

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

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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 ²)	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/cm²

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 ²)	Limit (mW/cm ²)
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:

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

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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