



RF Exposure Evaluation Report

APPLICANT	FIPLEX COMMUNICATIONS INC.
ADDRESS	2101 NW 79th Ave. MIAMI FL 33122 USA
FCC ID	P3TDH440-HG-SCH-1
MODEL NUMBER	DH440-HG-SCH-1
PRODUCT DESCRIPTION	UHF AMPLIFIER/BOOSTER
DATE SAMPLE RECEIVED	05/06/2019
FINAL TEST DATE	05/28/2019
PREPARED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Report Version	Description	Issue Date
1138AUT19 MPE_	Rev1	Initial Issue	05/30/2019
1138AUT19 MPE_	Rev2	Updated Power Output	07/01/2019
1138AUT19 MPE_	Rev3	Updated Power Output	07/24/2019

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



TABLE OF CONTENTS

GENERAL REMARKS	2
GENERAL INFORMATION	3
ANTENNA INFORMATION	3
OUTPUT POWER	3
MPE CALCULATION	3
MPE LIMITS.....	4
MPE TABLE	5
GENERAL UNCONTROLLED EXPOSURE	5
GENERAL CONTROLLED EXPOSURE	6

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	05/30/2019

General Information

EUT Description	UHF AMPLIFIER/BOOSTER		
Model Number	DH440-HG-SCH-1		
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	N Type		
Test Conditions	The temperature was 26°C 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	Unspecified

Output Power

Frequency	Output Power + Tune Up Tolerance (dBm)	Max Power Output (W)
454.50	42.00	15.85
456.00625	42.00	15.85

Note: The EUT will be deployed per FCC 47 CFR 90.219(d) “Deployment Rules”, which requires output power be limited to 5 W in system installation.

MPE CALCULATION

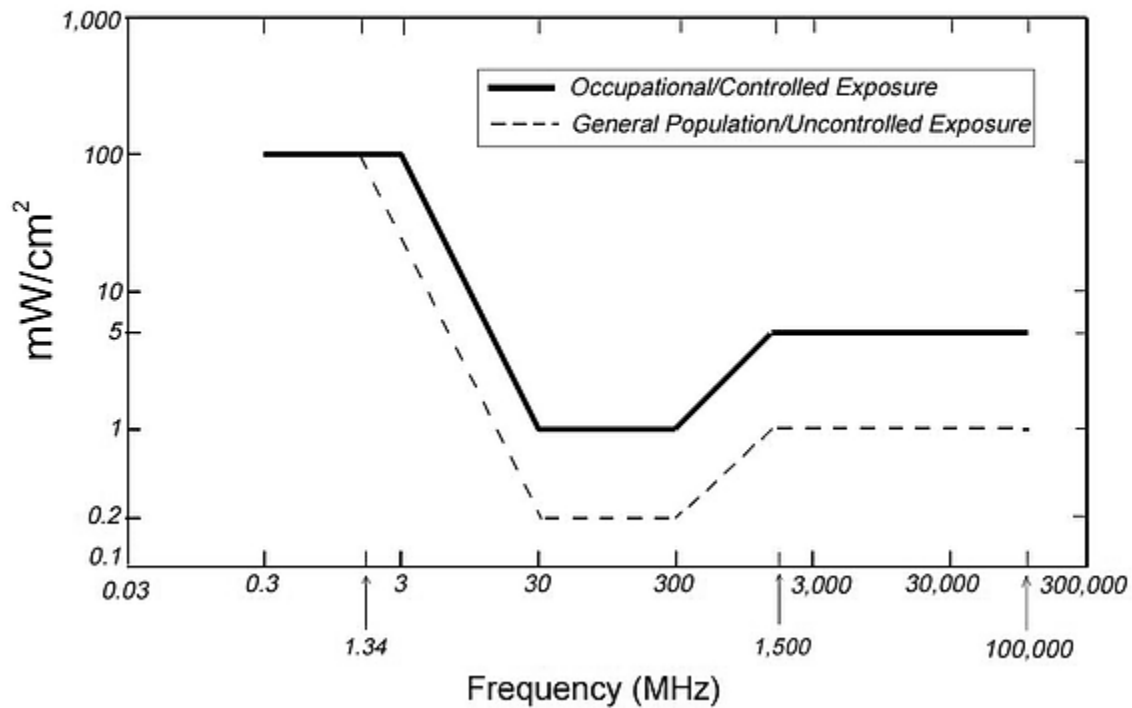
The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power density: } P_d(mW/cm^2) = \frac{E^2}{3770}$$

MPE LIMITS

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density

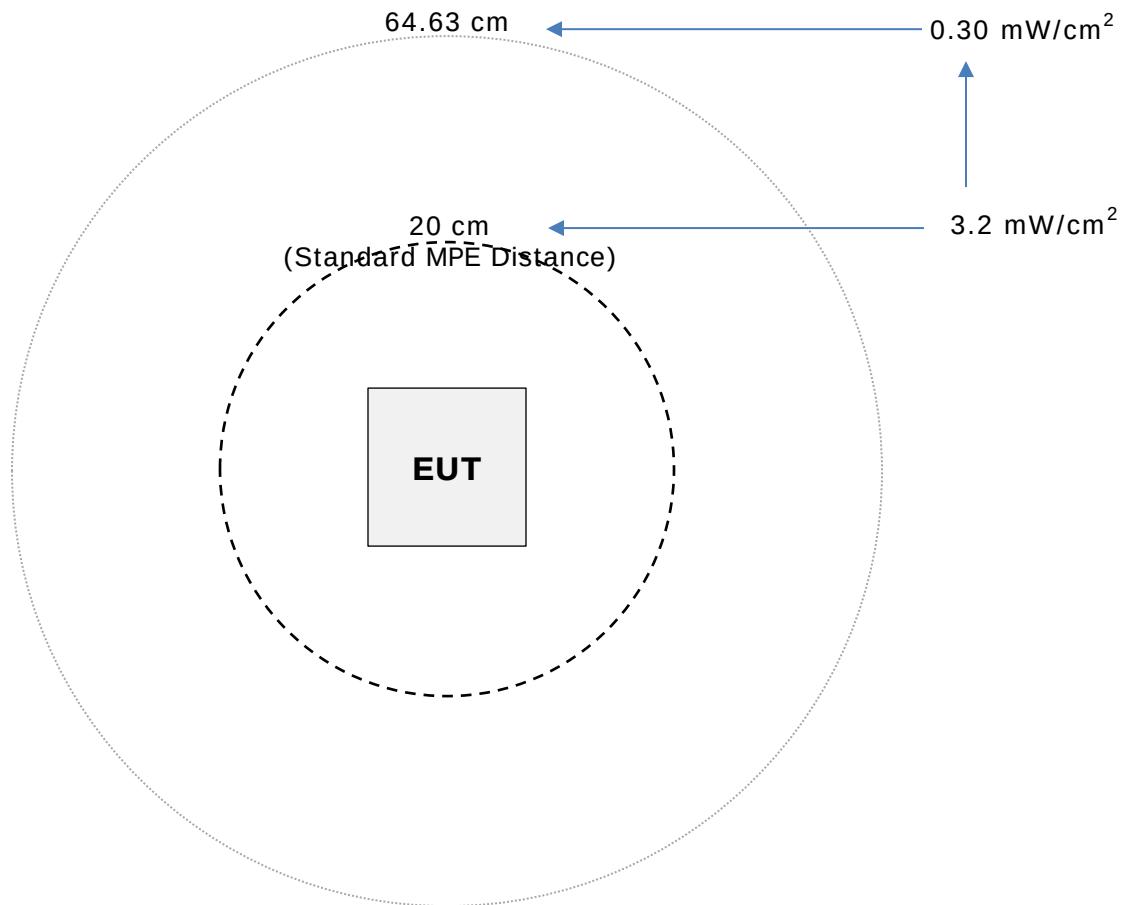


MPE Table

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	15.85 W
Frequency Range	453 – 461 MHz
Worst-case Frequency	453 MHz
Duty Cycle (at full power)	100%
Power Density	0.30 mW/cm ²
Minimum Separation Distance	64.63 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	15.85 W
Frequency Range	453 – 461 MHz
Worst-case Frequency	453 MHz
Duty Cycle (at full power)	100%
Power Density	1.5 mW/cm ²
Minimum Separation Distance	28.9 cm

