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FCC PART 95 SUBPART D

CB TRANSCEIVER PARTIAL TEST REPORT

APPLICANT	**COBRA ELECTRONICS CORPORATION**
	6500 WEST CORTLAND STREET **CHICAGO, IL 60707 USA**
FCC ID	BBO75WXSTA
MODEL NUMBER	75WXST
PRODUCT DESCRIPTION	COMPACT REMOTE MOUNT CB RADIO
DATE SAMPLE RECEIVED	03/29/2018
FINAL TEST DATE	04/09/2018
TESTED BY	Franklin Rose
APPROVED BY	Tim Royer
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Version Number	Description	Issue Date
444UT18_TestReport	Rev1	Initial Issue	04/09/2018
444UT18_TestReport	Rev2	Added MRA Number	04/17/2018

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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

Summary

The device under test does:

☒ Fulfill the general approval requirements as identified in this test report and was selected by the customer.

☐ Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669
Designation #: US1070

Tested by:
Name and Title: Franklin Rose, Project Manager/Testing Engineer

Date: 04/09/2018

Reviewed and approved by:

Tested by:
Name and Title: Tim Royer, Project Manager/Testing Engineer
Date: 4/9/2018

GENERAL INFORMATION

EUT Specification

EUT Description	COMPACT REMOTE MOUNT CB RADIO
FCC ID	BBO75WXSTA
Model Number	75WXST
Serial Number	"75WS2 FCC SAMPLE 1# 2018_03_16"
Operating Frequency	26.965-27.405 MHz – 40 Channel
No. of Channels	40
Type of Emission	**6KOOA3E** Bn = 2M Bn = 6000, (where M = 3000)
Modulation	AM VOICE (A3E)
EUT Power Source	☐ 110–120Vac/50– 60Hz
	☒ DC Power (13.8 VDC)
	☐ Battery Operated Exclusively
Test Item	☐ Prototype
	☐ Pre-Production
	☒ Production
Type of Equipment	☐ Fixed
	☒ Mobile
	☐ Portable
Applicable Standards	FCC CFR 47 Part 2, FCC CFR 47 Part 95 D, ANSI/TIA-603-E, ANSI C63.10

TEST REPORT SUMMARY

FCC / IC Rule Part	Scope of Work	Requirement	Status Pass / Fail / NA
2.1046(a), 95.967	RF Power Output	< 4 W	Pass
2.1051, 95.979(5)(6)	Antenna Conducted Emissions	Comply with Mask	Pass
2.1053, 95.979(5)(6)	Field Strength Spurious Emissions	Comply with Mask	Pass

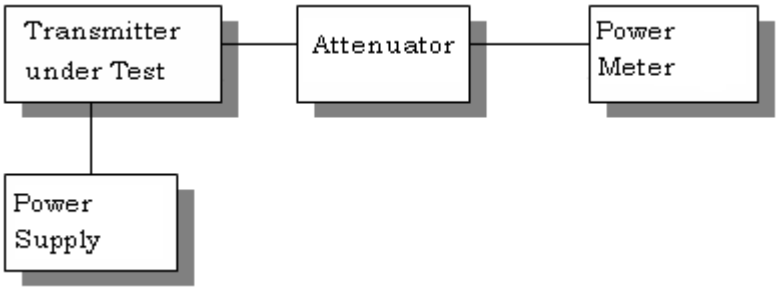
RF POWER OUTPUT

Rule Part No.: FCC Pt. 2.1046(a), 95.967

Test Requirements: 4 W Mean Carrier power when transmitting emission type A1D or A3E

Method of Measurement: RF power is measured by connecting a 50-ohm, resistive wattmeter to the RF output connector. With a nominal battery voltage and the transmitter properly adjusted the RF output measures:

Test Setup Diagram:



Test Data: Power Output Measurement Table

Channel	Output Freq (MHz)	Mean Power (dBm)	Mean Power (W)	Limit (W)	Margin (W)
1	26.965	36.01	3.99	4.00	0.01
19	27.185	35.99	3.97	4.00	0.03
40	27.405	35.88	3.87	4.00	0.13

FCC Part 2.1033(C)(8) DC Input into the final amplifier

Test Data: DC Power Input Measurement Table

INPUT POWER: (13.8 VDC) (0.8 A) = **11.04 Watts**

Result: Meets Requirements

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Rule Part No.: Part 2.1051(a), 95.979(5)(6)

Requirements: 53+ 10log (P) dBc. Any harmonic emissions must be > 60 dBc.

Method of Measurement: TIA-603 E.

Test Data: CH 1 - Spurious Emission Measurement Table

Power Output	dBm	Watts	Limit (dBc)
	36.01	3.99	60

Frequency		Peak (dBm)	Margin
(fundamental)	26.965	0.00	0.00
	53.930	-24.17	0.18
	80.895	-45.13	21.14
	107.860	-40.83	16.84
	134.825	-48.28	24.29
	161.790	-49.07	25.08
	188.755	-34.97	10.98
	215.720	-42.98	18.99
	242.685	-43.12	19.13
	269.650	-52.60	28.61

* Indicates Noise Floor

Result: Meets Requirements

CONDUCTED SPURIOUS EMISSIONS

Test Data: CH 19 - Spurious Emission Measurement Table

Power Output	dBm	Watts	Limit (dBc)
	35.99	3.97	60

Frequency		Peak (dBm)	Margin
(fundamental)	27.185	0.00	0.00
	54.370	-27.78	3.77
	81.555	-44.78	20.77
	108.740	-38.77	14.76
	135.925	-41.97	17.96
	163.110	-46.57	22.56
	190.295	-35.04	11.03
	217.480	-45.66	21.65
	244.665	-42.95	18.94
	271.850	-47.96	23.95

* Indicates Noise Floor

Result: Meets Requirements

CONDUCTED SPURIOUS EMISSIONS

Test Data: CH 40 - Spurious Emission Measurement Table

Power Output	dBm	Watts	Limit (dBc)
	35.88	3.87	60

Frequency		Peak (dBm)	Margin
(fundamental)	27.405	0.00	0.00
	54.810	-24.32	0.20
	82.215	-44.73	20.61
	109.620	-36.82	12.70
	137.025	-41.85	17.73
	164.430	-45.21	21.09
	191.835	-35.18	11.06
	219.240	-49.65	25.53
	246.645	-40.04	15.92
	274.050	-46.75	22.63

* Indicates Noise Floor

Result: Meets Requirements

FIELD STRENGTH OF SPURIOUS EMISSIONS

Rule Parts. No.: Part 2.1053, 95.979(5)(6)

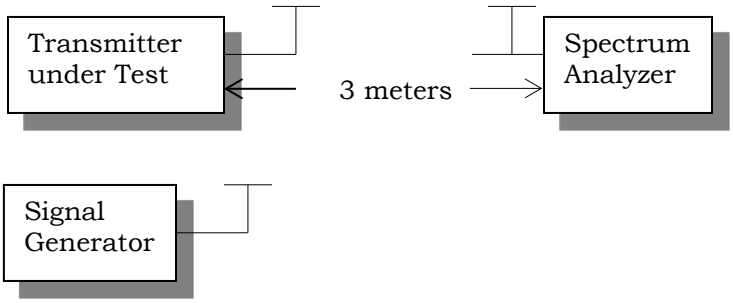
Requirements: Emissions must be attenuated by at least the following below the output of the transmitter.

At least 53 + 10 log(P) dBc on any frequency removed from the center of the authorized bandwidth by more than 250%. At least 60dB on any harmonic frequency.

METHOD OF MEASUREMENT

The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 9 KHz to at least the tenth harmonic of the fundamental. This test was conducted per TIA-603 E using the substitution method.

Test Setup Diagram:



FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: Spurious Emission Measurement Table

Note: The highest 6 emissions are shown above. Emissions > 20 dB under the limit are not required to be reported.

Power Output			Limit	
dBm	Watts		dBc	dBm
36.01	3.99		59.01	-23.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
26.97	53.90	V	-43.742	20.74
26.97	53.90	H	-52.632	29.63
26.97	80.90	H	-52.832	29.83
26.97	80.90	V	-52.892	29.89
26.97	107.90	V	-58.896	35.90
26.97	107.90	H	-56.456	33.46
26.97	134.90	H	-48.983	25.98
26.97	134.90	V	-51.923	28.92
26.97	161.80	V	-53.225	30.22
26.97	161.80	H	-49.775	26.77
26.97	188.80	H	-53.471	30.47
26.97	188.80	V	-57.121	34.12
26.97	216.00	H	-64.725	41.73
26.97	216.00	V	-53.185	30.19
26.97	243.00	V	-68.731	45.73
26.97	243.00	H	-57.421	34.42
26.97	270.00	V	-57.297	34.30
26.97	270.00	H	-56.087	33.09

Result: Meets Requirements

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: Spurious Emission Measurement Table

Note: The highest 6 emissions are shown above. Emissions > 20 dB under the limit are not required to be reported.

dBm	Watts		dBc	dBm
36.01	3.99		59.01	-23.00
Tuned Freq MHz	**Emission Frequency MHz**	**Antenna Polarity**	**ERP (dBm)**	**Margin (dB)**
27.18	**54.40**	**H**	**-49.578**	26.58
27.18	**54.40**	**V**	**-44.598**	21.60
27.18	**81.50**	**V**	**-52.148**	29.15
27.18	**81.50**	**H**	**-52.578**	29.58
27.18	**108.70**	**V**	**-55.262**	32.26
27.18	**108.70**	**H**	**-64.132**	41.13
27.18	**135.90**	**H**	**-49.548**	26.55
27.18	**135.90**	**V**	**-56.678**	33.68
27.18	**163.10**	**V**	**-56.056**	33.06
27.18	**163.10**	**H**	**-51.826**	28.83
27.18	**190.30**	**H**	**-53.746**	30.75
27.18	**190.30**	**V**	**-53.306**	30.31
27.18	**217.00**	**V**	**-66.618**	43.62
27.18	**217.00**	**H**	**-54.668**	31.67
27.18	**245.00**	**H**	**-55.227**	32.23
27.18	**245.00**	**V**	**-62.297**	39.30

Result: Meets Requirements

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: Spurious Emission Measurement Table

Note: The highest 6 emissions are shown above. Emissions > 20 dB under the limit are not required to be reported.

Power Output			Limit	
dBm	Watts		dBc	dBm
36.01	3.99		59.01	-23.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
27.40	54.80	V	-55.864	32.86
27.40	54.80	H	-54.604	31.60
27.40	82.20	H	-52.984	29.98
27.40	82.20	V	-57.144	34.14
27.40	109.60	V	-62.039	39.04
27.40	109.60	H	-60.529	37.53
27.40	137.00	H	-59.702	36.70
27.40	137.00	V	-54.952	31.95
27.40	164.40	V	-56.546	33.55
27.40	164.40	H	-52.726	29.73
27.40	191.80	H	-53.102	30.10
27.40	191.80	V	-52.322	29.32
27.40	219.00	H	-52.694	29.69
27.40	219.00	V	-68.294	45.29
27.40	247.00	V	-68.923	45.92
27.40	247.00	H	-54.703	31.70

Result: Meets Requirements

Statement of Measurement Uncertainty

The data and results referenced in this document are true and accurate. The measurement uncertainty was calculated for all measurements listed in this test report according To CISPR 16–4 or ENTR 100-028 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: "Uncertainty in EMC Measurements" and is documented in the Timco Engineering, Inc. quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Timco Engineering, Inc. is reported:

Test Items	Measurement Uncertainty	Notes
RF Frequency Accuracy	± 49.5 Hz	(1)
RF Conducted Power	±0.93dB	(1)
Conducted spurious emission of transmitter valid up to 40GHz	±1.86dB	
Occupied Bandwidth	±2.65%	
Audio Frequency Response	±1.86dB	
Modulation limiting	±1.88%	
Radiated RF Power	±1.4dB	
Maximum frequency deviation: Within 300 Hz and 6kHz of audio freq. Within 6kHz and 25kHz of audio Freq.	 ±1.88% ±2.04%	
Rad Emissions Sub Meth up to 26.5GHz	±2.14dB	
Rad Emissions Sub Meth up to 18-40 GHz	±2.04%	
Adjacent channel power	±1.47dB	(1)
Intermodulation - Tx	±2.07dB	
Noise Figure	±1.00dB	
Transient Frequency Response	±1.88%	
Temperature	±1.0°C	(1)
Humidity	±5.0%	
Radiated Emissions to 6.0GHz	± 4.4dB	
Power line conducted emissions	± 3.9dB	

This uncertainty represents an expanded uncertainty expressed at approximately t he 95% confidence level using a coverage factor of k=1.96.

EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Coaxial Cable - BMBM-0065-01 Black DC-2G	Belden		BMBM-0065-01	07/18/16	07/18/18
Antenna: Biconical 1096	Eaton	94455-1	1096	08/01/17	08/01/19
Antenna: Log-Periodic 1122	Electro-Metrics	LPA-25	1122	07/26/17	07/26/19
Coaxial Cable - Chamber 3 cable set (backup)	Micro-Coax	Chamber 3 cable set (backup)	KMKM-0244-02 ; KMKM-0670-01; KFKF-0197-00	N/A	N/A
CHAMBER	Panashield	3M	N/A	04/25/16	05/01/18
Antenna: Double-Ridged Horn/ETS Horn 2	ETS-Lindgren	3117	00041534	03/01/17	03/01/19
Software: Field Strength Program	Timco	N/A	Version 4.10.7.0	N/A	N/A
EMI Test Receiver R & S ESU 40 Chamber	Rohde & Schwarz	ESU 40	100320	04/01/16	04/01/19
Attenuator N 30dB 100W DC-6G	Pasternack	PE7214-30	#109	05/24/17	05/24/19
Attenuator BNC 10dB DC-2G	MiniCircuits	HAT-10+	#54	07/14/17	07/14/19
Bore-sight Antenna Positioning Tower	Sunol Sciences	TLT2	N/A	N/A	N/A
Tuneable Notch Filter 15-30 MHz	Eagle	TNF-200	15-30 MHz	11/19/17	11/19/19

***EMI RECEIVER SOFTWARE VERSION**
The receiver firmware used was version 4.43 Service Pack 3

END OF REPORT