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Project 12687-10

Prepared for:  
RF Code, Inc.  
9229 Waterford Centre Boulevard  
Suite 500  
Austin, Texas 78758

By

Professional Testing (EMI), Inc.  
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October 10, 2011

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**MPE / RF Exposure Report**  
**Aurora: Saturn / Venus**  
**FCC ID: P6FPRXRFC**

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(3) The significance of this report is dependent on the representative character of the test sample submitted for evaluation and the results apply only in reference to the sample tested. The manufacturer must continuously implement the changes shown herein to attain and maintain the required degree of compliance.



Applicant: RF Code, Inc.  
Applicant's Address: 9229 Waterford Centre Boulevard  
Suite 500  
Austin, Texas 78758  
  
FCC ID: P6FPRXRFC  
Project Number: 12687-10  
Test Dates: August 29<sup>th</sup> – September 2<sup>nd</sup>, 2011

I, Layne Lueckemeyer, for Professional Testing (EMI), Inc., being familiar with the FCC rules and test procedures have reviewed the test setup, measured data and this report. I believe them to be true and accurate.

Layne Lueckemeyer  
Product Development Engineer

This report has been reviewed and accepted by RF Code, Inc. The undersigned is responsible for ensuring that this device will continue to comply with the FCC rules.

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RF Code, Inc., Representative

## **1.0 MPE Prediction**

Prediction of MPE limit at a given distance was made by using equation from page 18 of OET Bulletin 65, Edition 97-01.

In order to prove that SAR is not required we used the combined MPE calculation of the 433.92 MHz transmitter and the 915 MHz transmitter combined. The data is contained in the worksheet below.

## **1.1 Evaluation Procedure**

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density

P= power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

## **1.2 Evaluation Criteria**

MPE limit for uncontrolled exposure at prediction frequency (mW/cm<sup>2</sup>): 1.0

## MPE Prediction Calculation

PROJECT #	DATE	RULE	DISTANCE	ANTENNA	RBW	VBW	DETECTOR
12687-10	October 10, 2011	15.231 / 15.247	N/A	N/A	N/A	N/A	N/A

### Calculations

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density

P= power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

#### MPE 433 MHz Transmitter

Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Prediction Distance (cm)	Max Antenna Gain (dBi)	Max Antenna Gain (numeric)	Power Density at 20.0 cm (mW/cm <sup>2</sup> )
433.92	-14.92	0.0322	20	2.0	1.585	.00000102

#### MPE 915 MHz Transmitter

Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Prediction Distance (cm)	Max Antenna Gain (dBi)	Max Antenna Gain (numeric)	Power Density at 20.0 cm (mW/cm <sup>2</sup> )
915	14.17	26.12	20	2.0	1.585	.00824048

NOTE: Antenna Gain is estimated worst case scenario.

$$.00000102 + .00824048 = .0082415 \text{ mW/cm}^2$$

$$.0082415 \text{ mW/cm}^2 < 1.0 \text{ mW/cm}^2$$

**Result = Pass**