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## FCC PART 15.109

### RADAR DETECTOR REPORT

<b>Applicant</b>	<b>COBRA ELECTRONICS CORPORATION</b>
<b>Address</b>	<b>6500 WEST CORTLAND STREET CHICAGO IL 60707</b>
<b>Product Model Number</b>	iRAD
<b>Product Description</b>	RADAR DETECTOR
<b>FCC ID:</b>	BBO2016D
<b>Date Sample Received</b>	11/4/2016
<b>Date Tested</b>	11/07/2016
<b>Tested By</b>	Cory Leverett
<b>Approved By</b>	Tim Royer

Report Number	Version Number	Description	Issue Date
2224UT16TestReport_	Rev1	Initial Issue	11/7/2016

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**

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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/ 7/ 2016**



**Reviewed and approved by:**

Name and Title: Tim Royer, Project Manager

**Date: 11/ 28/ 2016**

## GENERAL INFORMATION

### EUT Specification

<b>EUT Description</b>	RADAR DETECTOR
<b>FCC ID</b>	BBO2016D
<b>Model Number</b>	iRAD
<b>Operating Frequency</b>	10.525GHz(X-Band), 24.150 GHz (K-Band), 33.4-36.0G Hz (Ka Band)
<b>EUT Power Source</b>	<input type="checkbox"/> 110–120Vac/50– 60Hz
	<input checked="" type="checkbox"/> DC Power 12V
	<input type="checkbox"/> Battery Operated Exclusively
<b>Test Item</b>	<input type="checkbox"/> Prototype
	<input type="checkbox"/> Pre-Production
	<input checked="" type="checkbox"/> Production
<b>Type of Equipment</b>	<input type="checkbox"/> Fixed
	<input checked="" type="checkbox"/> Mobile
	<input type="checkbox"/> Portable
<b>Test Conditions</b>	Temperature: 24-26°C Relative humidity: 50-65% Barometric Pressure: 30.01"
<b>Modification to the EUT</b>	None
<b>Test Exercise</b>	The EUT was operated in a normal mode.
<b>Applicable Standards</b>	FCC Pt 15.109
<b>Test Procedure</b>	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
<b>Test Facility</b>	<b>Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA.</b>

## TEST RESULTS SUMMARY

The test results relate only to the items tested.	
<b>FCC Rules Part No.</b>	<b>RESULTS</b> <b>Pass/ Fail/ NA</b>
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 dB $\mu$ V/m measured @ 3 meters	74.0 dB $\mu$ V/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 dB $\mu$ V) 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 dB $\mu$ V	+ 10.36 dB/m	+ 0.40 dB	= 30.36 dB $\mu$ V/m @ 3m

## RADIATED SPURIOUS EMISSIONS

### TEST DATA: PEAK PLOT



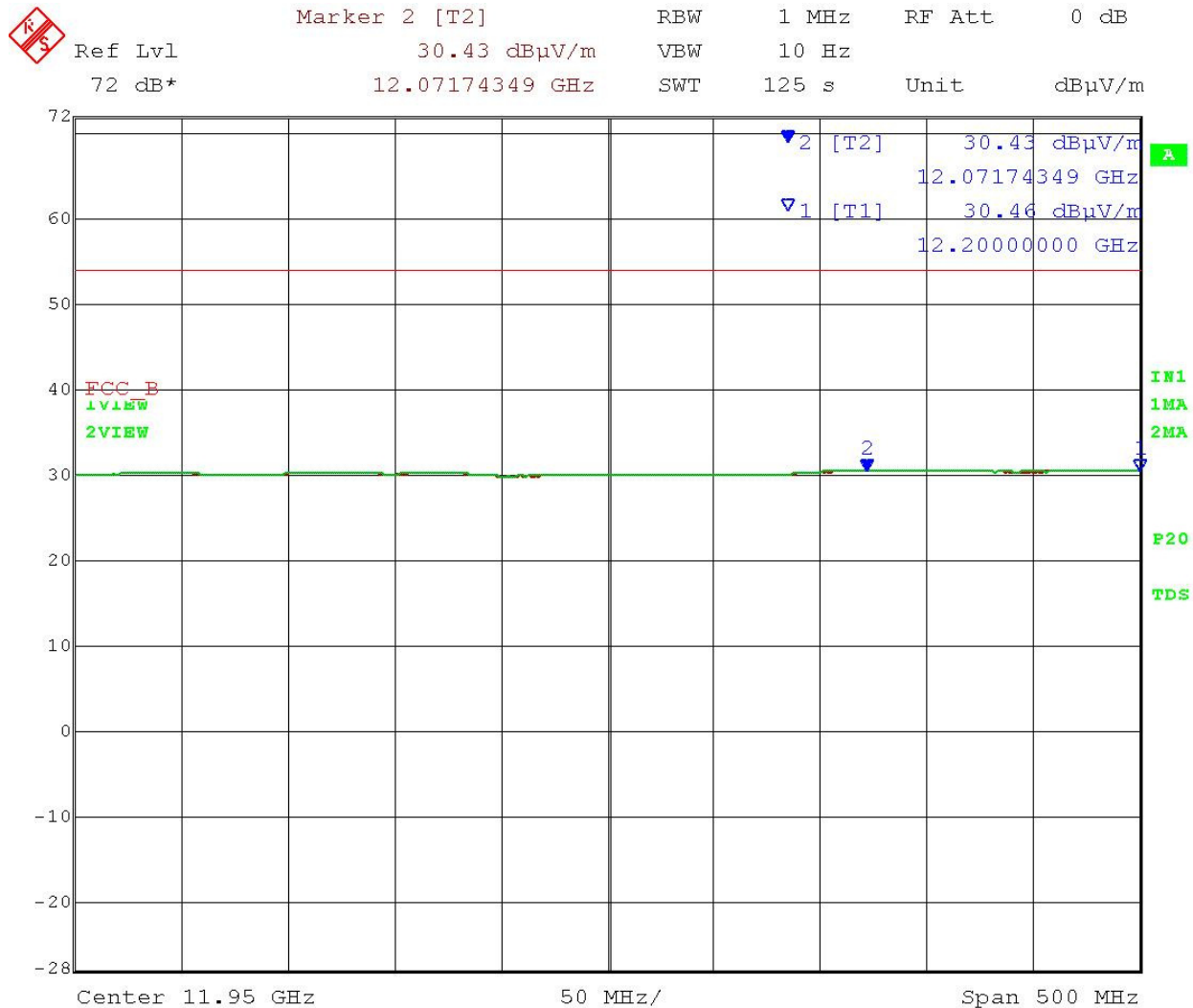
Date: 7.NOV.2016 09:31:57

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

### Results - Meets Requirements

## RADIATED SPURIOUS EMISSIONS

### TEST DATA: AVERAGE PLOT



Date: 7.NOV.2016 10:09:43

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

### 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