TIMCO ENGINEERING, Inc.
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RF Exposure Evaluation Report

APPLICANT	SANDIA AEROSPACE CORPORATION
	3700 OSUNA RD NE, SUITE 711 ALBUQUERQUE NEW MEXICO 87109 USA
FCC ID	YJL-DAGEDX
MODEL NUMBER	STX 360
PRODUCT DESCRIPTION	AVIATION TRANSPONDER
STANDARD APPLIED	CFR 47 Part 2.1091
PREPARED BY	Cory Leveret

We, TIMCO ENGINEERING, INC. would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and meets the requirements.

The attached report shall not be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

GENERAL REMARKS

Attestations

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

I attest that the necessary evaluations were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669

Authorized Signatory Name:

Cory Leverett

Engineering Project Manager

Date: 3/02/2017

RF Exposure Requirements

General information

Device type: AVIATION TRANSPONDER

Antenna

Configuration	Antenna p/n	Type	Max. Gain (dBi)
Fixed mounted	Any	omni	5.19

Operating configuration and exposure conditions:

The conducted output power is shown in the table below. Typical use qualifies for a maximum duty cycle factor of 1%.

MPE Calculation:

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

The limit for general uncontrolled exposure environment is shown in FCC rule Part 1.11310, Table 1.

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Insert values in yellow highlighted boxes to determine Minimum Separation Distance

Max Power	200.3	W	*equals*	Max Power	200300	mW
Duty Cycle	1	%	*equals*	Duty Factor	0.01	numeric
Antenna Gain	5.19	dBi	*equals*	Gain numeric	3.303695	numeric
Coax Loss	0	dB		Gain - Coax Los	3.303695	numeric
Power Density	0.7	mW/cm^2				

Enter power Density from the chart to the right

Frequency 1090 MHz

Rule Part 1.1310, Table 1 (B)

Frequency rang	Power den	Enter this value
MHz	**mW/cm^2**	**mW/cm^2**
0.3-1.34	100	**100**
1.34-30	$180/f^2$	**0.0**
30-300	0.2	**0.2**
300-1,500	f/1500	**0.7**
1,500-100,000	1	**1**

f = frequency in MHz

Minimum Separation Distance	**27 cm**	**0.27 m**

Minimum Seperation in Inches 10.78999 Inches