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TIMCO ENGINEERING, Inc.

An IIA Company

RF Exposure Evaluation Report

APPLICANT	FIPLEX COMMUNICATIONS INC.
ADDRESS	2101 NW 79th Ave. MIAMI FL 33122 USA
FCC ID	P3TDHSX
MODEL NUMBER	DHSX
PRODUCT DESCRIPTION	800 MHZ DUAL BAND INDUSTRIAL BOOSTER
DATE SAMPLE RECEIVED	01/02/2019
FINAL TEST DATE	04/15/2019
PREPARED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Report Version	Description	Issue Date
7AUT19 MPE_TestReport_	Rev1	Initial Issue	04/15/2019
7AUT19 MPE_TestReport_	Rev2	Updated Power Output	06/04/2019

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GENERAL REMARKS

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

Prepared by:

Name and Title	Franklin Rose, Project Manager / EMC Specialist
Date	04/15/2019

GENERAL INFORMATION

EUT Description	800 MHZ DUAL BAND INDUSTRIAL BOOSTER		
Model Number	DHSX		
EUT Power Source	☒110–120Vac, 50–60Hz	☐ DC Power	☐ Battery Operated
Test Item	☐ Engineering Prototype	☒ Pre-Production	☐ Production
Type of Equipment	☒ Fixed	☐ Mobile	☐ Portable
Antenna Connector	3 external N Type		
Test Conditions	The temperature was 26ºC Relative humidity of 50%.		
Modification to the EUT	No Modification to EUT.		
Applicable Standards	FCC CFR 47 Part 2.1091		
Test Facility	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA. Designation #: US1070		

ANTENNA INFORMATION

Manufacturer Provides Antenna	Type	Max Gain (dBi)
No	Unspecified	**0 dBi**

SISO Statement

This equipment has two separate outputs meant to be used as SISO for different service areas. For such equipment, FCC KDB 935210 D02 asks for the following grant condition to be used:

"This filing has compliance demonstration information and test data only for SISO (single-input single-output) booster system configurations; additional equipment authorization is required to allow this device to be used in MIMO (multiple-input multiple-output) industrial booster systems."

POWER OUTPUT OF EUT

Uplink Maximum Rated Output Power (dBm)	Downlink Maximum Rated Output Power (dBm)	Tune Up Tolerance (+/-dB)	Antenna Gain (dB)	Power Output (W)
23.96	33.00	2.00	0.00	3.56

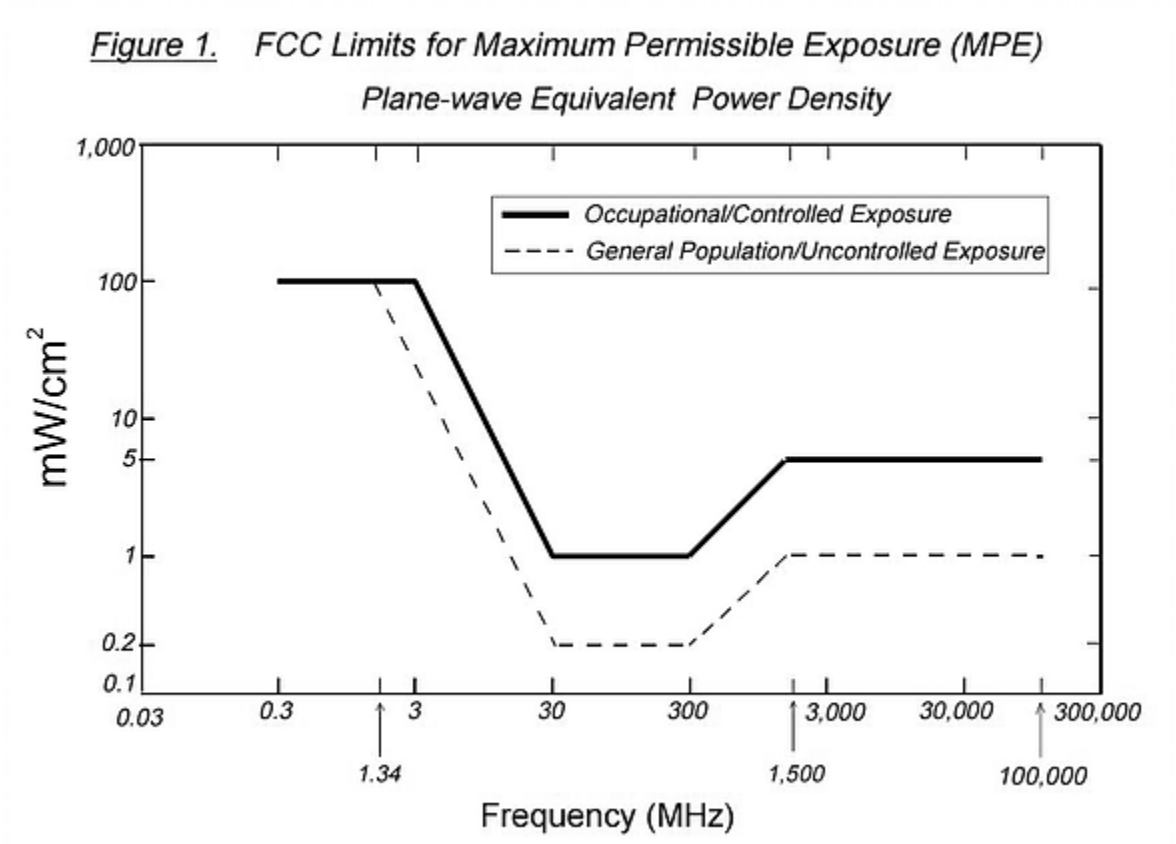
The output power levels of the Uplink and Downlink of this Distributed Antenna System Industrial Signal Booster have been evaluated together for a worst-case MPE Safety Distance.

MPE CALCULATION

The minimum separation distance is calculated as follows:

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

MPE LIMITS

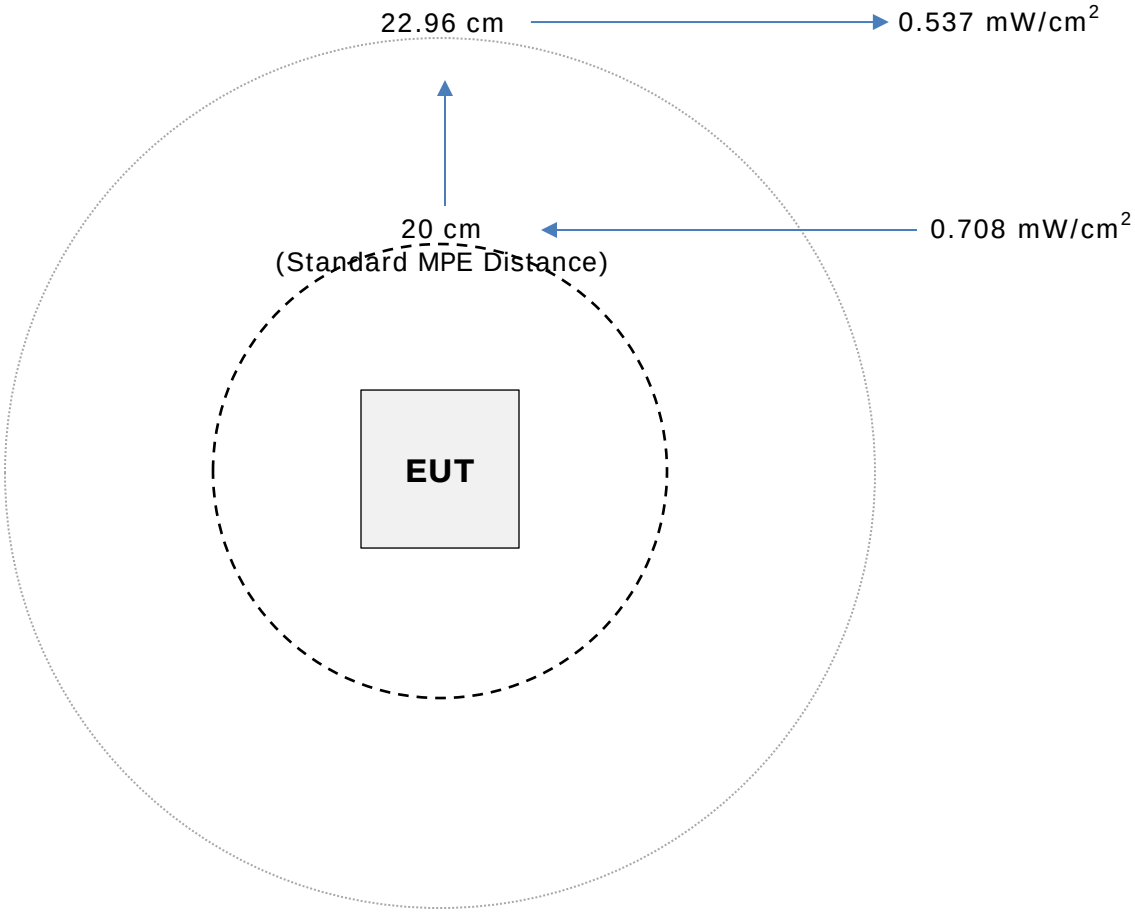


MPE Table

General Uncontrolled Exposure

The limit for General Uncontrolled Exposure Environment is calculated as shown in FCC Pt. 1.1310, Table B:

Variable	Value
Max Power	3.56 W
Frequency Range	806 – 869 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	0.537 mW/cm^2
Minimum Separation Distance	22.96 cm



General Controlled Exposure

The limit for General Controlled Exposure Environment is calculated as shown in FCC Pt. 1.1310, Table A:

Variable	Value
Max Power	3.56 W
Frequency Range	806 – 869 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	0.708 mW/cm^2
Minimum Separation Distance	20 cm