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RF EXPOSURE REPORT

REPORT NO.: SA140729D01-2

MODEL NO.: OMNI SB1 SOUNDBAR

FCC ID: WLQPKOMNISB1IHTTX

RECEIVED: Jul. 29, 2014

TESTED: Aug. 14 ~ Sep. 11, 2014

ISSUED: Sep. 25, 2014

APPLICANT: Polk Audio

ADDRESS: 5601 Metro Drive Baltimore Maryland 21215 United States

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140729D01-2	Original release	Sep. 25, 2014



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1. CERTIFICATION

PRODUCT: Soundbar

MODEL NO.: OMNI SB1 SOUNDBAR

BRAND:



APPLICANT: Polk Audio

TESTED: Aug. 14 ~ Sep. 11, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 2 (Section 2.1091)

KDB 447498 D03

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 : Jessica Cheng , **DATE:** Sep. 25, 2014
(Jessica Cheng / Senior Specialist)

APPROVED BY : Rex Lai , **DATE:** Sep. 25, 2014
(Rex Lai / Assistant Manager)

2. RF EXPOSURE LIMIT

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

3. MPE CALCULATION FORMULA

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

4. 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**.

5. 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	2403.5~ 2477.3	5.54	1.82	20	0.0011	1.00
WLAN	2412 ~ 2462	22.45	2.43	20	0.0612	1.00
	5180 ~ 5240	13.42	2.04	20	0.0070	1.00
	5260 ~ 5320	13.09	2.04	20	0.0065	1.00
	5500 ~ 5700	13.04	2.04	20	0.0064	1.00
	5745 ~ 5825	13.18	2.04	20	0.0066	1.00

CONCULSION:

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. Audio WIFI + 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	5.54	-	22.45	22.54	30
5180 ~ 5240	-	13.42	-	13.42	30
5260 ~ 5320	-	13.09	-	13.09	30
5500 ~ 5700	-	13.04	-	13.04	30
5745 ~ 5825	-	13.18	-	13.18	30

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