



RF Exposure Evaluation Report

APPLICANT	FIPLEX COMMUNICATIONS INC.
FCC ID	P3TDHS40-R
IC	8986A-DHS40R
MODEL NUMBER	DHS40-R
PRODUCT DESCRIPTION	PUBLIC SAFETY 800 MHz DIGITAL SIGNAL BOOSTER
DATE SAMPLE RECEIVED	4/10/2020
FINAL TEST DATE	4/24/2020
PREPARED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Report Version	Description	Issue Date
803AUT20 MPE_TestReport_	Rev1	Initial Issue	04/24/2020

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

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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:

A handwritten signature in blue ink, appearing to read 'Franklin Rose', is written over a circular red stamp. The stamp contains the text 'TIMCO ENGINEERING' around the perimeter and 'US1070' in the center.

Name and Title	Franklin Rose, Project Manager / EMC Specialist
Date	04/24/2020

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GENERAL INFORMATION

EUT Description	PUBLIC SAFETY 800 MHz DIGITAL SIGNAL BOOSTER		
Model Number	DHS40-R		
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 ISED RSS-102		
Test Facility	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA. Designation #: US1070		

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

EUT Parameters		
Parameter	Value	Unit
EUT Form Factor	Fixed ▼	
Lowest Frequency	851.000	MHz
Highest Frequency	869.000	MHz
Maximum Power	40.010	dBm ▼
Tune Up Tolerance	0.000	+/- dBm ▼
Duty Cycle	100%	%
Antenna Gain	0.000	dBi EIRP ▼
Coax Loss	3.020	dB ▼
EIRP	5.000	W

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FCC MPE SEPARATION

Uncontrolled Public RF Exposure/MPE Guideline

Separation Distance (cm)	26.48 cm
Power Density (mW/cm ²)	0.567 mW/cm ²

Controlled Occupational RF Exposure/MPE Guideline

Separation Distance (cm)	20 cm
Power Density (mW/cm ²)	0.995 mW/cm ²

Calculations

RF Exposure Field Strength Limits

Public Persons may be exposed up to:

Worst-Case RF Field Strength Limit for the General Public (Uncontrolled Environment)	0.567 mW/cm ²
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Occupational Persons may be exposed up to:

Worst-Case RF Field Strength Limit for Controlled Use (Controlled Environment)	2.837 mW/cm ²
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Separation Distance

Mandatory distance from radiating element:

Calculation Method	Distance from Radiating Element (cm) = SQRT (P(mW) / 4π S(mW/cm ²))
Uncontrolled Sep. Distance @ 0.567 mW/cm ²	26.48 cm
Controlled Sep. Distance @ 2.837 mW/cm ²	11.84 cm

EUT Power Density at 20 cm

Calculation Method	Power Density (mW/cm ²) = P(mW) / 4π R(cm) ²
EUT Power Density @ 20 cm	0.995 mW/cm ²

ISED MPE SEPARATION

Uncontrolled Public RF Exposure/MPE Guideline

Separation Distance (cm)	38.87 cm
Power Density (W/m ²)	2.633 W/m ²

Controlled Occupational RF Exposure/MPE Guideline

Separation Distance (cm)	20 cm
Power Density (W/m ²)	9.95 W/m ²

Calculations

RF Exposure Field Strength Limits

Public Persons may be exposed up to:

Worst-Case RF Field Strength Limit for the General Public (Uncontrolled Environment)	2.633 W/m ²
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Occupational Persons may be exposed up to:

Worst-Case RF Field Strength Limit for Controlled Use (Controlled Environment)	18.83 W/m ²
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Separation Distance

Mandatory distance from radiating element:

Calculation Method	Distance from Radiating Element (cm) = SQRT (P(mW) / 4π S(mW/cm ²))
Uncontrolled Sep. Distance @ 2.633 W/m ²	38.87 cm
Controlled Sep. Distance @ 18.83 W/m ²	14.54 cm

EUT Power Density at 20 cm

Calculation Method	Power Density (mW/cm ²) = P(mW) / 4π R(cm) ²
EUT Power Density @ 20 cm	9.95 W/m ²