64	68.20	13.56
	32.07	Average	H				44.87	53.98	9.11
	42.82	Peak	V				55.62	68.20	12.58
	32.86	Average	V				45.66	53.98	8.32
High Channel									
10 620.00	43.05	Peak	H	39.10	16.50	42.50	56.15	73.98	17.83
	32.85	Average	H				45.95	53.98	8.03
	42.86	Peak	V				55.96	73.98	18.02
	31.13	Average	V				44.23	53.98	9.75

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.3 Test data for Multiple transmit

13.5.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.10	H	13.30	3.20	33.00	36.60	46.00	9.40
600.36	48.60	H	20.30	5.10	33.30	40.70	46.00	5.30
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30
High Channel								
119.24	57.40	H	11.50	2.30	33.10	38.10	43.50	5.40
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	48.00	H	20.30	5.10	33.30	40.10	46.00	5.90
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	40.90	V	23.80	6.50	31.90	39.30	54.00	14.70

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.5.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
10 540.00	42.49	Peak	H	38.80	16.50	42.50	55.29	68.20	12.91
	32.51	Average	H				45.31	53.98	8.67
	42.92	Peak	V				55.72	68.20	12.48
	33.21	Average	V				46.01	53.98	7.97
High Channel									
10 620.00	42.59	Peak	H	39.10	16.50	42.50	55.69	73.98	18.29
	32.76	Average	H				45.86	53.98	8.12
	43.06	Peak	V				56.16	73.98	17.82
	31.37	Average	V				44.47	53.98	9.51

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6 Test data for Frequency 5 470 band

13.6.1 Test data for 802.11a RLAN Mode

13.6.1.1 Test data for Antenna 0

13.6.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.80	H	11.50	2.30	33.10	39.50	43.50	4.00
239.52	53.60	H	13.30	3.20	33.00	37.10	46.00	8.90
600.36	48.30	H	20.30	5.10	33.30	40.40	46.00	5.60
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
Middle Channel								
119.24	58.20	H	11.50	2.30	33.10	38.90	43.50	4.60
239.52	53.70	H	13.30	3.20	33.00	37.20	46.00	8.80
600.36	48.70	H	20.30	5.10	33.30	40.80	46.00	5.20
839.94	43.40	H	22.70	6.10	32.90	39.30	46.00	6.70
961.19	42.00	V	23.80	6.50	31.90	40.40	54.00	13.60
High Channel								
119.24	58.30	H	11.50	2.30	33.10	39.00	43.50	4.50
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	48.40	H	20.30	5.10	33.30	40.50	46.00	5.50
839.94	43.30	H	22.70	6.10	32.90	39.20	46.00	6.80
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	41.07	Peak	H	39.40	17.30	42.60	55.17	73.98	18.81
	32.30	Average	H				46.40	53.98	7.58
	40.57	Peak	V				54.67	73.98	19.31
	31.98	Average	V				46.08	53.98	7.90
Middle Channel									
11 200.00	41.64	Peak	H	39.40	17.30	42.60	55.74	73.98	18.24
	33.05	Average	H				47.15	53.98	6.83
	41.34	Peak	V				55.44	73.98	18.54
	31.94	Average	V				46.04	53.98	7.94
High Channel									
11 400.00	41.06	Peak	H	39.40	17.30	42.60	55.16	73.98	18.82
	31.83	Average	H				45.93	53.98	8.05
	41.48	Peak	V				55.58	73.98	18.40
	31.61	Average	V				45.71	53.98	8.27

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.1.2 Test data for Antenna 1

13.6.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.10	H	11.50	2.30	33.10	38.80	43.50	4.70
239.52	52.90	H	13.30	3.20	33.00	36.40	46.00	9.60
600.36	49.30	H	20.30	5.10	33.30	41.40	46.00	4.60
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
Middle Channel								
119.24	58.80	H	11.50	2.30	33.10	39.50	43.50	4.00
239.52	53.60	H	13.30	3.20	33.00	37.10	46.00	8.90
600.36	48.70	H	20.30	5.10	33.30	40.80	46.00	5.20
839.94	44.10	H	22.70	6.10	32.90	40.00	46.00	6.00
961.19	43.70	V	23.80	6.50	31.90	42.10	54.00	11.90
High Channel								
119.24	58.40	H	11.50	2.30	33.10	39.10	43.50	4.40
239.52	53.10	H	13.30	3.20	33.00	36.60	46.00	9.40
600.36	48.90	H	20.30	5.10	33.30	41.00	46.00	5.00
839.94	43.40	H	22.70	6.10	32.90	39.30	46.00	6.70
961.19	41.90	V	23.80	6.50	31.90	40.30	54.00	13.70

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	41.32	Peak	H	39.40	17.30	42.60	55.42	73.98	18.56
	31.46	Average	H				45.56	53.98	8.42
	40.93	Peak	V				55.03	73.98	18.95
	31.74	Average	V				45.84	53.98	8.14
Middle Channel									
11 200.00	41.55	Peak	H	39.40	17.30	42.60	55.65	73.98	18.33
	32.09	Average	H				46.19	53.98	7.79
	41.55	Peak	V				55.65	73.98	18.33
	32.54	Average	V				46.64	53.98	7.34
High Channel									
11 400.00	41.26	Peak	H	39.40	17.30	42.60	55.36	73.98	18.62
	32.69	Average	H				46.79	53.98	7.19
	40.67	Peak	V				54.77	73.98	19.21
	31.54	Average	V				45.64	53.98	8.34

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2 Test data for 802.11n_HT20 RLAN Mode

13.6.2.1 Test data for Antenna 0

13.6.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.10	H	11.50	2.30	33.10	37.80	43.50	5.70
239.52	51.90	H	13.30	3.20	33.00	35.40	46.00	10.60
600.36	49.40	H	20.30	5.10	33.30	41.50	46.00	4.50
839.94	42.70	H	22.70	6.10	32.90	38.60	46.00	7.40
961.19	41.20	V	23.80	6.50	31.90	39.60	54.00	14.40
Middle Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	52.70	H	13.30	3.20	33.00	36.20	46.00	9.80
600.36	48.10	H	20.30	5.10	33.30	40.20	46.00	5.80
839.94	42.20	H	22.70	6.10	32.90	38.10	46.00	7.90
961.19	41.30	V	23.80	6.50	31.90	39.70	54.00	14.30
High Channel								
119.24	58.50	H	11.50	2.30	33.10	39.20	43.50	4.30
239.52	53.80	H	13.30	3.20	33.00	37.30	46.00	8.70
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	42.70	V	23.80	6.50	31.90	41.10	54.00	12.90

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	40.89	Peak	H	39.40	17.30	42.60	54.99	73.98	18.99
	32.42	Average	H				46.52	53.98	7.46
	41.32	Peak	V				55.42	73.98	18.56
	32.40	Average	V				46.50	53.98	7.48
Middle Channel									
11 200.00	41.67	Peak	H	39.40	17.30	42.60	55.77	73.98	18.21
	31.25	Average	H				45.35	53.98	8.63
	42.06	Peak	V				56.16	73.98	17.82
	31.99	Average	V				46.09	53.98	7.89
High Channel									
11 400.00	42.32	Peak	H	39.40	17.30	42.60	56.42	73.98	17.56
	31.58	Average	H				45.68	53.98	8.30
	42.67	Peak	V				56.77	73.98	17.21
	33.49	Average	V				47.59	53.98	6.39

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.2.2 Test data for Antenna 1

13.6.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	56.90	H	11.50	2.30	33.10	37.60	43.50	5.90
239.52	52.20	H	13.30	3.20	33.00	35.70	46.00	10.30
600.36	47.40	H	20.30	5.10	33.30	39.50	46.00	6.50
839.94	42.90	H	22.70	6.10	32.90	38.80	46.00	7.20
961.19	40.70	V	23.80	6.50	31.90	39.10	54.00	14.90
Middle Channel								
119.24	57.90	H	11.50	2.30	33.10	38.60	43.50	4.90
239.52	54.30	H	13.30	3.20	33.00	37.80	46.00	8.20
600.36	49.20	H	20.30	5.10	33.30	41.30	46.00	4.70
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
High Channel								
119.24	58.30	H	11.50	2.30	33.10	39.00	43.50	4.50
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	49.00	H	20.30	5.10	33.30	41.10	46.00	4.90
839.94	43.60	H	22.70	6.10	32.90	39.50	46.00	6.50
961.19	42.40	V	23.80	6.50	31.90	40.80	54.00	13.20

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	40.76	Peak	H	39.40	17.30	42.60	54.86	73.98	19.12
	32.24	Average	H				46.34	53.98	7.64
	41.57	Peak	V				55.67	73.98	18.31
	31.86	Average	V				45.96	53.98	8.02
Middle Channel									
11 200.00	41.20	Peak	H	39.40	17.30	42.60	55.30	73.98	18.68
	31.82	Average	H				45.92	53.98	8.06
	41.97	Peak	V				56.07	73.98	17.91
	31.81	Average	V				45.91	53.98	8.07
High Channel									
11 400.00	42.32	Peak	H	39.40	17.30	42.60	56.42	73.98	17.56
	32.20	Average	H				46.30	53.98	7.68
	42.29	Peak	V				56.39	73.98	17.59
	33.05	Average	V				47.15	53.98	6.83

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2.3 Test data for Multiple transmit

13.6.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.30	H	11.50	2.30	33.10	39.00	43.50	4.50
239.52	53.70	H	13.30	3.20	33.00	37.20	46.00	8.80
600.36	48.90	H	20.30	5.10	33.30	41.00	46.00	5.00
839.94	43.90	H	22.70	6.10	32.90	39.80	46.00	6.20
961.19	42.50	V	23.80	6.50	31.90	40.90	54.00	13.10
Middle Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.50	H	13.30	3.20	33.00	37.00	46.00	9.00
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	41.70	V	23.80	6.50	31.90	40.10	54.00	13.90
High Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.20	H	13.30	3.20	33.00	36.70	46.00	9.30
600.36	48.50	H	20.30	5.10	33.30	40.60	46.00	5.40
839.94	44.00	H	22.70	6.10	32.90	39.90	46.00	6.10
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 000.00	41.10	Peak	H	39.40	17.30	42.60	55.20	73.98	18.78
	32.57	Average	H				46.67	53.98	7.31
	41.50	Peak	V				55.60	73.98	18.38
	31.63	Average	V				45.73	53.98	8.25
Middle Channel									
11 200.00	41.42	Peak	H	39.40	17.30	42.60	55.52	73.98	18.46
	32.11	Average	H				46.21	53.98	7.77
	42.09	Peak	V				56.19	73.98	17.79
	31.28	Average	V				45.38	53.98	8.60
High Channel									
11 400.00	41.58	Peak	H	39.40	17.30	42.60	55.68	73.98	18.30
	31.51	Average	H				45.61	53.98	8.37
	42.43	Peak	V				56.53	73.98	17.45
	33.38	Average	V				47.48	53.98	6.50

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3 Test data for 802.11n_HT40 RLAN Mode

13.6.3.1 Test data for Antenna 0

13.6.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	57.70	H	11.50	2.30	33.10	38.40	43.50	5.10
239.52	51.90	H	13.30	3.20	33.00	35.40	46.00	10.60
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	42.70	H	22.70	6.10	32.90	38.60	46.00	7.40
961.19	41.00	V	23.80	6.50	31.90	39.40	54.00	14.60
Middle Channel								
119.24	56.90	H	11.50	2.30	33.10	37.60	43.50	5.90
239.52	51.90	H	13.30	3.20	33.00	35.40	46.00	10.60
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	42.90	H	22.70	6.10	32.90	38.80	46.00	7.20
961.19	41.40	V	23.80	6.50	31.90	39.80	54.00	14.20
High Channel								
119.24	57.20	H	11.50	2.30	33.10	37.90	43.50	5.60
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.30	H	20.30	5.10	33.30	39.40	46.00	6.60
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.10	V	23.80	6.50	31.90	39.50	54.00	14.50

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 020.00	41.99	Peak	H	39.40	17.30	42.60	56.09	73.98	17.89
	32.56	Average	H				46.66	53.98	7.32
	43.05	Peak	V				57.15	73.98	16.83
	33.60	Average	V				47.70	53.98	6.28
Middle Channel									
11 180.00	41.91	Peak	H	39.40	17.30	42.60	56.01	73.98	17.97
	31.97	Average	H				46.07	53.98	7.91
	41.85	Peak	V				55.95	73.98	18.03
	32.36	Average	V				46.46	53.98	7.52
High Channel									
11 340.00	42.23	Peak	H	39.40	17.30	42.60	56.33	73.98	17.65
	32.45	Average	H				46.55	53.98	7.43
	43.47	Peak	V				57.57	73.98	16.41
	31.58	Average	V				45.68	53.98	8.30

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.2 Test data for Antenna 1

13.6.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.20	H	11.50	2.30	33.10	38.90	43.50	4.60
239.52	53.30	H	13.30	3.20	33.00	36.80	46.00	9.20
600.36	48.80	H	20.30	5.10	33.30	40.90	46.00	5.10
839.94	43.40	H	22.70	6.10	32.90	39.30	46.00	6.70
961.19	41.80	V	23.80	6.50	31.90	40.20	54.00	13.80
Middle Channel								
119.24	57.50	H	11.50	2.30	33.10	38.20	43.50	5.30
239.52	52.50	H	13.30	3.20	33.00	36.00	46.00	10.00
600.36	47.80	H	20.30	5.10	33.30	39.90	46.00	6.10
839.94	42.50	H	22.70	6.10	32.90	38.40	46.00	7.60
961.19	40.90	V	23.80	6.50	31.90	39.30	54.00	14.70
High Channel								
119.24	57.00	H	11.50	2.30	33.10	37.70	43.50	5.80
239.52	52.50	H	13.30	3.20	33.00	36.00	46.00	10.00
600.36	47.60	H	20.30	5.10	33.30	39.70	46.00	6.30
839.94	42.80	H	22.70	6.10	32.90	38.70	46.00	7.30
961.19	40.70	V	23.80	6.50	31.90	39.10	54.00	14.90

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 020.00	41.84	Peak	H	39.40	17.30	42.60	55.94	73.98	18.04
	32.38	Average	H				46.48	53.98	7.50
	43.10	Peak	V				57.20	73.98	16.78
	33.34	Average	V				47.44	53.98	6.54
Middle Channel									
11 180.00	42.20	Peak	H	39.40	17.30	42.60	56.30	73.98	17.68
	31.43	Average	H				45.53	53.98	8.45
	42.19	Peak	V				56.29	73.98	17.69
	32.01	Average	V				46.11	53.98	7.87
High Channel									
11 340.00	42.62	Peak	H	39.40	17.30	42.60	56.72	73.98	17.26
	32.86	Average	H				46.96	53.98	7.02
	43.69	Peak	V				57.79	73.98	16.19
	31.49	Average	V				45.59	53.98	8.39

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.3.3 Test data for Multiple transmit

13.6.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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13.6.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
119.24	58.00	H	11.50	2.30	33.10	38.70	43.50	4.80
239.52	53.10	H	13.30	3.20	33.00	36.60	46.00	9.40
600.36	48.60	H	20.30	5.10	33.30	40.70	46.00	5.30
839.94	43.80	H	22.70	6.10	32.90	39.70	46.00	6.30
961.19	42.30	V	23.80	6.50	31.90	40.70	54.00	13.30
Middle Channel								
119.24	57.60	H	11.50	2.30	33.10	38.30	43.50	5.20
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	47.40	H	20.30	5.10	33.30	39.50	46.00	6.50
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	41.50	V	23.80	6.50	31.90	39.90	54.00	14.10
High Channel								
119.24	57.40	H	11.50	2.30	33.10	38.10	43.50	5.40
239.52	52.40	H	13.30	3.20	33.00	35.90	46.00	10.10
600.36	48.00	H	20.30	5.10	33.30	40.10	46.00	5.90
839.94	42.40	H	22.70	6.10	32.90	38.30	46.00	7.70
961.19	40.90	V	23.80	6.50	31.90	39.30	54.00	14.70

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

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Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

13.6.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
11 020.00	41.85	Peak	H	39.40	17.30	42.60	55.95	73.98	18.03
	31.97	Average	H				46.07	53.98	7.91
	42.11	Peak	V				56.21	73.98	17.77
	33.79	Average	V				47.89	53.98	6.09
Middle Channel									
11 180.00	42.01	Peak	H	39.40	17.30	42.60	56.11	73.98	17.87
	31.85	Average	H				45.95	53.98	8.03
	41.84	Peak	V				55.94	73.98	18.04
	32.04	Average	V				46.14	53.98	7.84
High Channel									
11 340.00	42.20	Peak	H	39.40	17.30	42.60	56.30	73.98	17.68
	32.50	Average	H				46.60	53.98	7.38
	43.77	Peak	V				57.87	73.98	16.11
	31.09	Average	V				45.19	53.98	8.79

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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14 SPURIOUS EMISSION - RECEIVER

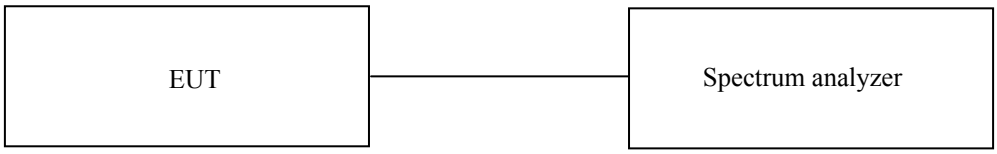
14.1 Operating environment

Temperature : 24 °C

Relative humidity : 44 % R.H.

14.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



14.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The frequency spectrum from 30 MHz to 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

14.4 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	May 03, 2013(1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	May 27, 2013(1Y)
■-	310N	Sonoma Instrument	AMPLIFIER	312544	May 21, 2013(1Y)
■ -	83051A	Agilent	Microwave System Preamplifer	3950M00201	May 22, 2013(1Y)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	May 20, 2013(1Y)
■ -	SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	10041	Jan. 25, 2013(1Y)
■ -	MA220	HD	Turn Table	N/A	N/A
■ -	HD240	HD	Antenna Mast	N/A	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	Apr. 24, 2012(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D294	Sep. 30, 2013 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jun. 17, 2013 (2Y)

All test equipment used is calibrated on a regular basis.

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EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5 Test data for Frequency 5 150 band

14.5.1 Test data for 802.11a RLAN Mode

14.5.1.1 Test data for Antenna 0

14.5.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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14.5.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	53.00	V	14.30	1.70	33.10	35.90	40.00	
97.90	55.90	V	13.20	2.10	33.10	38.10	43.50	
165.80	51.60	V	9.50	2.70	33.00	30.80	43.50	
480.08	43.70	V	18.10	4.60	33.10	33.30	46.00	
666.32	41.60	H	20.60	5.40	33.30	34.30	46.00	
Test result for Middle Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	
480.08	43.80	H	18.10	4.60	33.10	33.40	46.00	
666.32	41.60	V	20.60	5.40	33.30	34.30	46.00	
Test result for High Channel								
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	
165.80	50.50	H	9.50	2.70	33.00	29.70	43.50	
480.08	42.70	H	18.10	4.60	33.10	32.30	46.00	
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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14.5.1.2Test data for Antenna 1

14.5.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	57.20	H	13.20	2.10	33.10	39.40	43.50	4.10
165.80	51.80	H	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	41.20	V	20.60	5.40	33.30	33.90	46.00	12.10
Test result for Middle Channel								
58.13	52.20	H	14.30	1.70	33.10	35.10	40.00	4.90
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.50	H	9.50	2.70	33.00	30.70	43.50	12.80
480.08	42.90	H	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.10	V	20.60	5.40	33.30	33.80	46.00	12.20
Test result for High Channel								
58.13	52.60	H	14.30	1.70	33.10	35.50	40.00	4.50
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	52.10	H	9.50	2.70	33.00	31.30	43.50	12.20
480.08	43.30	H	18.10	4.60	33.10	32.90	46.00	13.10
666.32	41.60	V	20.60	5.40	33.30	34.30	46.00	11.70

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2 Test data for 802.11n_HT20 RLAN Mode

14.5.2.1 Test data for Antenna 0

14.5.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.20	V	14.30	1.70	33.10	35.10	40.00	4.90
97.90	55.90	V	13.20	2.10	33.10	38.10	43.50	5.40
165.80	51.90	V	9.50	2.70	33.00	31.10	43.50	12.40
480.08	43.40	V	18.10	4.60	33.10	33.00	46.00	13.00
666.32	41.10	H	20.60	5.40	33.30	33.80	46.00	12.20
Test result for Middle Channel								
58.13	51.20	H	14.30	1.70	33.10	34.10	40.00	5.90
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	6.40
165.80	50.90	H	9.50	2.70	33.00	30.10	43.50	13.40
480.08	42.40	H	18.10	4.60	33.10	32.00	46.00	14.00
666.32	39.80	V	20.60	5.40	33.30	32.50	46.00	13.50
Test result for High Channel								
58.13	51.20	H	14.30	1.70	33.10	34.10	40.00	5.90
97.90	55.20	H	13.20	2.10	33.10	37.40	43.50	6.10
165.80	50.60	H	9.50	2.70	33.00	29.80	43.50	13.70
480.08	42.70	H	18.10	4.60	33.10	32.30	46.00	13.70
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	13.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.2 Test data for Antenna 1

14.5.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.60	H	14.30	1.70	33.10	35.50	40.00	4.50
97.90	56.60	H	13.20	2.10	33.10	38.80	43.50	4.70
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	42.90	H	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90
Test result for Middle Channel								
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	42.90	H	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90
Test result for High Channel								
58.13	52.20	H	14.30	1.70	33.10	35.10	40.00	4.90
97.90	56.60	H	13.20	2.10	33.10	38.80	43.50	4.70
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.3 Test data for Multiple transmit

14.5.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	55.60	H	13.20	2.10	33.10	37.80	43.50	5.70
165.80	50.40	H	9.50	2.70	33.00	29.60	43.50	13.90
480.08	42.20	H	18.10	4.60	33.10	31.80	46.00	14.20
666.32	40.60	V	20.60	5.40	33.30	33.30	46.00	12.70
Test result for Middle Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.00	H	13.20	2.10	33.10	38.20	43.50	5.30
165.80	51.60	H	9.50	2.70	33.00	30.80	43.50	12.70
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00
Test result for High Channel								
58.13	53.00	H	14.30	1.70	33.10	35.90	40.00	4.10
97.90	55.90	H	13.20	2.10	33.10	38.10	43.50	5.40
165.80	52.20	H	9.50	2.70	33.00	31.40	43.50	12.10
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	40.80	V	20.60	5.40	33.30	33.50	46.00	12.50

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3 Test data for 802.11n_HT40 RLAN Mode

14.5.3.1 Test data for Antenna 0

14.5.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.40	V	14.30	1.70	33.10	35.30	40.00	4.70
97.90	56.30	V	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.80	V	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.20	V	18.10	4.60	33.10	32.80	46.00	13.20
666.32	41.10	H	20.60	5.40	33.30	33.80	46.00	12.20
Test result for High Channel								
58.13	53.20	H	14.30	1.70	33.10	36.10	40.00	3.90
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	52.10	H	9.50	2.70	33.00	31.30	43.50	12.20
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.60	V	20.60	5.40	33.30	34.30	46.00	11.70

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.2 Test data for Antenna 1

14.5.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	43.40	H	18.10	4.60	33.10	33.00	46.00	13.00
666.32	41.10	V	20.60	5.40	33.30	33.80	46.00	12.20
Test result for High Channel								
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.3 Test data for Multiple transmit

14.5.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	55.90	H	13.20	2.10	33.10	38.10	43.50	5.40
165.80	52.20	H	9.50	2.70	33.00	31.40	43.50	12.10
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.20	V	20.60	5.40	33.30	33.90	46.00	12.10
Test result for High Channel								
58.13	51.90	H	14.30	1.70	33.10	34.80	40.00	5.20
97.90	55.10	H	13.20	2.10	33.10	37.30	43.50	6.20
165.80	50.90	H	9.50	2.70	33.00	30.10	43.50	13.40
480.08	42.70	H	18.10	4.60	33.10	32.30	46.00	13.70
666.32	39.80	V	20.60	5.40	33.30	32.50	46.00	13.50

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.5.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6 Test data for Frequency 5 250 band

14.6.1 Test data for 802.11a RLAN Mode

14.6.1.1 Test data for Antenna 0

14.6.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.90	V	14.30	1.70	33.10	35.80	40.00	4.20
97.90	55.90	V	13.20	2.10	33.10	38.10	43.50	5.40
165.80	51.90	V	9.50	2.70	33.00	31.10	43.50	12.40
480.08	42.90	V	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.30	H	20.60	5.40	33.30	34.00	46.00	12.00
Test result for Middle Channel								
58.13	52.20	H	14.30	1.70	33.10	35.10	40.00	4.90
97.90	56.80	H	13.20	2.10	33.10	39.00	43.50	4.50
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.70	V	20.60	5.40	33.30	34.40	46.00	11.60
Test result for High Channel								
58.13	52.00	H	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	51.20	H	9.50	2.70	33.00	30.40	43.50	13.10
480.08	41.80	H	18.10	4.60	33.10	31.40	46.00	14.60
666.32	40.10	V	20.60	5.40	33.30	32.80	46.00	13.20

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.1.2Test data for Antenna 1

14.6.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	55.90	H	13.20	2.10	33.10	38.10	43.50	5.40
165.80	51.80	H	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.30	H	18.10	4.60	33.10	32.90	46.00	13.10
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00
Test result for Middle Channel								
58.13	52.00	H	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	50.50	H	9.50	2.70	33.00	29.70	43.50	13.80
480.08	42.20	H	18.10	4.60	33.10	31.80	46.00	14.20
666.32	40.40	V	20.60	5.40	33.30	33.10	46.00	12.90
Test result for High Channel								
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.40	H	13.20	2.10	33.10	38.60	43.50	4.90
165.80	52.00	H	9.50	2.70	33.00	31.20	43.50	12.30
480.08	43.50	H	18.10	4.60	33.10	33.10	46.00	12.90
666.32	40.90	V	20.60	5.40	33.30	33.60	46.00	12.40

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2 Test data for 802.11n_HT20 RLAN Mode

14.6.2.1 Test data for Antenna 0

14.6.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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14.6.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	53.00	V	14.30	1.70	33.10	35.90	40.00	4.10
97.90	56.30	V	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.60	V	9.50	2.70	33.00	30.80	43.50	12.70
480.08	42.90	V	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.20	H	20.60	5.40	33.30	33.90	46.00	12.10
Test result for Middle Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.80	H	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90
Test result for High Channel								
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	6.40
165.80	50.50	H	9.50	2.70	33.00	29.70	43.50	13.80
480.08	42.20	H	18.10	4.60	33.10	31.80	46.00	14.20
666.32	39.20	V	20.60	5.40	33.30	31.90	46.00	14.10

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.2 Test data for Antenna 1

14.6.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.20	H	14.30	1.70	33.10	35.10	40.00	4.90
97.90	56.10	H	13.20	2.10	33.10	38.30	43.50	5.20
165.80	52.10	H	9.50	2.70	33.00	31.30	43.50	12.20
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.20	V	20.60	5.40	33.30	33.90	46.00	12.10
Test result for Middle Channel								
58.13	51.20	H	14.30	1.70	33.10	34.10	40.00	5.90
97.90	55.30	H	13.20	2.10	33.10	37.50	43.50	6.00
165.80	49.10	H	9.50	2.70	33.00	28.30	43.50	15.20
480.08	42.10	H	18.10	4.60	33.10	31.70	46.00	14.30
666.32	40.60	V	20.60	5.40	33.30	33.30	46.00	12.70
Test result for High Channel								
58.13	52.50	H	14.30	1.70	33.10	35.40	40.00	4.60
97.90	56.20	H	13.20	2.10	33.10	38.40	43.50	5.10
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	41.50	V	20.60	5.40	33.30	34.20	46.00	11.80

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.3 Test data for Multiple transmit

14.6.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.50	H	14.30	1.70	33.10	35.40	40.00	4.60
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.50	H	9.50	2.70	33.00	30.70	43.50	12.80
480.08	43.20	H	18.10	4.60	33.10	32.80	46.00	13.20
666.32	41.10	V	20.60	5.40	33.30	33.80	46.00	12.20
Test result for Middle Channel								
58.13	53.10	H	14.30	1.70	33.10	36.00	40.00	4.00
97.90	56.60	H	13.20	2.10	33.10	38.80	43.50	4.70
165.80	54.60	H	9.50	2.70	33.00	33.80	43.50	9.70
480.08	43.40	H	18.10	4.60	33.10	33.00	46.00	13.00
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90
Test result for High Channel								
58.13	51.60	H	14.30	1.70	33.10	34.50	40.00	5.50
97.90	55.20	H	13.20	2.10	33.10	37.40	43.50	6.10
165.80	50.60	H	9.50	2.70	33.00	29.80	43.50	13.70
480.08	42.00	H	18.10	4.60	33.10	31.60	46.00	14.40
666.32	44.90	V	20.60	5.40	33.30	37.60	46.00	8.40

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3 Test data for 802.11n_HT40 RLAN Mode

14.6.3.1 Test data for Antenna 0

14.6.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.70	V	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.10	V	13.20	2.10	33.10	38.30	43.50	5.20
165.80	51.40	V	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.10	V	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.80	H	20.60	5.40	33.30	33.50	46.00	12.50
Test result for High Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	56.20	H	13.20	2.10	33.10	38.40	43.50	5.10
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.80	V	20.60	5.40	33.30	33.50	46.00	12.50

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.2 Test data for Antenna 1

14.6.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	57.20	H	13.20	2.10	33.10	39.40	43.50	4.10
165.80	51.60	H	9.50	2.70	33.00	30.80	43.50	12.70
480.08	43.50	H	18.10	4.60	33.10	33.10	46.00	12.90
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30
Test result for High Channel								
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.80	H	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.3 Test data for Multiple transmit

14.6.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	57.00	H	13.20	2.10	33.10	39.20	43.50	4.30
165.80	52.60	H	9.50	2.70	33.00	31.80	43.50	11.70
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.50	V	20.60	5.40	33.30	34.20	46.00	11.80
Test result for High Channel								
58.13	51.60	H	14.30	1.70	33.10	34.50	40.00	5.50
97.90	55.10	H	13.20	2.10	33.10	37.30	43.50	6.20
165.80	51.10	H	9.50	2.70	33.00	30.30	43.50	13.20
480.08	42.60	H	18.10	4.60	33.10	32.20	46.00	13.80
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	13.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.6.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7 Test data for Frequency 5 470 band

14.7.1 Test data for 802.11a RLAN Mode

14.7.1.1 Test data for Antenna 0

14.7.1.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.1.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.60	V	14.30	1.70	33.10	35.50	40.00	4.50
97.90	56.50	V	13.20	2.10	33.10	38.70	43.50	4.80
165.80	52.00	V	9.50	2.70	33.00	31.20	43.50	12.30
480.08	42.90	V	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.30	H	20.60	5.40	33.30	34.00	46.00	12.00
Test result for Middle Channel								
58.13	51.20	H	14.30	1.70	33.10	34.10	40.00	5.90
97.90	55.70	H	13.20	2.10	33.10	37.90	43.50	5.60
165.80	50.70	H	9.50	2.70	33.00	29.90	43.50	13.60
480.08	41.90	H	18.10	4.60	33.10	31.50	46.00	14.50
666.32	40.40	V	20.60	5.40	33.30	33.10	46.00	12.90
Test result for High Channel								
58.13	51.90	H	14.30	1.70	33.10	34.80	40.00	5.20
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	51.20	H	9.50	2.70	33.00	30.40	43.50	13.10
480.08	42.00	H	18.10	4.60	33.10	31.60	46.00	14.40
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	13.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.1.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.1.2Test data for Antenna 1

14.7.1.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.1.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.80	H	13.20	2.10	33.10	39.00	43.50	4.50
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	43.30	H	18.10	4.60	33.10	32.90	46.00	13.10
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00
Test result for Middle Channel								
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	52.00	H	9.50	2.70	33.00	31.20	43.50	12.30
480.08	43.20	H	18.10	4.60	33.10	32.80	46.00	13.20
666.32	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90
Test result for High Channel								
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	55.90	H	13.20	2.10	33.10	38.10	43.50	5.40
165.80	51.90	H	9.50	2.70	33.00	31.10	43.50	12.40
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.10	V	20.60	5.40	33.30	33.80	46.00	12.20

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.1.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2 Test data for 802.11n_HT20 RLAN Mode

14.7.2.1 Test data for Antenna 0

14.7.2.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.90	V	14.30	1.70	33.10	35.80	40.00	4.20
97.90	57.30	V	13.20	2.10	33.10	39.50	43.50	4.00
165.80	50.80	V	9.50	2.70	33.00	30.00	43.50	13.50
480.08	42.10	V	18.10	4.60	33.10	31.70	46.00	14.30
666.32	40.30	H	20.60	5.40	33.30	33.00	46.00	13.00
Test result for Middle Channel								
58.13	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.80	H	13.20	2.10	33.10	39.00	43.50	4.50
165.80	52.20	H	9.50	2.70	33.00	31.40	43.50	12.10
480.08	43.20	H	18.10	4.60	33.10	32.80	46.00	13.20
666.32	41.70	V	20.60	5.40	33.30	34.40	46.00	11.60
Test result for High Channel								
58.13	51.30	H	14.30	1.70	33.10	34.20	40.00	5.80
97.90	55.20	H	13.20	2.10	33.10	37.40	43.50	6.10
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
480.08	42.30	H	18.10	4.60	33.10	31.90	46.00	14.10
666.32	40.40	V	20.60	5.40	33.30	33.10	46.00	12.90

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.2 Test data for Antenna 1

14.7.2.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.50	H	9.50	2.70	33.00	30.70	43.50	12.80
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30
Test result for Middle Channel								
58.13	52.00	H	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	42.40	H	18.10	4.60	33.10	32.00	46.00	14.00
666.32	40.10	V	20.60	5.40	33.30	32.80	46.00	13.20
Test result for High Channel								
58.13	53.00	H	14.30	1.70	33.10	35.90	40.00	4.10
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	52.10	H	9.50	2.70	33.00	31.30	43.50	12.20
480.08	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.50	V	20.60	5.40	33.30	34.20	46.00	11.80

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.3 Test data for Multiple transmit

14.7.2.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	6.40
165.80	50.70	H	9.50	2.70	33.00	29.90	43.50	13.60
480.08	42.50	H	18.10	4.60	33.10	32.10	46.00	13.90
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	13.00
Test result for Middle Channel								
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.30	H	13.20	2.10	33.10	38.50	43.50	5.00
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.80	H	18.10	4.60	33.10	33.40	46.00	12.60
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30
Test result for High Channel								
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	56.00	H	13.20	2.10	33.10	38.20	43.50	5.30
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	42.90	H	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.70	V	20.60	5.40	33.30	34.40	46.00	11.60

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.2.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3 Test data for 802.11n_HT40 RLAN Mode

14.7.3.1 Test data for Antenna 0

14.7.3.1.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.1.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.70	V	14.30	1.70	33.10	35.60	40.00	4.40
97.90	56.10	V	13.20	2.10	33.10	38.30	43.50	5.20
165.80	51.40	V	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.10	V	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.80	H	20.60	5.40	33.30	33.50	46.00	12.50
Test result for Middle Channel								
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.10	H	13.20	2.10	33.10	38.30	43.50	5.20
165.80	51.50	H	9.50	2.70	33.00	30.70	43.50	12.80
480.08	43.50	H	18.10	4.60	33.10	33.10	46.00	12.90
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00
Test result for High Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	56.20	H	13.20	2.10	33.10	38.40	43.50	5.10
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.80	V	20.60	5.40	33.30	33.50	46.00	12.50

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.1.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.2 Test data for Antenna 1

14.7.3.2.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.2.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	57.20	H	13.20	2.10	33.10	39.40	43.50	4.10
165.80	51.60	H	9.50	2.70	33.00	30.80	43.50	12.70
480.08	43.50	H	18.10	4.60	33.10	33.10	46.00	12.90
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30
Test result for Middle Channel								
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.90	H	9.50	2.70	33.00	31.10	43.50	12.40
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	40.80	V	20.60	5.40	33.30	33.50	46.00	12.50
Test result for High Channel								
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
165.80	51.80	H	9.50	2.70	33.00	31.00	43.50	12.50
480.08	43.70	H	18.10	4.60	33.10	33.30	46.00	12.70
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.2.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.3 Test data for Multiple transmit

14.7.3.3.1 Test data for Below 30 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

14.7.3.3.2 Test data for 30 MHz ~ 1 000 MHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 120 kHz

-. Frequency range : 30 MHz ~ 1 000 MHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test result for Low Channel								
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	57.00	H	13.20	2.10	33.10	39.20	43.50	4.30
165.80	52.60	H	9.50	2.70	33.00	31.80	43.50	11.70
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.50	V	20.60	5.40	33.30	34.20	46.00	11.80
Test result for Middle Channel								
58.13	52.60	H	14.30	1.70	33.10	35.50	40.00	4.50
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	51.40	H	9.50	2.70	33.00	30.60	43.50	12.90
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	41.30	V	20.60	5.40	33.30	34.00	46.00	12.00
Test result for High Channel								
58.13	51.60	H	14.30	1.70	33.10	34.50	40.00	5.50
97.90	55.10	H	13.20	2.10	33.10	37.30	43.50	6.20
165.80	51.10	H	9.50	2.70	33.00	30.30	43.50	13.20
480.08	42.60	H	18.10	4.60	33.10	32.20	46.00	13.80
666.32	40.30	V	20.60	5.40	33.30	33.00	46.00	13.00

Tabulated test data for Radiated Electromagnetic Field

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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14.7.3.3.3 Test data for above 1 GHz

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
It was not observed any emissions from the EUT.								

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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15. RADIATED RESTRICTED BAND EDGE MEASUREMENTS

15.1 Operating environment

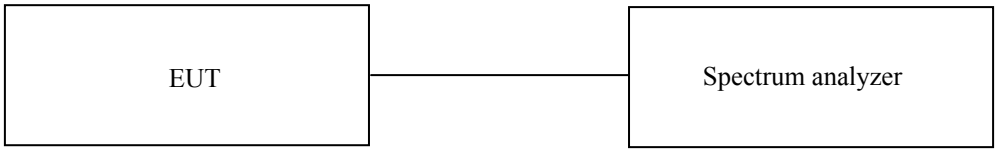
Temperature : 20 °C

Relative humidity : 45 % R.H.

15.2 Test set-up for conducted measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



15.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	May 03, 2013(1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	May 27, 2013(1Y)
■-	310N	Sonoma Instrument	AMPLIFIER	312544	May 21, 2013(1Y)
■ -	83051A	Agilent	Microwave System Preamplifer	3950M00201	May 22, 2013(1Y)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	May 20, 2013(1Y)
■ -	SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	10041	Jan. 25, 2013(1Y)
■ -	MA220	HD	Turn Table	N/A	N/A
■ -	HD240	HD	Antenna Mast	N/A	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	Apr. 24, 2012(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D294	Sep. 30 , 2013 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jun. 17, 2013 (2Y)

All test equipment used is calibrated on a regular basis.

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15.4 Test data for Frequency 5 150 band

15.4.1 Test data for 802.11a RLAN Mode

15.4.1.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 127.36	39.90	Peak	H	31.00	11.50	42.20	40.20	74.00	33.80
	27.35	Average	H				27.65	54.00	26.35
	44.72	Peak	V				45.02	74.00	28.98
	32.09	Average	V				32.39	54.00	21.61

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.1.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 127.96	41.49	Peak	H	31.00	11.50	42.20	41.79	74.00	32.21
	29.13	Average	H				29.43	54.00	24.57
	46.01	Peak	V				46.31	74.00	27.69
	33.21	Average	V				33.51	54.00	20.49

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.2 Test data for 802.11n_HT20 RLAN Mode

15.4.2.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 126.75	40.26	Peak	H	31.00	11.50	42.20	40.56	74.00	33.44
	27.06	Average	H				27.36	54.00	26.64
	44.57	Peak	V				44.87	74.00	29.13
	29.54	Average	V				29.84	54.00	24.16

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.4.2.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 127.04	41.94	Peak	H	31.00	11.50	42.20	42.24	74.00	31.76
	28.34	Average	H				28.64	54.00	25.36
	46.02	Peak	V				46.32	74.00	27.68
	31.32	Average	V				31.62	54.00	22.38

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.2.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 127.01	41.88	Peak	H	31.00	11.50	42.20	42.18	74.00	31.82
	28.23	Average	H				28.53	54.00	25.47
	46.32	Peak	V				46.62	74.00	27.38
	30.76	Average	V				31.06	54.00	22.94

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.3 Test data for 802.11n_HT40 RLAN Mode

15.4.3.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 150.00	44.09	Peak	H	31.00	11.50	42.20	44.39	74.00	29.61
	29.73	Average	H				30.03	54.00	23.97
	58.92	Peak	V				59.22	74.00	14.78
	40.31	Average	V				40.61	54.00	13.39

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.3.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 150.00	45.16	Peak	H	31.00	11.50	42.20	45.46	74.00	28.54
	31.49	Average	H				31.79	54.00	22.21
	60.79	Peak	V				61.09	74.00	12.91
	41.48	Average	V				41.78	54.00	12.22

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.4.3.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 150.00	45.15	Peak	H	31.00	11.50	42.20	45.45	74.00	28.55
	31.27	Average	H				31.57	54.00	22.43
	60.59	Peak	V				60.89	74.00	13.11
	41.60	Average	V				41.90	54.00	12.10

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.5 Test data for Frequency 5 250 band

15.5.1 Test data for 802.11a RLAN Mode

15.5.1.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
High Channel									
5 372.10	38.88	Peak	H	31.30	11.70	42.20	39.74	74.00	34.32
	26.89	Average	H				27.69	54.00	26.31
	40.94	Peak	V				41.74	74.00	32.26
	26.95	Average	V				27.75	54.00	26.25

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.5.1.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 372.10	40.22	Peak	H	31.30	11.70	42.20	41.02	74.00	32.98
	28.58	Average	H				29.38	54.00	24.62
	42.38	Peak	V				43.18	74.00	30.82
	28.25	Average	V				29.05	54.00	24.95

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.5.2 Test data for 802.11n_HT20 RLAN Mode

15.5.2.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 371.80	38.94	Peak	H	31.30	11.70	42.20	39.74	74.00	34.26
	26.12	Average	H				26.92	54.00	27.08
	40.79	Peak	V				41.59	74.00	32.41
	27.14	Average	V				27.94	54.00	26.06

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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15.5.2.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 353.60	40.60	Peak	H	31.30	11.70	42.20	41.40	74.00	32.60
	28.03	Average	H				28.83	54.00	25.17
	42.66	Peak	V				43.46	74.00	30.54
	28.39	Average	V				29.19	54.00	24.81

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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15.5.2.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 353.60	40.03	Peak	H	31.30	11.70	42.20	40.83	74.00	33.17
	27.69	Average	H				28.49	54.00	25.51
	42.45	Peak	V				43.25	74.00	30.75
	28.15	Average	V				28.95	54.00	25.05

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.5.3 Test data for 802.11n_HT40 RLAN Mode

15.5.3.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
High Channel									
5353.60	45.54	Peak	H	31.30	11.70	42.20	46.34	74.00	27.66
	29.86	Average	H				30.66	54.00	23.34
	53.42	Peak	V				54.22	74.00	19.78
	34.35	Average	V				35.15	54.00	18.85

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.5.3.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 353.60	46.74	Peak	H	31.30	11.70	42.20	47.54	74.00	26.46
	31.82	Average	H				32.62	54.00	21.38
	55.08	Peak	V				55.88	74.00	18.12
	35.59	Average	V				36.39	54.00	17.61

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.5.3.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
High Channel									
5 353.60	47.22	Peak	H	31.30	11.70	42.20	48.02	74.00	25.98
	31.28	Average	H				32.08	54.00	21.92
	54.94	Peak	V				55.74	74.00	18.26
	36.00	Average	V				36.80	54.00	17.20

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6 Test data for Frequency 5 470 band

15.6.1 Test data for 802.11a RLAN Mode

15.6.1.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
5 446.90	39.54	Peak	H	31.40	11.80	42.20	40.54	74.00	33.46
	26.65	Average	H				27.65	54.00	26.35
	39.25	Peak	V				40.25	74.00	33.75
	26.58	Average	V				27.58	54.00	26.42

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.1.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 446.84	40.77	Peak	H	31.40	11.80	42.20	41.77	74.00	32.23
	28.03	Average	H				29.03	54.00	24.97
	40.88	Peak	V				41.88	74.00	32.12
	27.79	Average	V				28.79	54.00	25.21

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.2 Test data for 802.11n_HT20 RLAN Mode

15.6.2.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 447.53	39.39	Peak	H	31.40	11.80	42.20	40.39	74.00	33.61
	25.87	Average	H				26.87	54.00	27.13
	39.65	Peak	V				40.65	74.00	33.35
	26.22	Average	V				27.22	54.00	26.78

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.2.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 446.55	41.28	Peak	H	31.40	11.80	42.20	42.28	74.00	31.72
	26.91	Average	H				27.91	54.00	26.09
	40.73	Peak	V				41.73	74.00	32.27
	27.49	Average	V				28.49	54.00	25.51

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.2.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 446.35	40.85	Peak	H	31.40	11.80	42.20	41.85	74.00	32.15
	27.22	Average	H				28.22	54.00	25.78
	41.24	Peak	V				42.24	74.00	31.76
	27.24	Average	V				28.24	54.00	25.76

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

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EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.3 Test data for 802.11n_HT40 RLAN Mode

15.6.3.1 Test data for Antenna 0

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 460.00	43.91	Peak	H	31.40	11.80	42.20	44.91	74.00	29.09
	29.66	Average	H				30.66	54.00	23.34
	44.46	Peak	V				45.46	74.00	28.54
	30.73	Average	V				31.73	54.00	22.27

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.3.2 Test data for Antenna 1

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 460.00	45.46	Peak	H	31.40	11.80	42.20	46.46	74.00	27.54
	30.75	Average	H				31.75	54.00	22.25
	46.30	Peak	V				47.30	74.00	26.70
	32.31	Average	V				33.31	54.00	20.69

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

15.6.3.3 Test data for Multiple transmit

-. Test Date : December 17, 2013

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Measurement distance : 3 m

-. Result : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 460.00	44.97	Peak	H	31.40	11.80	42.20	45.97	74.00	28.03
	31.50	Average	H				32.50	54.00	21.50
	45.68	Peak	V				46.68	74.00	27.32
	32.52	Average	V				33.52	54.00	20.48

Tabulated test data for Restricted Band

Remark - "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBµV/m) - Emission Level (dBµV/m)

Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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16. CONDUCTED EMISSION TEST

16.1 Operating environment

Temperature : 27 °C

Relative humidity : 46 % R.H.

16.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μH + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

16.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ -	ESiB26	Rohde & Schwarz	EMI Test Receiver	100296	Nov. 05, 2013(1Y)
■ -	NSLK 8126	Schwarzbeck	AMN	8126-404	May 29, 2013(1Y)
□ -	3825/2	EMCO	AMN	9109-1867	May 20, 2013(1Y)

All test equipment used is calibrated on a regular basis.

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EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

16.4 Test data for 802.11a RLAN Mode

-. Test Date : December 24, 2013

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

Frequency (MHz)	Line	Quasi-Peak (dBμV)		Margin (dB)
		Emission level	Q.P Limits	
0.63	H	37.00	56.00	19.00
0.65	N	36.80	56.00	19.20
0.67	H	36.90	56.00	19.10
2.23	H	32.30	56.00	23.70
13.78	H	38.10	60.00	21.90
16.45	N	37.00	60.00	23.00
Frequency (MHz)	**Line**	**Average (dBμV)**		**Margin (dB)**
		Emission level	**Limits**	
0.63	H	27.30	46.00	18.70
0.65	N	29.50	46.00	16.50
0.67	H	31.70	46.00	14.30
13.78	H	29.20	50.00	20.80

Line Conducted Emissions Tabulated Data

Remark : "H": Hot Line, "N": Neutral Line

See next page for an overview sweep performed with quasi-peak and average detector modes.

Margin (dB) = Limits (dBuV) – Emission Level (dBuV)

Emission Level = Receiver reading + Cable loss + Insertion loss of AMN

Tested by: Hong-Kyu, Lee/ Engineer

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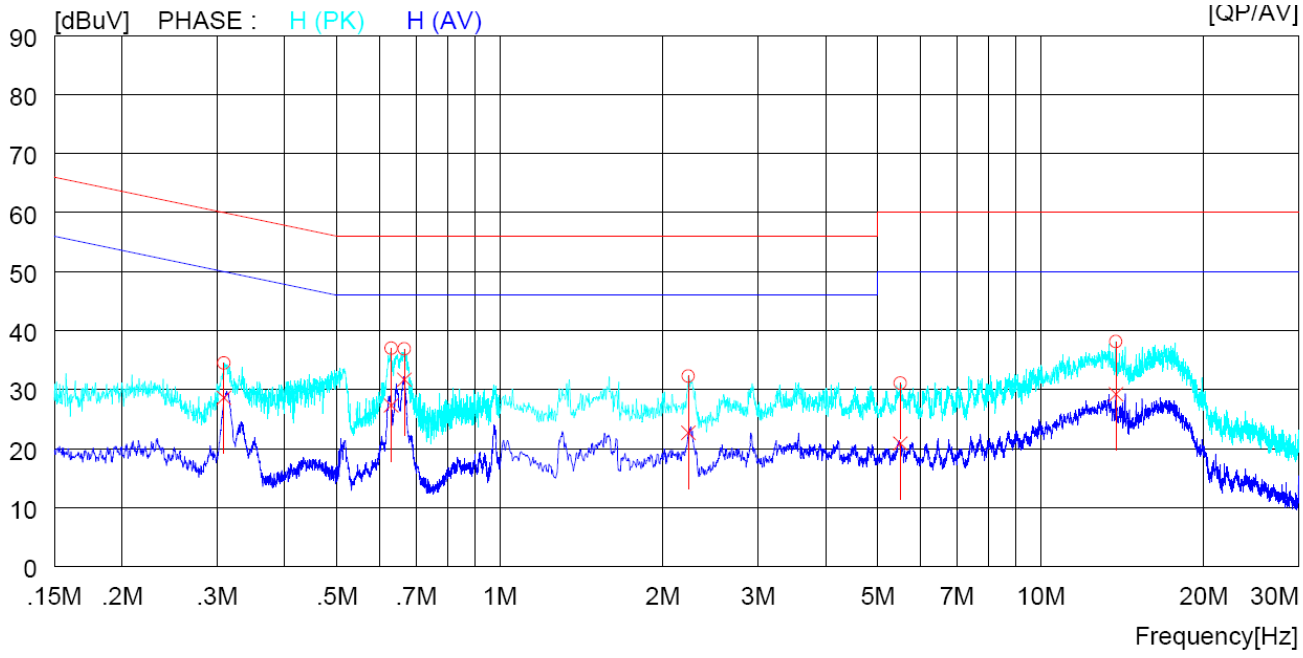
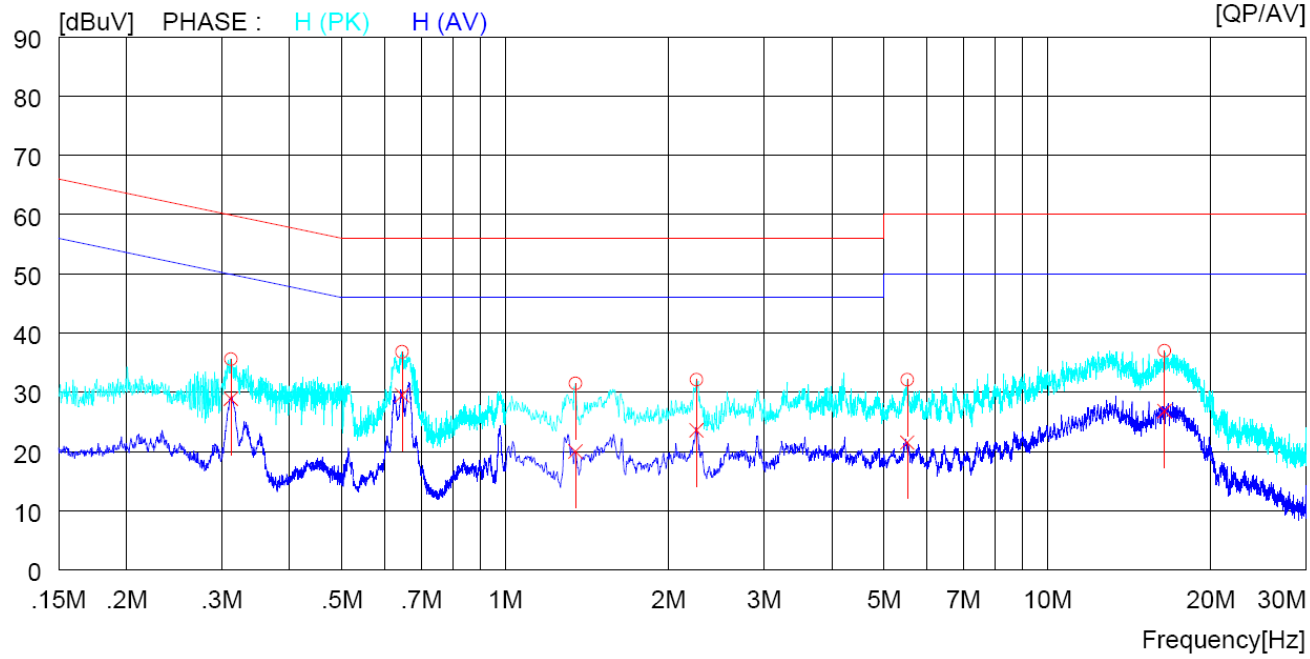
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

Graphical representation of Conducted Emission



HOT LINE



NEUTRAL LINE

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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16.5 Test data for 802.11n_HT20 RLAN Mode

-. Test Date : December 24, 2013

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

Frequency (MHz)	Line	Quasi-Peak (dBµV)		Margin (dB)
		Emission level	Q.P Limits	
0.63	N	37.40	56.00	18.60
0.66	H	37.20	56.00	18.80
2.24	N	31.90	56.00	24.10
4.20	N	33.70	56.00	22.30
13.77	N	37.70	60.00	22.30
17.00	H	38.20	60.00	21.80
Frequency (MHz)	**Line**	**Average (dBµV)**		**Margin (dB)**
		Emission level	**Limits**	
0.31	H	29.90	49.90	20.00
0.63	N	26.20	46.00	19.80
0.66	H	32.10	46.00	13.90
13.77	N	28.30	50.00	21.70

Line Conducted Emissions Tabulated Data

Remark : "H": Hot Line, "N": Neutral Line

See next page for an overview sweep performed with quasi-peak and average detector modes.

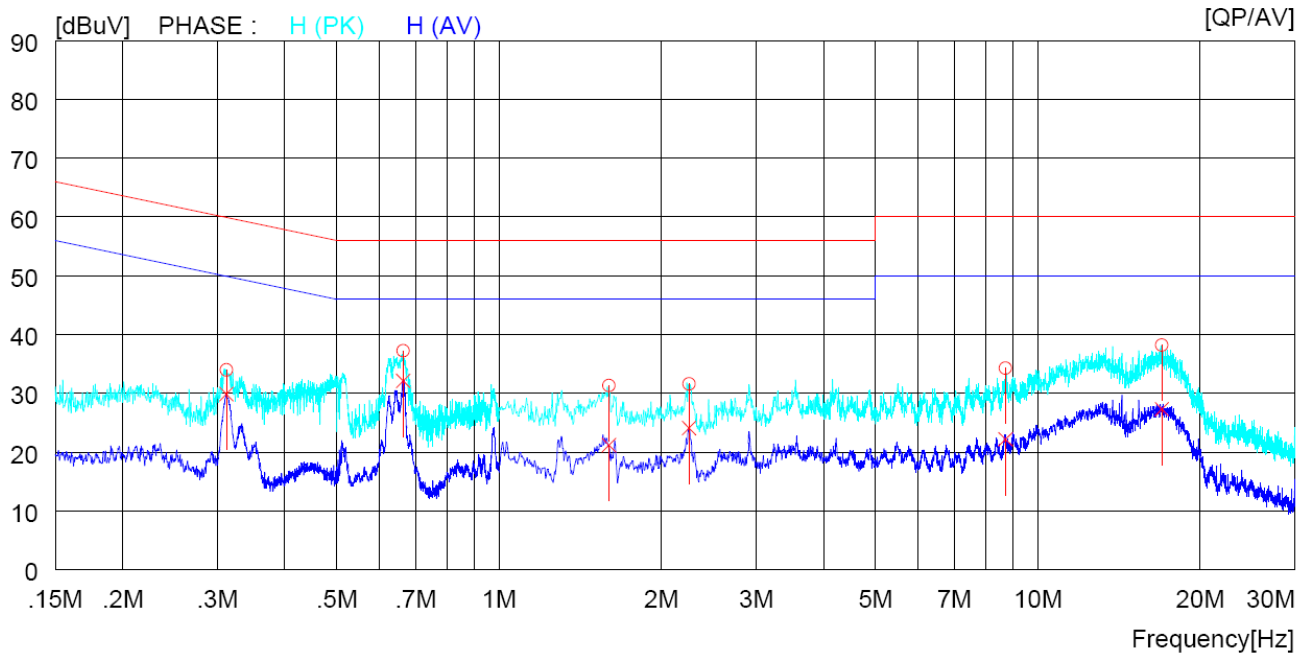
Margin (dB) = Limits (dBuV) – Emission Level (dBuV)

Emission Level = Receiver reading + Cable loss + Insertion loss of AMN

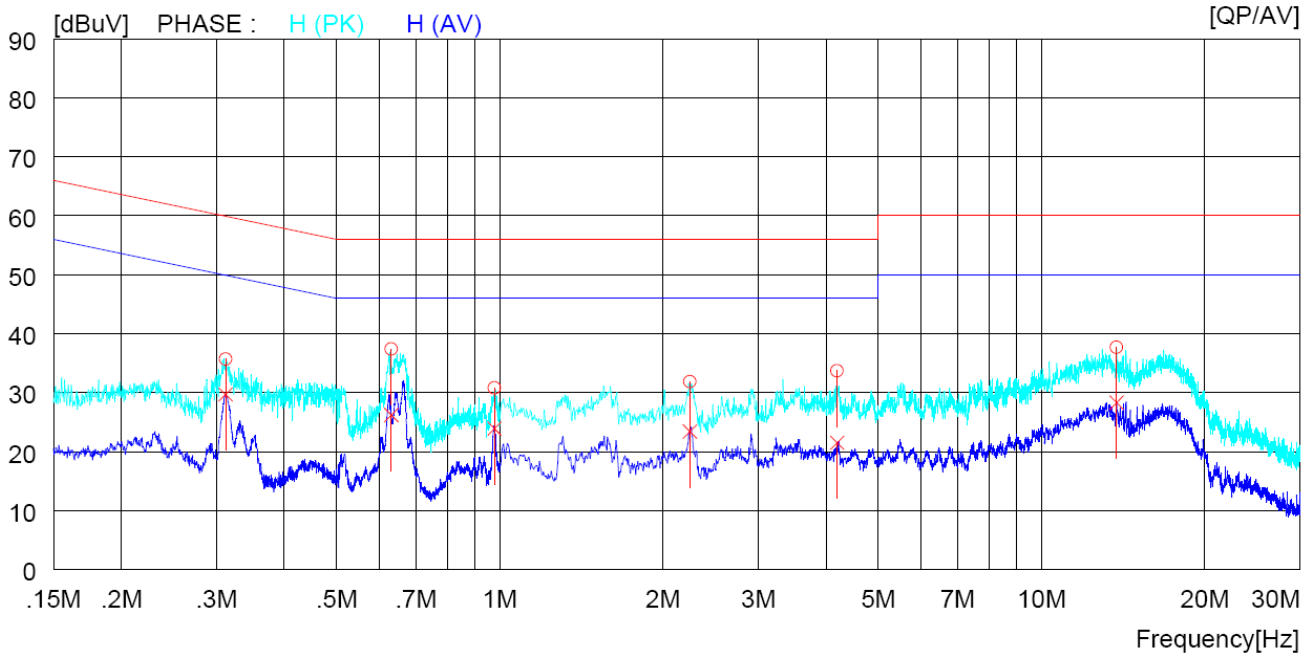
Tested by: Hong-Kyu, Lee/ Engineer

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

Graphical representation of Conducted Emission



HOT LINE



NEUTRAL LINE

HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
EMC Testing Div. : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-765-8289, FAX: 82-31-766-2904)

16.6 Test data for 802.11n_HT40 RLAN Mode

-. Test Date : December 24, 2013

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

Frequency (MHz)	Line	Quasi-Peak (dBµV)		Margin (dB)
		Emission level	Q.P Limits	
0.51	H	34.40	56.00	21.60
0.66	N	37.30	56.00	18.70
0.67	H	37.30	56.00	18.70
2.26	H	37.50	56.00	18.50
13.36	H	38.70	60.00	21.30
13.37	N	37.40	60.00	22.60
Frequency (MHz)	**Line**	**Average (dBµV)**		**Margin (dB)**
		Emission level	**Limits**	
0.31	H	29.30	49.90	20.60
0.66	N	31.90	46.00	14.10
0.67	H	30.90	46.00	15.10
2.26	H	24.10	46.00	21.90

Line Conducted Emissions Tabulated Data

Remark : "H": Hot Line, "N": Neutral Line

See next page for an overview sweep performed with quasi-peak and average detector modes.

Margin (dB) = Limits (dBuV) – Emission Level (dBuV)

Emission Level = Receiver reading + Cable loss + Insertion loss of AMN

Tested by: Hong-Kyu, Lee/ Engineer

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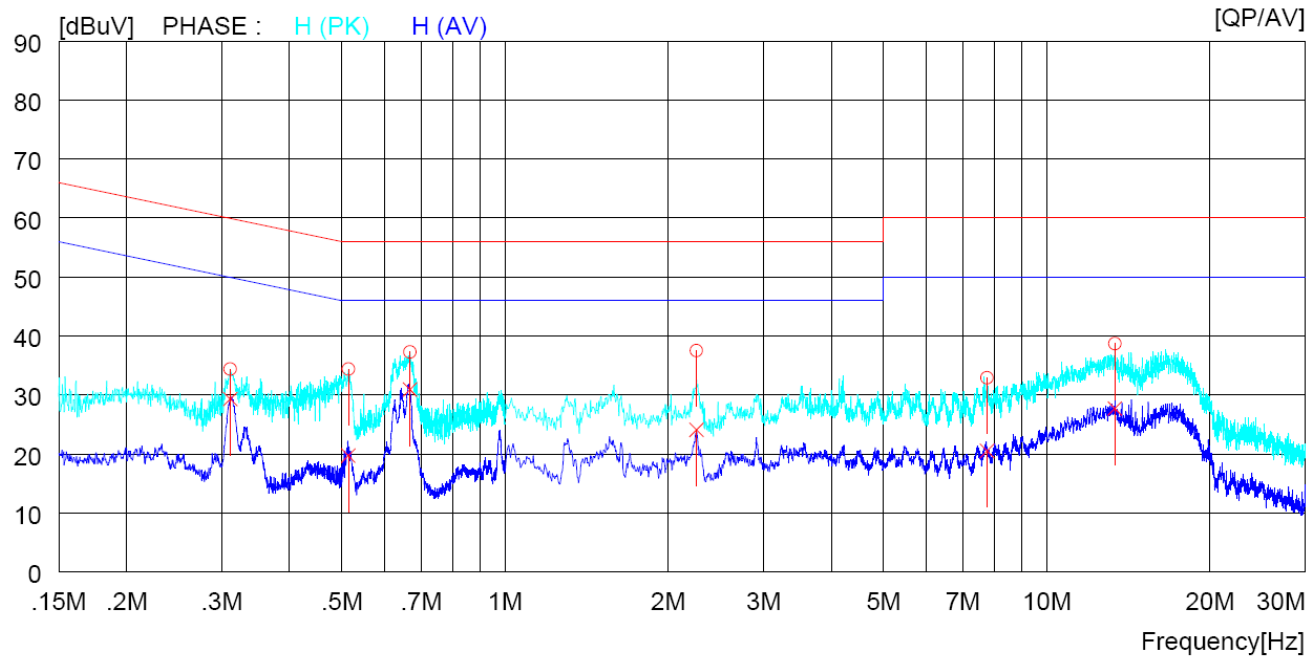
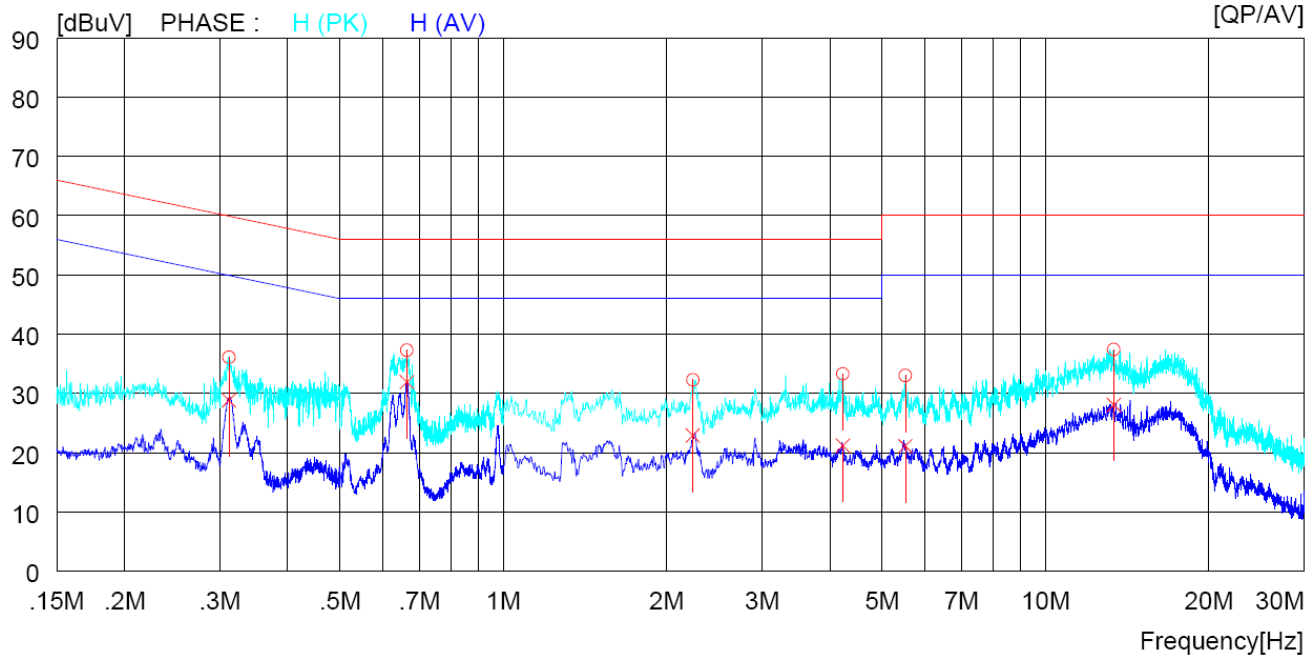
Graphical representation of Conducted Emission



HOT LINE



NEUTRAL LINE

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17 DYNAMIC FREQUENCY SELECTION (DFS)

17.1 Operating environment

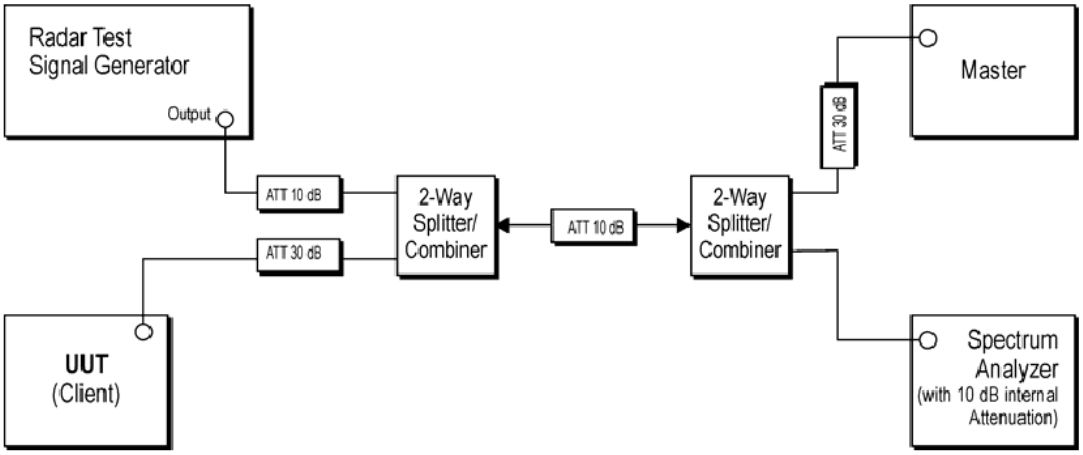
Temperature : 24 °C

Relative humidity : 45 % R.H.

17.2 Test set-ups

The FCC 06-96 and RSS-210 A9.3 describes a conducted test setup. A conducted test setup was user this testing. Figure 1 shows the typical test setup. Each one channel selected between 5 250 MHz and 5 350 MHz, 5 470 MHz and 5 725 MHz is chosen for the testing.

Figure 1. Setup for Client with injection at the Master



17.3 DFS Test Signals

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

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Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

17.4 Technical Requirement Specification

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	**Operational Mode**		
	Master	**Client (without DFS)**	**Client (with DFS)**
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	**Operational Mode**		
	Master	**Client** (without DFS)	**Client** (with DFS)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

17.5 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	FSV30	Rohde & Schwarz	Signal Analyzer	101372	May 20, 2013 (1Y)
■ -	D-05180-2	RLC Electronis Inc.	Combiner	0813	Apr. 13, 2013 (1Y)
■ -	11636B	Hewlett Packard	Combiner	12268	Nov. 05, 2013 (1Y)
■ -	SMJ100A	R/S	Signal Generator	101038	Nov. 05, 2013 (1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power supply	4030195	Sep. 03, 2013 (1Y)

All test equipment used is calibrated on a regular basis.

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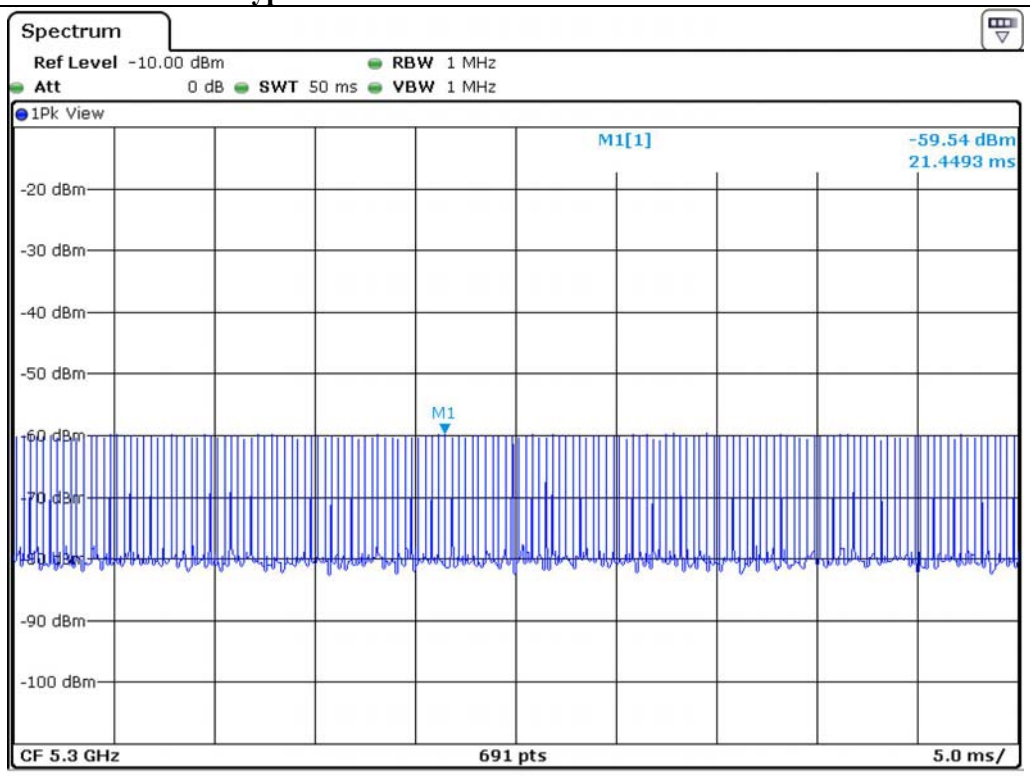
17.6 Test data for 5 250 MHz ~ 5 350 MHz Band

-. Test Date : Dec 24, 2013

Frequency (MHz)	Channel move time(s)		Channel closing transmission time(ms)	
	Measured	Limit	Measured	Limit
5 300	0.317 8	10	1.101	60

Note. Channel closing transmission time: 4 * 275.36 us = 1.101 ms

17.6.1 Plot of Radar waveform type1



Note: The calibrated conducted DFS detection threshold level is set to -59.5 dBm (-62+1+1.5=-59.5)

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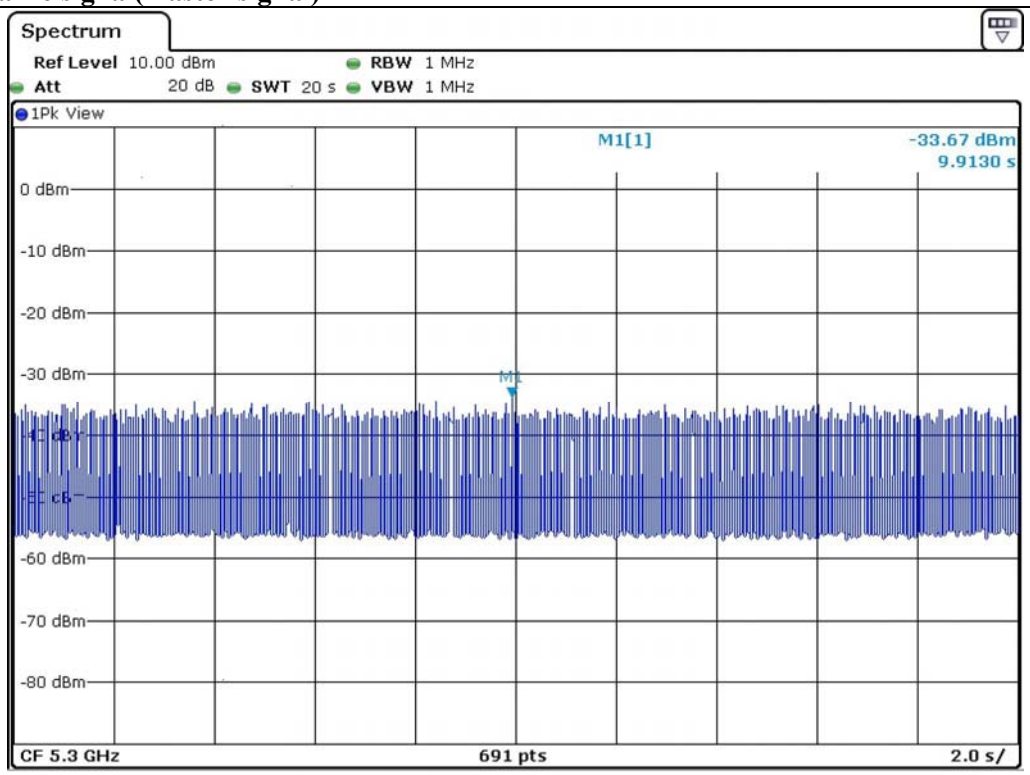
17.6.2 No traffic signal(master signal)



HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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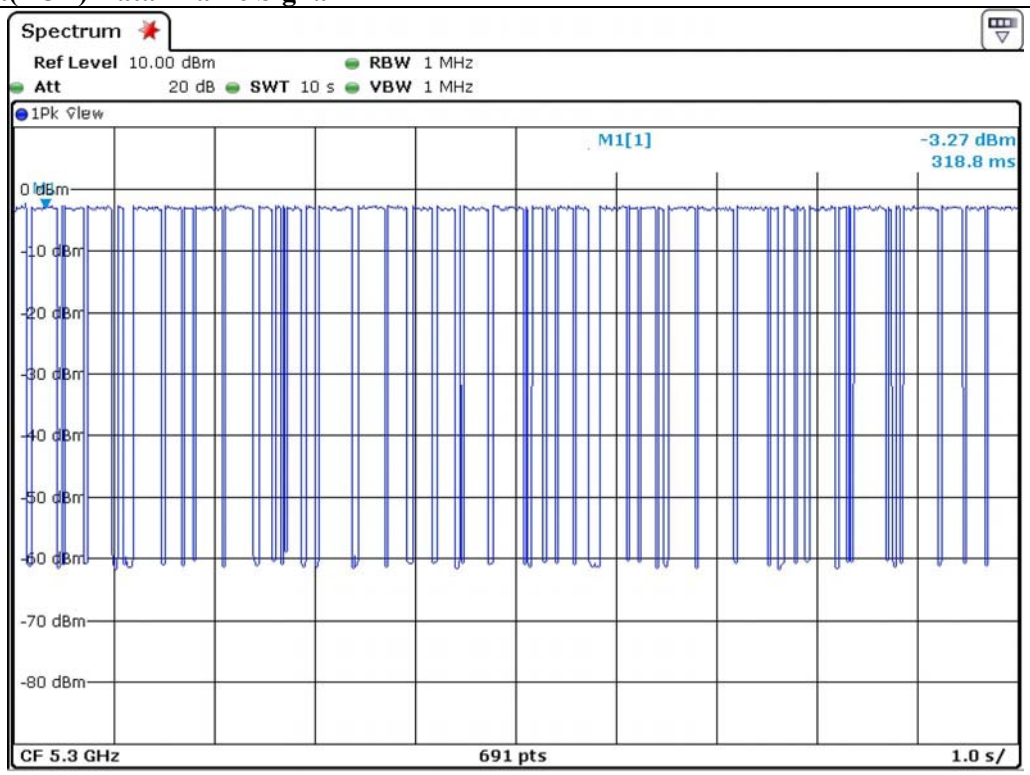
17.6.3 Client(EUT) Data Traiifc Signal



HEAD OFFICE : 301-14 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)
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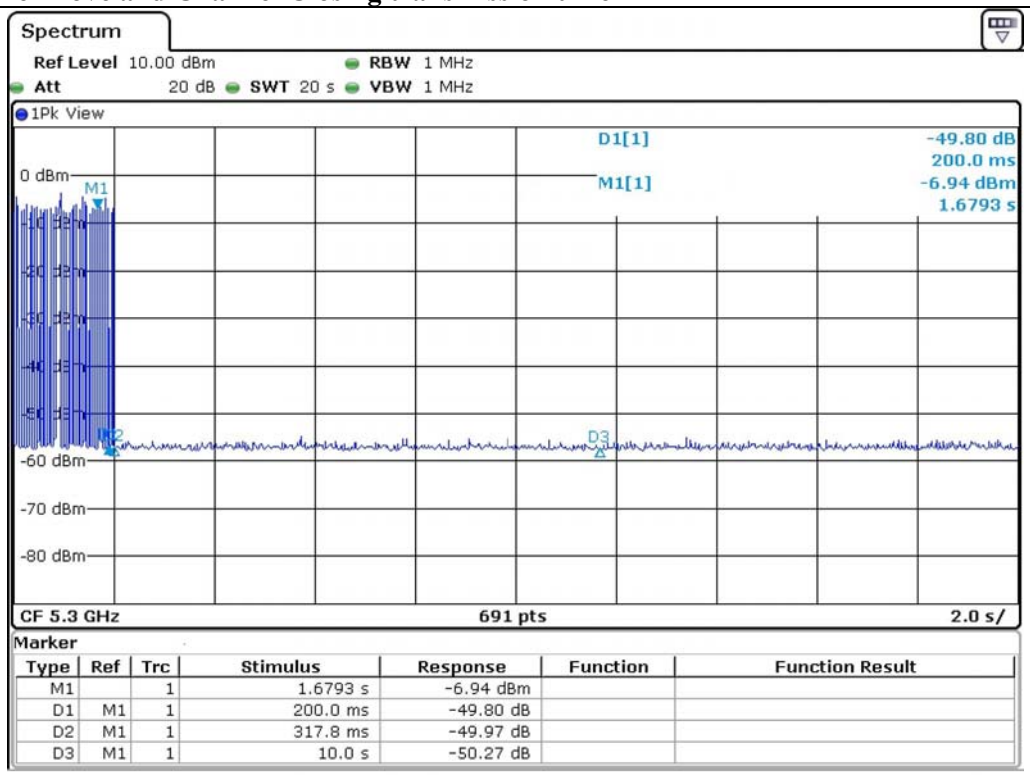
17.6.4 Channel move and Channel Closing transmission time



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	1.6793 s	-6.94 dBm		
D1	M1	1	200.0 ms	-49.80 dB		
D2	M1	1	317.8 ms	-49.97 dB		
D3	M1	1	10.0 s	-50.27 dB		

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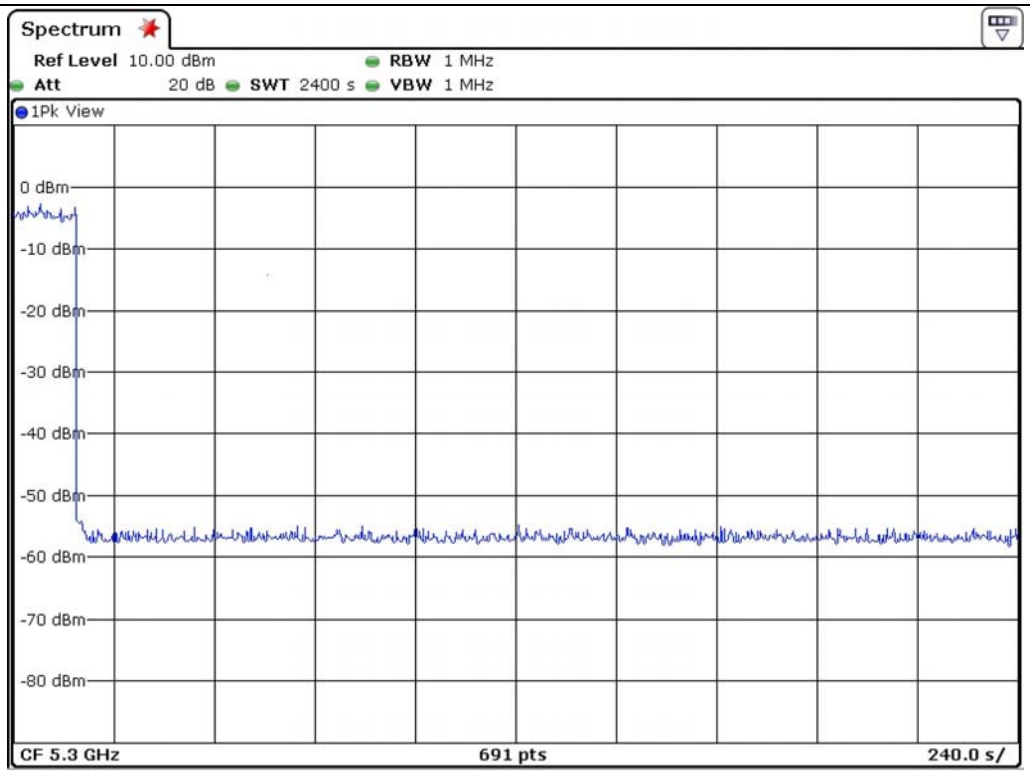
17.6.5 Non occupancy period

Associate test: During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the in-Service Monitoring

A



Plot of 30 Minutes period

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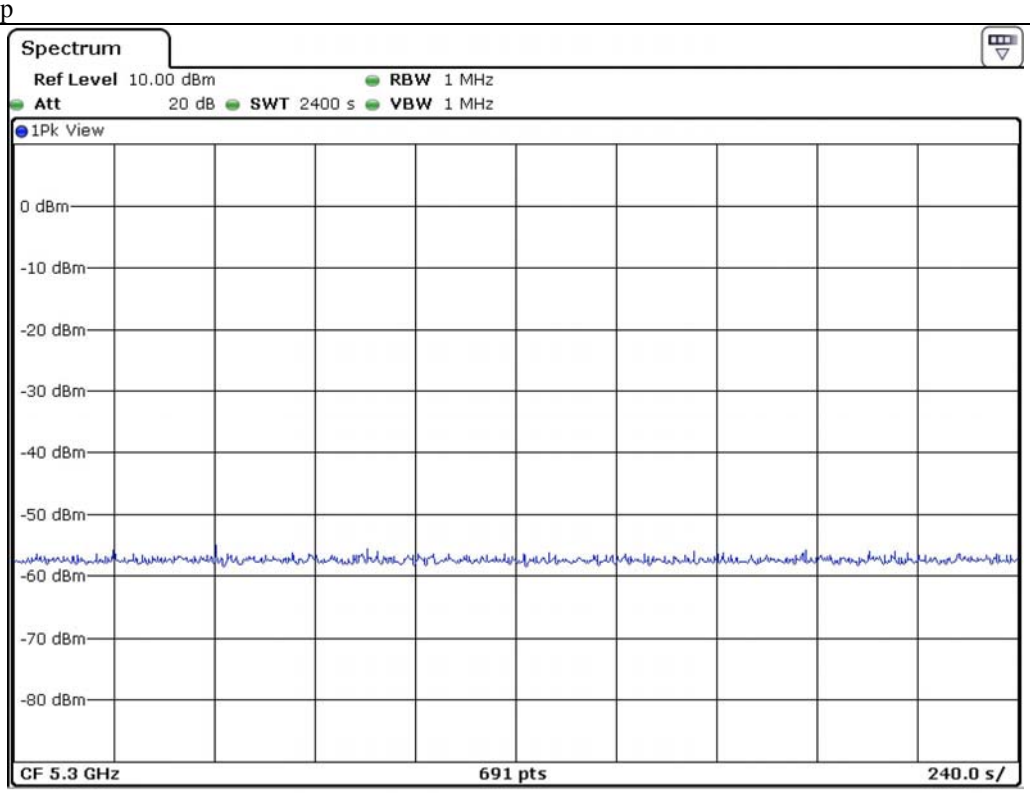
17.6.6 Non-Associated test

Master was off. During the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up



Plot of Non-Associated

17.6.7 Non-Co-Channel Test

The UUT was investigated after radar was detected the channel and mode sure no co-channel operation with radars.

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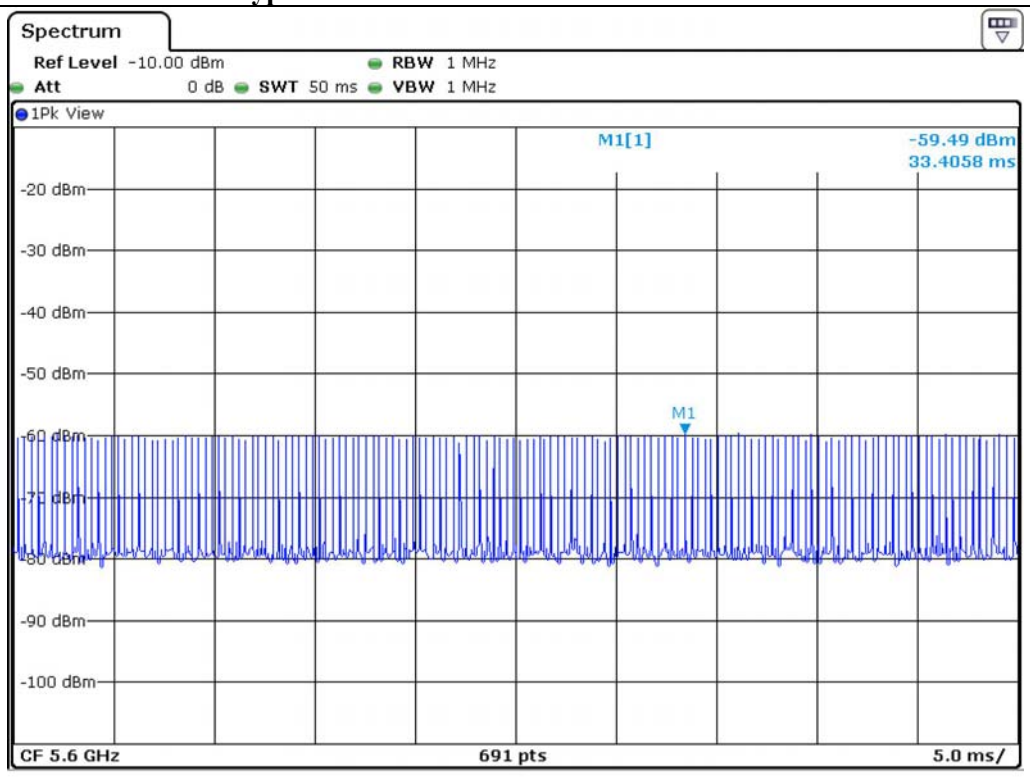
17.7 Test data for 5 470 MHz ~ 5 725 MHz Band

-. Test Date : Dec 24, 2013

Frequency (MHz)	Channel move time(s)		Channel closing transmission time(ms)	
	Measured	Limit	Measured	Limit
5 600	0.317 8	10	1.101	60

Note. Channel closing transmission time: 4 * 275.36 us = 1.101 ms

17.7.1 Plot of Radar waveform type1



Note: The calibrated conducted DFS detection threshold level is set to -59.5 dBm (-62+1+1.5=-59.5)

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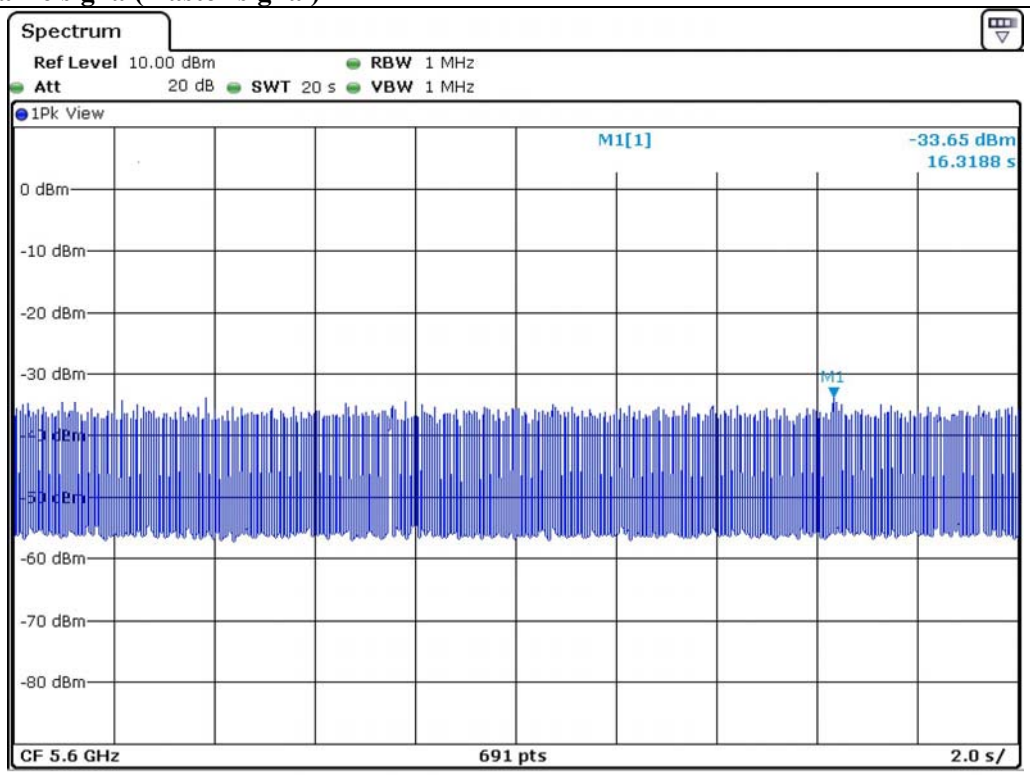
17.7.2 No traffic signal(master signal)



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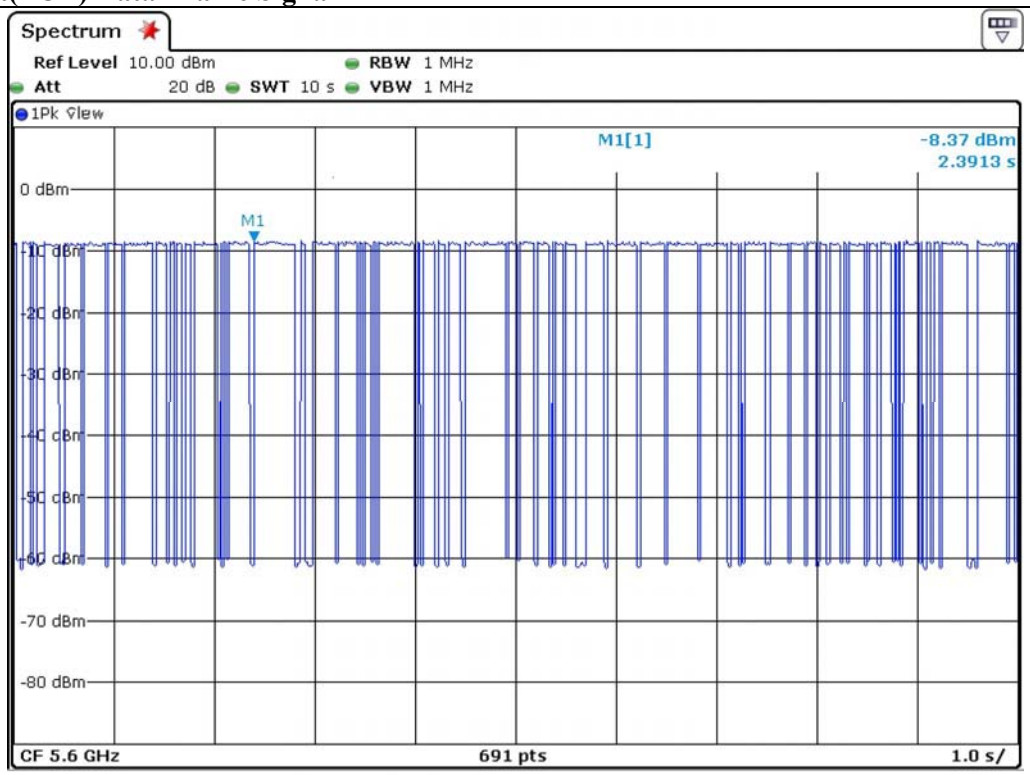
17.7.3 Client(EUT) Data Traiifc Signal



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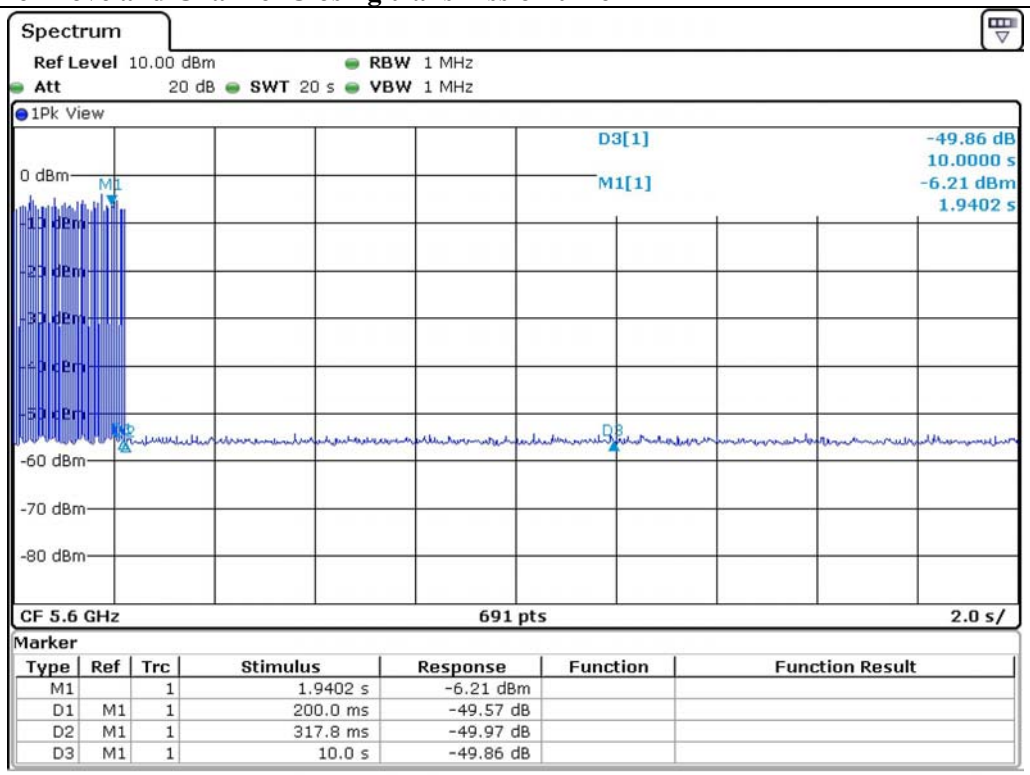
17.7.4 Channel move and Channel Closing transmission time



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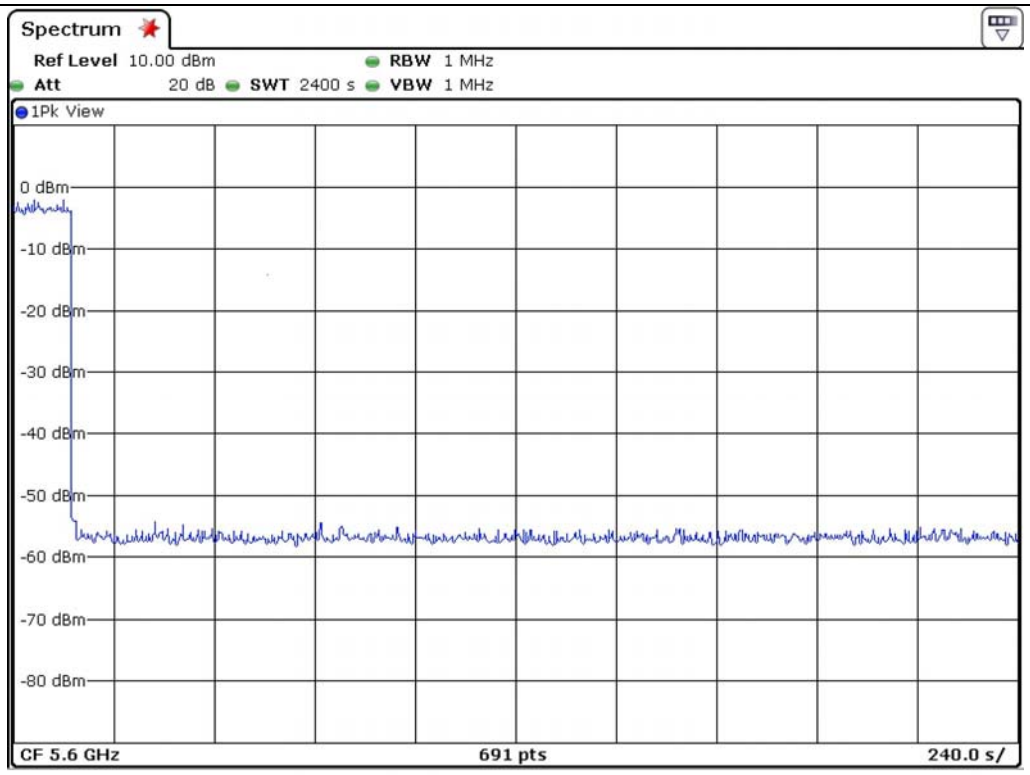
17.7.5 Non occupancy period

Associate test: During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the in-Service Monitoring

A



Plot of 30 Minutes period

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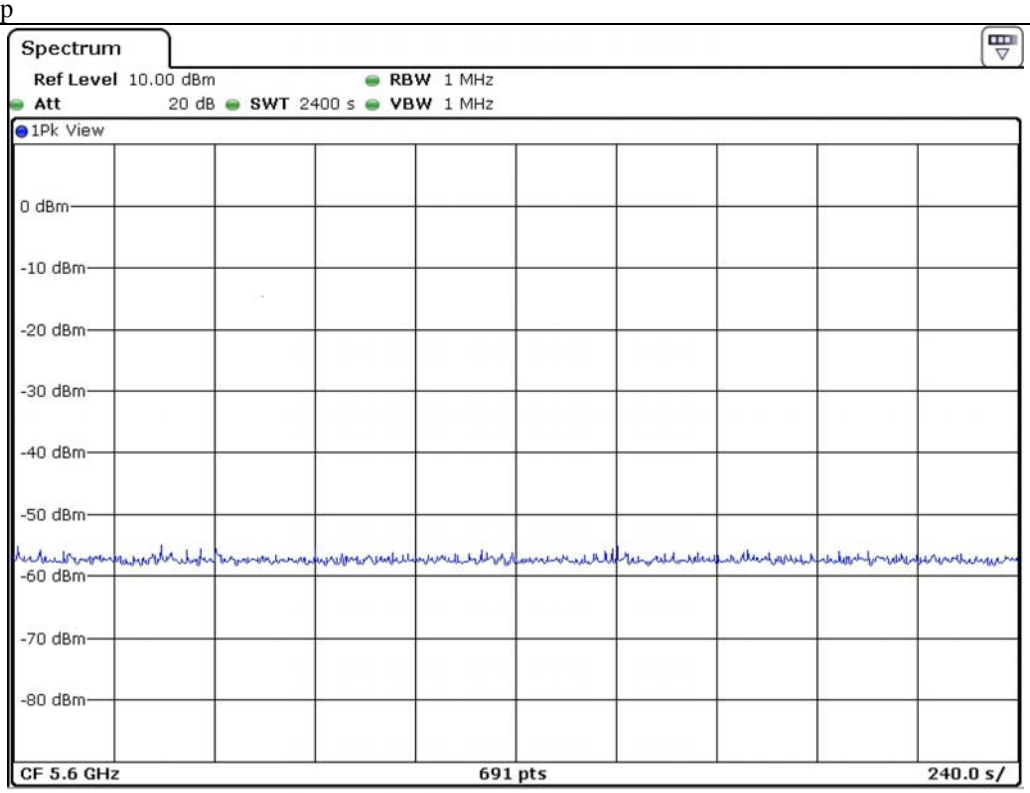
17.7.6 Non-Associated test

Master was off. During the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up



Plot of Non-Associated

17.7.7 Non-Co-Channel Test

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