



	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

COMPLIANCE TEST REPORT		FCC PART 95D RSS-236	EMC/RF MEASUREMENT REPORT	
Test Lab Information	Name	CELLTECH LABS INCORPORATED		
	Address	21-364 Lougheed Road, Kelowna, British Columbia V1X 7R8 Canada		
Test Lab Accreditation(s)	A2LA	ISO 17025:2005 (A2LA Test Lab Certificate No. 2470.01)		
Test Site Registration No.	FCC	Accredited Site		
	IC	3874A-1		
Applicant Information	Name	UNIDEN AMERICA CORPORATION		
	Address	6225 North State Highway 161, Suite 300 Irving, Texas 75038		
Measurement Standard(s) & Procedure(s) Applied	FCC Ind. Can.	47 CFR Part 95 Subpart D RSS-236		
	ANSI	TIA/EIA-382-A	C63.4-2003	
Device Classification(s)	FCC/IC	Licensed Non-Broadcast Station Transmitter (TNB)		
Device RF Exposure Category	FCC	Mobile		
Device Identifier(s)	FCC ID: Ind. Can.	AMWUT396 513C-UT396		
Application Type	FCC/IC	Certification		
Device Under Test (DUT)	Mobile CB Radio Transceiver with Weather Alert			
Date of Sample Receipt	31 July, 2013			
Date(s) of Evaluation	1 Aug, 2013 – 9 Aug 2013			
Device Model(s)	Bearcat PC687W			
Test Sample Serial No.(s)	TA Sample - Identical Prototype			
Transmit Frequency Range(s)	26.965 - 27.405 MHz			
Channels	1-40			
Rated TX Power	4W (36dBm)			
Modulation Type(s)	AM			
Emission Designator(s)	6K00A3E			
Antenna	External Whip, 0dBi nominal (3dBi maximum).			
Power Source(s) Tested	12 VDC Battery, DC Power Supply (13.8 V)			
<p>This wireless device has demonstrated compliance with the applicable technical standards indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC 47 CFR Rule Parts 2, Part 15B and Part 95D, RSS-236, RSS-GEN ANSI TIA/EIA-382-A and ANSI C63.4-2003.</p> <p>I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.</p> <p>The results and statements contained in this report pertain only to the device(s) evaluated.</p> <p>This test report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc.</p>				
Test Report Approved By		Glen Westwell	8/13/2013	Celltech Labs Inc.

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert	Frequency Range:	26.965 - 27.405 MHz			
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	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	



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Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

TEST SUMMARY					
Referenced Standard(s):		FCC CFR Title 47 Parts 2, 95(D), 15(B)			
Appendix	Description of Test	Procedure Reference	Limit Reference	Date of compliance test verification	Result
A	Conducted Power	ANSI/TIA/EIA-382-A	§2.1033, 95 RSS-236	8/13/2013	Pass
B	Modulation Limiting	ANSI/TIA/EIA-382-A	§2.1047, 95 RSS-236	8/13/2013	Pass
C	Audio Frequency Response	ANSI/TIA/EIA-382-A	§2.1047, 95 RSS-236	8/13/2013	Pass
D	Occupied Bandwidth and Emission Mask	ANSI/TIA/EIA-382-A	§2.1049, 95 RSS-236	8/13/2013	Pass
E	Conducted TX Spurious Emissions	ANSI/TIA/EIA-382-A	§2.1053, 95 RSS-236	8/13/2013	Pass
F	Radiated TX Spurious Emissions	ANSI/TIA/EIA-382-A	§2.1053, 95 RSS-236	8/13/2013	Pass
	Radiated Spurious Emissions	ANSI C63.4:2003	§15 Subpart B ICES-003	8/13/2013	Pass
G	Frequency Stability	ANSI/TIA/EIA-382-A	§2.1055, 95 RSS-236	8/13/2013	Pass


Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

### REVISION LOG

Revision	Description	Implemented By	Implementation Date
1.0	1st Release	Glen Westwell	8/13/2013

Test Report Prepared By	Date	QA Review By	Date
Glen Westwell	8/13/2013	Mike Meaker	8/13/2013

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	
					Test Lab Certificate No. 2470.01

## 1.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the Uniden America Corporation CB Radio Transceiver FCC/IC: AMWUT396/513C-UT396. The measurement results were applied against the applicable EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communication's Commission Code of Federal Regulations Title 47 Part 2, Part 95 Subpart D and RSS-236.


## 2.0 REFERENCES



### 2.1 Normative References

ANSI/ISO 17025:2005	General Requirements for competence of testing and calibration laboratories
IEEE/ANSI 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
ANSI/TIA/EIA-382-A	Citizens Band Radio Service Amplitude Modulated (AM) Transceivers Operating in the 27 MHz Band
CFR Title 47 Part 2	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
CFR Title 47 Part 95	Code of Federal Regulations Title 47: Telecommunication Part 95: Personal Radio Services Subpart D - Citizens Band (CB) Radio Service
Industry Canada	RSS-236, RSS-GEN

## 3.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criteria is the limit set forth in the reference standards. The DUT is considered to have passed the requirements if the data collected during the described measurement procedure is no greater than the specified limits as defined. The pass/fail statements made in this report only apply to the unit tested.

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	
					Test Lab Certificate No. 2470.01


#### 4.0 FACILITIES AND ACCREDITATIONS

The facilities used in collecting the test results outlined in this report are located at 21-364 Lougheed Road, Kelowna, British Columbia, Canada V1X 7R8. The radiated emissions site conforms to the requirements set forth in ANSI C63.4 and is filed and listed with Industry Canada under File Number IC 3874A-1. Celltech test site is listed with the FCC as an accredited test facility.



#### 5.0 GENERAL INFORMATION

##### 5.1 DUT Description & Specifications

Device Type	Mobile CB Radio Transceiver with Weather Alert	
Device Model(s)	Bearcat PC687W	
Test Sample Serial No.	T/A Sample - Identical Prototype	
Device Identifier(s)	FCC ID: Ind. Can.:	AMWUT396 513C-UT396
Transmit Frequency Range	26.965 - 27.405 MHz (Chan. 1-40)	
No. of Channels	40	
Manuf. Rated Output Power	36.0dBm (Conducted)	
RF Output Power Tested	35.5 (Conducted)	
Modulation	AM	
Emission Designator	6k00A3E  Bn = 2M M = 3000 Bn = 6000	
DUT Power Source	12 VDC Battery, DC Power Supply (13.8 V)	
Type of Equipment	Mobile Licensed Non-Broadcast Station Transmitter (TNB)	
Deviation(s) from standard/procedure	None	
Modification of DUT	None	
Applicable Standards	EIA/TIA-382-A, FCC CFR 47 Part 95, RSS-GEN, RSS-236	

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

#### A.4 TEST RESULTS: COMPLIES

Transmit Power			
	Measured (dBm)	Rated (dBm)	Margin (dB)
Ch. 1	35.5	36.0	0.5
Ch. 20	35.3	36.0	0.7
Ch. 40	35.2	36.0	0.8

#### A.5 SIGN-OFF


I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.





Glen Westwell  
Lab Manager  
Celltech Labs Inc.

8/13/2013

Date

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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 Testing and Engineering Services Ltd	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	 Test Lab Certificate No. 2470.01
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## Appendix B Modulation Characteristics (Modulation Limiting)

### B.1 REFERENCES

**Normative Reference Standard** FCC CFR 47 §2.1047, Part 95D, 95.637, RSS-236, 5.3.2

### B.2 LIMITS

FCC §2.1047 Modulation can not exceed 100%

### B.3 ENVIRONMENTAL CONDITIONS

**Temperature** 15 +/- 5 °C

**Humidity** 40 +/- 10 %

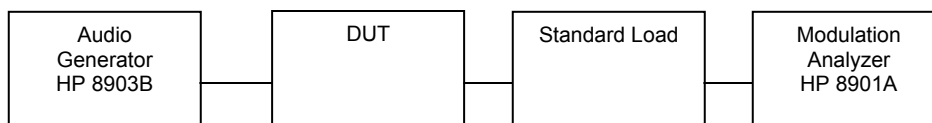
**Barometric Pressure** 101 +/- 3 kPa


### B.4 EQUIPMENT LIST



ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	CAL DUE
00028	HP	8901A	Modulation Analyzer	21Jul14
00027	HP	8903B	Audio Generator/Analyzer	21Jul14

### B.5 SETUP DRAWING

Figure B.5-1 - Setup Drawing – Modulation Characteristics

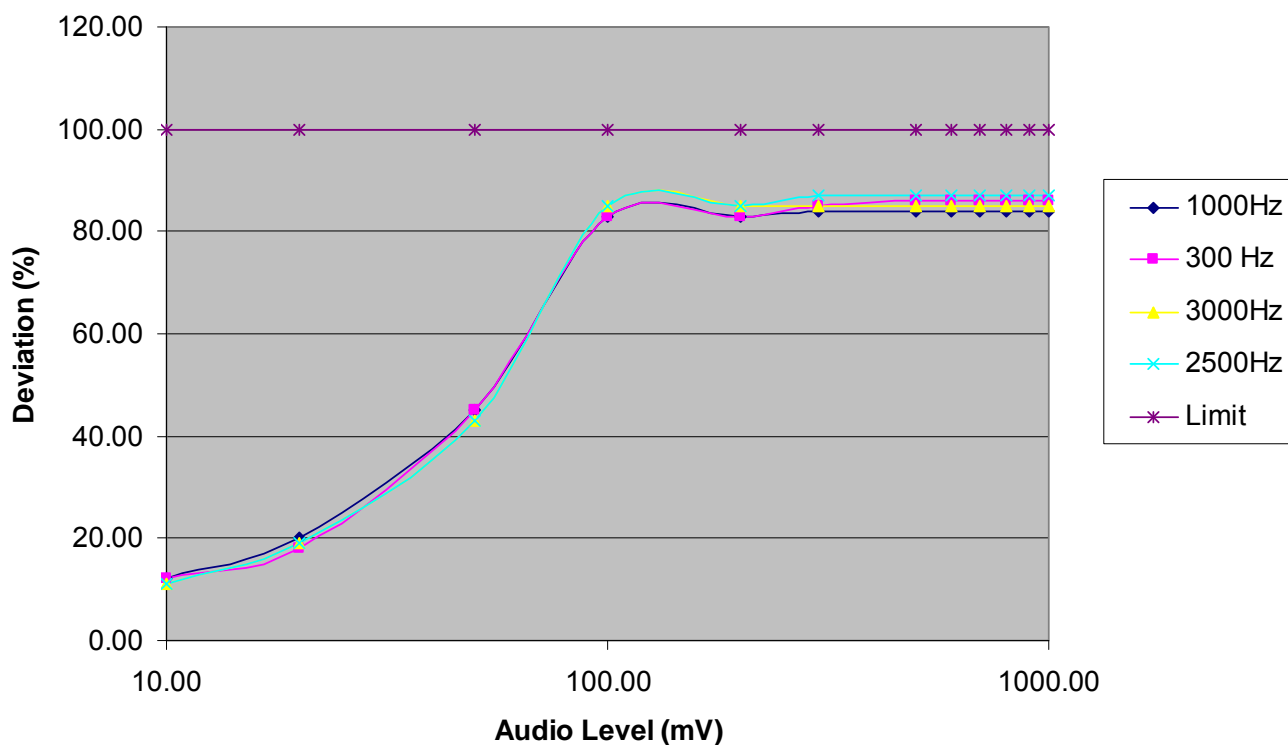


<b>Applicant:</b>	<b>Uniden America Corporation</b>	<b>FCC ID:</b>	<b>AMWUT396</b>	<b>Model(s):</b>	<b>Bearcat PC687W</b>	
		<b>Ind. Can.:</b>	<b>513C-UT396</b>			
<b>DUT Type:</b>	<b>AM Mobile CB Radio Transceiver with Weather Alert</b>		<b>Frequency Range:</b>		<b>26.965 - 27.405 MHz</b>	
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 Testing and Engineering Services Ltd	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	 Test Lab Certificate No. 2470.01
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## B.6 TEST RESULTS: COMPLIES

### Modulation Limiting - Uniden PC 687W



## B.7 SIGN-OFF


I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.



Glen Westwell  
Lab Manager  
Celltech Labs Inc.


8/13/2013



Date

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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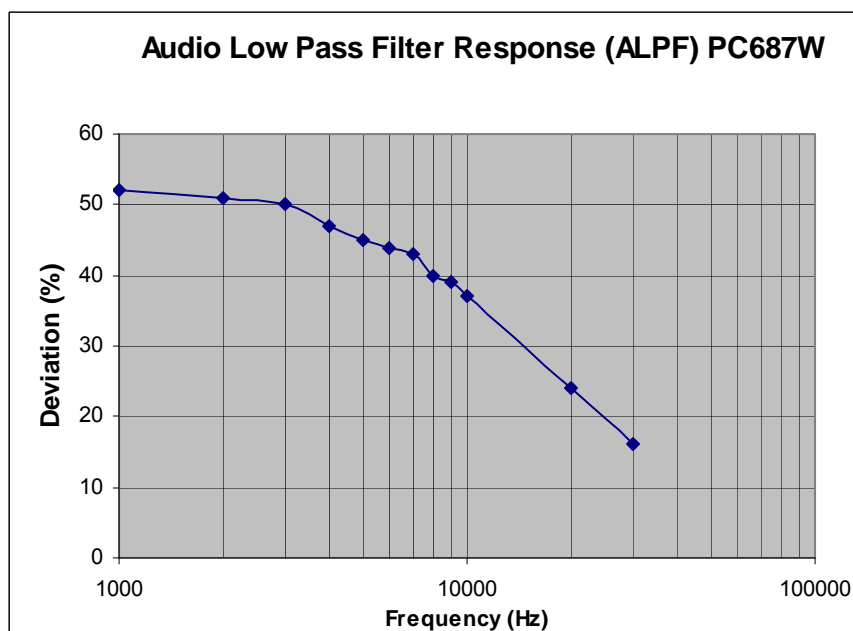
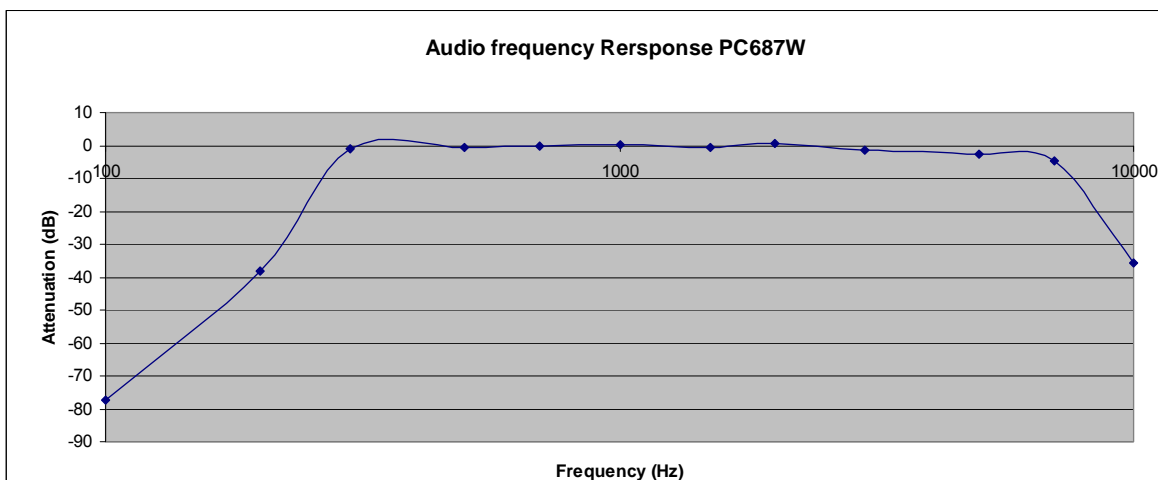
Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013
Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0
Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236 RSS GEN	Test Site Registration(s):	FCC Accredited Site



<b>Applicant:</b>	<b>Uniden America Corporation</b>	<b>FCC ID: Ind. Can.:</b>	<b>AMWUT396 513C-UT396</b>	<b>Model(s):</b>	<b>Bearcat PC687W</b>	
<b>DUT Type:</b>	<b>AM Mobile CB Radio Transceiver with Weather Alert</b>			<b>Frequency Range:</b>	<b>26.965 - 27.405 MHz</b>	
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 Testing and Engineering Services Ltd	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	 Test Lab Certificate No. 2470.01
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## C.6 TEST RESULTS : COMPLIES






## C.7 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.



Glen Westwell  
Lab Manager  
Celltech Labs Inc, 8<sup>th</sup> Aug 2013

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## Appendix D Occupied Bandwidth and Emission Mask

### D.1 REFERENCES

<b>Normative Reference Standard</b>	FCC CFR 47 §2.1049, §95.635, RSS-236, 5.4.4
<b>Procedure Reference / Description</b>	Occupied bandwidth was performed by connecting the output of the DUT to the input of a spectrum analyzer. The unit was supplied a 2500Hz audio signal adjusted to 50% plus 16dB.

### D.2 LIMITS

§95.635 RSS-236, 5.4.4	<p>At least 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.</p> <p>At least 35 dB on any frequency removed from the center of the authorized bandwidth by more than 100% up to and including 250% of the authorized bandwidth.</p> <p>At least <math>53 + 10 \log_{10}(T)</math> dB on any frequency removed from the center of the authorized bandwidth by more than 250%.</p>
---------------------------	--

### D.3 ENVIRONMENTAL CONDITIONS

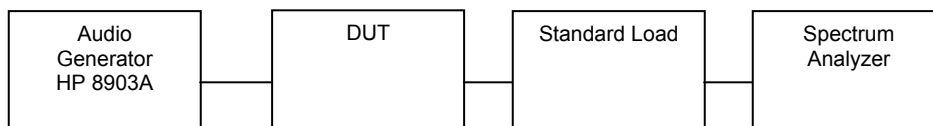
<b>Temperature</b>	10 °C
<b>Humidity</b>	40 +/- 10 %
<b>Barometric Pressure</b>	101 +/- 3 kPa


### D.4 EQUIPMENT LIST


ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	CAL DUE
00051	HP	8566B	Spectrum Analyzer RF Section	03-May-14
00047	HP	85685A	RF Preselector	05-May-14
00027	HP	8903B	Audio Generator/Analyzer	21-Jul-14



### D.5 SETUP DRAWING

Figure D.5-1 - Setup Drawing – Occupied Bandwidth & Emission Mask



<b>Applicant:</b>	Uniden America Corporation	<b>FCC ID:</b>	AMWUT396	<b>Model(s):</b>	Bearcat PC687W	
		<b>Ind. Can.:</b>	513C-UT396			
<b>DUT Type:</b>	AM Mobile CB Radio Transceiver with Weather Alert		<b>Frequency Range:</b>		26.965 - 27.405 MHz	
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Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

## Appendix E Spurious Emissions at the Antenna Terminal

### E.1 REFERENCES

**Normative Reference Standard** FCC CFR 47 §2.1051, Part 95D, 95.635; RSS-236, 5.4.4, RSS-GEN

### E.2 LIMITS

Part 95D: 95.635  
RSS-236: 5.4.4

$53 + 10 \log(P_o) = 59\text{dBc}$ ,  $60\text{dBc} \geq$  twice the fundamental frequency.

### E.3 ENVIRONMENTAL CONDITIONS

**Temperature** 25 +/- 5 °C

**Humidity** 40 +/- 10 %

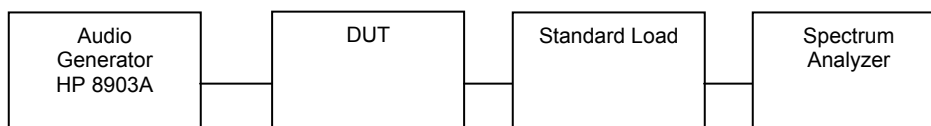
**Barometric Pressure** 101 +/- 3 kPa

### E.4 EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	CAL DUE
00027	HP	8903B	Audio Generator/Analyzer	21-Jul-14
00099	Mini-Circuits	BHP-50	High Pass Filter	Cal on use
00241	R&S	FSU40	Spectrum Analyzer	04-Sep-15

### E.5 SETUP DRAWING

Figure E.5-1 - Setup Drawing – Occupied Bandwidth & Emission Mask




#### Notes:

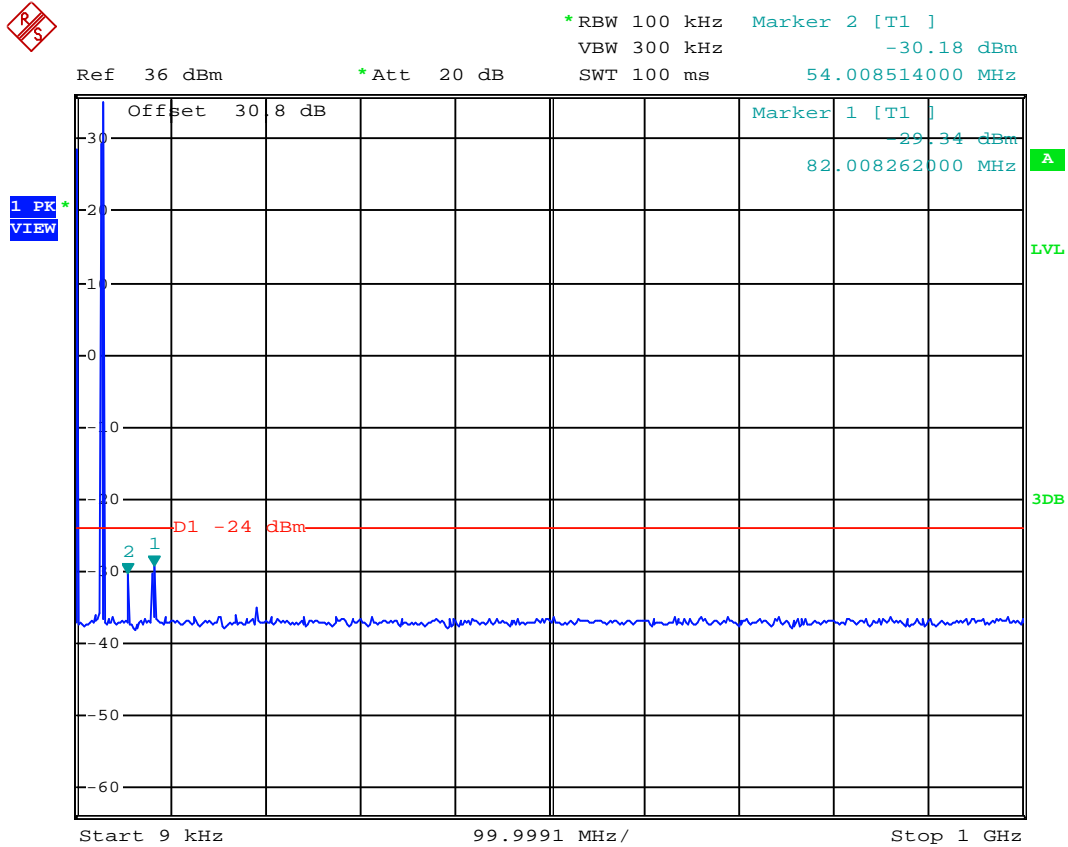
- The spectrum was searched from 9 kHz to 1GHz.
- All detected emissions have been reported.

#### Detected Emissions

Emission Frequency	Level	Level	Limit	Margin
[MHz]	[dBm]	[dBc]	[dBc]	[dB]
23.69	-38.0	74.0	60	-14.0
26.9	-35.1	71.1	60	-11.1
54.4	-29.7	65.7	60	-5.7
81.6	-29.5	65.5	60	-5.5
190.44	-36.9	72.9	60	-12.9



Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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## E.6 TEST RESULTS: COMPLIES



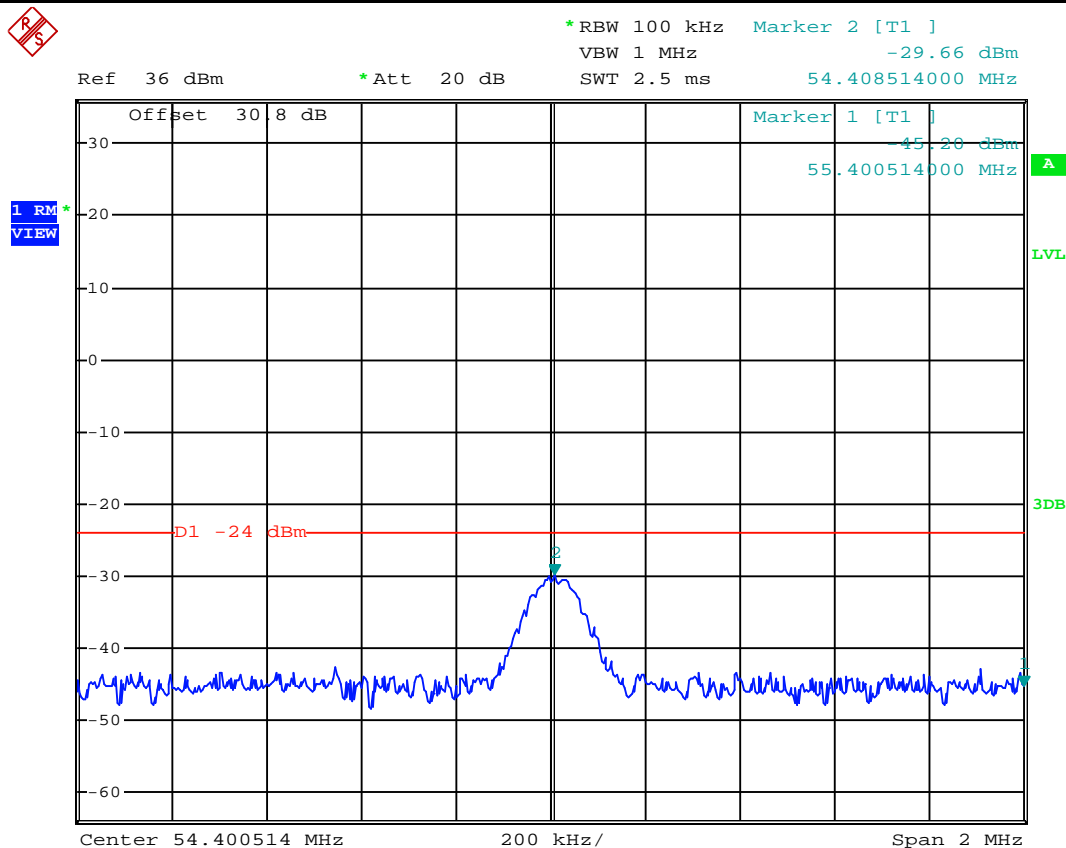
Date: 7.AUG.2013 19:37:19




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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	



Test Lab Certificate No. 2470.01

## E.7 TEST RESULTS: COMPLIES

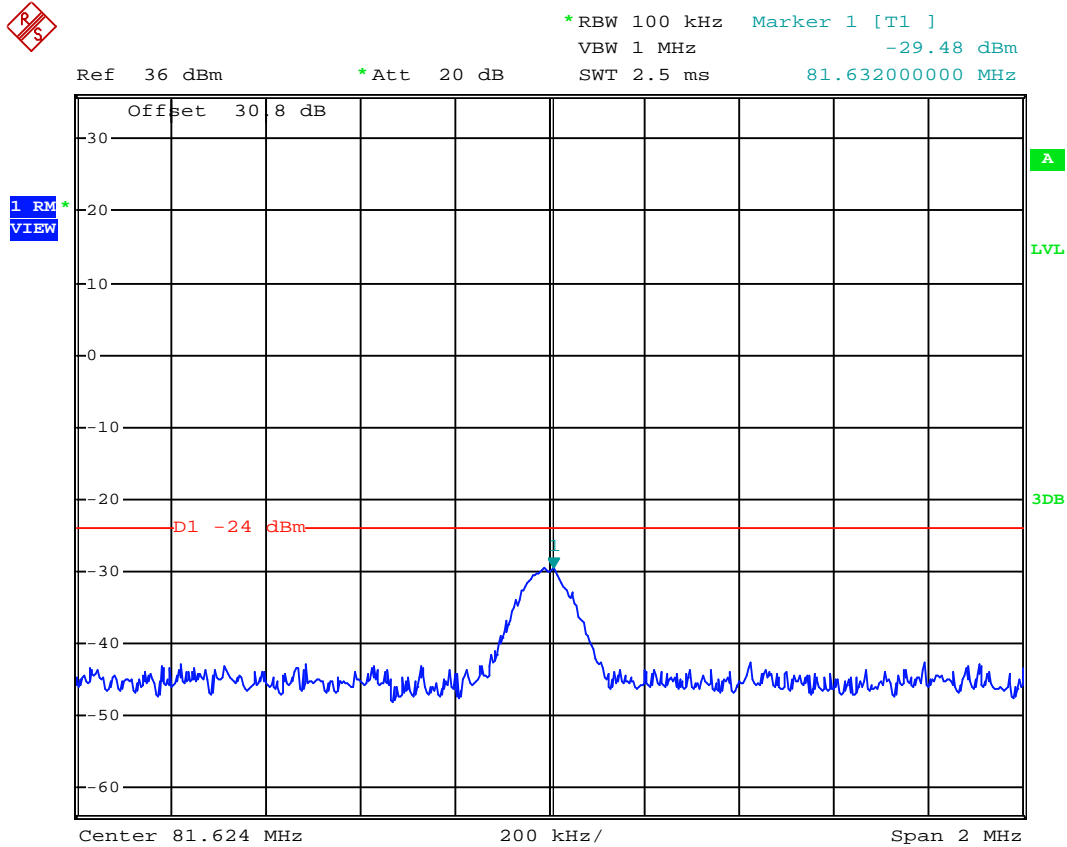


Date: 7.AUG.2013 19:38:46


Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## E.8 TEST RESULTS: COMPLIES



Date: 7.AUG.2013 19:39:57

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

## E.9 TEST RESULTS: COMPLIES

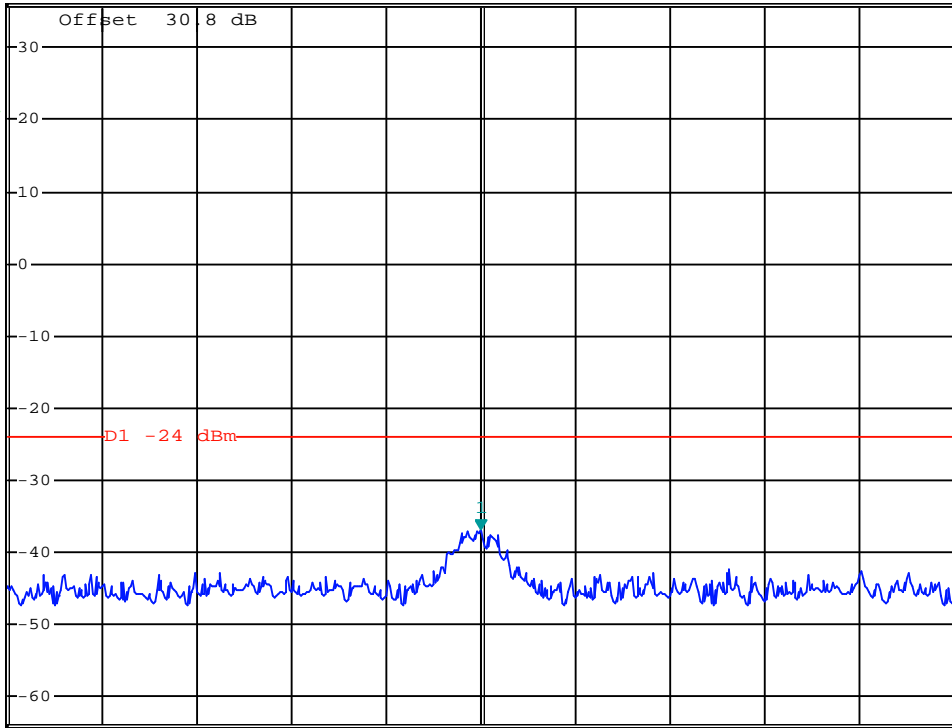


\*RBW 100 kHz Marker 1 [T1]  
 VBW 1 MHz -36.93 dBm  
 SWT 2.5 ms 190.44000000 MHz

Ref 36 dBm

\*Att 20 dB

1 RM  
VIEW






Center 190.44 MHz

200 kHz/

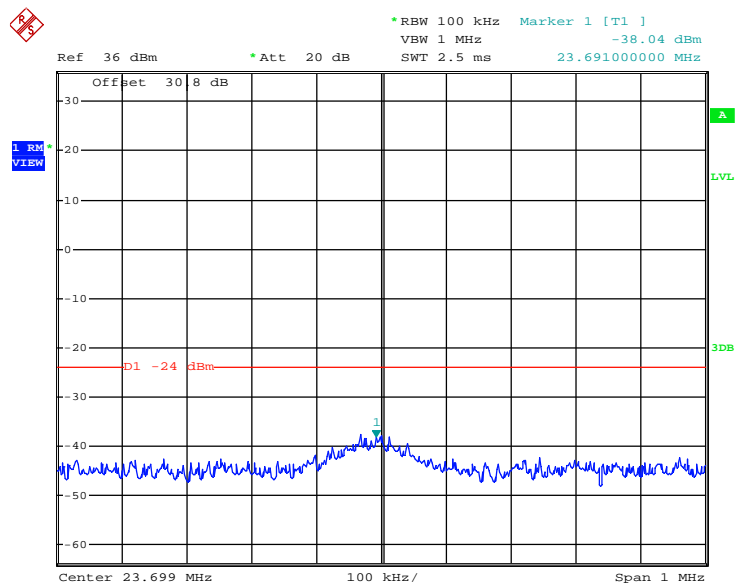
Span 2 MHz

Date: 7.AUG.2013 19:41:31

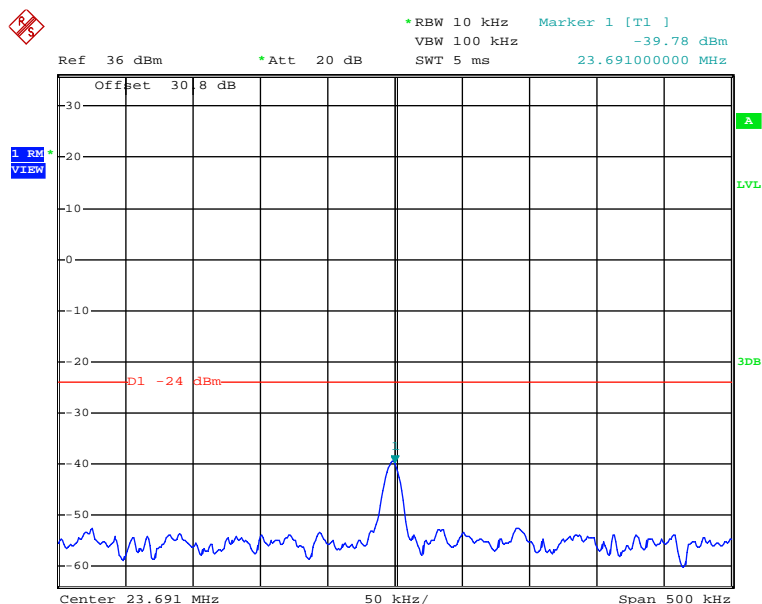
Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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 Testing and Engineering Services Ltd	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	 Test Lab Certificate No. 2470.01
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	


## E.10 TEST RESULTS: COMPLIES





Date: 7.AUG.2013 19:45:58



Date: 7.AUG.2013 19:46:45

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01

## Appendix F Radiated Spurious Emissions

### F.1 REFERENCES

<b>Normative Reference Standard</b>	FCC CFR 47 §2.1053, §95.635, §15B: RSS-236, 5.4, RSS-GEN
<b>Procedure Reference</b>	ANSI/TIA/EIA-382-A, ANSI C63.4

### F.2 LIMITS

FCC §95.635 RSS-236, 5.4	At least 53 + 10 log <sub>10</sub> (T) dB on any frequency removed from the center, 60 dB twice removed from fundamental.
-----------------------------	---


### F.3 ENVIRONMENTAL CONDITIONS



<b>Temperature</b>	18 °C
<b>Humidity</b>	40 +/- 10 %
<b>Barometric Pressure</b>	101 +/- 3 kPa

### F.4 EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	CAL DUE
00072	EMCO	2075	Mini-mast	cnr
00073	EMCO	2080	Turn Table	cnr
00071	EMCO	2090	Multi-Device Controller	cnr
00241	R&S	FSU40	Spectrum Analyzer	04-Sep-15
00050	Chase	CBL-6111A	Bilog Antenna	03-May-15
00055	EMCO	3121C	Dipole Antenna	27-Aug-14
00051	HP	8566B	Spectrum Analyzer RF Section	03-May-14
00049	HP	85650A	Quasi-peak Adapter	06-May-14
00047	HP	85685A	RF Preselector	05-May-14
00006	R & S	SMR 20	Signal Generator (10MHz-40GHz)	30-Apr-14
00239	Mini-Ccts	ZFL-1000VH	Amplifier 10MHz-1GHz	Cal on use
00007	Gigatronics	8652A	Power Meter	04-May-14
00014	Gigatronics	80701A	Power Sensor	04-May-14

cnr = calibration not required

<b>Applicant:</b>	Uniden America Corporation	<b>FCC ID:</b>	AMWUT396	<b>Model(s):</b>	Bearcat PC687W	
		<b>Ind. Can.:</b>	513C-UT396			
<b>DUT Type:</b>	AM Mobile CB Radio Transceiver with Weather Alert		<b>Frequency Range:</b>		26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

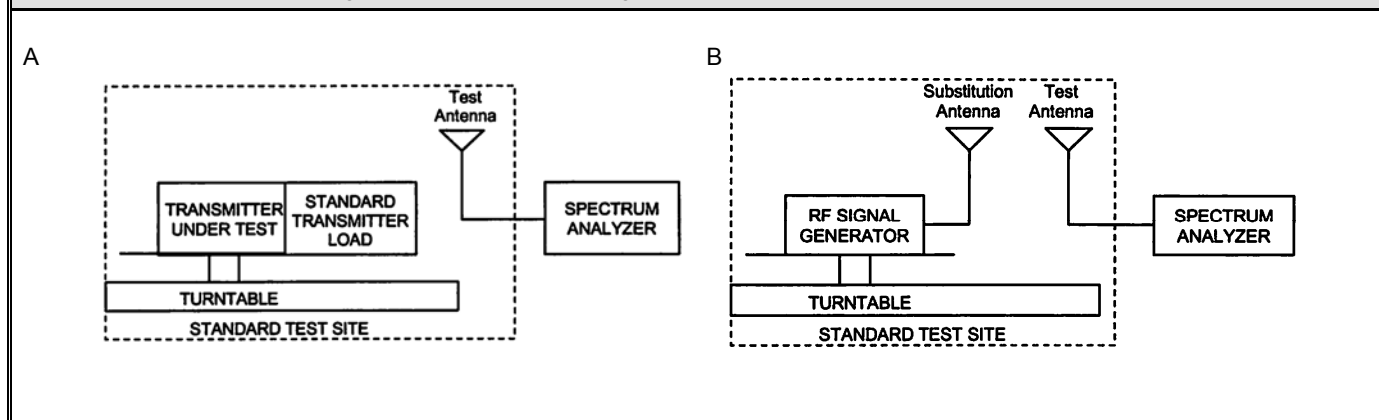
Test Lab Certificate No. 2470.01

## F.5 MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	For the field strength measurements, the measurement equipment was connected as shown in F.6. A number of antennas were used to cover the applicable frequency range tested. The ranges in which each antenna was used are as follows. For the final substitutions, the DUT was replaced with the appropriate antenna and fed from a CW signal source sufficient to replicate the received field strength of the emission being investigated.		
	Frequency Range	RX Antenna	TX Antenna
	9kHz – 30MHz	6502 Loop Ant	N/A
	30 MHz - 1GHz	Bilog	Dipole
MEASUREMENT EQUIPMENT SETTINGS	For measuring the radiated field strength of emissions, the spectrum analyzer was set to the following settings:		
	Range	RBW	VBW
		kHz	kHz
	9kHz – 30MHz	10	30
	30 MHz - 1GHz	100	300
	1 GHz - 18 GHz	1000	3000
			Detector
			Peak
			Peak
			Peak


## F.6 SETUP DRAWING



Figure F.6-1 - Setup Drawing – Detected Radiated Spurious Emissions



### Notes:

- The spectrum was searched from the lowest frequency generated in the device to the 10<sup>th</sup> harmonic of the fundamental.
- All detected emissions have been reported.
- The EUT was searched on all axis for worst case performance.

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	


Test Lab Certificate No. 2470.01

## F.7 TEST RESULTS: COMPLIES



### Radiated Emissions: Signal Substitution (Fig. A&B)

TX: 27.205 MHz	Ant. Polarity	Emission Level	Substitution Level	Antenna Gain	Amp Gain	Corrected Level	Limit	Margin
(MHz)		(dBuV)	(dB)	(+dBd)	(-dB)	(dBm)	(dBm)	(dB)
54.41	V	N.D.	N.D.	-1.45	21.4	N.D.	-24.0	N.D.
81.6	V	42.9	-65.1	-0.05	21.5	-86.65	-24.0	-62.65
108.82	V	56.8	-50.4	-0.15	21.6	-72.15	-24.0	-48.15
136.025	H	47.2	-70.3	-0.55	21.6	-92.45	-24.0	-60.45
163.23	V	47.3	-61.6	-1.05	21.6	-84.25	-24.0	-60.25
190.435	V	45.6	-68.1	-0.95	21.6	-90.65	-24.0	-66.65
217.64	V	48.2	-64.2	-0.75	21.6	-86.55	-24.0	-62.55
244.845	V	42.7	-71.3	-0.25	21.6	-93.15	-24.0	-69.15
272.05	V	35.8	-73.1	-0.35	21.6	-95.02	-24.0	-71.05

Note: N.D. = Not Detected.

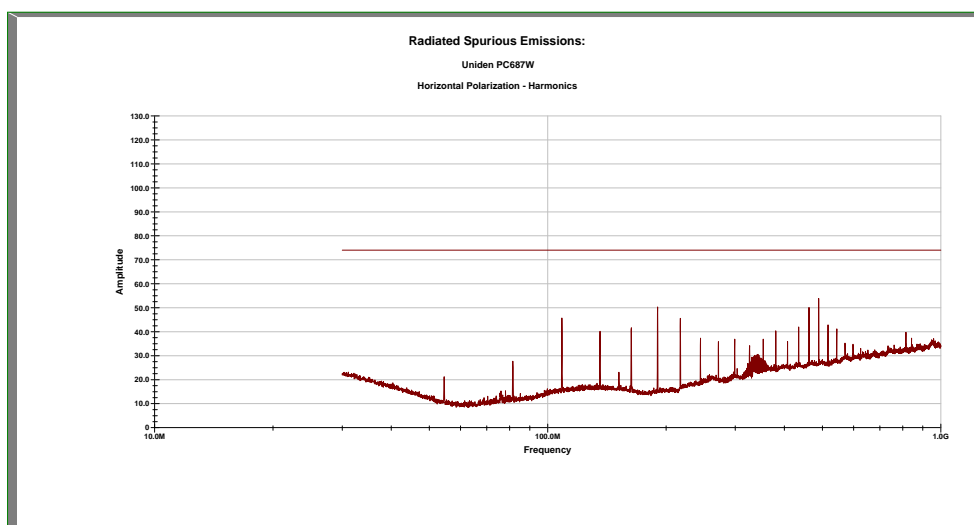
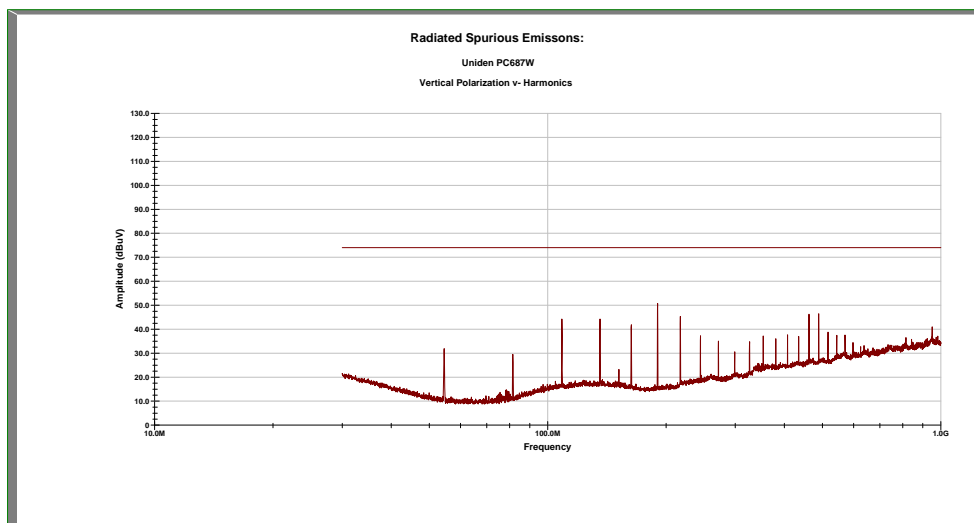
Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Test Report Serial No.:	080813AMW-T1248-E95D	Test Report Issue Date:	8/13/2013	 Test Lab Certificate No. 2470.01
	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Data from Chamber, Fig. A

### Part 15B, Radiated Emissions plot using peak Detector

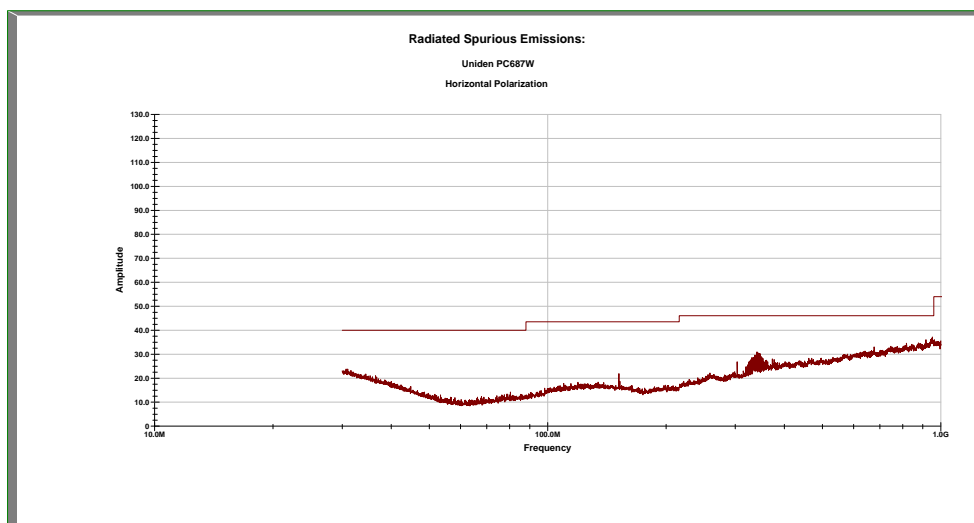
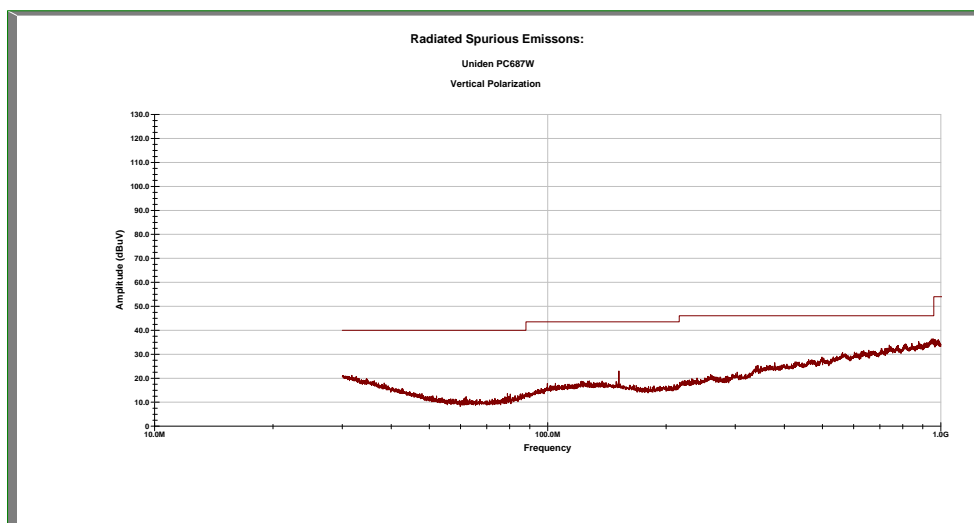


<b>Applicant:</b>	Uniden America Corporation	<b>FCC ID:</b> Ind. Can.:	AMWUT396 513C-UT396	<b>Model(s):</b>	Bearcat PC687W	
<b>DUT Type:</b>	AM Mobile CB Radio Transceiver with Weather Alert			<b>Frequency Range:</b>	26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Data from Chamber, Fig. A

### Part 15B, Radiated Emissions Plots using Peak Detector (RX)



### F.8 SIGN-OFF


I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.





Glen Westwell  
Lab Manager  
Celltech Labs Inc.

8/13/2013

Date

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

## Appendix G Frequency Stability

### G.1 REFERENCES

<b>Normative Reference Standard</b>	FCC CFR 47 §2.1055, §95.625, RSS-GEN
<b>Procedure Reference / Description</b>	The frequency stability shall be measured with variation of ambient temperature as follows: (1) From -30° to +50° centigrade.

### G.2 LIMITS

FCC §95.625	Each channel must be maintained within a frequency tolerance of 0.005%.
-------------	---

### G.3 ENVIRONMENTAL CONDITIONS

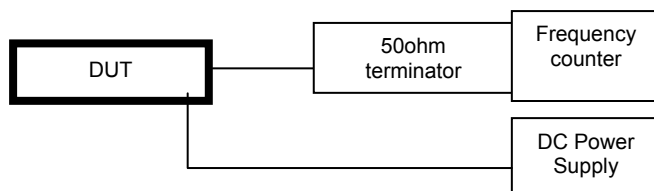
<b>Temperature</b>	25 +/- 5 °C
<b>Humidity</b>	40 +/- 10 %
<b>Barometric Pressure</b>	101 +/- 3 kPa


### G.4 EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	CAL DUE
na	ESPEC	ECT-2	Heater/Refrigerator	na
0003	HP	53181A	Frequency Counter	09-Apr-14
na	HP	E3611A	DC Power Supply	Cal on use
00234	VWR	61161-378	Temperature Humidity Monitor	10-Dec-14

### G.5 SETUP DRAWING

Figure G.5-1 - Setup Drawing – Frequency Stability



Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0
Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS GEN	Test Site Registration(s):	FCC Accredited Site



**Channel: 20**

Temperature (degrees C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (%)
-30	27.205 000	27.204 980	-0.0000735%
-20	27.205 000	27.205 126	+0.0004632%
-10	27.205 000	27.205 101	+0.0003713%
0	27.205 000	27.205082	+0.0003014%
10	27.205 000	27.205 041	+0.0001507%
20	27.205 000	27.204 935	-0.0002389%
30	27.205 000	27.204 855	-0.0005330%
40	27.205 000	27.204 878	-0.0004484%
50	27.205 000	27.204 913	-0.0003198%

Remark: Pass/fail criteria for frequency tolerance is 0.005%

Battery %	Assigned frequency (MHz)	Measured Frequency (MHz)	Deviation %
-15%	27.205 000	27.204 935	0.0002389%
0%	27.205 000	27.204 935	0.0002389%
15%	27.205 000	27.204 936	0.0002353%


I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.



G. W. Wells

Glen Westwell  
Lab Manager  
Celltech Labs Inc.

8/13/2013

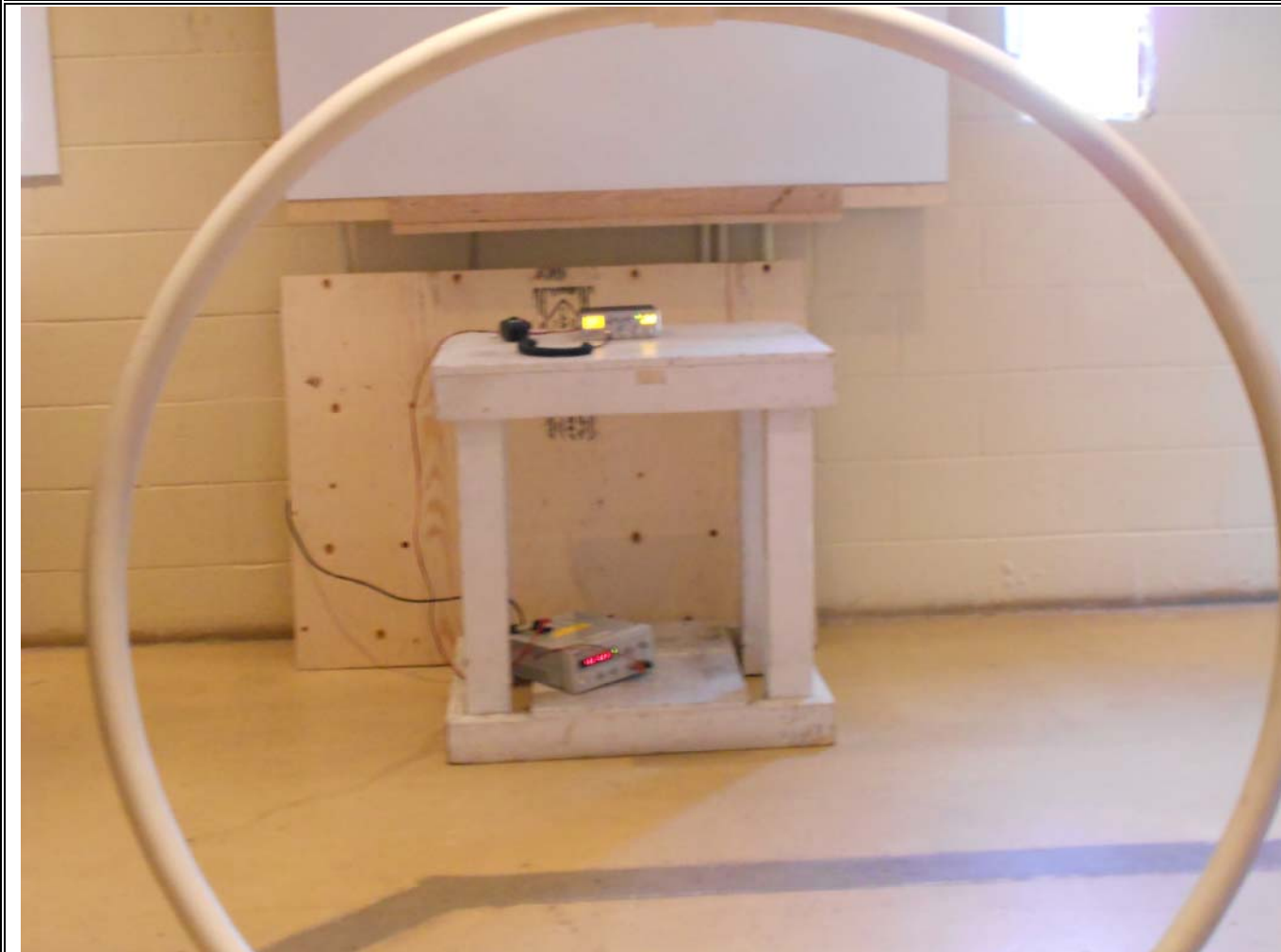
Date \_\_\_\_\_

<b>Applicant:</b>	<b>Uniden America Corporation</b>	<b>FCC ID: Ind. Can.:</b>	<b>AMWUT396 513C-UT396</b>	<b>Model(s):</b>	<b>Bearcat PC687W</b>	
<b>DUT Type:</b>	<b>AM Mobile CB Radio Transceiver with Weather Alert</b>			<b>Frequency Range:</b>	<b>26.965 - 27.405 MHz</b>	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	



## Appendix H Device Photographs

### H.1 DUT PHOTOS

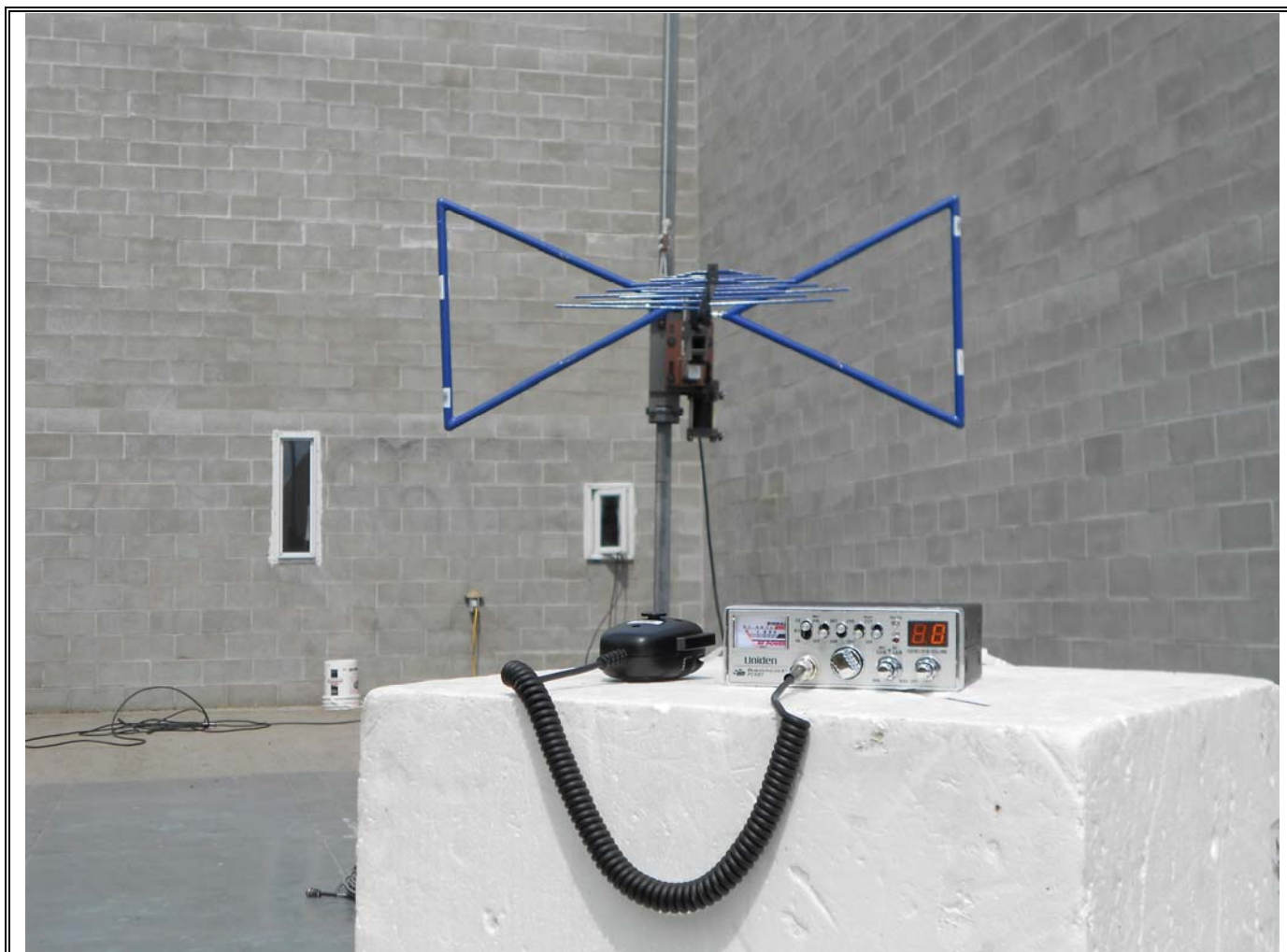



### H.2 DUT PHOTOS



Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert			Frequency Range:	26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01




Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

Test Lab Certificate No. 2470.01


### H.3 DUT PHOTOS



Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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	Measurement Date(s):	08/01/2013-08/09/2013	Test Report Revision No.:	1.0	
	Rule Part(s) Applied:	FCC 47 CFR §2, §95D, RSS-236, RSS_GEN	Test Site Registration(s):	FCC Accredited Site	

END OF DOCUMENT

Applicant:	Uniden America Corporation	FCC ID: Ind. Can.:	AMWUT396 513C-UT396	Model(s):	Bearcat PC687W	
DUT Type:	AM Mobile CB Radio Transceiver with Weather Alert		Frequency Range:		26.965 - 27.405 MHz	
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