TIMCO ENGINEERING, Inc.

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FCC PART 15.109

RADAR DETECTOR REPORT

Applicant	**COBRA ELECTRONICS CORPORATION**
Address	**6500 WEST CORTLAND STREET CHICAGO IL 60707**
Product Model Number	RAD450
Product Description	RADAR DETECTOR
FCC ID:	BBO2016C
Date Sample Received	11/4/2016
Date Tested	11/7/2016
Tested By	Cory Leverett
Approved By	Tim Royer

Report Number	Version Number	Description	Issue Date
2223UT16TestReport_	Rev1	Initial Issue	11/9/2016
	Rev2	Added note on test data	11/29/2016

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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

Tested by:

Name and Title: Cory Leverett, Project Manager/Testing Technician

Date:11/29/2016

Reviewed and approved by:

Name and Title: Tim Royer, Project Manager

Date: 11/29/2016

GENERAL INFORMATION

EUT Specification

EUT Description	RADAR DETECTOR
FCC ID	BBO2016C
Model Number	RAD450
Operating Frequency	10.525GHz(X-Band), 24.150 GHz (K-Band), 33.4-36.0G Hz (Ka Band)
EUT Power Source	☐ 110–120Vac/50– 60Hz
	☒ DC Power 12V
	☐ Battery Operated Exclusively
Test Item	☐ Prototype
	☐ Pre-Production
	☒ Production
Type of Equipment	☐ Fixed
	☒ Mobile
	☐ Portable
Test Conditions	Temperature: 24-26ºC Relative humidity: 50-65% Barometric Pressure: 30.01”
Modification to the EUT	None
Test Exercise	The EUT was operated in a normal mode.
Applicable Standards	FCC Pt 15.109
Test Procedure	ANSI C63.4: 2014 KDB 214146, Interim Test Procedure for Determining Radar Detector Compliance With the Rules Adopted in Report and Order FCC 02-211
Test Facility	**Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA.**

TEST RESULTS SUMMARY

The test results relate only to the items tested.	
FCC Rules Part No.	**RESULTS Pass/ Fail/ NA**
15.109(h) Radiated Emissions	Pass

RADIATED SPURIOUS EMISSIONS

Rules Part No.: 15.109 (h)

Requirements:

Frequency	Average Limit	Peak Limit
11.7 to 12.2GHz	54.0 dBµV/m measured @ 3 meters	74.0 dBµV/m measured @ 3 meters

Test Procedure: Standards Listed Above

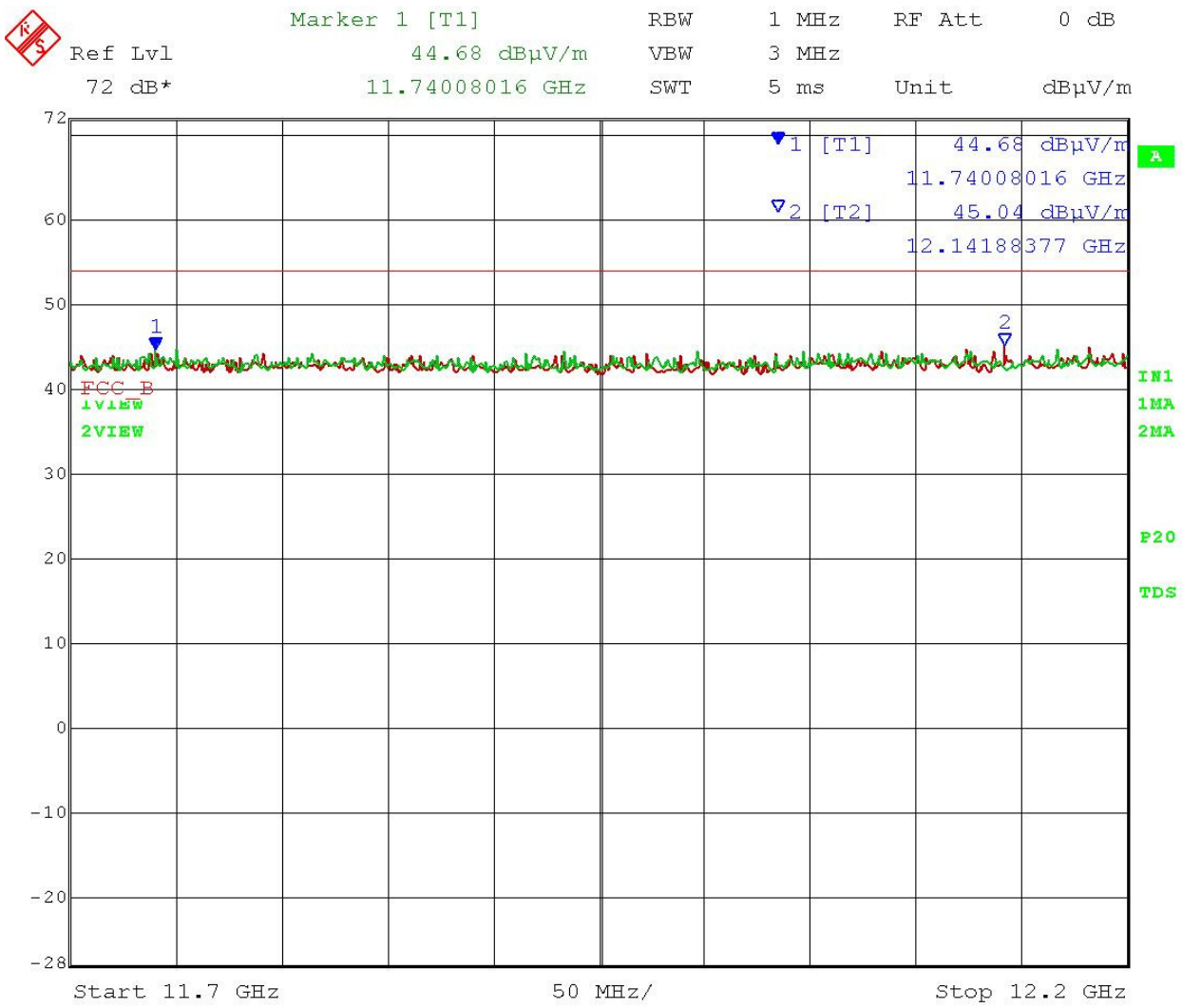
Formula of Conversion Factors: Measurements were performed at 1 meter distance; a correction factor was applied to extrapolate to 3 meters. Then the field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the preselector and preamplifier was accounted for in the spectrum analyzer meter reading.

Example:

Freq. (MHz)	Meter Reading	+ ACF	+ CL	= FS
33	20 dBuV	+ 10.36 dB/m	+ 0.40 dB	= 30.36 dBuV/m @ 3m

RADIATED SPURIOUS EMISSIONS

TEST DATA: PEAK PLOT



Ant Polarity: T1 (Green) = Vertical, T2 (Red) = Horizontal

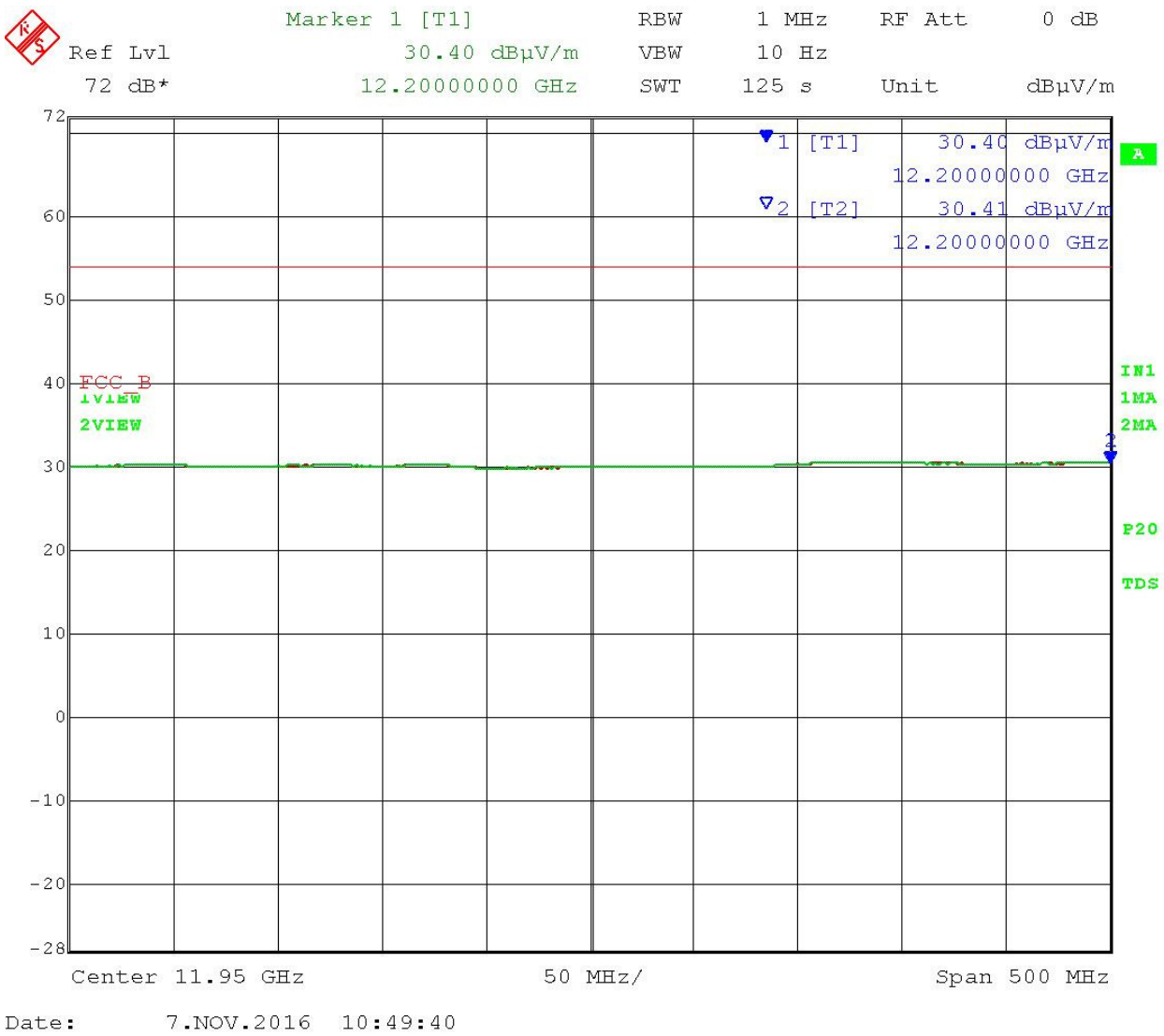
Notes:

No emissions were found in excess of the reported noise figures in the plot above.

Results - Meets Requirements

RADIATED SPURIOUS EMISSIONS

TEST DATA: AVERAGE PLOT



Date: 7.NOV.2016 10:49:40

Ant Polarity: T1 (Green) = Vertical, T2 (Red) = Horizontal

Notes:

No emissions were found in excess of the reported noise figures in the plot above.

Results - Meets Requirements

TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Antenna: Standard Gain Horn 8.2-12.5 GHz	Systron Donner	DBG-520-20	Not Serialized	Na	Na
CHAMBER	Panashield	3M	N/A	04/25/16	12/31/17
EMI Test Receiver R & S ESIB 40 Screen Room	Rohde & Schwarz	ESIB 40	100274	08/16/16	08/16/18
Coaxial Cable - Chamber 3 cable set (Primary)	-Coax	Chamber 3 cable set (Primary)	KMKM-0244-01; KMKM-0670-00; KFKF-0198-01	08/08/16	08/08/18
Bore-sight Antenna Positioning Tower	Sunol Sciences	TLT2	N/A	Na	Na
Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	01/04/16	01/04/18

*** EMI RECEIVER SOFTWARE VERSION**

The receiver firmware used was version 4.43 Service Pack 3