

## RF Exposure Report

**Report No.:** SA140729D01B-2

**FCC ID:** WLQSB1PLUS2LTX

**Test Model:** Omni SB1 Plus Soundbar

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

**Test Date:** Dec. 14 ~ 17, 2015

**Issued Date:** Jul. 19, 2016

**Applicant:** DEI Sales, Inc., dba Polk Audio

**Address:** 1 Viper Way, Vista, California 92081, 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
SA140729D01B-2	Original release.	Jul. 19, 2016

## 1 Certificate of Conformity

**Product:** Soundbar

**Brand:**



**Test Model:** Omni SB1 Plus Soundbar

**Sample Status:** Engineering sample

**Applicant:** DEI Sales, Inc., dba Polk Audio

**Test Date:** Dec. 14 ~ 17, 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 :**



**Date:**

Jul. 19, 2016

Jessica Cheng / Senior Specialist

**Approved by :**



**Date:**

Jul. 19, 2016

Rex Lai / Assistant Manager

## 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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 (EUT)	2403.5~ 2477.3	5.54	1.82	20	0.0011	1
WLAN (play-fi module FCC ID: 2AAWQ-CAPRICA2L)	2412 ~ 2462	22.97	2.27	20	0.0665	1
	5180 ~ 5240	12.43	2.84	20	0.0134	1
	5260 ~ 5320	12.85	3.00	20	0.0153	1
	5500 ~ 5700	13.75	4.95	20	0.0295	1
	5745 ~ 5825	13.87	5.48	20	0.0343	1
Bluetooth (Bluetooth Adapter FCC ID: WLQOMNIBTADAPT)	2402 ~ 2480	3.01	-0.8	20	0.0003	1

#### CONCLUSION:

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

$$CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$1. \text{Audio WIFI} + \text{WLAN} + \text{Bluetooth} = 0.0011 / 1 + 0.0665 / 1 + 0.0003 / 1 = 0.0679$$

FREQUENCY BAND (MHz)	MAX POWER (dBm)				TOTAL POWER (dBm)	POWER LIMIT (dBm)
	EUT	Play-Fi Module		Bluetooth Adapter		
	Audio WiFi	WLAN (5.0G)	WLAN (2.4G)	Bluetooth		
2400 ~ 2483.5	5.54	-	22.97	3.01	23.09	30
5180 ~ 5240	-	12.43	-		12.43	24
5260 ~ 5320	-	12.85	-		12.85	24
5500 ~ 5700	-	13.75	-		13.75	24
5745 ~ 5825	-	13.87	-		13.87	30

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