



RF EXPOSURE REPORT

REPORT NO.: SA110223E04 R1

MODEL NO.: Alpha Networks WMC-ND02

FCC ID: SBVRM004

ACCORDING: FCC Guidelines for Human Exposure
IEEE C95.1

APPLICANT: SONOS, INC.

ADDRESS: 223 East De La Guerra, Santa Barbara, CA93101

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

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen,
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA110223E04	Original release	May 03, 2011
SA110223E04 R1	Modify the model name of EUT.	May 27, 2011



1.CERTIFICATION

PRODUCT: 802.11abgn Mini PCIe Card
BRAND NAME: SONOS
MODEL NO.: Alpha Networks WMC-ND02
TEST SAMPLE: MASS-PRODUCTION
APPLICANT: SONOS, INC.
STANDARDS: IEEE C95.1

The above equipment (Model: Alpha Networks WMC-ND02) 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 : Carol Liao , **DATE:** May 27, 2011
(Carol Liao, Specialist)

APPROVED BY : May Chen , **DATE:** May 27, 2011
(May Chen, Deputy Manager)

1. 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

2. MPE CALCULATION FORMULA

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

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

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**.

4. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412-2462	626.6	6.4	20	0.544	1.00

For 15.247(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745-5825	577.8	4.5	20	0.324	1.00

For 15.407(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5180-5700	150.5	4.1	20	0.077	1.00

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