



## Test Report

Product Name	Soundbar plus 5.8G wireless subwoofer
Model No.	TVee Model 30
FCC ID	R48TVEEM30TX

Applicant	MEILOON INDUSTRIAL CO., LTD.
Address	No. 77, LANE 1775, CHUEN-RYH ROAD, TAOYUAN CITY, TAIWAN

Date of Receipt	Dec. 22, 2010
Issued Date	March 22, 2011
Report No.	10C357R-RFUSP44V01
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 NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date: March 22, 2011

Report No.: 10C357R-RFUSP44V01



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Applicant	MEILOON INDUSTRIAL CO., LTD.
Address	No. 77, LANE 1775, CHUEN-RYH ROAD, TAOYUAN CITY, TAIWAN
Manufacturer	MEILOON INDUSTRIAL CO., LTD.
Model No.	TVee Model 30
EUT Rated Voltage	AC 100-240V, 50/60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	Boston
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2009
Test Result	Complied



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( Engineer / Sabrina Tsai )



Approved By : Vincent Lin  
( Manager / Vincent Lin )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Soundbar plus 5.8G wireless subwoofer
Trade Name	Boston
Model No.	TVee Model 30
FCC ID	R48TVEEM30TX
Frequency Range	5736~5814MHz
Data Rate	32Kbps, 44.1Kbps, 48Kbps, 88.2Kbps, and 96Kbps
Channel Control	Auto
Antenna Type	PIFA
Channel Number	3
Type of Modulation	QPSK
Power Adapter	MFR: SWITCHING, M/N: S075AP2400300 Input: AC 100-240V, 50/60Hz, 2000mA Max. Output: DC 24V, 3000mA Cable Out: Non-Shielded, 2.0m Power Cord: Non-Shielded, 1.5m
Contain Module	STS / DWAM82

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	STS	N/A	PIFA	2 dBi for 5.8GHz

Note: The antenna of EUT is conform to FCC 15.203

#### Frequency of Each Channel

Channel Frequency Channel Frequency Channel Frequency  
Channel 01: 5736 MHz Channel 02: 5762MHz Channel 03: 5814 MHz

Note:

1. The EUT is a Soundbar plus 5.8G wireless subwoofer, Contains functions and so on 5.8GHz and Bluetooth, This report for 5.8 GHz.
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 of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.

## 1.2. Operational Description

Soundbar plus 5.8G wireless subwoofer is a home entertainment system. The operation frequency is from 5736MHz to 5814MHz with QPSK modulation. The device provided of five kinds of transmitting speed 32Kbps, 44.1Kbps, 48Kbps, 88.2Kbps, and 96Kbps. The signal will be transmitted through 5.8GHz RF signal from the PIFA antenna.

### Smart Features:

- Easy one wire hookup & wireless subwoofer
- Soundbar learns your existing remote control
- Better movies, sports, and games
- Better music with dedicated mode
- Bluetooth enabled for music streaming

### Additional Smart Features Include:

- Boston-engineered with best-in-class performance
- Simple and Functional design to fit with any TV
- Wireless subwoofer can be positioned both horizontally and vertically
- Digital input features Dolby Digital decoding for superior surround sound and a dedicated center channel provides clear dialogue
- Boston's Digitally Optimized Virtual Surround processing for pinpoint, theater-like surround effects
- Exclusive Boston DSP Control Switch to maximize performance based on soundbar placement
- Side-mounted mini-stereo AUX input to connect your portable media device

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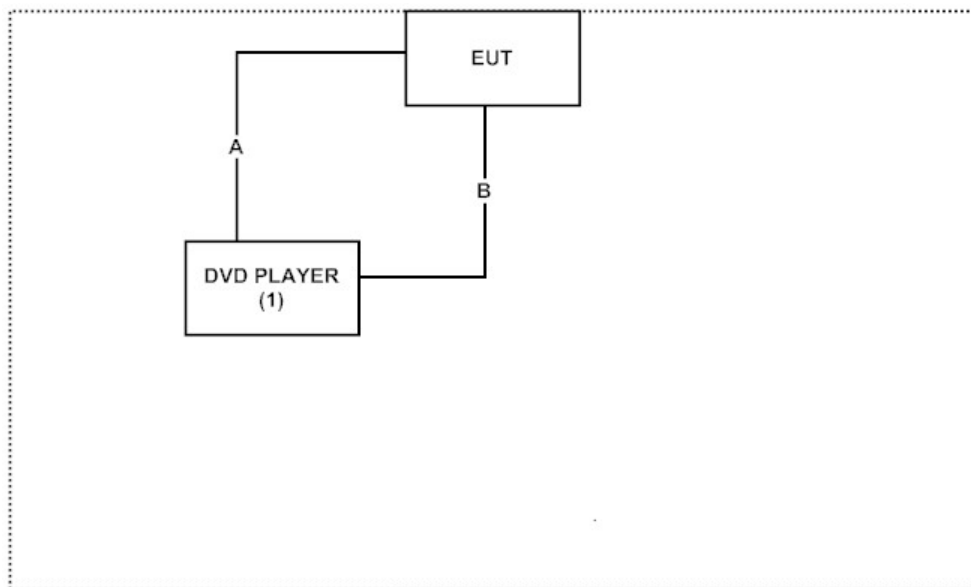
### 1.3. Tested System Details

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	BenQ	JH300	N/A	Non-Shielded, 1.8m

	Signal Cable Type	Signal cable Description
A	Fiber Cable	Non-Shielded, 1.7m
B	RCA Cable	Non-Shielded, 1.0m

### 1.4. Configuration of Test System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Push the button set to the test channel.
- (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



Accreditation on NVLAP  
NVLAP Lab Code: 200533-0



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FCC Accreditation Number: TW1014



## 2. Conducted Emission

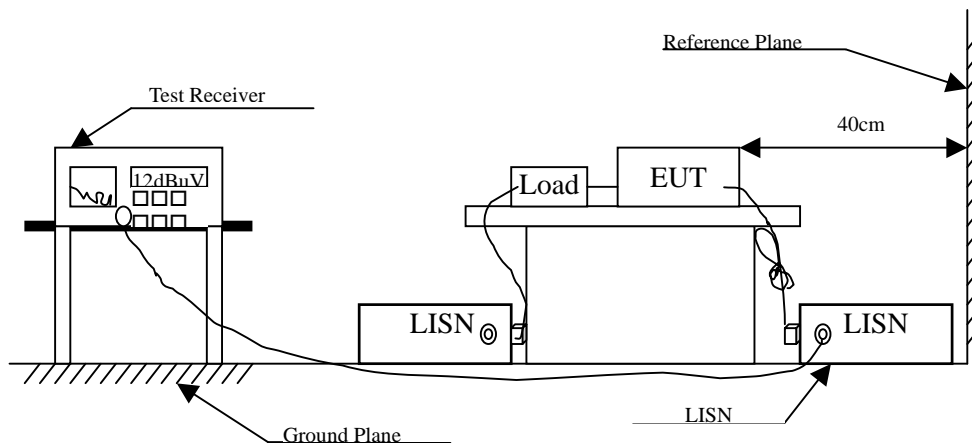
### 2.1. Test Equipment

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2010	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2010	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2010	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2010	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

### 2.2. Test Setup



### 2.3. Limits

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

Remarks: In the above table, the tighter limit applies at the band edges.

## 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 C63.4: 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

$\pm 2.26$  dB

## 2.6. Test Result of Conducted Emission

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 1

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.154	9.760	38.870	48.631	-17.255	65.886
0.193	9.711	33.100	42.811	-21.960	64.771
0.220	9.693	30.630	40.323	-23.677	64.000
0.283	9.656	26.130	35.786	-26.414	62.200
0.474	9.640	31.280	40.920	-15.823	56.743
27.646	10.180	32.260	42.440	-17.560	60.000
<b>Average</b>					
0.154	9.760	26.550	36.311	-19.575	55.886
0.193	9.711	19.170	28.881	-25.890	54.771
0.220	9.693	19.160	28.853	-25.147	54.000
0.283	9.656	11.650	21.306	-30.894	52.200
0.474	9.640	24.820	34.460	-12.283	46.743
27.646	10.180	32.250	42.430	-7.570	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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 1

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.162	9.751	36.960	46.711	-18.946	65.657
0.193	9.721	32.540	42.261	-22.510	64.771
0.224	9.700	28.630	38.330	-25.556	63.886
0.252	9.685	27.280	36.965	-26.121	63.086
0.474	9.640	33.150	42.790	-13.953	56.743
27.646	10.180	33.180	43.360	-16.640	60.000
<b>Average</b>					
0.162	9.751	24.560	34.311	-21.346	55.657
0.193	9.721	21.130	30.851	-23.920	54.771
0.224	9.700	17.580	27.280	-26.606	53.886
0.252	9.685	17.950	27.635	-25.451	53.086
0.474	9.640	26.490	36.130	-10.613	46.743
27.646	10.180	33.170	43.350	-6.650	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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 2

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.170	9.740	35.920	45.660	-19.769	65.429
0.212	9.698	32.540	42.238	-21.991	64.229
0.248	9.677	29.230	38.907	-24.293	63.200
0.275	9.659	27.090	36.749	-25.680	62.429
0.482	9.640	31.520	41.160	-15.354	56.514
27.646	10.180	32.120	42.300	-17.700	60.000
<b>Average</b>					
0.170	9.740	21.620	31.360	-24.069	55.429
0.212	9.698	20.100	29.798	-24.431	54.229
0.248	9.677	14.990	24.667	-28.533	53.200
0.275	9.659	10.930	20.589	-31.840	52.429
0.482	9.640	23.130	32.770	-13.744	46.514
27.646	10.180	32.110	42.290	-7.710	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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 2

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.173	9.739	37.150	46.889	-18.454	65.343
0.212	9.708	32.010	41.718	-22.511	64.229
0.244	9.689	29.240	38.929	-24.385	63.314
0.283	9.666	26.750	36.416	-25.784	62.200
0.486	9.640	33.930	43.570	-12.830	56.400
27.646	10.180	33.080	43.260	-16.740	60.000
<b>Average</b>					
0.173	9.739	26.970	36.709	-18.634	55.343
0.212	9.708	22.120	31.828	-22.401	54.229
0.244	9.689	21.270	30.959	-22.355	53.314
0.283	9.666	19.720	29.386	-22.814	52.200
0.486	9.640	28.830	38.470	-7.930	46.400
27.646	10.180	33.060	43.240	-6.760	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. Radiated Emission

#### 3.1. Test Equipment

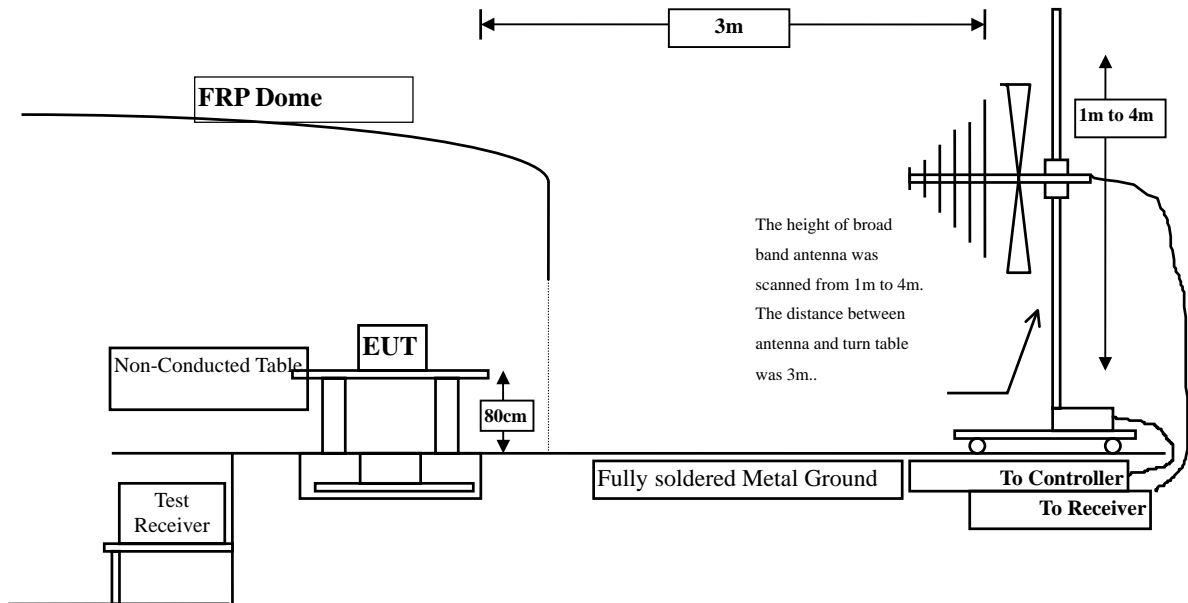
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2011
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

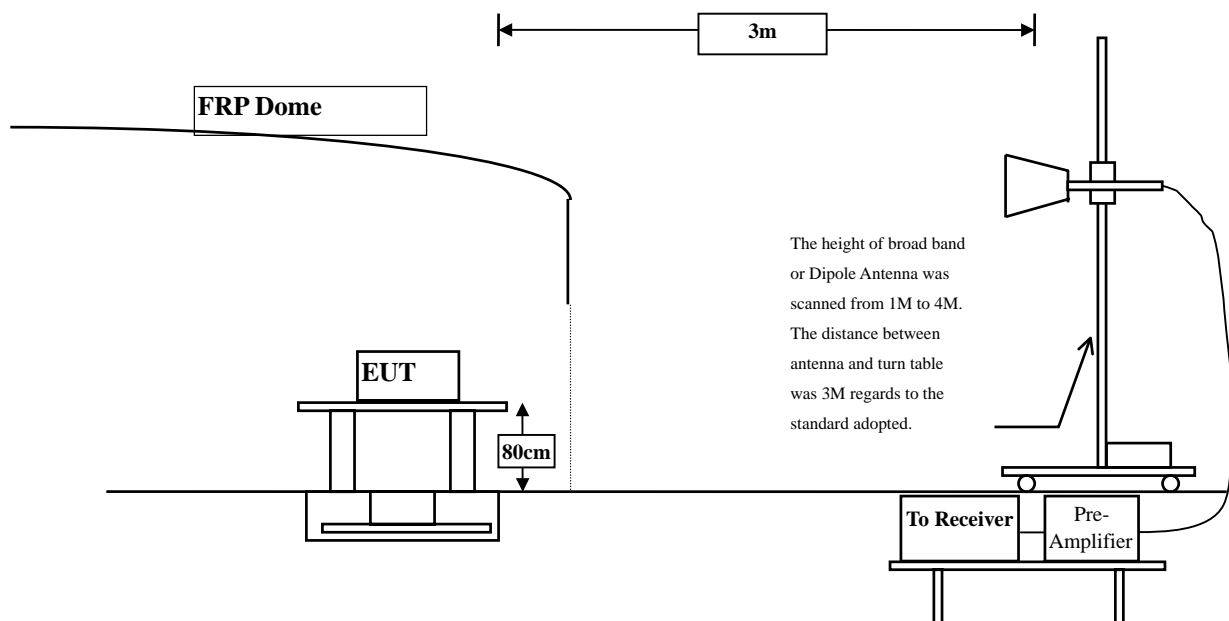
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with “X” are used to measure the final test results.

### 3.2. Test Setup

#### Radiated Emission Below 1GHz



#### Radiated Emission Above 1GHz



### 3.3. Limits

#### ➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks : 1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)  
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

#### ➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB 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	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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

### 3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested compliance to FCC 47CFR 15.249 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 C63.4: 2009 on radiated measurement.

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

Radiated emission measurements below 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 on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

### **3.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

### 3.6. Test Result of Radiated Emission

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Fundamental Radiated Emission  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmit – Antenna 1

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
5736.000	38.325	58.230	96.554	-17.446	114.000
5762.000	38.409	58.490	96.899	-17.101	114.000
5814.000	38.599	55.660	94.259	-19.741	114.000
<b>Average Detector:</b>					
5736.000	38.325	48.780	87.104	-6.896	94.000
5762.000	38.409	49.350	87.759	-6.241	94.000
5814.000	38.599	46.920	85.519	-8.481	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Fundamental Radiated Emission  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmit – Antenna 1

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
5736.000	37.423	58.400	95.822	-18.178	114.000
5762.000	37.478	54.310	91.787	-22.213	114.000
5814.000	37.470	52.780	90.250	-23.750	114.000
<b>Average</b>					
<b>Detector:</b>					
5736.000	37.423	49.500	86.922	-7.078	94.000
5762.000	37.478	45.890	83.367	-10.633	94.000
5814.000	37.470	44.200	81.670	-12.330	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Fundamental Radiated Emission  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmit – Antenna 2

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
5736.000	38.325	55.290	93.614	-20.386	114.000
5762.000	38.409	55.360	93.769	-20.231	114.000
5814.000	38.599	52.430	91.029	-22.971	114.000
<b>Average</b>					
<b>Detector:</b>					
5736.000	38.325	46.380	84.704	-9.296	94.000
5762.000	38.409	47.130	85.539	-8.461	94.000
5814.000	38.599	44.860	83.459	-10.541	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

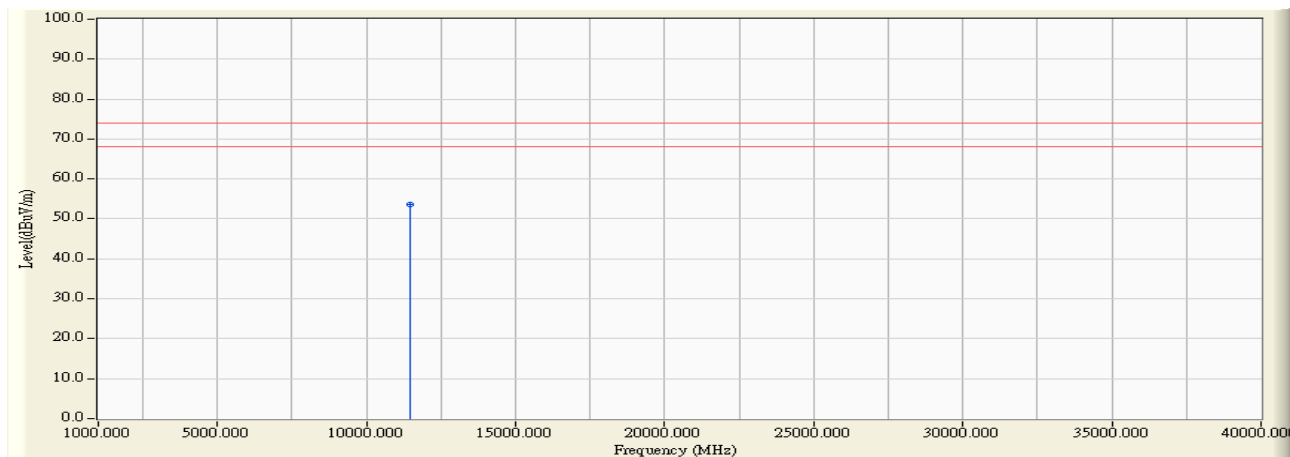
Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Fundamental Radiated Emission  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmit – Antenna 2

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
5736.000	37.423	60.160	97.582	-16.418	114.000
5762.000	37.478	56.430	93.907	-20.093	114.000
5814.000	37.470	54.710	92.180	-21.820	114.000
<b>Average</b>					
<b>Detector:</b>					
5736.000	37.423	51.140	88.562	-5.438	94.000
5762.000	37.478	47.810	85.287	-8.713	94.000
5814.000	37.470	46.830	84.300	-9.700	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 1



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal**

**Peak Detector:**

11742.000	16.992	36.610	53.602	-20.398	74.000
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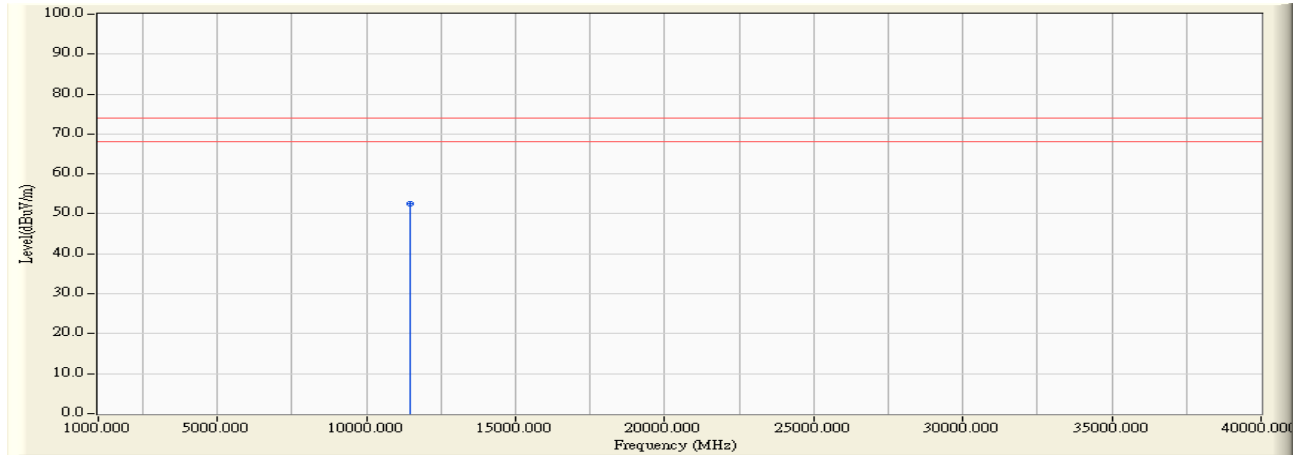
**Average Detector:**

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**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 1

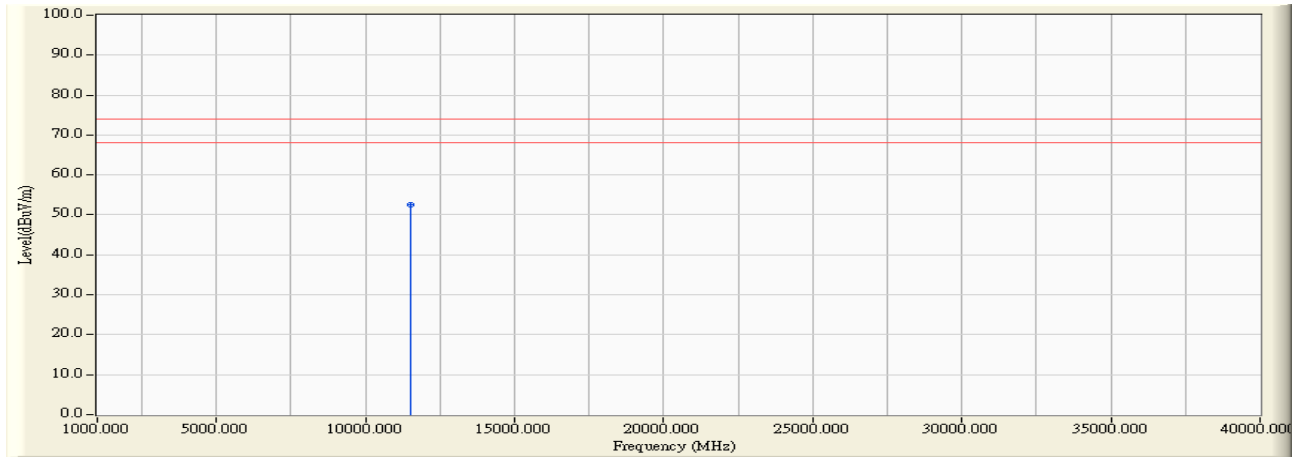


Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
11742.000	17.853	34.790	52.643	-21.357	74.000
<b>Average Detector:</b>					
--					

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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 1



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11524.000	17.050	35.590	52.641	-21.359	74.000

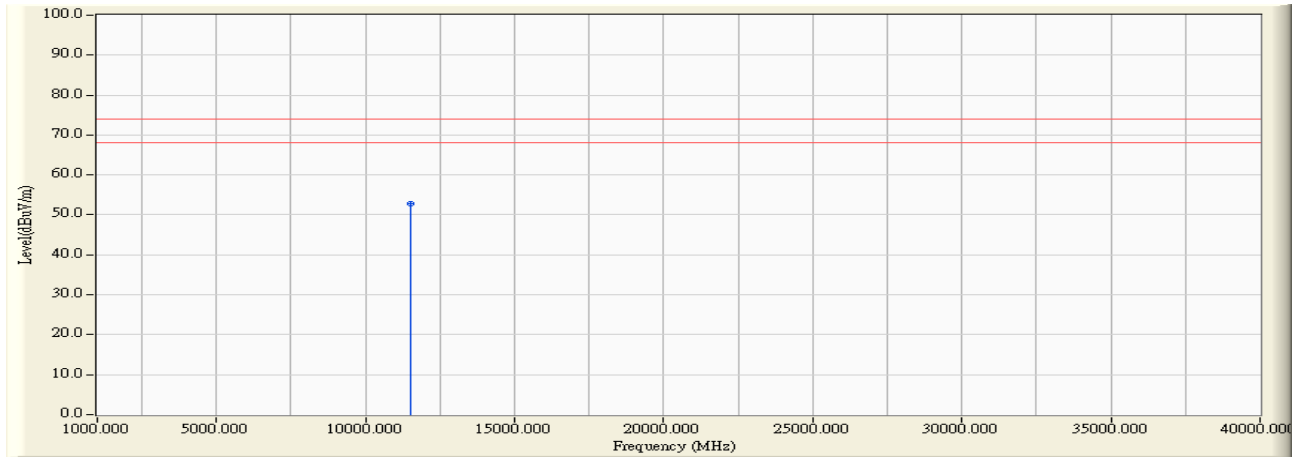
**Average Detector:**

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**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 1



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
11524.000	17.991	34.930	52.922	-21.078	74.000

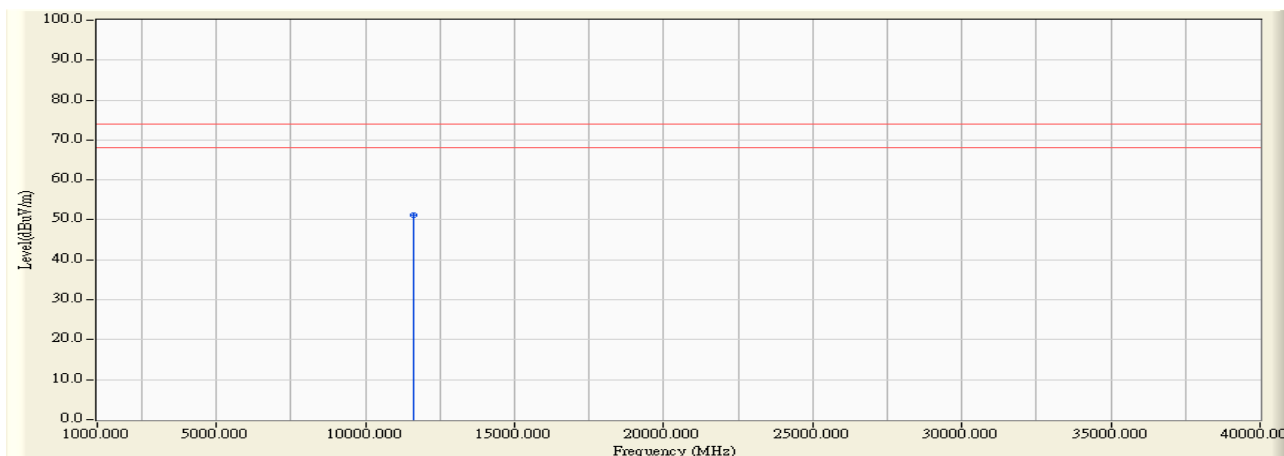
**Average Detector:**

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**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5814MHz) – Antenna 1

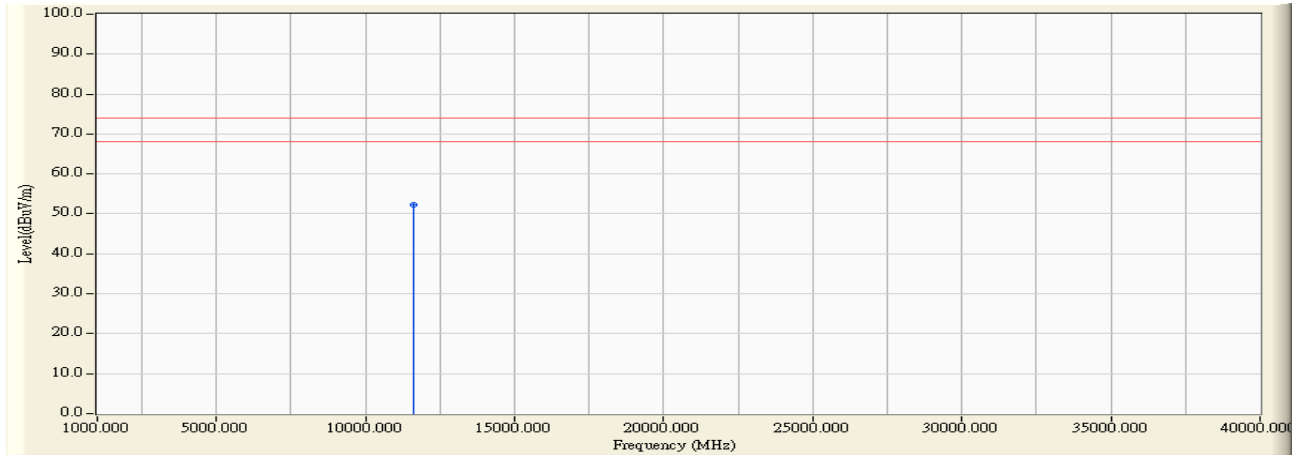


Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11628.000	16.376	34.800	51.176	-22.824	74.000
<b>Average Detector:</b>					
--					

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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5814 MHz) – Antenna 1

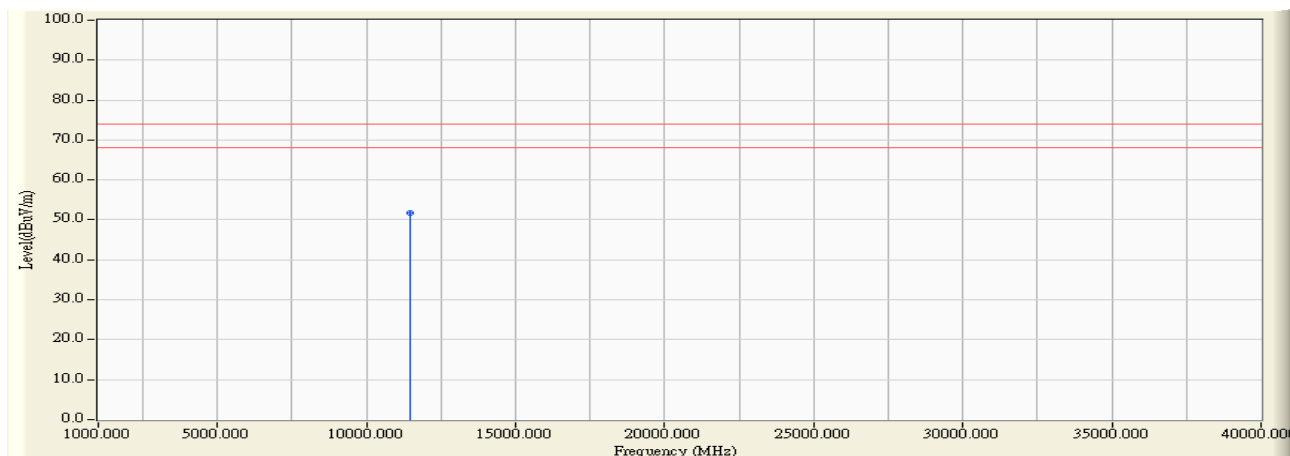


Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
11628.000	17.377	35.020	52.397	-21.603	74.000
<b>Average Detector:</b>					
--					

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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 2

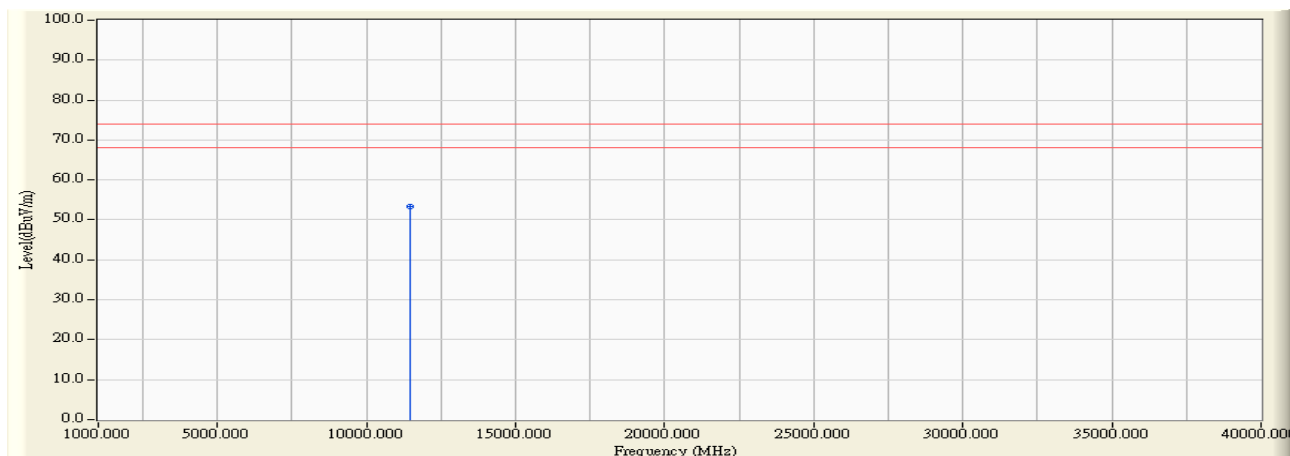


Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11722.000	16.992	34.810	51.802	-22.198	74.000
<b>Average Detector:</b>					
--					

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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5736MHz) – Antenna 2



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

**Vertical**

**Peak Detector:**

11742.000	17.853	35.540	53.393	-20.607	74.000
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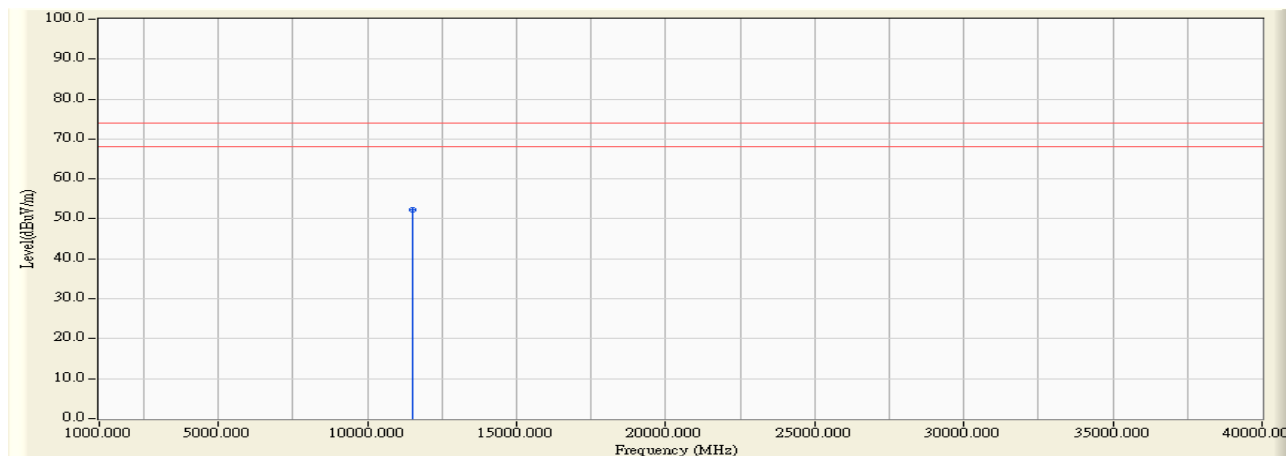
**Average Detector:**

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**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 2



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11524.000	17.050	35.100	52.151	-21.849	74.000

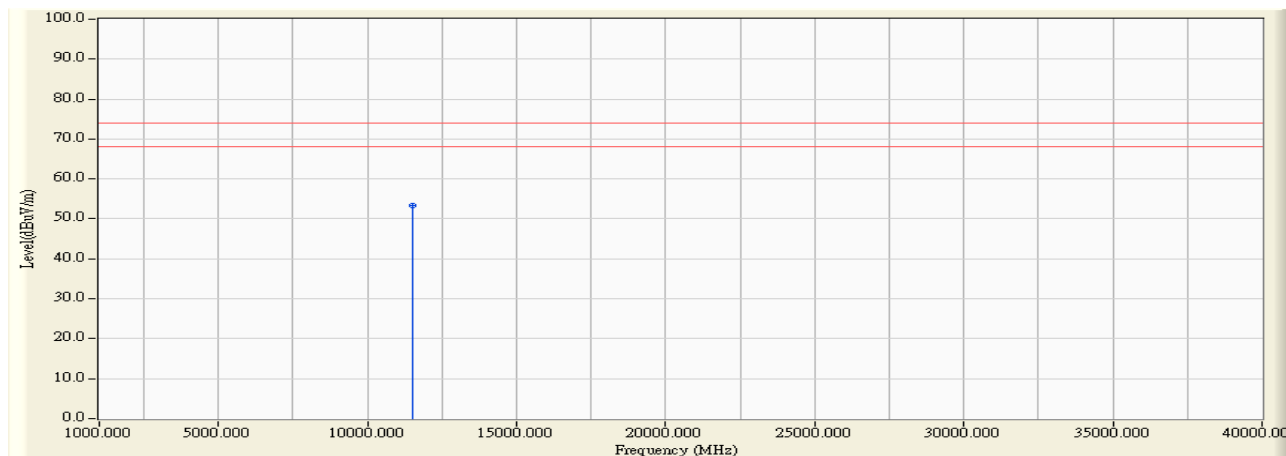
**Average Detector:**

--

**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 2



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
11524.000	17.991	35.300	53.292	-20.708	74.000

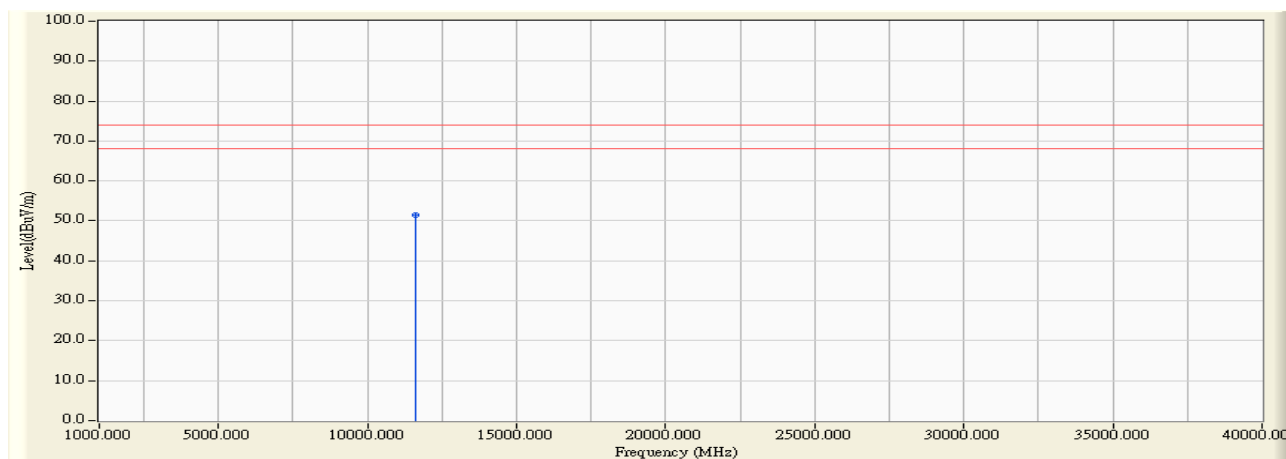
**Average Detector:**

--

**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5814MHz) – Antenna 2



Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
11628.000	16.376	34.990	51.366	-22.634	74.000

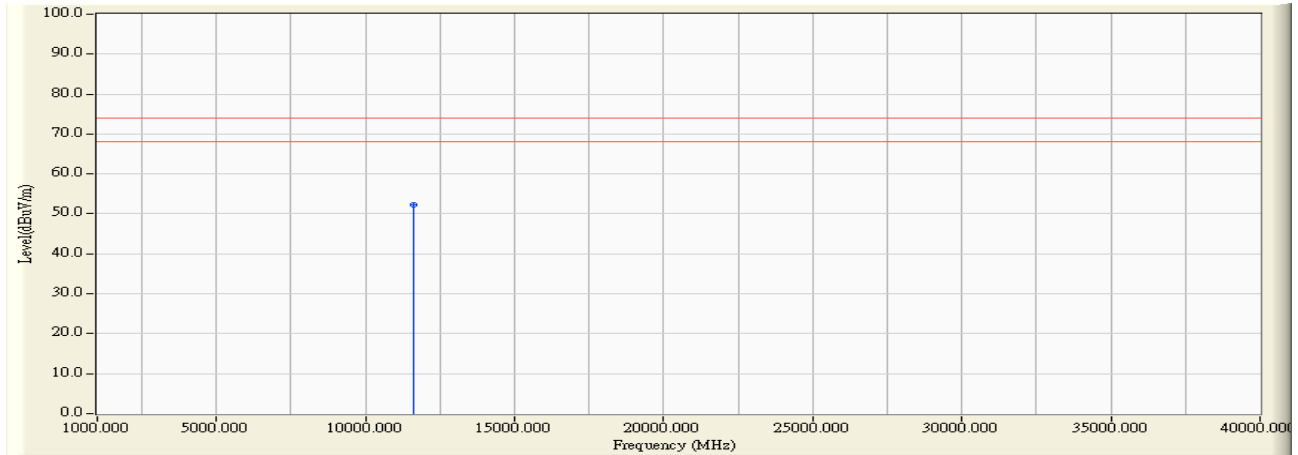
**Average Detector:**

--

**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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5814 MHz) – Antenna 2



Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Vertical</b>					
<b>Peak Detector:</b>					
11628.000	16.376	35.782	52.157	-21.843	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 : Soundbar plus 5.8G wireless subwoofer  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 1

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
74.620	-15.202	51.835	36.633	-3.367	40.000
196.840	-10.946	53.135	42.189	-1.311	43.500
381.140	-0.988	43.322	42.334	-3.666	46.000
528.580	1.848	41.586	43.434	-2.566	46.000
714.820	3.562	38.865	42.427	-3.573	46.000
895.240	4.988	37.694	42.681	-3.319	46.000
<b>Vertical</b>					
191.020	-10.420	49.980	39.560	-3.940	43.500
266.680	-8.213	49.327	41.114	-4.886	46.000
375.320	-2.029	43.683	41.654	-4.346	46.000
528.580	-0.462	41.104	40.642	-5.358	46.000
724.520	-0.135	41.597	41.462	-4.538	46.000
823.460	3.462	38.312	41.775	-4.225	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.

Product : Soundbar plus 5.8G wireless subwoofer  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (5762 MHz) – Antenna 2

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
165.800	-11.079	50.674	39.595	-3.905	43.500
225.940	-9.878	52.951	43.072	-2.928	46.000
392.780	-2.096	42.437	40.341	-5.659	46.000
546.040	3.570	38.444	42.013	-3.987	46.000
709.000	3.458	37.882	41.340	-4.660	46.000
846.740	5.741	35.712	41.453	-4.547	46.000
<b>Vertical</b>					
229.820	-8.512	51.855	43.343	-2.657	46.000
344.280	-3.171	42.240	39.070	-6.930	46.000
418.000	-8.544	51.423	42.879	-3.121	46.000
612.000	-1.631	43.411	41.780	-4.220	46.000
774.960	2.337	39.641	41.978	-4.022	46.000
922.400	5.534	34.343	39.877	-6.123	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.

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

No modification was made during testing.

## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs