ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW POWER AUXILIARY STATIONS

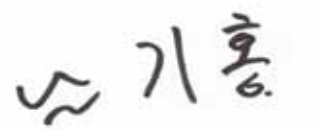
Test Report No.	**: E11OR-016**
AGR No.	**: A117A-113**
Applicant	**: TJ Media Co., Ltd.**
Address	**: 640-8, Deungchon-dong, Gangseo-gu, Seoul, 157-030, Korea**
Manufacturer	**: TJ Media Co., Ltd.**
Address	**: 640-8, Deungchon-dong, Gangseo-gu, Seoul, 157-030, Korea**
Type of Equipment	**: Wireless MIC (TX)**
FCC ID.	**: TO8-TKM-360P**
Model Name	**: TKM-360P**
Serial number	**: None**
Total page of Report	**: 54 pages (including this page)**
Date of Incoming	**: September 02, 2011**
Date of issue	**: October 13, 2011**

SUMMARY

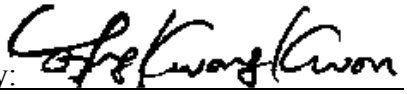
The equipment complies with the regulation; **FCC Part 74 Subpart H.**

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.

Prepared by: 

Ki-Hong, Nam / Senior Engineer
EMC/RF Center
ONETECH Corp.

Reviewed by: 

Y. K. Kwon / Exe. Managing Director
EMC/RF Center
ONETECH Corp.

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
E11OR-016	October 13, 2011	Initial Issue	All

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1. VERIFICATION OF COMPLIANCE

APPLICANT	: TJ Media Co., Ltd.
ADDRESS	: 640-8, Deungchon-dong, Gangseo-gu, Seoul, 157-030, Korea
CONTACT PERSON	: Mr. Ki-Tae, Kim / Manager
TELEPHONE NO	: +82-2-3663-4700
FCC ID	: TO8-TKM-360P
MODEL NO/NAME	: TKM-360P
SERIAL NUMBER	: N/A
DATE	: October 13, 2011

EQUIPMENT CLASS	***TNF – Licensed Non-Broadcast Transmitter Held to Face***
KIND OF EQUIPMENT	Low Power Auxiliary Station - Wireless MIC (TX)
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2009, EIA/TIA 603-C
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 74 SUBPART H, Low Power Auxiliary Stations
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.

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2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
74.861 (e)(1), 2.1046(a)	Output Power	Met the Limit / Pass
74.861 (e)(2)	Frequency Control	Met the Limit (See Note 1)
74.861 (e)(3), 2.1047	Modulation Characteristics	Met the Limit / Pass
74.861 (e)(4) 2.1055 (a)(1) and (d)(2)	Frequency Tolerance Versus Temperature and Voltage	Met the Limit / Pass
74.861 (e)(5), 2.1049 (c)(1)	Operating Bandwidth	Met the Limit / Pass
74.861 (e)(6)	Emission Mask	Met the Limit / Pass
74.861 (e)(6)(iii)	Radiated Emission	Met the Limit / Pass
74.861 (f)	Antenna Requirement	Met the Limit / Pass
2.1093	RF Exposure	Met the Limit / Pass

Note: 1. The operating frequency of the Equipment under test shall be changed by Frequency Synthesizer (PLL IC: U5, LMX1602).

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

Radiated testing was performed according to the procedures in ANSI C63.4: 2009 and EIA/TIA-603 C. 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)

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3. GENERAL INFORMATION

3.1 Product Description

The TJ Media Co., Ltd., Model: TKM-360P (referred to as the EUT in this report) is a Wireless MIC (TX) shall be used with the receiver, wireless MIC (RX) that was manufactured by TJ Media Co., Ltd. The receiver shall be subject to DoC procedure and issued by another test report. Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Portable Device
OPERATING FREQUENCY	494.000 MHz ~ 501.000 MHz (400 kHz Step) 498.200 MHz ~ 505.200 MHz (400 kHz Step)
MAX.OUTPUT POWER	7.21 dBm (5.26 mW)
EMISSION DESIGNATOR	166KF3E
ANTENNA	Inserted into the main board
ANTENNA TYPE AND GAIN	Helical Antenna, -5.1 dBi
CHANNEL	8 Channels
TYPE OF MODULATION	FM
LIST OF EACH OSC. OR CRY. FREQ.(FREQ. >= 1 MHz)	4 MHz
POWER REQUIREMENT	DC 3 V from a two AAA type battery
EXTERNAL CONNECTOR	None

3.2 Alternative type(s)/model(s); also covered by this test report.

-. None

4. EUT MODIFICATIONS

-. None

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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	N/A	TKR-311_TX	N/A
MIC	N/A	N/A	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested: None

5.3 Mode of operation during the test

The EUT was set to low channel (494.000 MHz and 498.200 MHz) and high channel (501.000 MHz and 505.200 MHz) and then transmitted maximum power during the testing. For getting maximum emission from the EUT, the EUT was moved through XY, XZ, and YZ planes.

6. Antenna Requirement

According to §74.861(f), unusual transmitting antennas or antenna elevations shall not be used to deliberately extend the range of low power auxiliary stations beyond the limited areas defined in §74.831.

Antenna Construction:

The transmitting antenna of the EUT is an internal type, so no consideration of replacement or elevation by the user.

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7. OUTPUT POWER

7.1 Operating environment

Temperature : 20 °C

Relative humidity : 48 % R.H.

7.2 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 up to 10th harmonic of the fundamental frequency 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. The test was performed by placing the EUT on 3-orthogonal axis. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

The maximum radiated emission was recorded and used as reference for the effective radiated power measurement. The EUT was then replaced by a tuned dipole antenna or Horn antenna and was oriented for vertical polarization and then the length was adjusted to correspond to the frequency of the transmitter. The substitution antenna was connected to a signal generator with a coaxial cable. The receiving antenna height was raised and lowered again through the specified range of height until maximum signal level is detected by the measuring receiver. The signal to the substitution antenna was adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the EUT radiated power measured, corrected for the change of input attenuation setting of the measuring receiver. The signal generator level was recorded and corrected by the power loss in the cable between the signal generator and substitution antenna and further corrected for the gain of the dipole antenna or horn antenna used relative to an ideal tuned dipole antenna. The measurement was repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

7.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	ESiB26	Rohde & Schwarz	EMI Test Receiver	100296	Apr. 11, 2011(1Y)
■ -	8566B	HP	Spectrum Analyzer	3407A08547	Jun. 11, 2011(1Y)
■ -	8564E	Hewlett-Packard	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	8447D	Hewlett Packard	Amplifier	2727A04987	Jun. 11, 2011(1Y)
■ -	8347A	Hewlett Packard	RF Amplifier	3307A01354	Dec. 01, 2009(2Y)
■ -	83650L	Hewlett-Packard	Signal Generator	3844A00415	Jun. 10, 2011(1Y)
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	VULB9163-202	May 27, 2010(2Y)
■-	3121C	EMCO	Dipole Antenna	9002-530	Dec. 04, 2009(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D294	Aug. 23, 2011(2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 23, 2011(2Y)
■ -	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

All test equipment used is calibrated on a regular basis.

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7.4. Test data for RF output power

7.4.1 Operating Frequency: 494.000 MHz ~ 501.000 MHz

-. Test Date : September 23, 2011

-. Operating Condition : Un-modulated signal with Max Power Transmitting

-. Measurement Distance : 3 m

-. Result : Passed by -16.77 dB at low Channel

Frequency (GHz)	Spectrum Reading (dBμV)	Generator Reading (dBm)	Ant. Gain (dBi)	Ant. Pol. (H/V)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Test Data for Low Channel								
494.000	75.60	8.20	1.62	H	2.61	7.21	23.98	-16.77
	66.30	0.60		V		-0.39	23.98	-24.37
Test Data for High Channel								
501.000	74.80	7.50	1.61	H	2.66	6.45	23.98	-17.53
	64.40	-1.00		V		-2.05	23.98	-26.03

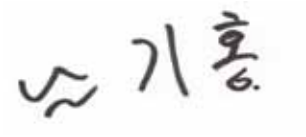
Tabulated test data for Restricted Band

Remark: This test was performed through XY, XZ, and YZ planes, but the worst case data was recorded in above table.

The Limit for this device is 250 mW = 23.98 dBm

Result calculation is as following:

Total = Generator Reading – Cable Loss + Antenna Gain Corrected



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

7.4.2 Operating Frequency: 498.200 MHz ~ 505.200 MHz

-. Test Date : September 28, 2011

-. Operating Condition : Un-modulated signal with Max Power Transmitting

-. Measurement Distance : 3 m

-. Result : Passed by -17.21 dB at low Channel

Frequency (GHz)	Spectrum Reading (dBμV)	Generator Reading (dBm)	Ant. Gain (dBi)	Ant. Pol. (H/V)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Test Data for Low Channel								
498.200	75.20	7.80	1.62	H	2.65	6.77	23.98	-17.21
	64.60	-1.30		V		-2.33	23.98	-26.31
Test Data for High Channel								
505.200	74.90	7.60	1.58	H	2.67	6.51	23.98	-17.47
	64.70	-1.20		V		-2.29	23.98	-26.27

Tabulated test data for Restricted Band

Remark: This test was performed through XY, XZ, and YZ planes, but the worst case data was recorded in above table.

The Limit for this device is 250 mW = 23.98 dBm

Result calculation is as following:

Total = Generator Reading – Cable Loss + Antenna Gain Corrected

Tested by: Ki-Hong, Nam / Senior Engineer

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7.5. Test data for spurious radiated emission

7.5.1 Operating Frequency: 494.000 MHz ~ 501.000 MHz

-. Test Date : September 28, 2011
-. Resolution bandwidth : 100 kHz / 1 MHz
-. Video bandwidth : 300 kHz / 1 MHz
-. Operating Condition : Un-modulated signal with Max Power Transmitting
-. Measurement Distance : 3 m
-. Result : Passed by -11.61 dB at High Channel

Frequency (GHz)	Spectrum Reading (dBμV)	Generator Reading (dBm)	Ant. Gain (dBi)	Ant. Pol. (H/V)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Test Data for Low Channel								
988.00	35.30	-30.40	-0.35	H	3.62	-34.37	-13.00	-21.37
	33.00	-31.70		V		-35.67	-13.00	-22.67
1 482.00	28.00	-34.90	7.58	H	4.44	-31.76	-13.00	-18.76
	25.30	-38.40		V		-35.26	-13.00	-22.26
1 976.00	25.00	-36.90	10.12	H	4.54	-31.32	-13.00	-18.32
	23.40	-38.30		V		-32.72	-13.00	-19.72
Test Data for High Channel								
1 002.00	39.80	-26.20	5.12	H	3.66	-24.74	-13.00	-11.74
	35.50	-29.80		V		-28.34	-13.00	-15.34
1 503.00	26.40	-36.60	7.69	H	4.49	-33.40	-13.00	-20.40
	23.40	-39.40		V		-36.20	-13.00	-23.20
2 004.10	26.50	-36.70	10.24	H	4.51	-30.97	-13.00	-17.97
	25.10	-36.90		V		-31.17	-13.00	-18.17

Tabulated test data for Restricted Band

Remark: This test was performed through XY, XZ, and YZ planes, but the worst case data was recorded in above table.
Result calculation is as following
Total = Generator Reading – Cable Loss + Antenna Gain Corrected

Tested by: Ki-Hong, Nam / Senior Engineer

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7.5.2 Operating Frequency: 498.200 MHz ~ 505.200 MHz

-. Test Date : September 28, 2011

-. Resolution bandwidth : 100 kHz / 1 MHz

-. Video bandwidth : 300 kHz / 1 MHz

-. Operating Condition : Un-modulated signal with Max Power Transmitting

-. Measurement Distance : 3 m

-. Result : Passed by -11.61 dB at High Channel

Frequency (GHz)	Spectrum Reading (dBμV)	Generator Reading (dBm)	Ant. Gain (dBi)	Ant. Pol. (H/V)	Cable Loss (dB)	Total (dBm)	Limit (dBm)	Margin (dB)
Test Data for Low Channel								
996.40	37.00	-28.30	-0.32	H	3.65	-32.27	-13.00	-19.27
	35.50	-29.60		V		-33.57	-13.00	-20.57
1 494.50	27.20	-35.00	7.65	H	4.48	-31.83	-13.00	-18.83
	24.40	-37.20		V		-34.03	-13.00	-21.03
1 992.80	26.50	-36.00	10.20	H	4.51	-30.31	-13.00	-17.31
	24.10	-38.20		V		-32.51	-13.00	-19.51
Test Data for High Channel								
1 011.60	40.00	-26.10	5.17	H	3.68	-24.61	-13.00	-11.61
	36.90	-29.60		V		-28.11	-13.00	-15.11
1 517.50	26.10	-36.20	7.77	H	4.44	-32.87	-13.00	-19.87
	25.00	-37.00		V		-33.67	-13.00	-20.67
2 023.20	26.40	-36.00	10.26	H	4.54	-30.28	-13.00	-17.28
	24.00	-38.20		V		-32.48	-13.00	-19.48

Tabulated test data for Restricted Band

Remark: This test was performed through XY, XZ, and YZ planes, but the worst case data was recorded in above table.

Result calculation is as following

Total = Generator Reading – Cable Loss + Antenna Gain Corrected

Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

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8. MODULATION CHARACTERISTICS

8.1 Operating environment

Temperature : 21 °C

Relative humidity : 46 % R.H.

8.2 Test set-up

The EUT was connected to the audio generator and RF input of the modulation analyzer. A 1 kHz test signal was applied to the audio input of the EUT. Adjust the audio input for 60 % of rated system deviation at 1 kHz using this level as a reference (0 dB) and vary the input level from -30 dB to +20 dB. Record the frequency deviation obtained as a function of the input level. Repeat input level variation as mentioned above with input frequency changing to 500 Hz, 800 Hz, 1 kHz, 2.5 kHz, 5 kHz, 10 kHz and 15 kHz in sequence.

8.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	2350A	HP	30 dB Attenuator	2350A03133	Jun. 10, 2011(1Y)
■ -	8903B	HP	Audio Analyzer	2836A05161	Jun. 10, 2011(1Y)
■ -	8901B	HP	Modulation Analyzer	3028A02930	Jun. 10, 2011(1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power Supply	4030191	Sep. 03, 2011(1Y)

All test equipment used is calibrated on a regular basis.

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8.4 Test data

8.4.1 Operating Frequency: 494.000 MHz

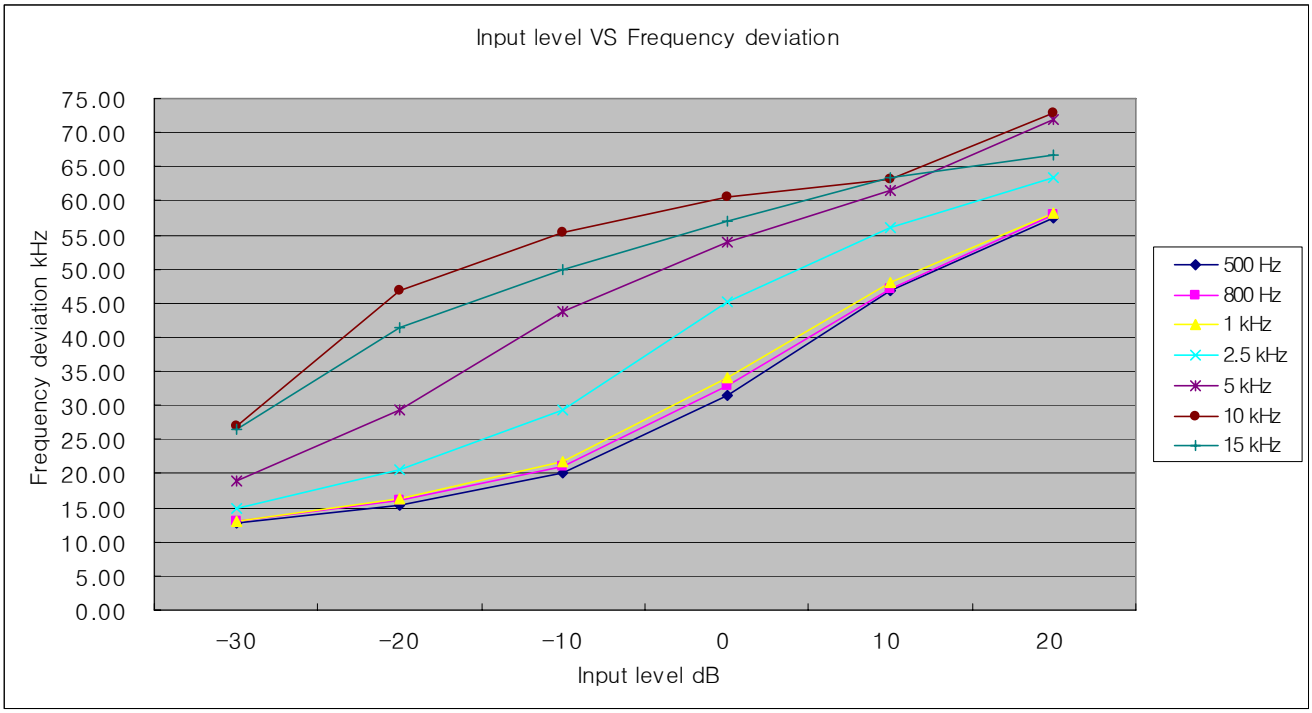
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Input Level (dBm)	Frequency Deviation Response						
	0.5 kHz	0.8 kHz	1 kHz	2.5 kHz	5 kHz	10 kHz	15 kHz
-30.00	12.85	13.01	13.11	14.89	18.83	27.06	26.57
-20.00	15.48	16.11	16.37	20.47	29.32	46.80	41.40
-10.00	20.16	21.08	21.73	29.22	43.80	55.30	49.90
0	31.43	32.89	34.02	45.30	53.90	60.50	57.00
10.00	46.80	47.20	48.10	56.12	61.50	63.20	63.50
20.00	57.50	57.90	58.12	63.50	71.83	72.95	66.70
Limit	± 75.0 kHz						



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

8.4.2 Operating Frequency: 501.000 MHz

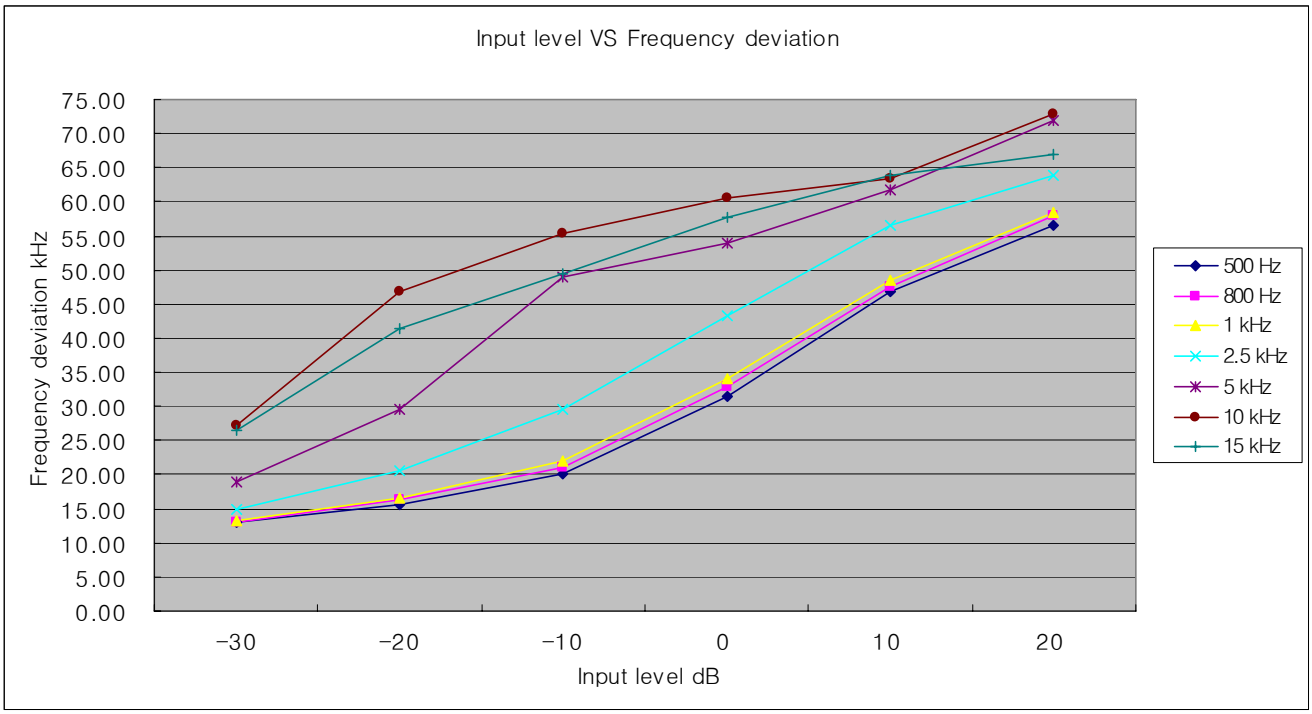
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Input Level (dBm)	Frequency Deviation Response						
	0.5 kHz	0.8 kHz	1 kHz	2.5 kHz	5 kHz	10 kHz	15 kHz
-30.00	12.90	13.10	13.33	14.92	18.90	27.10	26.50
-20.00	15.52	16.25	16.50	20.50	29.50	46.85	41.33
-10.00	20.20	21.10	21.90	29.67	48.92	55.35	49.50
0	31.50	32.92	34.10	43.33	53.95	60.67	57.67
10.00	46.83	47.50	48.43	56.60	61.83	63.50	63.83
20.00	56.62	57.95	58.34	63.83	72.00	72.98	66.90
Limit	±75.0 kHz						



Tested by: Ki-Hong, Nam / Senior Engineer

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8.4.3 Operating Frequency: 498.200 MHz

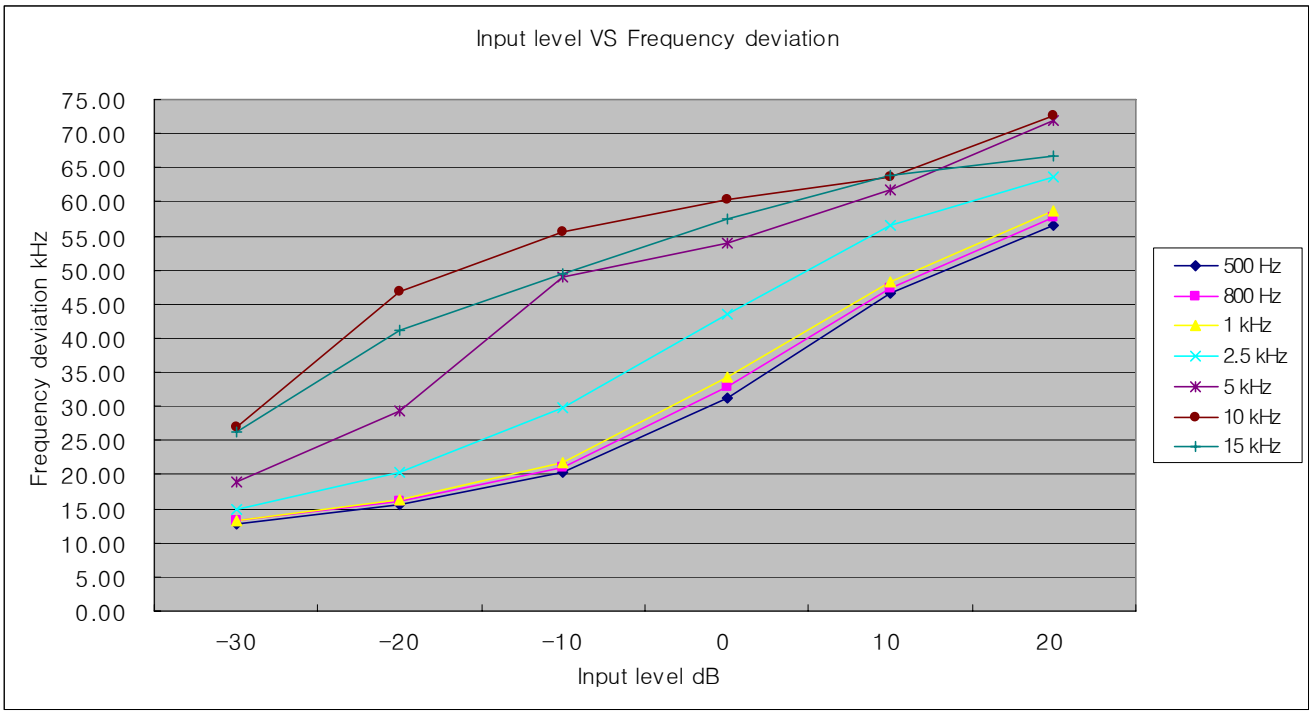
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Input Level (dBm)	Frequency Deviation Response						
	0.5 kHz	0.8 kHz	1 kHz	2.5 kHz	5 kHz	10 kHz	15 kHz
-30.00	12.85	13.17	13.25	14.83	18.83	27.00	26.33
-20.00	15.50	16.20	16.33	20.33	29.33	46.78	41.17
-10.00	20.25	21.15	21.85	29.72	48.86	55.50	49.45
0	31.33	32.83	34.20	43.50	53.90	60.33	57.50
10.00	46.72	47.33	48.33	56.60	61.78	63.70	63.78
20.00	56.60	57.82	58.75	63.72	71.83	72.67	66.75
Limit	±75.0 kHz						



Tested by: Ki-Hong, Nam / Senior Engineer

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8.4.4 Operating Frequency: 505.200 MHz

-. Test Date : October 06, 2011

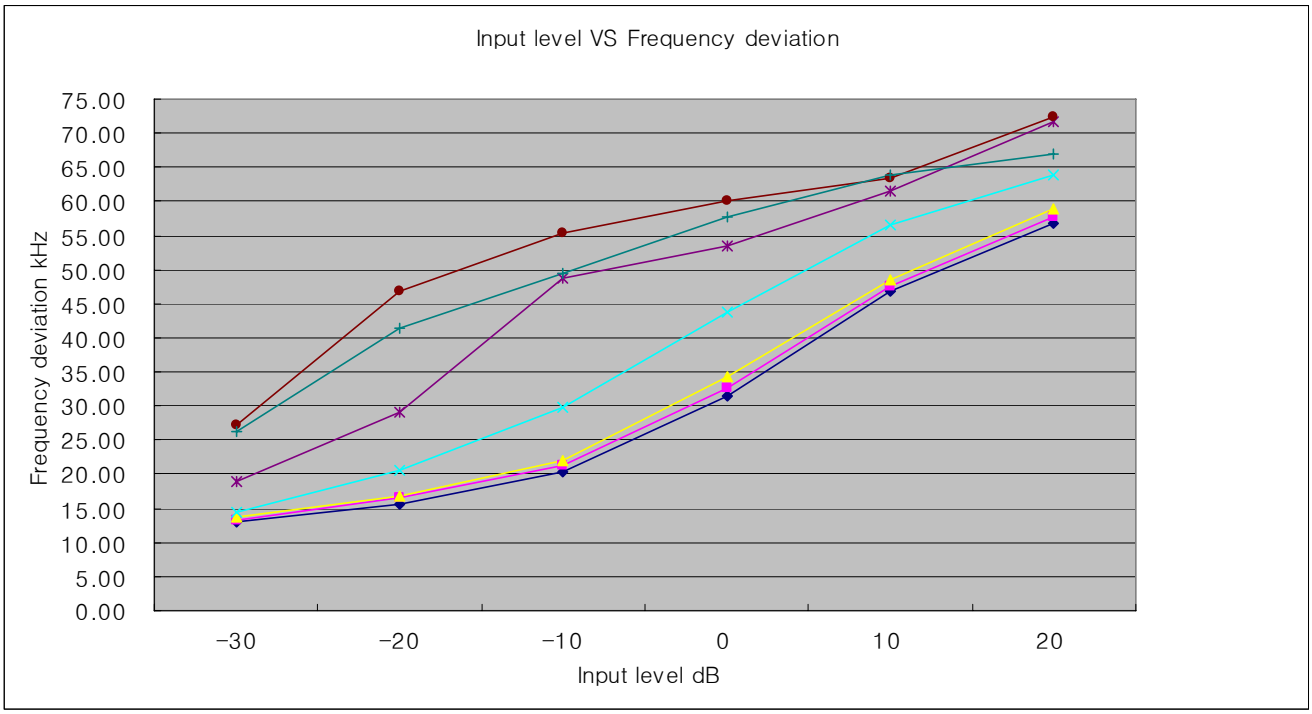
-. Rated Supply Voltage : 3 Vdc

-. Limit : ±75 kHz

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Input Level (dBm)	Frequency Deviation Response						
	0.5 kHz	0.8 kHz	1 kHz	2.5 kHz	5 kHz	10 kHz	15 kHz
-30.00	12.90	13.33	13.67	14.50	18.90	27.17	26.17
-20.00	15.67	16.50	16.78	20.67	29.17	46.83	41.33
-10.00	20.33	21.22	21.92	29.83	48.67	55.40	49.50
0	31.50	32.67	34.33	43.67	53.50	60.10	57.67
10.00	46.83	47.50	48.50	56.50	61.45	63.50	63.83
20.00	56.75	57.68	58.83	63.83	71.62	72.33	66.92



Tested by: Ki-Hong, Nam / Senior Engineer

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9. AUDIO FREQUENCY RESPONSE

9.1 Operating environment

Temperature : 21 °C

Relative humidity : 46 % R.H.

9.2 Test set-up

The EUT was connected to the audio generator and RF input of the modulation analyzer. A 1 kHz test signal was applied to the audio input of the EUT. Adjust the audio input for 20 % of rated system deviation at 1 kHz using this level as a reference (0 dB). Vary the audio frequency from 200 Hz to 20 kHz and record the frequency deviation.

9.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	2350A	HP	30 dB Attenuator	2350A03133	Jun. 10, 2011(1Y)
■ -	8903B	HP	Audio Analyzer	2836A05161	Jun. 10, 2011(1Y)
■ -	8901B	HP	Modulation Analyzer	3028A02930	Jun. 10, 2011(1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power Supply	4030191	Sep. 03, 2011(1Y)

All test equipment used is calibrated on a regular basis.

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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)

9.4 Test data

9.4.1 Operating Frequency: 494.000 MHz

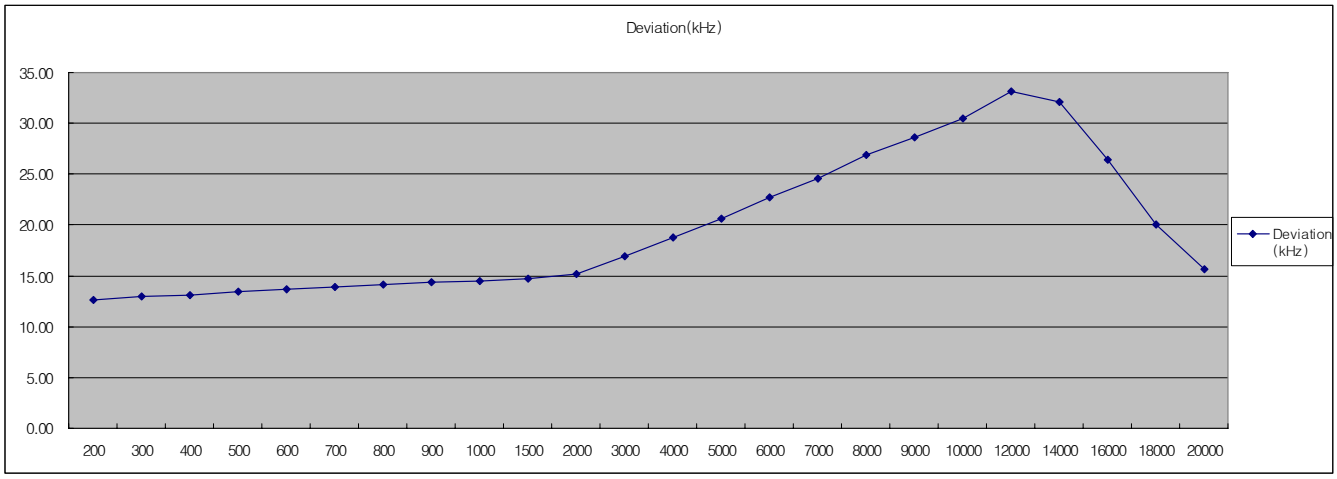
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)
200	12.60	1 000	14.50	8 000	26.83
300	12.93	1 500	14.72	9 000	28.66
400	13.11	2 000	15.22	10 000	30.52
500	13.47	3 000	16.90	12 000	33.16
600	13.66	4 000	18.72	14 000	32.10
700	13.92	5 000	20.68	16 000	26.37
800	14.17	6 000	22.67	18 000	20.10
900	14.33	7 000	24.62	20 000	15.70



Tested by: Ki-Hong, Nam / Senior Engineer

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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)

9.4.2 Operating Frequency: 501.000 MHz

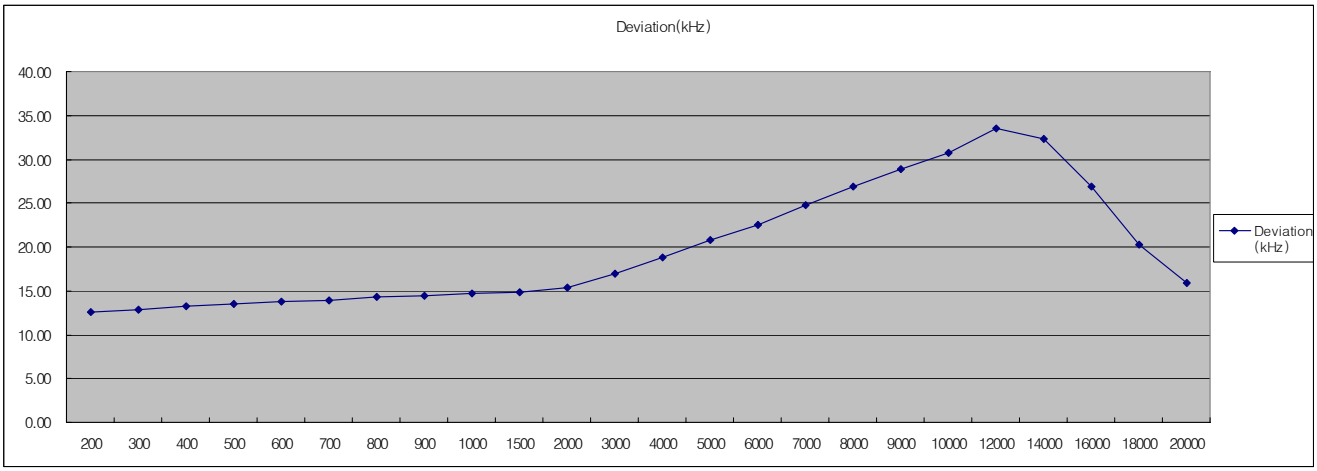
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)
200	12.63	1 000	14.67	8 000	26.90
300	12.87	1 500	14.80	9 000	28.88
400	13.22	2 000	15.33	10 000	30.67
500	13.50	3 000	16.95	12 000	33.50
600	13.83	4 000	18.75	14 000	32.33
700	13.95	5 000	20.83	16 000	26.90
800	14.33	6 000	22.50	18 000	20.33
900	14.50	7 000	24.72	20 000	15.83



Tested by: Ki-Hong, Nam / Senior Engineer

9.4.3 Operating Frequency: 498.200 MHz

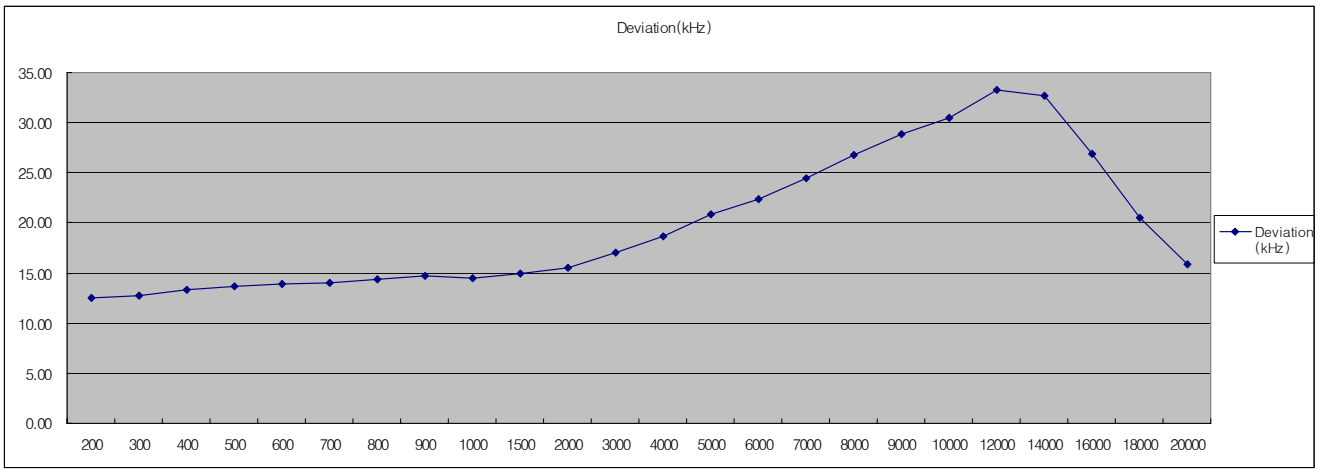
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)
200	12.50	1 000	14.50	8 000	26.78
300	12.78	1 500	14.92	9 000	28.90
400	13.33	2 000	15.50	10 000	30.50
500	13.67	3 000	17.00	12 000	33.25
600	13.92	4 000	18.67	14 000	32.67
700	14.00	5 000	20.90	16 000	26.83
800	14.33	6 000	22.33	18 000	20.50
900	14.67	7 000	24.50	20 000	15.90



Tested by: Ki-Hong, Nam / Senior Engineer

9.4.4 Operating Frequency: 505.200 MHz

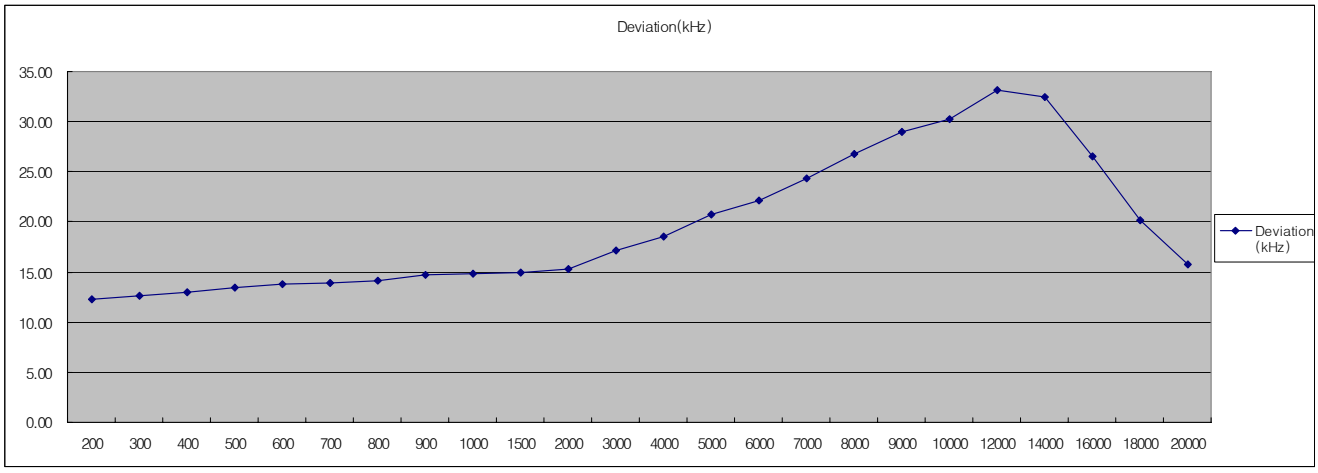
-. Test Date : October 06, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

-. Reference Level : 0 dB @ 1 kHz.

Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)	Frequency (Hz)	Deviation (kHz)
200	12.33	1 000	14.83	8 000	26.80
300	12.67	1 500	15.00	9 000	28.95
400	13.00	2 000	15.33	10 000	30.25
500	13.50	3 000	17.17	12 000	33.17
600	13.78	4 000	18.50	14 000	32.50
700	13.95	5 000	20.80	16 000	26.50
800	14.17	6 000	22.17	18 000	20.17
900	14.67	7 000	24.33	20 000	15.78



Tested by: Ki-Hong, Nam / Senior Engineer

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10. OCCUPIED BANDWIDTH, EMISSION MASKS

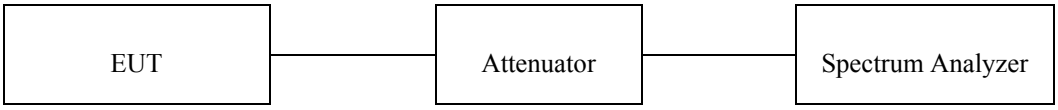
10.1 Operating environment

Temperature : 21 °C

Relative humidity : 45 % R.H.

10.2 Test set-up

The RF output port of the EUT was connected to the input of the spectrum analyzer through sufficient attenuation. The resolution bandwidth and video bandwidth of the spectrum analyzer was set at 1 kHz and 3 kHz for this test, plot the un-modulated chart shows on spectrum. According to the result of Modulation Characteristics, set the output of the signal generator to 100 Hz, 500 Hz, 1 kHz, 10 kHz and 15 kHz, increase the amplitude of the signal, until maximum modulation is shown on the spectrum analyzer.



10.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	Hewlett-Packard	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	FSP	Rohde & Schwarz	Spectrum Analyzer	100017	Mar. 16, 2011(1Y)
■ -	8903B	HP	Audio Analyzer	2836A05161	Jun. 10, 2011(1Y)
■ -	2350A	HP	30 dB Attenuator Assembly	2350A03133	Jun. 10, 2011(1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power Supply	4030191	Sep. 03, 2011(1Y)

All test equipment used is calibrated on a regular basis.

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10.4 Test data for Operating Bandwidth

10.4.1 Operating Frequency: 494.000 MHz ~ 501.000 MHz

-. Test Date : October 04, 2011

-. Test Result : Pass

Channel	Frequency (MHz)	Input Signal (kHz)	Measured Value (kHz)	Limit (kHz)	Margin (kHz)
Low	494.000	0.5	90.00	200	-110.00
		0.8	93.60		-106.40
		1	97.20		-102.80
		2.5	118.80		-81.20
		5	138.60		-61.40
		10	162.00		-38.00
		15	181.80		-18.20
High	501.000	0.5	88.20	200	-111.80
		0.8	91.80		-108.20
		1	95.40		-104.60
		2.5	115.20		-84.80
		5	133.20		-66.80
		10	160.20		-39.80
		15	180.00		-20.00

Tested by: Ki-Hong, Nam / Senior Engineer

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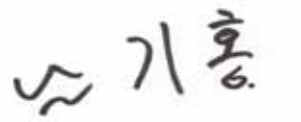
10.4.2 Operating Frequency: 498.200 MHz ~ 505.200 MHz

-. Test Date : October 04, 2011

-. Test Result : Pass

Channel	Frequency (MHz)	Input Signal (kHz)	Measured Value (kHz)	Limit (kHz)	Margin (kHz)
Low	498.200	0.5	90.00	200	-110.00
		0.8	91.80		-108.20
		1	93.60		-106.40
		2.5	115.20		-84.80
		5	133.20		-66.80
		10	160.20		-39.80
		15	180.00		-20.00
High	505.200	0.5	86.40	200	-113.60
		0.8	91.80		-108.20
		1	93.60		-106.40
		2.5	117.00		-83.00
		5	133.20		-66.80
		10	162.00		-38.00
		15	180.00		-20.00



Tested by: Ki-Hong, Nam / Senior Engineer

10.5 Calculation of necessary bandwidth

The formula for necessary bandwidth (Bn) is as following.

Bn = 2 * M + 2 * D * K

Where, M means Max. Modulation Frequency, 10 kHz

D means Max. Frequency Deviation, 72.98 kHz (Please refer to test result, clause 8.4.2)

K means Constant Factor, 1

So, the calculated necessary bandwidth is 165.96 kHz.

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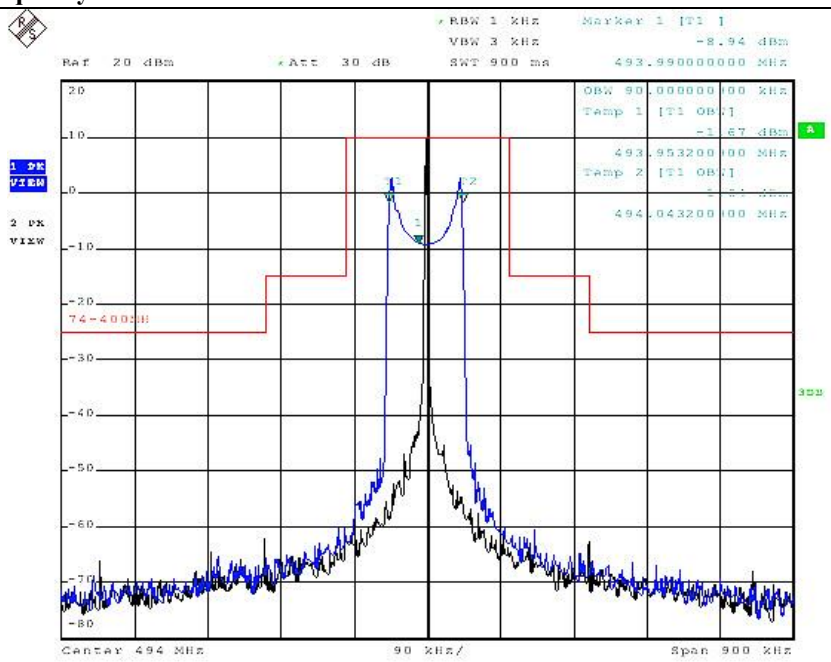
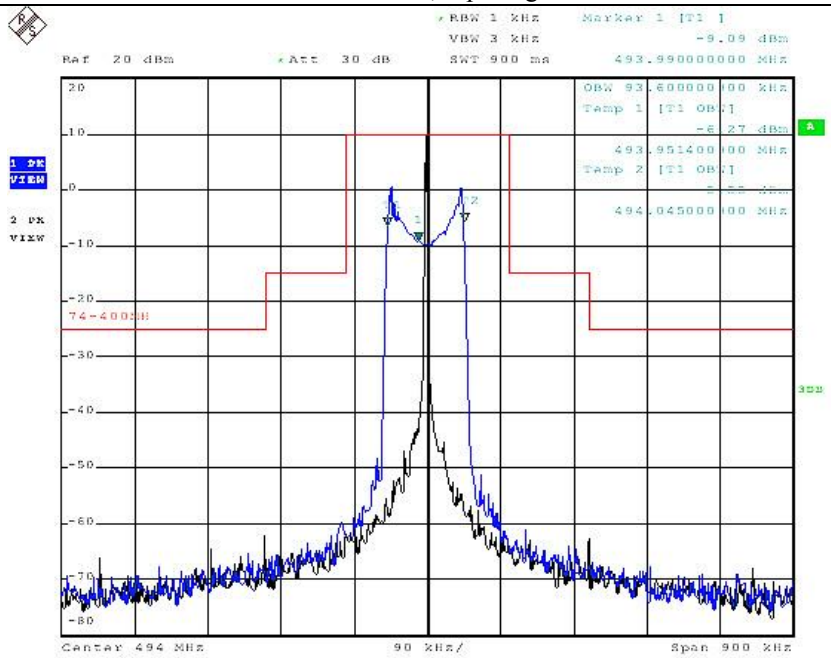
*** Operating Frequency: 494.000 MHz**



Low Channel, Input signal 0.5 kHz



Low Channel, Input signal 0.8 kHz

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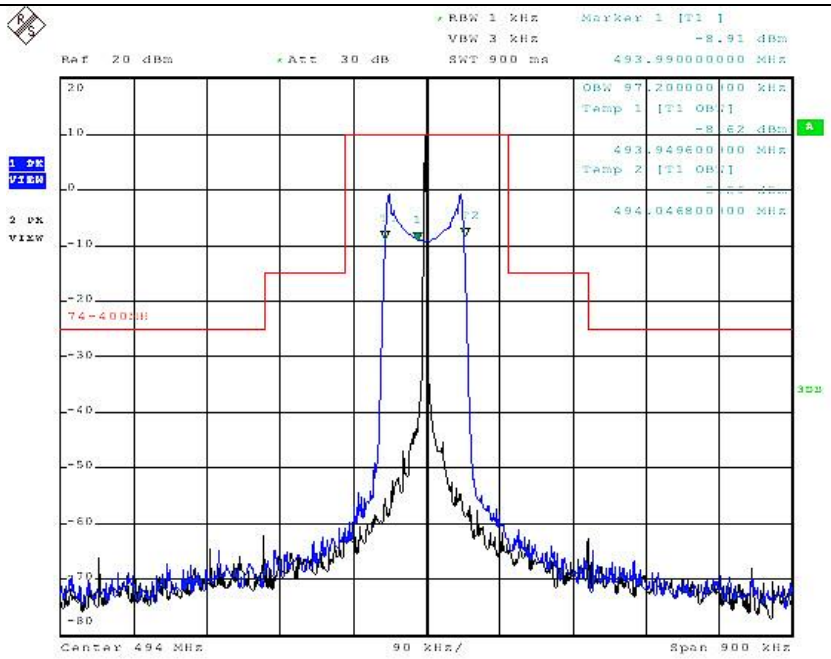
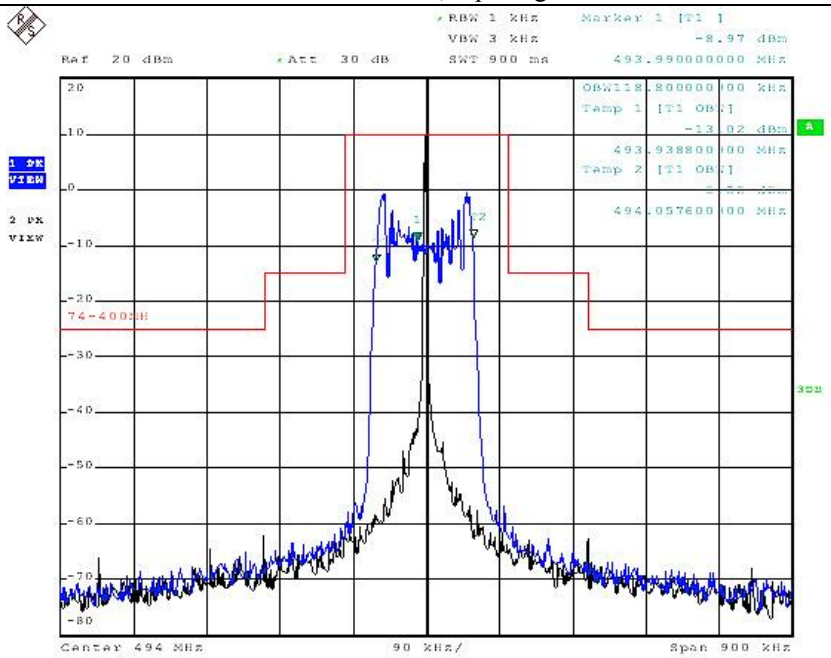


Low Channel, Input signal 1 kHz



Low Channel, Input signal 2.5 kHz

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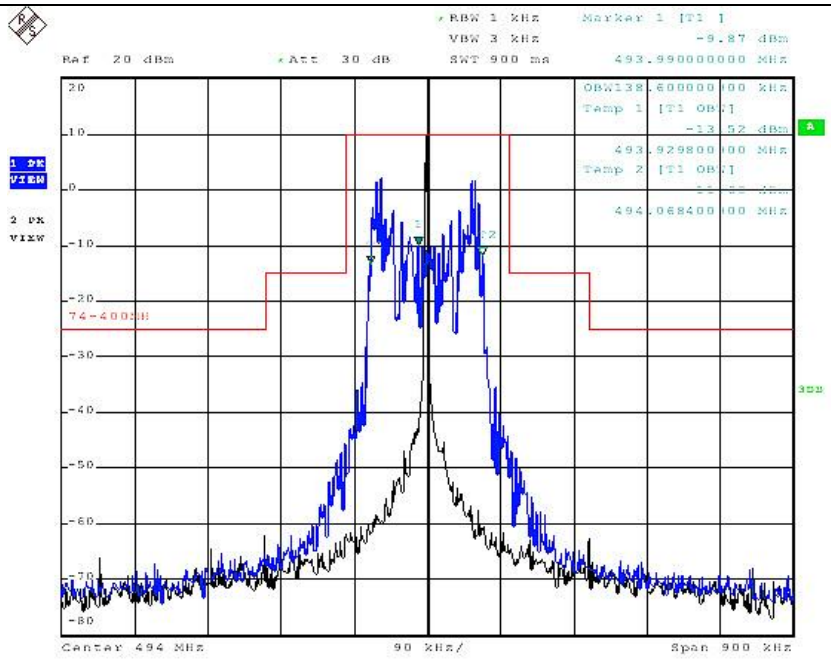
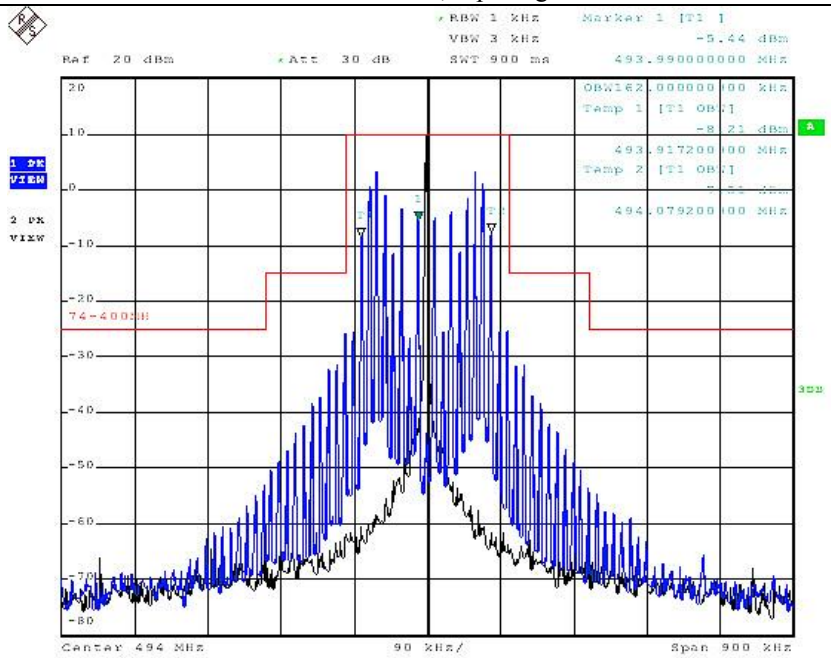


Low Channel, Input signal 5 kHz



Low Channel, Input signal 10 kHz

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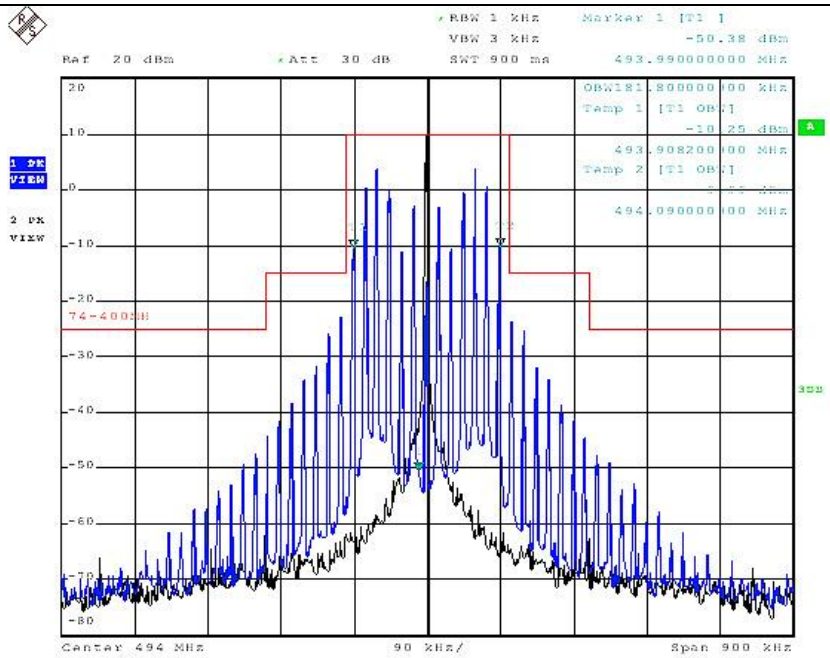

Low Channel, Input signal 15 kHz

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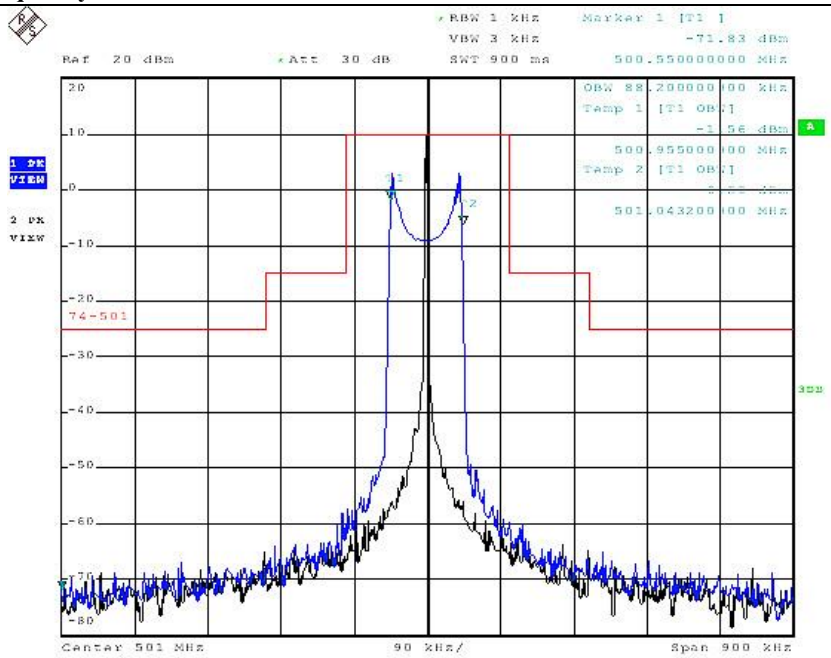
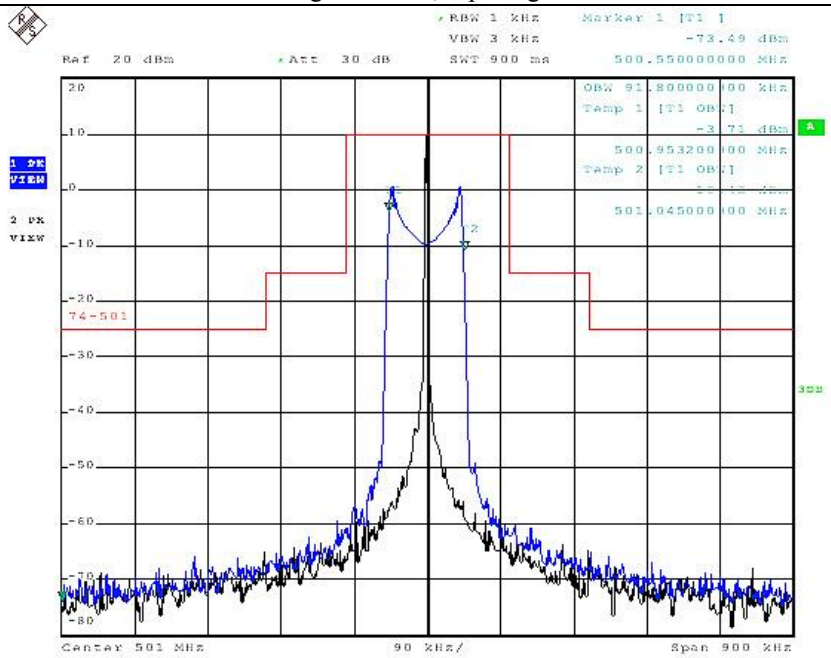
*** Operating Frequency: 501.000 MHz**



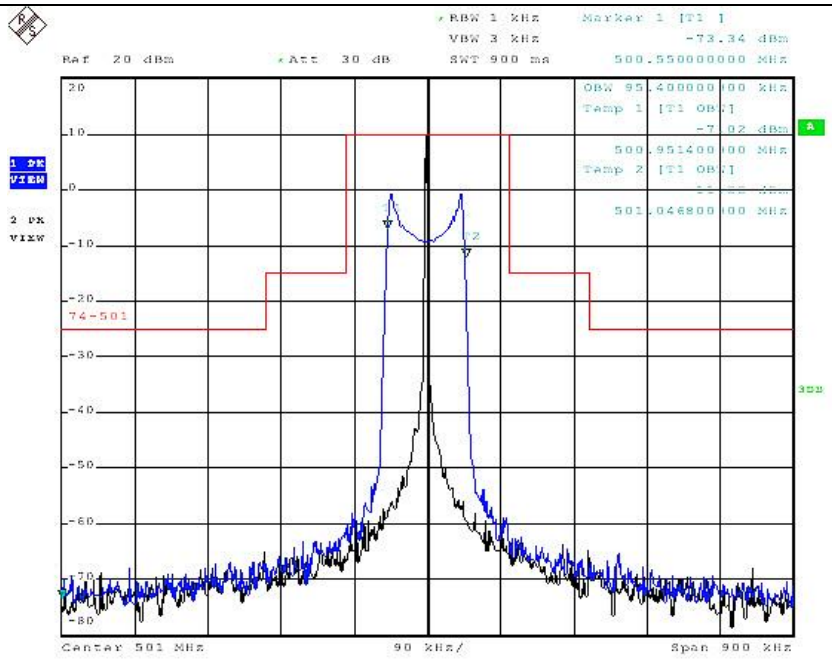
High Channel, Input signal 0.5 kHz



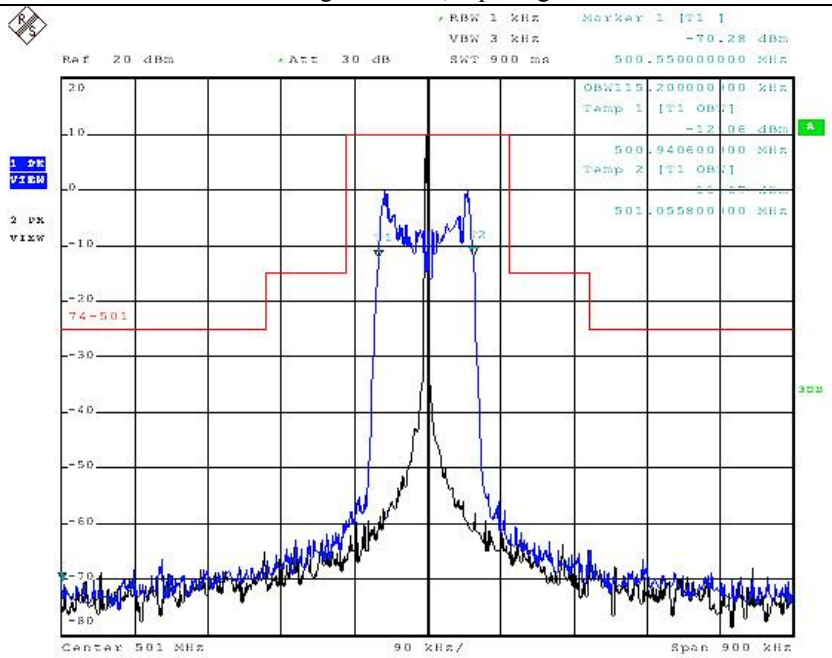
High Channel, Input signal 0.8 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



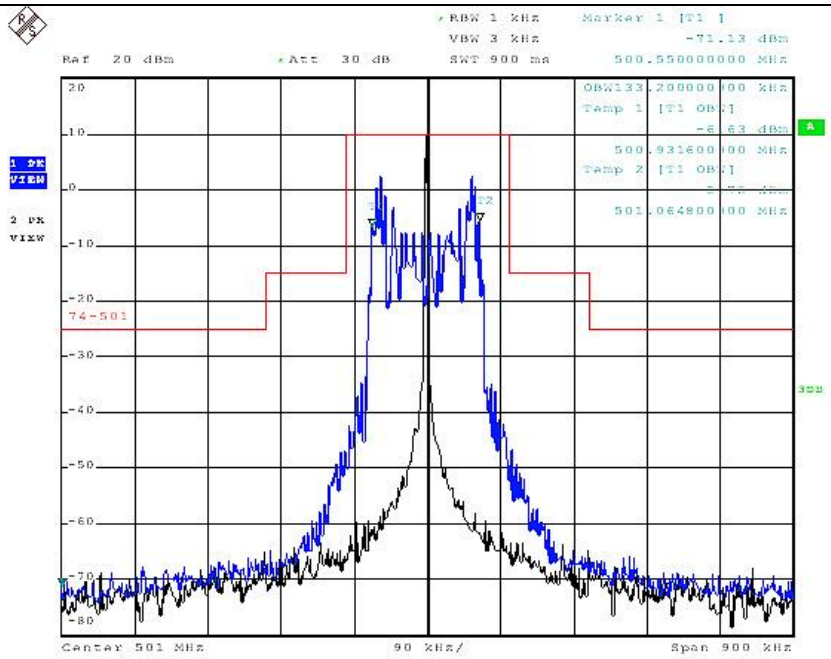
High Channel, Input signal 1 kHz



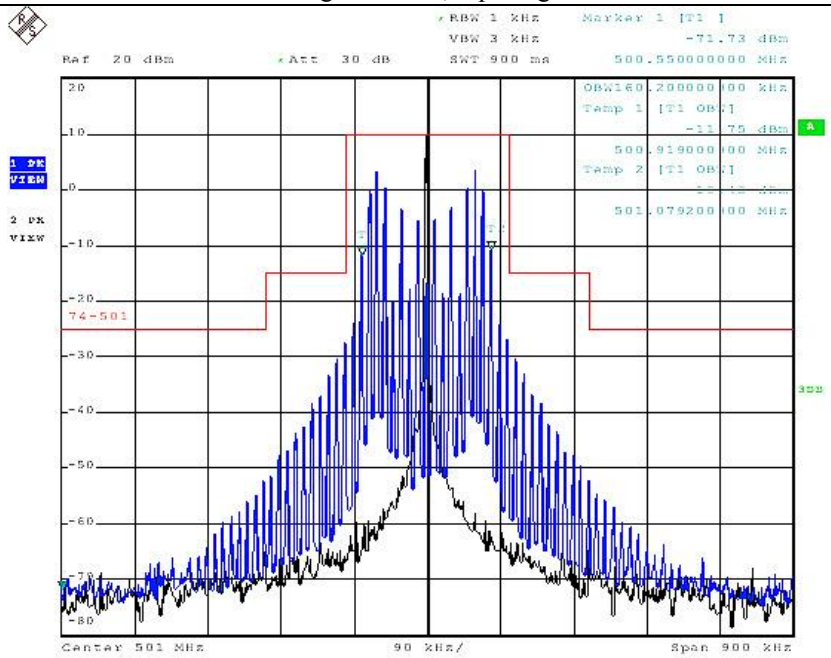
High Channel, Input signal 2.5 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



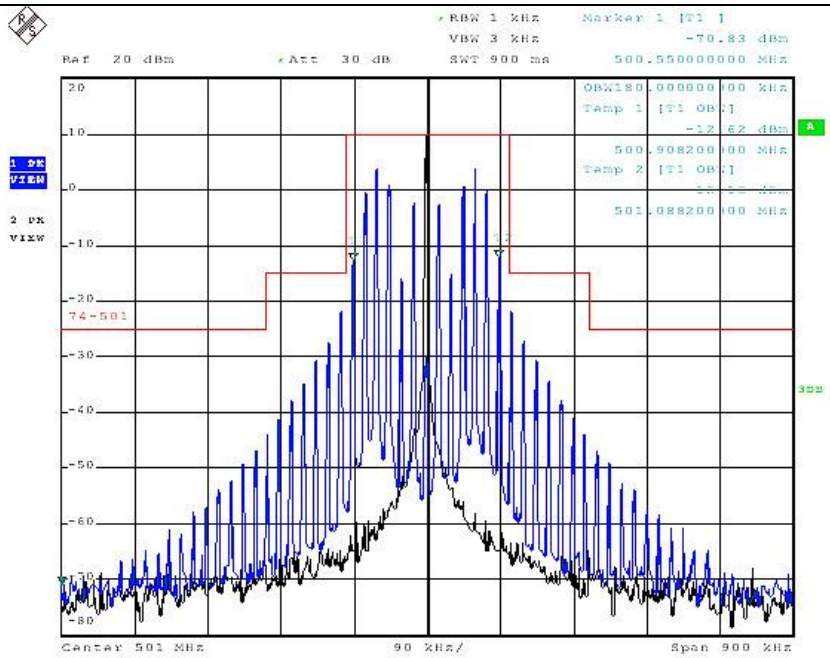
High Channel, Input signal 5 kHz



High Channel, Input signal 10 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

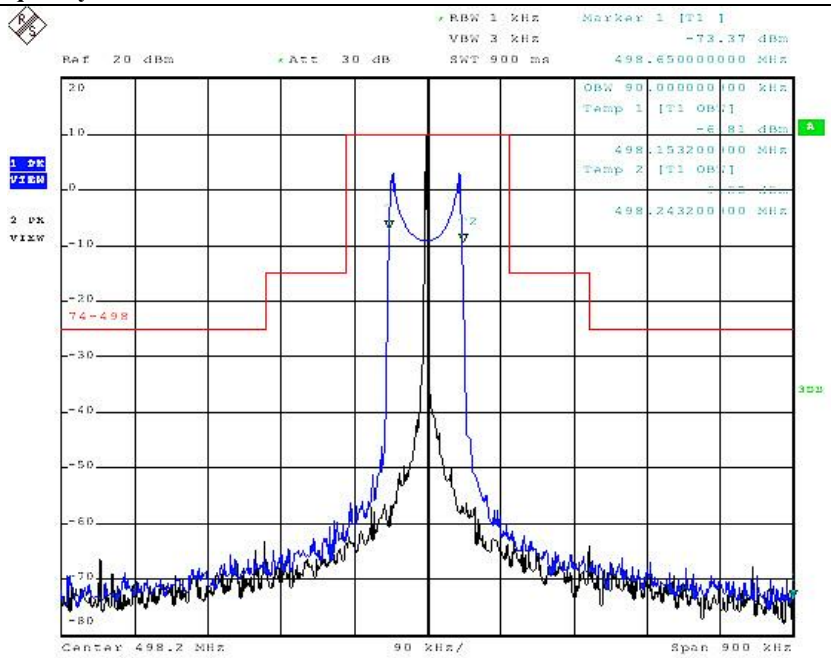
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)



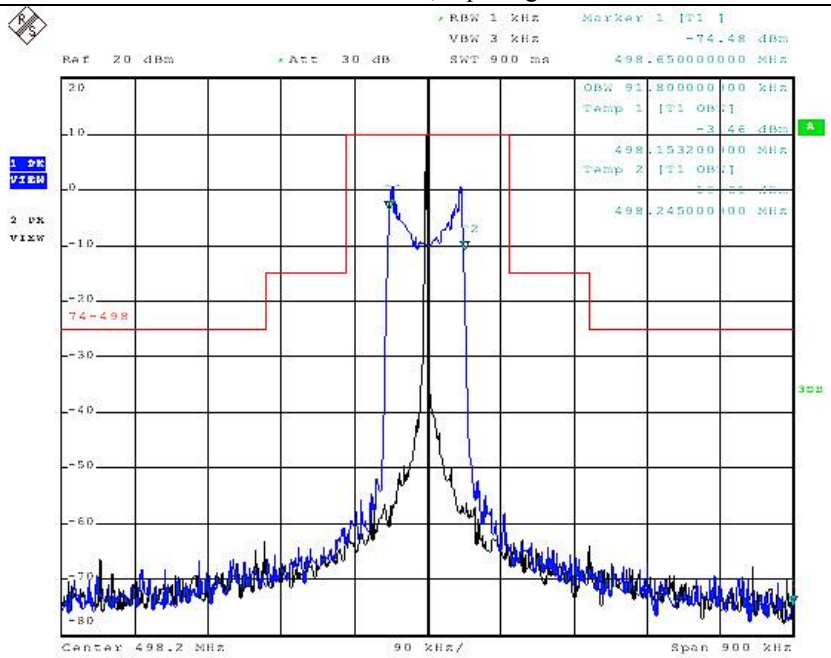
High Channel, Input signal 15 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

*** Operating Frequency: 498.200 MHz**



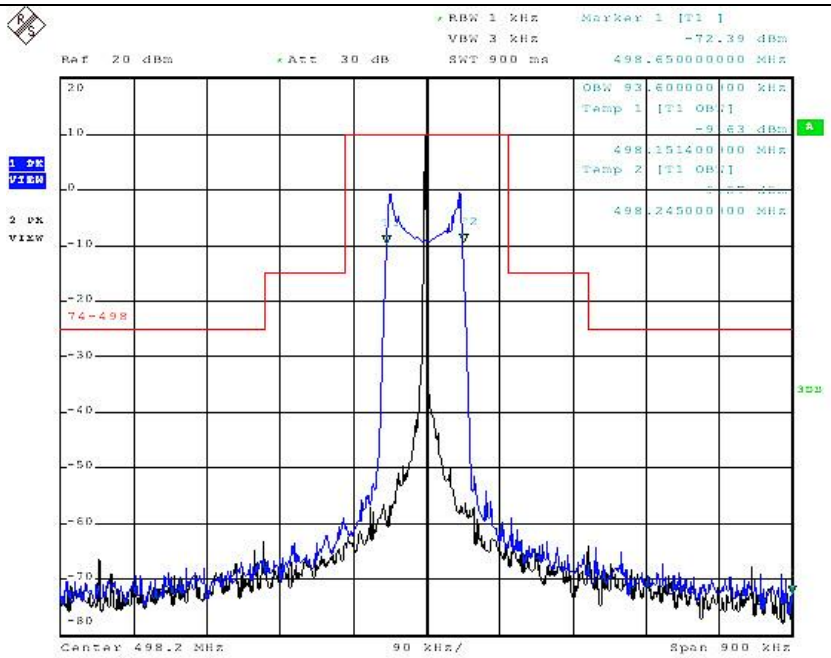
Low Channel, Input signal 0.5 kHz



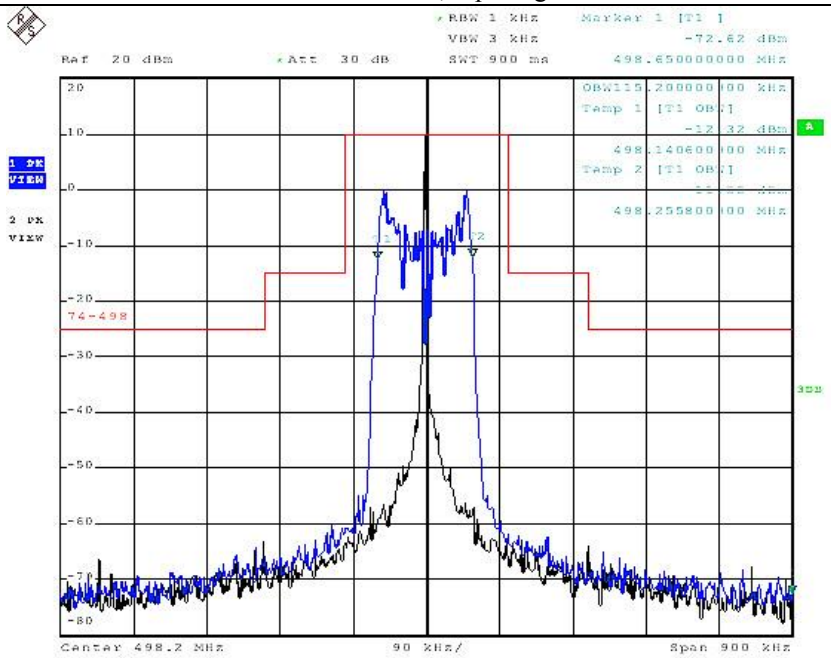
Low Channel, Input signal 0.8 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

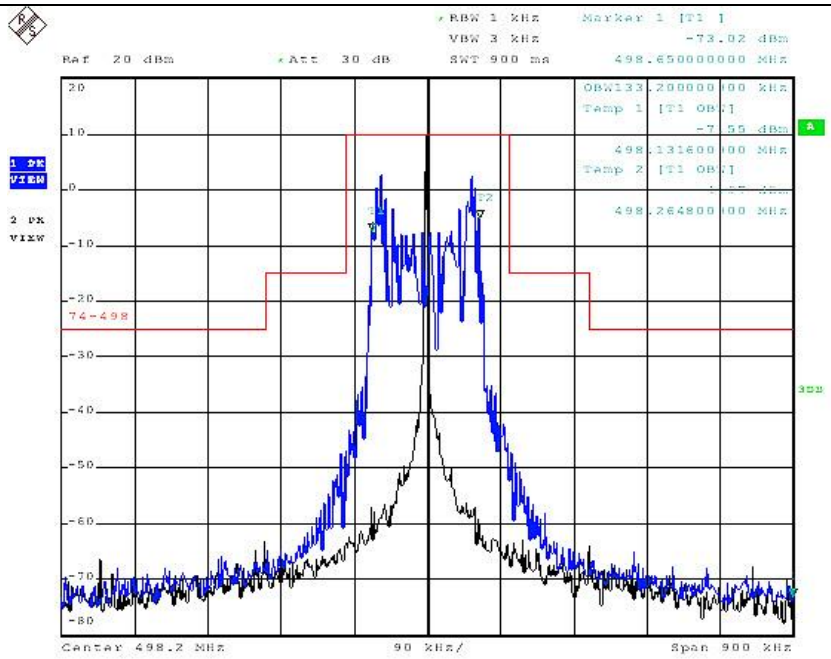


Low Channel, Input signal 1 kHz

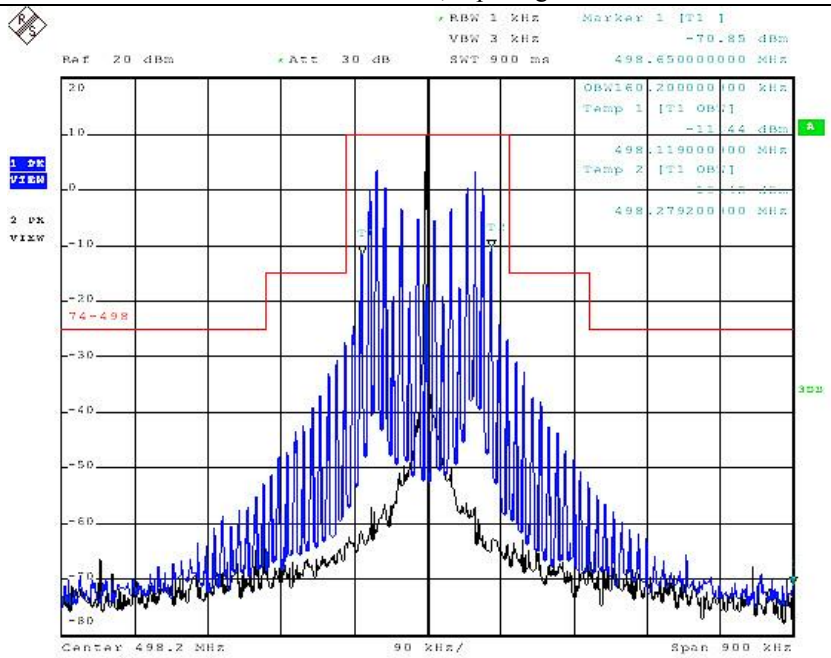


Low Channel, Input signal 2.5 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



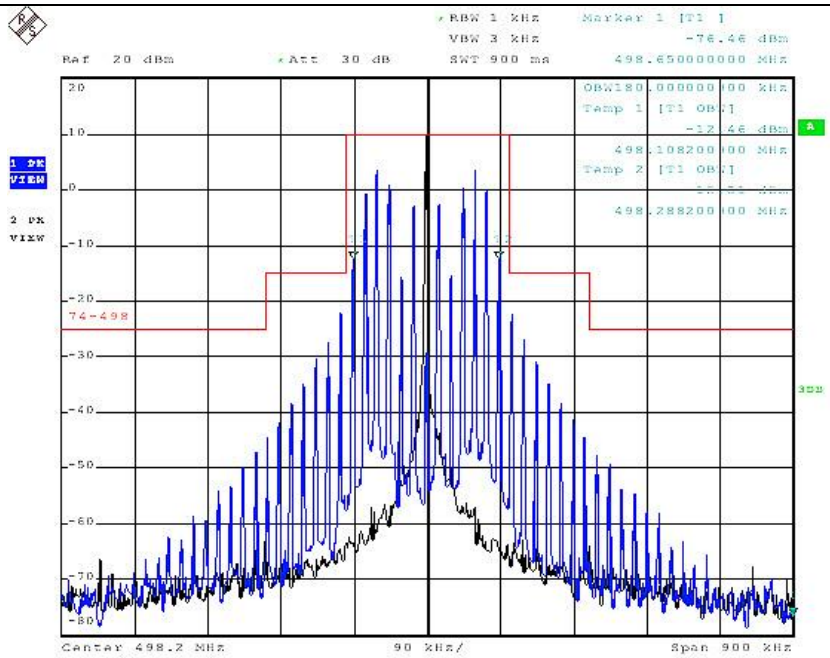
Low Channel, Input signal 5 kHz



Low Channel, Input signal 10 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

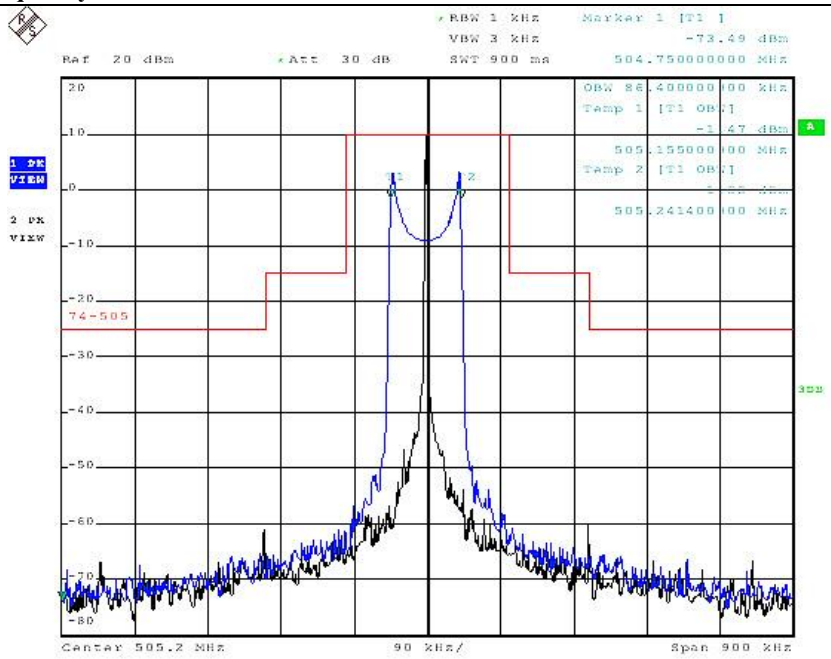
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)



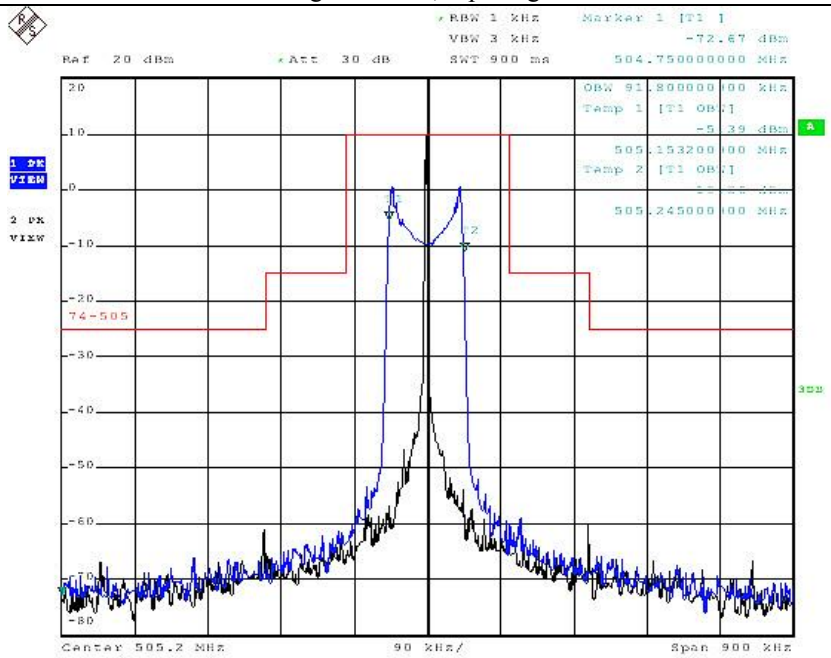
Low Channel, Input signal 15 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

*** Operating Frequency: 505.200 MHz**



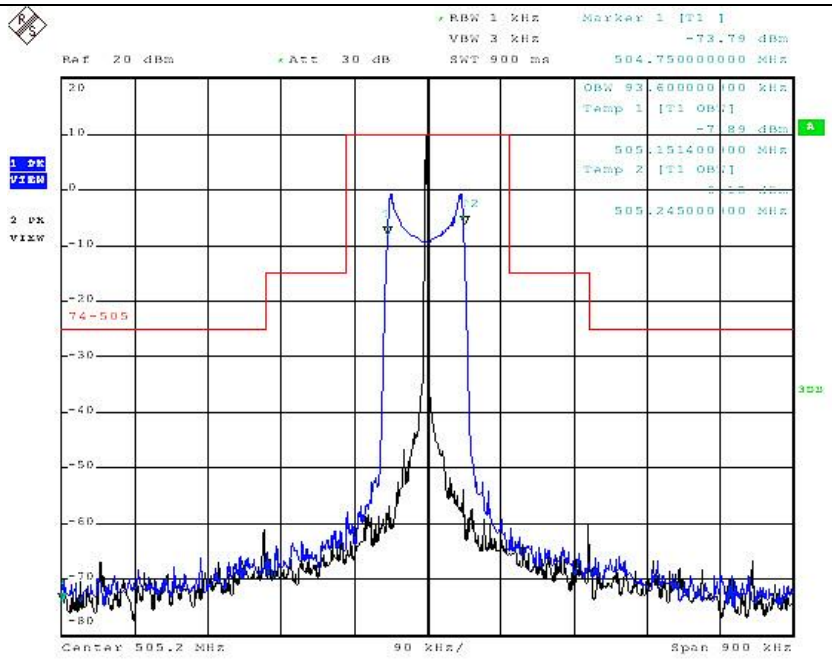
High Channel, Input signal 0.5 kHz



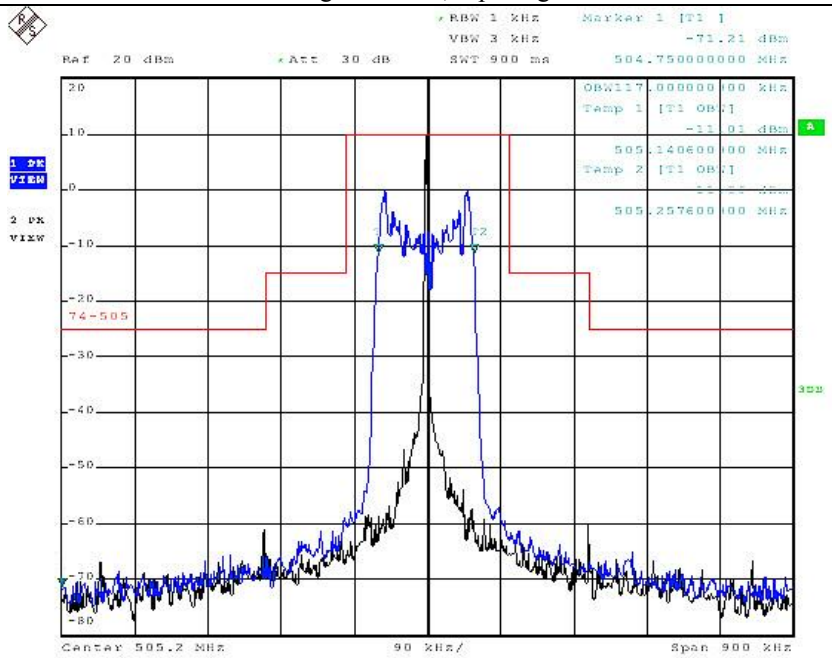
High Channel, Input signal 0.8 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



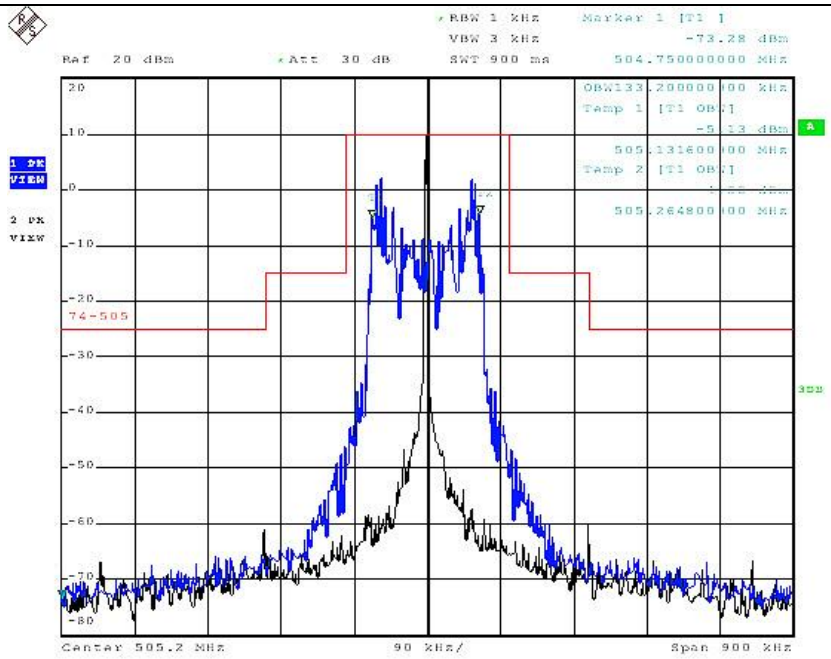
High Channel, Input signal 1 kHz



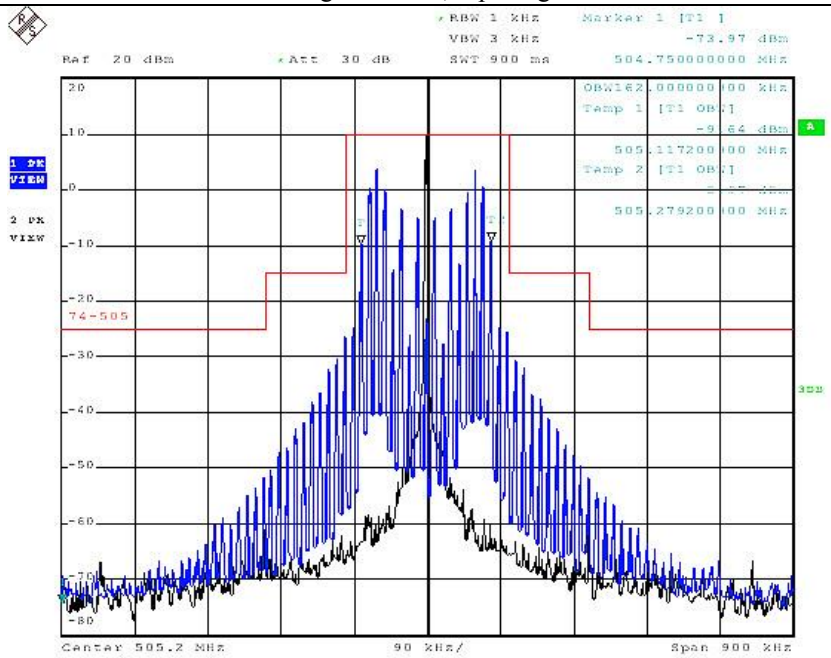
High Channel, Input signal 2.5 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



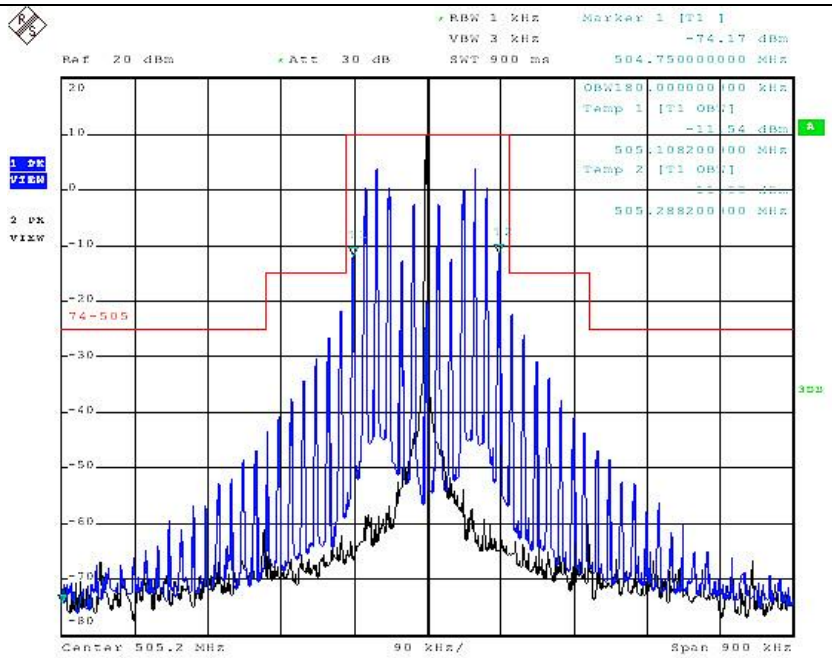
High Channel, Input signal 5 kHz



High Channel, Input signal 10 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)



High Channel, Input signal 15 kHz

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

11. FREQUENCY STABILITY WITH TEMPERATURE VARIATION

11.1 Operating environment

Temperature : 21 °C

Relative humidity : 45 % R.H.

11.2 Test set-up

The EUT was fixed in test fixture to a resistive coaxial attenuator of normal load impedance, and the un-modulated carrier was measured by the spectrum analyzer.

Turn EUT off and set chamber temperature to -30 °C and then allow sufficient time (approximately 20 min to 30 min after chamber reach the assigned temperature) for EUT to stabilize. Turn ON EUT and measure the EUT operating frequency and then turn off the EUT after the measurement. The temperature in the chamber was raised 10 °C step from -30 °C to +50 °C. Repeat above method for frequency measurements every 10 °C step and then record all measured frequencies on each temperature step.

11.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	53152A	HP	Frequency Counter	US39270295	Dec. 01, 2010(1Y)
■ -	SSE-43CI-A	Samkun Tech	Chamber	060712	Jun. 11, 2011(1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power Supply	4030191	Sep. 03, 2011(1Y)

All test equipment used is calibrated on a regular basis.

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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)

11.4 Test data

11.4.1 Operating Frequency: 494.000 MHz

-. Test Date : October 04 ~ 05, 2011

-. Result : Passed

Temperature (˚C)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
-30	494.000	493 989 835	0.002 058	0.005 %
-20		493 991 004	0.001 821	
-10		493 992 309	0.001 557	
0		493 995 132	0.000 985	
10		493 996 383	0.000 732	
20		493 998 421	0.000 320	
30		494 001 333	-0.000 270	
40		494 002 952	-0.000 598	
50		494 004 283	-0.000 867	

Tested by: Ki-Hong, Nam / Senior Engineer

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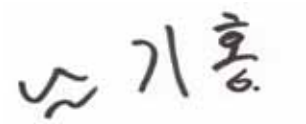
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

11.4.2 Operating Frequency: 501.000 MHz

-. Test Date : October 04 ~ 05, 2011

-. Result : Passed

Temperature (˚C)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
-30	501.000	500 988 744	0.002 247	0.005 %
-20		500 990 983	0.001 800	
-10		500 992 045	0.001 588	
0		500 994 983	0.001 001	
10		500 996 143	0.000 770	
20		500 998 251	0.000 349	
30		501 001 144	-0.000 228	
40		501 002 273	-0.000 454	
50		501 004 177	-0.000 834	



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

11.4.3 Operating Frequency: 498.200 MHz

-. Test Date : October 04 ~ 05, 2011

-. Result : Passed

Temperature (˚C)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
-30	498.200	498 189 678	0.002 072	0.005 %
-20		498 191 033	0.001 800	
-10		498 192 250	0.001 556	
0		498 194 982	0.001 007	
10		498 196 178	0.000 767	
20		498 198 431	0.000 315	
30		498 201 176	-0.000 236	
40		498 202 275	-0.000 457	
50		498 203 833	-0.000 769	

Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 Korea (TEL: +82-31-746-8500, FAX: +82-31-746-8700)

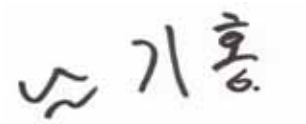
EMC Testing Dept : 307-51 Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do 464-862 Korea. (TEL: +82-31-765-8289, FAX: +82-31-766-2904)

11.4.4 Operating Frequency: 505.200 MHz

-. Test Date : October 04 ~ 05, 2011

-. Result : Passed

Temperature (˚C)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
-30	505.200	505 189 882	0.002 003	0.005 %
-20		505 191 039	0.001 774	
-10		505 192 425	0.001 499	
0		505 195 221	0.000 946	
10		505 196 823	0.000 629	
20		505 198 765	0.000 244	
30		505 202 428	-0.000 481	
40		505 202 276	-0.000 451	
50		505 203 842	-0.000 760	



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

12. FREQUENCY STABILITY WITH VOLTAGE VARIATION

12.1 Operating environment

Temperature : 21 °C

Relative humidity : 45 % R.H.

12.2 Test set-up

The EUT was fixed in test fixture to a resistive coaxial attenuator of normal load impedance, and the un-modulated carrier was measured by the spectrum analyzer.

The voltage of EUT was varied in a range from 2.0 V to 3.0 V and the maximum change in frequency was recorded at each step. The temperature tests were performed on lowest and highest channel.

12.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	8564E	HP	Spectrum Analyzer	3650A00756	Jun. 10, 2011(1Y)
■ -	53152A	HP	Frequency Counter	US39270295	Dec. 01, 2010(1Y)
■ -	2350A	HP	30 dB Attenuator	2350A03133	Jun. 10, 2011(1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power Supply	4030191	Sep. 03, 2011(1Y)

All test equipment used is calibrated on a regular basis.

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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)

12.4 Test data

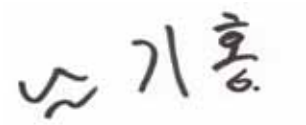
12.4.1 Operating Frequency: 494.000 MHz

-. Test Date : October 04 ~ 05, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

Voltage (V)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
3.0	494.000	493 998 418	0.000 320	0.005 %
2.5		493 998 422	0.000 319	
2.0		493 998 320	0.000 340	
1.5		-	-	
1.0		-	-	



Tested by: Ki-Hong, Nam / Senior Engineer

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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)

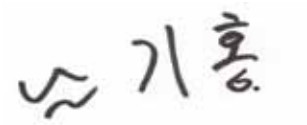
12.4.2 Operating Frequency: 501.000 MHz

-. Test Date : October 04 ~ 05, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

Voltage (V)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
3.0	501.000	500 998 217	0.000 356	0.005 %
2.5		500 998 233	0.000 353	
2.0		500 998 238	0.000 352	
1.5		-	-	
1.0		-	-	



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

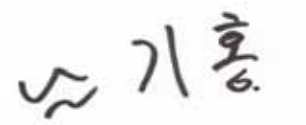
12.4.3 Operating Frequency: 498.200 MHz

-. Test Date : October 04 ~ 05, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

Voltage (V)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
3.0	498.200	498 198 221	0.000 357	0.005 %
2.5		498 198 235	0.000 354	
2.0		498 198 229	0.000 355	
1.5		-	-	
1.0		-	-	



Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

12.4.4 Operating Frequency: 505.200 MHz

-. Test Date : October 04 ~ 05, 2011

-. Rated Supply Voltage : 3 Vdc

-. Result : Passed

Voltage (V)	Frequency (MHz)	Measured Freq. (MHz)	Frequency Tolerance (%)	Limit (%)
3.0	505.200	505 198 823	0.000 233	0.005 %
2.5		505 198 839	0.000 230	
2.0		505 198 844	0.000 229	
1.5		-	-	
1.0		-	-	

Tested by: Ki-Hong, Nam / Senior Engineer

HEAD OFFICE : #505 SK Apt. Factory, 223-28 Sangdaewon 1-dong, Jungwon-gu, Seongnam-si, Gyeonggi-do 462-705 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)

13. RADIO FREQUENCY EXPOSURE

13.1 RF Exposure Limit

According to the FCC rule §1.1310, the limit for General Population/Uncontrolled exposure is f (MHz)/1 500 = 0.33 mW/cm² for the device operating 300 MHz ~ 1 500 MHz.

13.2 EUT Description

Kind of EUT	Wireless Microphone
Operating Frequency Band	■ Wireless Microphone: 494.000 MHz ~ 501.000 MHz and 498.200 MHz ~ 505.200 MHz ☐ WLAN: 2 412 MHz ~ 2 462 MHz ☐ WLAN: 5 180 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz ☐ WLAN: 5 745 MHz ~ 5 825 MHz ☐ Bluetooth: 2 402 MHz ~ 2 480 MHz
Device Category	■ Portable (< 20 cm separation) ☐ Mobile (> 20 cm separation) ☐ Others
Max. Output Power	7.21 dBm (5.26 mW) @ 494.000 MHz
Used Antenna	Single Antenna (Helical Antenna)
Used Antenna Gain	-5.1 dBi
Exposure Evaluation Applied	☐ MPE ☐ SAR ■ N/A

13.3 Test Result

SAR evaluation is not required for the PORTABLE Device while its maximum output power is lower than threshold: 60/f (GHz) = 60/0.505 2 = 118.76 mW.

So, the device meets the RF exposure requirement.

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