



Electromagnetic Compatibility Test Report

Tests Performed on a Primos Hunting Calls'
Speaker Transceiver, Model 3756-S and 3755-S

Radiometrics Document RP-7078B



Product Detail:

FCC ID: T3VDOGG002

IC: 9792A-DOGGS002

Equipment type: 903 to 927 MHz Frequency Hopping Transmitter

Test Standards:

US CFR Title 47, Chapter I, FCC Part 15 Subpart C

FCC Part 15 CFR Title 47: 2009

Industry Canada RSS-210, Issue 8: 2010 as required for Category I Equipment

This report concerns: Original Grant for Certification

FCC Part 15.247

Tests Performed For:

Primos Hunting Calls

604 First Street

Flora, Mississippi 39071

Test Facility:

Radiometrics Midwest Corporation

12 East Devonwood

Romeoville, IL 60446

(815) 293-0772

Test Date(s): (Month-Day-Year)

July 12 to 21, 2011

Document RP-7078A Revisions:

Rev.	Issue Date	Affected Sections	Revised By
0	July 25, 2011		
1	August 2, 2011	All	Joseph Strzelecki

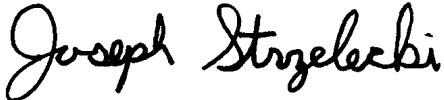
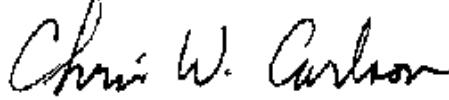
Table of Contents

1 ADMINISTRATIVE DATA.....	3
2 TEST SUMMARY AND RESULTS.....	3
2.1 RF Exposure Compliance Requirements	4
3 EQUIPMENT UNDER TEST (EUT) DETAILS.....	4
3.1 EUT Description.....	4
3.1.1 FCC Section 15.203 & RSS-GEN Antenna Requirements	4
3.2 Related Submittals.....	4
4 TESTED SYSTEM DETAILS	4
4.1 Tested System Configuration	4
4.2 Special Accessories.....	5
4.3 Equipment Modifications.....	5
5 TEST SPECIFICATIONS AND RELATED DOCUMENTS	5
6 RADIOMETRICS' TEST FACILITIES.....	5
7 DEVIATIONS AND EXCLUSIONS FROM THE TEST SPECIFICATIONS	6
8 CERTIFICATION.....	6
9 TEST EQUIPMENT TABLE	6
10 TEST SECTIONS.....	7
10.1 Carrier Frequency Separation	7
10.2 Number of Hopping Frequencies.....	9
10.3 Time of Occupancy (Dwell Time).....	10
10.4 Occupied Bandwidth (20 dB or 99%).....	11
10.5 Peak Output Power.....	13
10.6 Band-edge Compliance of RF Conducted Emissions.....	14
10.7 Spurious RF Conducted Emissions	15
10.8 Spurious Radiated Emissions (Restricted Band)	17
10.8.1 Radiated Emissions Field Strength Sample Calculation	17
10.8.2 Spurious Radiated Emissions Test Results (Restricted Band)	18
10.9 Unintentional Emissions (Receive Mode)	23

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Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

1 ADMINISTRATIVE DATA

<i>Equipment Under Test:</i> A Primos Hunting Calls, Speaker Models: 3756-S and 3755-S Serial Number: None These will be referred to as the EUT in this Report	
<i>Date EUT Received at Radiometrics: (Month-Day-Year)</i> July 12, 2011	<i>Test Date(s): (Month-Day-Year)</i> July 12 to 21, 2011
<i>Test Report Written By:</i> Joseph Strzelecki Senior EMC Engineer	<i>Test Witnessed By:</i> The tests were not witnessed by personnel from Primos Hunting Calls
<i>Radiometrics' Personnel Responsible for Test:</i>  Joseph Strzelecki Senior EMC Engineer NARTE EMC-000877-NE	<i>Test Report Approved By</i>  Chris W. Carlson Director of Engineering NARTE EMC-000921-NE

2 TEST SUMMARY AND RESULTS

The EUT (Equipment Under Test) is a Speaker, Models 3756-S and 3755-S, manufactured by Primos Hunting Calls. The detailed test results are presented in a separate section. The following is a summary of the test results.

Emissions Tests Results

Environmental Phenomena	Frequency Range	Basic Standard	Test Result
RF Radiated Emissions	30-9300 MHz	RSS-210 & FCC Part 15	Pass

Spread Spectrum Transmitter Requirements

Environmental Phenomena	Frequency Range	FCC Section	RSS-210 Section #	Test Result
Carrier Frequency Separation	902-928 MHz	15.247 a	A8.1 (2)	Pass
Number of Hopping Frequencies	902-928 MHz	15.247 a	A8.1 (2)	Pass
Time of Occupancy (Dwell Time)	902-928 MHz	15.247 a	A8.1 (2)	Pass
20 dB Bandwidth Test	902-928 MHz	15.247 a	A8.1 (4)	Pass
Peak Output Power	902-928 MHz	15.247 b	A8.1 (1)	Pass
Band-edge Compliance of RF Conducted Emissions	902-928 MHz	15.247 d	A8.4 (2)	Pass
Spurious RF Conducted Emissions	30-9300 MHz	15.247 d	A8.5	Pass
Spurious Radiated Emissions	30-9300 MHz	15.247 d	A8.5	Pass

The RSS-210 specification is not currently covered in Radiometrics' Scope of Accreditation. This is technically very similar to FCC, CFR 47 Part 15 which is on Radiometrics scope.

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

2.1 RF Exposure Compliance Requirements

Since the power output is 6.1 mW, the EUT meets the FCC requirement for RF exposure. It is exempt from routine SAR and RF exposure evaluations in accordance to Sections 2.5.1 or 2.5.2 of RSS-102e. There are no power level adjustments and the antenna is permanently attached. The detailed calculations for RF Exposure are presented in a separate document.

3 EQUIPMENT UNDER TEST (EUT) DETAILS

3.1 EUT Description

The EUT is a Speaker, Models 3756-S and 3755-S, manufactured by Primos Hunting Calls. The EUT was in good working condition during the tests, with no known defects.

3.1.1 FCC Section 15.203 & RSS-GEN Antenna Requirements

The antenna is permanently attached to the PCB via a trace on the circuit board. The antenna is internal to the EUT and it is not readily available to be modified by the end user. Therefore it meets the 15.203 Requirements.

3.2 Related Submittals

The associated device (remote) is operated under 15.247 & RSS-210. It is subject to the FCC requirements pursuant to the Certification equipment authorization under Part 15 Subpart C, and is being submitted as FCC ID: T3VDOGG003.

4 TESTED SYSTEM DETAILS

4.1 Tested System Configuration

The system was configured for testing in a typical fashion. The EUT was placed on an 80-cm high, nonconductive test stand. The testing was performed in conditions as close as possible to installed conditions. Wiring was consistent with manufacturer's recommendations.

The EUT was tested as a stand-alone device. Power was supplied with new batteries.

The identification for all equipment, plus descriptions of all cables used in the tested system, are:

Tested System Configuration List

Item	Description	Type*	Manufacturer	Model Number	Serial Number
1	Alpha Dogg Speaker	E	Primos Hunting Calls	3756-S	None
2	Turbo Dogg Speaker	E	Primos Hunting Calls	3755-S	None

* Type: E = EUT, P = Peripheral, S = Support Equipment; H = Host Computer

List of System Cables

QTY	Length (m)	Cable Description	Connected to (Item #)	Shielded?
2	1.8	Audio Cables	#1 and #2	No

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

4.2 Special Accessories

No special accessories were used during the tests in order to achieve compliance.

4.3 Equipment Modifications

The following modifications were made prior to the start of compliance testing:

Capacitor C10 was set to 2.2 pF.

5 TEST SPECIFICATIONS AND RELATED DOCUMENTS

Document	Date	Title
FCC CFR Title 47	2009	Code of Federal Regulations Title 47, Chapter 1, Federal Communications Commission, Part 15 - Radio Frequency Devices
ANSI C63.4-2003	2003	Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IC RSS-210 Issue 8	2010	Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands) Category I Equipment
IC RSS-Gen Issue 3	2010	General Requirements and Information for the Certification of Radiocommunication Equipment (RSS-Gen)
FCC DA 00-705	2000	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
FCC 558074	2005	Measurement of Digital Transmission Systems Operating under Section 15.247

The test procedures used are in accordance with the FCC DA 00-705, Industry Canada RSS-GEN and ANSI document C63.4-2003, "Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The specific procedures are described herein. Radiated testing was performed at an antenna to EUT distance of 3 meters. The antenna was raised and lowered from 1 to 4 meters.

6 RADIOMETRICS' TEST FACILITIES

The results of these tests were obtained at Radiometrics Midwest Corp. in Romeoville, Illinois, USA. Radiometrics is accredited by A2LA (American Association for Laboratory Accreditation) to conform to ISO/IEC 17025: 2005 "General Requirements for the Competence of Calibration and Testing Laboratories". Radiometrics' Lab Code is 121191 and Certification Number is 1495.01. Radiometrics' scope of accreditation includes all of the test methods listed herein. A copy of the accreditation can be accessed on our web site (www.radiomet.com). Radiometrics accreditation status can be verified at A2LA's web site (www.a2la2.org).

The following is a list of shielded enclosures located in Romeoville, Illinois used during the tests:

Chamber A: Is an anechoic chamber that measures 24' L X 12' W X 12' H. The walls and ceiling are fully lined with ferrite absorber tiles. The floor has a 10' x 10' section of ferrite absorber tiles located in the center. Panashield of Rowayton, Connecticut manufactured the chamber. The enclosure is NAMAS certified.

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Chamber E: Is a custom made anechoic chamber that measures 52' L X 30' W X 18' H. The walls and ceiling are fully lined with RF absorber. Pro-shield of Collinsville, Oklahoma manufactured the chamber.

Test Station F: Is an area that measures 10' D X 12' W X 10' H. The floor and back wall are metal shielded. This area is used for conducted emissions measurements.

A separate ten-foot long, brass plated, steel ground rod attached via a 6 inch copper braid grounds each of the above chambers. Each enclosure is also equipped with low-pass power line filters.

The FCC has accepted these sites as test site number US1065. The FCC test site Registration Number is 732175. Details of the site characteristics are on file with the Industry Canada as site number IC3124A-1.

A complete list of the test equipment is provided herein. The calibration due dates are indicated on the equipment list. The equipment is calibrated in accordance to ANSI/NCSL Z540-1 with traceability to the National Institute of Standards and Technology (NIST).

7 DEVIATIONS AND EXCLUSIONS FROM THE TEST SPECIFICATIONS

There were no deviations or exclusions from the test specifications.

8 CERTIFICATION

Radiometrics Midwest Corporation certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specification and the data contained herein was taken with calibrated test equipment. The results relate only to the EUT listed herein.

9 TEST EQUIPMENT TABLE

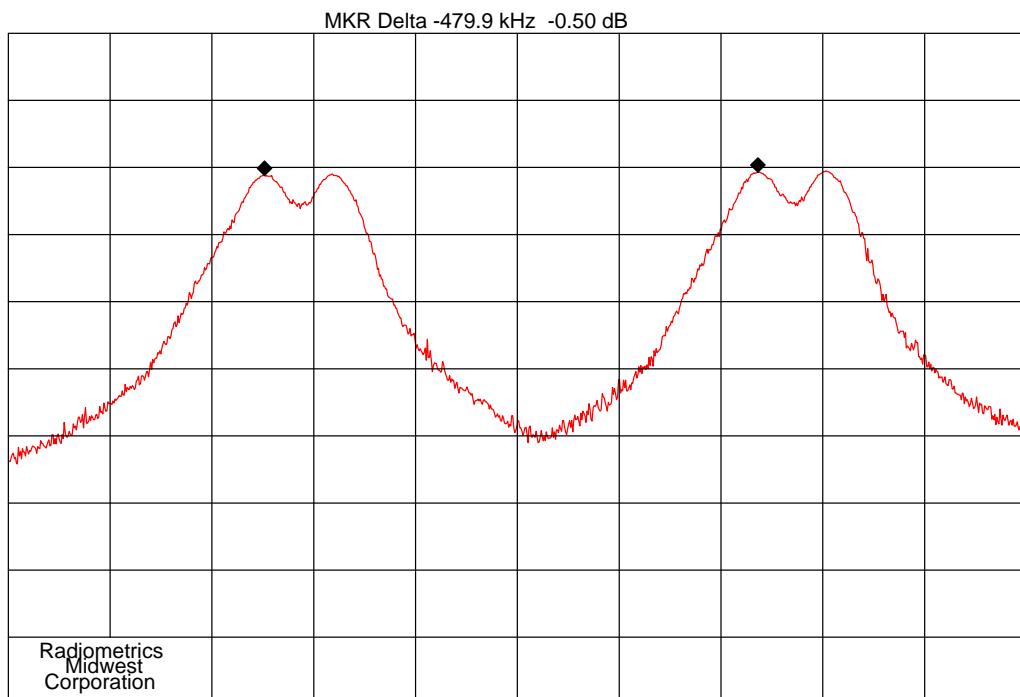
RMC ID	Manufacturer	Description	Model No.	Serial No.	Frequency Range	Cal Period	Cal Date
AMP-05	RMC/Celeritek	Pre-amplifier	MW110G	1001	1.0-12GHz	12 Mo.	01/19/11
AMP-22	Anritsu	Pre-amplifier	MH648A	M23969	0.1-1200MHz	12 Mo.	01/18/11
AMP-29	HP / Agilent	Amplifier	11975A	2304A00158	2-8 GHz	12 Mo.	04/05/11
ANT-13	EMCO	Horn Antenna	3115	2502	1.0-18GHz	24 Mo.	11/18/10
ANT-44	Impossible Machine	Super Log Antenna	SL-20M2G	1002	20-2000MHz	24 Mo.	11/25/09
HPF-03	Mini-Circuits	High Pass Filter	VHP-39	HPF-03	3-10 GHz	24 Mo.	10/27/09
REC-01	Hewlett Packard	Spectrum Analyzer	8566A	2106A02115, 2209A01349	30Hz-22GHz	12 Mo.	10/29/10
REC-03	Anritsu	Spectrum Analyzer	MS2601B	MT94589	0.01-2200MHz	12 Mo.	03/18/11
REC-07	Anritsu	Spectrum Analyzer	MS2601A	MT53067	0.01-2200MHz	12 Mo.	01/21/11
THM-02	Fluke	Temp/Humid Meter	971	93490471	N/A	12 Mo.	04/29/11

Note: All calibrated equipment is subject to periodic checks.

10 TEST SECTIONS

10.1 Carrier Frequency Separation

The EUT has its hopping function enabled. The spectrum analyzer was set to the MAX HOLD mode to read peak emissions. The sweep was set to AUTO. The trace was allowed to stabilize. The marker-delta function was used to determine the separation between the peaks of the adjacent channels.



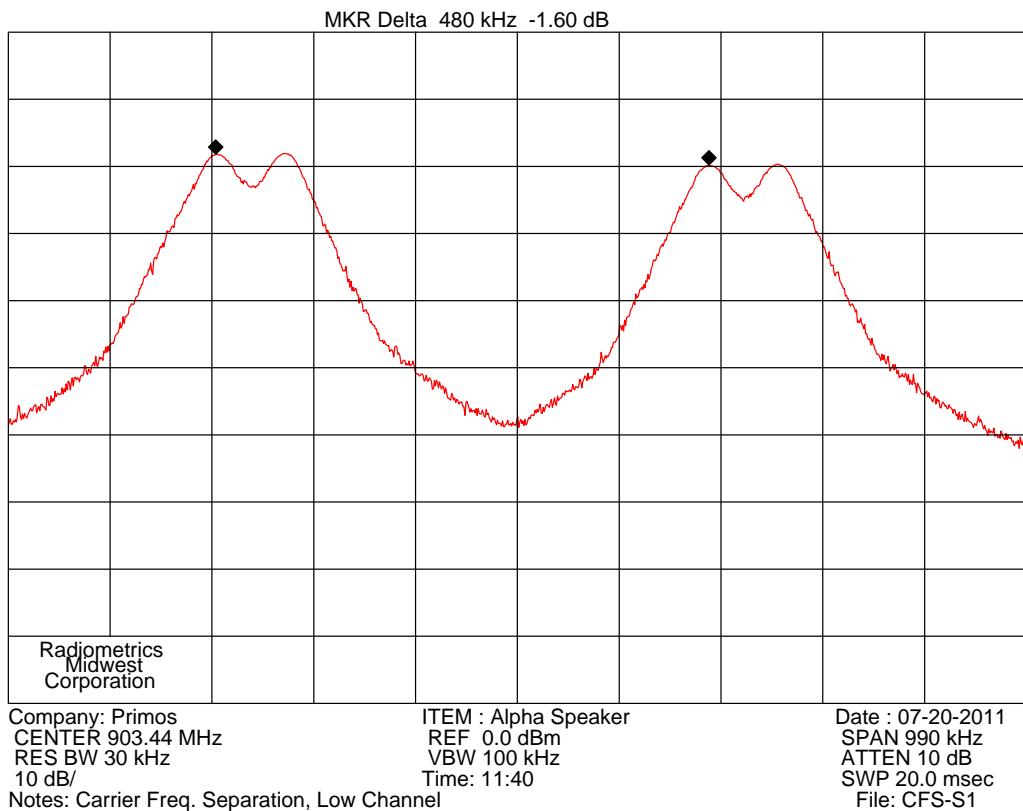
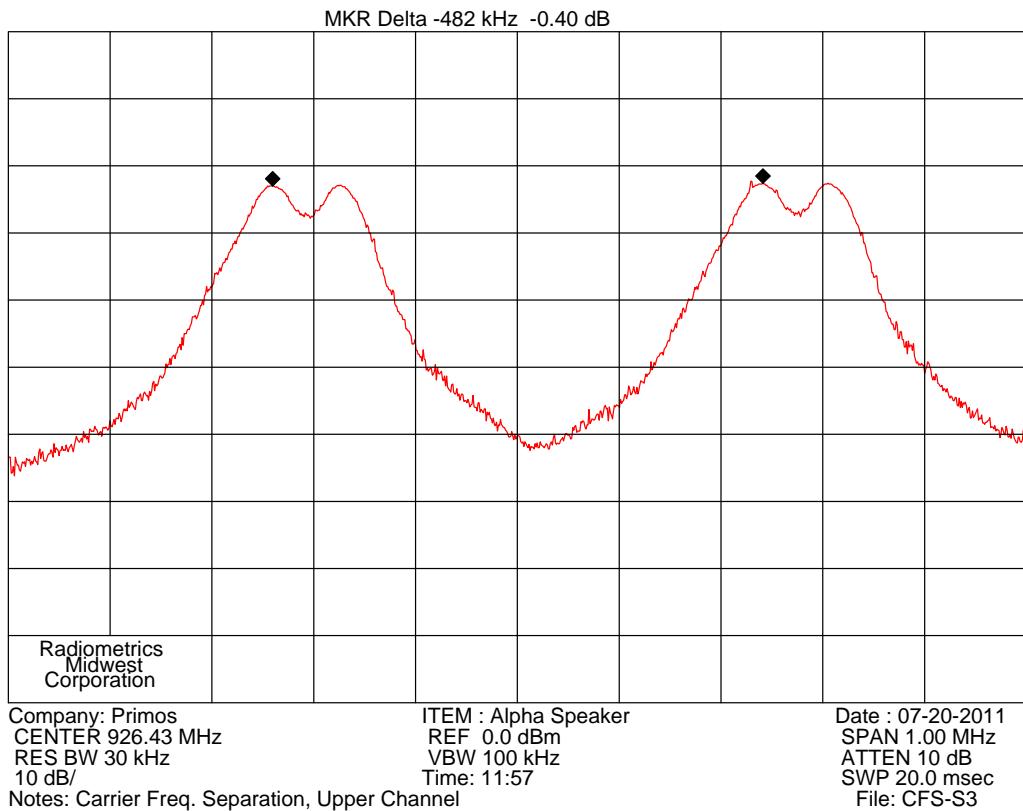
Company: Primos
CENTER 914.92 MHz
RES BW 30 kHz
10 dB/
10 dB/

Notes: Carrier Freq. Separation, Mid Channel

ITEM : Alpha Speaker
REF 0.0 dBm
VBW 100 kHz
Time: 11:34

Date : 07-20-2011
SPAN 990 kHz
ATTEN 10 dB
SWP 20.0 msec
File: CFS-S2

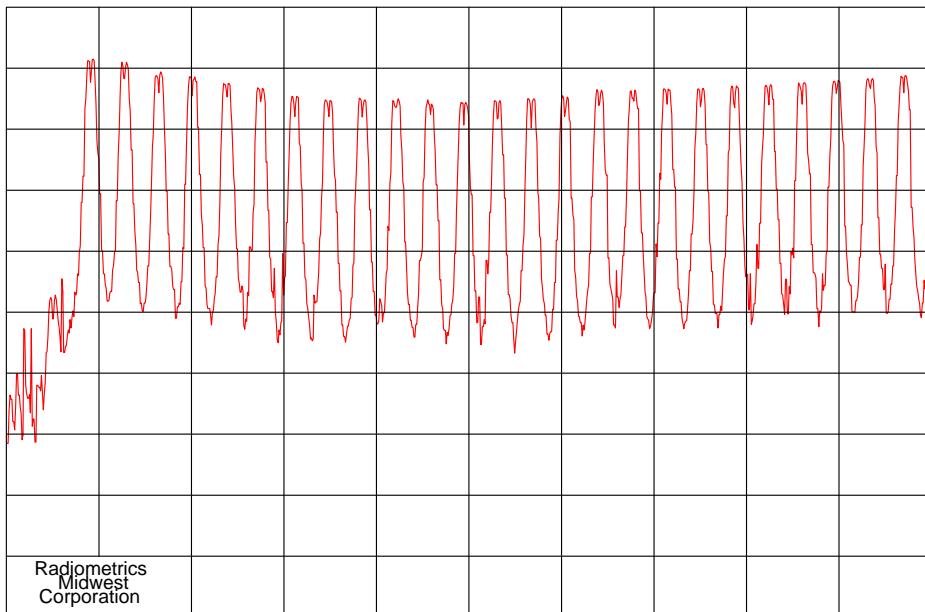
Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker



Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

10.2 Number of Hopping Frequencies

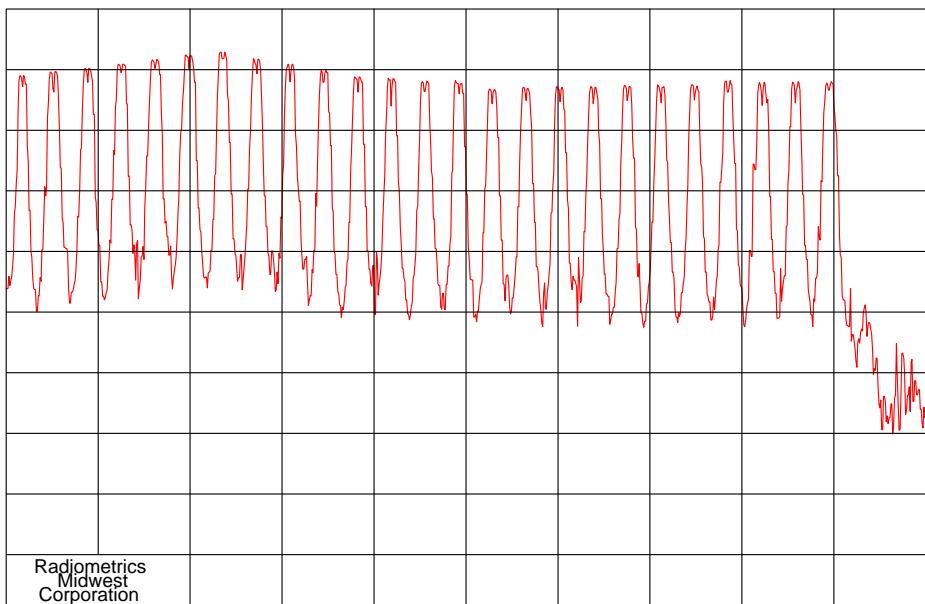
The EUT has its hopping function enabled. The spectrum analyzer was set to the MAX HOLD mode to read peak emissions. The sweep was set to AUTO. The trace was allowed to stabilize.



Company: Primos
START 902.0 MHz
RES BW 30 kHz
10 dB/
Notes: Number of Hopping Freq, 1st of Band

ITEM : Alpha Speaker
REF -10.0 dBm
VBW 100 kHz
Time: 12:06

Date : 07-20-2011
STOP 915.0 MHz
ATTEN 10 dB
SWP 39.0 msec
File: NHF-1S



Company: Primos
START 915.0 MHz
RES BW 30 kHz
10 dB/
Notes: Number of Hopping Freq, 2nd half of Band

ITEM : Alpha Speaker
REF -10.0 dBm
VBW 100 kHz
Time: 12:14

Date : 07-20-2011
STOP 928.0 MHz
ATTEN 10 dB
SWP 39.0 msec
File: NHF-2S

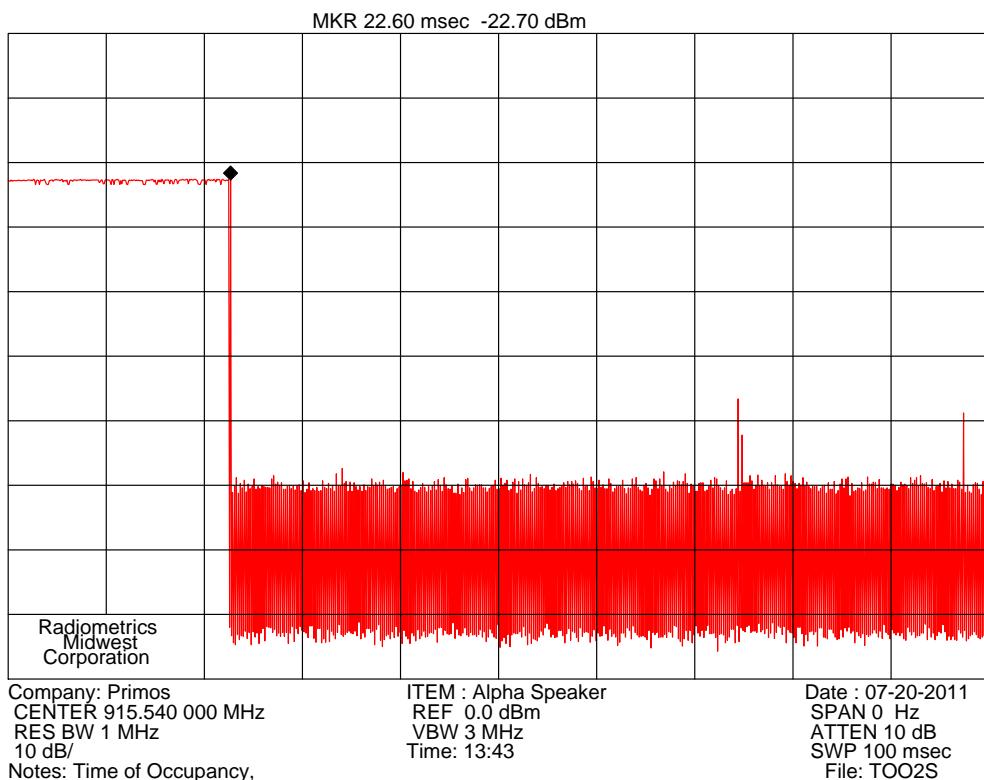
There is a total of 50 Frequencies.

10.3 Time of Occupancy (Dwell Time)

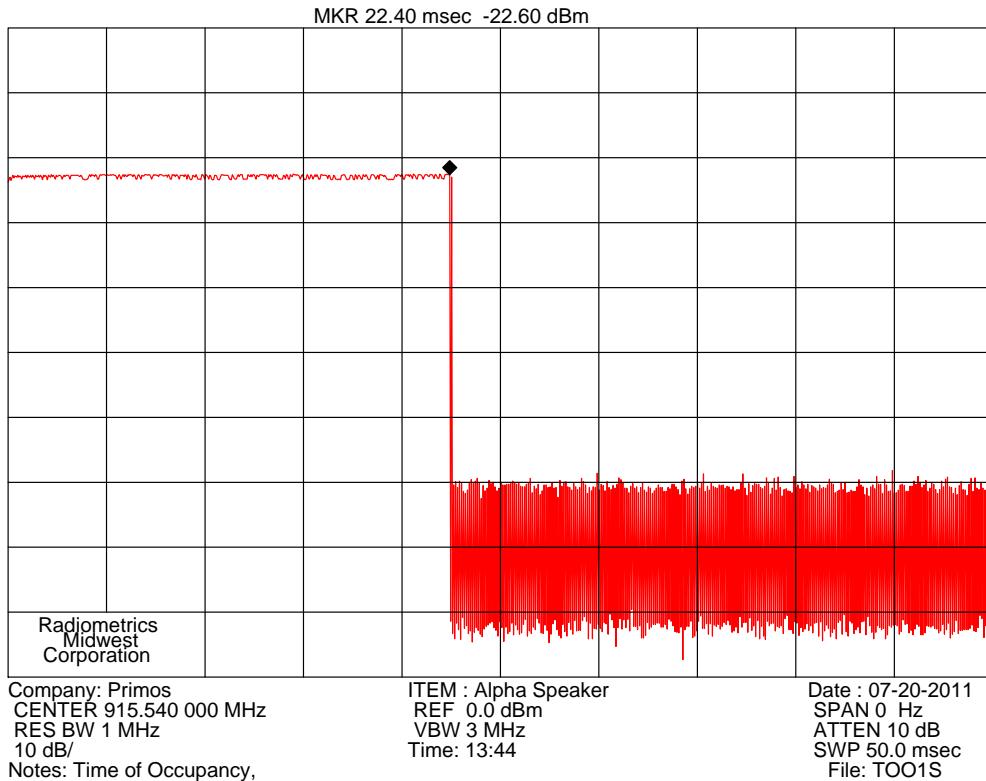
The EUT has its hopping function enabled. The spectrum analyzer was set to the MAX HOLD mode to read peak emissions. The span was set to zero. The marker-delta function to determine the dwell time. The Peak to average factor is calculated by the highest duty cycle in percent over any 100mS transmission. The factor in dB is $20 * \log(\text{Duty cycle}/100)$.

The maximum total on time for any 100 mSec time period is 22.6 mSec. The peak to average factor is $20 * \log(22.6/100) = -12.9$ dB

Figure 1. Duty cycle plots



Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

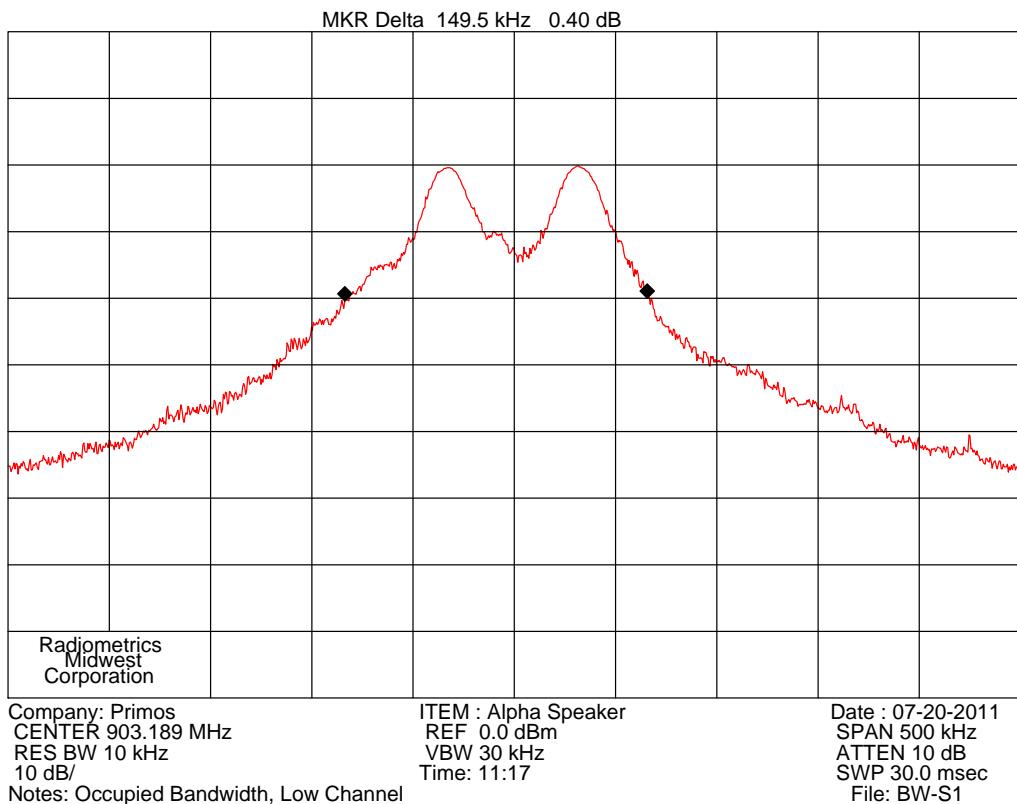
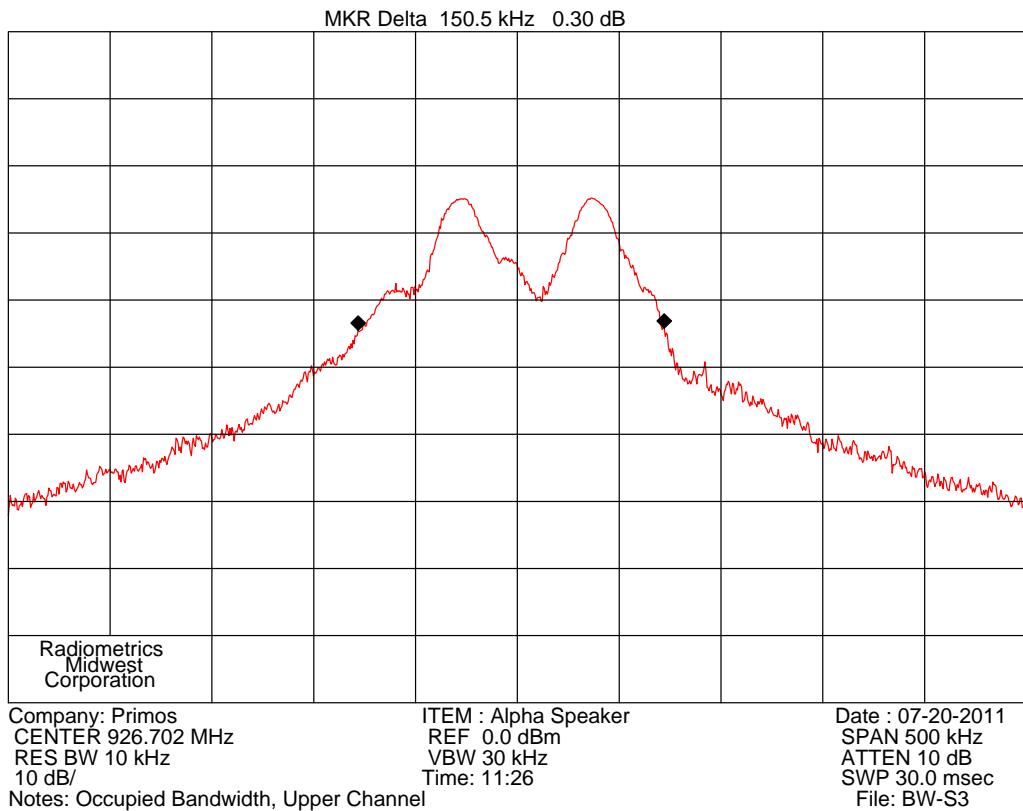


10.4 Occupied Bandwidth (20 dB or 99%)

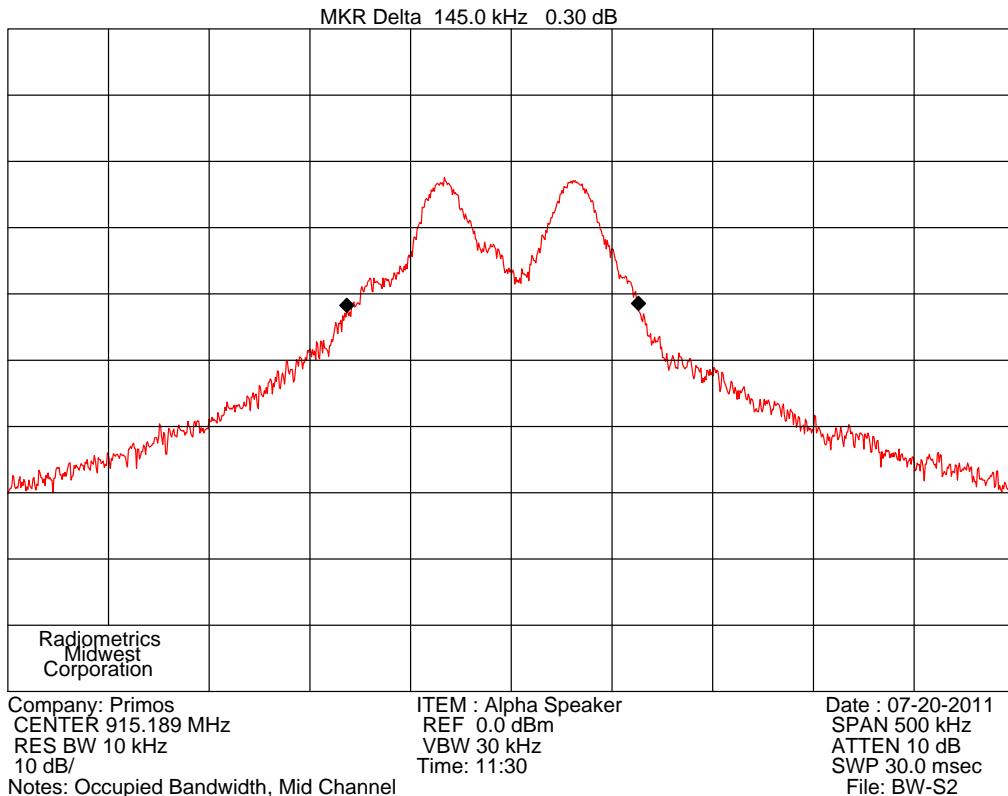
The spectrum analyzer was set to the MAX HOLD mode to record the worst case of the modulation. The EUT was transmitting at its maximum data rate. The trace was allowed to stabilize.

The marker-to-peak function was set to the peak of the emission. Then the marker-delta function was used to measure 20 dB down one side of the emission. The marker-delta function was reset and then moved to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker



Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker



Judgement Pass: All bandwidths are less than 250 kHz.

10.5 Peak Output Power

Since antenna conducted tests cannot be performed on the EUT, radiated tests were performed to show compliance with this requirement. The FCC procedures from power output option 1 was used.

The transmitter's peak power was calculated using the following equation:

$$P = (E \times d)^2 / (30 \times G)$$

Where: E = the measured maximum peak field strength in V/m.

G = The numeric gain of the transmitting antenna over an isotropic radiator.

d = Distance in meters from which the field strength was measured. (3 meters)

P = The EUT power in watts

The field Strength was measured using the procedures described in section 10.9, with the exception of the resolution and video bandwidths. The spectrum analyzer was set to the following settings:

Span = 3 MHz ; RBW = 3 MHz (> the 20 dB bandwidth of the emission being measured)
 VBW = 3 MHz; Sweep = auto; Detector function = peak; Trace = max hold

Since the gain of the antenna is always less than 6dB, the limit is not reduced.

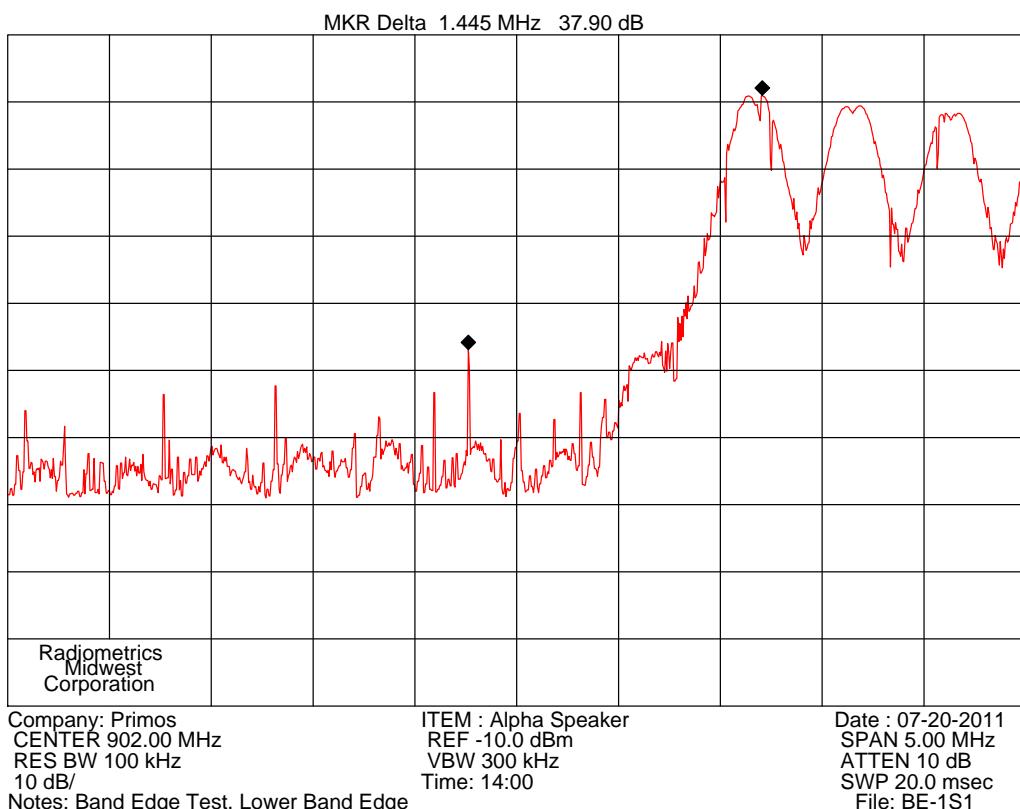
Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

	Freq	Peak Field Strength		Ant gain	Test Distance	Output power from EUT		Limit
EUT	MHz	dBuV/m	V/m	Numeric	Meters	Watts	dBm	dBm
Alpha	903.2	98.8	0.087	1	3	0.0023	3.6	30
Alpha	915.2	102	0.126	1	3	0.0048	6.8	30
Alpha	926.7	102.9	0.140	1	3	0.0058	7.7	30
Turbo	903.2	99.8	0.098	1	3	0.0029	4.6	30
Turbo	915.2	102.9	0.140	1	3	0.0058	7.7	30
Turbo	926.7	103.1	0.143	1	3	0.0061	7.9	30

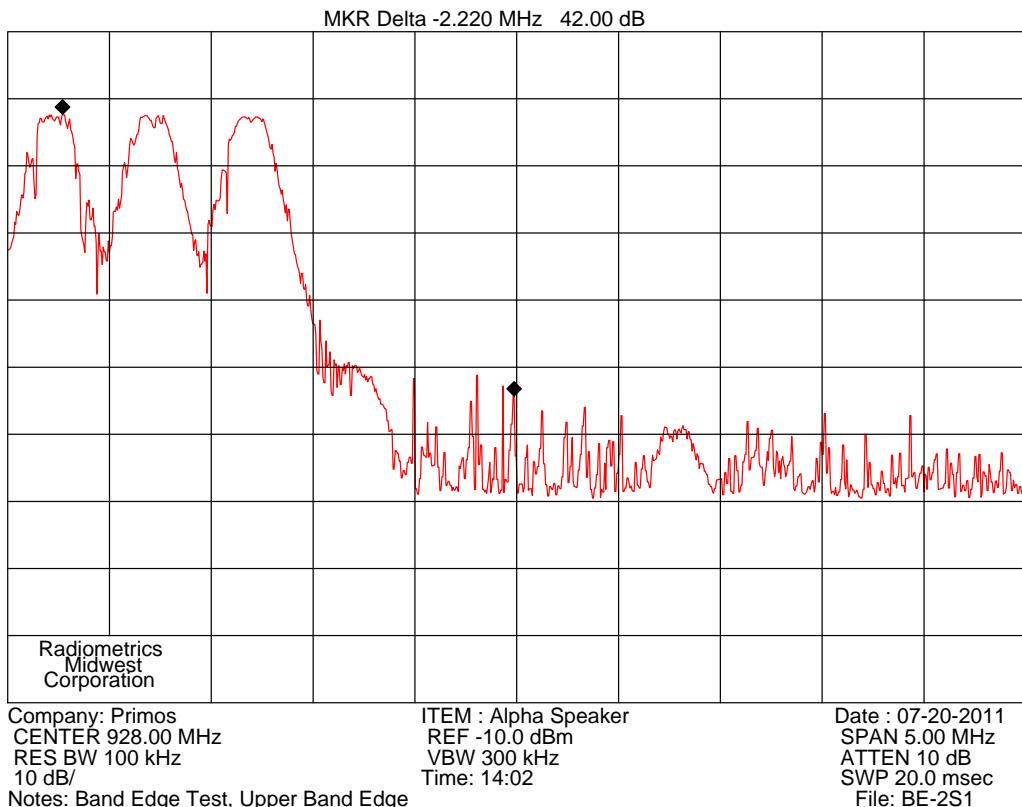
Judgment: Pass by 22.1 dB

10.6 Band-edge Compliance of RF Conducted Emissions

The spectrum analyzer was set to the MAX HOLD mode to record the worst case of the modulation at the band-edge, with the EUT set to the lowest frequency. The trace was allowed to stabilize.



Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker



Channel	Band Edge Delta Readings in dB	
	Alpha	Minimum Allowed
	Band Edge	dB
903.2 Lower Band edge	37.9	20
926.7 Upper Band edge	42.0	20

Judgment: Pass by 17.9 dB overall

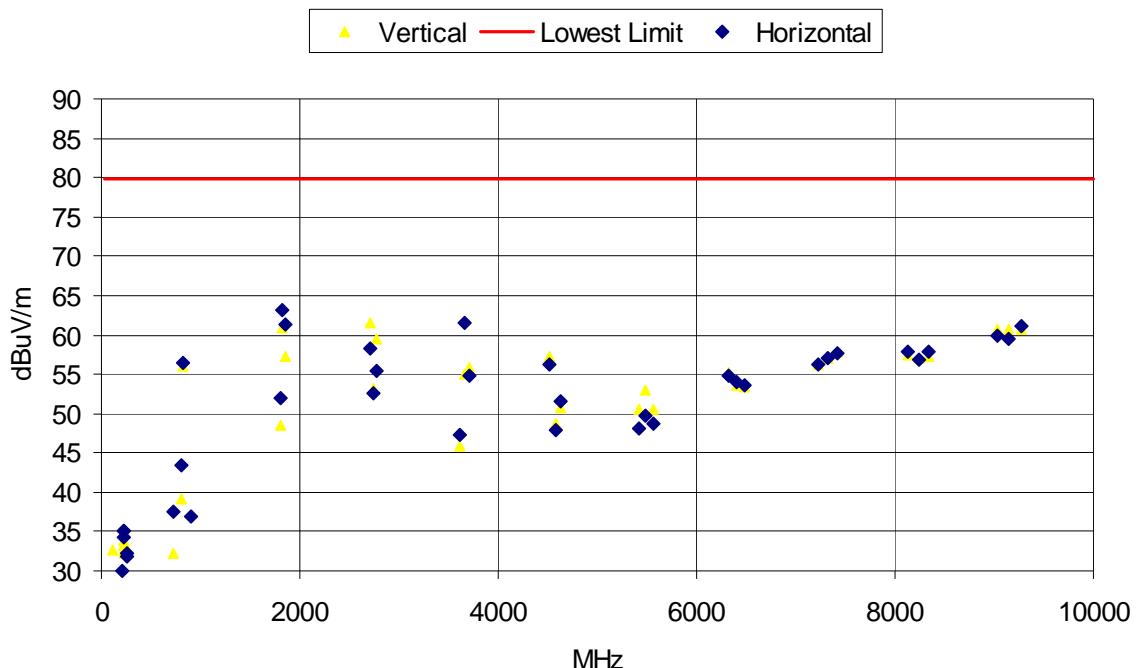
10.7 Spurious RF Conducted Emissions

Since antenna conducted tests cannot be performed on the EUT, radiated tests were performed to show compliance with this requirement.

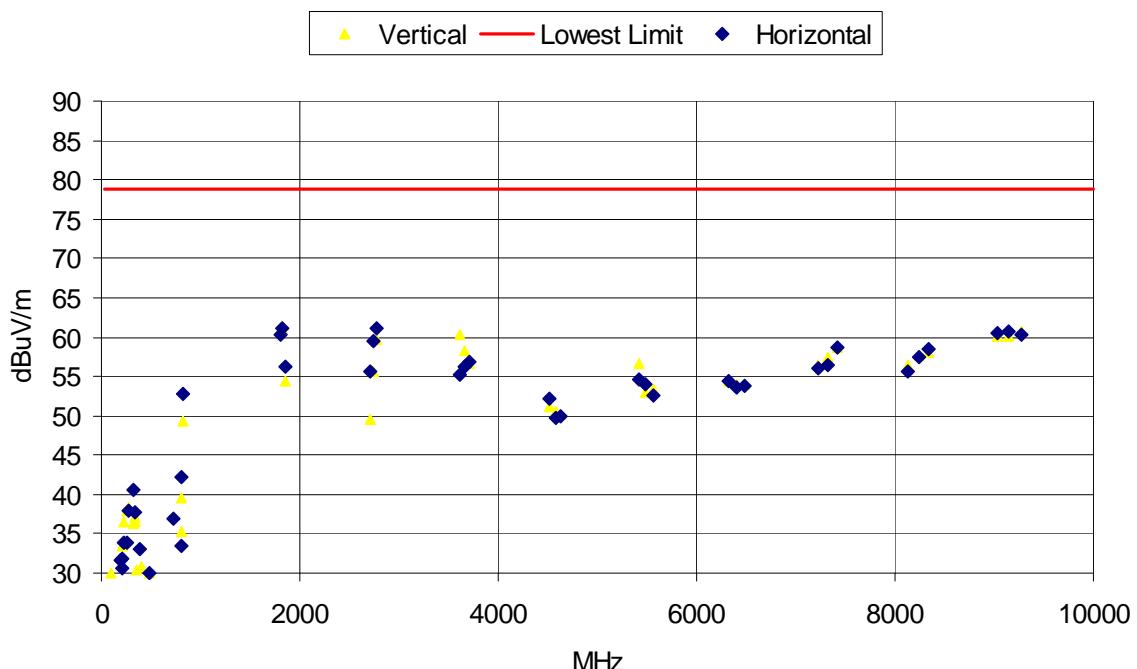
The EUT was tested in continuous mode and peak readings were made from the lowest frequency generated in the EUT up through the 10th harmonic. The limit is 20 dB lower than the peak of the lowest fundamental. The data is shown graphically.

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Spurious Emissions Relative to Fundamental (Turbo)



Spurious Emissions Relative to Fundamental (Alpha)



Judgement: Pass by 17 dB

10.8 Spurious Radiated Emissions (Restricted Band)

Radiated emission measurements were performed with linearly polarized broadband antennas. The results obtained with these antennas can be correlated with results obtained with a tuned dipole antenna. The radiated emission measurements were performed with a spectrum analyzer. The bandwidth used from 150 kHz to 30 MHz is 9 or 10 kHz and the bandwidth from 30 MHz to 1000 MHz is 100 or 120 kHz. Above 1 GHz, a 1 MHz bandwidth is used. A 10 dB linearity check is performed prior to start of testing in order to determine if an overload condition exists.

From 30 to 1000 MHz, an Anritsu spectrum analyzer was used. For tests from 1 to 25 GHz, an HP 8566 spectrum analyzer was used. For tests from 1 to 10 GHz, a high pass filter was used to reduce the fundamental emission. Figure 4 herein lists the details of the test equipment used during radiated emissions tests.

The device was rotated through three orthogonal axis as per 13.1.4.1 of ANSI C63.4 during the prescans and during final radiated tests.

Final radiated emissions measurements were performed inside of an anechoic chamber at a test distance of 3 meters. The anechoic chamber is designated as Chamber E. This Chamber meets the Site Attenuation requirements of ANSI C63.4 and CISPR 16-1. Chamber E is located at 12 East Devonwood Ave. Romeoville, Illinois EMI test lab.

The entire frequency range from 30 to 9300 MHz was slowly scanned with particular attention paid to those frequency ranges which appeared high. Measurements were performed using two antenna polarizations, (vertical and horizontal). The worst case emissions were recorded. All measurements may be performed using either the peak, average or quasi-peak detector functions. If the peak detector data exceeds or is marginally close to the limits, the measurements are repeated using a quasi-peak detector or average function as required by the specification for final determination of compliance.

The detected emission levels were maximized by rotating the EUT, adjusting the positions of all cables, and by scanning the measurement antenna from 1 to 4 meters above the ground.

10.8.1 Radiated Emissions Field Strength Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and by subtracting the Amplifier Gain from the measured reading. The basic equation is as follows:

$$FS = RA + AF + CF - AG$$

Where: FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

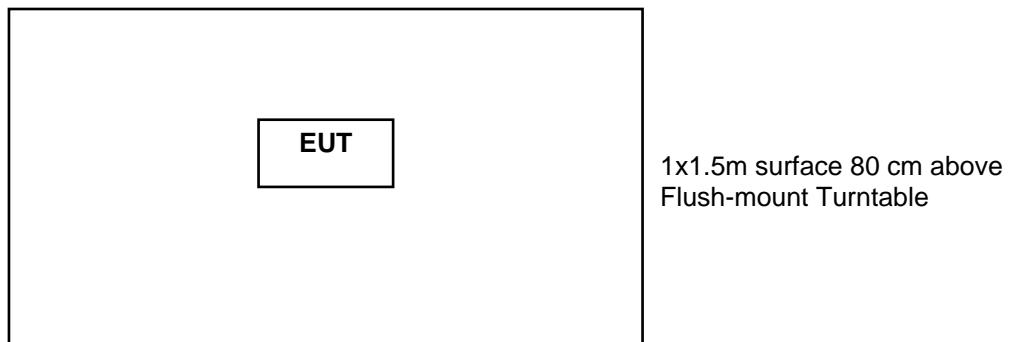
CF = Cable Attenuation Factor

AG = Amplifier Gain

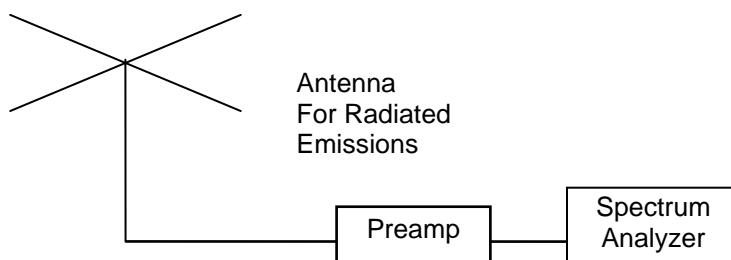
HPF = High pass Filter Loss

PKA = Peak to Average Factor (This is zero for non-average measurements)

The Peak to average factor is used when average measurements are required. It is calculated by the highest duty cycle in percent over any 100mS transmission. The factor in dB is $20 * \log(\text{Duty cycle}/100)$.

Figure 2. Drawing of Radiated Emissions Setup**Notes:**

- AC outlet with low-pass filter at the base of the turntable
- Antenna height varied from 1 to 4 meters
- Distance from antenna to tested system is 3 meters
- Not to Scale



10.8.2 Spurious Radiated Emissions Test Results (Restricted Band)

The following spectrum analyzer settings were used.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

A Video Bandwidth of 10 Hz was used for Average measurements above 1 GHz.

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Manufacturer	Primos Hunting Calls	Specification	FCC Part 15 Subpart C & RSS-210
Model	3756-S and 3755-S	Test Date	July 17, 2011
Serial Number	None	Test Distance	3 Meters
Abbreviations	Pol = Antenna Polarization; V = Vertical; H = Horizontal; BC = Biconical (ANT-3); LP = Log-Periodic (ANT-6); HN = Horn (ANT-13) P = peak; Q = QP		
Notes	Corr. Factors = Cable Loss – Preamp Gain – Duty Cycle Factor + HP Filter Loss		
Configuration	Alpha Dogg Model 3756-S; Transmit mode		

Freq. MHz	Meter Reading dBuV	Dect. Type	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
			Factor dB	Pol/ ID#		EUT	Limit	
101.6	31.8	P	10.3	H/44	-18.2	23.9	43.5	19.6
143.6	35.0	P	10.5	H/44	-18.1	27.5	43.5	16.0
191.2	39.9	P	9.5	H/44	-17.7	31.6	43.5	11.9
204.0	38.7	P	9.8	H/44	-17.8	30.7	43.5	12.8
216.8	38.4	P	11.2	H/44	-17.8	31.8	46.0	14.2
230.6	40.1	P	11.6	H/44	-17.8	33.9	46.0	12.1
256.4	38.8	P	12.9	H/44	-17.9	33.8	46.0	12.2
282.1	42.8	P	12.9	H/44	-17.8	37.9	46.0	8.1
320.0	44.1	Q	13.5	H/44	-17.8	39.9	46.0	6.1
346.0	40.7	P	14.8	H/44	-17.8	37.7	46.0	8.3
384.0	35.8	P	14.9	H/44	-17.7	33.0	46.0	13.0
409.2	31.0	P	16.3	H/44	-17.7	29.6	46.0	16.4
486.0	30.5	P	17.3	H/44	-17.6	30.1	46.0	15.9
721.0	33.7	P	19.6	H/44	-16.4	37.0	46.0	9.0
101.6	37.9	P	10.3	V/44	-18.2	30.0	43.5	13.5
140.4	35.9	P	11.1	V/44	-18.0	28.9	43.5	14.6
166.0	33.7	P	9.8	V/44	-17.9	25.6	43.5	17.9
204.0	36.6	P	9.8	V/44	-17.8	28.5	43.5	15.0
216.8	40.0	P	11.2	V/44	-17.8	33.4	46.0	12.6
230.6	42.7	P	11.6	V/44	-17.8	36.6	46.0	9.4
256.4	43.0	P	12.9	V/44	-17.9	38.0	46.0	8.0
282.1	43.3	P	12.9	V/44	-17.8	38.4	46.0	7.6
320.2	40.6	P	13.5	V/44	-17.8	36.4	46.0	9.6
333.1	41.0	P	13.8	V/44	-17.7	37.1	46.0	8.9
346.0	39.6	P	14.8	V/44	-17.8	36.6	46.0	9.4
362.8	33.5	P	14.8	V/44	-17.8	30.5	46.0	15.5
396.9	33.1	P	15.5	V/44	-17.7	30.9	46.0	15.1
486.0	30.4	P	17.3	V/44	-17.6	30.1	46.0	15.9
Configuration	Turbo Dogg Model 3755-S							
47.6	31.3	P	14.4	H/44	-18.6	27.1	40.0	12.9
115.2	32.6	P	13.5	H/44	-18.2	27.9	43.5	15.6
115.2	33.7	P	13.5	H/44	-18.2	29.0	43.5	14.5
166.0	37.1	P	9.8	H/44	-17.9	29.0	43.5	14.5
185.6	31.9	P	9.3	H/44	-17.7	23.5	43.5	20.0
191.2	37.9	P	9.5	H/44	-17.7	29.7	43.5	13.8
204.0	34.5	P	9.8	H/44	-17.8	26.5	43.5	17.0
216.8	36.7	P	11.2	H/44	-17.8	30.1	46.0	15.9
229.2	41.0	P	11.6	H/44	-17.8	34.9	46.0	11.1
229.2	40.5	P	11.6	H/44	-17.8	34.3	46.0	11.7
230.6	41.1	P	11.6	H/44	-17.8	35.0	46.0	11.0

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Freq. MHz	Meter Reading dBuV	Dect. Type	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
			Factor dB	Pol/ ID#		EUT	Limit	
230.6	41.2	P	11.6	H/44	-17.8	35.1	46.0	10.9
243.5	32.7	P	12.4	H/44	-17.8	27.3	46.0	18.7
243.5	31.9	P	12.4	H/44	-17.8	26.5	46.0	19.5
256.4	37.2	P	12.9	H/44	-17.9	32.2	46.0	13.8
282.1	30.9	P	12.9	H/44	-17.8	26.0	46.0	20.0
315.2	33.6	P	13.6	H/44	-17.8	29.4	46.0	16.6
320.2	31.9	P	13.5	H/44	-17.8	27.6	46.0	18.4
354.9	31.2	P	14.8	H/44	-17.8	28.2	46.0	17.8
721.0	34.3	P	19.6	H/44	-16.4	37.5	46.0	8.5
901.0	31.3	P	21.3	H/44	-15.7	37.0	46.0	9.0
76.4	29.3	P	6.8	V/44	-18.2	18.0	40.0	22.0
102.4	30.2	P	10.7	V/44	-18.2	22.7	43.5	20.8
115.2	34.0	P	13.5	V/44	-18.2	29.3	43.5	14.2
115.2	37.3	P	13.5	V/44	-18.2	32.7	43.5	10.8
133.2	30.2	P	12.8	V/44	-18.1	24.9	43.5	18.6
133.2	30.3	P	12.8	V/44	-18.1	25.0	43.5	18.5
166.0	32.6	P	9.8	V/44	-17.9	24.5	43.5	19.0
166.0	32.8	P	9.8	V/44	-17.9	24.7	43.5	18.8
191.2	35.7	P	9.5	V/44	-17.7	27.4	43.5	16.1
204.0	31.1	P	9.8	V/44	-17.8	23.0	43.5	20.5
216.8	34.6	P	11.2	V/44	-17.8	28.0	46.0	18.0
216.8	35.5	P	11.2	V/44	-17.8	28.9	46.0	17.1
229.2	38.5	P	11.6	V/44	-17.8	32.3	46.0	13.7
229.2	40.1	P	11.6	V/44	-17.8	33.9	46.0	12.1
230.6	38.8	P	11.6	V/44	-17.8	32.6	46.0	13.4
230.6	39.4	P	11.6	V/44	-17.8	33.2	46.0	12.8
242.4	32.6	P	12.3	V/44	-17.8	27.1	46.0	18.9
243.5	33.1	P	12.4	V/44	-17.8	27.7	46.0	18.3
256.4	37.8	P	12.9	V/44	-17.9	32.8	46.0	13.2
256.4	37.9	P	12.9	V/44	-17.9	32.9	46.0	13.1
282.1	30.3	P	12.9	V/44	-17.8	25.5	46.0	20.5
305.1	30.6	P	13.4	V/44	-17.8	26.2	46.0	19.8
307.3	32.4	P	13.4	V/44	-17.8	28.1	46.0	17.9
456.8	27.3	P	16.5	V/44	-17.6	26.2	46.0	19.8
721.0	28.9	P	19.6	V/44	-16.4	32.2	46.0	13.8

Judgment: Passed by 6.1 dB

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Model 3756-S Emissions above 1 GHz:

hrm #	Tx Freq MHz	Spectrum Analyzer Reading in dBuV				Corr. Fact dB	Emission Freq MHz	Field Strength			Margin Under Limit				
		Vertical Polarization		Horizontal Polarization				EUT Peak - Average		Limit Peak - Ave					
		Peak	Ave	Peak	Ave			dBuV/m							
1	903.2	74.1	N/A	67.8	N/A	24.7	903.2	98.8	N/A	125.2	N/A	26.4			
2	903.2	58.6	45.7	58.1	45.2	2.3	1806.4	60.9	48.0	N/A	N/A	N/A			
3	903.2	44.1	31.2	50.2	37.3	5.4	2709.6	55.6	42.7	74.0	54	11.3			
4	903.2	51.3	38.4	46.1	33.2	9.1	3612.8	60.4	47.5	74.0	54	6.5			
5	903.2	39.8	26.9	40.8	27.9	11.4	4516.0	52.2	39.3	74.0	54	14.7			
6	903.2	43.0	30.1	41.0	28.1	13.6	5419.2	56.6	43.7	74.0	54	10.3			
7	903.2	37.9	25.0	37.8	24.9	16.6	6322.4	54.5	41.6	N/A	N/A	N/A			
8	903.2	37.1	24.2	36.7	23.8	19.4	7225.6	56.5	43.6	74.0	54	10.4			
9	903.2	36.2	23.3	35.4	22.5	20.3	8128.8	56.5	43.6	74.0	54	10.4			
10	903.2	35.6	22.7	36.0	23.1	24.5	9032.0	60.5	47.6	74.0	54	6.4			
1	903.2	76.1	N/A	66.8	N/A	25.9	915.2	102.0	N/A	125.2	N/A	14			
2	903.2	58.7	45.8	58.6	45.7	2.5	1830.4	61.2	48.3	N/A	N/A	N/A			
3	915.2	50.1	37.2	53.8	40.9	5.6	2745.6	59.4	46.5	74.0	54	7.5			
4	915.2	49.2	36.3	47.3	34.4	9.0	3660.8	58.2	45.3	74.0	54	8.7			
5	915.2	39.2	26.3	38.4	25.5	11.4	4576.0	50.6	37.7	74.0	54	16.3			
6	915.2	39.0	26.1	40.0	27.1	14.0	5491.2	54.0	41.1	74.0	54	12.9			
7	915.2	37.8	24.9	37.3	24.4	16.3	6406.4	54.1	41.2	N/A	N/A	N/A			
8	915.2	37.4	24.5	36.5	23.6	20.0	7321.6	57.4	44.5	74.0	54	9.5			
9	915.2	37.0	24.1	36.8	23.9	20.6	8236.8	57.6	44.7	74.0	54	9.3			
10	915.2	35.6	22.7	36.1	23.2	24.6	9152.0	60.7	47.8	74.0	54	6.2			
1	915.2	77.8	N/A	71.3	N/A	25.1	926.7	102.9	N/A	125.2	N/A	22.3			
2	915.2	51.8	38.9	53.6	40.7	2.7	1853.4	56.3	43.4	N/A	N/A	N/A			
3	926.7	54.0	41.1	55.5	42.6	5.7	2780.1	61.2	48.3	74.0	54	5.7			
4	926.7	47.4	34.5	47.6	34.7	9.2	3706.8	56.8	43.9	74.0	54	10.1			
5	926.7	38.7	25.8	38.5	25.6	11.4	4633.5	50.1	37.2	74.0	54	16.8			
6	926.7	39.2	26.3	38.4	25.5	14.2	5560.2	53.4	40.5	N/A	N/A	N/A			
7	926.7	37.7	24.8	37.6	24.7	16.2	6486.9	53.9	41.0	N/A	N/A	N/A			
8	926.7	37.3	24.4	37.4	24.5	21.3	7413.6	58.7	45.8	74.0	54	8.2			
9	926.7	37.1	24.2	37.6	24.7	20.9	8340.3	58.5	45.6	74.0	54	8.4			
10	926.7	35.7	22.8	35.2	22.3	25.1	9267.0	60.8	47.9	N/A	N/A	N/A			

Column numbers (see below for explanations)

1	2	3	4	5	6	7	8	9	10	11	12	13
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Column #1. hrm = Harmonic; BE = Band Edge emissions

Column #2. Frequency of Transmitter.

Column #3. Uncorrected readings from the spectrum analyzer in dBuV (Highest of three First Axis Rotations)

Column #4. Average Reading based on peak reading reduced by the Duty cycle correction. (Highest of three First Axis Rotations)

Column #5. Same as Column #3 except Horizontal Receive antenna

Column #6. Same as Column #4 except Horizontal Receive antenna

Column #7. Corr. Factors = Cable Loss – Preamp Gain + Antenna Factor

Column #8. Frequency of Tested Emission

Column #9. Highest peak field strength at listed frequency.

Column #10. Highest Average field strength at listed frequency.

Column #11. Peak Limit at listed frequency. (N/A means there is not a radiated Limit)

Column #12. Average Limit at listed frequency. (N/A means there is not a radiated Limit)

Column #13. Worst case margin under limit.

Judgment: Passed by 5.7 dB

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Model 3755-S Emissions above 1 GHz:

hrm #	Tx Freq MHz	Spectrum Analyzer Reading in dBuV				Corr. Fact dB	Emission Freq MHz	Field Strength			Margin Under Limit				
		Vertical Polarization		Horizontal Polarization				EUT Peak - Average		Limit Peak - Ave					
		Peak	Ave	Peak	Ave			dBuV/m							
1	903.2	75.1	N/A	69.5	N/A	24.7	903.2	99.8	N/A	125.2	N/A	25.4			
2	903.2	46.2	33.3	49.7	36.8	2.3	1806.4	52.0	39.1	N/A	N/A	N/A			
3	903.2	56.2	43.3	52.8	39.9	5.4	2709.6	61.6	48.7	74.0	54	5.3			
4	903.2	36.8	23.9	38.1	25.2	9.1	3612.8	47.2	34.3	74.0	54	19.7			
5	903.2	45.9	33.0	44.9	32.0	11.4	4516.0	57.3	44.4	74.0	54	9.6			
6	903.2	36.9	24.0	34.5	21.6	13.6	5419.2	50.5	37.6	74.0	54	16.4			
7	903.2	38.7	25.8	38.2	25.3	16.6	6322.4	55.3	42.4	N/A	N/A	N/A			
8	903.2	36.8	23.9	36.9	24.0	19.4	7225.6	56.3	43.4	74.0	54	10.6			
9	903.2	37.2	24.3	37.6	24.7	20.3	8128.8	57.9	45.0	74.0	54	9.0			
10	903.2	36.2	23.3	35.4	22.5	24.5	9032.0	60.7	47.8	74.0	54	6.2			
1	903.2	77.0	N/A	68.4	N/A	25.9	915.2	102.9	N/A	125.2	N/A	14			
2	903.2	58.4	45.5	60.7	47.8	2.5	1830.4	63.2	50.3	N/A	N/A	N/A			
3	915.2	47.6	34.7	46.9	34.0	5.6	2745.6	53.2	40.3	74.0	54	13.7			
4	915.2	46.0	33.1	52.5	39.6	9.0	3660.8	61.5	48.6	74.0	54	5.4			
5	915.2	37.3	24.4	36.5	23.6	11.4	4576.0	48.7	35.8	74.0	54	18.2			
6	915.2	39.0	26.1	35.7	22.8	14.0	5491.2	53.0	40.1	74.0	54	13.9			
7	915.2	37.2	24.3	37.6	24.7	16.3	6406.4	53.9	41.0	N/A	N/A	N/A			
8	915.2	37.1	24.2	37.0	24.1	20.0	7321.6	57.1	44.2	74.0	54	9.8			
9	915.2	36.5	23.6	36.2	23.3	20.6	8236.8	57.1	44.2	74.0	54	9.8			
10	915.2	36.2	23.3	34.8	21.9	24.6	9152.0	60.8	47.9	74.0	54	6.1			
1	915.2	78.0	N/A	69.5	N/A	25.1	926.7	103.1	N/A	125.2	N/A	22.1			
2	915.2	54.5	41.6	58.7	45.8	2.7	1853.4	61.4	48.5	N/A	N/A	N/A			
3	926.7	53.8	40.9	49.8	36.9	5.7	2780.1	59.5	46.6	74.0	54	7.4			
4	926.7	46.6	33.7	45.6	32.7	9.2	3706.8	55.8	42.9	74.0	54	11.1			
5	926.7	39.3	26.4	40.1	27.2	11.4	4633.5	51.5	38.6	74.0	54	15.4			
6	926.7	36.4	23.5	34.6	21.7	14.2	5560.2	50.6	37.7	N/A	N/A	N/A			
7	926.7	37.2	24.3	37.3	24.4	16.2	6486.9	53.5	40.6	N/A	N/A	N/A			
8	926.7	36.6	23.7	36.4	23.5	21.3	7413.6	57.9	45.0	74.0	54	9.0			
9	926.7	36.3	23.4	37.0	24.1	20.9	8340.3	57.9	45.0	74.0	54	9.0			
10	926.7	35.7	22.8	36.0	23.1	25.1	9267.0	61.1	48.2	N/A	N/A	N/A			

Column numbers (see below for explanations)

1	2	3	4	5	6	7	8	9	10	11	12	13
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Column #1. hrm = Harmonic; BE = Band Edge emissions

Column #2. Frequency of Transmitter.

Column #3. Uncorrected readings from the spectrum analyzer in dBuV (Highest of three First Axis Rotations)

Column #4. Average Reading based on peak reading reduced by the Duty cycle correction. (Highest of three First Axis Rotations)

Column #5. Same as Column #3 except Horizontal Receive antenna

Column #6. Same as Column #4 except Horizontal Receive antenna

Column #7. Corr. Factors = Cable Loss – Preamp Gain + Antenna Factor

Column #8. Frequency of Tested Emission

Column #9. Highest peak field strength at listed frequency.

Column #10. Highest Average field strength at listed frequency.

Column #11. Peak Limit at listed frequency. (N/A means there is not a radiated Limit)

Column #12. Average Limit at listed frequency. (N/A means there is not a radiated Limit)

Column #13. Worst case margin under limit.

Judgment: Passed by 5.3 dB

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

10.9 Unintentional Emissions (Receive Mode)

Manufacturer	Primos, Inc.	Specification	FCC Part 15.247 & RSS-210					
Model	3755-S	Test Date	July 15, 2011					
Serial Number	None	Test Distance	3 Meters					
Abbreviations	Pol = Antenna Polarization; V = Vertical; H = Horizontal; P = peak; Q = QP							
Notes	Corr. Factors = Cable Loss – Preamp Gain – Duty Cycle Factor + HP Filter Loss							
Configuration	Receive mode							

Freq. MHz	Meter Reading dBuV	Dect. Type	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
			Factor dB	Pol/ ID#		EUT	Limit	
102.4	29.9	P	10.7	H/44	-18.2	22.4	43.5	21.1
115.2	33.2	P	13.5	H/44	-18.2	28.5	43.5	15.0
166.0	36.1	P	9.8	H/44	-17.9	28.0	43.5	15.5
191.2	38.5	P	9.5	H/44	-17.7	30.3	43.5	13.2
204.0	35.2	P	9.8	H/44	-17.8	27.1	43.5	16.4
216.8	36.7	P	11.2	H/44	-17.8	30.1	46.0	15.9
231.2	41.0	P	11.7	H/44	-17.8	35.0	46.0	11.0
243.5	33.3	P	12.4	H/44	-17.8	27.9	46.0	18.1
256.4	37.2	P	12.9	H/44	-17.9	32.2	46.0	13.8
288.3	30.3	P	12.6	H/44	-17.8	25.1	46.0	20.9
320.2	30.5	P	13.5	H/44	-17.8	26.3	46.0	19.7
803.0	29.9	P	20.3	H/44	-16.0	34.1	46.0	11.9
813.7	31.2	P	21.1	H/44	-16.0	36.4	46.0	9.6
823.9	32.5	P	21.5	H/44	-15.9	38.0	46.0	8.0
75.6	30.4	P	6.8	V/44	-18.2	19.0	40.0	21.0
102.4	32.8	P	10.7	V/44	-18.2	25.3	43.5	18.2
115.2	38.0	P	13.5	V/44	-18.2	33.3	43.5	10.2
133.2	31.1	P	12.8	V/44	-18.1	25.8	43.5	17.7
166.0	32.5	P	9.8	V/44	-17.9	24.4	43.5	19.1
191.2	36.2	P	9.5	V/44	-17.7	28.0	43.5	15.5
204.0	31.2	P	9.8	V/44	-17.8	23.1	43.5	20.4
216.8	36.6	P	11.2	V/44	-17.8	30.0	46.0	16.0
230.6	40.3	P	11.6	V/44	-17.8	34.1	46.0	11.9
243.5	32.4	P	12.4	V/44	-17.8	27.0	46.0	19.0
256.4	38.2	P	12.9	V/44	-17.9	33.2	46.0	12.8
288.3	31.6	P	12.6	V/44	-17.8	26.4	46.0	19.6
312.4	29.6	P	13.5	V/44	-17.8	25.3	46.0	20.7
803.0	29.8	P	20.3	V/44	-16.0	34.1	46.0	11.9
813.7	31.7	P	21.1	V/44	-16.0	36.8	46.0	9.2
823.9	31.3	P	21.5	V/44	-15.9	36.8	46.0	9.2
875.0	28.8	P	21.3	V/44	-15.8	34.3	46.0	11.7
925.0	30.7	P	21.9	V/44	-15.6	37.0	46.0	9.0
Model Number	3756-S							
101.6	31.7	P	10.3	H/44	-18.2	23.7	43.5	19.8
143.6	34.1	P	10.5	H/44	-18.1	26.5	43.5	17.0
191.2	40.1	P	9.5	H/44	-17.7	31.9	43.5	11.6

Testing of the Primos Hunting Calls, Model 3756-S and 3755-S, Speaker

Freq. MHz	Meter Reading dBuV	Dect. Type	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
			Factor dB	Pol/ ID#		EUT	Limit	
204.0	38.6	P	9.8	H/44	-17.8	30.6	43.5	12.9
216.8	39.1	P	11.2	H/44	-17.8	32.5	46.0	13.5
230.6	40.4	P	11.6	H/44	-17.8	34.2	46.0	11.8
256.4	39.2	P	12.9	H/44	-17.9	34.2	46.0	11.8
282.1	43.1	P	12.9	H/44	-17.8	38.2	46.0	7.8
320.2	43.6	P	13.5	H/44	-17.8	39.4	46.0	6.6
346.0	39.5	P	14.8	H/44	-17.8	36.5	46.0	9.5
362.8	36.8	P	14.8	H/44	-17.8	33.8	46.0	12.2
384.0	35.4	P	14.9	H/44	-17.7	32.6	46.0	13.4
409.2	30.9	P	16.3	H/44	-17.7	29.5	46.0	16.5
486.0	29.3	P	17.3	H/44	-17.6	28.9	46.0	17.1
803.0	29.0	P	20.3	H/44	-16.0	33.2	46.0	12.8
813.6	28.3	P	21.1	H/44	-16.0	33.4	46.0	12.6
823.9	29.6	P	21.5	H/44	-15.9	35.2	46.0	10.8
101.6	38.2	P	10.3	V/44	-18.2	30.2	43.5	13.3
140.4	36.6	P	11.1	V/44	-18.0	29.7	43.5	13.8
166.0	34.2	P	9.8	V/44	-17.9	26.1	43.5	17.4
204.0	36.7	P	9.8	V/44	-17.8	28.7	43.5	14.8
216.8	40.5	P	11.2	V/44	-17.8	33.9	46.0	12.1
229.2	42.2	P	11.6	V/44	-17.8	36.1	46.0	9.9
230.6	41.9	P	11.6	V/44	-17.8	35.8	46.0	10.2
256.4	42.7	P	12.9	V/44	-17.9	37.7	46.0	8.3
282.1	43.5	P	12.9	V/44	-17.8	38.6	46.0	7.4
320.2	40.0	P	13.5	V/44	-17.8	35.7	46.0	10.3
333.1	40.3	P	13.8	V/44	-17.7	36.4	46.0	9.6
346.0	39.4	P	14.8	V/44	-17.8	36.4	46.0	9.6
362.8	34.1	P	14.8	V/44	-17.8	31.2	46.0	14.8
396.4	32.8	P	15.5	V/44	-17.7	30.6	46.0	15.4
447.9	30.0	P	16.1	V/44	-17.6	28.4	46.0	17.6
486.0	30.1	P	17.3	V/44	-17.6	29.7	46.0	16.3
803.0	30.1	P	20.3	V/44	-16.0	34.3	46.0	11.7
813.7	30.2	P	21.1	V/44	-16.0	35.3	46.0	10.7
823.9	29.5	P	21.5	V/44	-15.9	35.0	46.0	11.0

Judgment: Passed by 6.6 dB

No Emissions were detected from 1 to 5 GHz.