

ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : E10NR-044

AGR No : A100A-099

Applicant : InnoDigital Co., Ltd.
Address : 463-811 No. 904, KINS Tower 25-1, Jeongja-dong, Bundang-gu, Seongnam-city,
Gyeonggi-do, Korea

Manufacturer : InnoDigital Co., Ltd.
Address : 463-811 No. 904, KINS Tower 25-1, Jeongja-dong, Bundang-gu, Seongnam-city,
Gyeonggi-do, Korea

Type of Equipment : Android IP Receiver

FCC ID. : YXP-WEBTUBE

Model Name : IWC10BR

Multiple Model Name : Refer to clause 3.2

Serial number : None

Total page of Report : 28 pages (including this page)

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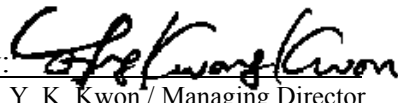
SUMMARY

The equipment complies with the regulation; **FCC Part 15 Subpart C Section 15.249.**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

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Revision History

Issue Report No.	Issued Date	Revisions	Effect Section
E10NR-044	November 15, 2010	Initial Release	All

1. VERIFICATION OF COMPLIANCE

APPLICANT : InnoDigital Co., Ltd.
ADDRESS : 463-811 No. 904, KINS Tower 25-1, Jeongja-dong, Bundang-gu, Seongnam-city, Gyeonggi-do, Korea
CONTACT PERSON : Mr. Ik, Kim / CEO
TELEPHONE NO : +82-31-716-2363
FCC ID : YXP-WEBTUBE
MODEL NAME : IWC10BR
BRAND NAME : INNODIGITAL, WebTube
SERIAL NUMBER : N/A
DATE : November 15, 2010

EQUIPMENT CLASS	DXX – Low Power Communications Transmitter
KIND OF EQUIPMENT	Android IP Receiver
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.4: 2009
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.249
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 m open area test site

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.249 (a)	Field Strength of Emission	Met the Limit / PASS
15.249 (c)	Measurement distance	Met the Requirement / PASS
15.249 (d)	Emissions Radiated Outside of the Specified Frequency Band	Met the Limit / PASS
15.249 (e)	Radiated Emissions above 1 000 MHz	Met the Limit / PASS
15.209	Radiated Emission Limits, General Requirement	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met the Requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in section 2.1.

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2009. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The open area test site and conducted measurement facilities are located on at 307-51, Daessangryung-ri, Chowol-eup, Gwangju-si, Gyeonggi-do, 464-862, Korea. Description details of test facilities were submitted to the Commission on August 21, 2008. (Registration Number: 340658)

3. GENERAL INFORMATION

3.1 Product Description

The InnoDigital Co., Ltd., Model: IWC10BR (referred to as the EUT in this report) is an Android IP Receiver which has a function of Low Power Communications. Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Fixed Device
APPLICATION	General Use
OPERATING FREQUENCY	2 403 MHz ~ 2 475 MHz
RATED RF OUTPUT POWER	-2.83 dBm
USED ANTENNA	PCB Antenna (Gain: 2.05 dBi)
CHANNEL	5 Channels (2 403 MHz, 2 423 MHz, 2 440 MHz, 2 461 MHz and 2 475 MHz)
MODULATION METHOD	GFSK
Tx DATA SPEED	2 Mb/s
USED RF CHIP	nRF24L01+
LIST OF EACH OSC. OR CRY. FREQ.(FREQ. \geq 1 MHz)	12 MHz, 27 MHz, 25 MHz and 16 MHz
POWER REQUIREMENT	DC 5 V from an adaptor
USED ADAPTOR	Mfg.: Seong Bo Elecom Co., Ltd., Model Name: SP1013A Input: 100-240 V~, 50/60 Hz, 0.3 A, Output: DC 5 V, 2 A
EXTERNAL CONNECTOR	RJ45, HDMI, USB, DC In

3.2 Model Differences

-. The following lists consist of the added model and their differences.

Model Name	Differences	Tested
IWC10BR	Basic Model	<input checked="" type="checkbox"/>
IWC10BE, IWC10BV, IWC10BI, IWC10BS, IWC10BO, IWC10BN, IWC30BR, IWC30BE, IWC30BV, IWC30BI, IWC30BS, IWC30BO, IWC30BN, IWC40BR, IWC40BE, IWC40BV, IWC40BI, IWC40BS, IWC40BO, IWC40BN, IWC50BR, IWC50BE, IWC50BV, IWC50BI, IWC50BS, IWC50BO, IWC50BN	These models are identical to basic model except for the model designation only.	<input type="checkbox"/>

Note: 1. Applicant consigns only basic model to test, therefore this test report just guarantees the units which have been tested.

2. The Applicant/manufacture is responsible for the compliance of all variants.

4. EUT MODIFICATIONS

-. None

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	InnoDigital Co., Ltd.	WebTube, Code: 112267	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	FCC ID	Description	Connected to
IWC10BR	InnoDigital Co., Ltd.	YXP-WEBTUBE	Android IP Receiver (EUT)	-
M2362DL	LG	DoC	LCD TV	EUT
SK-8115	Dell Computer	DoC	Keyboard	EUT
RX 3041	ASUS	DoC	Hub	EUT
WR815RF-WEBTUBEHD	YUWON TRONIX	WXR815RF-WEBRUBE	Remote Control	-

5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at Low Channel (2 403 MHz), Middle Channel (2 440 MHz), and High Channel (2 475 MHz).

5.4 Configuration of Test System

Line Conducted Test : The EUT was connected to adaptor and the power line of adaptor was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2009 7.3.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emissions test were conducted using the procedure in ANSI C63.4: 2009 8.3.1.1 and 13.4.1 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m open area test site.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

According to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

The antenna of the EUT is a pattern antenna on the main board in the EUT, so no consideration of replacement by the user.

6. PRELIMINARY TEST

6.1 AC Power line Conducted Emissions Tests

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
TX Mode	X

6.2 General Radiated Emissions Tests

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)
TX Mode	X

7. CONDUCTED EMISSION TEST

7.1 Operating environment

Temperature : 21 °C
Relative humidity : 41 %R.H.

7.2 Test set-up

The EUT and all local support equipments were placed on a wooden table, 0.8 m height above the floor. The EUT was connected to adaptor and the power of adaptor was fed through a $50\ \Omega$ / $50\ \mu\text{H}$ + $5\ \Omega$ Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

The test set-up photos are included in appendix I.

7.3 Measurement uncertainty

Conducted emission, quasi-peak detection : $\pm 2.93\ \text{dB}$
Conducted emission, average detection : $\pm 2.93\ \text{dB}$

Measurement uncertainty is calculated in accordance with WECC 19-1990. The measurement uncertainty is given with a confidence of 95 % with the coverage factor, $k = 2$.

7.4 Test equipment used

Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ - ESIB26	Rohde & Schwarz	EMI Test Receiver	100296	Apr. 14, 2010 (1Y)
■ - NSLK 8126	Schwarzbeck	AMN	8126-404	Jun. 10, 2010 (1Y)
■ - 3825/2	EMCO	AMN	9109-1867	Jun. 10, 2010 (1Y)

All test equipment used is calibrated on a regular basis.

7.5 Test data

-. Test Date : November 01, 2010

-. Resolution bandwidth : 9 kHz

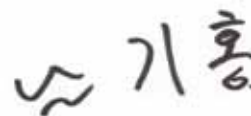
-. Frequency range : 0.15 MHz ~ 30 MHz

Frequency (MHz)	Line	Quasi-Peak (dBμV)		Margin (dB)
		Emission level	Q.P Limits	
0.17	H	47.60	64.80	-17.20
0.62	H	34.20	56.00	-21.80
1.26	H	33.20	56.00	-22.80
2.11	N	33.20	56.00	-22.80
2.31	N	35.10	56.00	-20.90
4.32	H	35.20	56.00	-20.80
Frequency (MHz)	Line	Average (dBμV)		Margin (dB)
		Emission level	Limits	
0.17	N	39.00	54.80	-15.80
2.11	H	26.60	46.00	-19.40
2.59	N	28.50	46.00	-17.50
4.31	H	28.60	46.00	-17.40

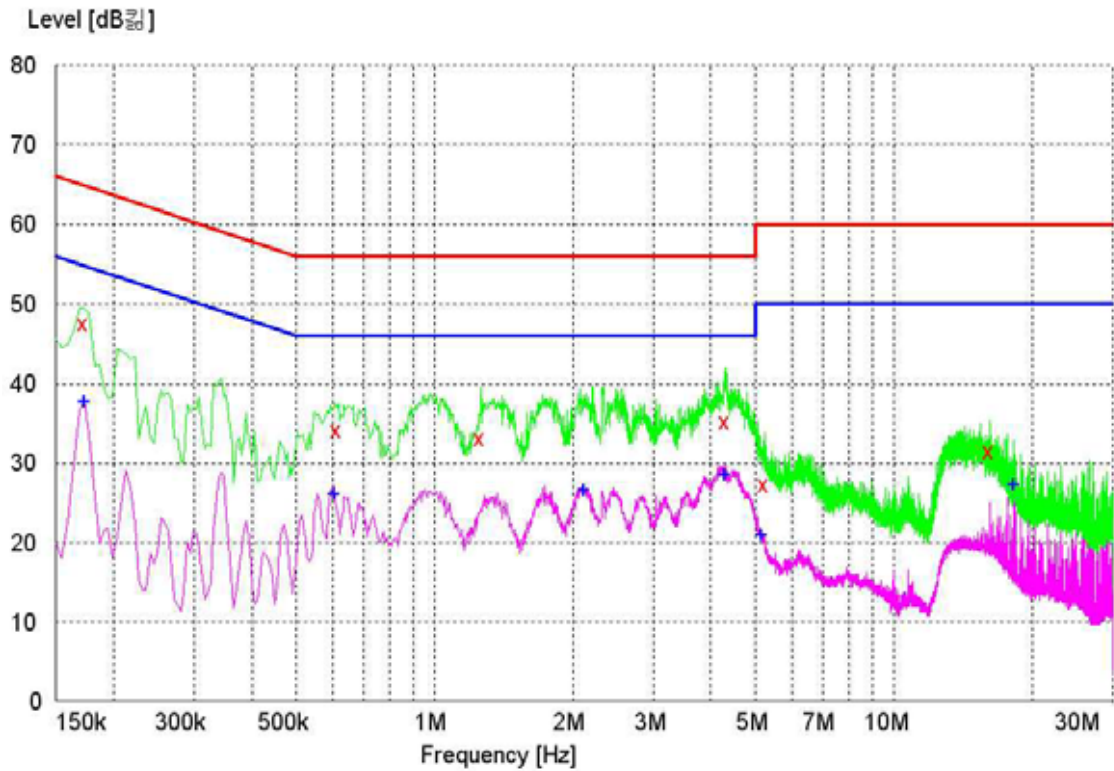
Tabulated test data for Mains Terminal Continuous Disturbance Voltage

Remark : “H”: Hot Line, “N”: Neutral Line.

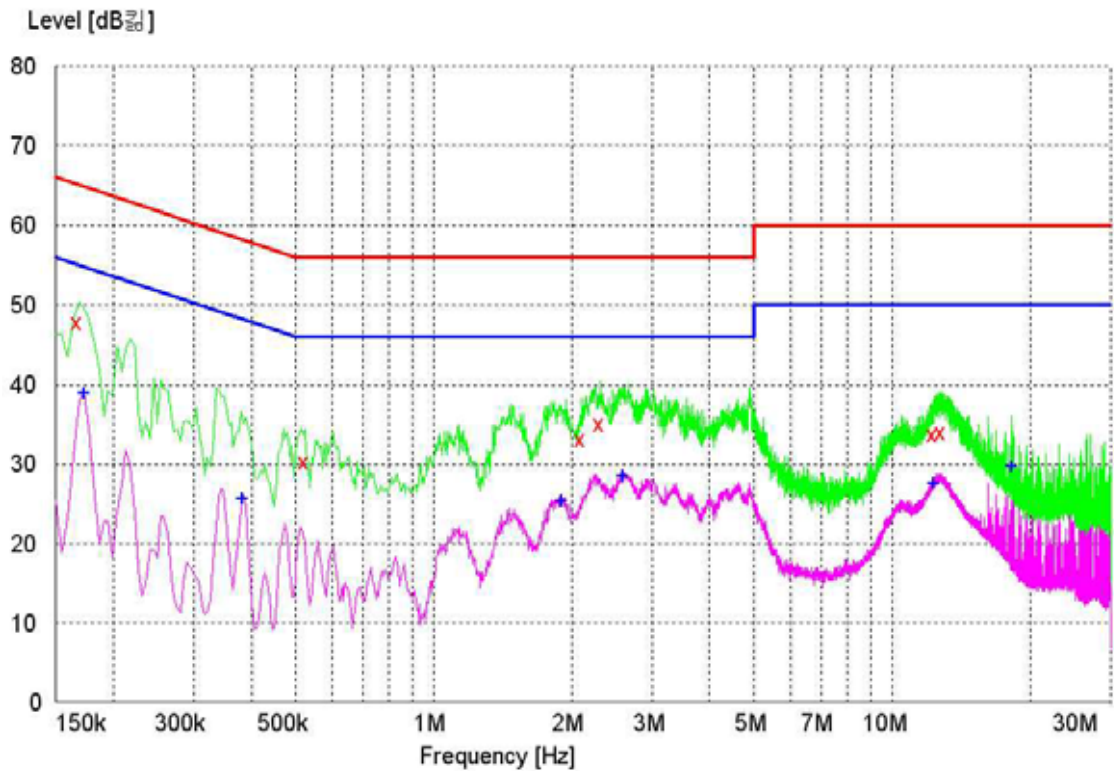
See next page for an overview sweep performed with peak and average detector.



Tested by: Ki-Hong, Nam / Senior Engineer



HOT LINE



NEUTRAL LINE

8. RADIATED EMISSION TEST

8.1 Test set-up

The radiated emissions measurements were on the 3 m, open-field test site. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 1 000 MHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

Test set-up photos are included in appendix II.

8.2 Measurement uncertainty

Radiated emission electric field intensity, 30 MHz ~ 300 MHz : ± 4.43 dB

Radiated emission electric field intensity, 300 MHz ~ 1 000 MHz : ± 3.80 dB

Radiated emission electric field intensity, 1 000 MHz ~ 3 000 MHz: ± 4.4 dB

Measurement uncertainty is calculated in accordance with WECC 19-1990. The measurement uncertainty is given with a confidence of 95 % with the coverage factor, $k = 2$.

8.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	ESVD	Rohde & Schwarz	Test Receiver	838453/018	Nov. 20, 2009 (1Y)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2010 (1Y)
■ -	83051A	Agilent	Microwave System Preamplifier	3950M00201	Jun. 11, 2010 (1Y)
■ -	MA240	HD GmbH	Antenna Master	N/A	N/A
■ -	HD100	HD GmbH	Position Controller	N/A	N/A
■ -	DS420S	HD GmbH	Turn Table	N/A	N/A
■ -	VHA9103	Schwarzbeck	Biconical Antenna	91031852	Mar. 30, 2010 (2Y)
■ -	9108-A(494)	Schwarzbeck	Log Periodic Antenna	62281001	Mar. 30, 2010 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D294	Jun. 17, 2009 (2Y)

All test equipment used is calibrated on a regular basis.

8.4 Final Result of Measurement

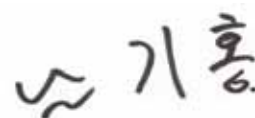
8.4.1 Field Strength of the Fundamental Frequency

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 39 % R.H. Temperature: 18 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.249(a)
 Result : PASSED BY -9.76 dB at 2 440.00 MHz

EUT : Android IP Receiver Date: November 02, 2010
 Operating Condition : TX mode
 Distance : 3 m

Channel	Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
	Carrier Freq. (MHz)	Amplitude (dBμV)	Detect Mode	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low	2 403.00	62.83	Peak	H	27.09	5.00	94.92	113.98	-19.06
		51.33	Average	H			83.42	93.98	-10.56
		60.50	Peak	V			92.59	113.98	-21.39
		50.33	Average	V			82.42	93.98	-11.56
Middle	2 440.00	63.50	Peak	H	27.19	5.03	95.72	113.98	-18.26
		52.00	Average	H			84.22	93.98	-9.76
		61.00	Peak	V			93.22	113.98	-20.76
		51.33	Average	V			83.55	93.98	-10.43
High	2 475.00	61.67	Peak	H	27.28	5.06	94.01	113.98	-19.97
		50.50	Average	H			82.84	93.98	-11.14
		59.17	Peak	V			91.51	113.98	-22.47
		50.00	Average	V			82.34	93.98	-11.64



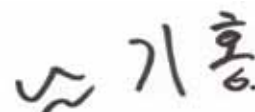
Tested by: Ki-Hong, Nam / Senior Engineer

8.4.2 Emissions Conducted Outside of the Specified Frequency Bands

Humidity Level : 39 % R.H. Temperature: 18 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.249(d)
Result : PASS

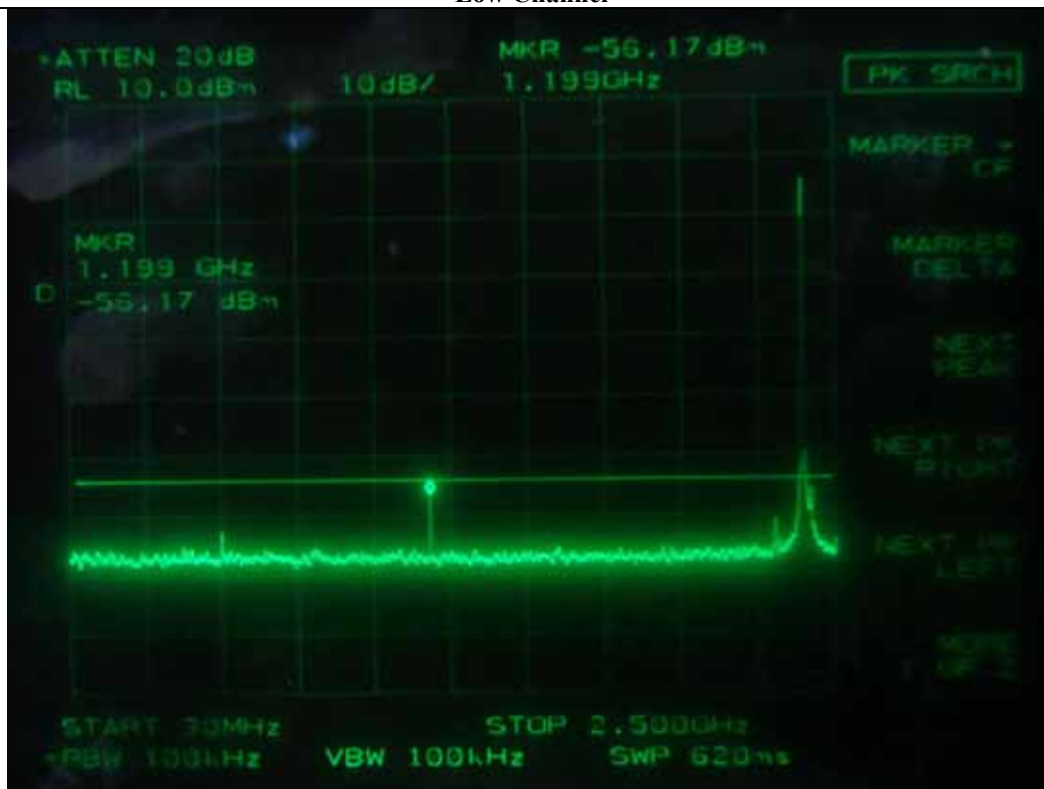
EUT : Android IP Receiver Date: November 02, 2010
Operating Condition : TX mode
Distance : 3 m

Channel	Radiated Emissions			Ant	Correction Factors		Total	FCC Limit	
	Carrier Freq. (MHz)	Amplitude (dBμV)	Detect Mode	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low	<p>Spurious frequencies except harmonics have margin more than 50 dB, and were scanned up to 26.5 GHz.</p> <p>See next page for graph data, which was obtained by conducted measurement.</p>								
Middle									
High									

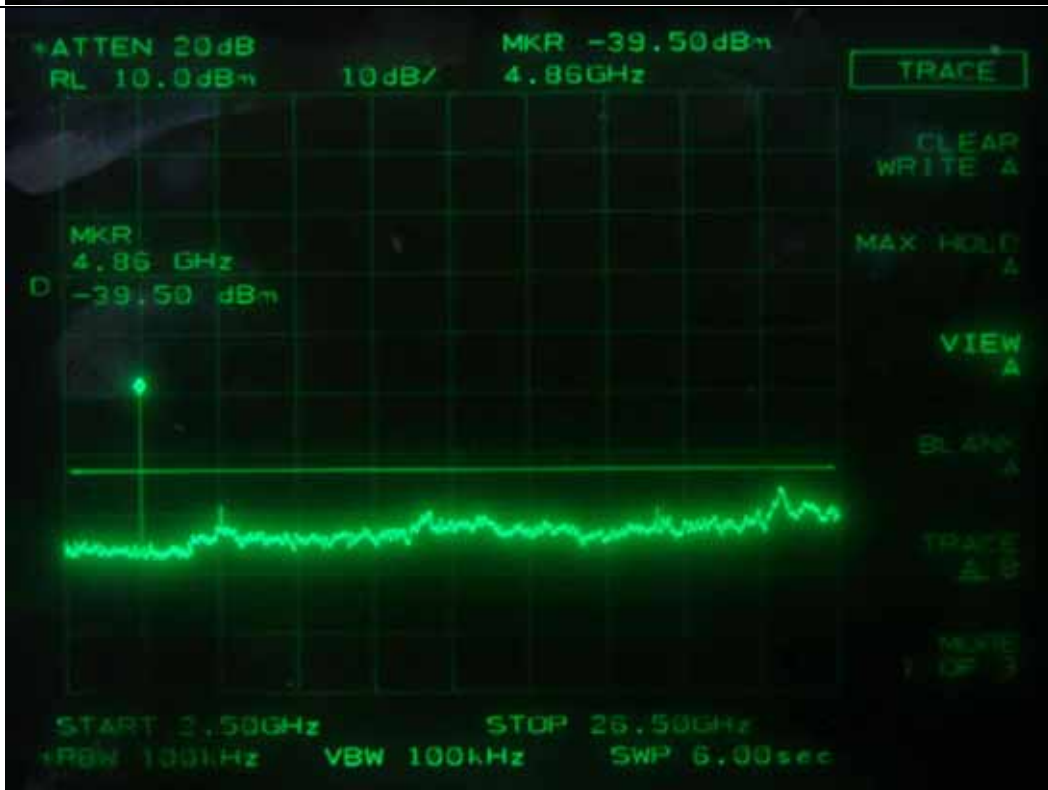
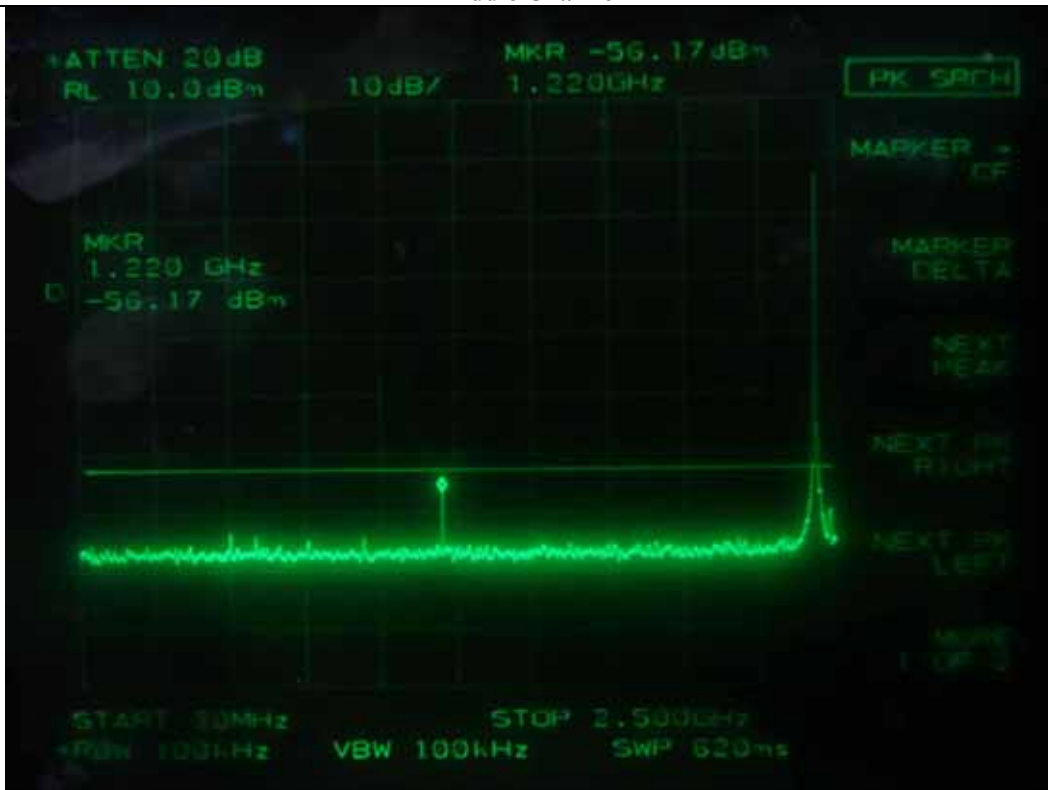


Tested by: Ki-Hong, Nam / Senior Engineer

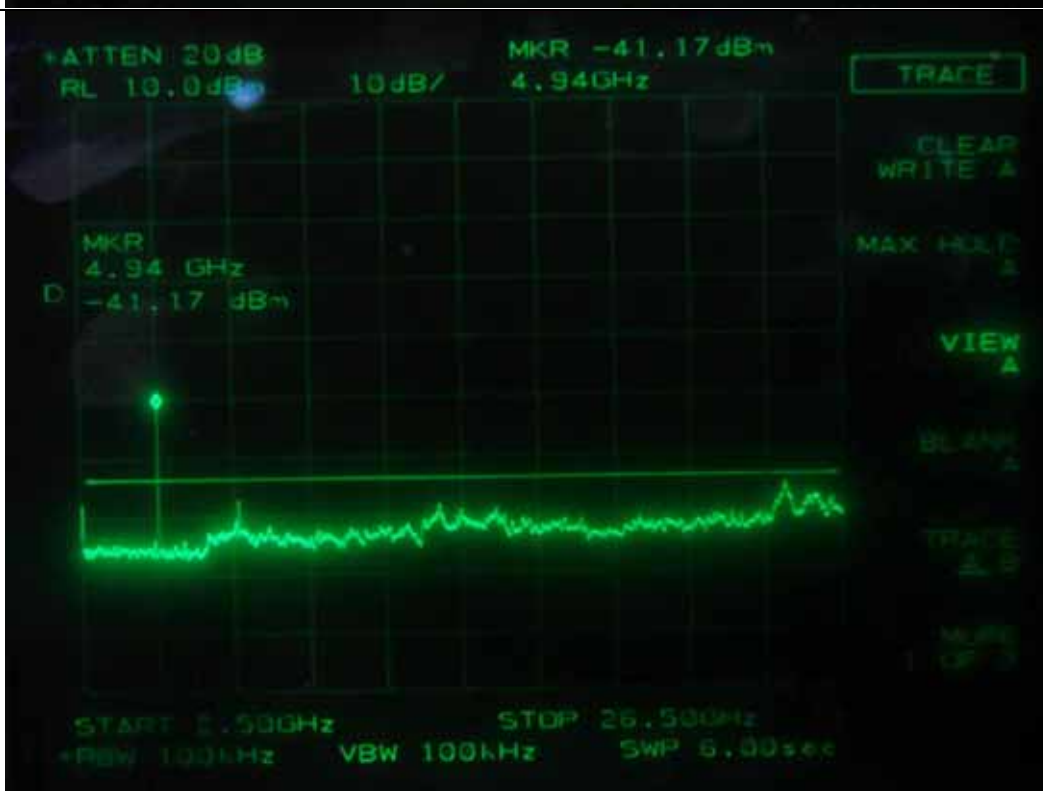
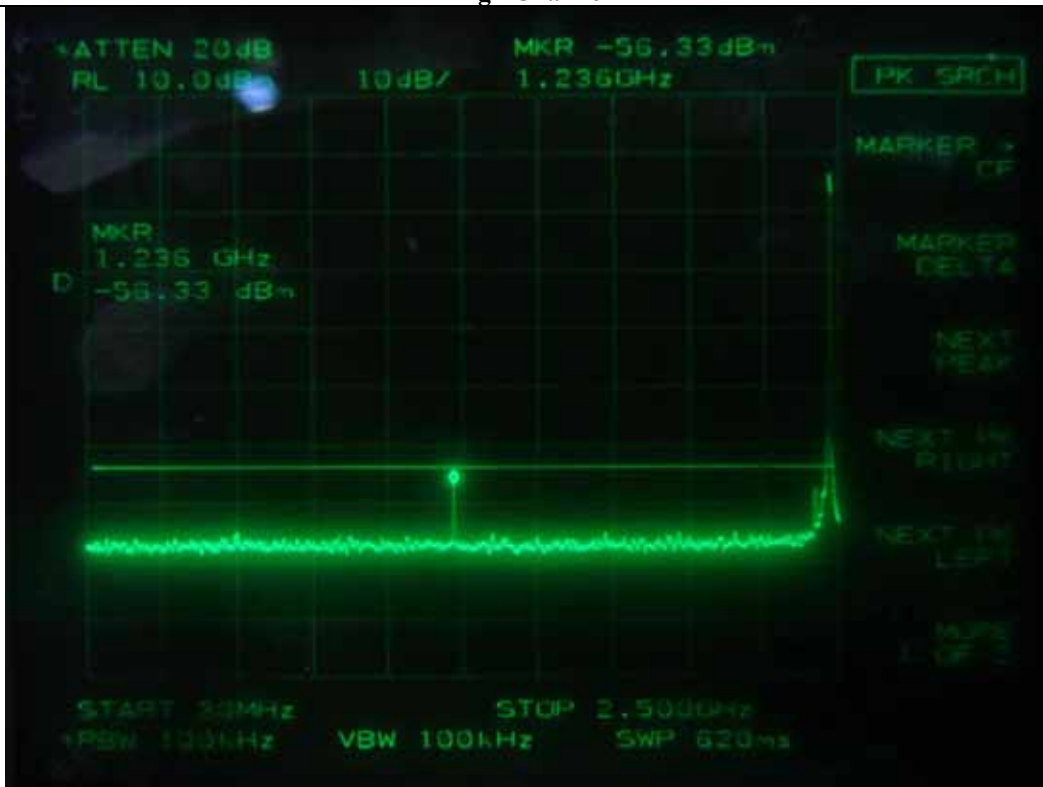
Low Channel



Middle Channel



High Channel



8.4.3 Emissions Radiated Outside of the Specified Frequency Bands

8.4.3.1 Test Data for Spurious except for Harmonic above 1 000 MHz

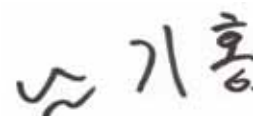
Humidity Level : 39 % R.H. Temperature: 18 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.249(d)
Result : PASSED BY -9.69 dB at 1 220.00

EUT : Android IP Receiver Date: November 02, 2010
Operating Condition : TX mode
Distance : 3 m

Channel	Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low	1 201.50*	55.50	Peak	H	25.29	3.84	30.71	53.92	73.98	-20.06
		44.33	Average	H				42.75	53.98	-11.23
		50.17	Peak	V				48.59	73.98	-25.39
		39.83	Average	V				38.25	53.98	-15.73
Middle	1 220.00*	57.20	Peak	H	25.31	3.84	30.69	55.66	73.98	-18.32
		45.83	Average	H				44.29	53.98	-9.69
		51.92	Peak	V				50.38	73.98	-23.60
		40.00	Average	V				38.46	53.98	-15.52
High	1 237.50*	53.80	Peak	H	25.32	3.84	30.67	52.29	73.98	-21.69
		42.00	Average	H				40.49	53.98	-13.49
		48.67	Peak	V				47.16	73.98	-26.82
		39.50	Average	V				37.99	53.98	-15.99

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical, "*" Frequency fall in restricted band



Tested by: Ki-Hong, Nam / Senior Engineer

8.4.3.2 Test Data for Harmonic

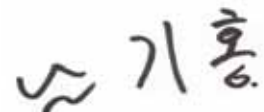
Humidity Level : 39 % R.H. Temperature: 18 °C
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.249(a)
Result : PASSED BY -13.43 dB at 4 880.00 MHz

EUT : Android IP Receiver Date: November 02, 2010
Operating Condition : TX mode
Distance : 3 m

Channel	Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low	4 806.00*	40.67	Peak	H	31.07	6.87	28.80	49.81	73.98	-24.17
		30.83	Average	H				39.97	53.98	-14.01
		38.50	Peak	V				47.64	73.98	-26.34
		29.17	Average	V				38.31	53.98	-15.67
	Other frequencies were not found up to 26.5 GHz.									
Middle	4 880.00*	41.33	Peak	H	31.19	6.92	28.73	50.71	73.98	-23.27
		31.17	Average	H				40.55	53.98	-13.43
		39.67	Peak	V				49.05	73.98	-24.93
		30.00	Average	V				39.38	53.98	-14.60
	Other frequencies were not found up to 26.5 GHz.									
High	4 950.50*	40.67	Peak	H	31.30	6.97	28.67	50.27	73.98	-23.71
		30.83	Average	H				40.43	53.98	-13.55
		37.92	Peak	V				47.52	73.98	-26.46
		29.00	Average	V				38.60	53.98	-15.38
	Other frequencies were not found up to 26.5 GHz.									

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical, "*" Frequency fall in restricted band



Tested by: Ki-Hong, Nam / Senior Engineer

8.4.3.3 Test Data for Spurious except for Harmonic below 1 000 MHz

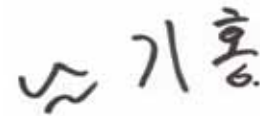
Humidity Level : 39 % R.H. Temperature: 18 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.249(d)
 Result : PASS

EUT : Android IP Receiver Date: November 02, 2010
 Operating Condition : TX mode
 Distance : 3 m

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

Tabulated test data for Radiated Electromagnetic Field

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



Tested by: Ki-Hong, Nam / Senior Engineer

8.4.3.4 Test Data for other frequency

Humidity Level : 39 % R.H.

Temperature: 18 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209 (a)

Result : PASSED BY -4.13 dB at 375.00 MHz under low and high channels

EUT : Android IP Receiver

Date: November 02, 2010

Frequency range : 30 MHz ~ 1 000 MHz

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
55.20	21.67	V	1.40	210.00	9.20	1.42	32.29	40.00	-7.71
125.00	18.50	V	1.00	190.00	13.89	2.45	34.84	43.52	-8.68
249.90	20.67	H	1.40	160.00	17.39	3.40	41.46	46.02	-4.56
375.00	21.50	H	1.00	190.00	16.59	3.80	41.89	46.02	-4.13
524.90	16.83	V	1.20	230.00	19.48	4.95	41.26	46.02	-4.76
574.90	15.50	H	1.80	220.00	19.69	5.30	40.49	46.02	-5.53
Middle Channel									
55.20	21.33	V	1.40	210.00	9.20	1.42	31.95	40.00	-8.05
125.00	18.67	V	1.00	190.00	13.89	2.45	35.01	43.52	-8.51
249.90	20.50	H	1.40	160.00	17.39	3.40	41.29	46.02	-4.73
375.00	21.33	H	1.00	190.00	16.59	3.80	41.72	46.02	-4.30
524.90	16.50	V	1.20	230.00	19.48	4.95	40.93	46.02	-5.09
574.90	15.67	H	1.80	220.00	19.69	5.30	40.66	46.02	-5.36
High Channel									
55.20	21.50	V	1.40	210.00	9.20	1.42	32.12	40.00	-7.88
125.00	18.80	V	1.00	190.00	13.89	2.45	35.14	43.52	-8.38
249.90	20.83	H	1.40	160.00	17.39	3.40	41.62	46.02	-4.40
375.00	21.50	H	1.00	190.00	16.59	3.80	41.89	46.02	-4.13
524.90	16.33	V	1.20	230.00	19.48	4.95	40.76	46.02	-5.26
574.90	15.50	H	1.80	220.00	19.69	5.30	40.49	46.02	-5.53



Tested by: Ki-Hong, Nam / Senior Engineer

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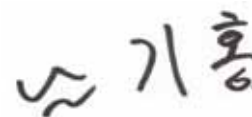
HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-121 Korea
(TEL: 82-31-746-8500 FAX: 82-31-746-8700)

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

8.4.3.5 Band Edge

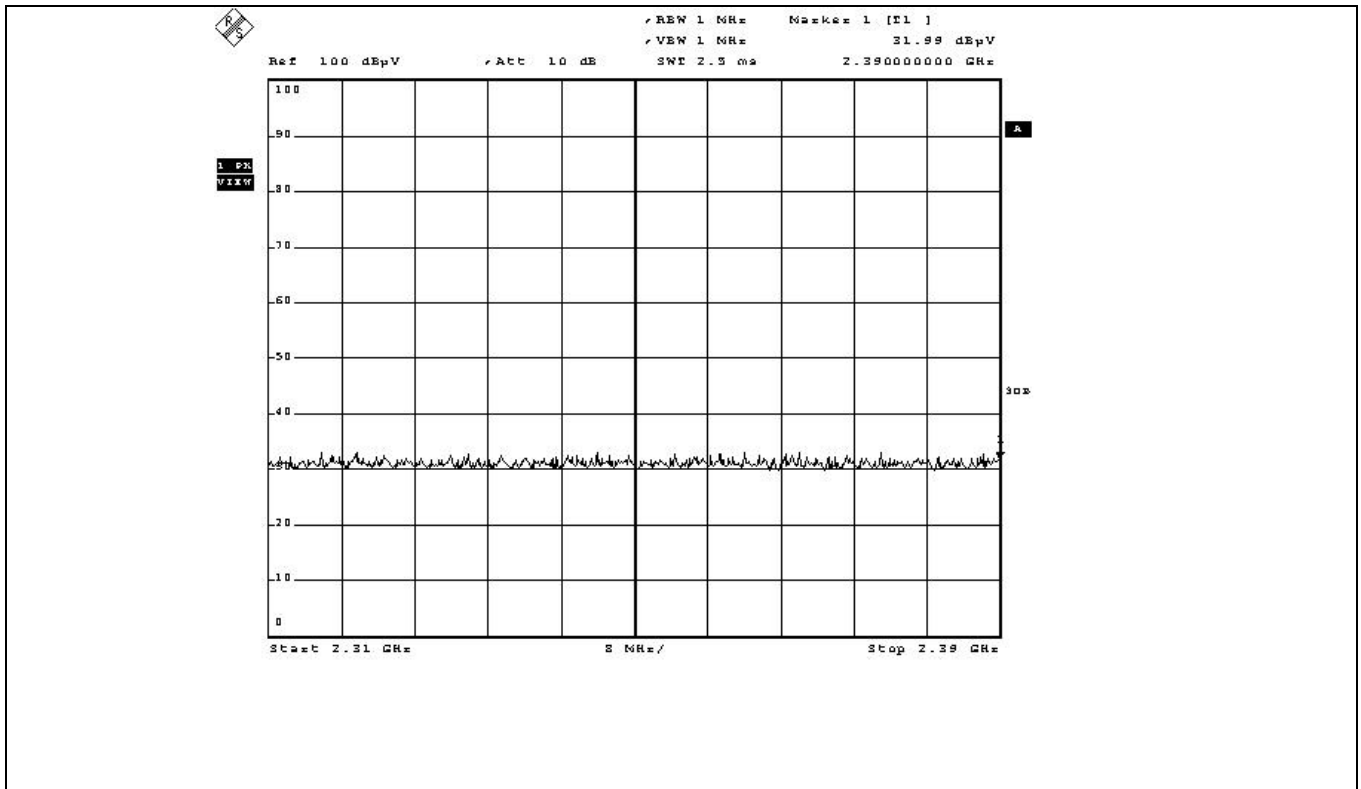
- Test Date : November 22, 2010
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 25 GHz
- Measurement distance : 3 m
- Operating Condition : Low / High Channel
- Result : PASSED BY -31.91 dB at High Channel

Frequency (MHz)	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									
2 390.00	31.99	Peak	H	27.05	3.13	28.98	33.19	74.00	-40.81
	20.80	Average	H				22.00	54.00	-32.00
	31.51	Peak	V				32.71	74.00	-41.29
	20.20	Average	V				21.40	54.00	-32.60
Test Data for High Channel									
2 483.50	31.20	Peak	H	27.31	3.17	28.82	32.86	74.00	-41.14
	20.39	Average	H				22.05	54.00	-31.95
	30.48	Peak	V				32.14	74.00	-41.86
	20.43	Average	V				22.09	54.00	-31.91

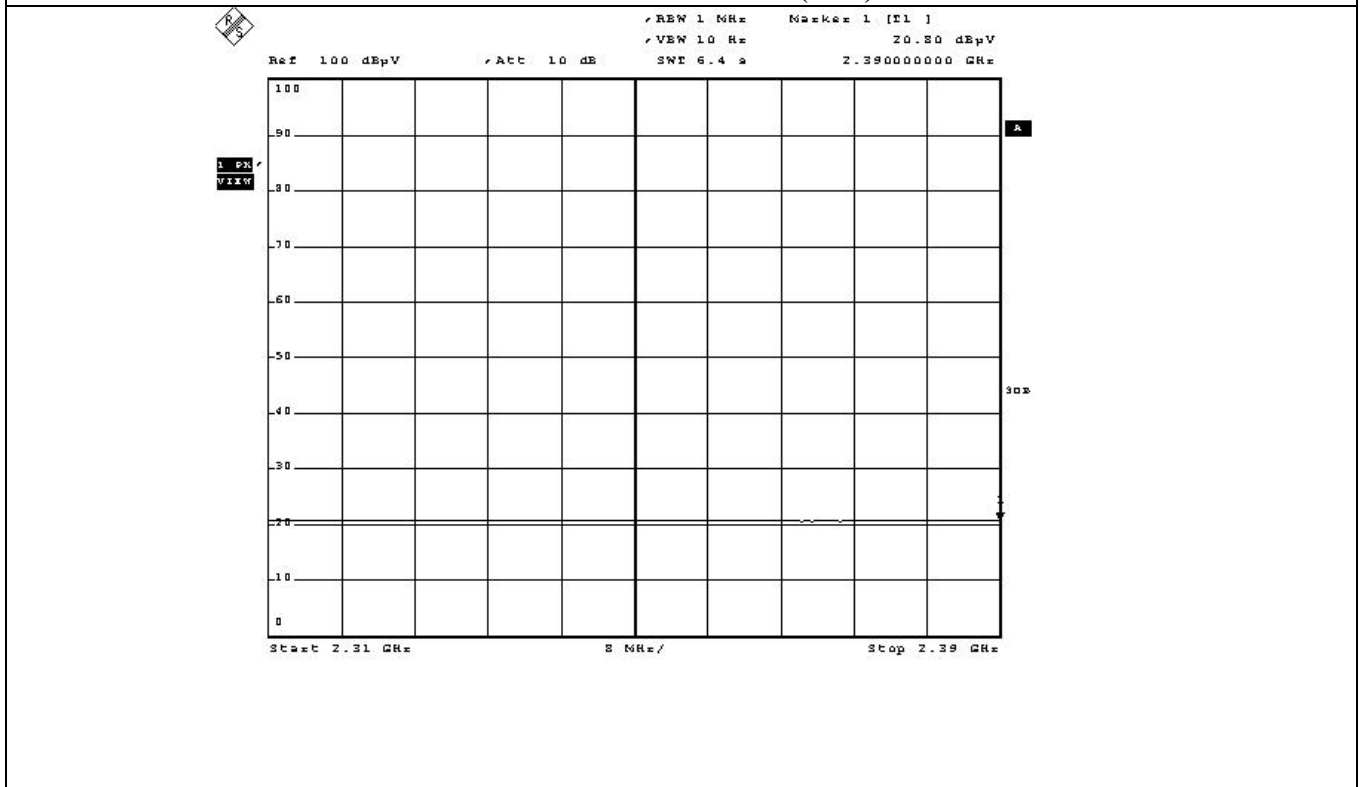


Tested by: Ki-Hong, Nam / Senior Engineer

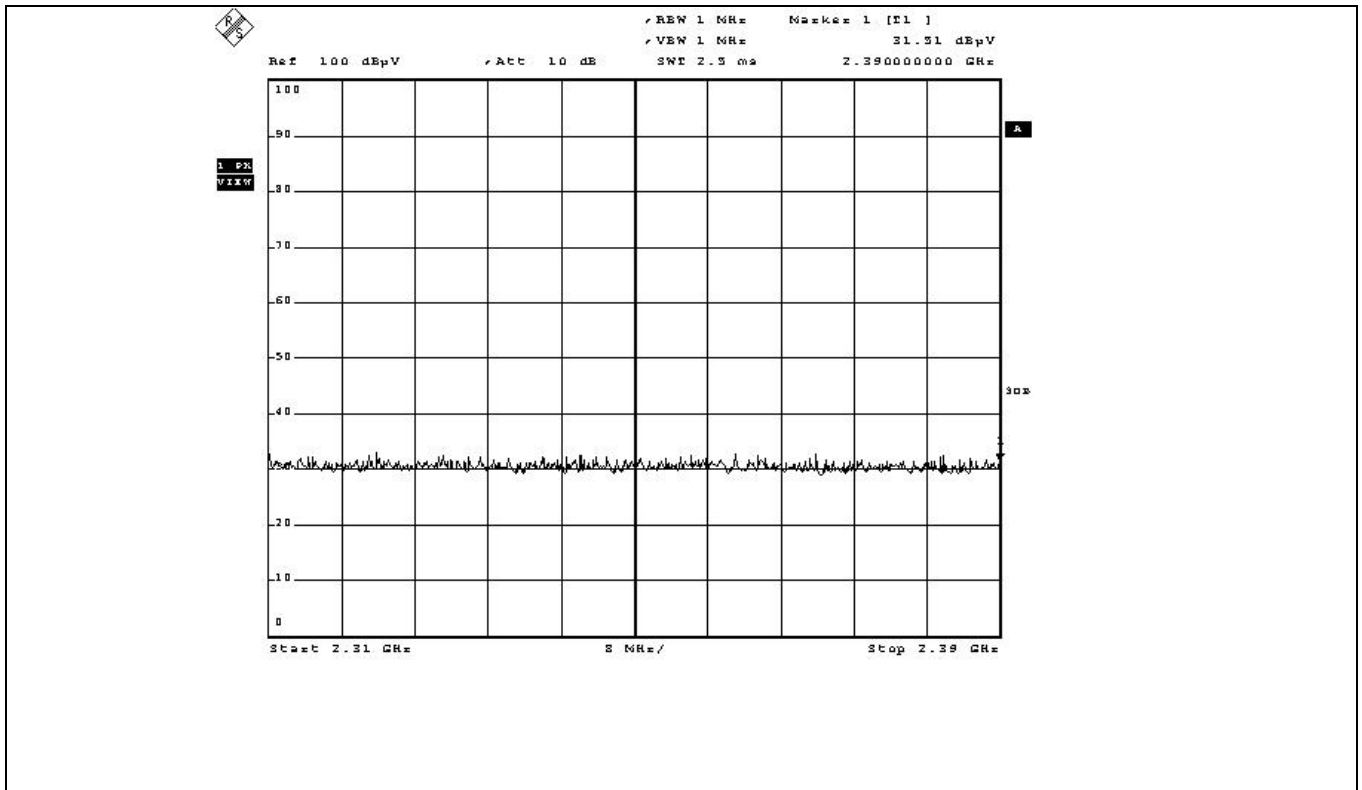
Plotted Data for band edge



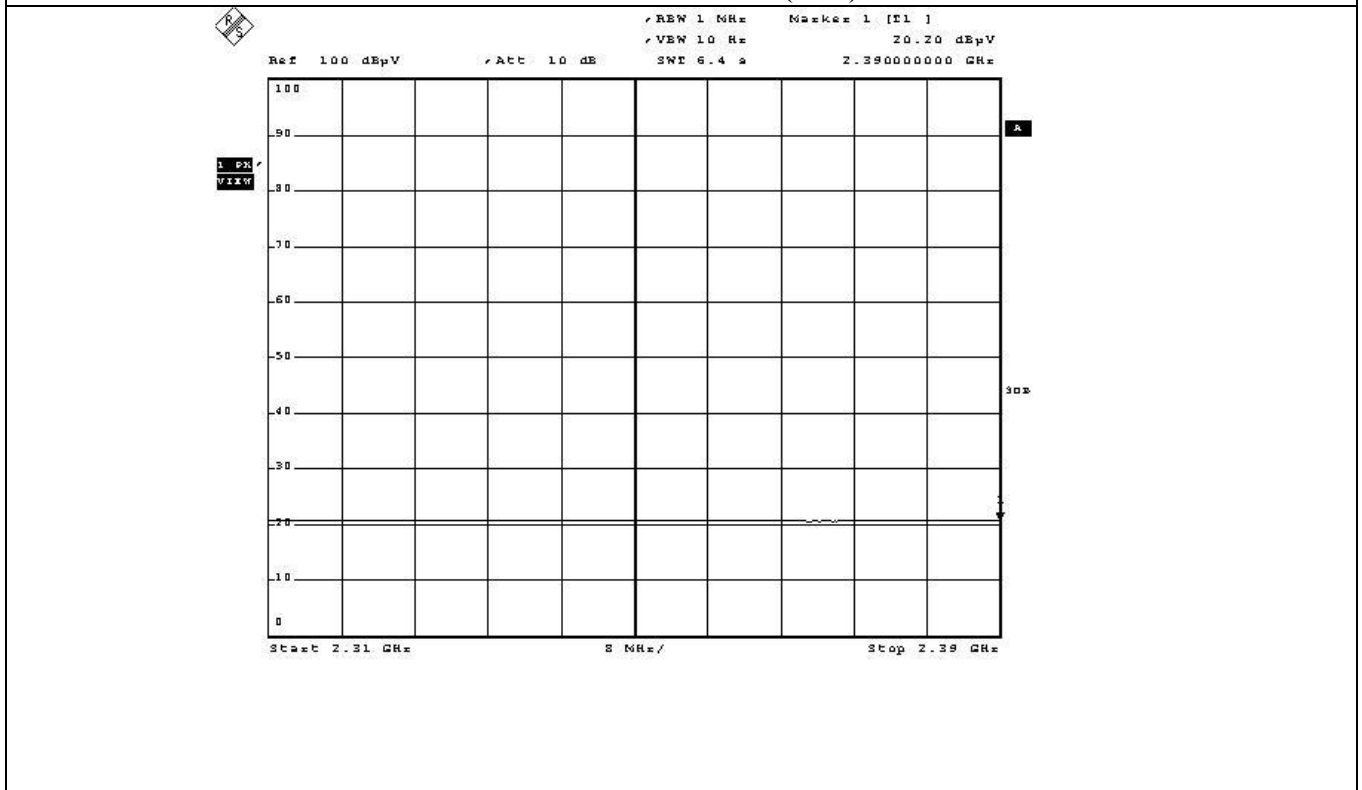
Low Channel – Horizontal (Peak)



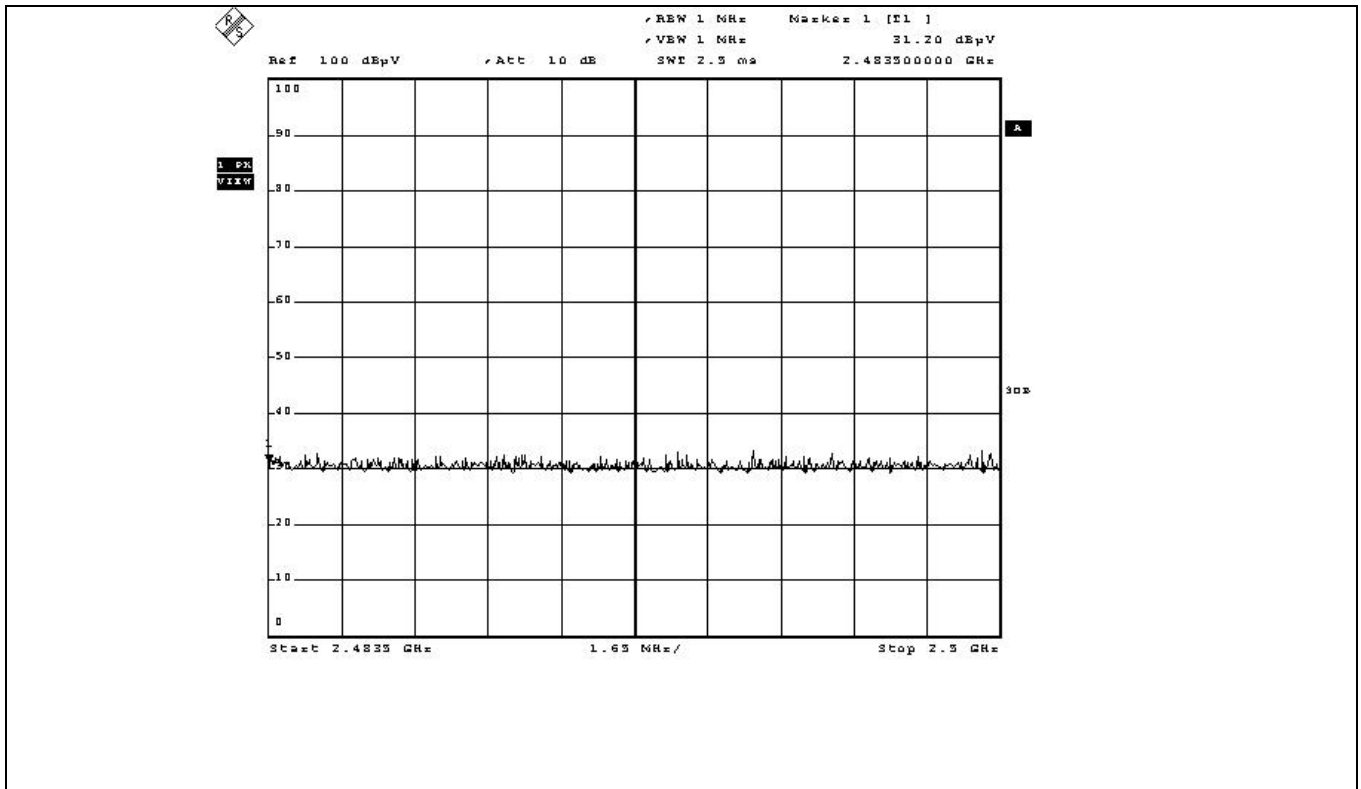
Low Channel – Horizontal (Average)



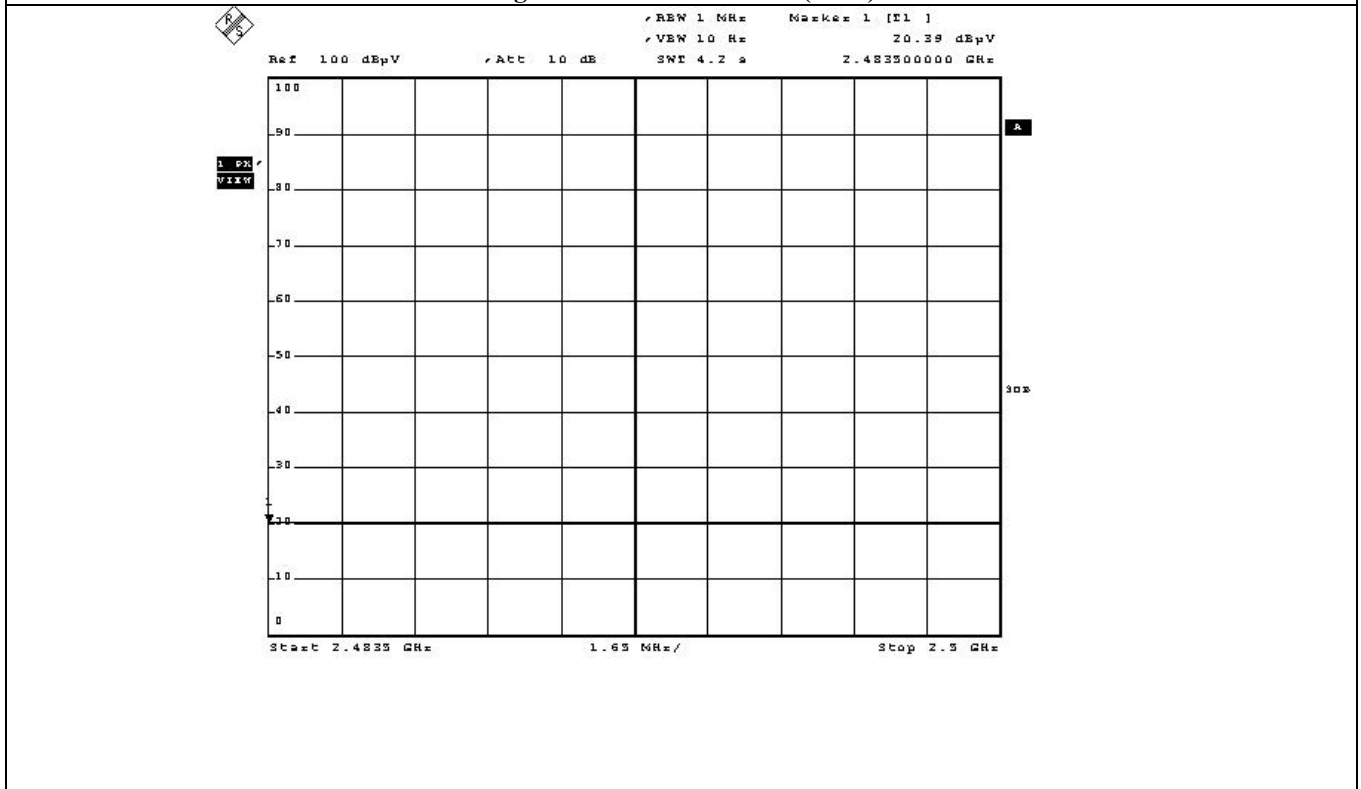
Low Channel – Vertical (Peak)



Low Channel – Vertical (Average)



High Channel – Horizontal (Peak)



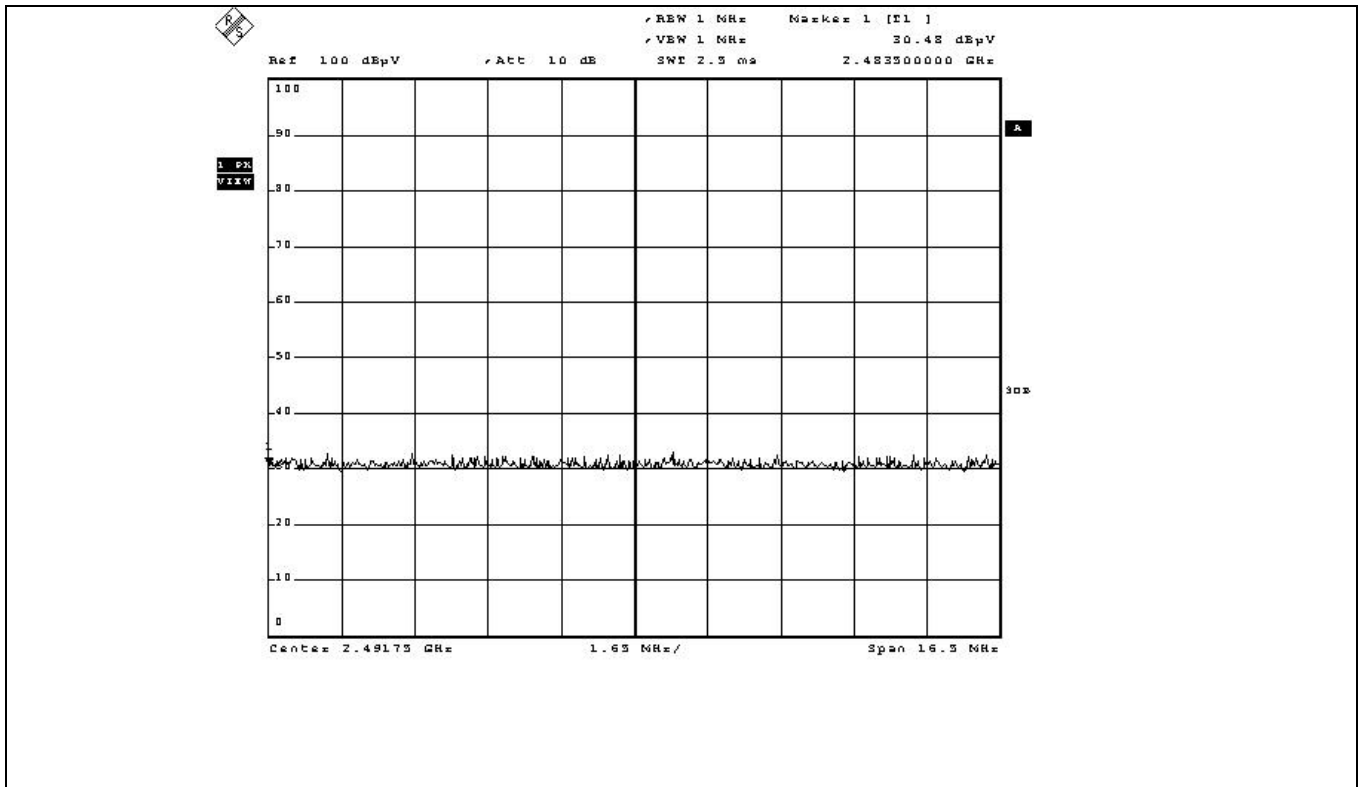
High Channel – Horizontal (Average)

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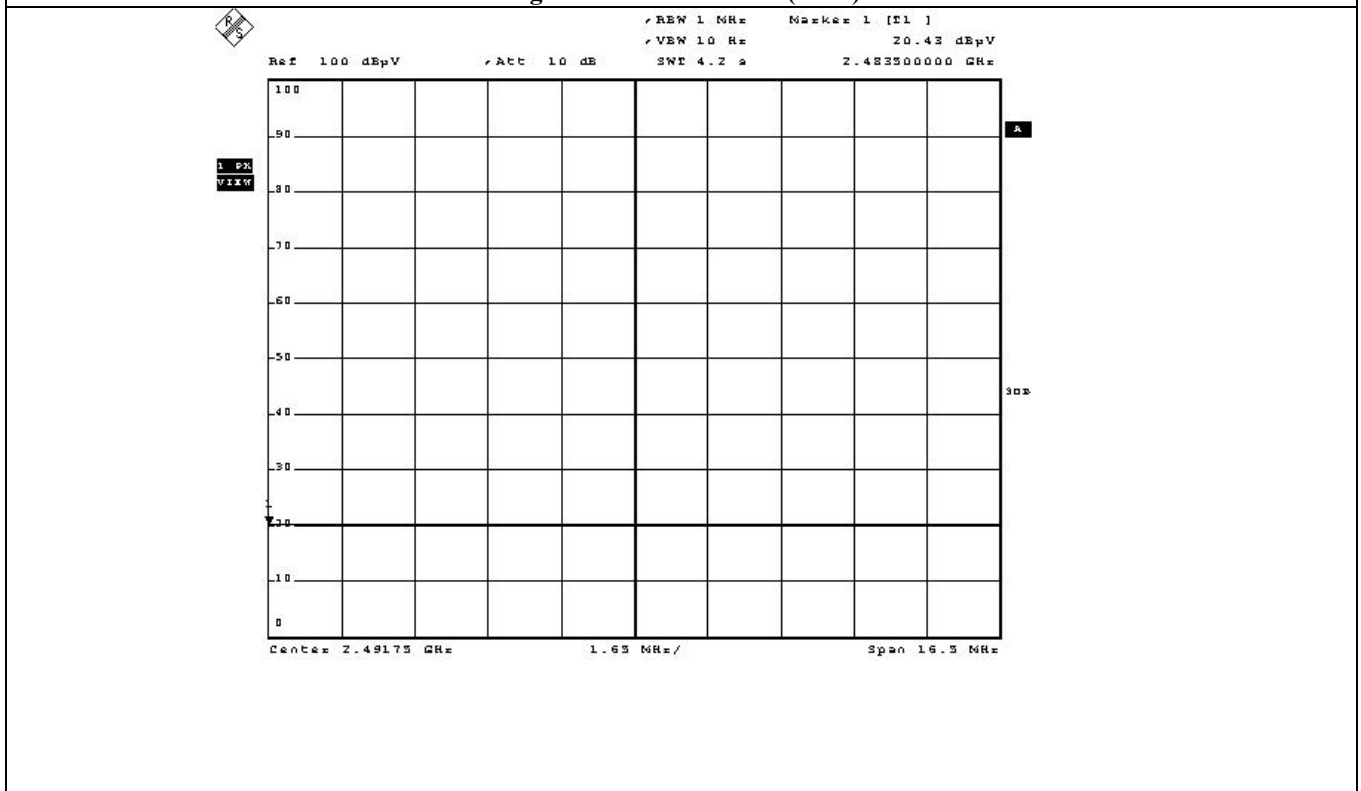
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High Channel – Vertical (Peak)



High Channel – Vertical (Average)