#### **RADIATED EMISSIONS TEST REPORT , BANDEDGE EMISSIONS**

### I. GENERAL INFORMATION

Requirement:	Federal Communications Commission Class 2 Permissive Change Application
Test Requirements:	15.205, 15.207, 15.209, 15.247
Applicant:	Sonos Inc. 506 Chapala Santa Barbara, CA 93101

Product ID:FCC ID:SBVCR000 (Sonos Controller)Date of Original Grant:19 October 200

## **II. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)**

The SBVCR000 is an 802.11g-only controller for a wireless music distribution system.

#### **RF** Specifications

RF Frequency Band	2412-2462 MHz			
RF Channels	1, 6, and 11 only (limited by firmware)			
Modulation Type	802.11g OFDM only (limited by firmware)			
Transmitter Output Power	+23 dBm maximum (0.200 watt)			
Antenna to be added:	5 dBi circuit card antenna			

## **III. TEST LOCATION**

All emissions tests were performed at:

Compliance Certification Services 571F Monterey Road Morgan Hill, CA 95037

Testing performed 28 July 2004.

Yn When

T.N. Cokenias Agent for Sonos Inc.

31 December 2004

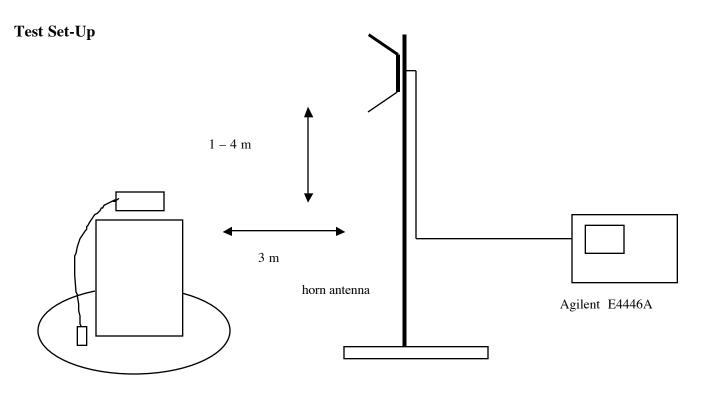
## **TEST PROCEDURES**

Radiated emissions testing per the methods of ANSI C63.4.

#### **Measurement Equipment Used:**

Agilent E4446A spectrum analyzer EMCO 3115 horn antenna, 1-18 GHz

Radiated Emissions Above 1 GHz Test Requirement: 15.205, 15.209, 15.247



#### **Test Procedures, 1- 26 GHz:**

1. The EUT was placed on a wooden table resting on a turntable on the Site A 10m open area test site. The search antenna was placed 3m from the EUT. The EUT antenna was mounted vertically as per normal installation.

2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205. Radiated emissions were investigated for a LOW channel, in the 2310-2390 MHz restricted band, and for the HIGH channel in the 2483.5 – 2500 MHz restricted band.

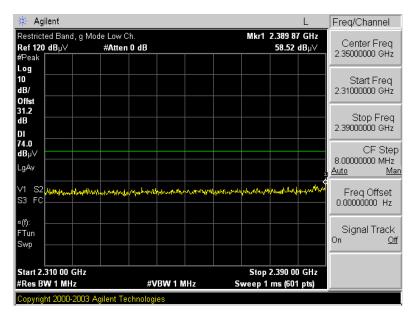
3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The maximum readings so obtained are recorded in the data listed below.

Channel	Frequency, MHz			
1 (Low )	2412			
11 (High)	2462			

Radiated emissions were performed at each frequency for the follwing antenna:.

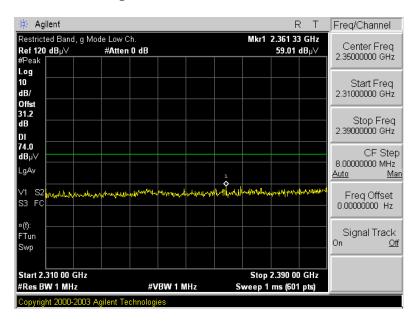
Antenna Type	Deployment	Gain	Antenna Mfr.	Model
Ckt card omni	Point to Multipoint	5 dBi max	Ricon Networks	HH

**Test Results:** PASS. Worst case results are presented. Refer to data below.



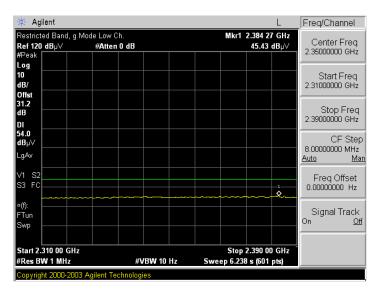
# LOW channel, peak, horizontal

# LOW channel, peak, vertical

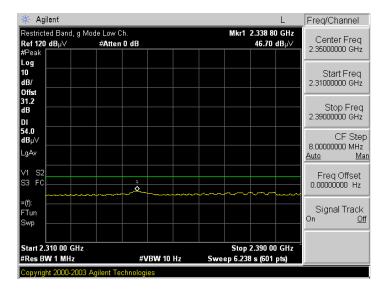


### FCC ID: SBVCR000

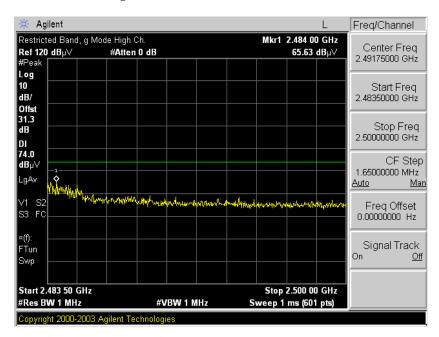
#### LOW channel average, horizontal



#### LOW channel average, vertical



#### FCC ID: SBVCR000



## HIGH channel peak, horizontal

# HIGH channel peak, vertical

🔆 Agilent			RT	Freq/Channel
Restricted Band, g Mod <b>Ref 120 dB</b> µ∨ #Peak	le High Ch. #Atten 0 dB	Mkı	1 2.483 69 GHz 64.93 dBµ∨	Center Freq 2.49175000 GHz
Log 10 dB/ Offst				Start Freq 2.48350000 GHz
31.3 dB DI				Stop Freq 2.50000000 GHz
74.0 dBµ∀ LgAv				CF Step 1.6500000 MHz <u>Auto Man</u>
53 FC	alrodotsfordskiptinkensken	ana Anton an Anna Anna Anna Anna Anna Anna Anna	nanan an hanana	Freq Offset 0.00000000 Hz
»(f): FTun Swp				Signal Track On <u>Off</u>
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 1 I		op 2.500 00 GHz o 1 ms (601 pts)	
Copyright 2000-2003 Ag	gilent Technologies			

#### FCC ID: SBVCR000

Start 2.483 50 GH; #Res BW 1 MHz	2	#VBW 10 Hz	Swee	Stop 2.500 p 1.287 s (60		
Tun Swp						Signal Track On <u>O</u>
×(f):						
V1 S2						Freq Offset 0.00000000 Hz
_gAv						Auto M:
54.0 dBµ∨						CF Stej 1.6500000 MHz
dB DI						2.50000000 GHz
Offst 31.3						Stop Freq
10 dB/						Start Freq 2.48350000 GHz
#Peak L <b>og</b>						2.49175000 GH2
Restricted Band, g Mode High Ch. <b>Ref 120 dB</b> µ∀ <b>#Atten 0 dB</b>				Mkr1 2.484 46.2	68 GHz 6 dBµ∨	Center Freq 2 49175000 GHz
🔆 Agilent					L	Freq/Channel

# High channel average, horizontal

## High channel average, vertical

