Test Data for High Channel									
2 462.00	104.13	Peak	H	27.40	7.70	42.90	96.33	113.98	17.65
	93.82	Average	H				86.02	93.98	7.96
	102.58	Peak	V				94.78	113.98	19.20
	92.57	Average	V				84.77	93.98	9.21
4 924.00	47.31	Peak	H	30.80	11.80	42.50	47.41	73.98	26.57
	30.44	Average	H				30.54	53.98	23.44
	50.74	Peak	V				50.84	73.98	23.14
	33.51	Average	V				33.61	53.98	20.37

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

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)

9.6.2.2.2 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 412.00	102.06	Peak	H	27.20	7.50	42.80	93.96	113.98	20.02
	90.61	Average	H				82.51	93.98	11.47
	104.32	Peak	V				96.22	113.98	17.76
	93.85	Average	V				85.75	93.98	8.23
4 824.00	47.74	Peak	H	30.70	11.10	42.50	47.04	73.98	26.94
	30.53	Average	H				29.83	53.98	24.15
	50.28	Peak	V				49.58	73.98	24.40
	32.78	Average	V				32.08	53.98	21.90
Test Data for Middle Channel									
2 442.00	102.14	Peak	H	27.30	7.60	42.90	94.14	113.98	19.84
	91.39	Average	H				83.39	93.98	10.59
	104.53	Peak	V				96.53	113.98	17.45
	94.11	Average	V				86.11	93.98	7.87
4 884.00	47.83	Peak	H	30.70	11.20	42.50	47.23	73.98	26.75
	30.71	Average	H				30.11	53.98	23.87
	50.88	Peak	V				50.28	73.98	23.70
	33.42	Average	V				32.82	53.98	21.16

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Test Data for High Channel									
2 462.00	101.07	Peak	H	27.40	7.70	42.90	93.27	113.98	20.71
	90.78	Average	H				82.98	93.98	11.00
	103.32	Peak	V				95.52	113.98	18.46
	91.93	Average	V				84.13	93.98	9.85
4 924.00	46.92	Peak	H	30.80	11.80	42.50	47.02	73.98	26.96
	30.04	Average	H				30.14	53.98	23.84
	49.93	Peak	V				50.03	73.98	23.95
	32.82	Average	V				32.92	53.98	21.06

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 412.00	102.31	Peak	H	27.20	7.50	42.80	94.21	113.98	19.77
	92.64	Average	H				84.54	93.98	9.44
	102.38	Peak	V				94.28	113.98	19.70
	91.94	Average	V				83.84	93.98	10.14
4 824.00	45.21	Peak	H	31.10	11.80	42.50	45.61	73.98	28.37
	28.37	Average	H				28.77	53.98	25.21
	48.74	Peak	V				49.14	73.98	24.84
	30.24	Average	V				30.64	53.98	23.34
Test Data for Middle Channel									
2 442.00	103.39	Peak	H	27.30	7.60	42.90	95.39	113.98	18.59
	92.86	Average	H				84.86	93.98	9.12
	102.49	Peak	V				94.49	113.98	19.49
	92.63	Average	V				84.63	93.98	9.35
4 884.00	46.93	Peak	H	31.20	11.70	42.50	47.33	73.98	26.65
	29.74	Average	H				30.14	53.98	23.84
	50.35	Peak	V				50.75	73.98	23.23
	31.63	Average	V				32.03	53.98	21.95

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Test Data for High Channel									
2 462.00	103.74	Peak	H	27.40	7.70	42.90	95.94	113.98	18.04
	92.29	Average	H				84.49	93.98	9.49
	101.22	Peak	V				93.42	113.98	20.56
	91.43	Average	V				83.63	93.98	10.35
4 924.00	46.81	Peak	H	31.30	11.80	42.50	47.41	73.98	26.57
	29.41	Average	H				30.01	53.98	23.97
	50.11	Peak	V				50.71	73.98	23.27
	31.07	Average	V				31.67	53.98	22.31

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

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)

9.6.2.3.2 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 412.00	100.58	Peak	H	27.20	7.50	42.80	92.48	113.98	21.50
	89.75	Average	H				81.65	93.98	12.33
	102.80	Peak	V				94.70	113.98	19.28
	92.24	Average	V				84.14	93.98	9.84
4 824.00	43.17	Peak	H	31.10	11.80	42.50	43.57	73.98	30.41
	28.14	Average	H				28.54	53.98	25.44
	46.84	Peak	V				47.24	73.98	26.74
	30.11	Average	V				30.51	53.98	23.47
Test Data for Middle Channel									
2 442.00	100.74	Peak	H	27.30	7.60	42.90	92.74	113.98	21.24
	90.12	Average	H				82.12	93.98	11.86
	103.43	Peak	V				95.43	113.98	18.55
	92.95	Average	V				84.95	93.98	9.03
4 884.00	43.25	Peak	H	31.20	11.70	42.50	43.65	73.98	30.33
	29.39	Average	H				29.79	53.98	24.19
	47.77	Peak	V				48.17	73.98	25.81
	31.80	Average	V				32.20	53.98	21.78

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Test Data for High Channel									
2 462.00	99.08	Peak	H	27.40	7.70	42.90	91.28	113.98	22.70
	89.27	Average	H				81.47	93.98	12.51
	103.02	Peak	V				95.22	113.98	18.76
	92.92	Average	V				85.12	93.98	8.86
4 924.00	42.41	Peak	H	31.30	11.80	42.50	43.01	73.98	30.97
	29.07	Average	H				29.67	53.98	24.31
	47.25	Peak	V				47.85	73.98	26.13
	30.77	Average	V				31.37	53.98	22.61

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.3.3 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 412.00	102.64	Peak	H	27.20	7.50	42.80	94.54	113.98	19.44
	92.89	Average	H				84.79	93.98	9.19
	102.63	Peak	V				94.53	113.98	19.45
	92.11	Average	V				84.01	93.98	9.97
4 824.00	45.53	Peak	H	31.10	11.80	42.50	45.93	73.98	28.05
	28.70	Average	H				29.10	53.98	24.88
	48.94	Peak	V				49.34	73.98	24.64
	30.40	Average	V				30.80	53.98	23.18
Test Data for Middle Channel									
2 442.00	105.40	Peak	H	27.30	7.60	42.90	97.40	113.98	16.58
	95.16	Average	H				87.16	93.98	6.82
	104.64	Peak	V				96.64	113.98	17.34
	94.76	Average	V				86.76	93.98	7.22
4 884.00	49.36	Peak	H	31.20	11.70	42.50	49.76	73.98	24.22
	32.24	Average	H				32.64	53.98	21.34
	52.49	Peak	V				52.89	73.98	21.09
	33.99	Average	V				34.39	53.98	19.59

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Test Data for High Channel									
2 462.00	105.25	Peak	H	27.40	7.70	42.90	97.45	113.98	16.53
	93.77	Average	H				85.97	93.98	8.01
	102.85	Peak	V				95.05	113.98	18.93
	93.20	Average	V				85.40	93.98	8.58
4 924.00	48.29	Peak	H	31.30	11.80	42.50	48.89	73.98	25.09
	30.93	Average	H				31.53	53.98	22.45
	51.55	Peak	V				52.15	73.98	21.83
	32.39	Average	V				32.99	53.98	20.99

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 422.00	98.82	Peak	H	27.20	7.50	42.80	90.72	113.98	23.26
	86.07	Average	H				77.97	93.98	16.01
	97.86	Peak	V				89.76	113.98	24.22
	85.10	Average	V				77.00	93.98	16.98
4 844.00	41.04	Peak	H	31.10	11.80	42.50	41.44	73.98	32.54
	29.97	Average	H				30.37	53.98	23.61
	45.38	Peak	V				45.78	73.98	28.20
	29.84	Average	V				30.24	53.98	23.74
Test Data for Middle Channel									
2 442.00	100.76	Peak	H	27.30	7.60	42.90	92.76	113.98	21.22
	87.81	Average	H				79.81	93.98	14.17
	99.89	Peak	V				91.89	113.98	22.09
	86.28	Average	V				78.28	93.98	15.70
4 884.00	43.72	Peak	H	31.20	11.70	42.50	44.12	73.98	29.86
	29.67	Average	H				30.07	53.98	23.91
	48.07	Peak	V				48.47	73.98	25.51
	29.35	Average	V				29.75	53.98	24.23

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Test Data for High Channel									
2 452.00	98.92	Peak	H	27.40	7.70	42.90	91.12	113.98	22.86
	85.63	Average	H				77.83	93.98	16.15
	97.19	Peak	V				89.39	113.98	24.59
	84.47	Average	V				76.67	93.98	17.31
4 904.00	40.77	Peak	H	31.30	11.80	42.50	41.37	73.98	32.61
	29.36	Average	H				29.96	53.98	24.02
	44.74	Peak	V				45.34	73.98	28.64
	29.17	Average	V				29.77	53.98	24.21

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.4.2 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 422.00	98.41	Peak	H	27.20	7.50	42.80	90.31	113.98	23.67
	87.38	Average	H				79.28	93.98	14.70
	101.54	Peak	V				93.44	113.98	20.54
	90.21	Average	V				82.11	93.98	11.87
4 844.00	40.74	Peak	H	31.10	11.80	42.50	41.14	73.98	32.84
	29.55	Average	H				29.95	53.98	24.03
	45.14	Peak	V				45.54	73.98	28.44
	29.39	Average	V				29.79	53.98	24.19
Test Data for Middle Channel									
2 442.00	99.48	Peak	H	27.30	7.60	42.90	91.48	113.98	22.50
	87.38	Average	H				79.38	93.98	14.60
	102.52	Peak	V				94.52	113.98	19.46
	90.75	Average	V				82.75	93.98	11.23
4 884.00	42.25	Peak	H	31.20	11.70	42.50	42.65	73.98	31.33
	29.22	Average	H				29.62	53.98	24.36
	51.14	Peak	V				51.54	73.98	22.44
	32.28	Average	V				32.68	53.98	21.30

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Test Data for High Channel									
2 452.00	97.27	Peak	H	27.40	7.70	42.90	89.47	113.98	24.51
	86.44	Average	H				78.64	93.98	15.34
	100.65	Peak	V				92.85	113.98	21.13
	89.39	Average	V				81.59	93.98	12.39
4 904.00	40.25	Peak	H	31.30	11.80	42.50	40.85	73.98	33.13
	29.22	Average	H				29.82	53.98	24.16
	45.96	Peak	V				46.56	73.98	27.42
	30.89	Average	V				31.49	53.98	22.49

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

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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9.6.2.4.3 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

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
2 422.00	99.56	Peak	H	27.20	7.50	42.80	91.46	113.98	22.52
	86.75	Average	H				78.65	93.98	15.33
	98.58	Peak	V				90.48	113.98	23.50
	85.72	Average	V				77.62	93.98	16.36
4 844.00	41.67	Peak	H	31.10	11.80	42.50	42.07	73.98	31.91
	30.63	Average	H				31.03	53.98	22.95
	45.96	Peak	V				46.36	73.98	27.62
	30.38	Average	V				30.78	53.98	23.20
Test Data for Middle Channel									
2 442.00	103.18	Peak	H	27.30	7.60	42.90	95.18	113.98	18.80
	90.54	Average	H				82.54	93.98	11.44
	102.51	Peak	V				94.51	113.98	19.47
	88.86	Average	V				80.86	93.98	13.12
4 884.00	46.46	Peak	H	31.20	11.70	42.50	46.86	73.98	27.12
	32.50	Average	H				32.90	53.98	21.08
	50.59	Peak	V				50.99	73.98	22.99
	32.09	Average	V				32.49	53.98	21.49

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Test Data for High Channel									
2 452.00	100.84	Peak	H	27.40	7.70	42.90	93.04	113.98	20.94
	87.54	Average	H				79.74	93.98	14.24
	99.29	Peak	V				91.49	113.98	22.49
	86.69	Average	V				78.89	93.98	15.09
4 904.00	42.56	Peak	H	31.30	11.80	42.50	43.16	73.98	30.82
	31.21	Average	H				31.81	53.98	22.17
	46.56	Peak	V				47.16	73.98	26.82
	30.87	Average	V				31.47	53.98	22.51

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.5 Test data for 802.11a RLAN Mode

9.6.2.5.1 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
5 745.00	84.87	Peak	H	32.10	12.20	42.20	86.97	113.98	27.01
	73.51	Average	H				75.61	93.98	18.37
	90.87	Peak	V				92.97	113.98	21.01
	79.60	Average	V				81.70	93.98	12.28
11 490.00	39.42	Peak	H	39.50	17.50	42.70	53.72	73.98	20.26
	30.41	Average	H				44.71	53.98	9.27
	39.28	Peak	V				53.58	73.98	20.40
	30.24	Average	V				44.54	53.98	9.44
Test Data for Middle Channel									
5 785.00	85.61	Peak	H	32.10	12.20	42.20	87.71	113.98	26.27
	74.19	Average	H				76.29	93.98	17.69
	91.59	Peak	V				93.69	113.98	20.29
	80.22	Average	V				82.32	93.98	11.66
11 570.00	40.05	Peak	H	39.50	17.50	42.70	54.35	73.98	19.63
	31.07	Average	H				45.37	53.98	8.61
	39.86	Peak	V				54.16	73.98	19.82
	30.78	Average	V				45.08	53.98	8.90

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Test Data for High Channel									
5 825.00	85.20	Peak	H	32.10	12.20	42.20	87.30	113.98	26.68
	73.76	Average	H				75.86	93.98	18.12
	91.12	Peak	V				93.22	113.98	20.76
	79.77	Average	V				81.87	93.98	12.11
11 650.00	39.74	Peak	H	39.50	17.50	42.70	54.04	73.98	19.94
	30.74	Average	H				45.04	53.98	8.94
	39.48	Peak	V				53.78	73.98	20.20
	30.40	Average	V				44.70	53.98	9.28

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.5.2 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 745.00	85.61	Peak	H	32.10	12.20	42.20	87.71	113.98	26.27
	74.19	Average	H				76.29	93.98	17.69
	91.59	Peak	V				93.69	113.98	20.29
	80.22	Average	V				82.32	93.98	11.66
11 490.00	40.05	Peak	H	39.50	17.50	42.70	54.35	73.98	19.63
	31.07	Average	H				45.37	53.98	8.61
	39.86	Peak	V				54.16	73.98	19.82
	30.78	Average	V				45.08	53.98	8.90
Test Data for Middle Channel									
5 785.00	88.03	Peak	H	32.10	12.20	42.20	90.13	113.98	23.85
	76.92	Average	H				79.02	93.98	14.96
	94.21	Peak	V				96.31	113.98	17.67
	82.80	Average	V				84.90	93.98	9.08
11 570.00	42.79	Peak	H	39.50	17.50	42.70	57.09	73.98	16.89
	33.90	Average	H				48.20	53.98	5.78
	42.38	Peak	V				56.68	73.98	17.30
	33.52	Average	V				47.82	53.98	6.16

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Test Data for High Channel									
5 825.00	87.12	Peak	H	32.10	12.20	42.20	89.22	113.98	24.76
	75.67	Average	H				77.77	93.98	16.21
	93.22	Peak	V				95.32	113.98	18.66
	81.99	Average	V				84.09	93.98	9.89
11 650.00	41.53	Peak	H	39.50	17.50	42.70	55.83	73.98	18.15
	32.59	Average	H				46.89	53.98	7.09
	41.30	Peak	V				55.60	73.98	18.38
	32.10	Average	V				46.40	53.98	7.58

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.6 Test data for 802.11n_HT20 RLAN Mode

9.6.2.6.1 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 745.00	82.45	Peak	H	32.10	12.20	42.20	84.55	113.98	29.43
	70.78	Average	H				72.88	93.98	21.10
	88.25	Peak	V				90.35	113.98	23.63
	77.02	Average	V				79.12	93.98	14.86
11 490.00	39.68	Peak	H	39.50	17.50	42.70	53.98	73.98	20.00
	30.83	Average	H				45.13	53.98	8.85
	39.76	Peak	V				54.06	73.98	19.92
	30.50	Average	V				44.80	53.98	9.18
Test Data for Middle Channel									
5 785.00	83.76	Peak	H	32.10	12.20	42.20	85.86	113.98	28.12
	72.25	Average	H				74.35	93.98	19.63
	89.96	Peak	V				92.06	113.98	21.92
	78.34	Average	V				80.44	93.98	13.54
11 570.00	40.18	Peak	H	39.50	17.50	42.70	54.48	73.98	19.50
	30.14	Average	H				44.44	53.98	9.54
	40.12	Peak	V				54.42	73.98	19.56
	30.26	Average	V				44.56	53.98	9.42

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Test Data for High Channel									
5 825.00	82.98	Peak	H	32.10	12.20	42.20	85.08	113.98	28.90
	71.59	Average	H				73.69	93.98	20.29
	88.83	Peak	V				90.93	113.98	23.05
	76.94	Average	V				79.04	93.98	14.94
11 650.00	40.33	Peak	H	39.50	17.50	42.70	54.63	73.98	19.35
	30.30	Average	H				44.60	53.98	9.38
	40.85	Peak	V				55.15	73.98	18.83
	31.66	Average	V				45.96	53.98	8.02

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.6.2 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 745.00	82.78	Peak	H	32.10	12.20	42.20	84.88	113.98	29.10
	71.03	Average	H				73.13	93.98	20.85
	88.50	Peak	V				90.60	113.98	23.38
	77.19	Average	V				79.29	93.98	14.69
11 490.00	40.00	Peak	H	39.50	17.50	42.70	54.30	73.98	19.68
	31.16	Average	H				45.46	53.98	8.52
	39.96	Peak	V				54.26	73.98	19.72
	30.66	Average	V				44.96	53.98	9.02
Test Data for Middle Channel									
5 785.00	85.77	Peak	H	32.10	12.20	42.20	87.87	113.98	26.11
	74.55	Average	H				76.65	93.98	17.33
	92.11	Peak	V				94.21	113.98	19.77
	80.47	Average	V				82.57	93.98	11.41
11 570.00	42.61	Peak	H	39.50	17.50	42.70	56.91	73.98	17.07
	32.64	Average	H				46.94	53.98	7.04
	42.26	Peak	V				56.56	73.98	17.42
	32.62	Average	V				46.92	53.98	7.06

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Test Data for High Channel									
5 825.00	84.49	Peak	H	32.10	12.20	42.20	86.59	113.98	27.39
	73.07	Average	H				75.17	93.98	18.81
	90.46	Peak	V				92.56	113.98	21.42
	78.71	Average	V				80.81	93.98	13.17
11 650.00	41.81	Peak	H	39.50	17.50	42.70	56.11	73.98	17.87
	31.82	Average	H				46.12	53.98	7.86
	42.29	Peak	V				56.59	73.98	17.39
	32.98	Average	V				47.28	53.98	6.70

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.6.3 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 745.00	83.72	Peak	H	32.10	12.20	42.20	85.82	113.98	28.16
	71.81	Average	H				73.91	93.98	20.07
	89.36	Peak	V				91.46	113.98	22.52
	78.01	Average	V				80.11	93.98	13.87
11 490.00	40.59	Peak	H	39.50	17.50	42.70	54.89	73.98	19.09
	31.72	Average	H				46.02	53.98	7.96
	40.77	Peak	V				55.07	73.98	18.91
	31.40	Average	V				45.70	53.98	8.28
Test Data for Middle Channel									
5 785.00	86.13	Peak	H	32.10	12.20	42.20	88.23	113.98	25.75
	75.37	Average	H				77.47	93.98	16.51
	92.94	Peak	V				95.04	113.98	18.94
	81.21	Average	V				83.31	93.98	10.67
11 570.00	43.17	Peak	H	39.50	17.50	42.70	57.47	73.98	16.51
	33.47	Average	H				47.77	53.98	6.21
	42.97	Peak	V				57.27	73.98	16.71
	33.25	Average	V				47.55	53.98	6.43

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Test Data for High Channel									
5 825.00	85.06	Peak	H	32.10	12.20	42.20	87.16	113.98	26.82
	73.62	Average	H				75.72	93.98	18.26
	90.76	Peak	V				92.86	113.98	21.12
	79.47	Average	V				81.57	93.98	12.41
11 650.00	42.63	Peak	H	39.50	17.50	42.70	56.93	73.98	17.05
	32.66	Average	H				46.96	53.98	7.02
	42.92	Peak	V				57.22	73.98	16.76
	33.69	Average	V				47.99	53.98	5.99

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.7 Test data for 802.11n_HT40 RLAN Mode

9.6.2.7.1 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 755.00	82.98	Peak	H	32.10	12.20	42.20	85.08	113.98	28.90
	70.16	Average	H				72.26	93.98	21.72
	90.25	Peak	V				92.35	113.98	21.63
	77.21	Average	V				79.31	93.98	14.67
11 510.00	40.74	Peak	H	39.50	17.50	42.70	55.04	73.98	18.94
	30.77	Average	H				45.07	53.98	8.91
	41.11	Peak	V				55.41	73.98	18.57
	31.83	Average	V				46.13	53.98	7.85
Test Data for High Channel									
5 795.00	82.06	Peak	H	32.10	12.20	42.20	84.16	113.98	29.82
	68.51	Average	H				70.61	93.98	23.37
	90.56	Peak	V				92.66	113.98	21.32
	77.21	Average	V				79.31	93.98	14.67
11 590.00	41.12	Peak	H	39.50	17.50	42.70	55.42	73.98	18.56
	31.25	Average	H				45.55	53.98	8.43
	41.86	Peak	V				56.16	73.98	17.82
	30.08	Average	V				44.38	53.98	9.60

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.7.2 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 755.00	83.51	Peak	H	32.10	12.20	42.20	85.61	113.98	28.37
	70.90	Average	H				73.00	93.98	20.98
	90.88	Peak	V				92.98	113.98	21.00
	77.98	Average	V				80.08	93.98	13.90
11 510.00	41.37	Peak	H	39.50	17.50	42.70	55.67	73.98	18.31
	31.39	Average	H				45.69	53.98	8.29
	41.63	Peak	V				55.93	73.98	18.05
	32.61	Average	V				46.91	53.98	7.07
Test Data for High Channel									
5 795.00	82.89	Peak	H	32.10	12.20	42.20	84.99	113.98	28.99
	69.33	Average	H				71.43	93.98	22.55
	91.03	Peak	V				93.13	113.98	20.85
	78.06	Average	V				80.16	93.98	13.82
11 590.00	41.56	Peak	H	39.50	17.50	42.70	55.86	73.98	18.12
	31.94	Average	H				46.24	53.98	7.74
	42.60	Peak	V				56.90	73.98	17.08
	30.90	Average	V				45.20	53.98	8.78

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

Tested by: Hong-Kyu, Lee/ Engineer

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9.6.2.7.3 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

-. Frequency range : 1 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Result : PASSED

Frequency (GHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel									
5 755.00	84.07	Peak	H	32.10	12.20	42.20	86.17	113.98	27.81
	71.73	Average	H				73.83	93.98	20.15
	91.59	Peak	V				93.69	113.98	20.29
	78.61	Average	V				80.71	93.98	13.27
11 510.00	41.94	Peak	H	39.50	17.50	42.70	56.24	73.98	17.74
	31.94	Average	H				46.24	53.98	7.74
	41.93	Peak	V				56.23	73.98	17.75
	33.37	Average	V				47.67	53.98	6.31
Test Data for High Channel									
5 795.00	83.48	Peak	H	32.10	12.20	42.20	85.58	113.98	28.40
	69.89	Average	H				71.99	93.98	21.99
	91.84	Peak	V				93.94	113.98	20.04
	78.80	Average	V				80.90	93.98	13.08
11 590.00	41.92	Peak	H	39.50	17.50	42.70	56.22	73.98	17.76
	32.76	Average	H				47.06	53.98	6.92
	43.43	Peak	V				57.73	73.98	16.25
	31.64	Average	V				45.94	53.98	8.04

Tabulated test data for Restricted Band

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

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

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain

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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10. SPURIOUS EMISSION - RECEIVER

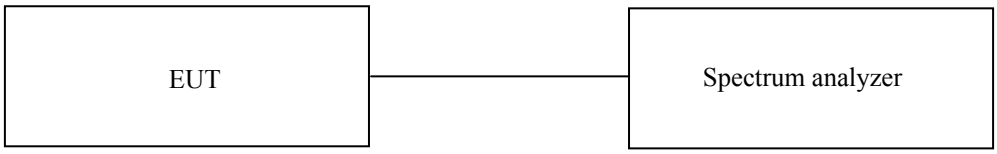
10.1 Operating environment

Temperature : 20 °C

Relative humidity : 45 % R.H.

10.2 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.



10.3 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.

10.4 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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10.5 Test data for 802.11b WLAN Mode

10.5.1 Test data for Antenna 0 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-82.65	0.19	-82.46
3 233.00	-60.24	0.51	-59.73
Test result for Middle Channel			
719.00	-82.50	0.19	-82.31
3 270.00	-59.51	0.51	-59.00
Test result for High Channel			
719.00	-82.70	0.19	-82.51
3 270.00	-59.30	0.51	-58.79

Tested by: Hong-Kyu, Lee/ Engineer

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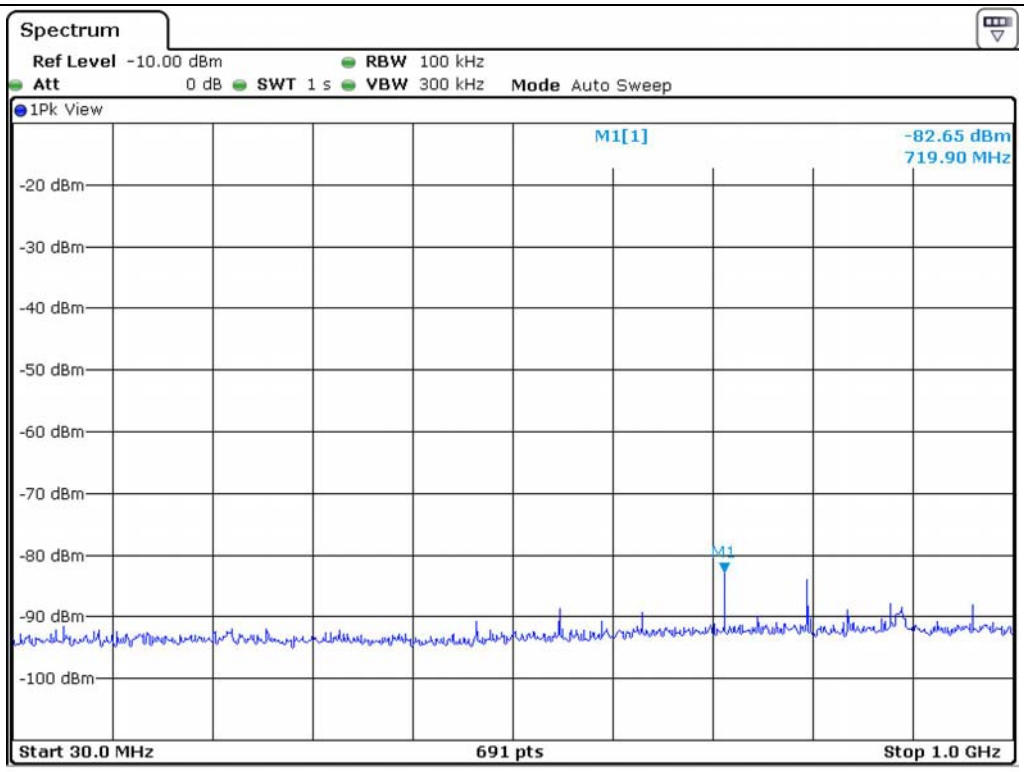
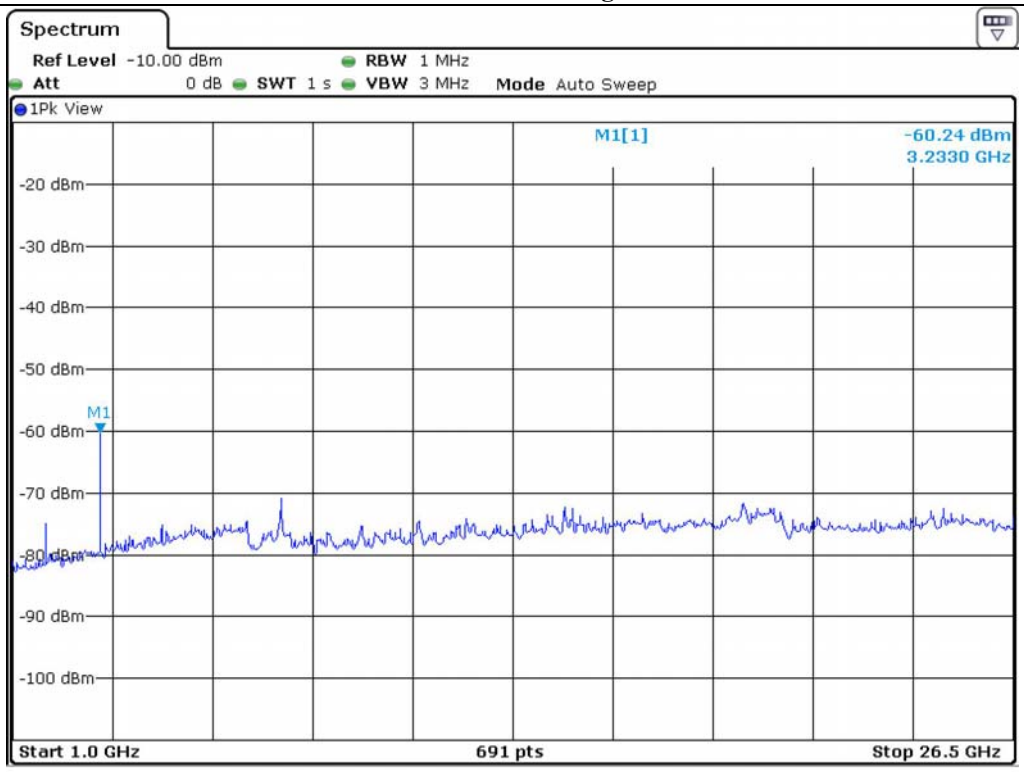


Low Channel - Receiving Mode



Low Channel - Receiving Mode

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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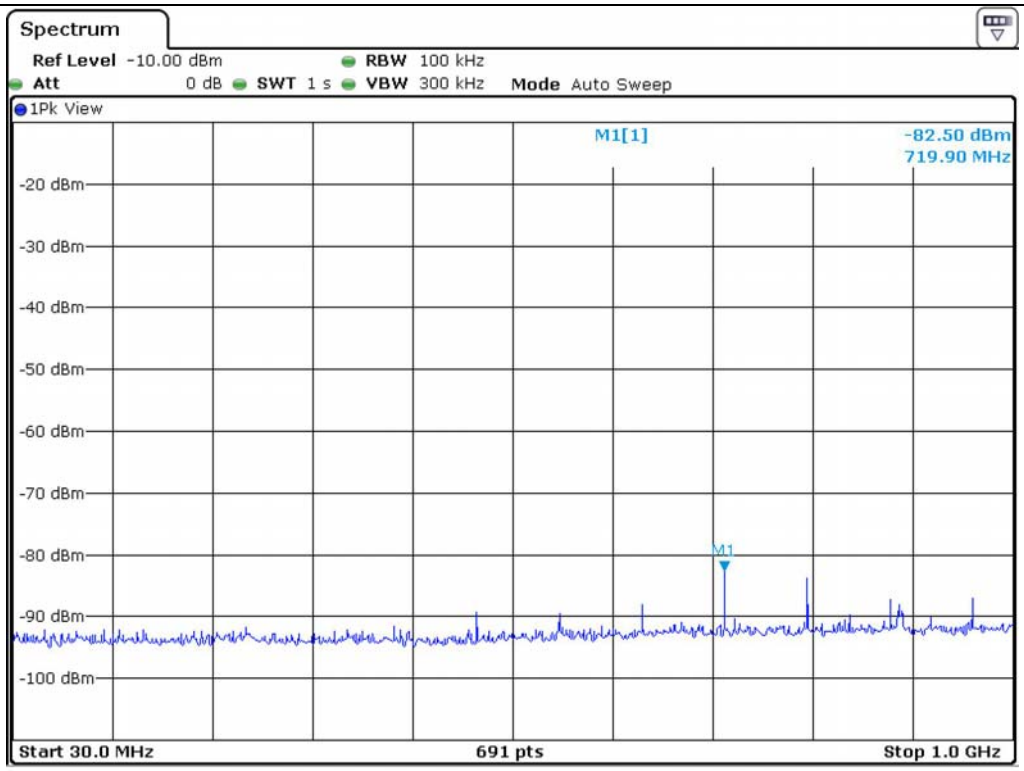
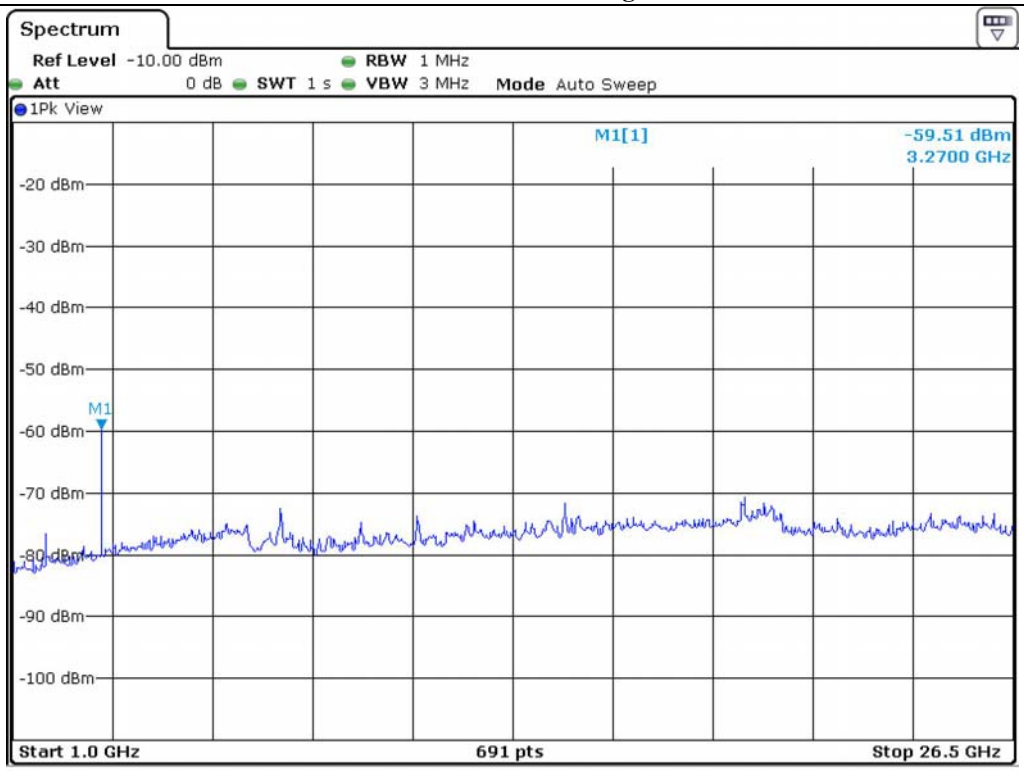


Middle Channel - Receiving Mode



Middle Channel - Receiving Mode

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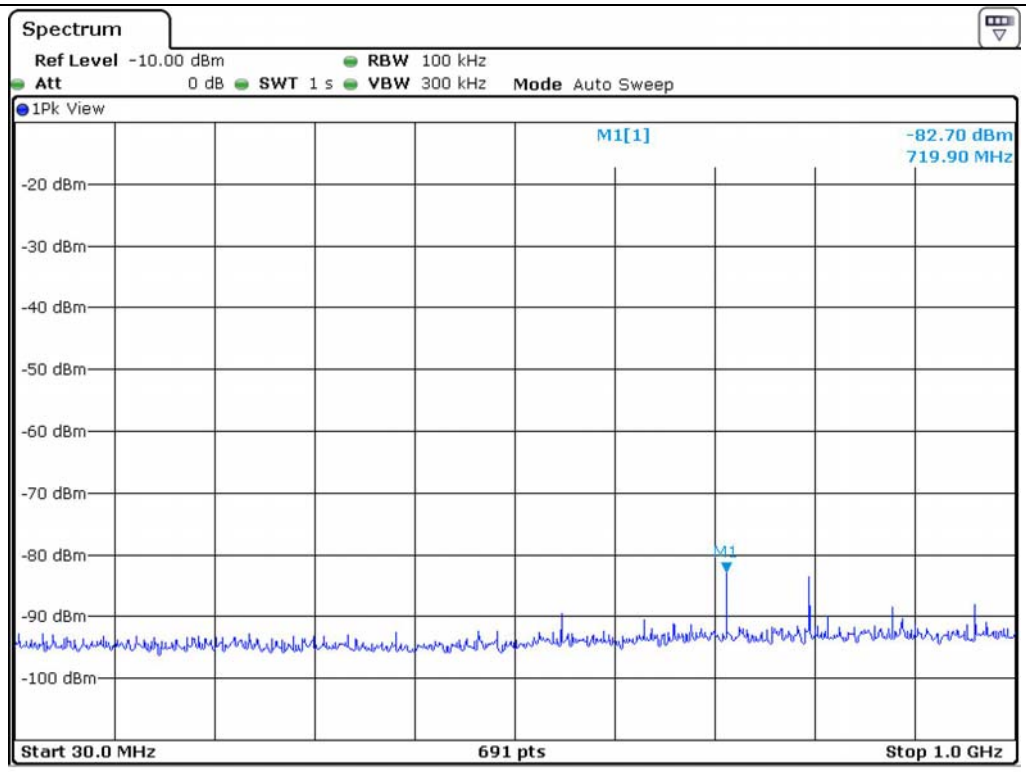
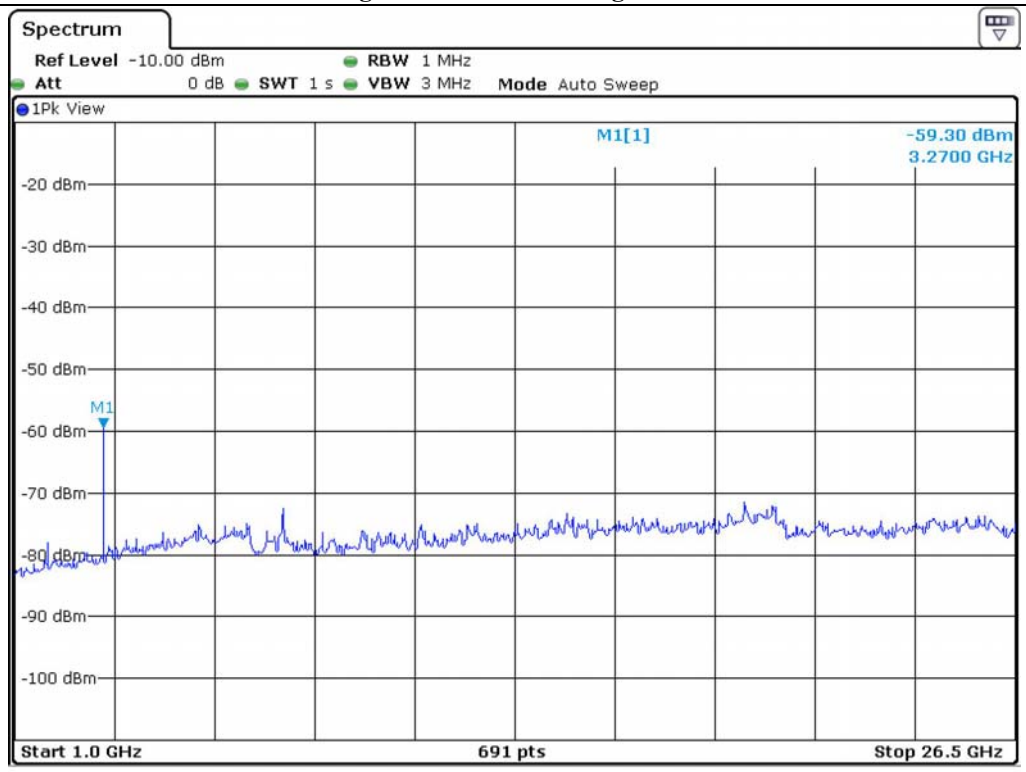


High Channel - Receiving Mode



High Channel - Receiving Mode

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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10.5.2 Test data for Antenna 0 - Radiated

10.5.2.1 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.								

10.5.2.2 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

-. Channel : Low

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)
58.13	52.10	V	14.30	1.70	33.10	35.00	40.00	5.00
97.90	55.80	V	13.20	2.10	33.10	38.00	43.50	5.50
165.80	51.30	V	9.50	2.70	33.00	30.50	43.50	13.00
480.08	42.80	V	18.10	4.60	33.10	32.40	46.00	13.60
666.32	40.70	H	20.60	5.40	33.30	33.40	46.00	12.60

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-. Channel : Middle

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)
58.13	51.40	H	14.30	1.70	33.10	34.30	40.00	5.70
97.90	55.10	H	13.20	2.10	33.10	37.30	43.50	6.20
165.80	50.70	H	9.50	2.70	33.00	29.90	43.50	13.60
480.08	42.00	H	18.10	4.60	33.10	31.60	46.00	14.40
666.32	40.10	V	20.60	5.40	33.30	32.80	46.00	13.20

-. Channel : High

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)
58.13	51.70	H	14.30	1.70	33.10	34.60	40.00	5.40
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	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
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)

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Tested by: Hong-Kyu, Lee/ Engineer

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10.5.2.3 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 ~ 26.5 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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10.5.3 Test data for Antenna 1 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-84.00	0.22	-83.78
3 223.00	-60.94	0.51	-60.43
Test result for Middle Channel			
960.00	-85.75	0.22	-85.53
3 270.00	-62.11	0.51	-61.60
Test result for High Channel			
960.00	-85.39	0.22	-85.17
3 270.00	-62.10	0.51	-61.59

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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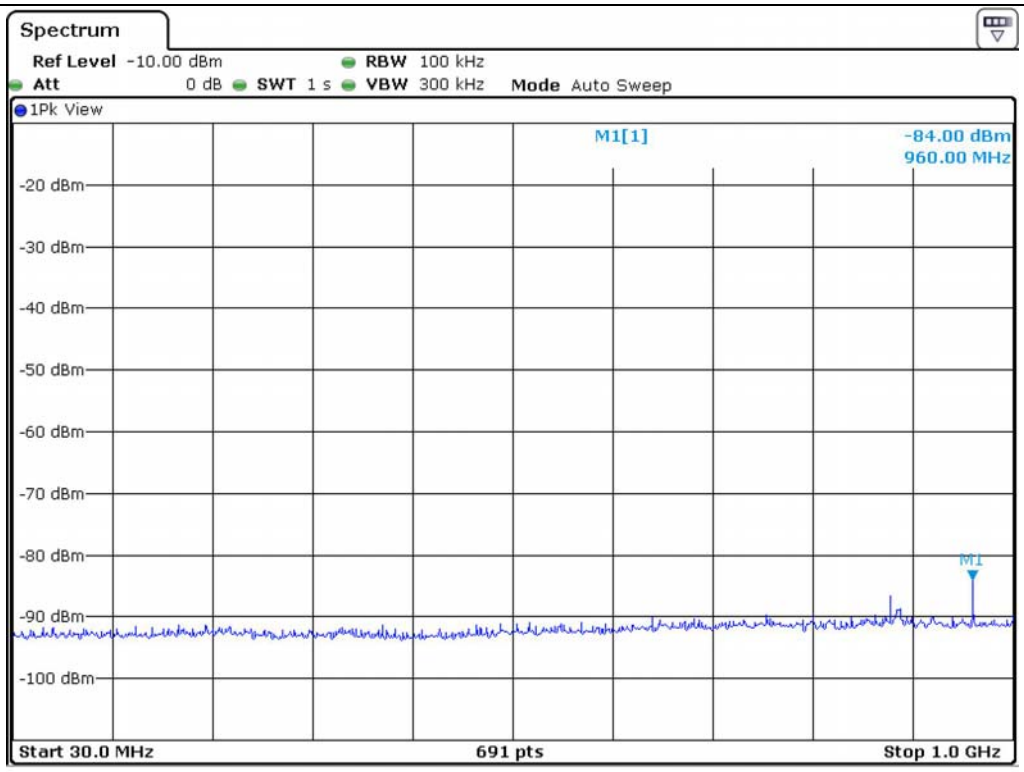
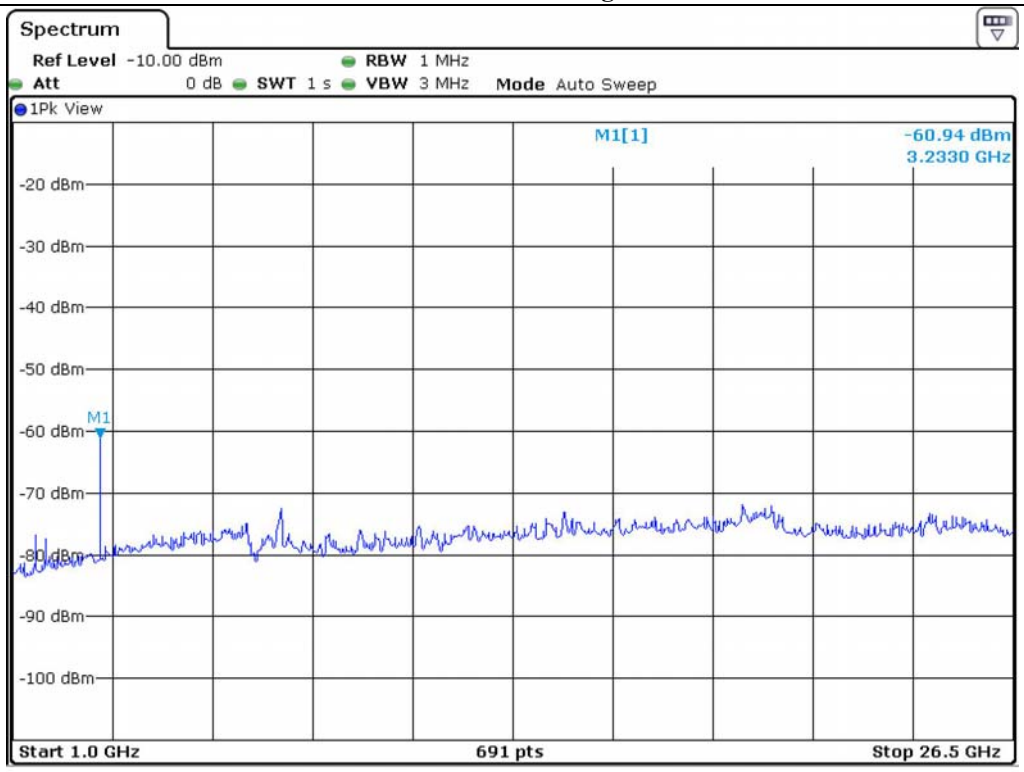


Low Channel - Receiving Mode



Low Channel - Receiving Mode

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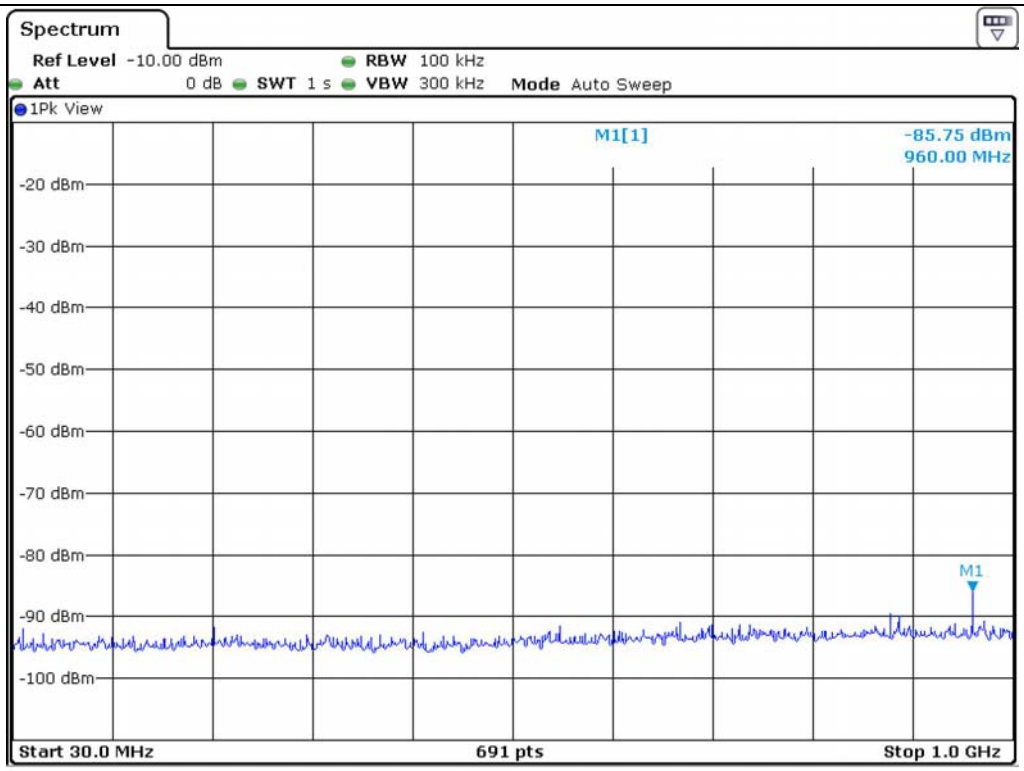
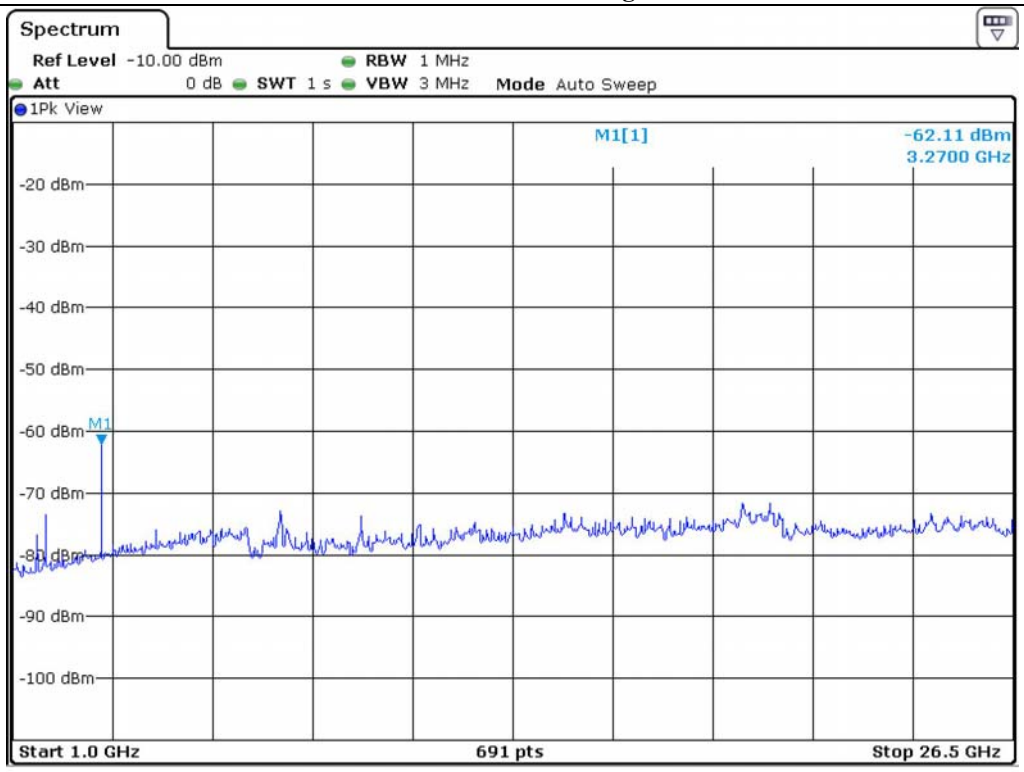


Middle Channel - Receiving Mode



Middle Channel - Receiving Mode

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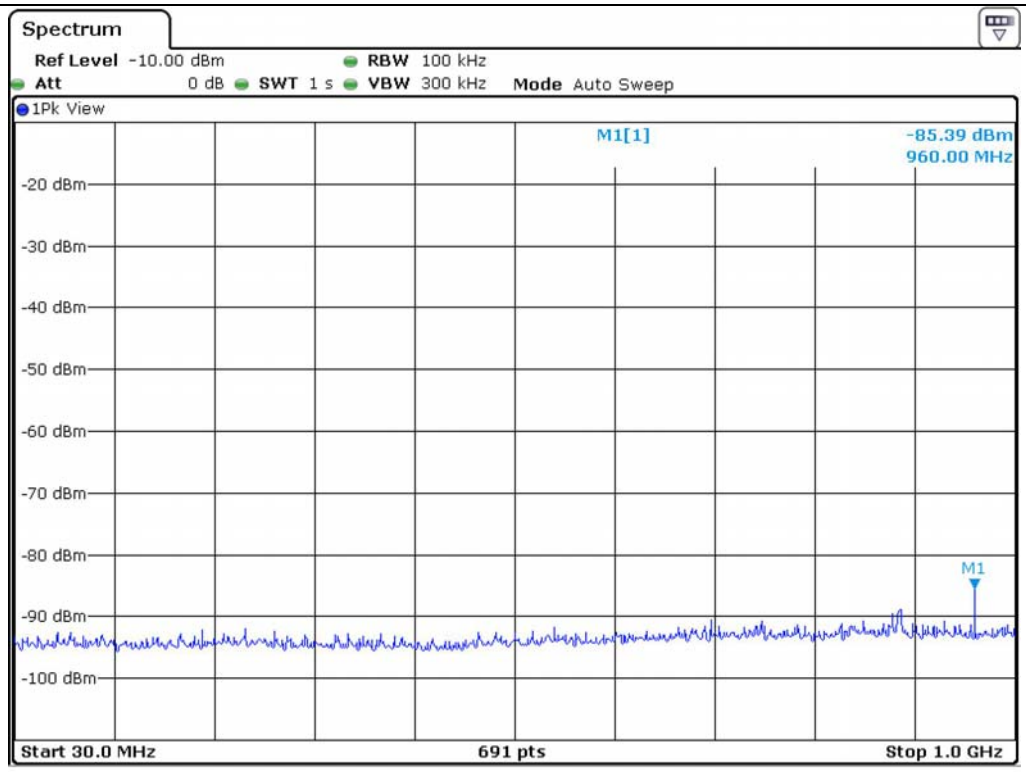
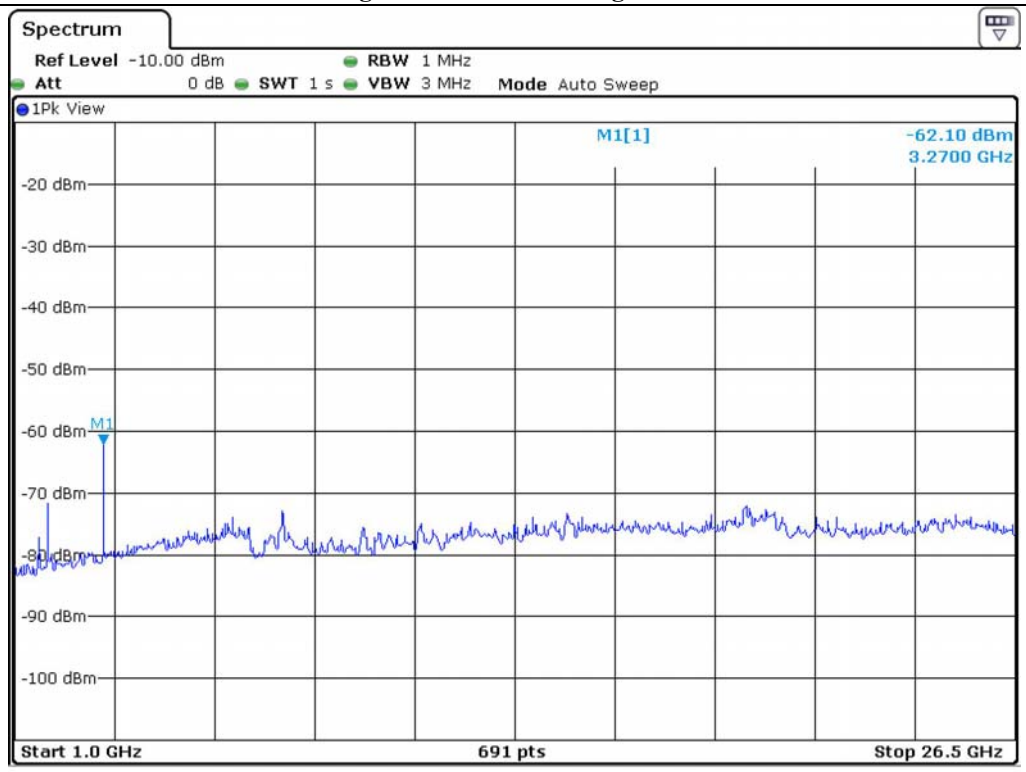


High Channel - Receiving Mode



High Channel - Receiving Mode

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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)

10.5.4 Test data for Antenna 1 - Radiated

10.5.4.1 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.								

10.5.4.2 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

-. Channel : Low

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)
58.13	51.90	H	14.30	1.70	33.10	34.80	40.00	5.20
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	43.60	H	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.20	V	20.60	5.40	33.30	33.90	46.00	12.10

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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)

-. Channel : Middle

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)
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	55.30	H	13.20	2.10	33.10	37.50	43.50	6.00
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
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

-. Channel : High

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)
58.13	51.30	H	14.30	1.70	33.10	34.20	40.00	5.80
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	6.40
165.80	50.60	H	9.50	2.70	33.00	29.80	43.50	13.70
480.08	41.80	H	18.10	4.60	33.10	31.40	46.00	14.60
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)

10.5.4.3 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 ~ 26.5 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)

10.6 Test data for 802.11g WLAN Mode

10.6.1 Test data for Antenna 0 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

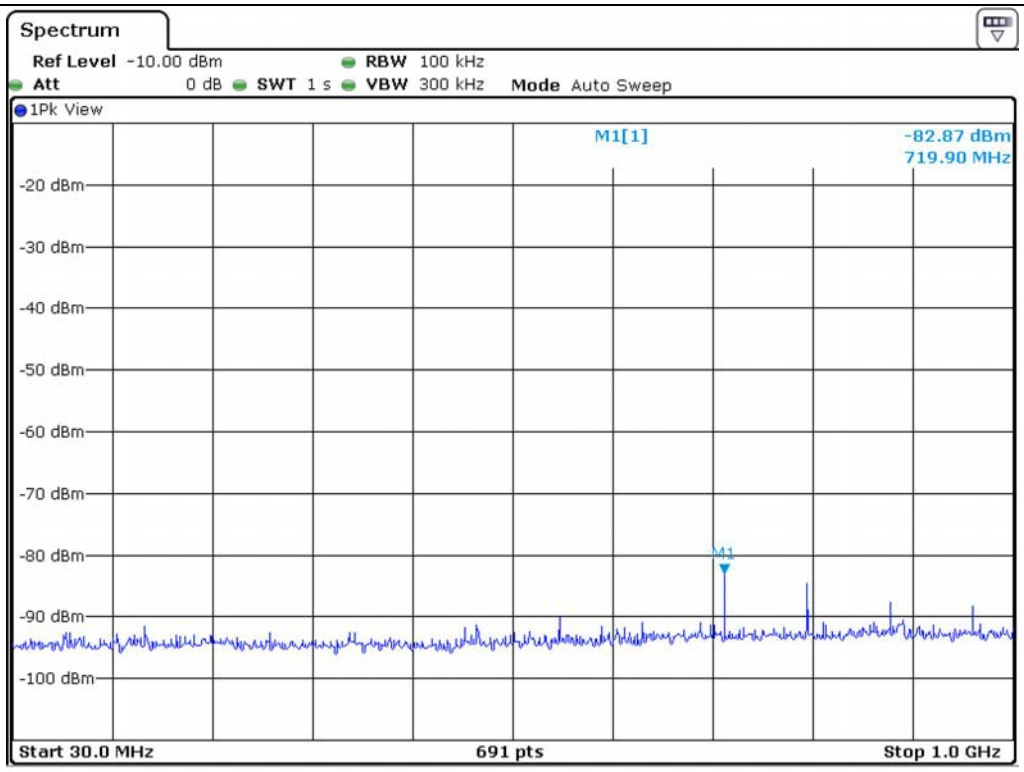
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

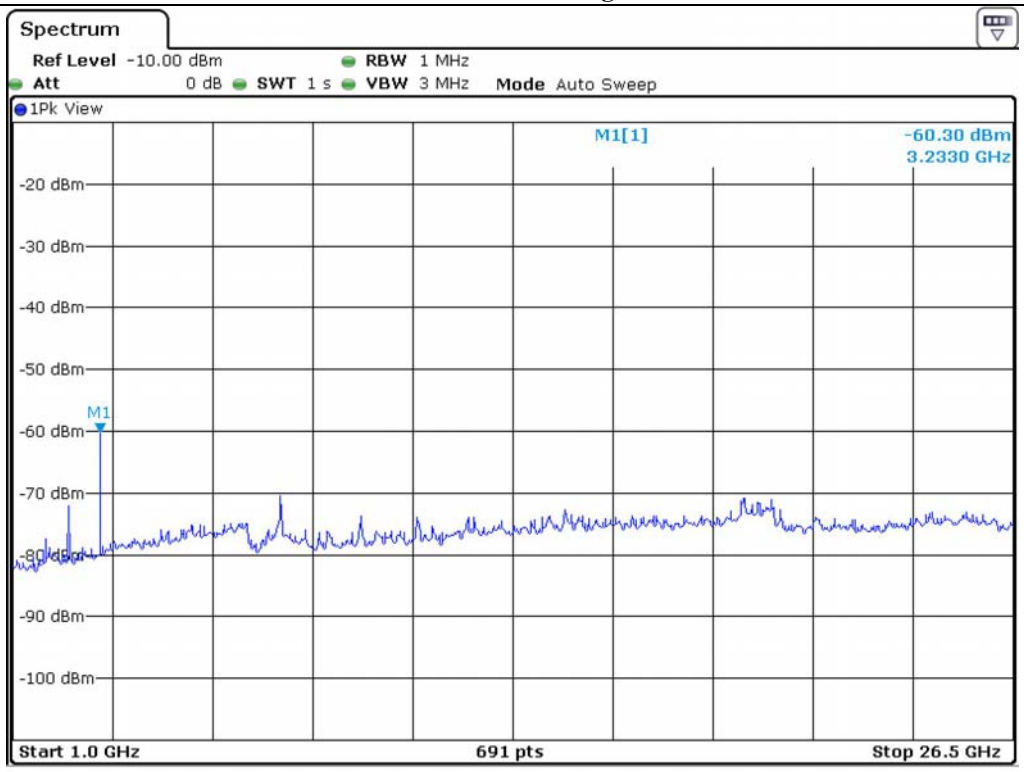
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-82.87	0.19	-82.68
3 233.00	-60.30	0.51	-59.79
Test result for Middle Channel			
719.00	-82.68	0.19	-82.49
3 270.00	-59.53	0.51	-59.02
Test result for High Channel			
719.00	-82.37	0.19	-82.18
3 270.00	-59.31	0.51	-58.80

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)

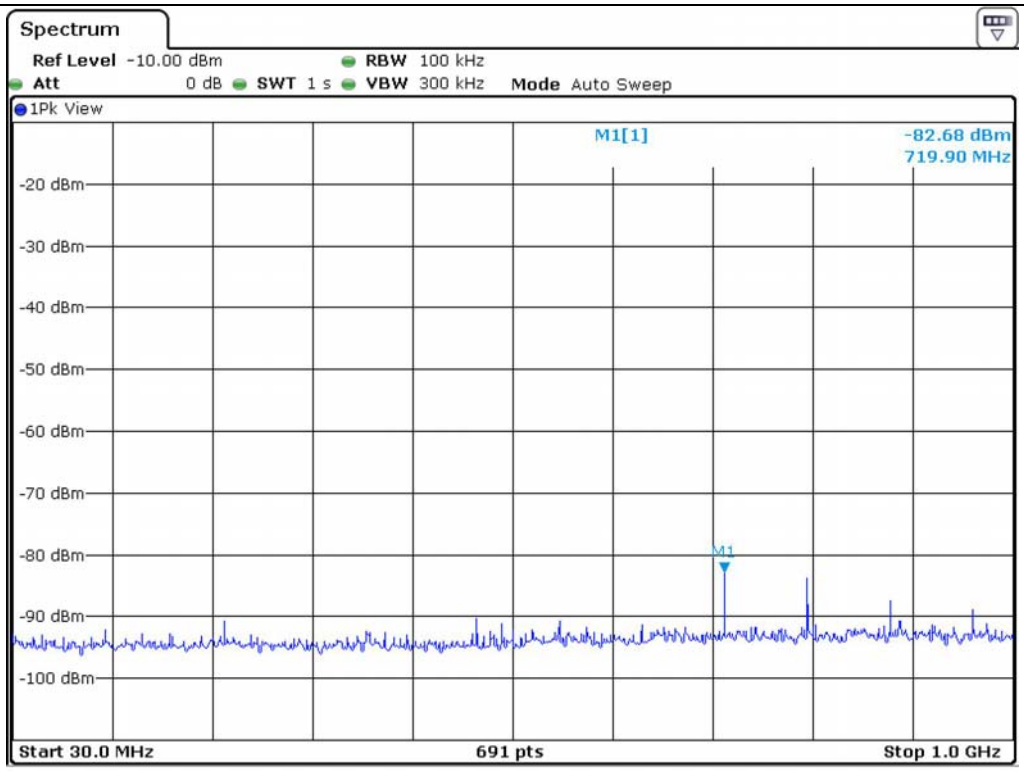


Low Channel - Receiving Mode

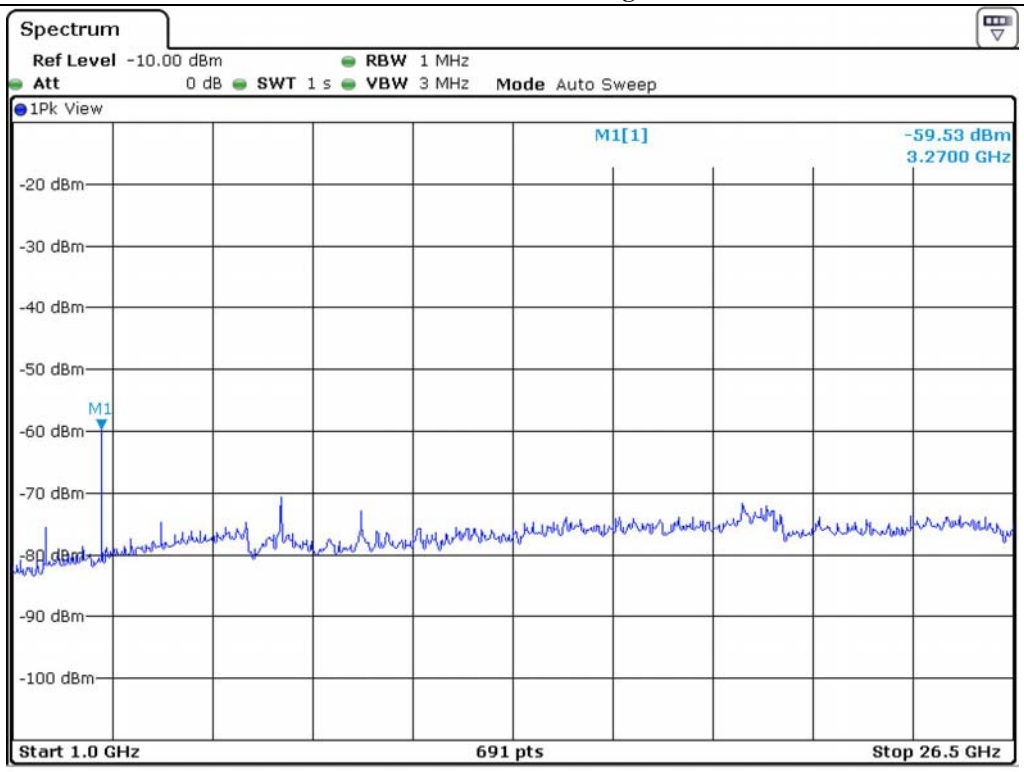


Low Channel - Receiving Mode

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)

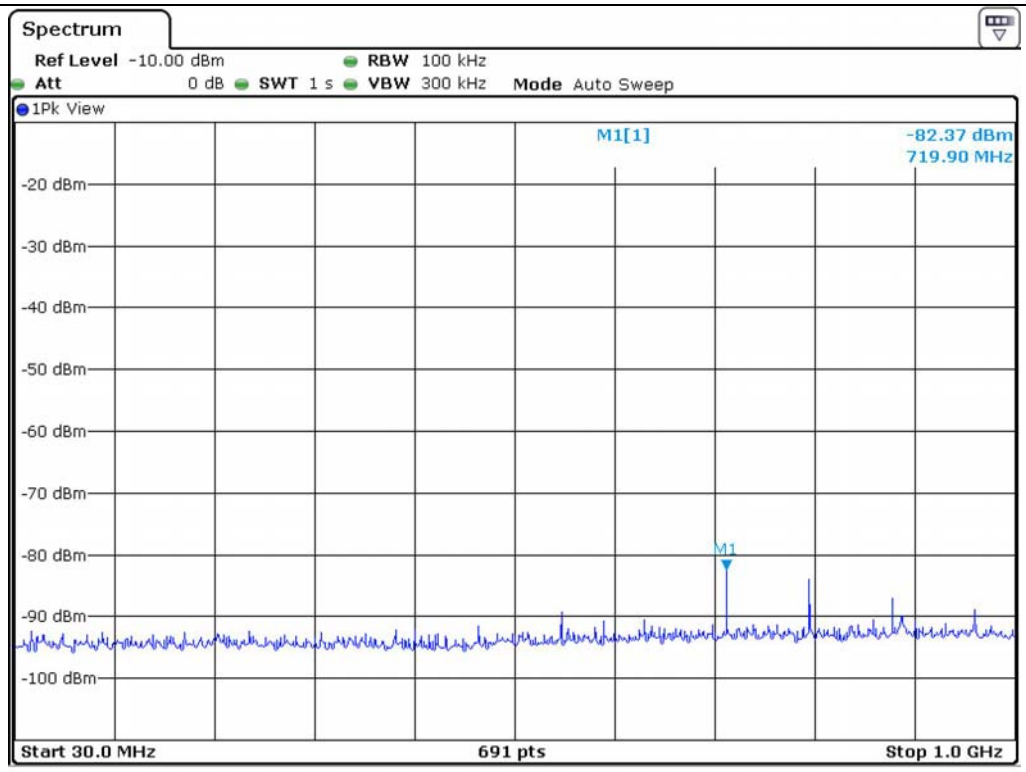


Middle Channel - Receiving Mode

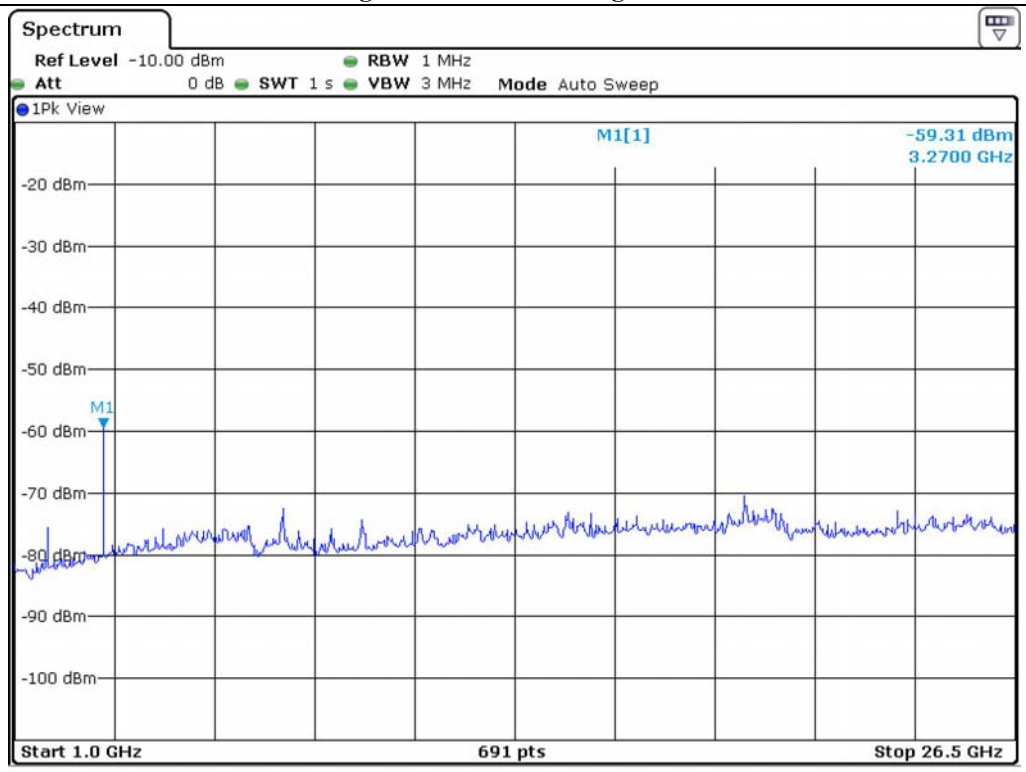


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.6.2 Test data for Antenna 0 - Radiated

10.6.2.1 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.								

10.6.2.2 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

-. Channel : Low

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)
58.13	52.80	V	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.20	V	13.20	2.10	33.10	38.40	43.50	5.10
165.80	52.10	V	9.50	2.70	33.00	31.30	43.50	12.20
480.08	43.30	V	18.10	4.60	33.10	32.90	46.00	13.10
666.32	41.70	H	20.60	5.40	33.30	34.40	46.00	11.60

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)

-. Channel : Middle

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)
58.13	52.30	H	14.30	1.70	33.10	35.20	40.00	4.80
97.90	56.60	H	13.20	2.10	33.10	38.80	43.50	4.70
165.80	52.20	H	9.50	2.70	33.00	31.40	43.50	12.10
480.08	43.50	H	18.10	4.60	33.10	33.10	46.00	12.90
666.32	41.60	V	20.60	5.40	33.30	34.30	46.00	11.70

-. Channel : High

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)
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	50.90	H	9.50	2.70	33.00	30.10	43.50	13.40
480.08	42.20	H	18.10	4.60	33.10	31.80	46.00	14.20
666.32	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

Tabulated test data for Radiated Electromagnetic Field

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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10.6.2.3 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 ~ 26.5 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)

10.6.3 Test data for Antenna 1 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

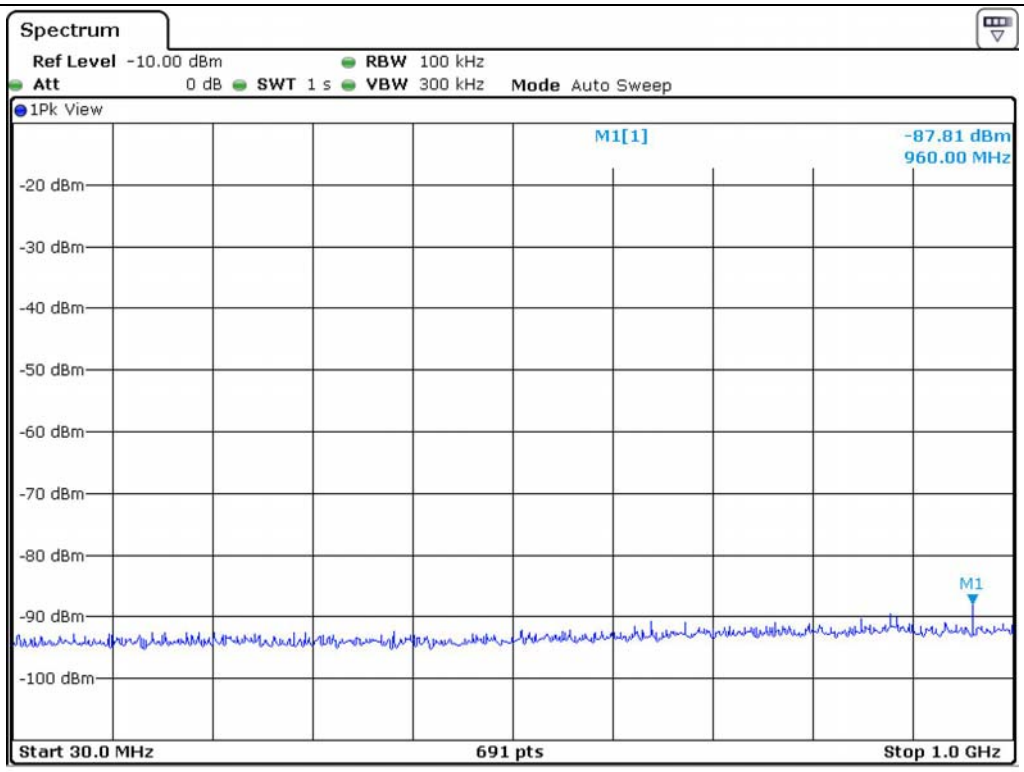
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

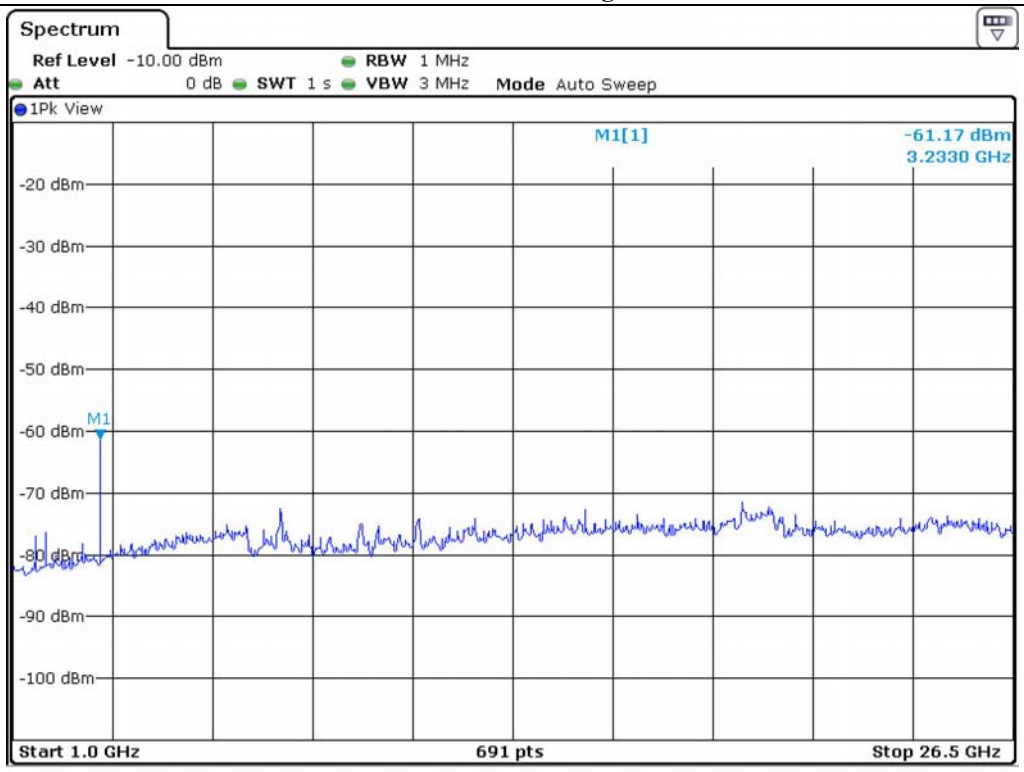
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-87.81	0.22	-87.59
3 223.00	-61.17	0.51	-60.66
Test result for Middle Channel			
960.00	-87.57	0.22	-87.35
3 270.00	-61.72	0.51	-61.21
Test result for High Channel			
960.00	-87.66	0.22	-87.44
3 270.00	-62.16	0.51	-61.65

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)

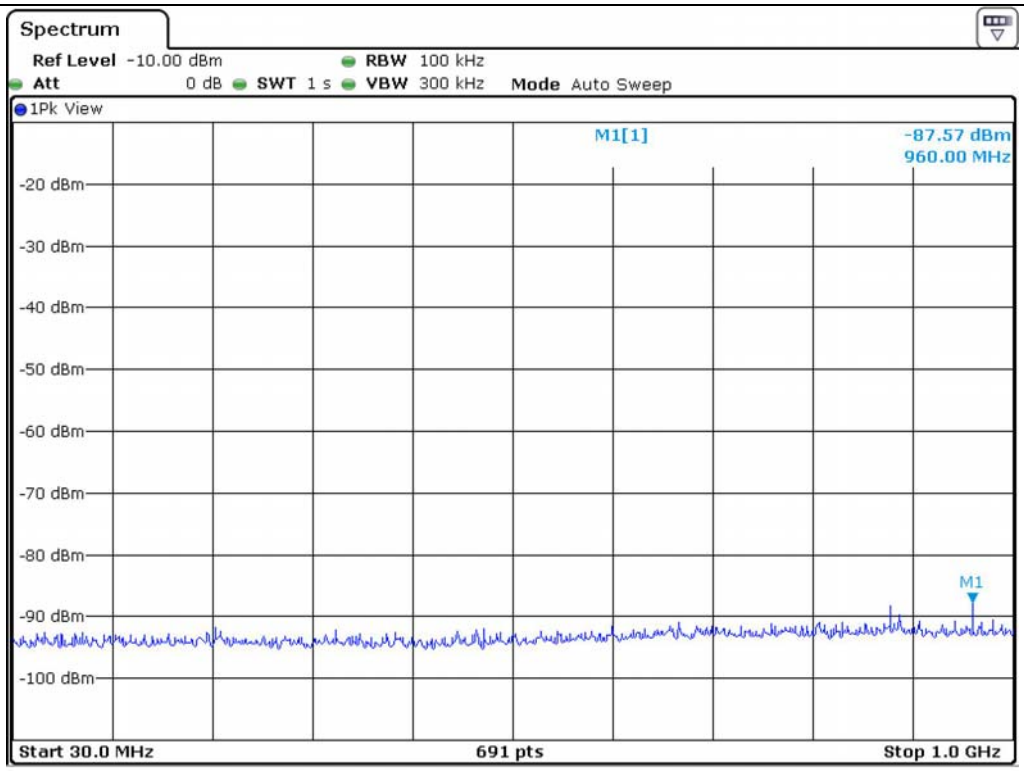


Low Channel - Receiving Mode

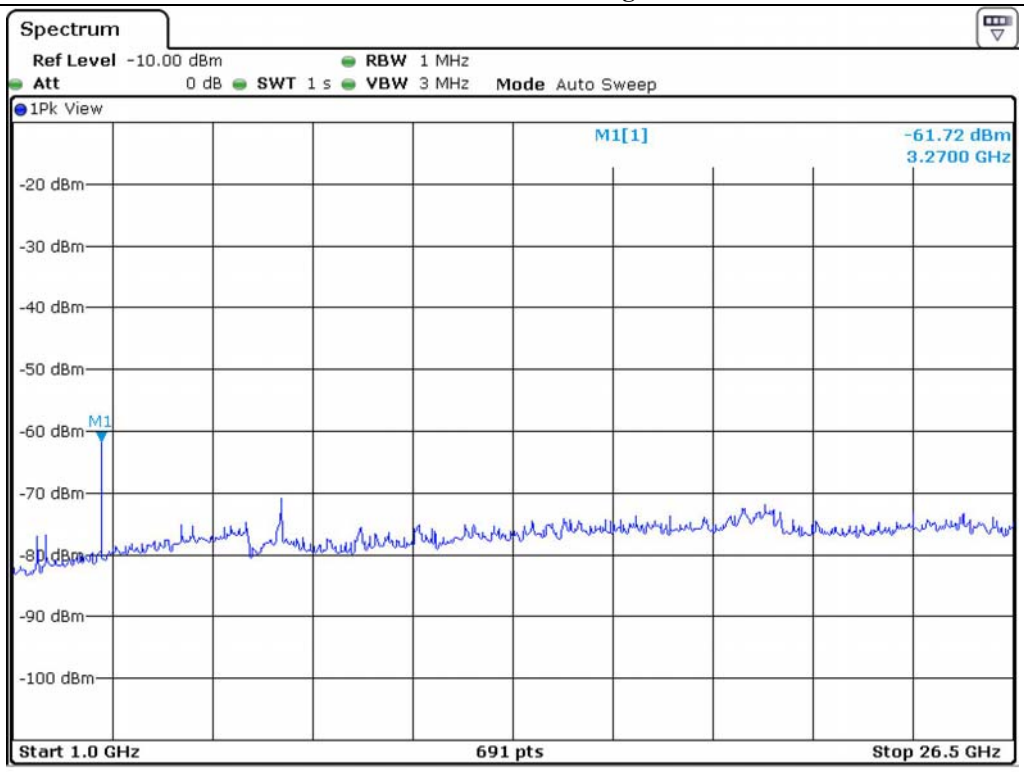


Low Channel - Receiving Mode

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)

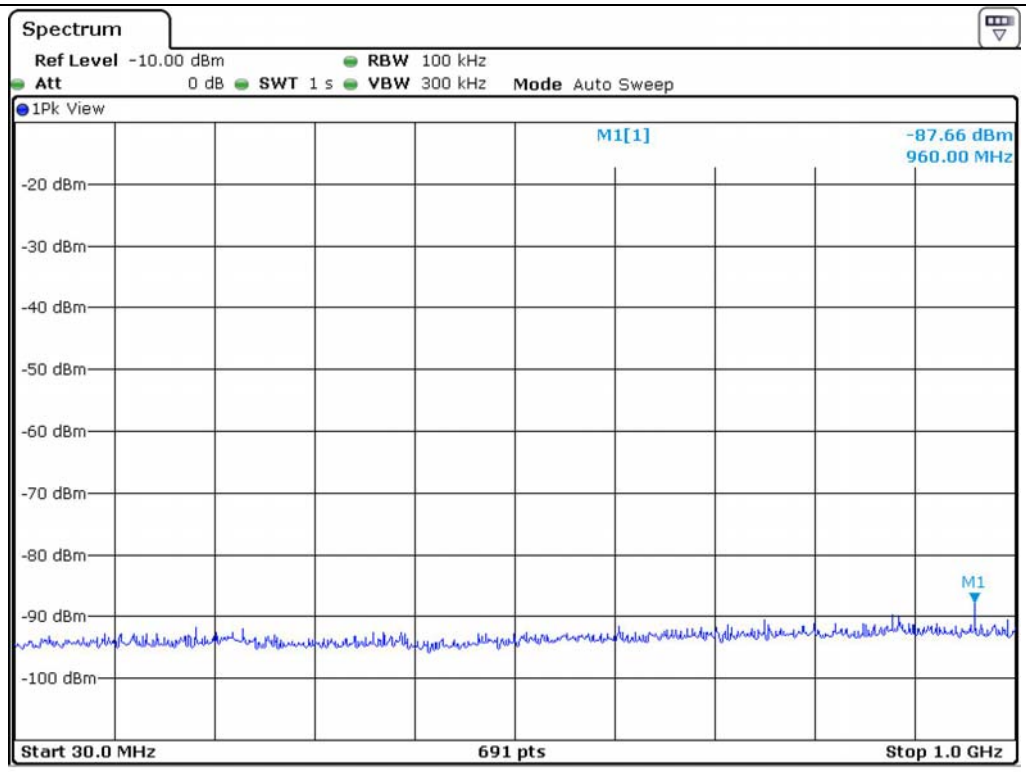


Middle Channel - Receiving Mode

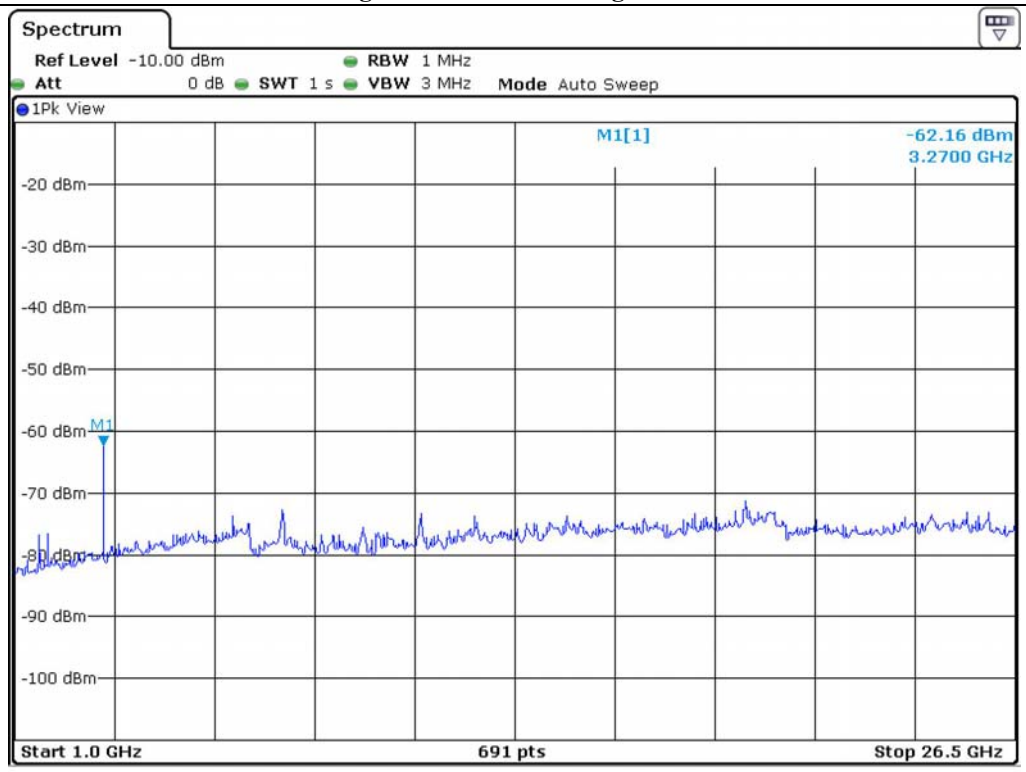


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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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10.6.4 Test data for Antenna 1 - Radiated

10.6.4.1 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.								

10.6.4.2 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

-. Channel : Low

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)
58.13	51.40	H	14.30	1.70	33.10	34.30	40.00	5.70
97.90	55.50	H	13.20	2.10	33.10	37.70	43.50	5.80
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.50	V	20.60	5.40	33.30	33.20	46.00	12.80

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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)

-. Channel : Middle

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)
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	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
480.08	43.00	H	18.10	4.60	33.10	32.60	46.00	13.40
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30

-. Channel : High

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)
58.13	52.50	H	14.30	1.70	33.10	35.40	40.00	4.60
97.90	56.10	H	13.20	2.10	33.10	38.30	43.50	5.20
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	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)
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10.6.4.3 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 ~ 26.5 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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10.7 Test data for 802.11n_HT20 WLAN Mode

10.7.1 Test data for Antenna 0 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

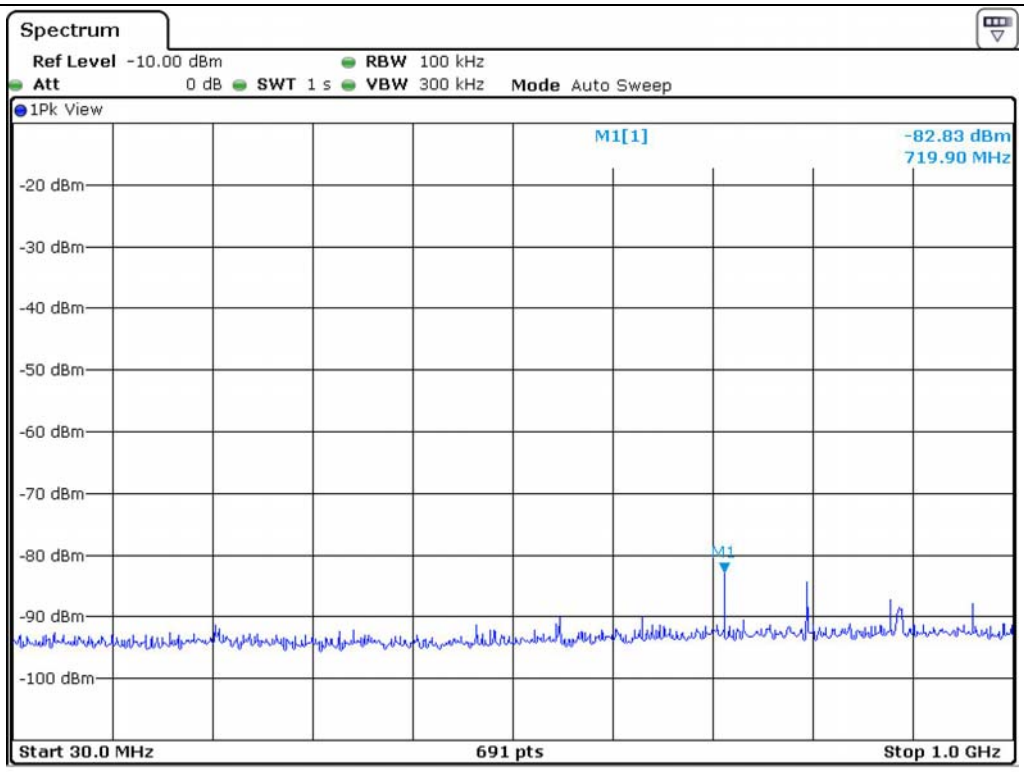
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

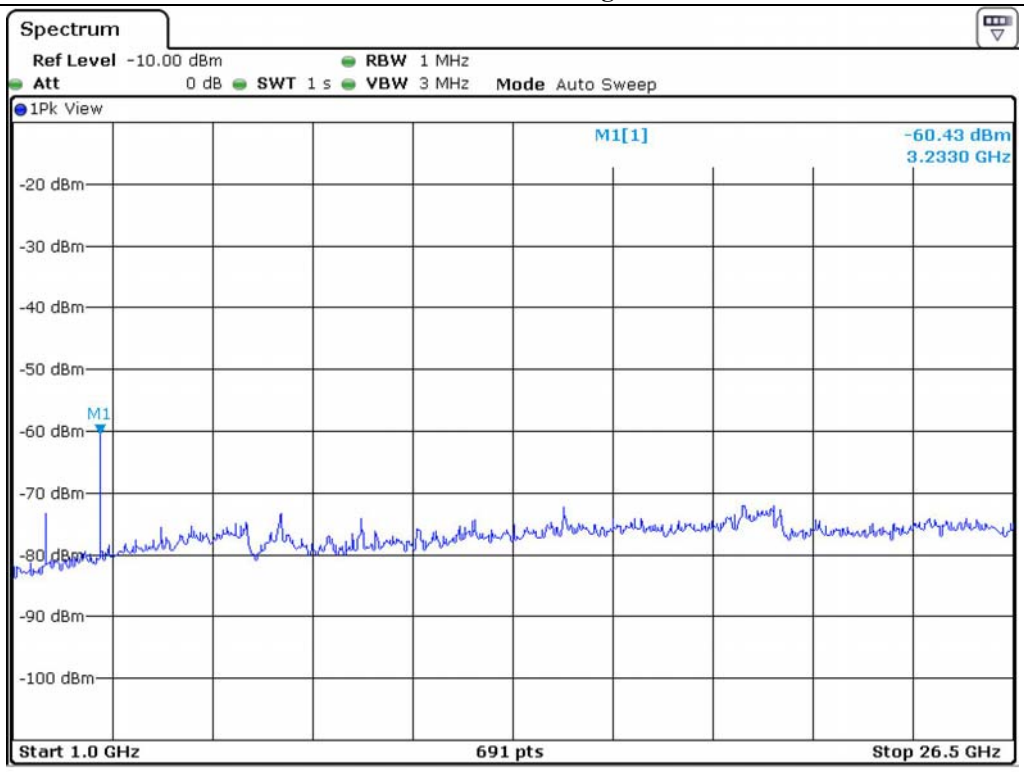
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-82.83	0.19	-82.64
3 233.00	-60.43	0.51	-59.92
Test result for Middle Channel			
719.00	-82.73	0.19	-82.54
3 270.00	-59.49	0.51	-58.98
Test result for High Channel			
719.00	-83.31	0.19	-83.12
3 270.00	-59.33	0.51	-58.82

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)



Low Channel - Receiving Mode



Low Channel - Receiving Mode

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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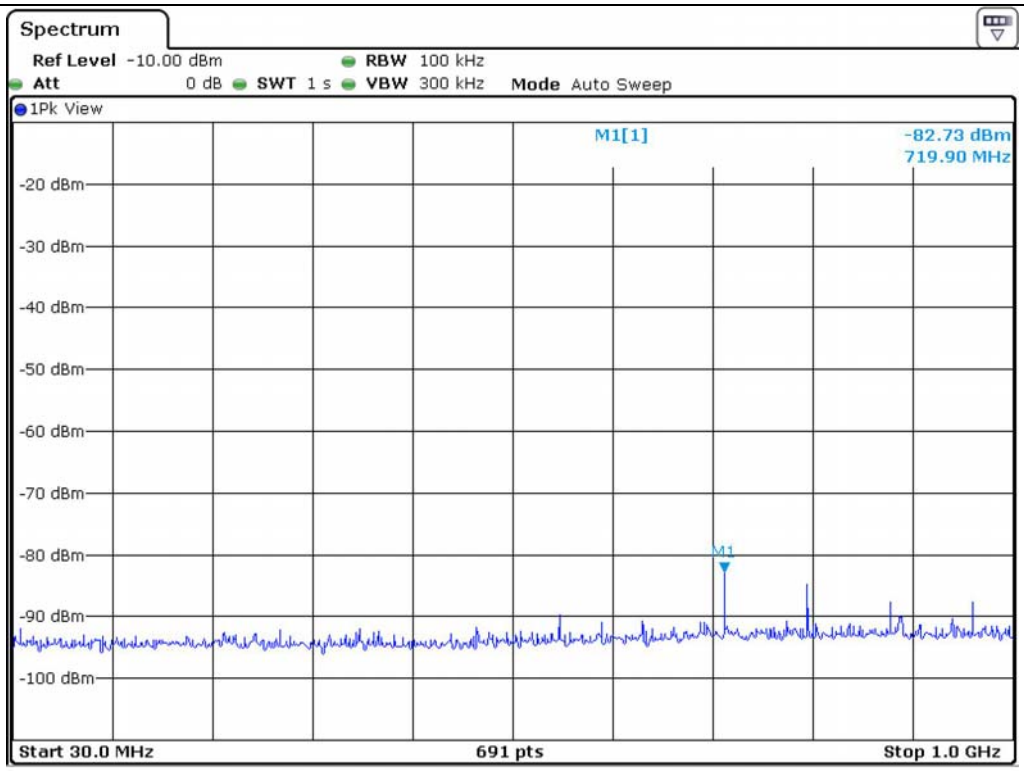
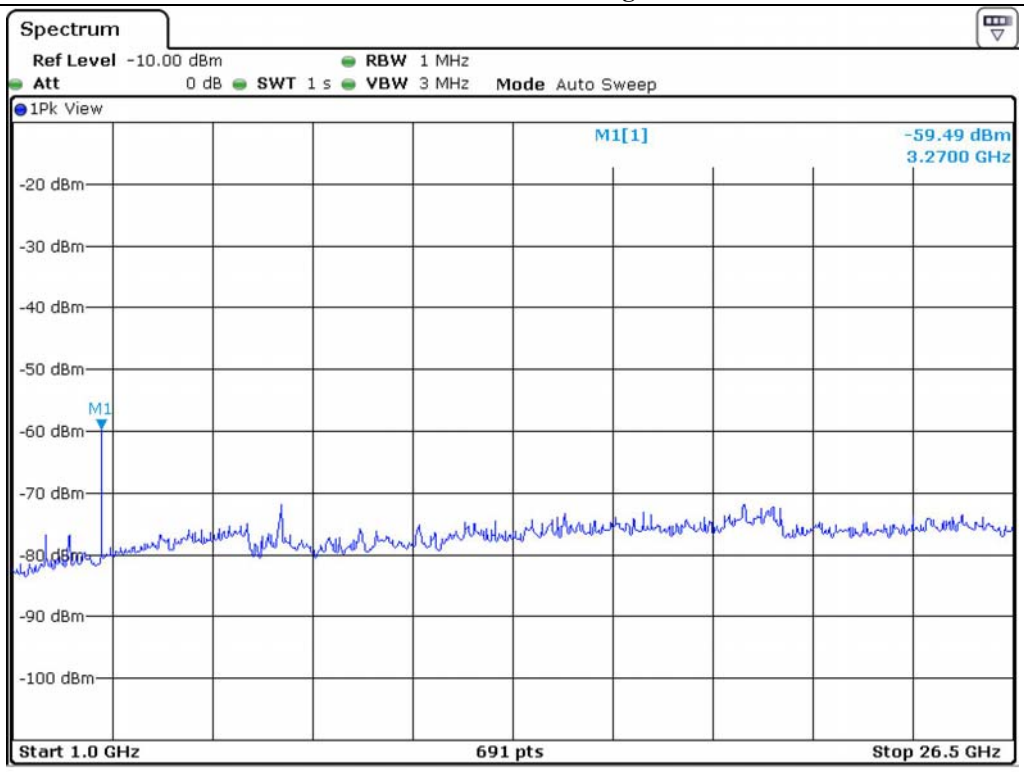
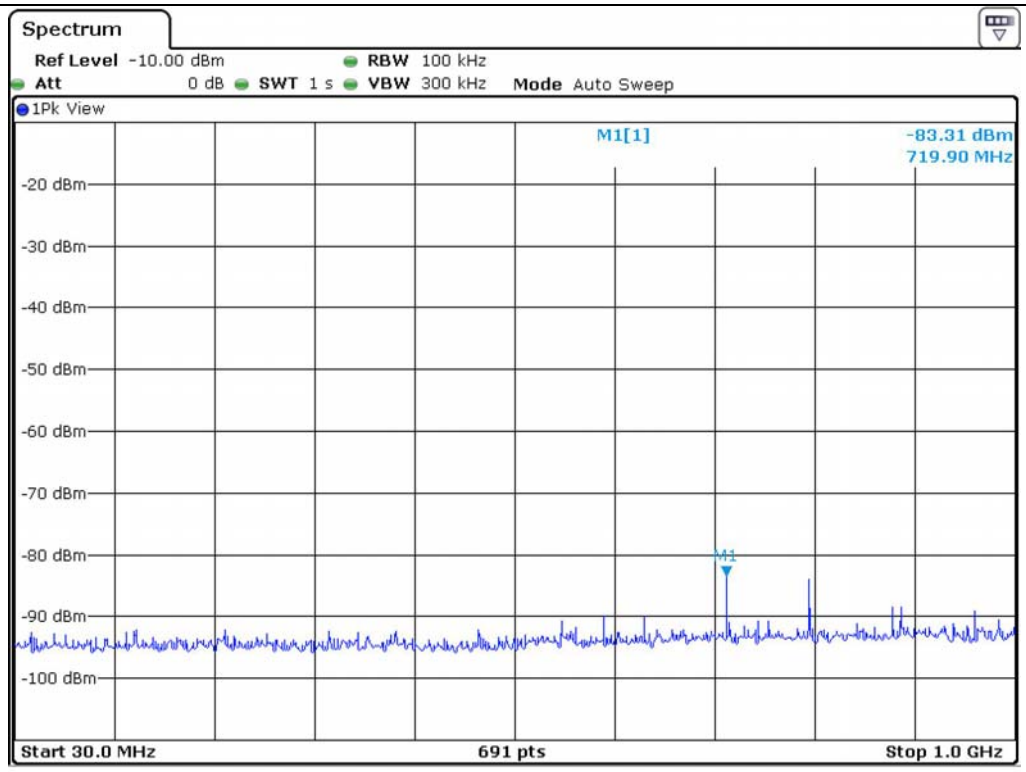


Middle Channel - Receiving Mode

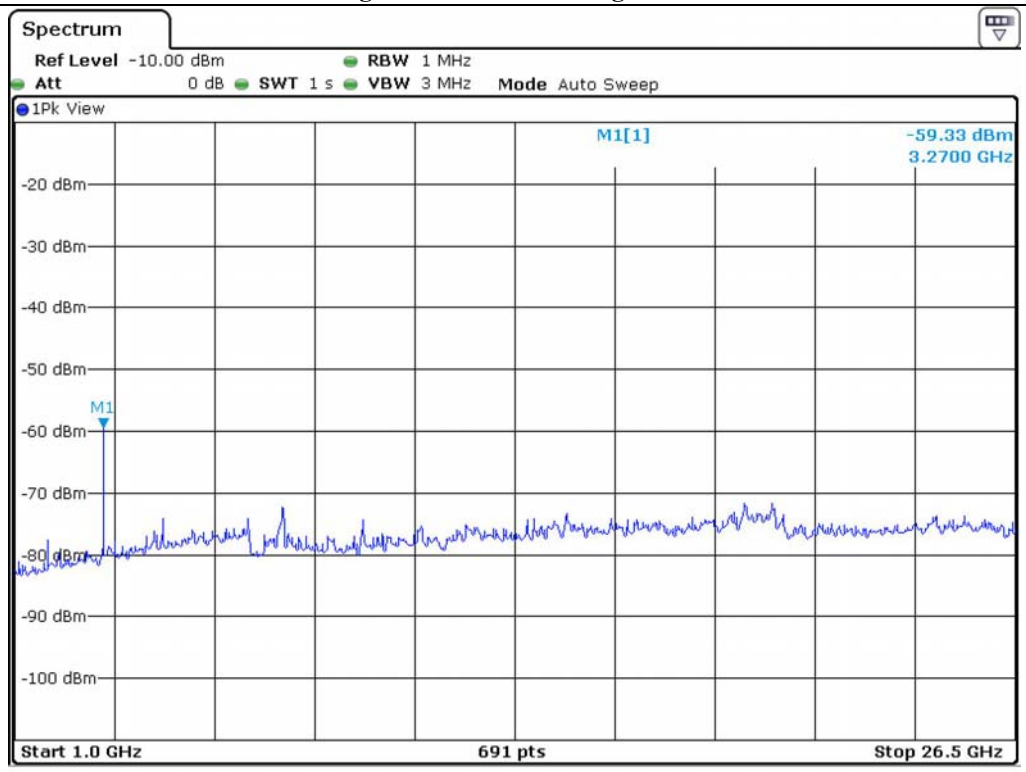


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.7.2 Test data for Antenna 0 - Radiated

10.7.2.1 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.								

10.7.2.2 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

-. Channel : Low

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)
58.13	52.00	V	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.30	V	13.20	2.10	33.10	37.50	43.50	6.00
165.80	50.60	V	9.50	2.70	33.00	29.80	43.50	13.70
480.08	42.00	V	18.10	4.60	33.10	31.60	46.00	14.40
666.32	39.70	H	20.60	5.40	33.30	32.40	46.00	13.60

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)

-. Channel : Middle

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)
58.13	51.90	H	14.30	1.70	33.10	34.80	40.00	5.20
97.90	55.70	H	13.20	2.10	33.10	37.90	43.50	5.60
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
480.08	42.70	H	18.10	4.60	33.10	32.30	46.00	13.70
666.32	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

-. Channel : High

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)
58.13	51.70	H	14.30	1.70	33.10	34.60	40.00	5.40
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	51.10	H	9.50	2.70	33.00	30.30	43.50	13.20
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

Tabulated test data for Radiated Electromagnetic Field

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)

10.7.2.3 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 ~ 26.5 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)

10.7.3 Test data for Antenna 1 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

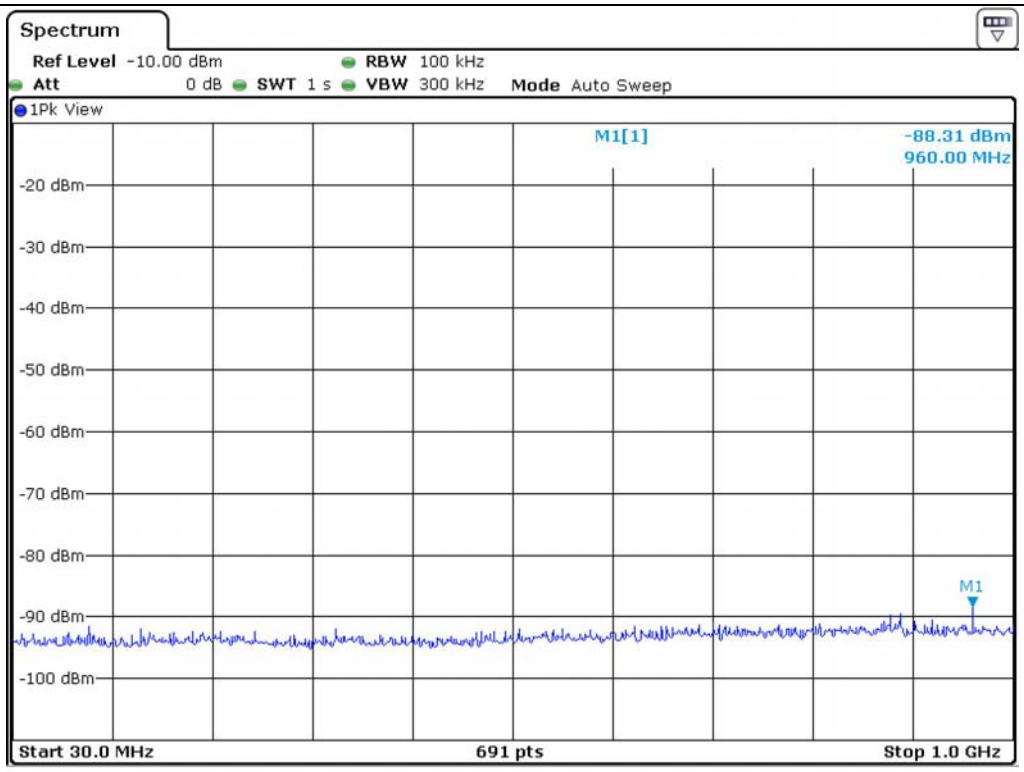
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

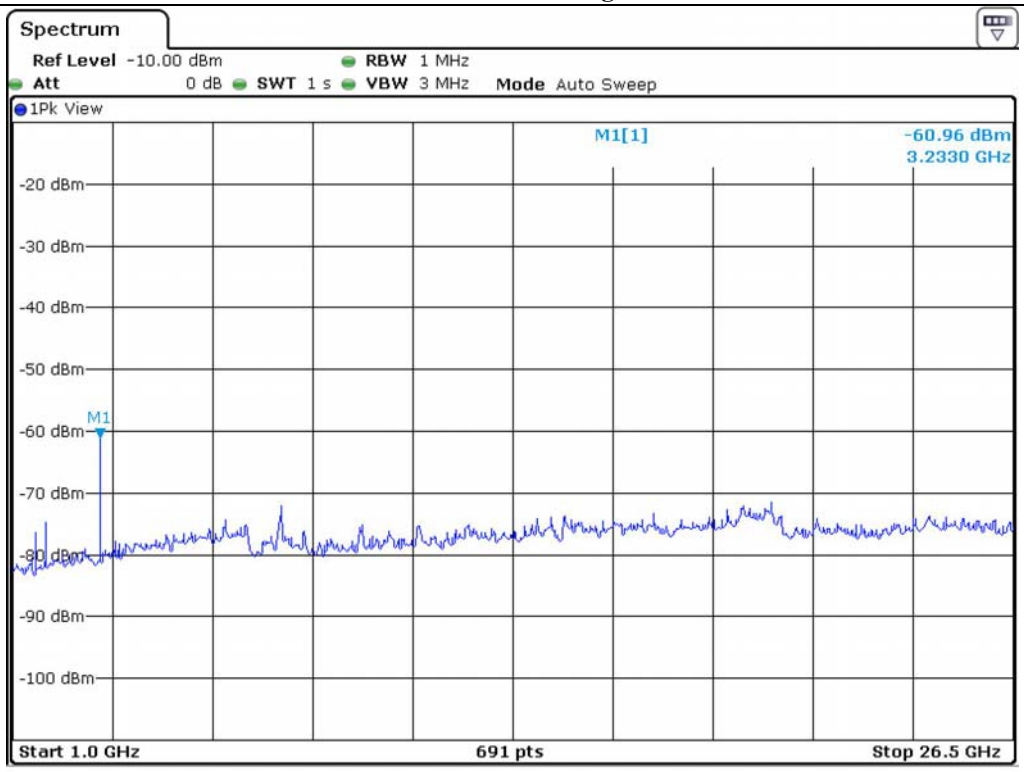
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-88.31	0.22	-88.09
3 223.00	-60.96	0.51	-60.45
Test result for Middle Channel			
960.00	-88.08	0.22	-87.86
3 270.00	-61.97	0.51	-61.46
Test result for High Channel			
960.00	-89.72	0.22	-89.50
3 270.00	-61.99	0.51	-61.48

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)

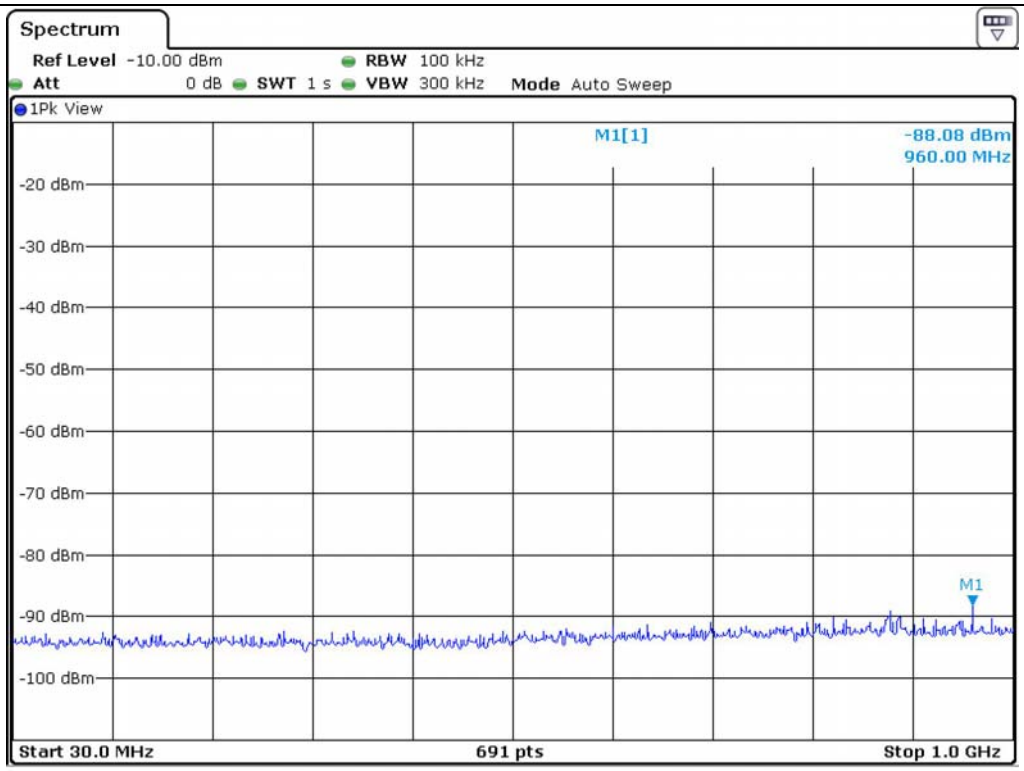


Low Channel - Receiving Mode

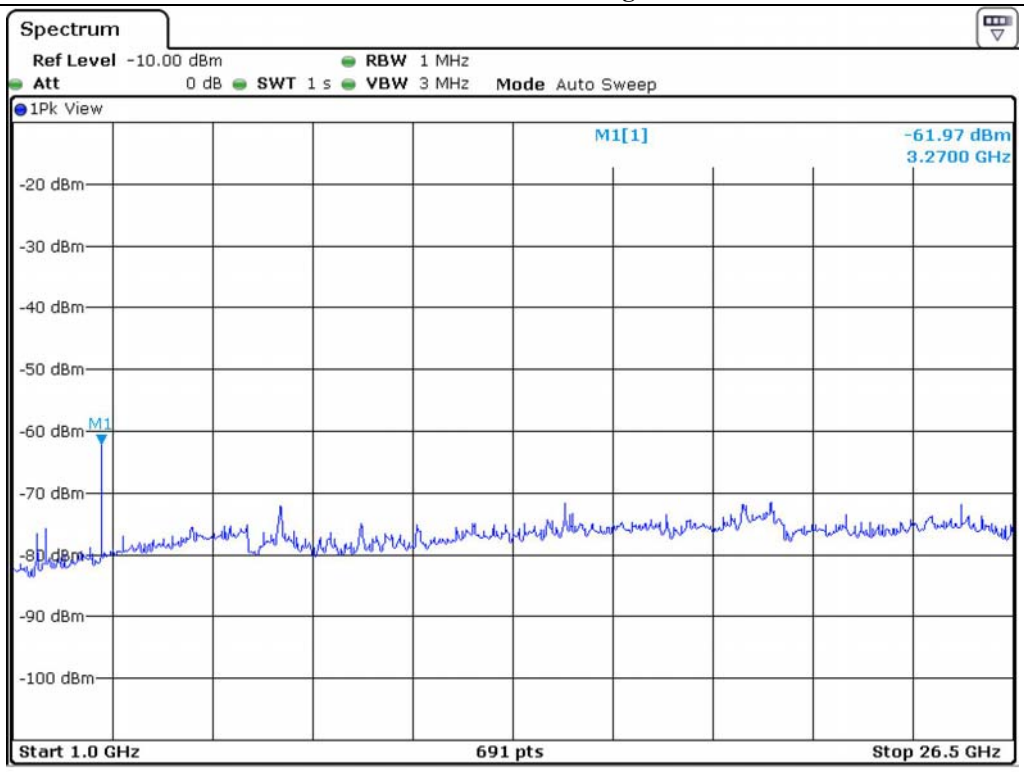


Low Channel - Receiving Mode

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)

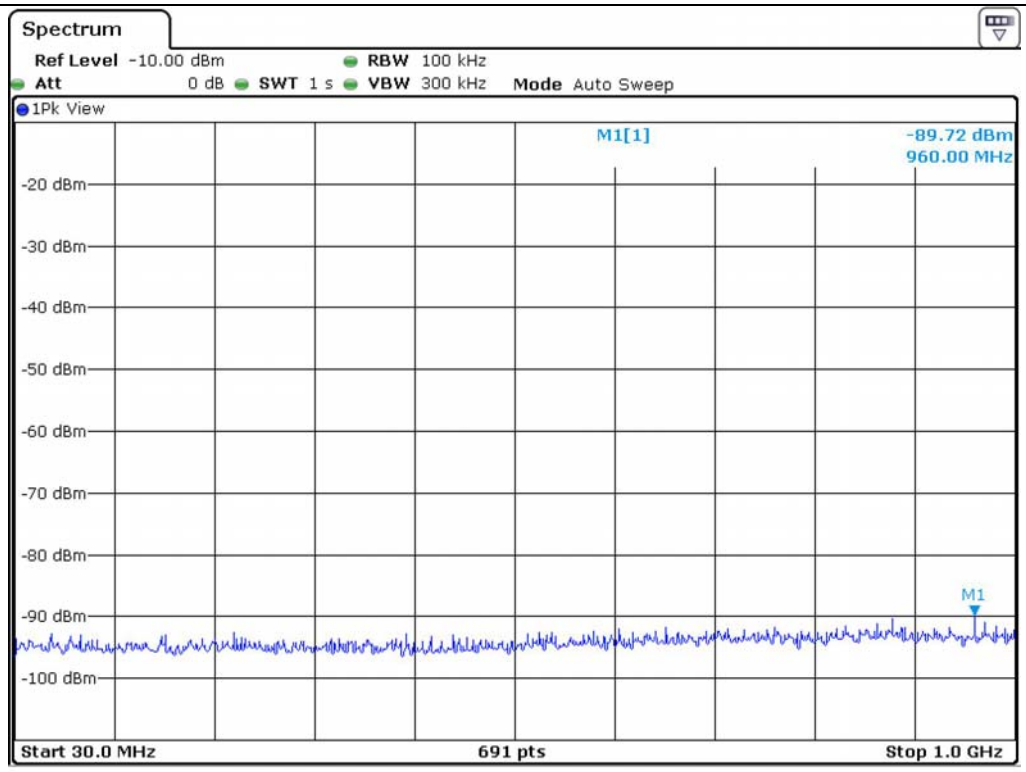


Middle Channel - Receiving Mode

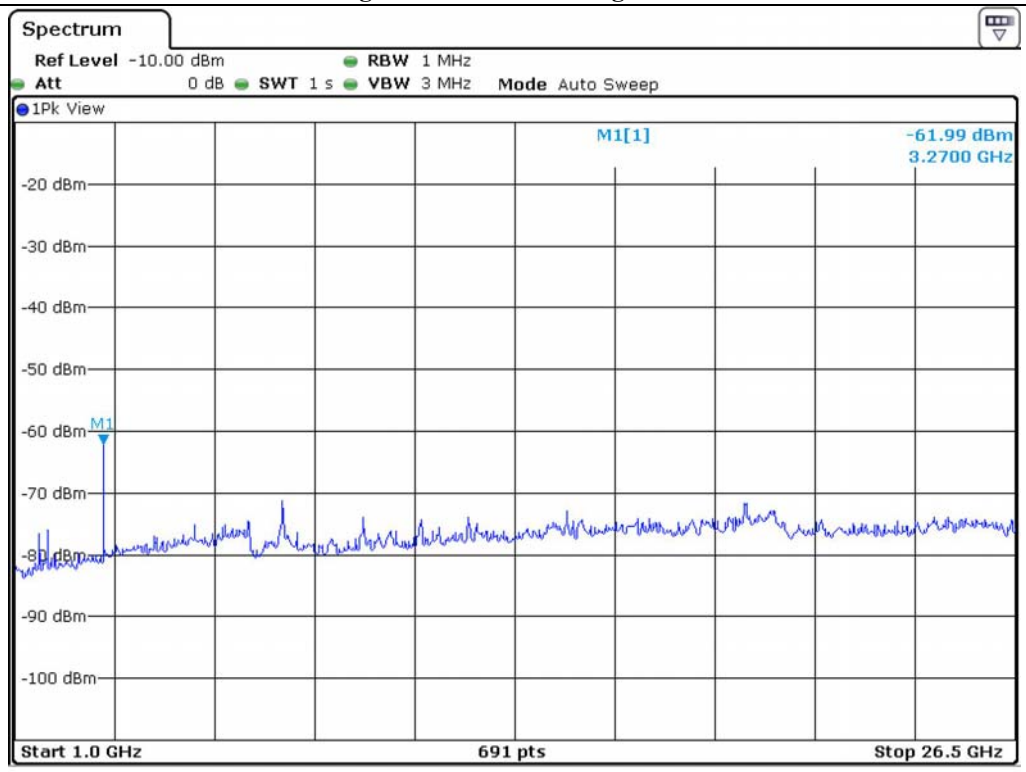


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.7.4 Test data for Antenna 1 - Radiated

10.7.4.1 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.								

10.7.4.2 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

-. Channel : Low

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)
58.13	52.20	H	14.30	1.70	33.10	35.10	40.00	4.90
97.90	56.00	H	13.20	2.10	33.10	38.20	43.50	5.30
165.80	50.50	H	9.50	2.70	33.00	29.70	43.50	13.80
480.08	42.90	H	18.10	4.60	33.10	32.50	46.00	13.50
666.32	41.00	V	20.60	5.40	33.30	33.70	46.00	12.30

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)

-. Channel : Middle

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)
58.13	51.40	H	14.30	1.70	33.10	34.30	40.00	5.70
97.90	55.70	H	13.20	2.10	33.10	37.90	43.50	5.60
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
480.08	42.60	H	18.10	4.60	33.10	32.20	46.00	13.80
666.32	40.50	V	20.60	5.40	33.30	33.20	46.00	12.80

-. Channel : High

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)
58.13	52.40	H	14.30	1.70	33.10	35.30	40.00	4.70
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	43.40	H	18.10	4.60	33.10	33.00	46.00	13.00
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)

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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)

10.7.4.3 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 ~ 26.5 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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10.7.5 Test data for Multiple transmit - Radiated

10.7.5.1 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.								

10.7.5.2 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

-. Channel : Low

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)
58.13	52.00	H	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.30	H	13.20	2.10	33.10	37.50	43.50	6.00
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	39.70	V	20.60	5.40	33.30	32.40	46.00	13.60

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)

-. Channel : Middle

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)
58.13	51.90	H	14.30	1.70	33.10	34.80	40.00	5.20
97.90	55.70	H	13.20	2.10	33.10	37.90	43.50	5.60
165.80	50.80	H	9.50	2.70	33.00	30.00	43.50	13.50
480.08	42.70	H	18.10	4.60	33.10	32.30	46.00	13.70
666.32	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

-. Channel : High

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)
58.13	51.70	H	14.30	1.70	33.10	34.60	40.00	5.40
97.90	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
165.80	51.10	H	9.50	2.70	33.00	30.30	43.50	13.20
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

Tabulated test data for Radiated Electromagnetic Field

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)

10.7.5.3 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 ~ 26.5 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)

10.8 Test data for 802.11n_HT40 WLAN Mode

10.8.1 Test data for Antenna 0 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

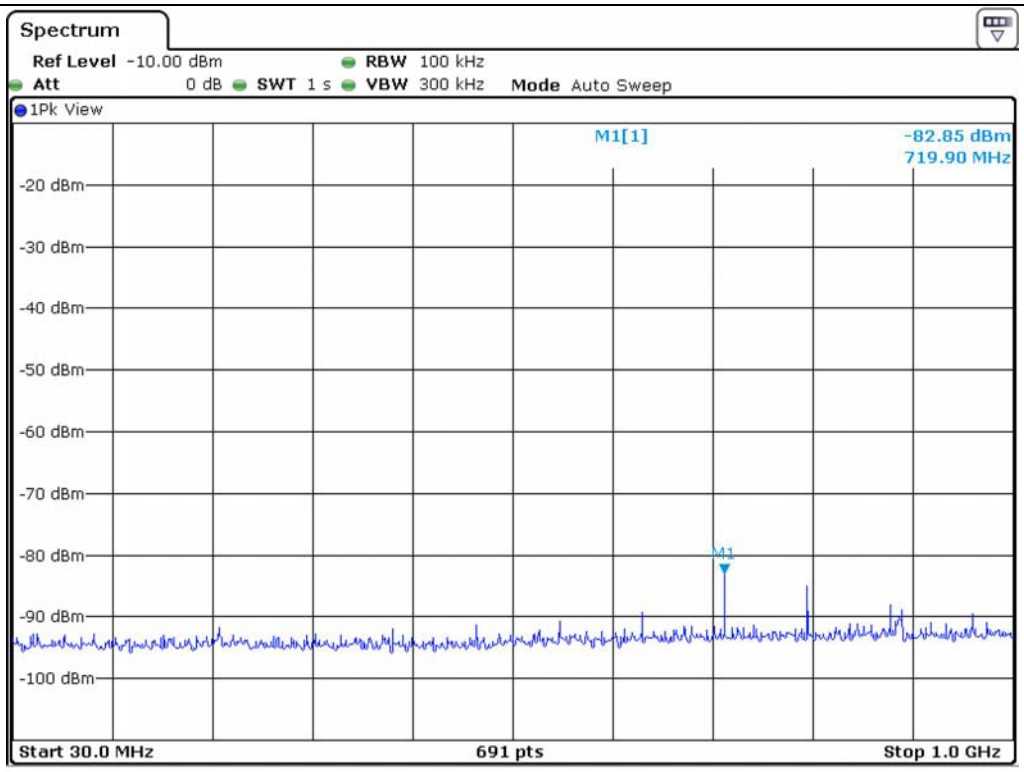
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

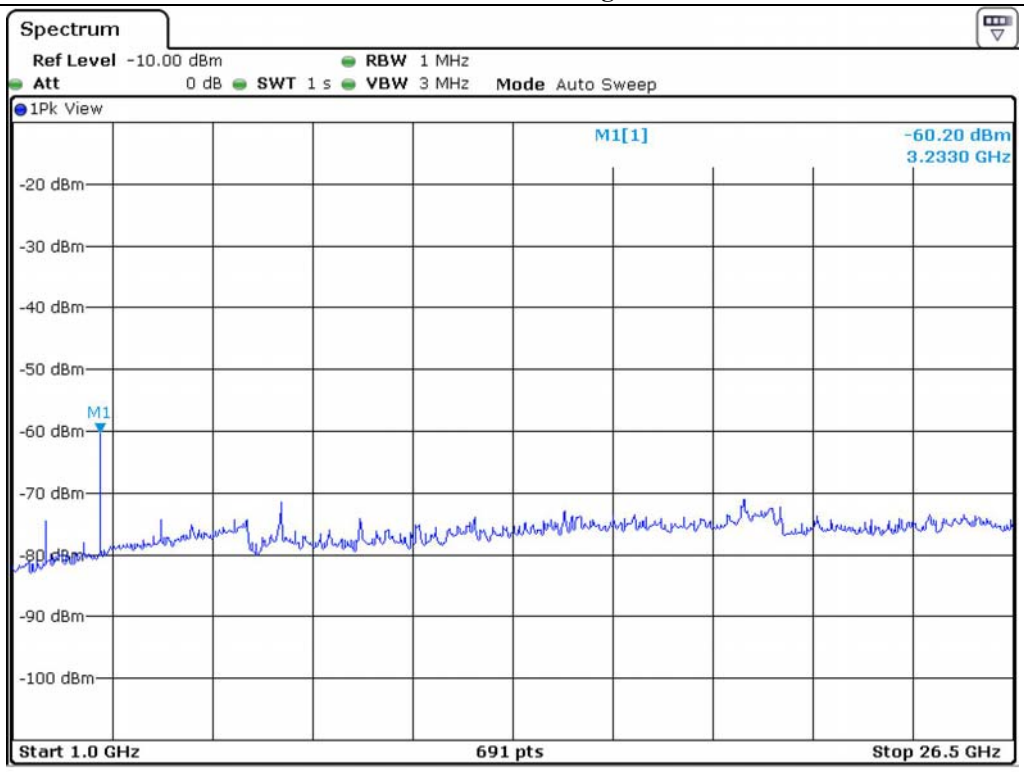
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-82.85	0.19	-82.66
3 233.00	-60.20	0.51	-59.69
Test result for Middle Channel			
719.00	-83.52	0.19	-83.33
3 270.00	-59.58	0.51	-59.07
Test result for High Channel			
719.00	-81.60	0.19	-81.41
3 270.00	-59.27	0.51	-58.76

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)

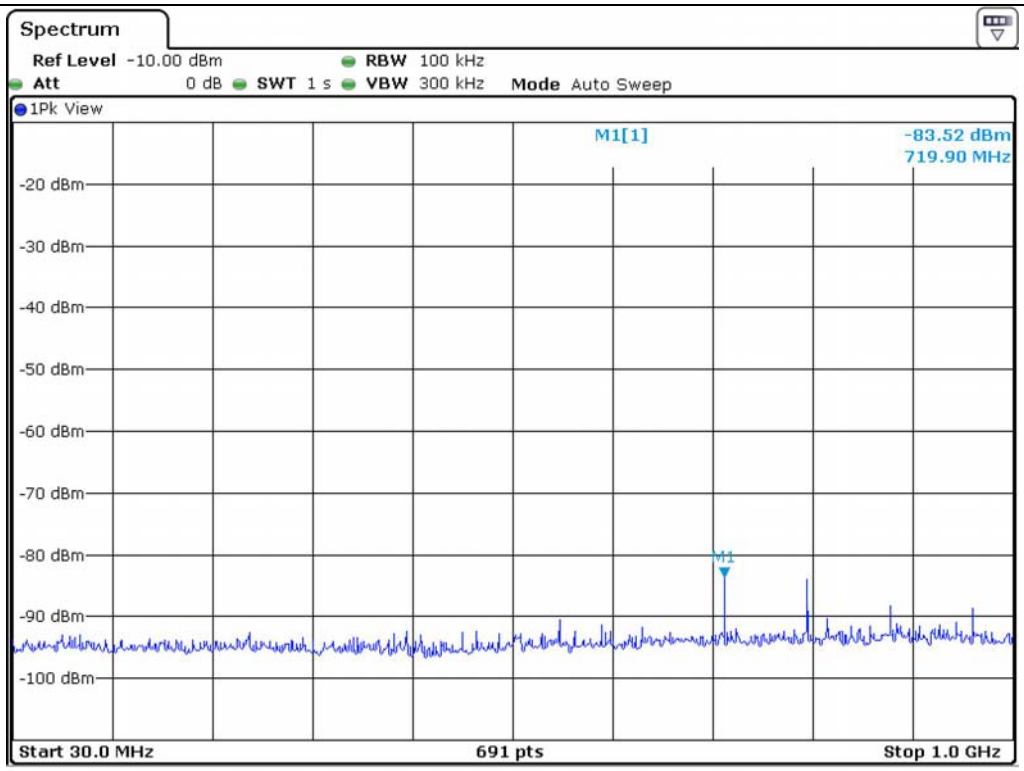


Low Channel - Receiving Mode

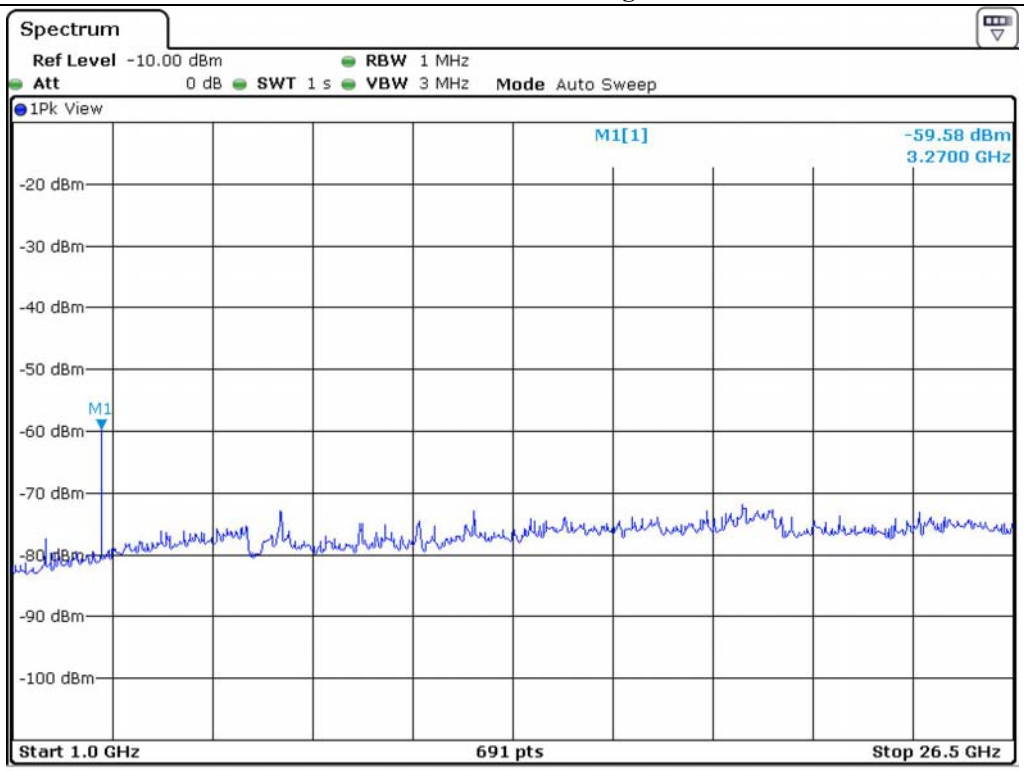


Low Channel - Receiving Mode

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)

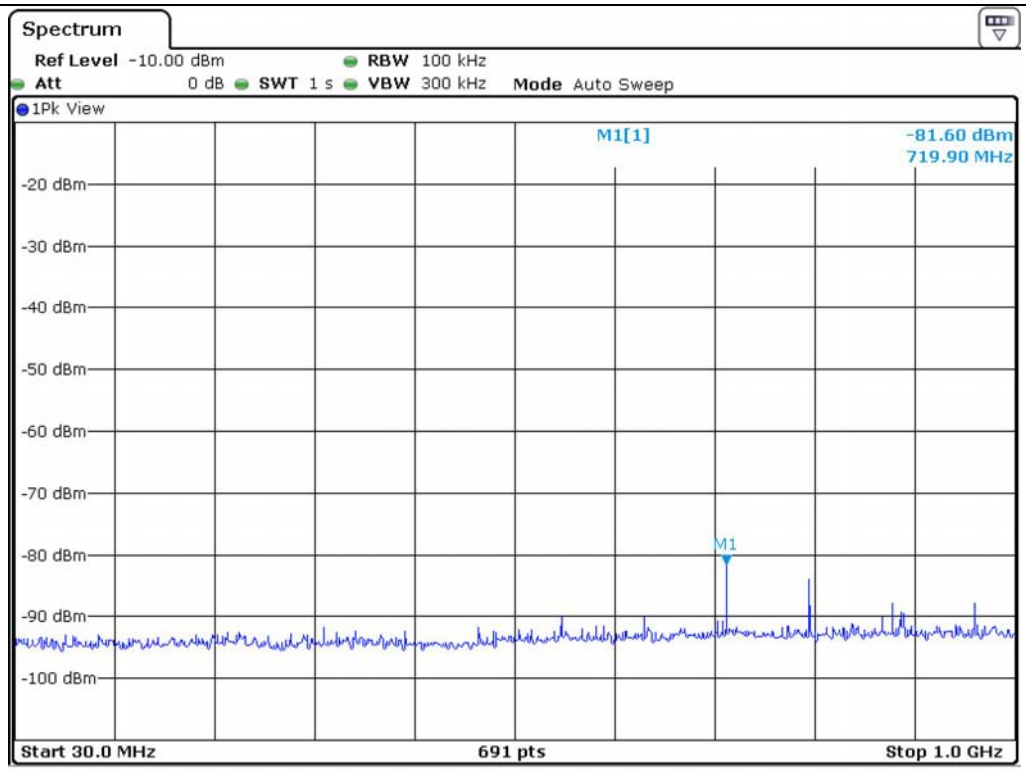


Middle Channel - Receiving Mode

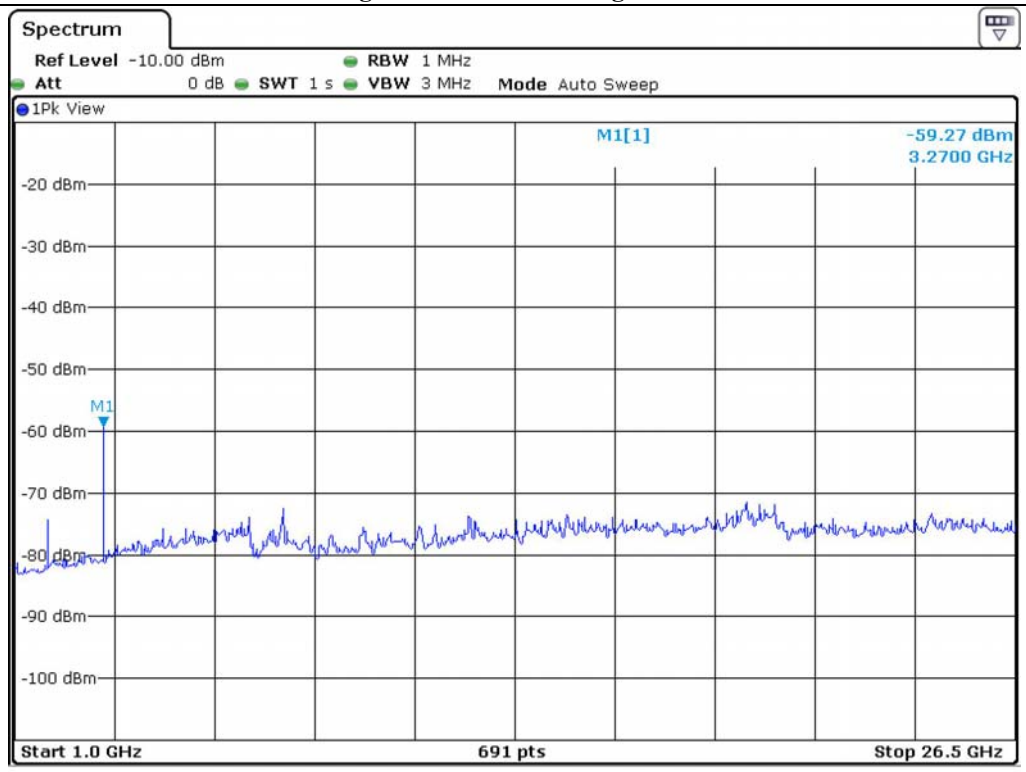


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.8.2 Test data for Antenna 0 - Radiated

10.8.2.1 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.								

10.8.2.2 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

-. Channel : Low

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)
58.13	51.20	V	14.30	1.70	33.10	34.10	40.00	5.90
97.90	55.40	V	13.20	2.10	33.10	37.60	43.50	5.90
165.80	50.60	V	9.50	2.70	33.00	29.80	43.50	13.70
480.08	42.50	V	18.10	4.60	33.10	32.10	46.00	13.90
666.32	39.70	H	20.60	5.40	33.30	32.40	46.00	13.60

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)

-. Channel : Middle

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)
58.13	52.50	H	14.30	1.70	33.10	35.40	40.00	4.60
97.90	56.40	H	13.20	2.10	33.10	38.60	43.50	4.90
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

-. Channel : High

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)
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	55.20	H	13.20	2.10	33.10	37.40	43.50	6.10
165.80	50.50	H	9.50	2.70	33.00	29.70	43.50	13.80
480.08	42.50	H	18.10	4.60	33.10	32.10	46.00	13.90
666.32	40.50	V	20.60	5.40	33.30	33.20	46.00	12.80

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)

10.8.2.3 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 ~ 26.5 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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10.8.3 Test data for Antenna 1 – Conducted

-. Test Date : December 26, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

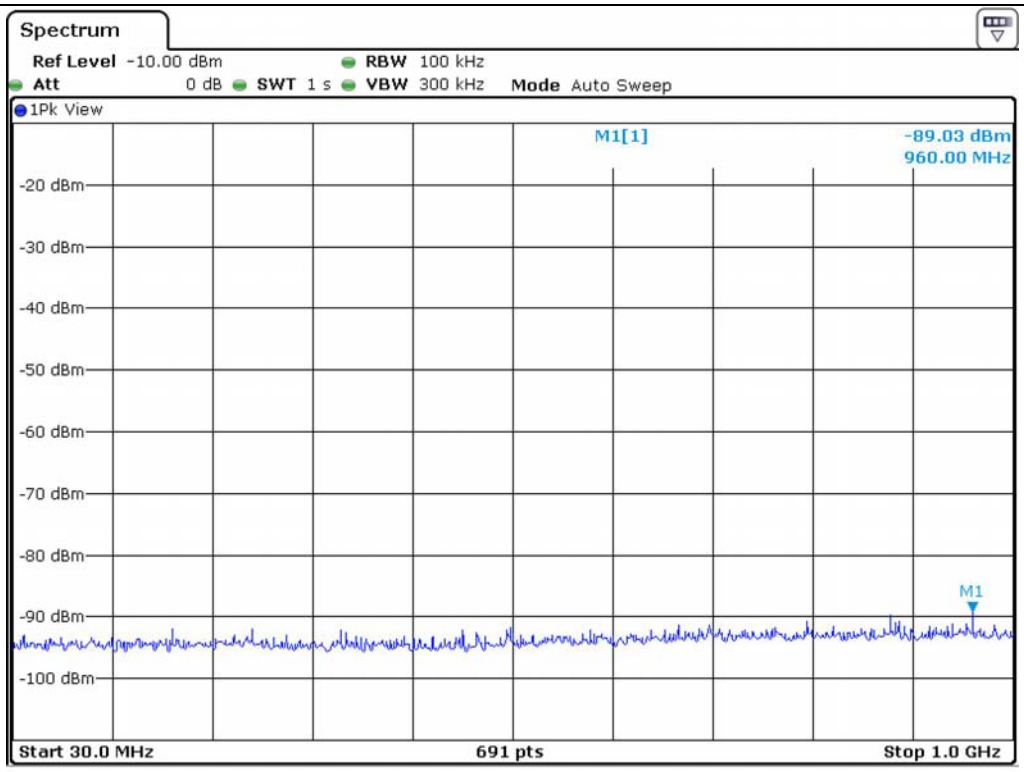
-. Frequency range : 30 MHz ~ 26.5 GHz

-. Test Result : Pass

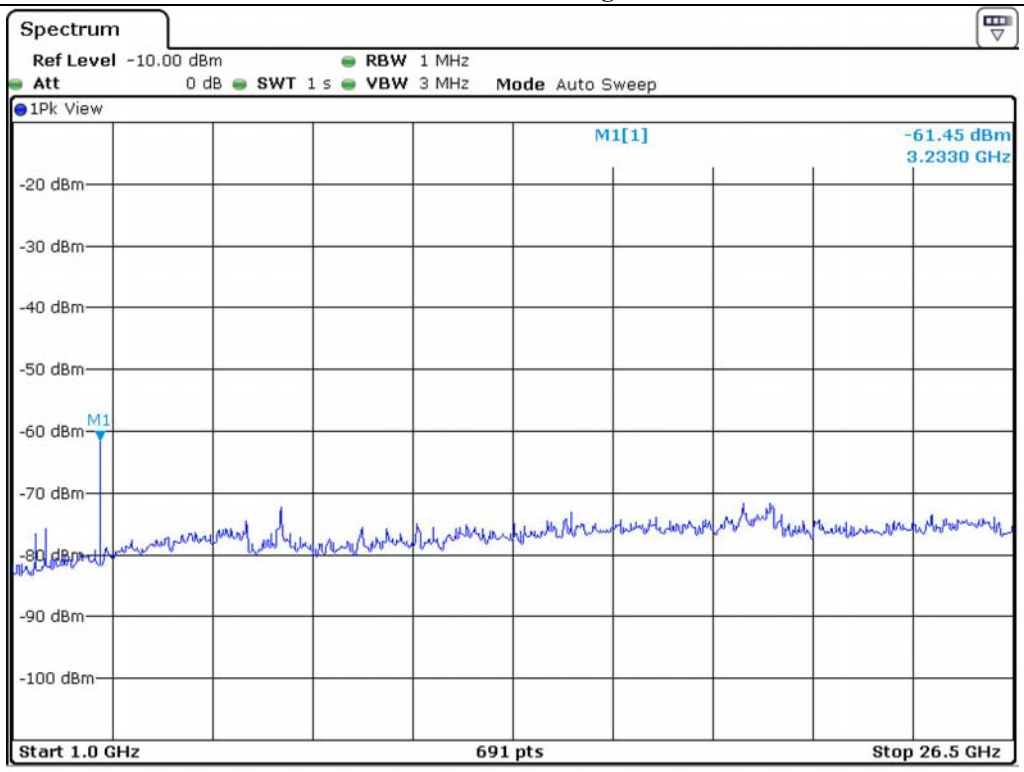
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-89.03	0.22	-88.81
3 233.00	-61.45	0.51	-60.94
Test result for Middle Channel			
960.00	-87.56	0.22	-87.34
3 270.00	-61.63	0.51	-61.12
Test result for High Channel			
960.00	-88.38	0.22	-88.16
3 270.00	-61.70	0.51	-61.19

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)

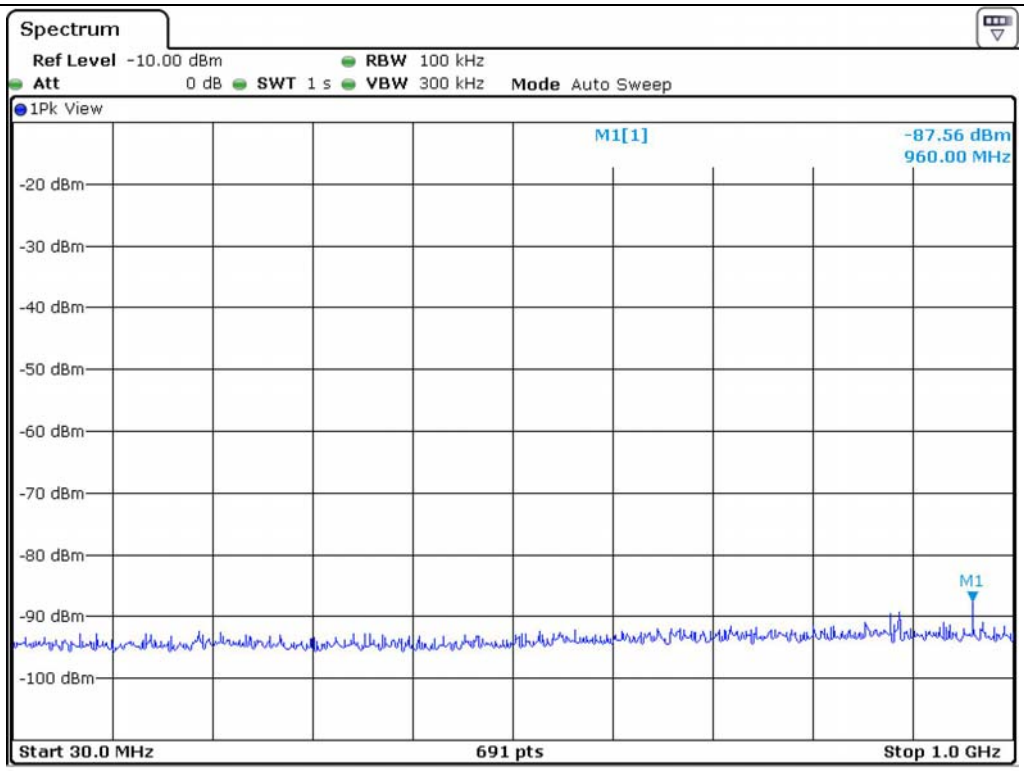


Low Channel - Receiving Mode

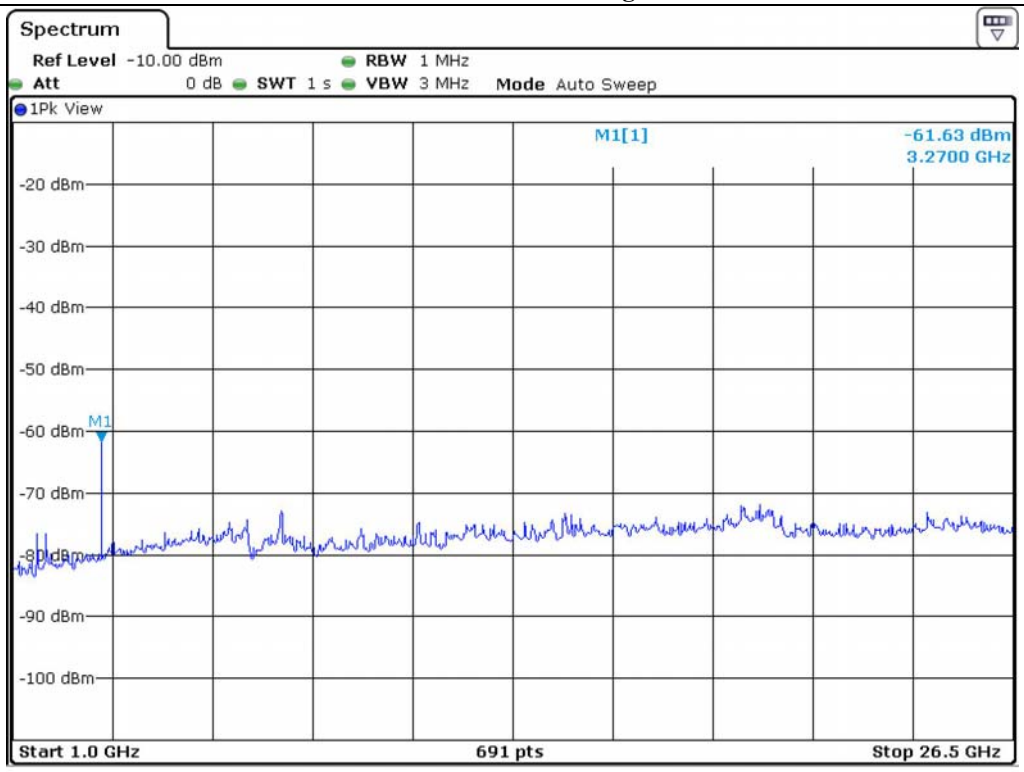


Low Channel - Receiving Mode

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)

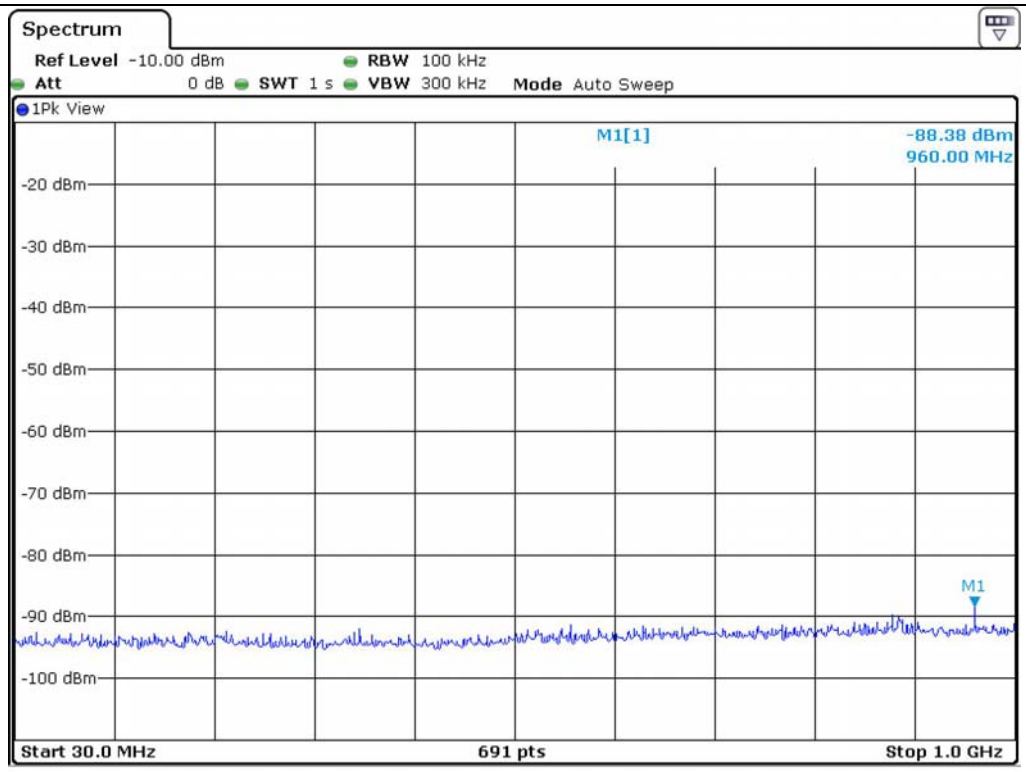


Middle Channel - Receiving Mode

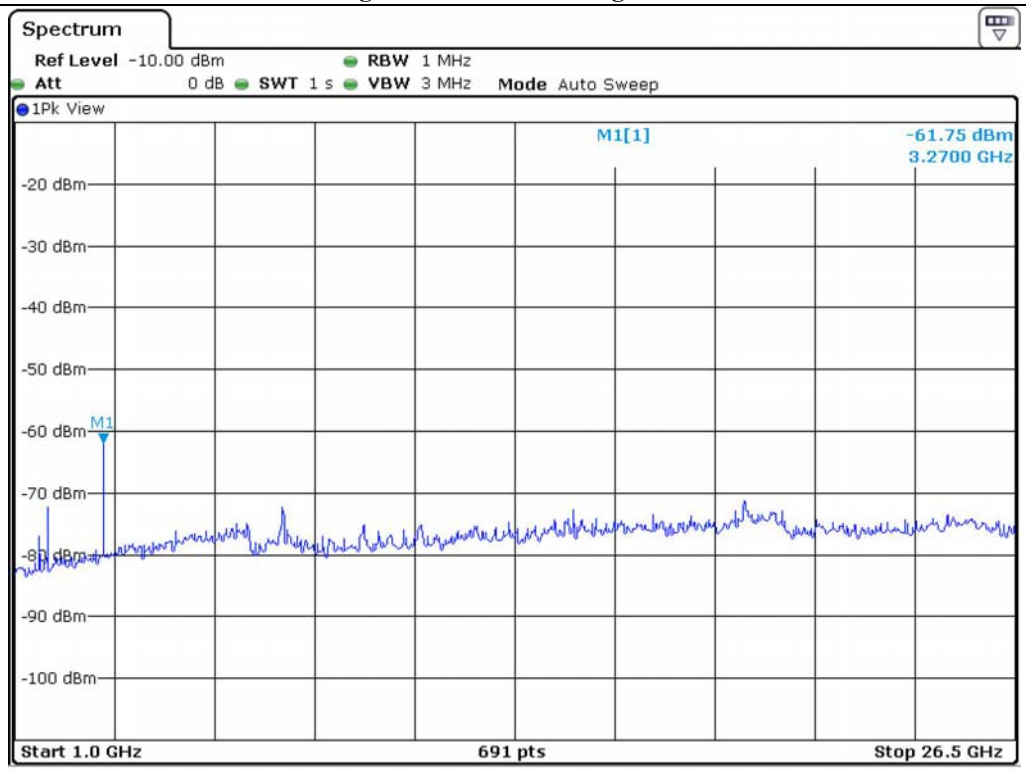


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.8.4 Test data for Antenna 1 - Radiated

10.8.4.1 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.								

10.8.4.2 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

-. Channel : Low

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)
58.13	52.80	H	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
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	40.70	V	20.60	5.40	33.30	33.40	46.00	12.60

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)

-. Channel : Middle

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)
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	55.60	H	13.20	2.10	33.10	37.80	43.50	5.70
165.80	50.60	H	9.50	2.70	33.00	29.80	43.50	13.70
480.08	42.30	H	18.10	4.60	33.10	31.90	46.00	14.10
666.32	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

-. Channel : High

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)
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	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
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)

10.8.4.3 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 ~ 26.5 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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10.8.5 Test data for Multiple transmit - Radiated

10.8.5.1 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.								

10.8.5.2 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

-. Channel : Low

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)
58.13	52.10	H	14.30	1.70	33.10	35.00	40.00	5.00
97.90	54.90	H	13.20	2.10	33.10	37.10	43.50	6.40
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	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

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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)

-. Channel : Middle

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)
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	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	40.00	V	20.60	5.40	33.30	32.70	46.00	13.30

-. Channel : High

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)
58.13	51.50	H	14.30	1.70	33.10	34.40	40.00	5.60
97.90	55.50	H	13.20	2.10	33.10	37.70	43.50	5.80
165.80	51.20	H	9.50	2.70	33.00	30.40	43.50	13.10
480.08	42.40	H	18.10	4.60	33.10	32.00	46.00	14.00
666.32	39.90	V	20.60	5.40	33.30	32.60	46.00	13.40

Tabulated test data for Radiated Electromagnetic Field

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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10.8.5.3 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 ~ 26.5 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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10.9 Test data for 802.11a RLAN Mode

10.9.1 Test data for Antenna 0 – Conducted

-. Test Date : December 27, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

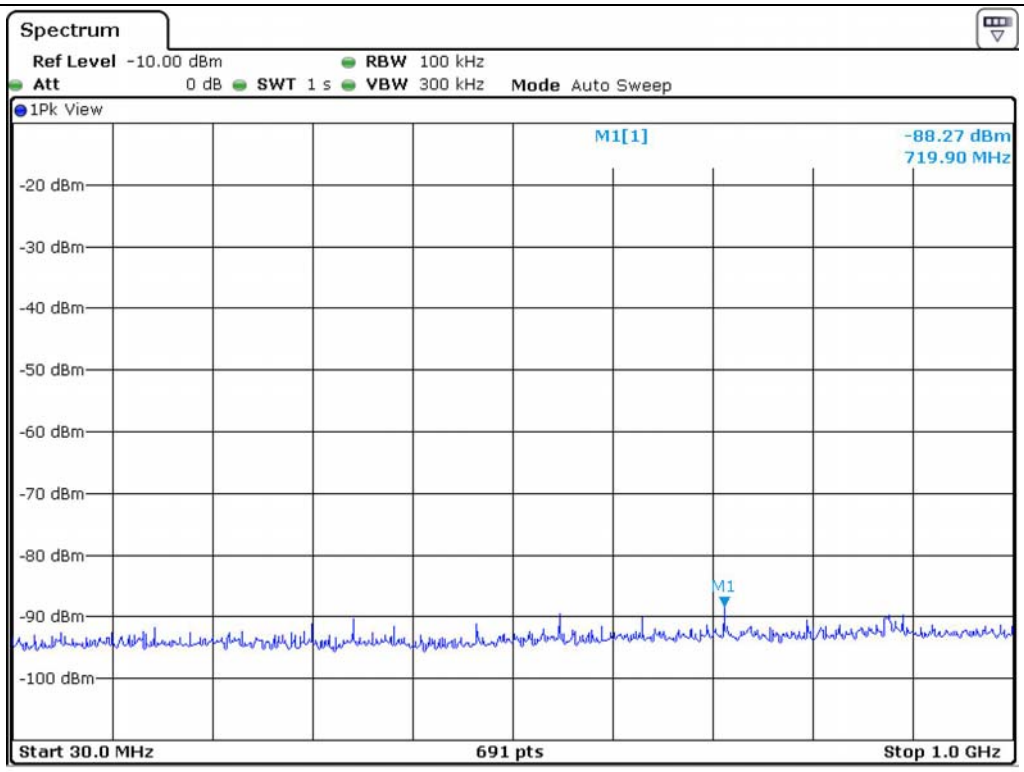
-. Frequency range : 30 MHz ~ 40 GHz

-. Test Result : Pass

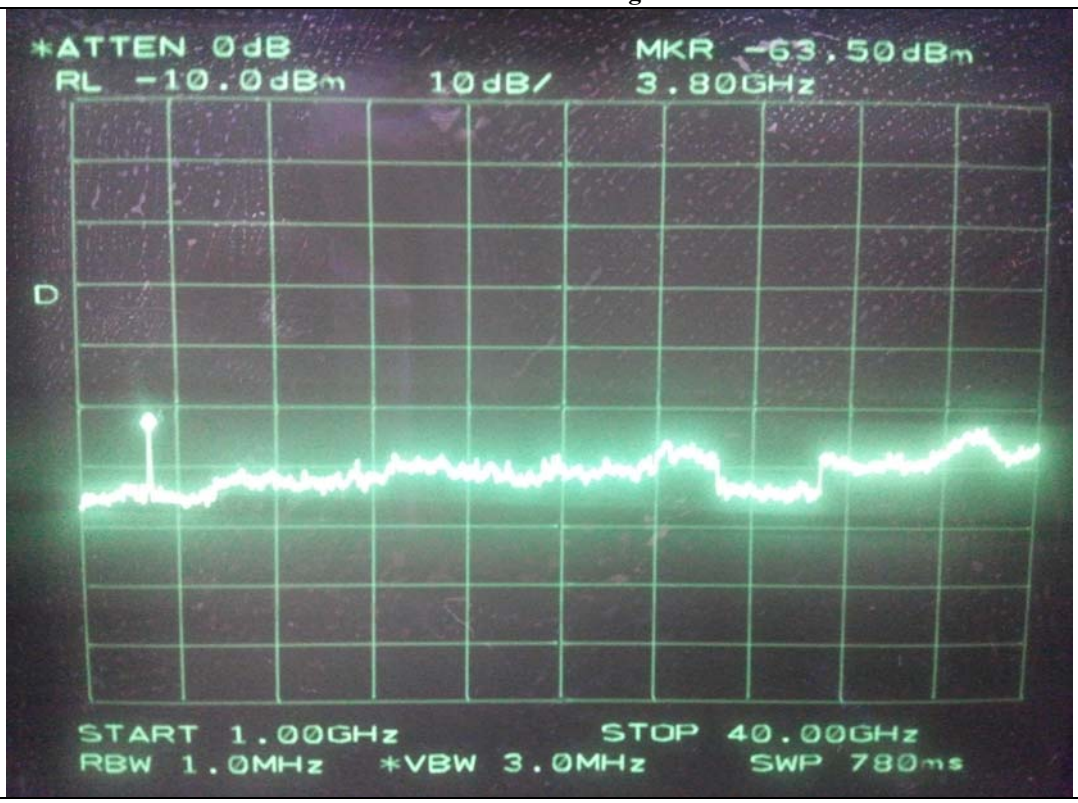
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-88.27	0.19	-88.08
3 800.00	-63.50	0.69	-62.81
Test result for Middle Channel			
719.00	-88.09	0.19	-87.90
3 800.00	-62.83	0.69	-62.14
Test result for High Channel			
719.00	-87.03	0.19	-86.84
3 800.00	-63.17	0.69	-62.48

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)

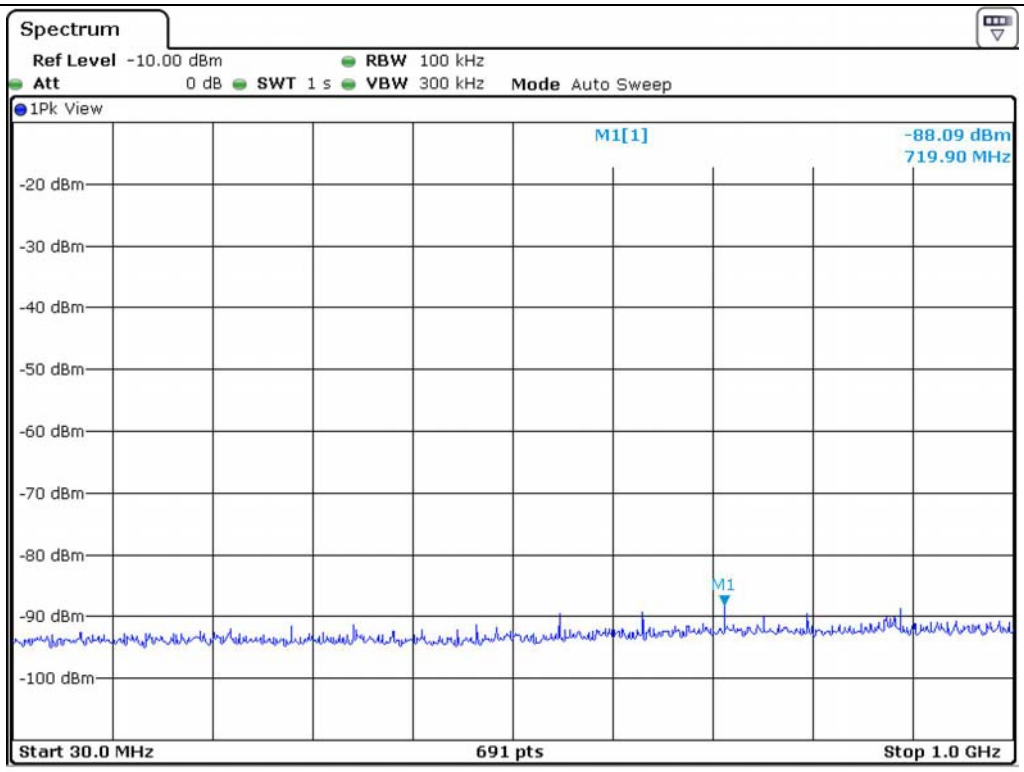


Low Channel - Receiving Mode

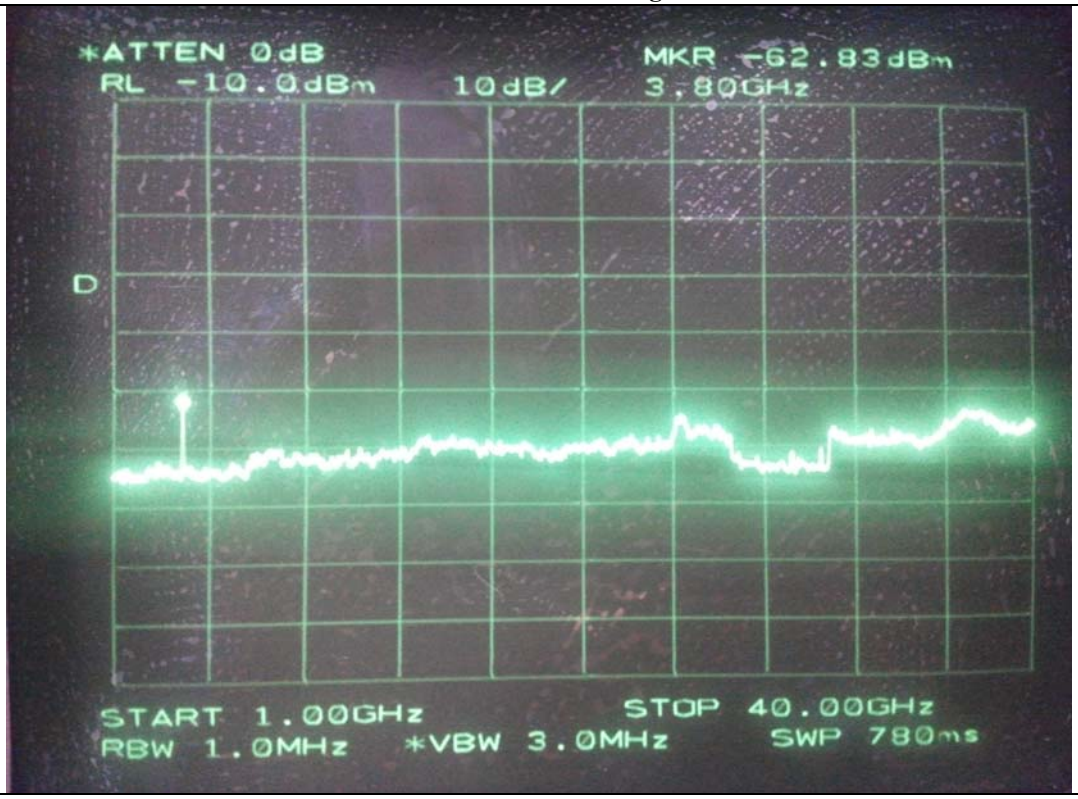


Low Channel - Receiving Mode

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)

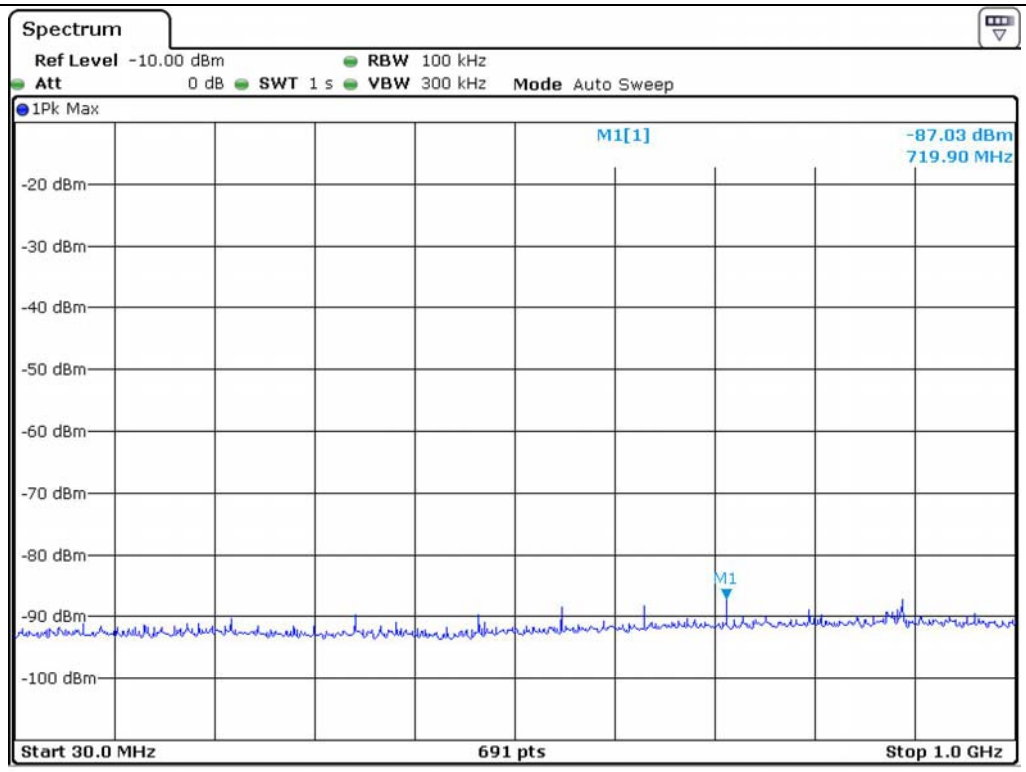


Middle Channel - Receiving Mode

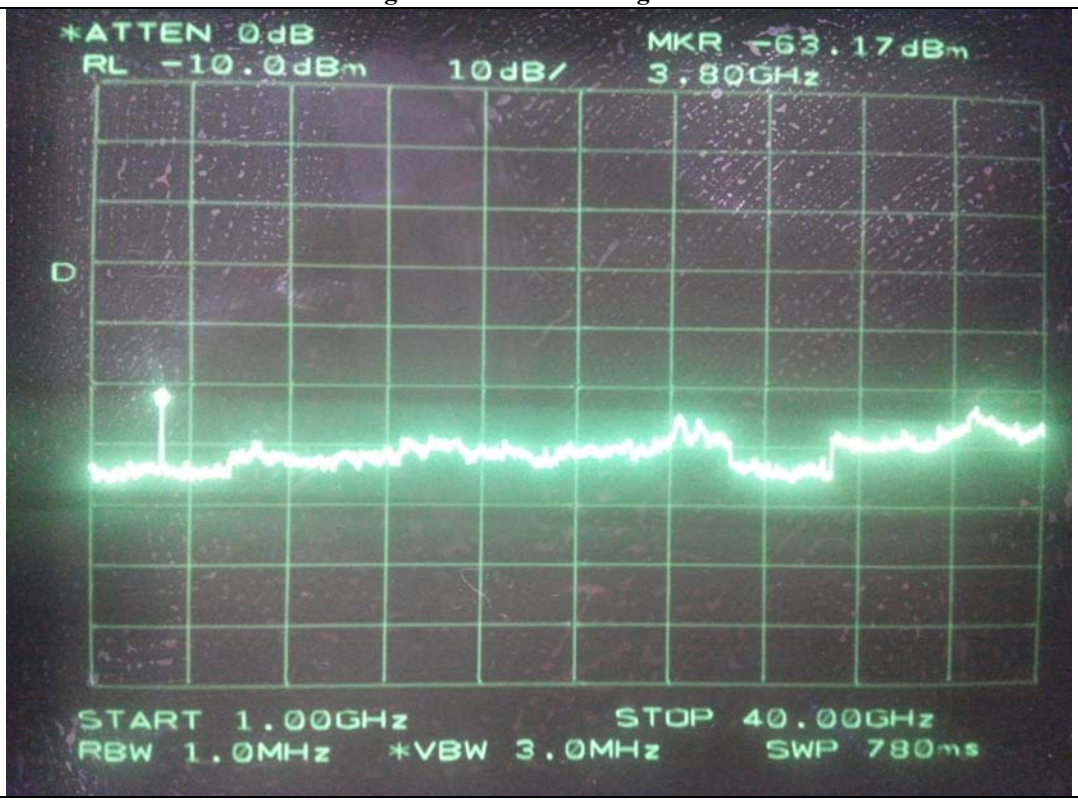


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.9.2 Test data for Antenna 0 - Radiated

10.9.2.1 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.								

10.9.2.2 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

-. Channel : Low

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)
58.13	52.80	V	14.30	1.70	33.10	35.70	40.00	4.30
97.90	56.10	V	13.20	2.10	33.10	38.30	43.50	5.20
165.80	51.60	V	9.50	2.70	33.00	30.80	43.50	12.70
480.08	43.60	V	18.10	4.60	33.10	33.20	46.00	12.80
666.32	41.60	H	20.60	5.40	33.30	34.30	46.00	11.70

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)

-. Channel : Middle

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)
119.24	52.70	H	14.30	1.70	33.10	35.60	40.00	4.40
239.52	56.70	H	13.20	2.10	33.10	38.90	43.50	4.60
600.36	51.50	H	9.50	2.70	33.00	30.70	43.50	12.80
839.94	43.30	H	18.10	4.60	33.10	32.90	46.00	13.10
961.19	40.90	V	20.60	5.40	33.30	33.60	46.00	12.40

-. Channel : High

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)
119.24	51.70	H	14.30	1.70	33.10	34.60	40.00	5.40
239.52	55.00	H	13.20	2.10	33.10	37.20	43.50	6.30
600.36	50.70	H	9.50	2.70	33.00	29.90	43.50	13.60
839.94	42.30	H	18.10	4.60	33.10	31.90	46.00	14.10
961.19	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)

10.9.2.3 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)

10.9.3 Test data for Antenna 1 – Conducted

-. Test Date : December 27, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

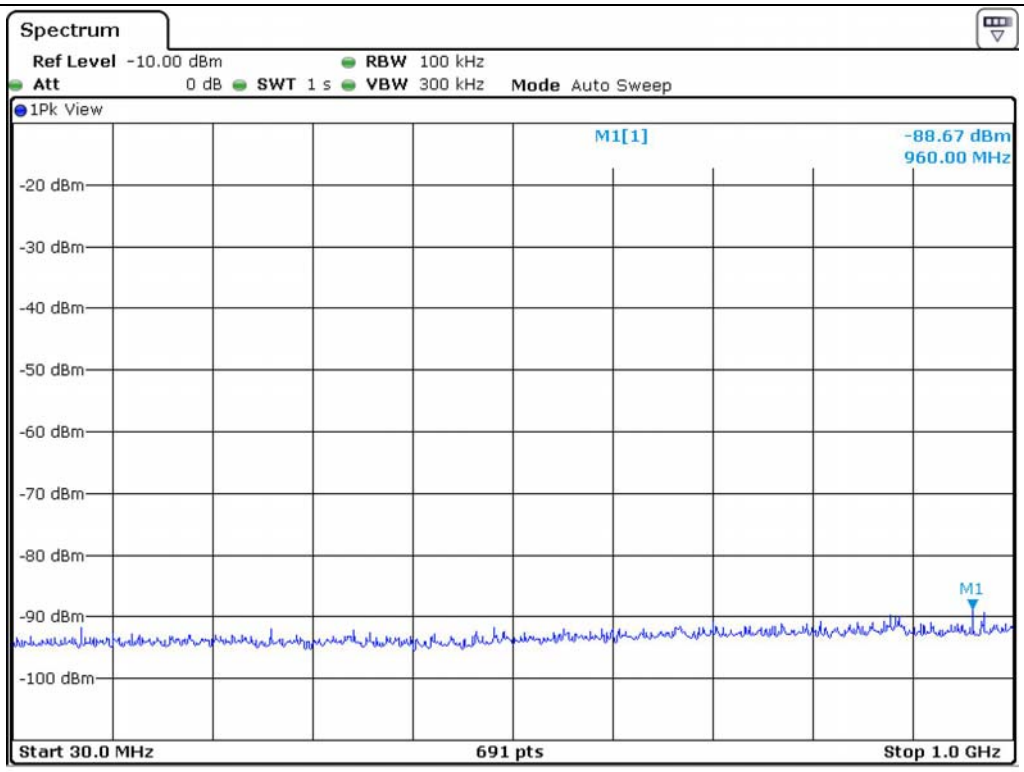
-. Frequency range : 30 MHz ~ 40 GHz

-. Test Result : Pass

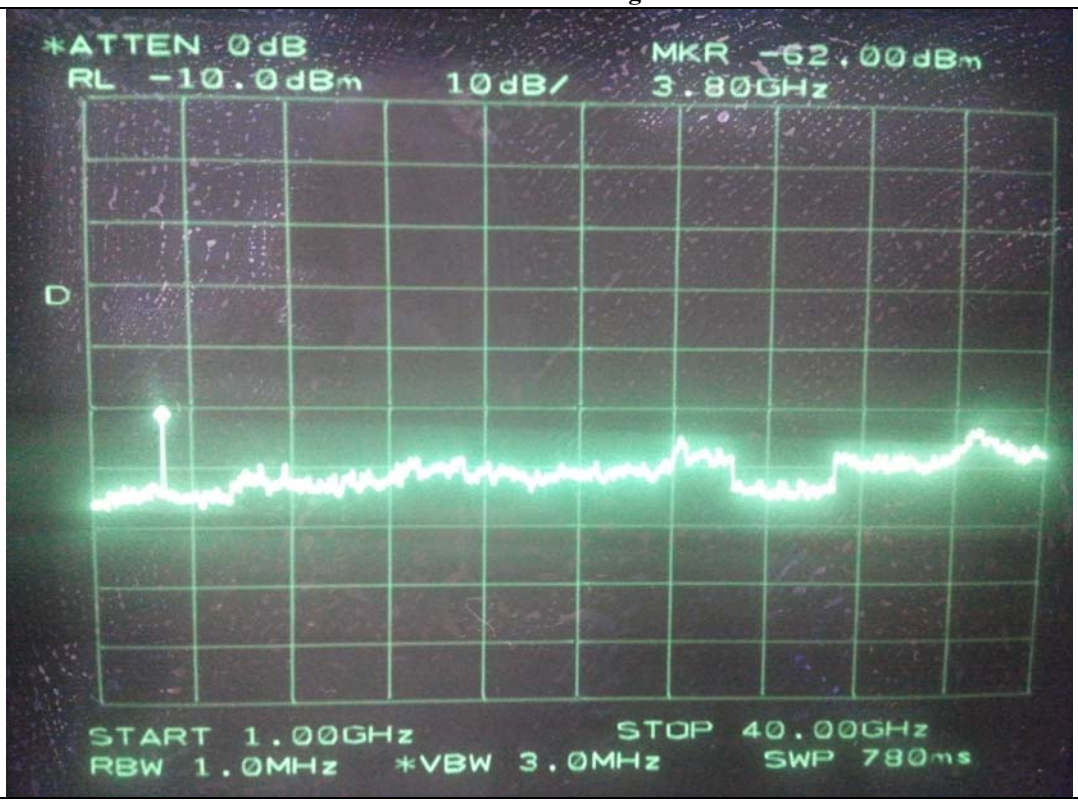
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-88.67	0.22	-88.45
3 800.00	-62.00	0.69	-61.31
Test result for Middle Channel			
960.00	-88.24	0.22	-88.02
3 800.00	-61.67	0.69	-60.98
Test result for High Channel			
960.00	-89.06	0.22	-88.84
3 800.00	-62.33	0.69	-61.64

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)

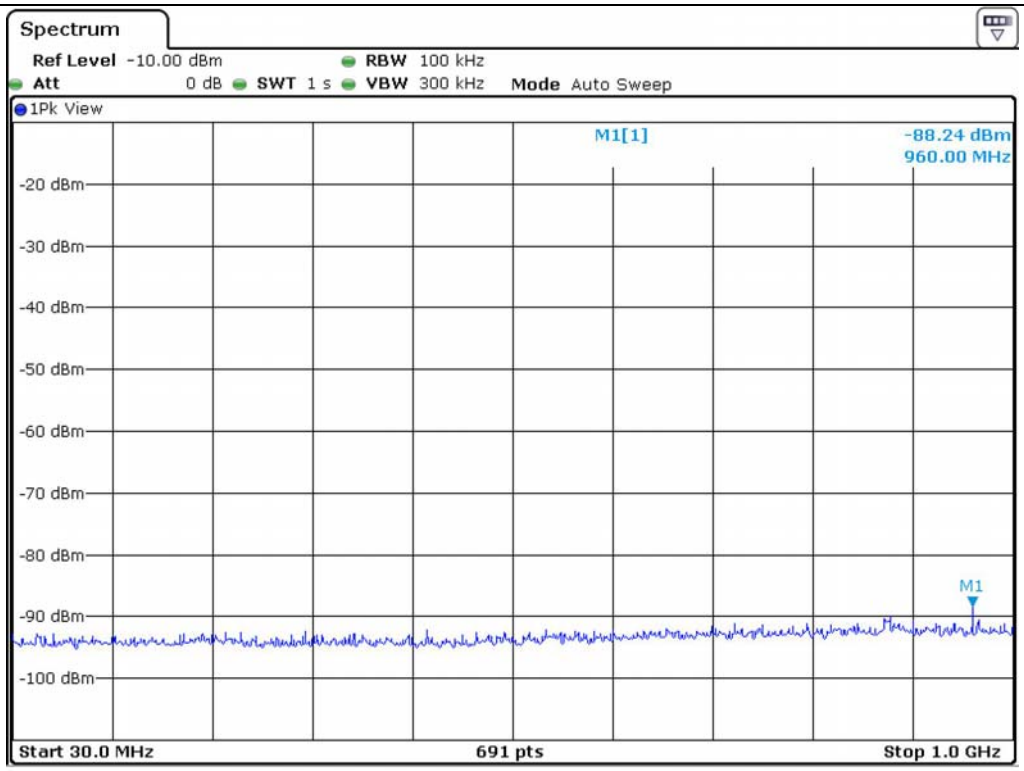


Low Channel - Receiving Mode

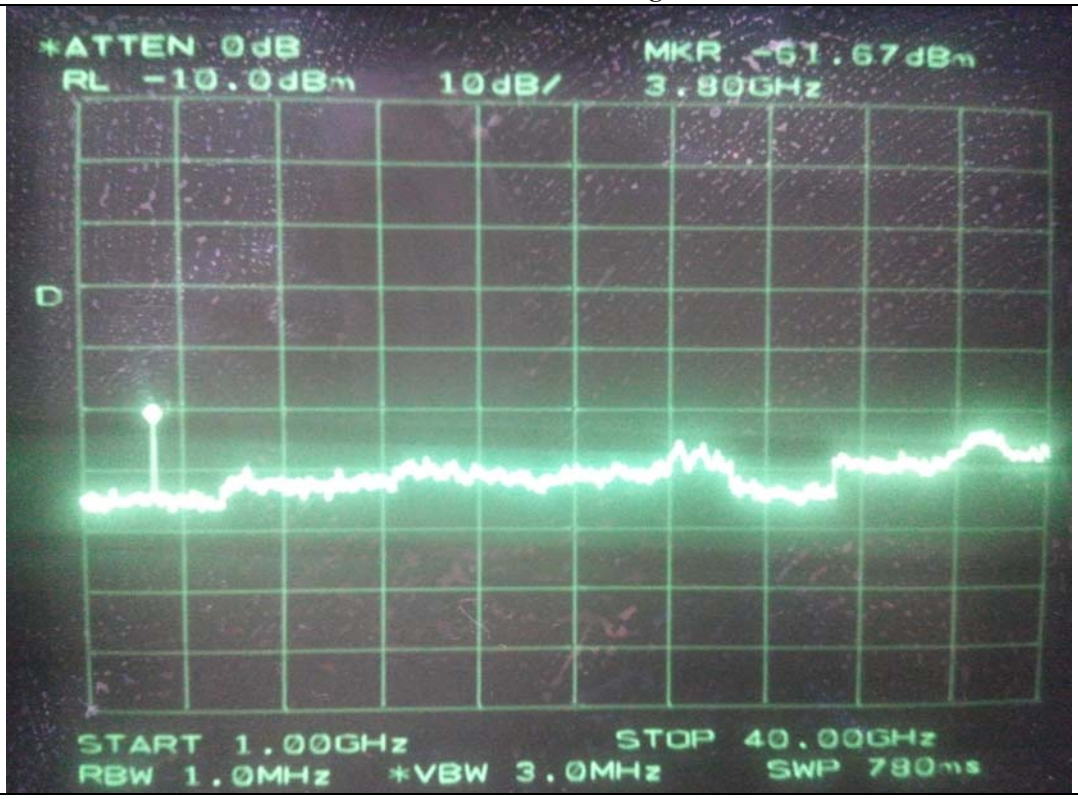


Low Channel - Receiving Mode

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)

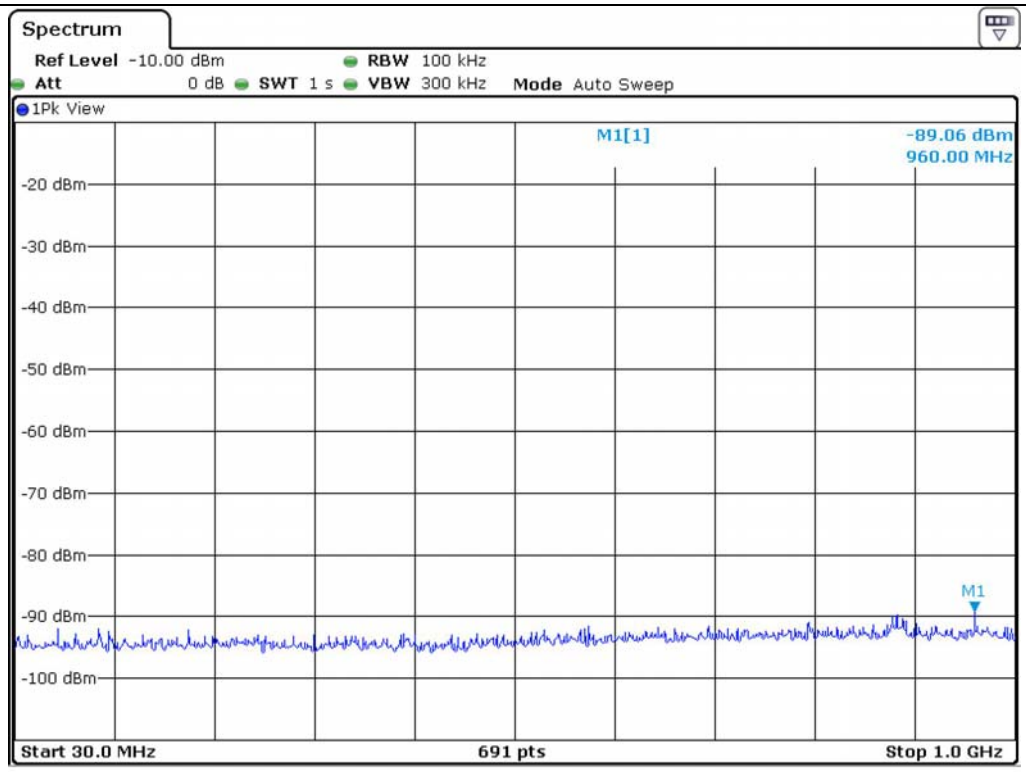


Middle Channel - Receiving Mode

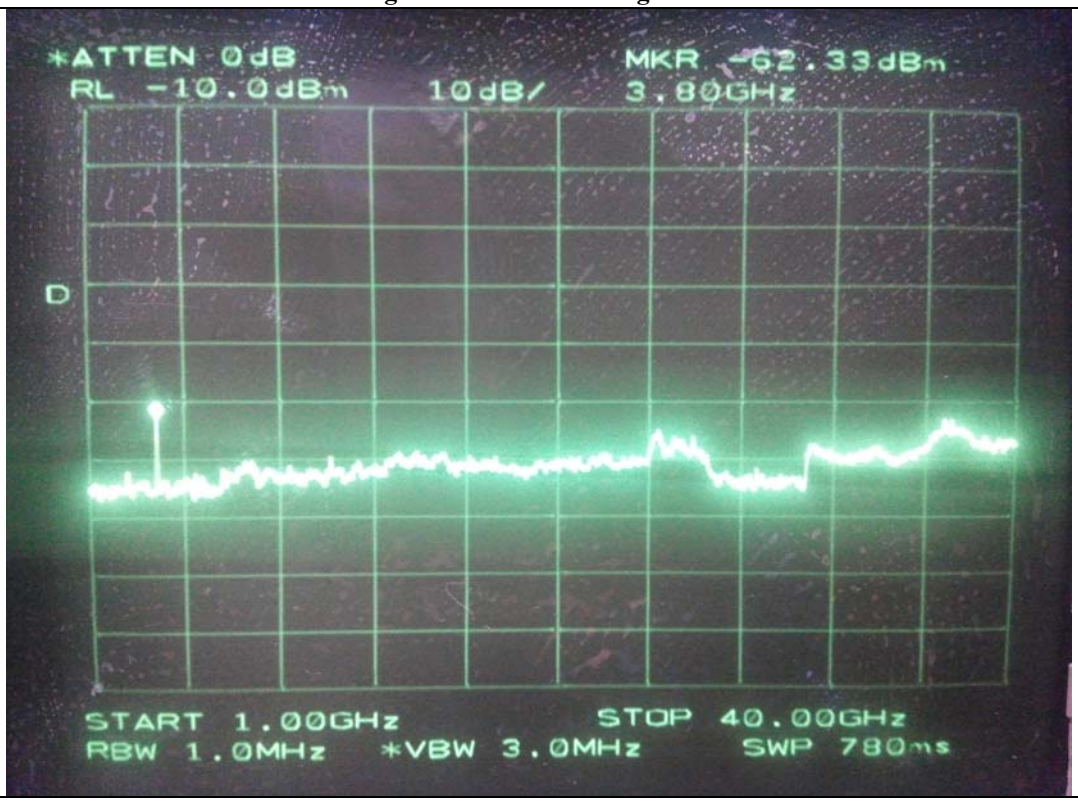


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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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10.9.4 Test data for Antenna 1 - Radiated

10.9.4.1 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.								

10.9.4.2 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

-. Channel : Low

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)
58.13	52.60	H	14.30	1.70	33.10	35.50	40.00	4.50
97.90	56.00	H	13.20	2.10	33.10	38.20	43.50	5.30
165.80	52.30	H	9.50	2.70	33.00	31.50	43.50	12.00
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

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)

-. Channel : Middle

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)
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.00	H	13.20	2.10	33.10	38.20	43.50	5.30
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	41.40	V	20.60	5.40	33.30	34.10	46.00	11.90

-. Channel : High

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)
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.40	H	13.20	2.10	33.10	38.60	43.50	4.90
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	41.60	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)

10.9.4.3 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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10.10 Test data for 802.11n_HT20 RLAN Mode

10.10.1 Test data for Antenna 0 – Conducted

-. Test Date : December 27, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

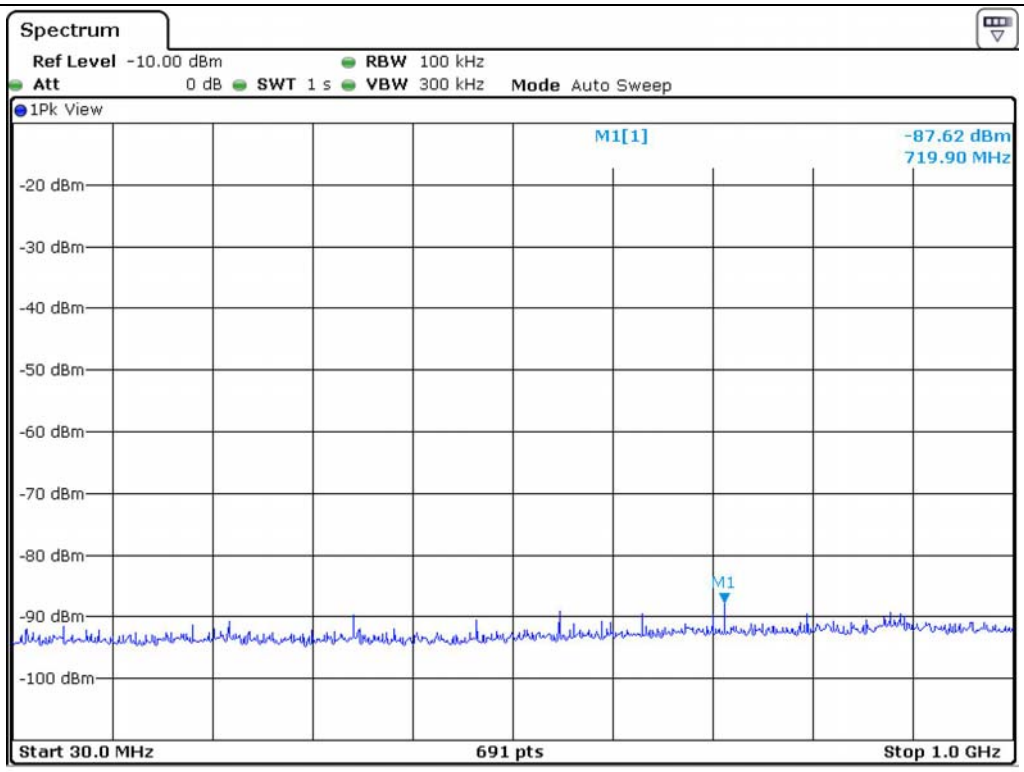
-. Frequency range : 30 MHz ~ 40 GHz

-. Test Result : Pass

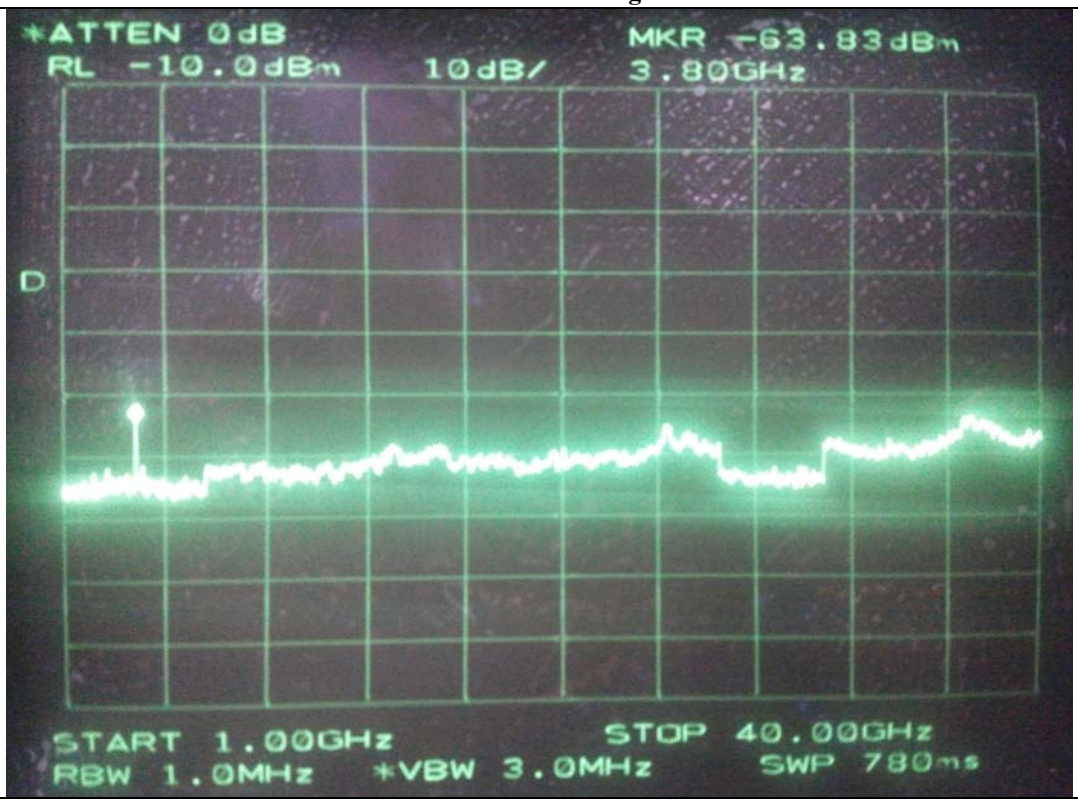
Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
719.90	-87.62	0.19	-87.43
3 800.00	-63.83	0.69	-63.14
Test result for Middle Channel			
719.00	-88.54	0.19	-88.35
3 800.00	-62.67	0.69	-61.98
Test result for High Channel			
719.00	-87.94	0.19	-87.75
3 800.00	-63.00	0.69	-62.31

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)

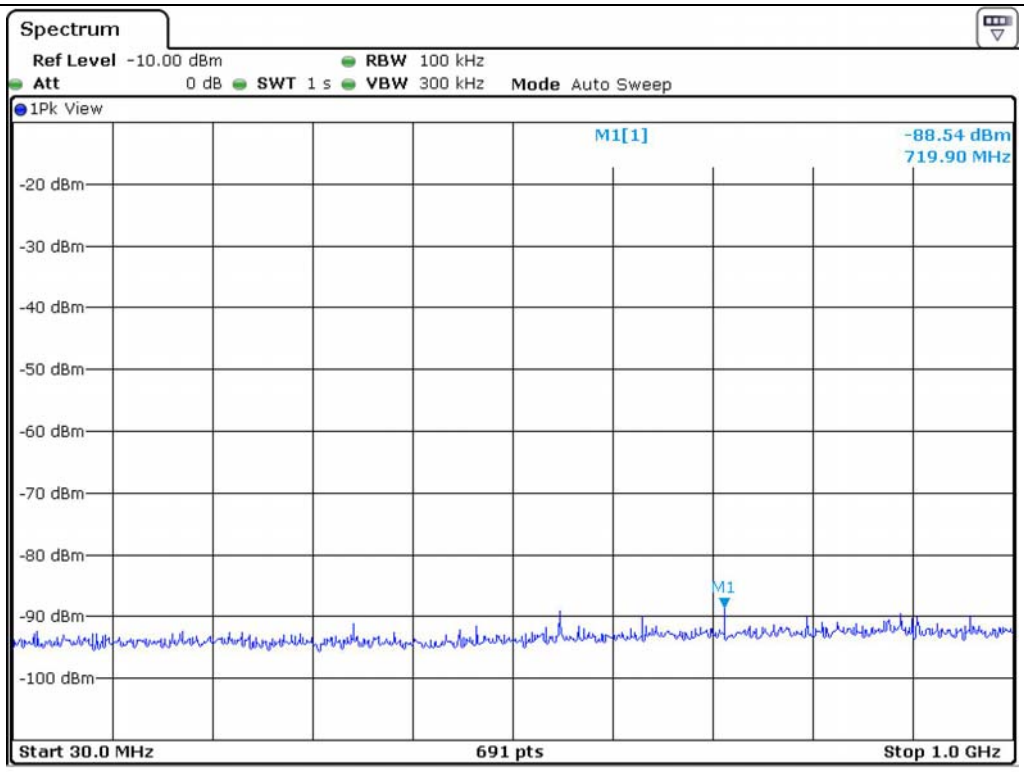


Low Channel - Receiving Mode

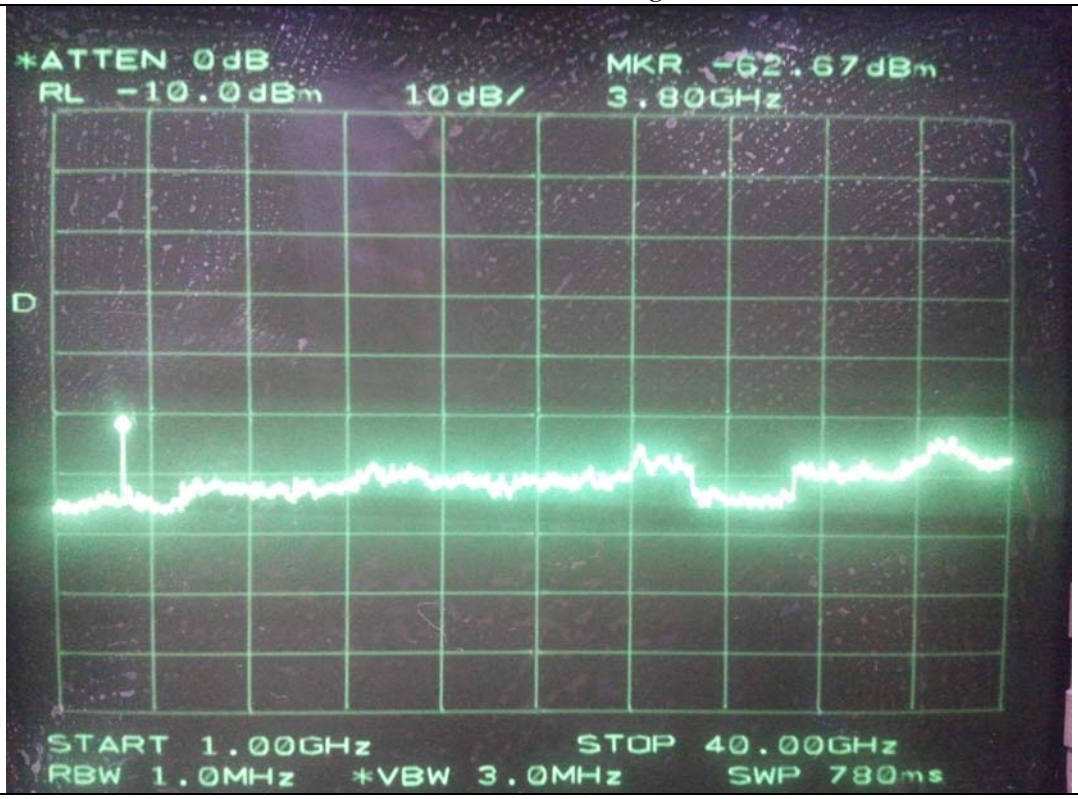


Low Channel - Receiving Mode

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)

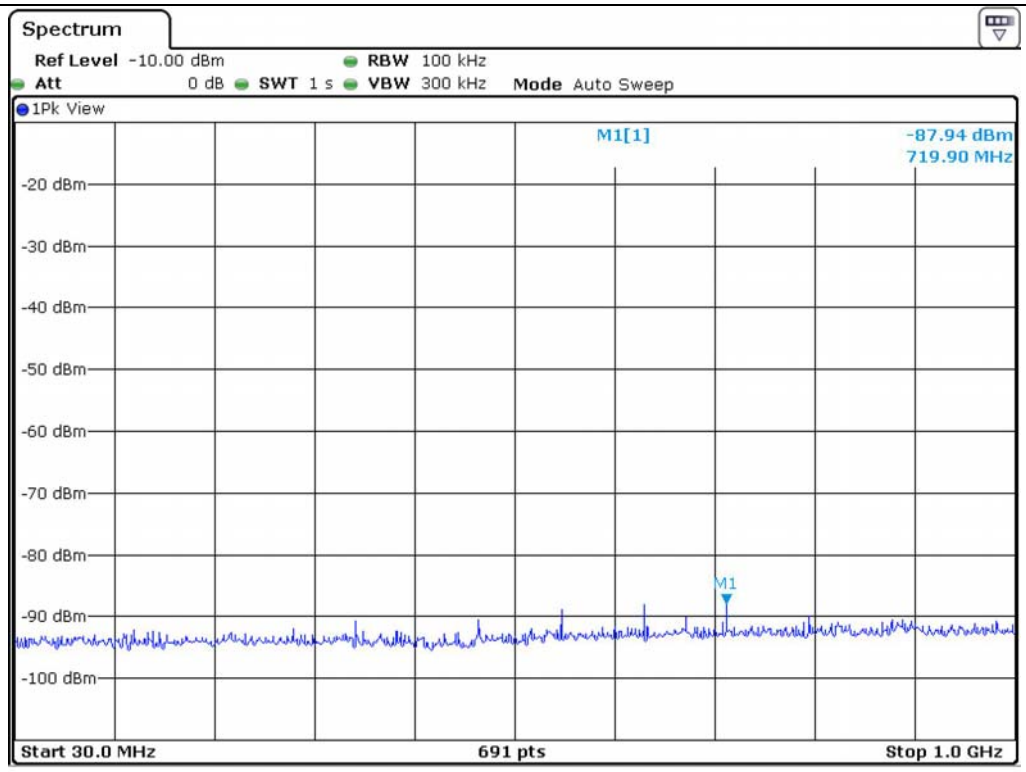


Middle Channel - Receiving Mode

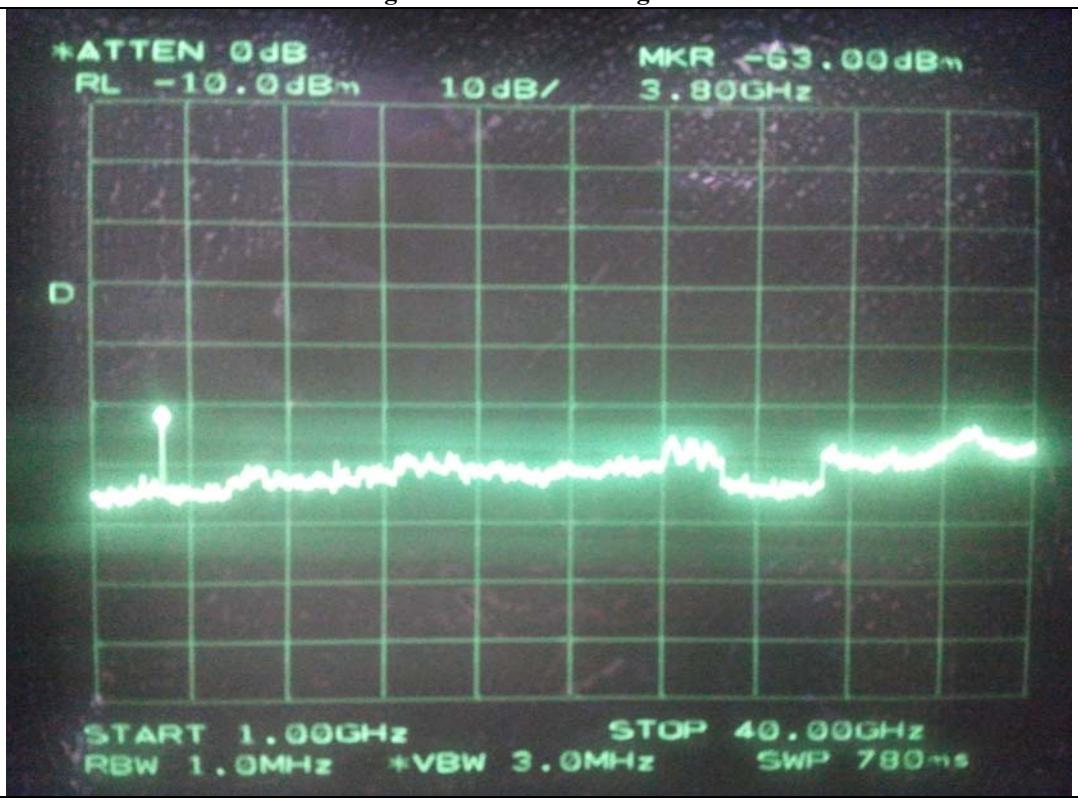


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.10.2 Test data for Antenna 0 - Radiated

10.10.2.1 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.								

10.10.2.2 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

-. Channel : Low

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)
58.13	52.40	V	14.30	1.70	33.10	35.30	40.00	4.70
97.90	55.60	V	13.20	2.10	33.10	37.80	43.50	5.70
165.80	51.10	V	9.50	2.70	33.00	30.30	43.50	13.20
480.08	42.10	V	18.10	4.60	33.10	31.70	46.00	14.30
666.32	39.90	H	20.60	5.40	33.30	32.60	46.00	13.40

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)

-. Channel : Middle

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)
58.13	52.90	H	14.30	1.70	33.10	35.80	40.00	4.20
97.90	56.50	H	13.20	2.10	33.10	38.70	43.50	4.80
165.80	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
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

-. Channel : High

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)
58.13	52.00	H	14.30	1.70	33.10	34.90	40.00	5.10
97.90	55.30	H	13.20	2.10	33.10	37.50	43.50	6.00
165.80	50.70	H	9.50	2.70	33.00	29.90	43.50	13.60
480.08	42.00	H	18.10	4.60	33.10	31.60	46.00	14.40
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)

10.10.2.3 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)
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10.10.3 Test data for Antenna 1 – Conducted

-. Test Date : December 27, 2013

-. Resolution bandwidth : 120 kHz / 1 MHz

-. Frequency range : 30 MHz ~ 40 GHz

-. Test Result : Pass

Frequency (MHz)	Spectrum Reading (dBm)	Cable Loss (dB)	Total (dBm)
Test result for Low Channel			
960.00	-87.60	0.22	-87.38
3 800.00	-61.83	0.69	-61.14
Test result for Middle Channel			
960.00	-88.63	0.22	-88.41
3 800.00	-59.33	0.69	-58.64
Test result for High Channel			
960.00	-89.61	0.22	-89.39
3 800.00	-61.17	0.69	-60.48

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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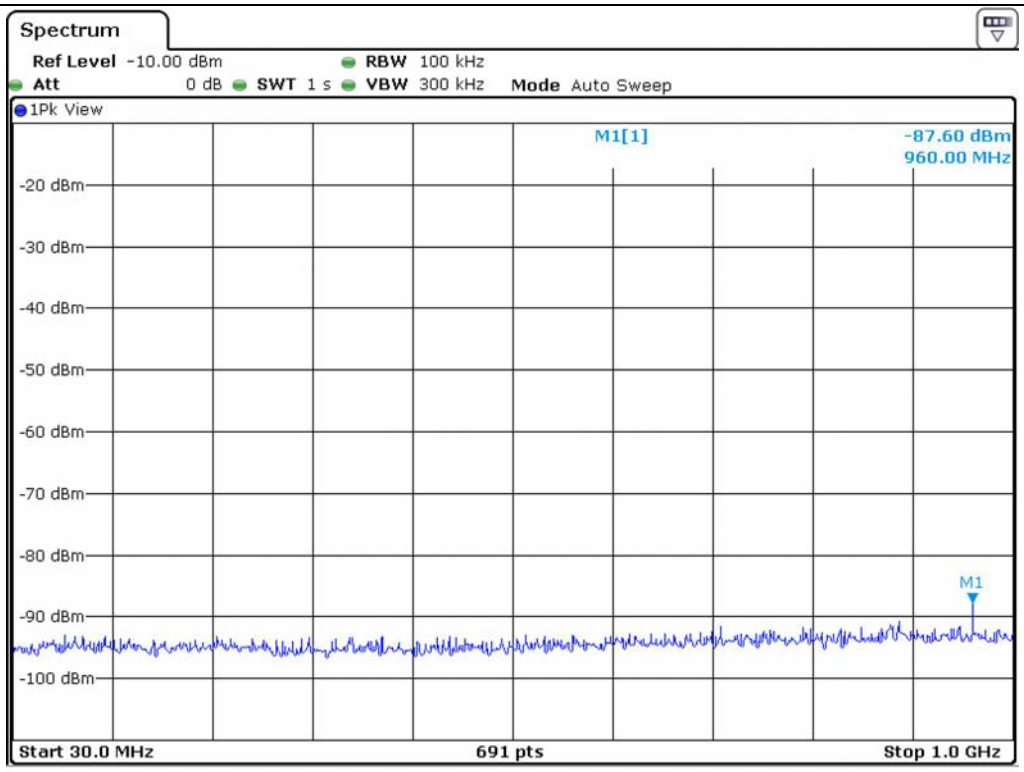
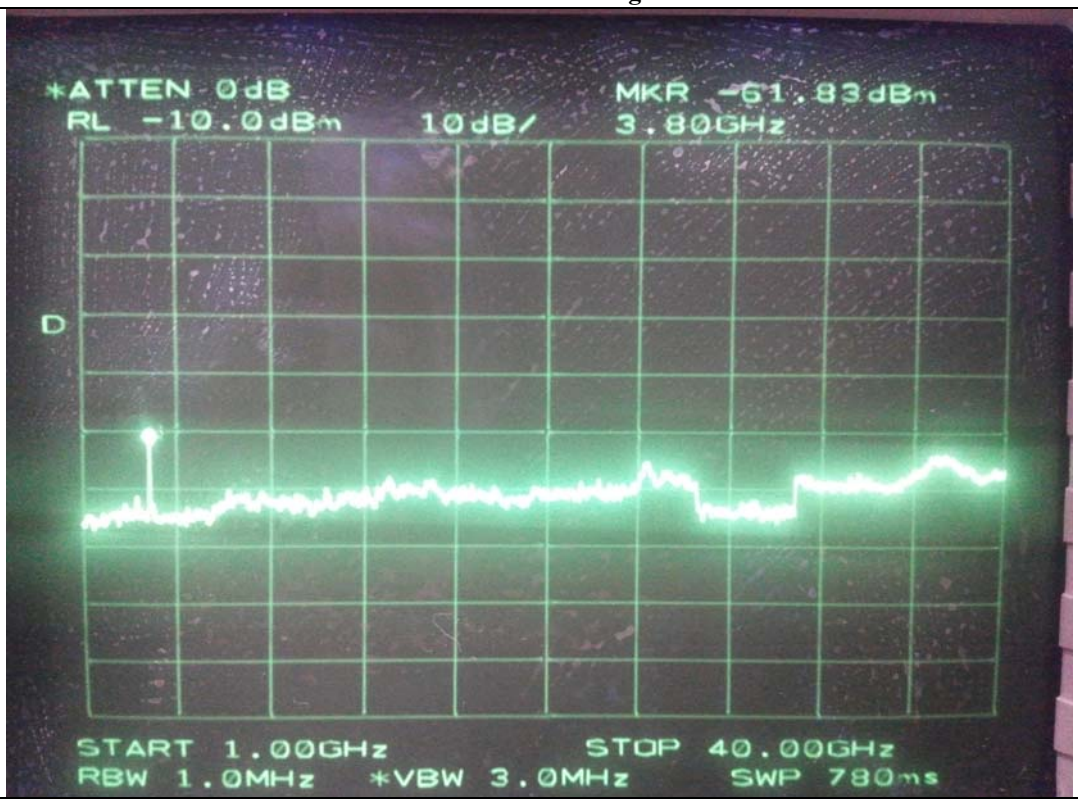
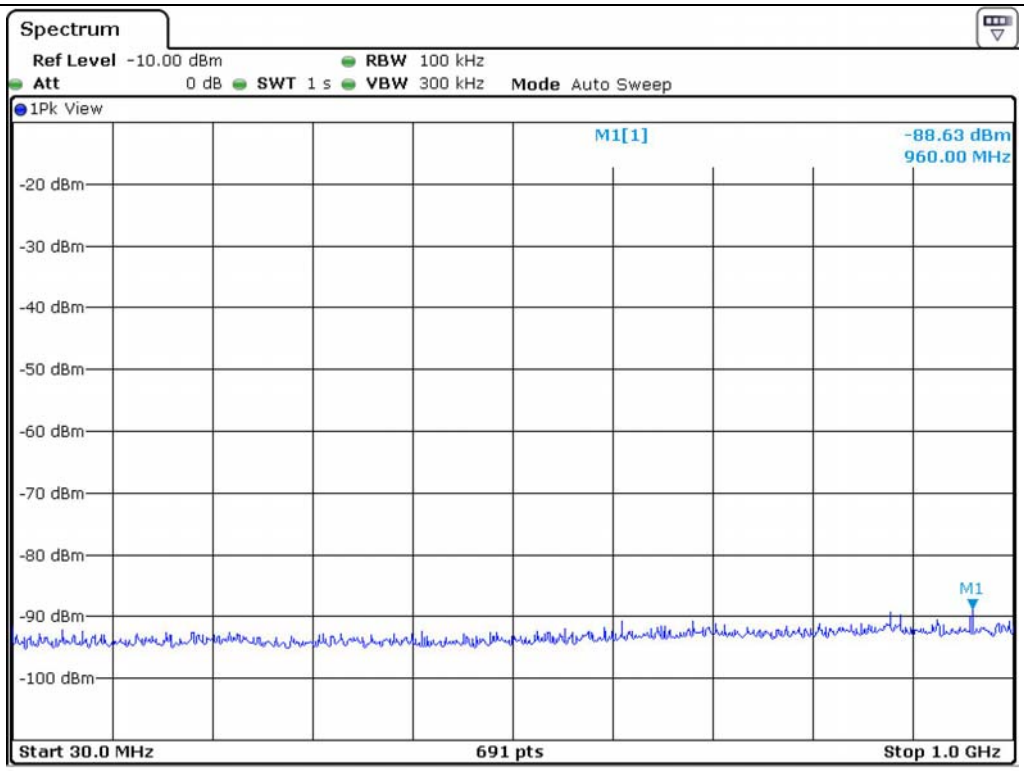


Low Channel - Receiving Mode

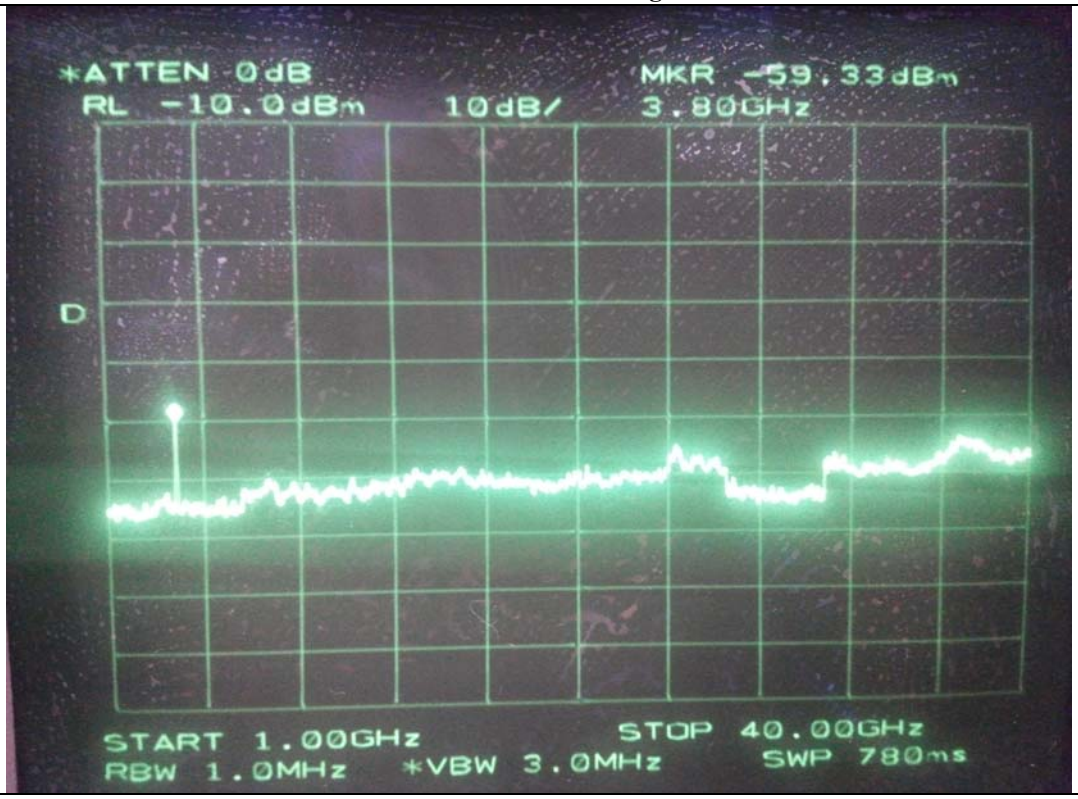


Low Channel - Receiving Mode

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)

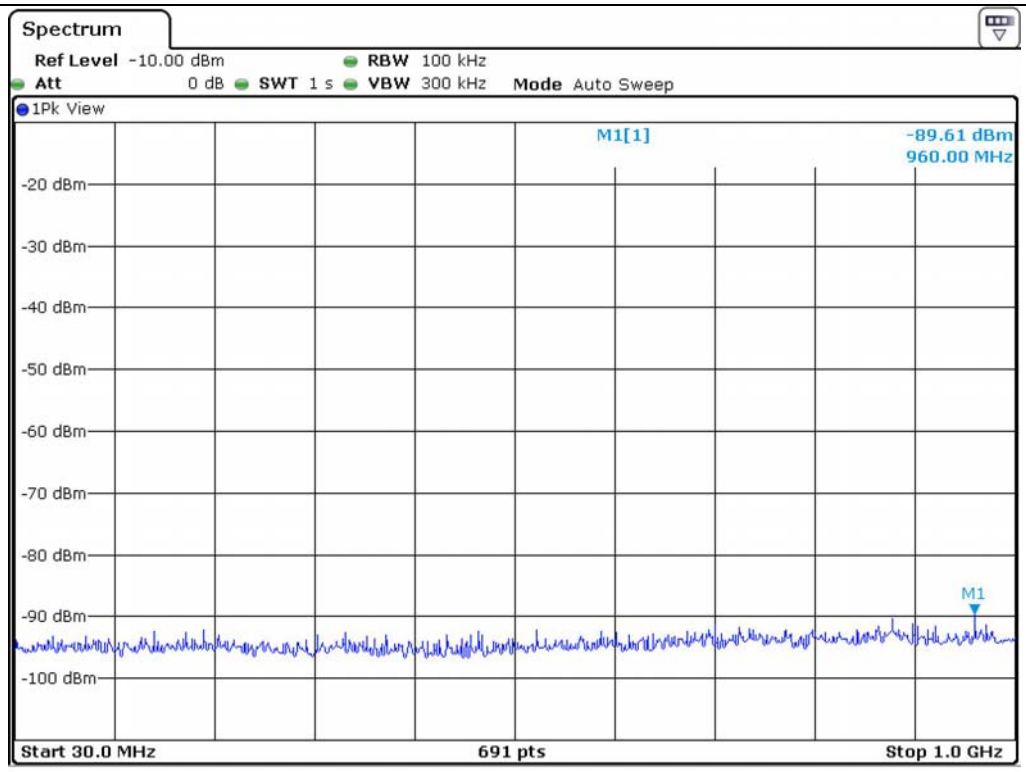


Middle Channel - Receiving Mode

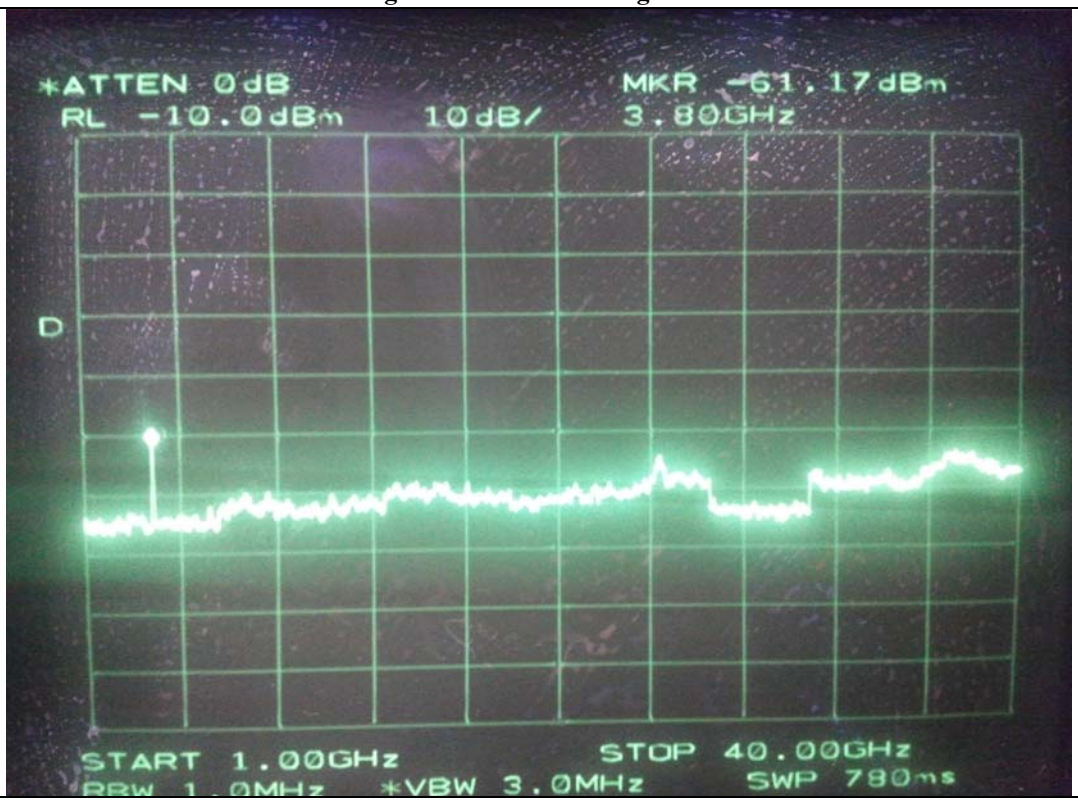


Middle Channel - Receiving Mode

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)



High Channel - Receiving Mode



High Channel - Receiving Mode

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)

10.10.4 Test data for Antenna 1 - Radiated

10.10.4.1 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.								

10.10.4.2 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

-. Channel : Low

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)
58.13	51.20	H	14.30	1.70	33.10	34.10	40.00	5.90
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	42.40	H	18.10	4.60	33.10	32.00	46.00	14.00
666.32	40.00	V	20.60	5.40	33.30	32.70	46.00	13.30

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)

-. Channel : Middle

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)
58.13	52.50	H	14.30	1.70	33.10	35.40	40.00	4.60
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	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
666.32	40.90	V	20.60	5.40	33.30	33.60	46.00	12.40

-. Channel : High

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)
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	51.90	H	9.50	2.70	33.00	31.10	43.50	12.40
480.08	43.10	H	18.10	4.60	33.10	32.70	46.00	13.30
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

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10.10.4.3 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

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10.10.5 Test data for Multiple transmit - Radiated

10.5.5.1 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.								

10.10.5.2 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

-. Channel : Low

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)
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	51.70	H	9.50	2.70	33.00	30.90	43.50	12.60
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

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)