



TESTING
CERT #803.01, 803.02, 803.05, 803.06

ALEPH AMERICA CORP. TEST REPORT

FOR THE

OUTDOOR INTRUSION DETECTION UNIT, XC-1XT

FCC PART 15 SUBPART C SECTIONS 15.207 AND 15.245

TESTING

DATE OF ISSUE: OCTOBER 7, 2009

PREPARED FOR:

Aleph America Corp.
3901 Sandstone Dr., Suite A
El Dorado Hills, CA 95762

P.O. No.: 06-5761
W.O. No.: 89923

PREPARED BY:

Dianne Dudley
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: September 28 - October 5, 2009

Report No.: FC09-168

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ADMINISTRATIVE INFORMATION

DATE OF TEST:

September 28 – October 5, 2009

DATE OF RECEIPT:

September 28, 2009

REPRESENTATIVE:

Steve Aguilar

MANUFACTURER:

Aleph America Corp.
3901 Sandstone Dr., Suite A
El Dorado Hills, CA 95762

TEST LOCATION:

CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

TEST METHOD: ANSI C63.4 (2003)

PURPOSE OF TEST: To perform the testing of the Outdoor Intrusion Detection Unit, XC-1XT with the requirements for FCC Part 15 Subpart C Sections 15.207 & 15.245 devices.

APPROVALS

QUALITY ASSURANCE:A handwritten signature in black ink that reads "Steve Behm".

Steve Behm, Director of Engineering Services &
Quality Assurance

TEST PERSONNEL:A handwritten signature in black ink that reads "Mike Wilkinson".

Mike Wilkinson, Senior EMC Engineer/Lab
Manager

SITE FILE REGISTRATION NUMBERS

Location	Japan	Canada	FCC
Mariposa A	R-563, C-578 & T-1492	3082A-2	90477

SUMMARY OF RESULTS

Test	Specification/Method	Results
Mains Conducted Emissions	FCC 15.207	Pass
Radiated Carrier Output Emissions	FCC 15.245	Pass
Radiated Spurious Emissions	FCC 15.245	Pass

CONDITIONS DURING TESTING

No modifications to the EUT were necessary during testing.

FCC 15.33(a) Frequency Ranges Tested

15.207 Conducted Emissions: 150 kHz – 30 MHz

15.245 Radiated Emissions: 9 kHz – 60GHz

FCC 15.203 Antenna Requirements

The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

EUT Operating Frequency

The EUT was operating at 10.525 GHz.

Temperature And Humidity During Testing

The temperature during testing was within +15°C and + 35°C.

The relative humidity was between 20% and 75%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested is an Outdoor Intrusion Detection unit for perimeter protection systems.

EQUIPMENT UNDER TEST**Outdoor Intrusion Detection Unit**

Manuf: Aleph America Corp.

Model: XC-1XT

Serial: 89-923

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Power Supply

Manuf: Topward Electronic Instrument Co.

Model: TPS-4000

Serial: 918520

MEASUREMENT UNCERTAINTIES

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k=2$. Compliance is deemed to occur provided measurements are below the specified limits.

REPORT OF EMISSIONS MEASUREMENTS

TESTING PARAMETERS

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in $\text{dB}\mu\text{V}/\text{m}$, the spectrum analyzer reading in $\text{dB}\mu\text{V}$ was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dB μ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB μ V/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. The following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. When conducted emissions testing was performed, a 10 dB external attenuator was used with internal offset correction in the analyzer.

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer/receiver readings recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer/receiver. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.

FCC 15.207 MAINS CONDUCTED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.207 - AVE**

Work Order #: **89923**

Test Type: **Conducted Emissions**

Equipment: **Outdoor Intrusion Detection Unit**

Manufacturer: Aleph America Corp.

Model: XC-1XT

S/N: 89-923

Date: 10/5/2009

Time: 2:20:29 PM

Sequence#: 6

Tested By: Mike Wilkinson

120V 60Hz

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
LISN Model 8028-50- 901235 & 903750		04/22/2009	04/22/2011	AN00374
TS-24-BNC				
TTE High Pass Filter	G7753	01/22/2008	01/22/2010	AN02609
10 dB Attn	N/A	01/22/2009	01/22/2011	ANP05624
Cable #4 50'	HF-004-50	05/20/2009	05/20/2011	ANP04274

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.207

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209.

Frequency Range Investigated: 150k kHz to 30 to 30 MHz

RBW= 9kHz VBW= 30 kHz

Temperature: 22.5°C

Relative Humidity: 39%

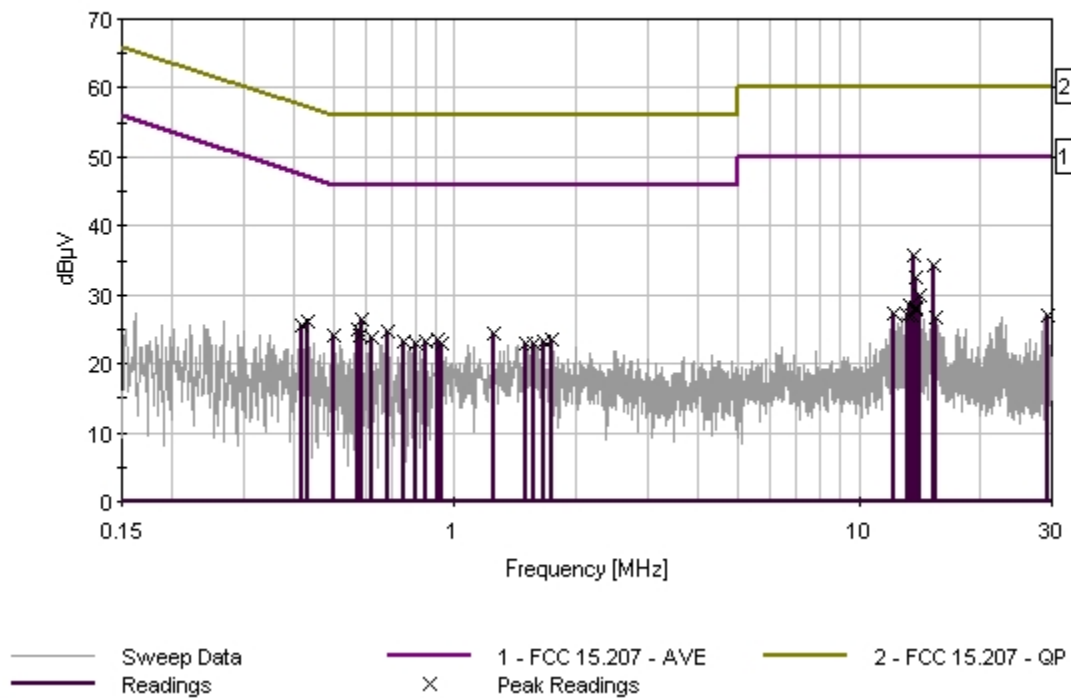
Transducer Legend:

T1=ANP05624 (10dB Attn)	T2=Filter 150kHz HP AN02609
T3=CDN-AN00374-042209-BK	T4=CAB-ANP04274-052009 30M-26GHz

Measurement Data:		Reading listed by margin.						Test Lead: Black			
#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	13.616M	24.5	+9.9	+0.2	+0.6	+0.4	+0.0	35.6	50.0	-14.4	Black
2	15.328M	23.2	+9.9	+0.2	+0.6	+0.4	+0.0	34.3	50.0	-15.7	Black
3	13.752M	21.3	+9.9	+0.2	+0.6	+0.4	+0.0	32.4	50.0	-17.6	Black
4	587.778k	16.0	+9.9	+0.3	+0.0	+0.2	+0.0	26.4	46.0	-19.6	Black
5	14.085M	18.8	+9.9	+0.2	+0.6	+0.4	+0.0	29.9	50.0	-20.1	Black
6	577.597k	14.6	+9.9	+0.3	+0.0	+0.2	+0.0	25.0	46.0	-21.0	Black
7	434.338k	15.6	+9.9	+0.2	+0.1	+0.2	+0.0	26.0	47.2	-21.2	Black
8	681.588k	14.3	+9.9	+0.3	+0.0	+0.2	+0.0	24.7	46.0	-21.3	Black
9	13.364M	17.3	+9.9	+0.2	+0.6	+0.4	+0.0	28.4	50.0	-21.6	Black
10	1.243M	13.9	+9.9	+0.2	+0.0	+0.3	+0.0	24.3	46.0	-21.7	Black
11	502.695k	13.7	+9.9	+0.3	+0.1	+0.2	+0.0	24.2	46.0	-21.8	Black
12	581.960k	13.8	+9.9	+0.3	+0.0	+0.2	+0.0	24.2	46.0	-21.8	Black
13	13.815M	17.0	+9.9	+0.2	+0.6	+0.4	+0.0	28.1	50.0	-21.9	Black
14	417.612k	15.1	+9.9	+0.2	+0.1	+0.2	+0.0	25.5	47.5	-22.0	Black
15	13.788M	16.7	+9.9	+0.2	+0.6	+0.4	+0.0	27.8	50.0	-22.2	Black
16	622.684k	13.3	+9.9	+0.3	+0.0	+0.2	+0.0	23.7	46.0	-22.3	Black
17	911.227k	13.0	+9.9	+0.2	+0.1	+0.2	+0.0	23.4	46.0	-22.6	Black
18	1.745M	12.9	+9.9	+0.2	+0.1	+0.3	+0.0	23.4	46.0	-22.6	Black
19	745.582k	12.9	+9.9	+0.3	+0.0	+0.2	+0.0	23.3	46.0	-22.7	Black
20	1.660M	12.8	+9.9	+0.2	+0.1	+0.3	+0.0	23.3	46.0	-22.7	Black
21	12.166M	16.3	+9.9	+0.1	+0.5	+0.4	+0.0	27.2	50.0	-22.8	Black
22	846.663k	12.6	+9.9	+0.3	+0.1	+0.2	+0.0	23.1	46.0	-22.9	Black
23	13.562M	16.0	+9.9	+0.2	+0.6	+0.4	+0.0	27.1	50.0	-22.9	Black

24	29.233M	15.1	+9.9	+0.2	+1.4	+0.5	+0.0	27.1	50.0	-22.9	Black
25	802.304k	12.5	+9.9	+0.3	+0.1	+0.2	+0.0	23.0	46.0	-23.0	Black
26	928.238k	12.6	+9.9	+0.2	+0.1	+0.2	+0.0	23.0	46.0	-23.0	Black
27	1.575M	12.5	+9.9	+0.2	+0.1	+0.3	+0.0	23.0	46.0	-23.0	Black
28	13.211M	15.9	+9.9	+0.2	+0.6	+0.4	+0.0	27.0	50.0	-23.0	Black
29	1.494M	12.4	+9.9	+0.2	+0.1	+0.3	+0.0	22.9	46.0	-23.1	Black
30	15.517M	15.5	+9.9	+0.2	+0.7	+0.5	+0.0	26.8	50.0	-23.2	Black

CKC Laboratories, Inc. Date: 10/5/2009 Time: 2:20:29 PM Aleph America Corp. WVO#: 89923
FCC 15.207 - AVE Test Lead: Black 120V 60Hz Sequence#: 6 Ext ATTN: 0 dB



Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.207 - AVE**

Work Order #: **89923**

Test Type: **Conducted Emissions**

Equipment: **Outdoor Intrusion Detection Unit**

Manufacturer: Aleph America Corp.

Model: XC-1XT

S/N: 89-923

Date: 10/5/2009

Time: 2:40:12 PM

Sequence#: 7

Tested By: Mike Wilkinson

120V 60Hz

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
LISN Model 8028-50- 901235 & 903750		04/22/2009	04/22/2011	AN00374
TS-24-BNC				
TTE High Pass Filter	G7753	01/22/2008	01/22/2010	AN02609
10 dB Attn	N/A	01/22/2009	01/22/2011	ANP05624
Cable #4 50'	HF-004-50	05/20/2009	05/20/2011	ANP04274

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.207

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209.

Frequency Range Investigated: 150k kHz to 30 to 30 MHz

RBW= 9kHz VBW= 30 kHz

Temperature: 22.5°C

Relative Humidity: 39%

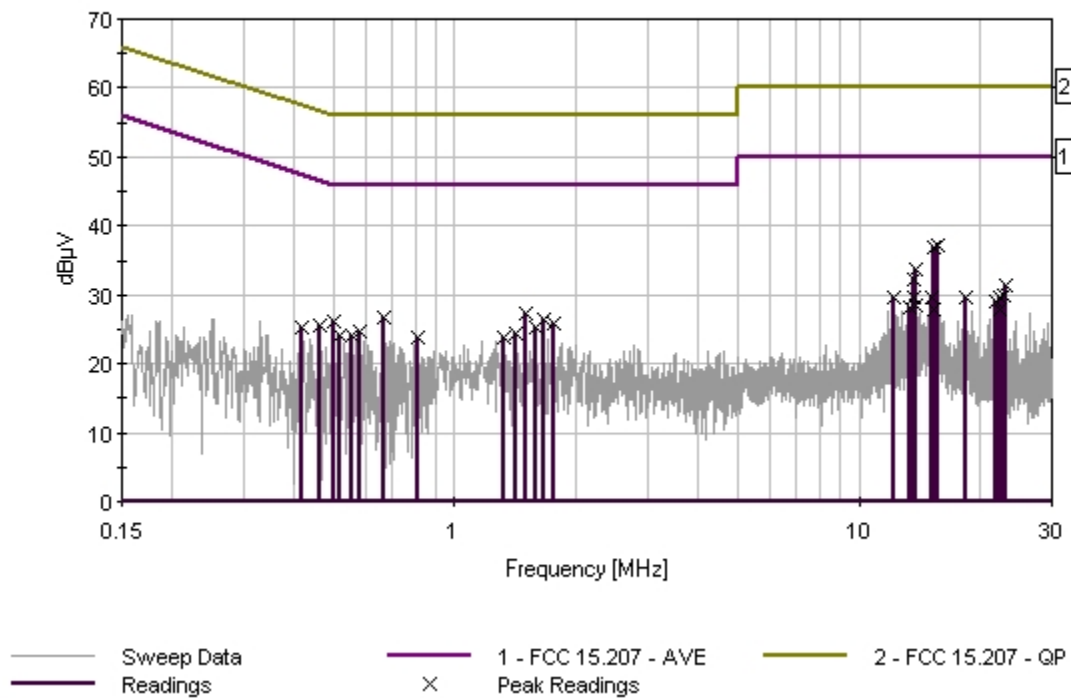
Transducer Legend:

T1=ANP05624 (10dB Attn)	T2=Filter 150kHz HP AN02609
T3=CDN-AN00374-042209-WT	T4=CAB-ANP04274-052009 30M-26GHz

Measurement Data:		Reading listed by margin.						Test Lead: White			
#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	15.607M	25.5	+9.9	+0.2	+1.1	+0.5	+0.0	37.2	50.0	-12.8	White
2	15.328M	25.2	+9.9	+0.2	+1.1	+0.4	+0.0	36.8	50.0	-13.2	White
3	13.752M	22.1	+9.9	+0.2	+1.0	+0.4	+0.0	33.6	50.0	-16.4	White
4	13.616M	20.8	+9.9	+0.2	+1.0	+0.4	+0.0	32.3	50.0	-17.7	White
5	23.130M	19.2	+9.9	+0.2	+1.6	+0.5	+0.0	31.4	50.0	-18.6	White
6	1.494M	16.2	+9.9	+0.2	+0.6	+0.3	+0.0	27.2	46.0	-18.8	White
7	664.862k	15.8	+9.9	+0.3	+0.5	+0.2	+0.0	26.7	46.0	-19.3	White
8	1.660M	15.4	+9.9	+0.2	+0.6	+0.3	+0.0	26.4	46.0	-19.6	White
9	499.786k	15.1	+9.9	+0.3	+0.5	+0.2	+0.0	26.0	46.0	-20.0	White
10	1.749M	14.9	+9.9	+0.2	+0.6	+0.3	+0.0	25.9	46.0	-20.1	White
11	22.887M	17.7	+9.9	+0.2	+1.6	+0.5	+0.0	29.9	50.0	-20.1	White
12	13.688M	18.2	+9.9	+0.2	+1.0	+0.4	+0.0	29.7	50.0	-20.3	White
13	15.130M	18.1	+9.9	+0.2	+1.1	+0.4	+0.0	29.7	50.0	-20.3	White
14	22.211M	17.6	+9.9	+0.2	+1.5	+0.5	+0.0	29.7	50.0	-20.3	White
15	12.157M	18.3	+9.9	+0.1	+0.9	+0.4	+0.0	29.6	50.0	-20.4	White
16	18.310M	17.8	+9.9	+0.2	+1.2	+0.5	+0.0	29.6	50.0	-20.4	White
17	1.579M	14.4	+9.9	+0.2	+0.6	+0.3	+0.0	25.4	46.0	-20.6	White
18	462.699k	14.7	+9.9	+0.3	+0.5	+0.2	+0.0	25.6	46.6	-21.0	White
19	21.905M	16.9	+9.9	+0.2	+1.5	+0.5	+0.0	29.0	50.0	-21.0	White
20	583.415k	13.9	+9.9	+0.3	+0.5	+0.2	+0.0	24.8	46.0	-21.2	White
21	1.409M	13.5	+9.9	+0.2	+0.5	+0.3	+0.0	24.4	46.0	-21.6	White
22	13.896M	16.9	+9.9	+0.2	+1.0	+0.4	+0.0	28.4	50.0	-21.6	White
23	556.508k	13.3	+9.9	+0.3	+0.5	+0.2	+0.0	24.2	46.0	-21.8	White

24	13.364M	16.6	+9.9	+0.2	+1.0	+0.4	+0.0	28.1	50.0	-21.9	White
25	520.875k	13.1	+9.9	+0.3	+0.5	+0.2	+0.0	24.0	46.0	-22.0	White
26	417.612k	14.7	+9.9	+0.2	+0.4	+0.2	+0.0	25.4	47.5	-22.1	White
27	812.485k	12.9	+9.9	+0.3	+0.6	+0.2	+0.0	23.9	46.0	-22.1	White
28	15.247M	16.3	+9.9	+0.2	+1.1	+0.4	+0.0	27.9	50.0	-22.1	White
29	22.400M	15.8	+9.9	+0.2	+1.5	+0.5	+0.0	27.9	50.0	-22.1	White
30	1.328M	12.9	+9.9	+0.2	+0.5	+0.3	+0.0	23.8	46.0	-22.2	White

CKC Laboratories, Inc. Date: 10/5/2009 Time: 2:40:12 PM Aleph America Corp. WVO#: 89923
FCC 15.207 - AVE Test Lead: White 120V 60Hz Sequence#: 7 Ext ATTN: 0 dB



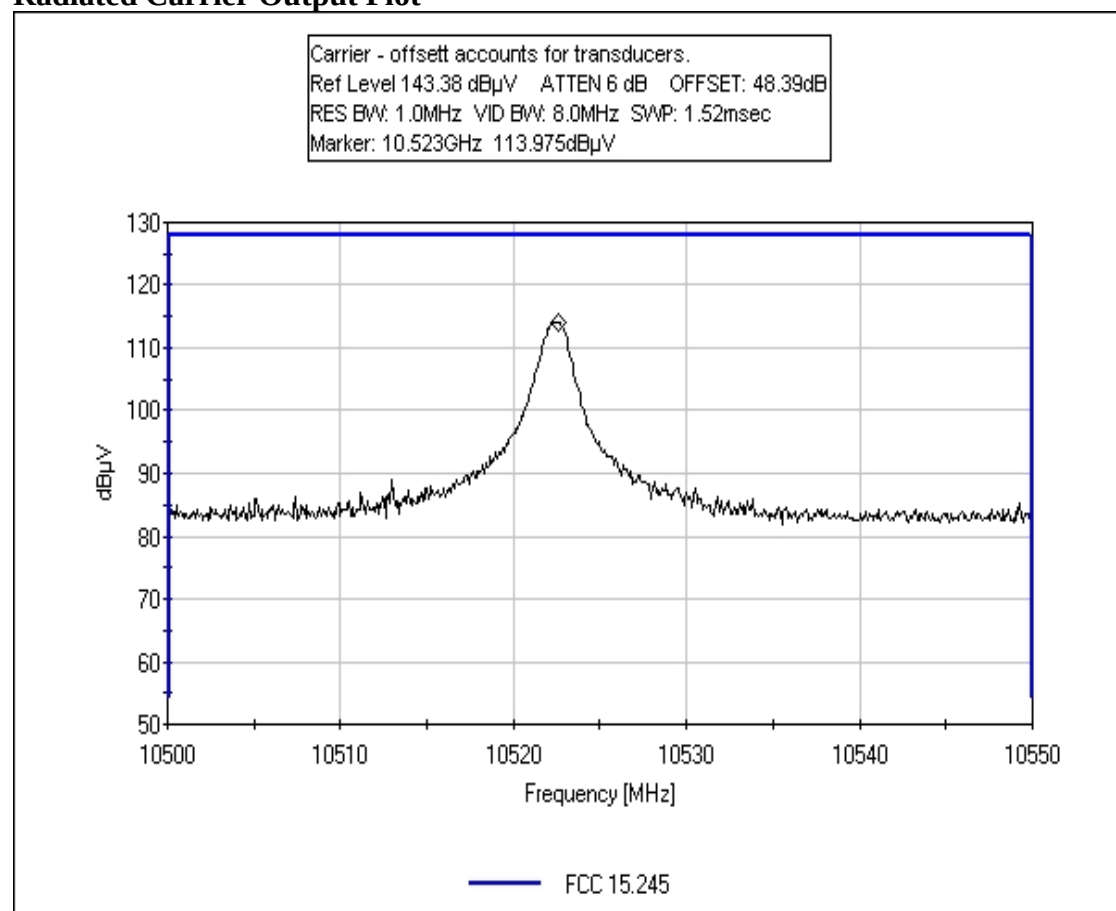
FCC 15.225 CARRIER OUTPUT RADIATED EMISSIONS

Test Setup Photos



Test Data Sheets

Radiated Carrier Output Plot



Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.245**

Work Order #: **89923**

Date: 9/29/2009

Test Type: **Maximized Emissions**

Time: 12:51:02

Equipment: **Outdoor Intrusion Detection Unit**

Sequence#: 1

Manufacturer: Aleph America Corp.

Tested By: Mike Wilkinson

Model: XC-1XT

S/N: 89-923

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
EMCO 3115 Horn Antenna	9006-3413	06/06/2008	06/06/2010	AN00327
HF Cable	none	06/09/2009	06/09/2011	ANP05904
Cable, 10' 2.92mm 40 na GHz		06/10/2009	06/10/2011	ANP01403

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.245 (b) Fundamental and FCC 15.31e.

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209. Voltage variations performed via DC power supply $\pm 15\%$ of Nominal DC input, in accordance with FCC 15.31e.

Frequency Range Investigated: Carrier

Temperature: 19°

Relative Humidity: 39%

Transducer Legend:

T1=ANT AN00327 1GHz-18GHz
T3=CAB-ANP05904-060909

T2=CAB-ANP01403-061009

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	10522.420 M	65.4	+38.2	+5.3	+4.5		+0.0	113.4	128.0	-14.6	Horiz
Nominl Voltage											
2	10522.420 M	65.3	+38.2	+5.3	+4.5		+0.0	113.3	128.0	-14.7	Horiz
-15% DC Voltage											
3	10522.420 M	65.2	+38.2	+5.3	+4.5		+0.0	113.2	128.0	-14.8	Horiz
+15% DC Voltage											
4	10522.480 M	51.4	+38.2				+0.0	89.6	128.0	-38.4	Vert

FCC 15.225 SPURIOUS RADIATED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.245**

Work Order #: **89923**

Date: 10/2/2009

Test Type: **Maximized Emissions**

Time: 14:40:39

Equipment: **Outdoor Intrusion Detection Unit**

Sequence#: 3

Manufacturer: Aleph America Corp.

Tested By: Mike Wilkinson

Model: XC-1XT

S/N: 89-923

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
HF Cable	none	06/09/2009	06/09/2011	ANP05904
Cable, 10' 2.92mm 40 na GHz		06/10/2009	06/10/2011	ANP01403
Loop Ant	1074	04/10/2009	04/10/2011	AN00226

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.245 (b) Spurs

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209.

Frequency Range Investigated: 9 kHz to 30 MHz

RBW 9 kHz - 150 Khz = 200 Hz, VBW = 1 kHz

RBW .15 - 30 MHz = 9 kHz, VBW=30kHz.

Temperature: 22.5°C

Rel Humidity: 39%

Transducer Legend:

T1=CAB-ANP05904-060909

T2=CAB-ANP01403-061009

T3=Mag Loop - AN 00226 - 9kHz-30M

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	20.007M	24.0	+0.3	+0.2	+9.1	-40.0	-6.4	29.5	-35.9	Vert
2	8.007M	23.1	+0.3	+0.2	+9.2	-40.0	-7.2	29.5	-36.7	Horiz
3	16.007M	22.0	+0.3	+0.2	+10.3	-40.0	-7.2	29.5	-36.7	Vert
4	12.007M	20.7	+0.3	+0.2	+9.8	-40.0	-9.0	29.5	-38.5	Horiz
5	24.007M	14.3	+0.3	+0.2	+7.4	-40.0	-17.8	29.5	-47.3	Vert
6	28.007M	12.7	+0.3	+0.2	+5.9	-40.0	-20.9	29.5	-50.4	Horiz

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.245**

Work Order #: **89923**

Date: 10/1/2009

Test Type: **Maximized Emissions**

Time: 12:51:08

Equipment: **Outdoor Intrusion Detection Unit**

Sequence#: 2

Manufacturer: Aleph America Corp.

Tested By: Mike Wilkinson

Model: XC-1XT

S/N: 89-923

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
HF Cable	none	06/09/2009	06/09/2011	ANP05904
Cable, 10' 2.92mm 40 na GHz		06/10/2009	06/10/2011	ANP01403
HP-8447D Preamp	2727A05444	06/20/2008	06/20/2010	AN00062
Antenna, Bilog	2455	12/22/2008	12/22/2010	AN01992

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.245 (b) Spurs

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209.

Frequency Range Investigated: 30-1000 MHz

RBW= 120 kHz VBW= 300 kHz

Temperature: 22.5°C

Rel Humidity: 39%

Transducer Legend:

T1=CAB-ANP01403-061009	T2=CAB-ANP05904-060909
T3=AMP-AN00062-062008	T4=ANT AN01992 25-1000MHz

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	80.000M	53.3	+0.4	+0.5	-30.7	+7.8	+0.0	31.3	40.0	-8.7	Vert
2	79.821M	48.8	+0.4	+0.5	-30.7	+7.8	+0.0	26.8	40.0	-13.2	Horiz
3	400.007M	43.2	+0.9	+1.0	-30.3	+16.5	+0.0	31.3	46.0	-14.7	Horiz
4	240.007M	43.4	+0.7	+0.8	-29.8	+12.0	+0.0	27.1	46.0	-18.9	Horiz
5	480.007M	37.3	+1.0	+1.0	-30.5	+18.2	+0.0	27.0	46.0	-19.0	Horiz
6	320.007M	39.5	+0.8	+0.9	-29.7	+14.3	+0.0	25.8	46.0	-20.2	Horiz
7	176.000M	42.8	+0.6	+0.7	-30.1	+9.3	+0.0	23.3	43.5	-20.2	Vert
8	224.000M	31.7	+0.7	+0.8	-29.8	+10.8	+0.0	14.2	46.0	-31.8	Vert

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.245**

Work Order #: **89923**

Date: 10/2/2009

Test Type: **Maximized Emissions**

Time: 15:45:22

Equipment: **Outdoor Intrusion Detection Unit**

Sequence#: 4

Manufacturer: Aleph America Corp.

Tested By: Mike Wilkinson

Model: XC-1XT

S/N: 89-923

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
HF Cable	none	06/09/2009	06/09/2011	ANP05904
Cable, 10' 2.92mm 40 na GHz		06/10/2009	06/10/2011	ANP01403
Preamplifier HP83051A	3332A00309	11/13/2008	11/13/2010	AN02115
EMCO 3115 Horn Antenna	9006-3413	06/06/2008	06/06/2010	AN00327
ARA MWH-1826/B Horn Antenna	1005	11/12/2008	11/12/2010	AN02046
ARA MWH-2640/B Horn Antenna	01012	11/13/2008	11/13/2010	AN02045

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.245 (b) Spurs

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209. Voltage variations performed via DC power supply $\pm 15\%$ of Nominal DC input.

Frequency Range Investigated: 1 to 40 GHz
RBW= 11MHz VBW= 3 MHz

Temperature: 22.5°C
Rel Humidity: 39%

Transducer Legend:

T1=CAB-ANP01403-061009	T2=CAB-ANP05904-060909
T3=Amp 50 GHz AN02115	T4=ANT-AN02046-111308-18-26GHz
T5=ANT- AN02045-010808 26-40GHz	

Measurement Data:		Reading listed by margin.					Test Distance: 3 Meters				
#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	31563.020	42.9	+10.9	+8.7	-33.2	+0.0	+0.0	66.7	77.5	-10.8	Vert
	M		+37.4								
	Ave										
^	31563.020	66.8	+10.9	+8.7	-33.2	+0.0	+0.0	90.6	77.5	+13.1	Vert
	M		+37.4								
3	31562.780	41.4	+10.9	+8.7	-33.2	+0.0	+0.0	65.2	77.5	-12.3	Horiz
	M		+37.4								
	Ave										
^	31562.780	65.0	+10.9	+8.7	-33.2	+0.0	+0.0	88.8	77.5	+11.3	Horiz
	M		+37.4								
5	21041.780	49.1	+7.6	+6.6	-32.8	+32.8	+0.0	63.3	77.5	-14.2	Vert
	M		+0.0								
	Ave										
^	21041.780	76.2	+7.6	+6.6	-32.8	+32.8	+0.0	90.4	77.5	+12.9	Vert
	M		+0.0								
7	21041.780	48.6	+7.6	+6.6	-32.8	+32.8	+0.0	62.8	77.5	-14.7	Horiz
	M		+0.0								
	Ave										
^	21041.750	75.4	+7.6	+6.6	-32.8	+32.8	+0.0	89.6	77.5	+12.1	Horiz
	M		+0.0								

Test Location: CKC Laboratories, Inc. • 5046 Sierra Pines Dr. • Mariposa CA, 95338 • 800-500-4EMC (4362)

Customer: **Aleph America Corp.**

Specification: **FCC 15.245**

Work Order #: **89923**

Date: 10/1/2009

Test Type: **Maximized Emissions**

Time: 15:10:17

Equipment: **Outdoor Intrusion Detection Unit**

Sequence#: 3

Manufacturer: Aleph America Corp.

Tested By: Mike Wilkinson

Model: XC-1XT

S/N: 89-923

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
E4446A	US44300507	07/07/2008	07/07/2010	02660
HF Cable	none	06/09/2009	06/09/2011	ANP05904
Cable, 10' 2.92mm 40 na GHz		06/10/2009	06/10/2011	ANP01403
HP-8447D Preamp	2727A05444	06/20/2008	06/20/2010	AN00062
Antenna, Bilog	2455	12/22/2008	12/22/2010	AN01992
Horn Antenna and Harmoic Mixer 40-60 GHz	M19HWA	04/29/2009	04/29/2011	AN02347
Spectrum Analyzer 8564E	3623A00539	10/16/2008	10/16/2010	AN01406

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Outdoor Intrusion Detection Unit*	Aleph America Corp.	XC-1XT	89-923

Support Devices:

Function	Manufacturer	Model #	S/N
Power Supply	Topward Electronic Instrument Co.	TPS-4000	918520

Test Conditions / Notes:

FCC 15.245 (b) Spurs

The equipment is an intrusion detection system operating at 10.525GHz. The equipment is placed on a styrofoam support at 80cm table height. The signal and power cable is routed to the floor of the test facility. The power supply is located under the floor and is set to provide 12VDC to the equipment. The limit employed for all frequencies below 17.7GHz is that of 15.209. Voltage variations performed via DC power supply $\pm 15\%$ of Nominal DC input.

Frequency Range Investigated: 40-60- GHz
RBW=1 MHz VBW= 3 MHz

Temperature: 19°
Rel Humidity: 39%

Transducer Legend:

T1=ANT-AN02347-042909

T2=CAB-ANP05904-060909-40 to 60GHz

Measurement Data:

Reading listed by margin.

Test Distance: .5 Meter

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB			Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	52810.810 M Ave	44.5	+32.1	+3.2			-16.0	63.8	77.5	-13.7	Vert
^	52810.810 M	61.7	+32.1	+3.2			-16.0	81.0	77.5	+3.5	Vert
^	52810.810 M	45.3	+32.1	+3.2			-16.0	64.6	77.5	-12.9	Vert
Noise Floor											
4	52813.190 M Ave	44.5	+32.1	+3.2			-16.0	63.8	77.5	-13.7	Horiz
^	52813.170 M	62.7	+32.1	+3.2			-16.0	82.0	77.5	+4.5	Horiz
6	52857.670 M	42.3	+32.1	+3.2			-16.0	61.6	77.5	-15.9	Horiz
Noise Floor											