

## RF Exposure Report

**Report No.:** SA140729D01A-2

**FCC ID:** WLQOMNISB1PLUSTX

**Test Model:** Omni SB1 Plus Soundbar

**Received Date:** Dec. 10, 2015

**Test Date:** Dec. 14 ~ 21, 2015

**Issued Date:** Dec. 22, 2015

**Applicant:** Polk Audio

**Address:** 5601 Metro Drive Baltimore Maryland 21215 United States

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)



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### Release Control Record

Issue No.	Description	Date Issued
SA140729D01A-2	Original release.	Dec. 22, 2015

## 1 Certificate of Conformity

**Product:** Soundbar

**Brand:**



**Test Model:** Omni SB1 Plus Soundbar

**Sample Status:** Engineering sample

**Applicant:** Polk Audio

**Test Date:** Dec. 14 ~ 21, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

KDB 447498 D01

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**

*Annie Chang*

Annie Chang / Senior Specialist

**Date:**

Dec. 22, 2015

**Approved by :**

*Rex Lai*

Rex Lai / Assistant Manager

**Date:**

Dec. 22, 2015

## 2 RF Exposure

### 2.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

### 3 Calculation Result Of Maximum Conducted Power

Function	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Audio WIFI	2403.5~2477.3	5.54	1.82	20	0.0011	1
WLAN	2412 ~ 2462	22.45	2.43	20	0.0612	1
	5180 ~ 5240	13.42	2.04	20	0.0070	1
	5260 ~ 5320	13.09	2.04	20	0.0065	1
	5500 ~ 5700	13.04	2.04	20	0.0064	1
	5745 ~ 5825	13.18	2.04	20	0.0066	1

**CONCLUSION:**

Both of the modules can transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$1. \text{ Audio WIFI} + \text{WLAN} = 0.0011 / 1 + 0.0612 / 1 = 0.0623$$

FREQUENCY BAND (MHz)	MAX POWER (dBm)			TOTAL POWER (dBm)	POWER LIMIT (dBm)
	Audio WIFI	WIFI (5.0G)	WIFI (2.4G)		
2400 ~ 2483.5	5.54	-	22.45	22.54	30
5180 ~ 5240	-	13.42	-	13.42	24
5260 ~ 5320	-	13.09	-	13.09	24
5500 ~ 5700	-	13.04	-	13.04	24
5745 ~ 5825	-	13.18	-	13.18	30

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