

# FCC Test Report

Product Name	Korners Sub
Model No	Korners Sub
FCC ID.	R48KWTL5

Applicant	Meiloon Industrial Co., Ltd.
Address	NO. 77, LANE 1775, CHUEN-RYH ROAD, TAOYUAN CITY, TAIWAN

Date of Receipt	May 27, 2013
Issue Date	Aug. 29, 2013
Report No.	136006R-RFUSP42V01
Report Version	V1.0



The test results relate only to the samples tested.  
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.  
This report must not be used to claim product endorsement by TAF or any agency of the U.S. Government.

# Test Report Certification

Issue Date: Aug. 29, 2013

Report No.: 136006R-RFUSP42V01



Product Name	Korners Sub
Applicant	Meiloon Industrial Co., Ltd.
Address	NO. 77, LANE 1775, CHUEN-RYH ROAD, TAOYUAN CITY, TAIWAN
Manufacturer	AudioXperts
Model No.	Korners Sub
EUT Rated Voltage	AC 100-240V, 50/60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	<b>audioxperts™</b>
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2012 ANSI C63.4: 2003, ANSI C63.10: 2009, KDB 558074
Test Result	Complied

The test results relate only to the samples tested.

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Approved By :

( Manager / Vincent Lin )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Korners Sub
Trade Name	<b>audioxperts™</b>
Model No.	Korners Sub
FCC ID.	R48KWTL5
Frequency Range	5730~5822.5MHz
Number of Channels	38
Data Speed	2.048Mbps
Channel separation	2.5MHz
Type of Modulation	GFSK
Antenna Type	Dipole
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Cable	Non-Shielded, 2m

#### Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	Andersern Co.,Ltd	188-ASDWLAN17-E	3.8dBi for 5GHz

Note: The antenna of EUT is conform to FCC 15.203

#### Center Frequency of Each Channel:

Channel 01: 5730.0 MHz Channel 11: 5755.0 MHz Channel 21: 5780.0 MHz Channel 31: 5805.0 MHz  
Channel 02: 5732.5 MHz Channel 12: 5757.5 MHz Channel 22: 5782.5 MHz Channel 32: 5807.5 MHz  
Channel 03: 5735.0 MHz Channel 13: 5760.0 MHz Channel 23: 5785.0 MHz Channel 33: 5810.0 MHz  
Channel 04: 5737.5 MHz Channel 14: 5762.5 MHz Channel 24: 5787.5 MHz Channel 34: 5812.5 MHz  
Channel 05: 5740.0 MHz Channel 15: 5765.0 MHz Channel 25: 5790.0 MHz Channel 35: 5815.0 MHz  
Channel 06: 5742.5 MHz Channel 16: 5767.5 MHz Channel 26: 5792.5 MHz Channel 36: 5817.5 MHz  
Channel 07: 5745.0 MHz Channel 17: 5770.0 MHz Channel 27: 5795.0 MHz Channel 37: 5820.0 MHz  
Channel 08: 5747.5 MHz Channel 18: 5772.5 MHz Channel 28: 5797.5 MHz Channel 38: 5822.5 MHz  
Channel 09: 5750.0 MHz Channel 19: 5775.0 MHz Channel 29: 5800.0 MHz  
Channel 10: 5752.5 MHz Channel 20: 5777.5 MHz Channel 30: 5802.5 MHz

#### Note:

1. This device is a Korners Sub with a built-in 5.8GHz transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. These tests are conducted on a sample for the purpose of demonstrating compliance of transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
4. The device is a hybrid frequency hopping / digital transmission system, for more details, sees operational description.

Test Mode	Mode 1: Transmit
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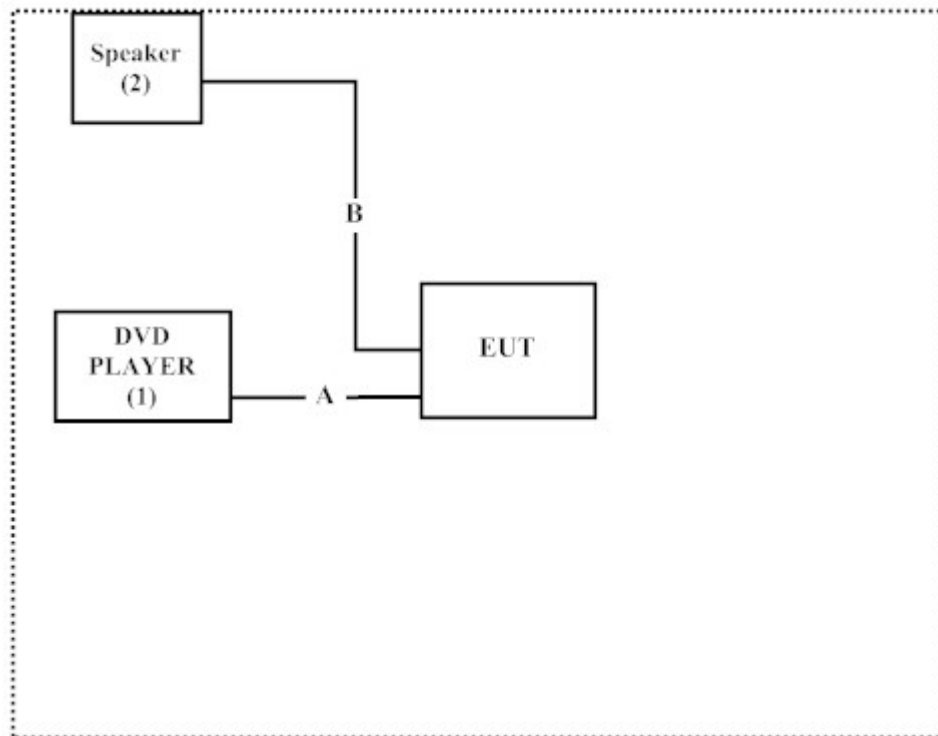
### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 DVD PLAYER	Pioneer	DV-S969Avi	EAMP004399LW	Non-Shielded, 1.8m
2 Speaker	N/A	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A RCA Cable	Non-Shielded, 1.5m
B RCA Cable	Non-Shielded, 1.5m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Provide the AC Power Source.
- (3) Start transmits continually.
- (4) Verify that the EUT works properly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from

Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web

site : <http://www.quietek.com/>

Site Description: File on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195

Site Name: Quietek Corporation  
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,  
Lin-Kou Shiang, Taipei,  
Taiwan, R.O.C.  
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E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014



## 2. Conducted Emission

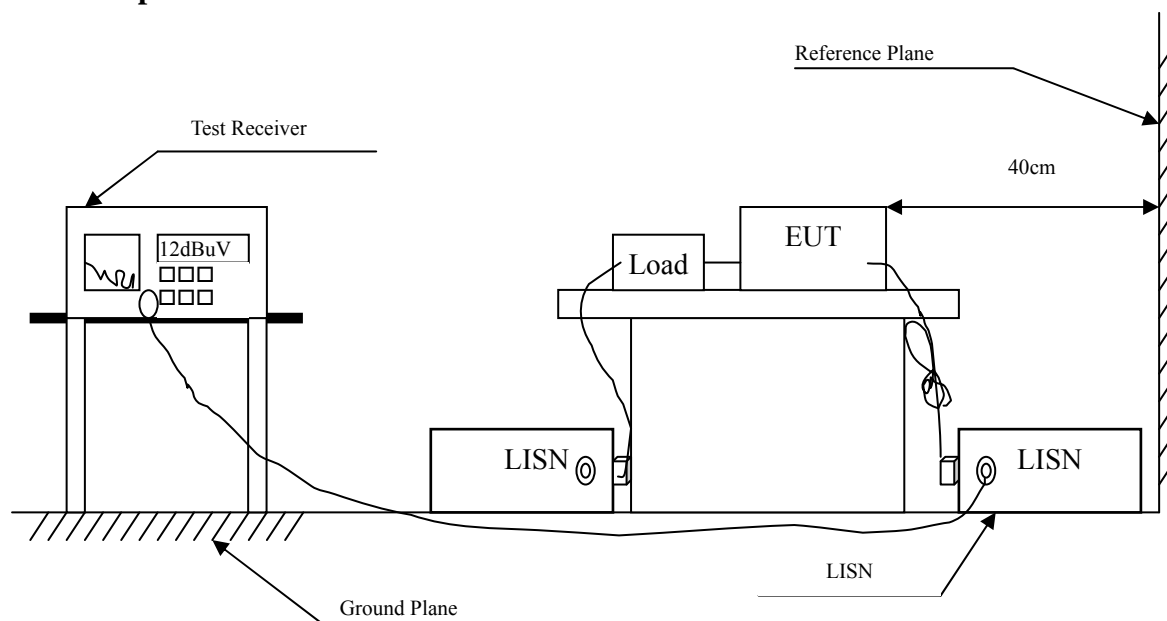
### 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2012	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2013	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2013	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2013	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2013	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

### 2.2. Test Setup



## 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

## 2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : Korers Sub  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 1: Transmit (5777.5MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
1.611	9.750	17.500	27.250	-28.750	56.000
2.947	9.760	13.150	22.910	-33.090	56.000
4.021	9.800	14.390	24.190	-31.810	56.000
6.029	9.880	19.930	29.810	-30.190	60.000
10.588	10.170	14.140	24.310	-35.690	60.000
13.400	10.395	16.750	27.145	-32.855	60.000
<b>Average</b>					
1.611	9.750	4.480	14.230	-31.770	46.000
2.947	9.760	5.460	15.220	-30.780	46.000
4.021	9.800	5.410	15.210	-30.790	46.000
6.029	9.880	14.880	24.760	-25.240	50.000
10.588	10.170	7.270	17.440	-32.560	50.000
13.400	10.395	8.410	18.805	-31.195	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Korner Sub  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmit (5777.5MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
1.341	9.800	21.850	31.650	-24.350	56.000
2.412	9.840	19.160	29.000	-27.000	56.000
3.216	9.880	19.410	29.290	-26.710	56.000
5.900	10.010	25.070	35.080	-24.920	60.000
10.189	10.060	18.950	29.010	-30.990	60.000
12.869	10.100	24.690	34.790	-25.210	60.000
<b>Average</b>					
1.341	9.800	13.470	23.270	-22.730	46.000
2.412	9.840	12.080	21.920	-24.080	46.000
3.216	9.880	12.230	22.110	-23.890	46.000
5.900	10.010	18.960	28.970	-21.030	50.000
10.189	10.060	10.620	20.680	-29.320	50.000
12.869	10.100	15.580	25.680	-24.320	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3. Peak Power Output

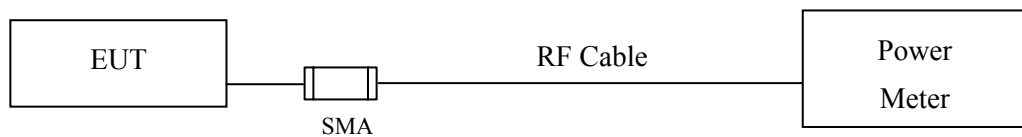
#### 3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

#### 3.2. Test Setup



#### 3.3. Limits

The maximum peak power shall be less 1 Watt.

#### 3.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

#### 3.5. Uncertainty

$\pm 1.27$  dB

### 3.6. Test Result of Peak Power Output

Product : Korner Sub  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit

Channel No	Frequency (MHz)	Measurement Level (dBm)		Required Limit	Result
		Average Power	Peak Power		
1	5730	8.8	8.95	<30dBm	Pass
20	5777.5	9.81	9.98	<30dBm	Pass
38	5822.5	9.87	10.65	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

## 4. Radiated Emission

### 4.1. Test Equipment

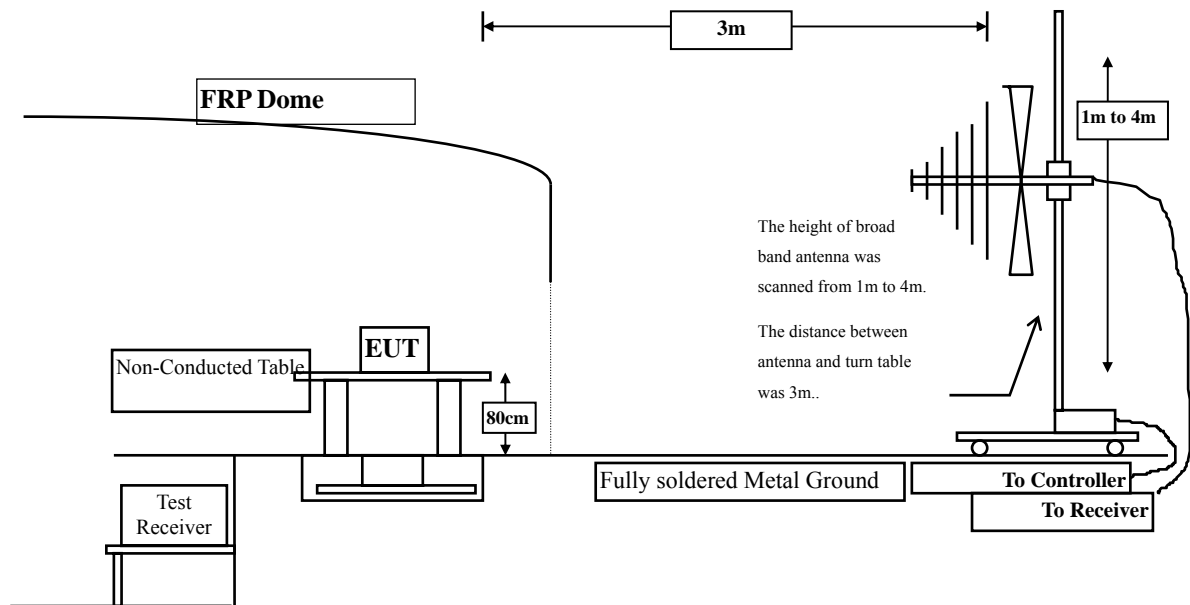
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
<input checked="" type="checkbox"/> Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	X	Pre-Amplifier	QTK	AP-180C / CHM 0906076	Sep., 2012
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar., 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

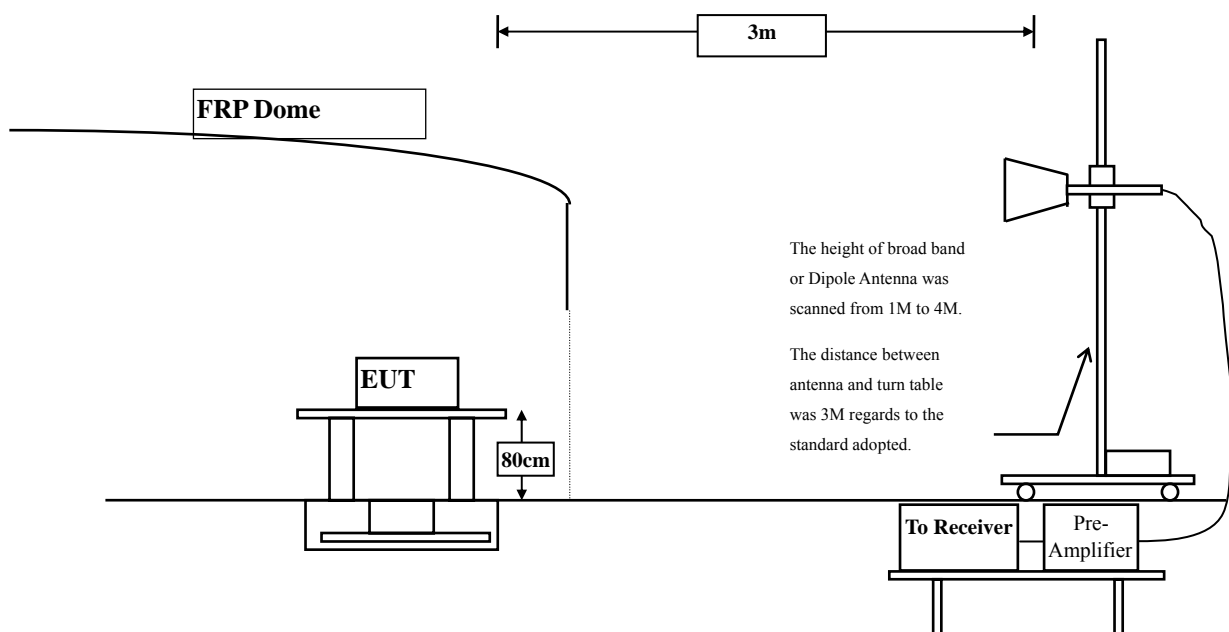
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with "X" are used to measure the final test results.

## 4.2. Test Setup

### Radiated Emission Below 1GHz



### Radiated Emission Above 1GHz





### 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

#### **4.4. Test Procedure**

The EUT was setup according to ANSI C63.10, 2009 and tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product : Korers Sub  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (5730MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11460.000	14.210	39.080	53.290	-20.710	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
11460.000	15.736	38.210	53.945	-20.055	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Korers Sub  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (5777.5MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11555.000	14.641	37.780	52.420	-21.580	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
11555.000	16.038	37.150	53.188	-20.812	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Korner Sub  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5822.5MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11645.000	13.349	38.290	51.639	-22.361	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
11645.000	14.789	38.440	53.228	-20.772	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Korner Sub  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5777.5MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
245.340	-6.478	37.331	30.853	-15.147	46.000
344.280	-1.814	39.708	37.894	-8.106	46.000
369.500	0.787	35.944	36.731	-9.269	46.000
503.360	1.994	27.558	29.552	-16.448	46.000
765.260	5.091	23.959	29.050	-16.950	46.000
928.220	7.230	23.211	30.441	-15.559	46.000
<b>Vertical</b>					
245.340	-5.908	30.315	24.407	-21.593	46.000
369.500	-0.423	28.638	28.215	-17.785	46.000
503.360	-0.086	25.935	25.849	-20.151	46.000
594.540	0.175	26.073	26.248	-19.752	46.000
689.600	2.302	23.703	26.005	-19.995	46.000
930.160	3.830	23.999	27.829	-18.171	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

## 5. RF antenna conducted test

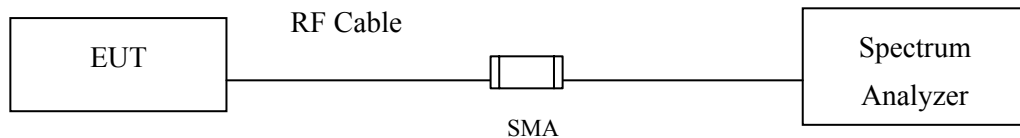
### 5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with “X” are used to measure the final test results.

### 5.2. Test Setup

#### RF antenna Conducted Measurement:



### 5.3. Limits

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

#### **5.4. Test Procedure**

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

#### **5.5. Uncertainty**

The measurement uncertainty

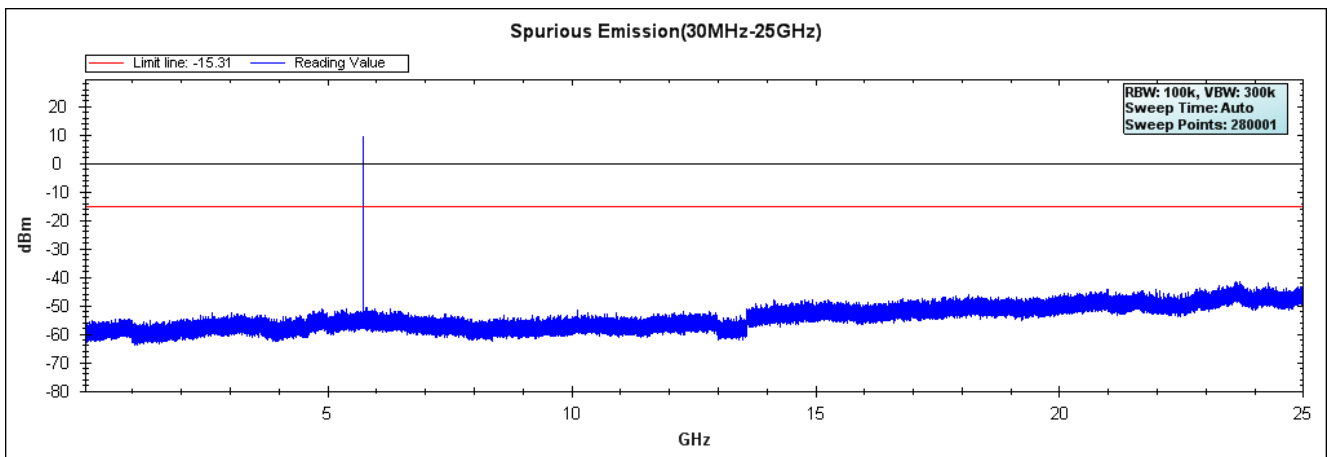
Conducted is defined as  $\pm 1.27\text{dB}$



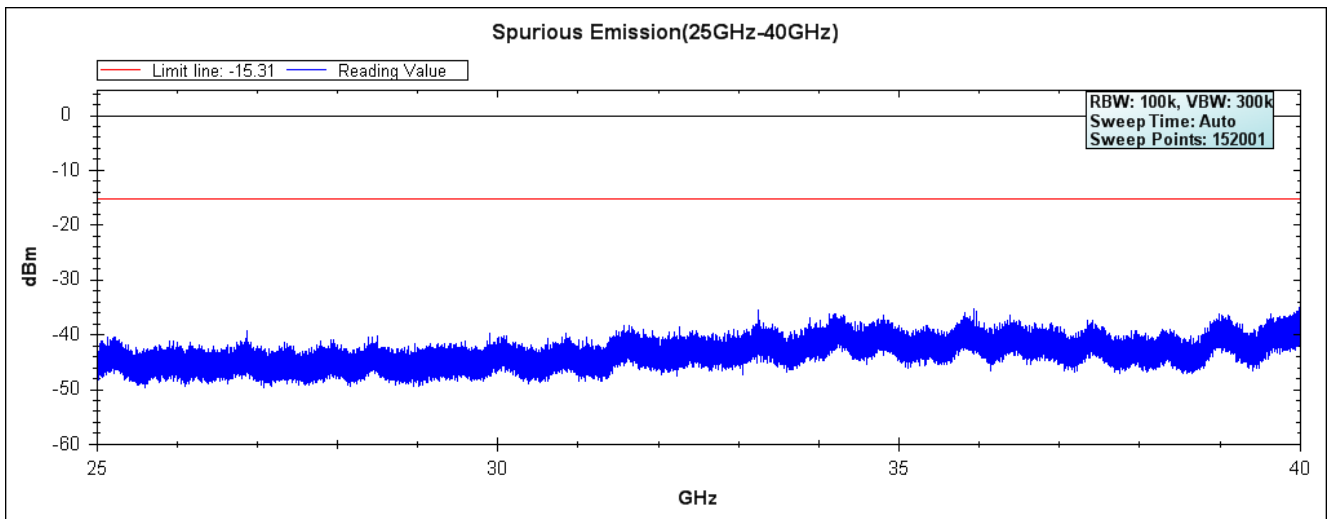
## 5.6. Test Result of RF antenna conducted test

Product : Korner Sub  
 Test Item : RF antenna conducted test  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit

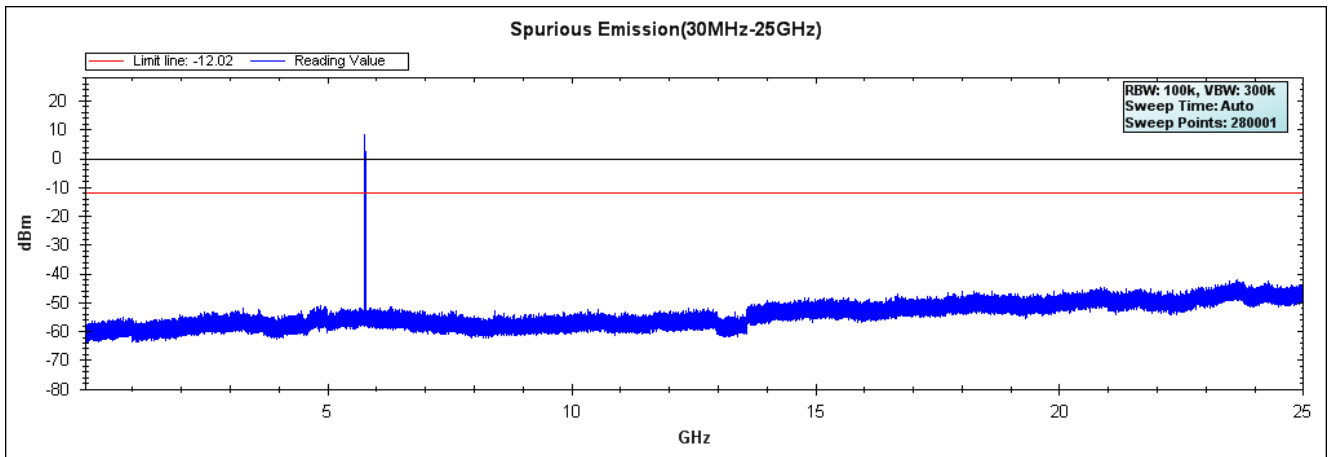
### Channel 01 (5730MHz) 30MHz-25GHz



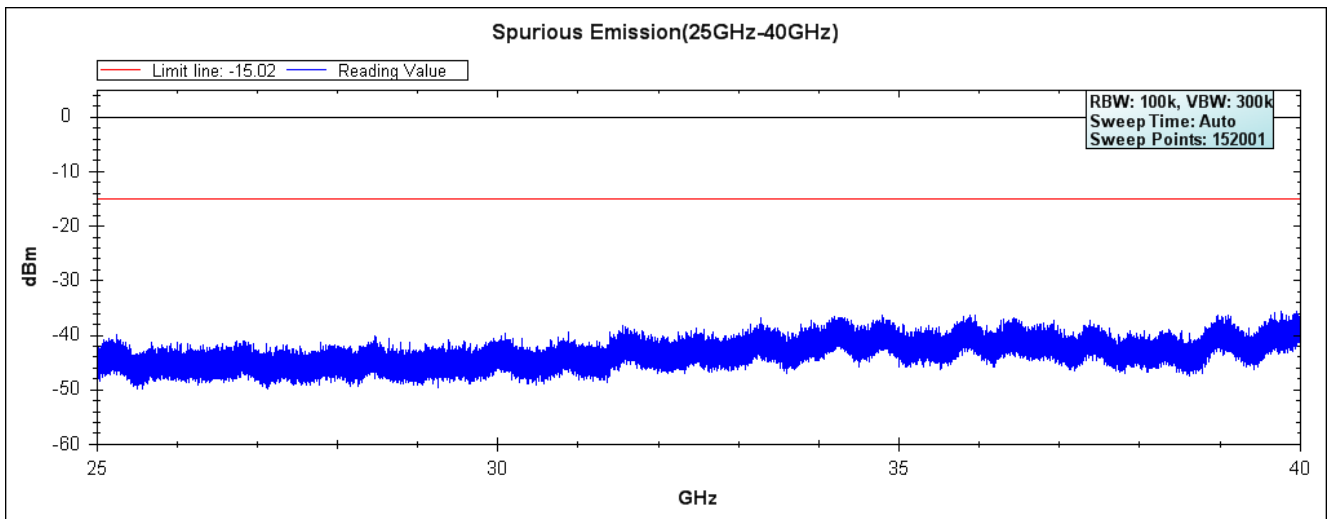
### Channel 01 (5730MHz) 25GHz-40GHz



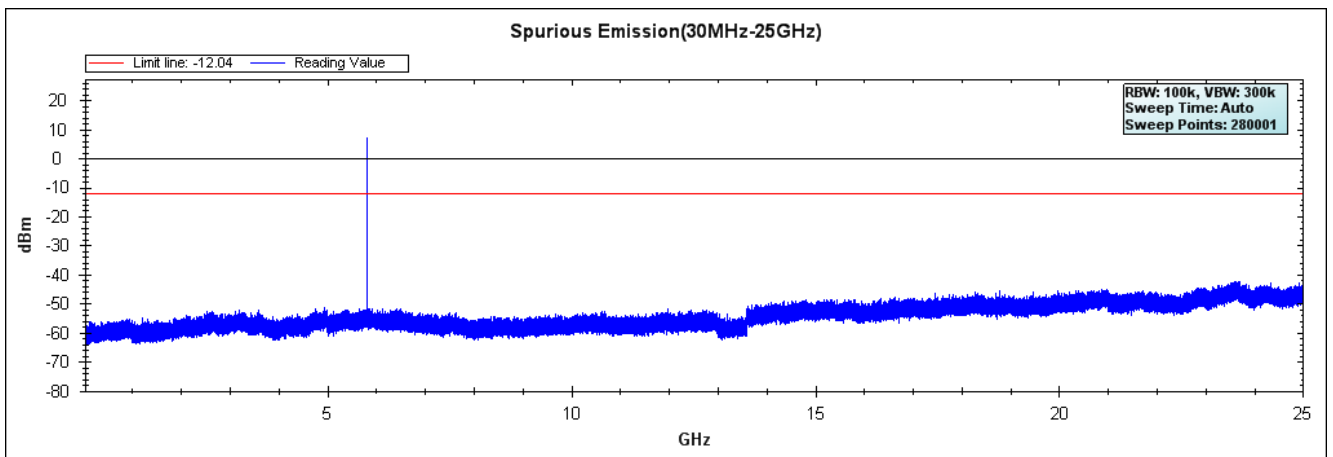
### Channel 20 (5777.5MHz) 30MHz -25GHz



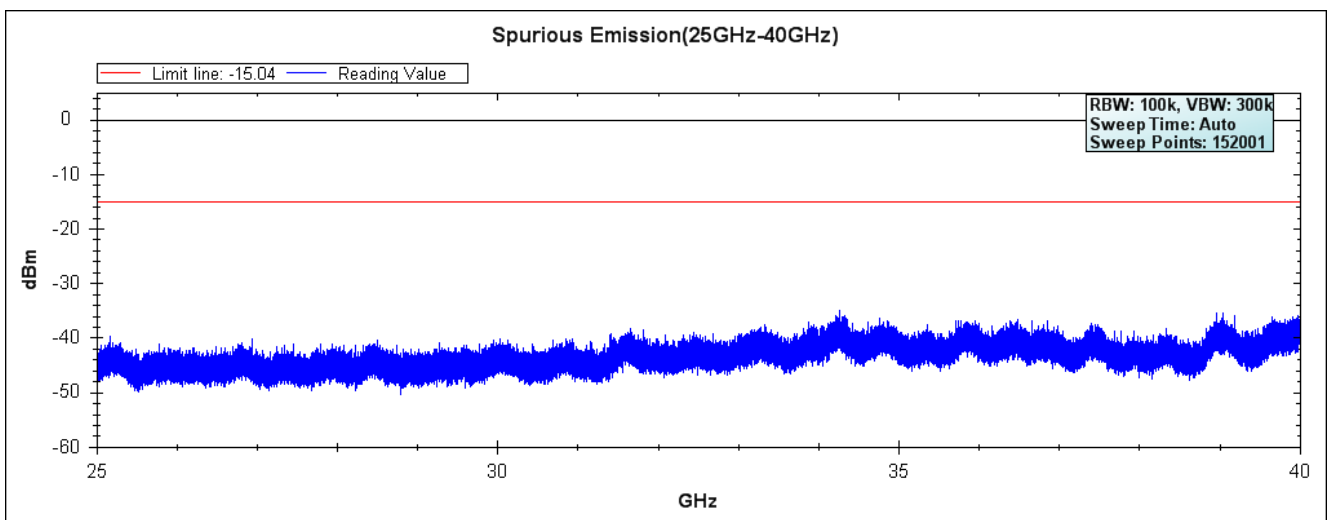
### Channel 20 (5777.5MHz) 25GHz -40GHz



### Channel 38 (5822.5MHz) 30MHz -25GHz



### Channel 38 (5822.5MHz) 25GHz -40GHz



## 6. Band Edge

### 6.1. Test Equipment

#### RF Conducted Measurement

The following test equipments are used during the band edge tests:

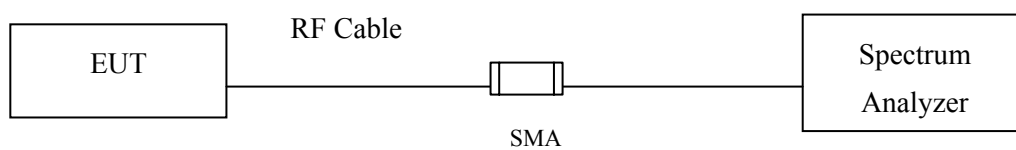
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 6.2. Test Setup

#### RF Conducted Measurement



### **6.3. Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.10, 2009 and tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2009. on radiated measurement.

### **6.5. Uncertainty**

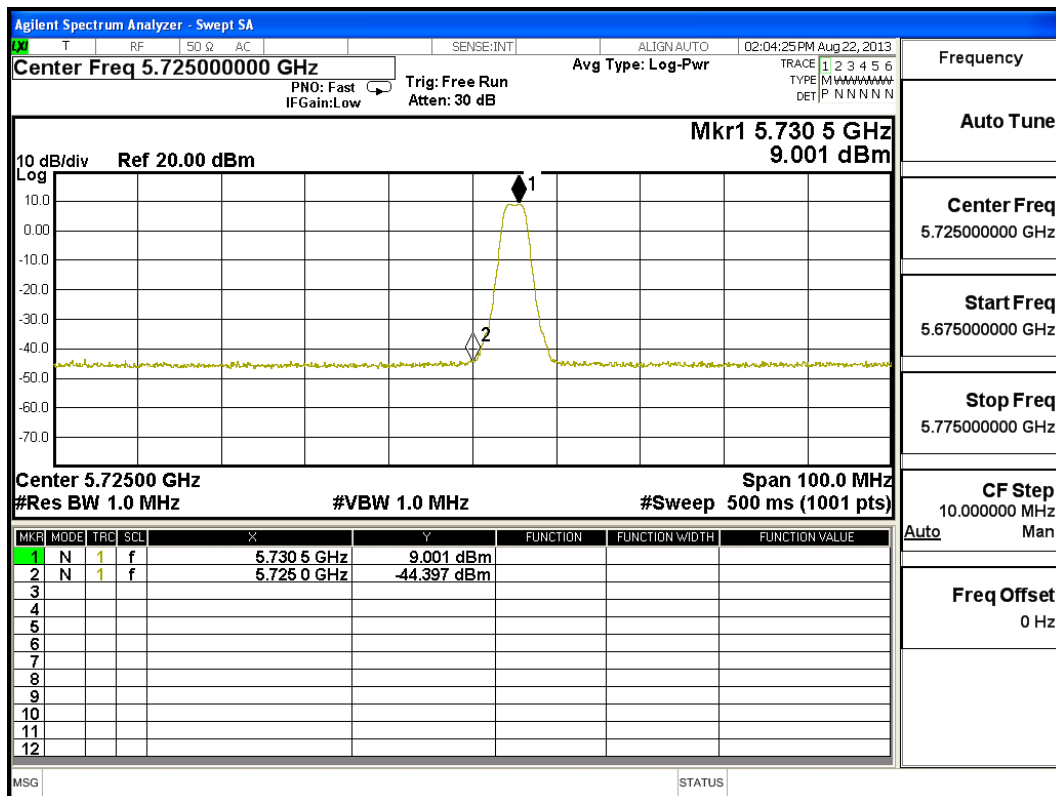
± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

## 6.6. Test Result of Band Edge

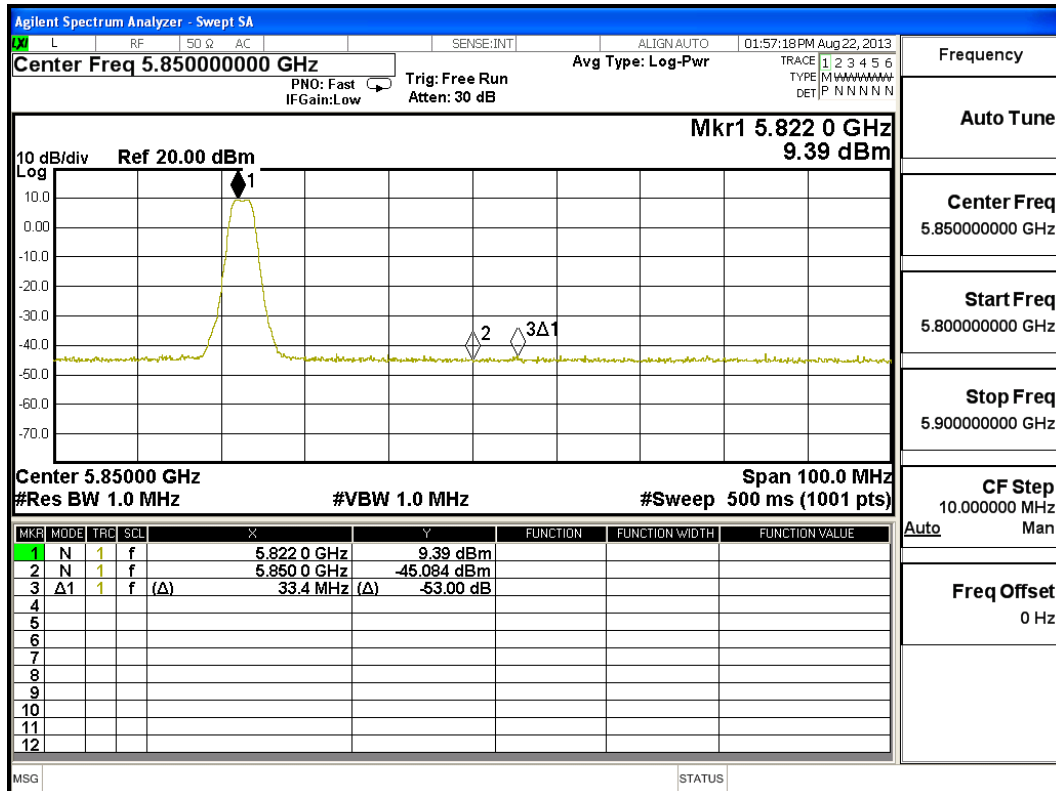
Product : Korner Sub  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit

Test Frequency (MHz)	Measurement Level $\Delta$ (dB)	Limit $\Delta$ (dB)	Result
5730	53.40	>20	PASS



Product : Korner Sub  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit

Test Frequency (MHz)	Measurement Level $\Delta$ (dB)	Limit $\Delta$ (dB)	Result
5822.5	53.00	>20	PASS



## 7. Occupied Bandwidth

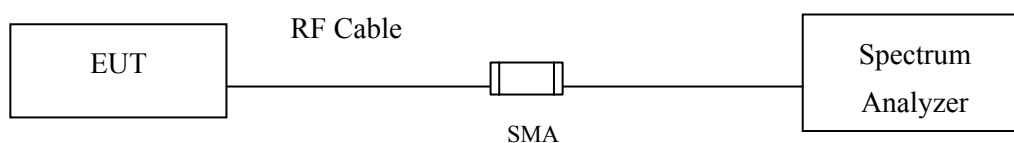
### 7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 7.2. Test Setup



### 7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

### 7.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

### 7.5. Uncertainty

$\pm 150\text{Hz}$

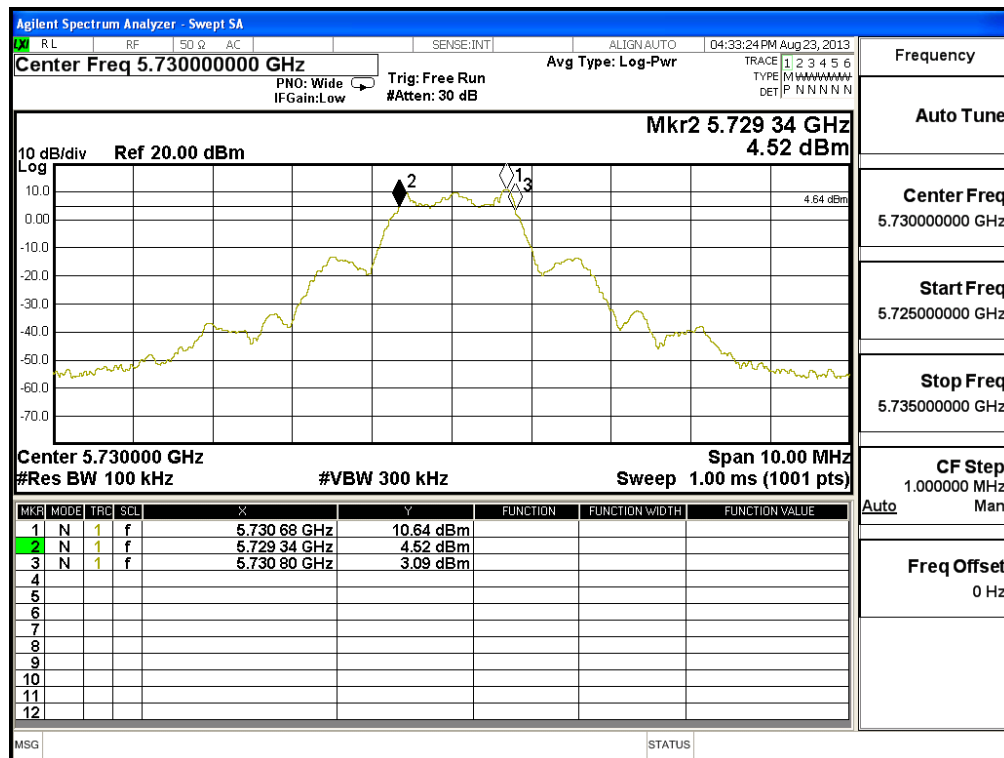


## 7.6. Test Result of Occupied Bandwidth

Product : Korner Sub  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5730MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	5730.00	1460	>500	Pass

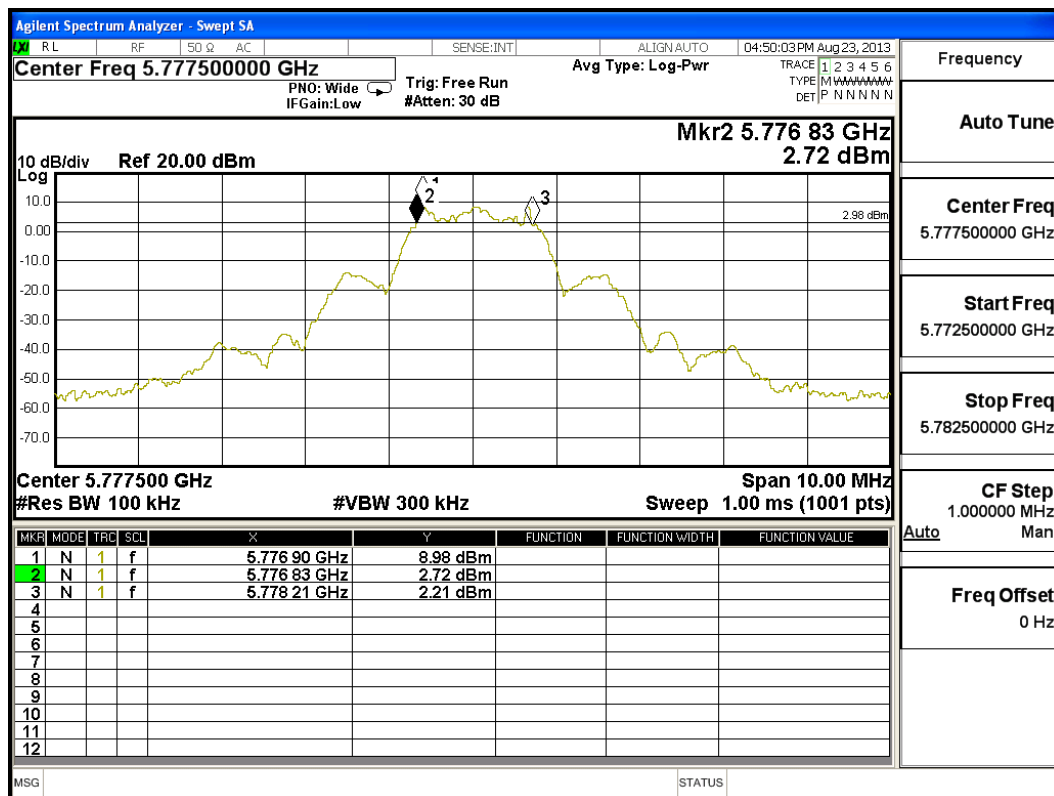
Figure Channel 1:



Product : Korners Sub  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5777.5MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
20	5777.50	1380	>500	Pass

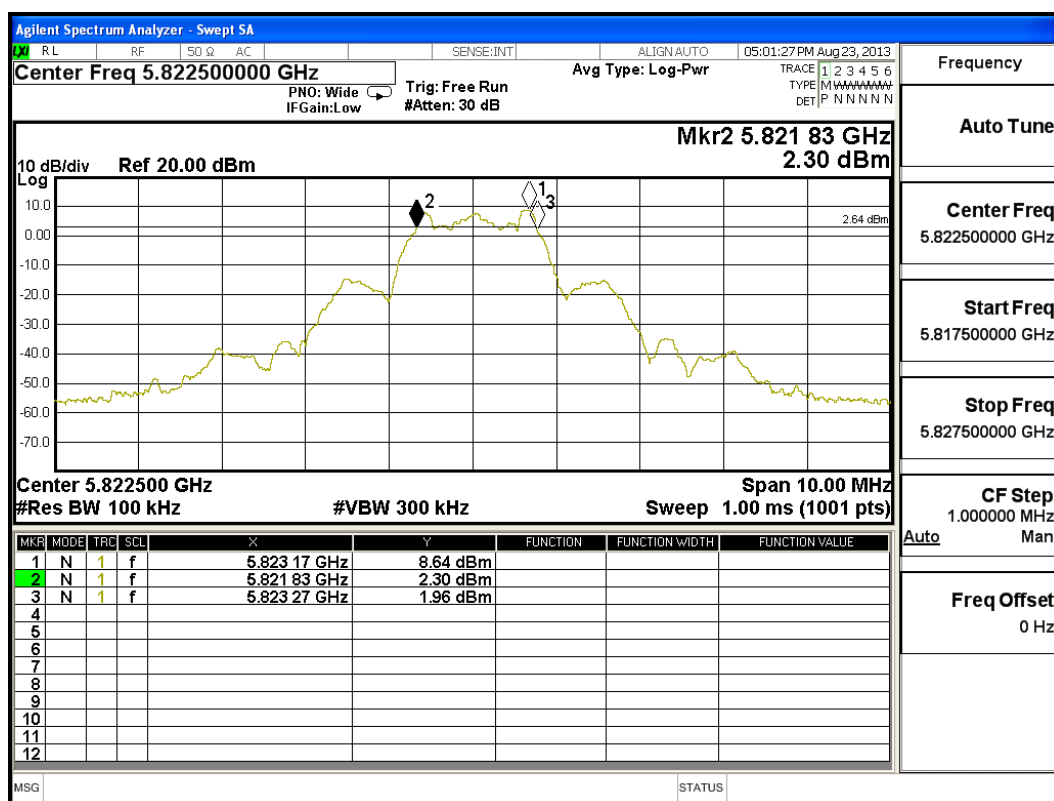
Figure Channel 20:



Product : Korner's Sub  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5822.5MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
38	5822.50	1440	>500	Pass

**Figure Channel 38:**



## 8. Power Density

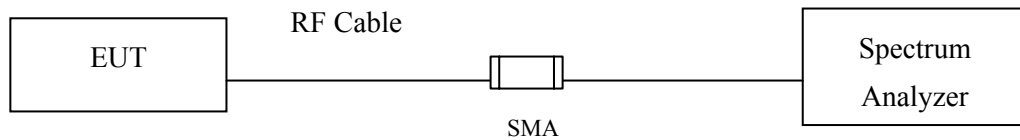
### 8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

### 8.2. Test Setup



### 8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

### 8.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

### 8.5. Uncertainty

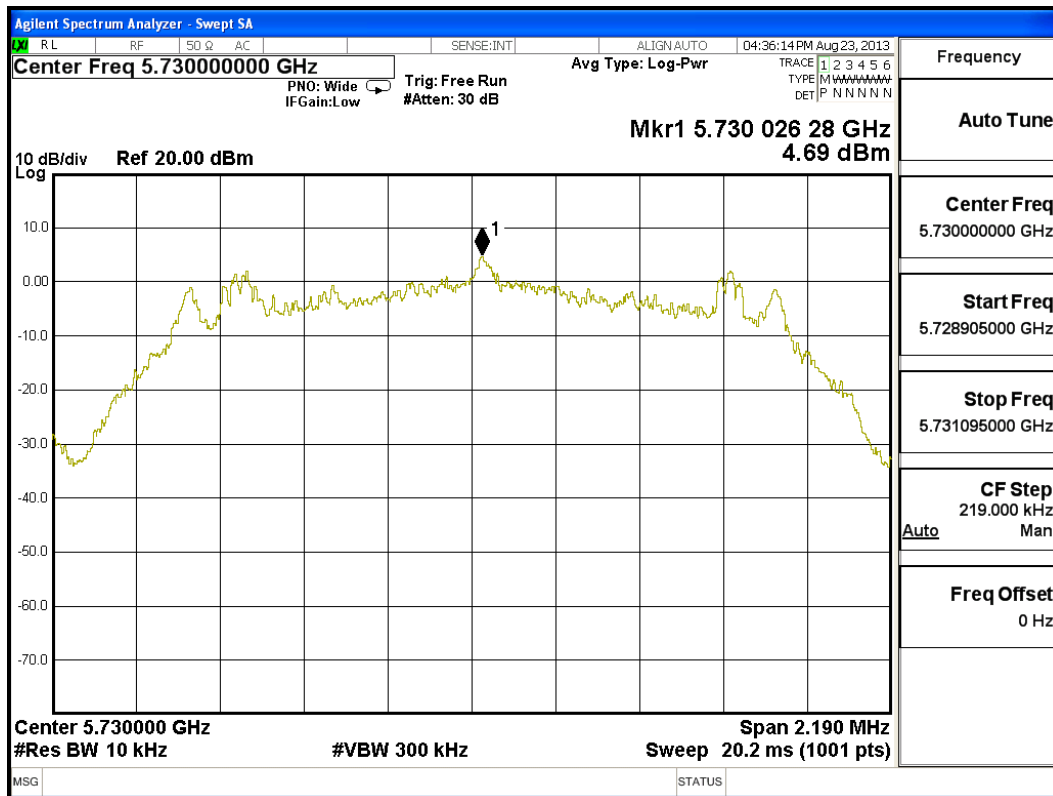
$\pm 1.27$  dB

## 8.6. Test Result of Power Density

Product : Korner Sub  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5730MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	5730.00	4.690	< 8dBm	Pass

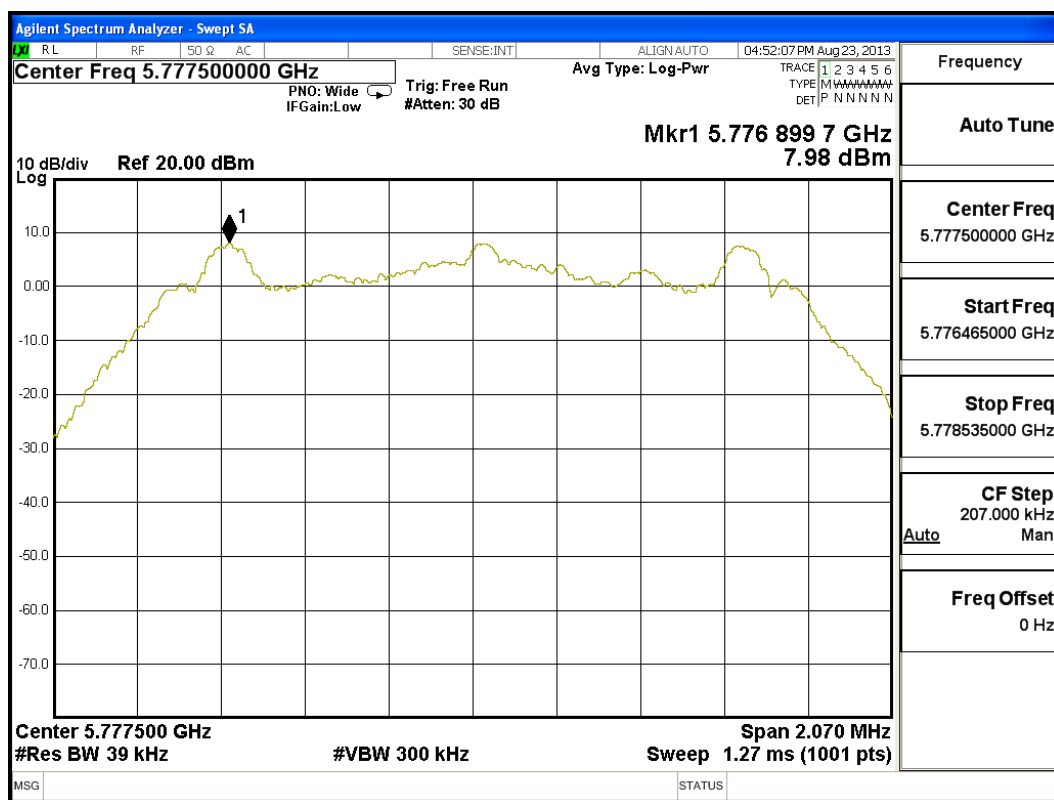
Figure Channel 1:



Product : Korner's Sub  
 Test Item : Power Density Data  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmit (5777.5MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
20	5777.50	7.980	< 8dBm	Pass

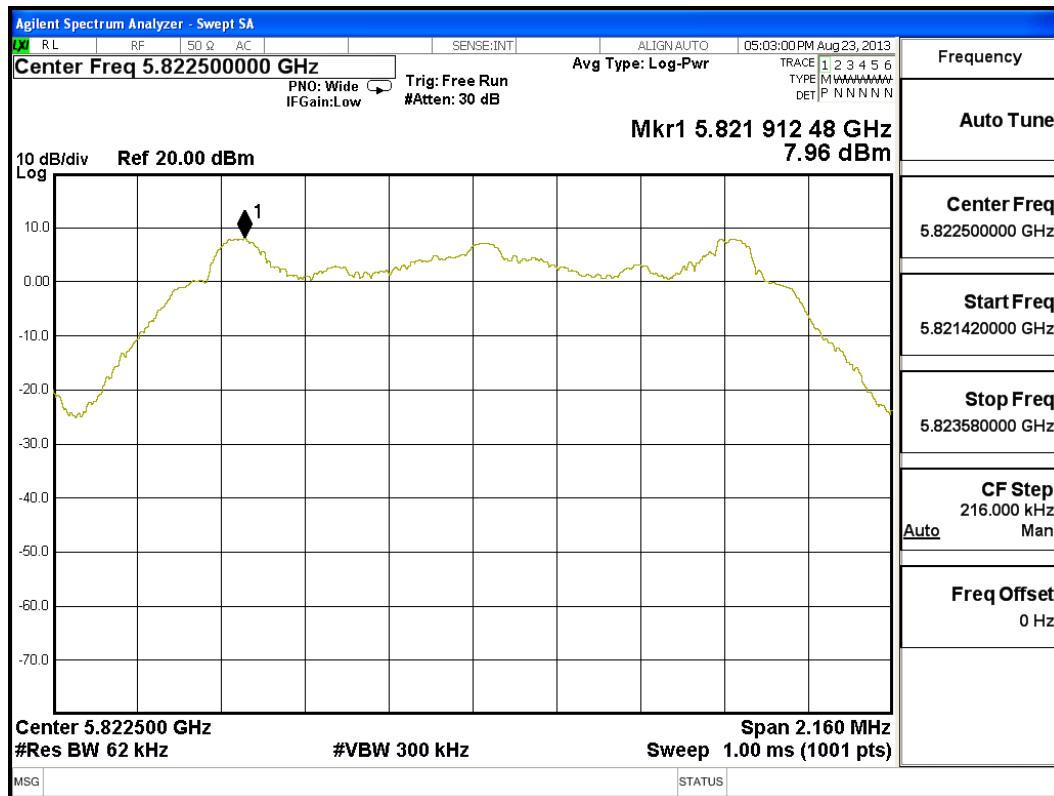
**Figure Channel 20:**



Product : Korner Sub  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5822.5MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5822.50	7.960	< 8dBm	Pass

Figure Channel 38:



## **9. EMI Reduction Method During Compliance Testing**

No modification was made during testing.