



RF Exposure Evaluation Report

APPLICANT	TPL SYSTEMES
ADDRESS	ZAE du Perigord Noir Sarlat La 24200 FRANCE
FCC ID	2ATEXDM3G40GPS
MODEL NUMBER	DM3G40GPS
PRODUCT DESCRIPTION	PLMR RADIO
DATE SAMPLE RECEIVED	07/11/2019
FINAL TEST DATE	08/02/2019
PREPARED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Report Version	Description	Issue Date
1774AUT19 MPE_TestReport	Rev1	Initial Issue	08/02/2019

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
MPE CALCULATION	4
MPE TABLE	5
GENERAL UNCONTROLLED EXPOSURE	5
GENERAL CONTROLLED EXPOSURE	5

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	08/02/2019

GENERAL INFORMATION

EUT Description	PLMR RADIO		
Model Number	DM3G40GPS		
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	external BNC		
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	0 dBi

POWER OUTPUT OF EUT

Frequency	Measurement (dBm)	Measurement (W)	Rated Output (W)
33.02	46.83	48.19	50.00

MPE CALCULATION

The minimum separation distance is calculated as follows:

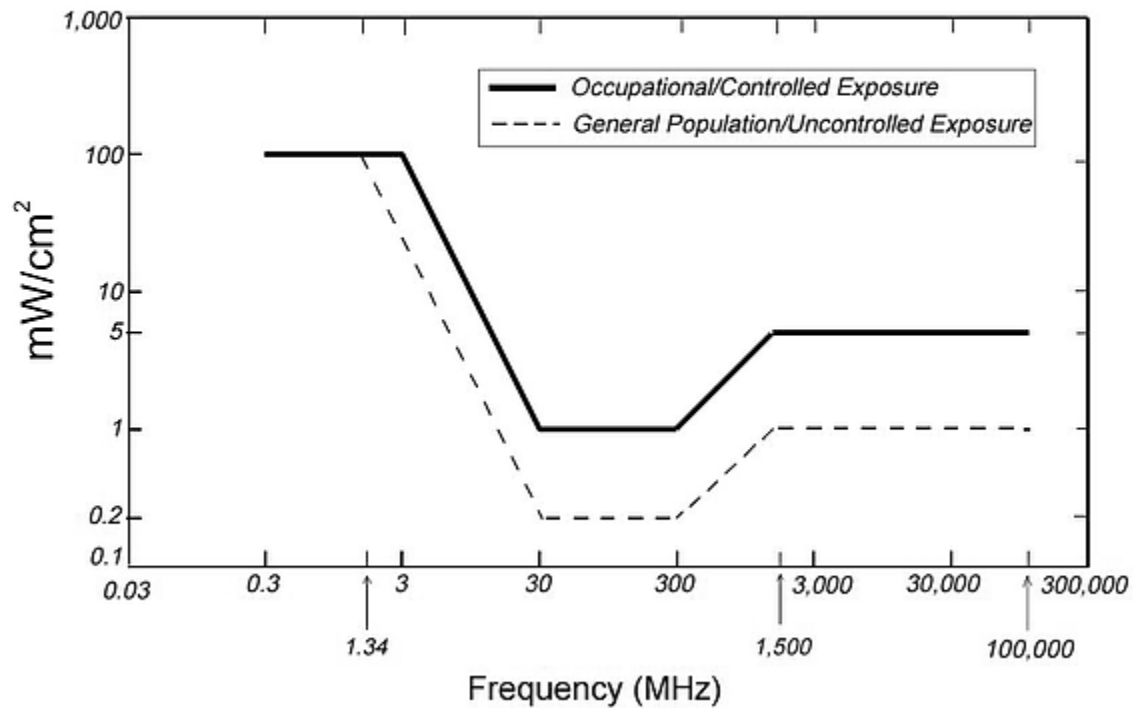
$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$

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

MPE LIMITS

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)

Plane-wave Equivalent Power Density

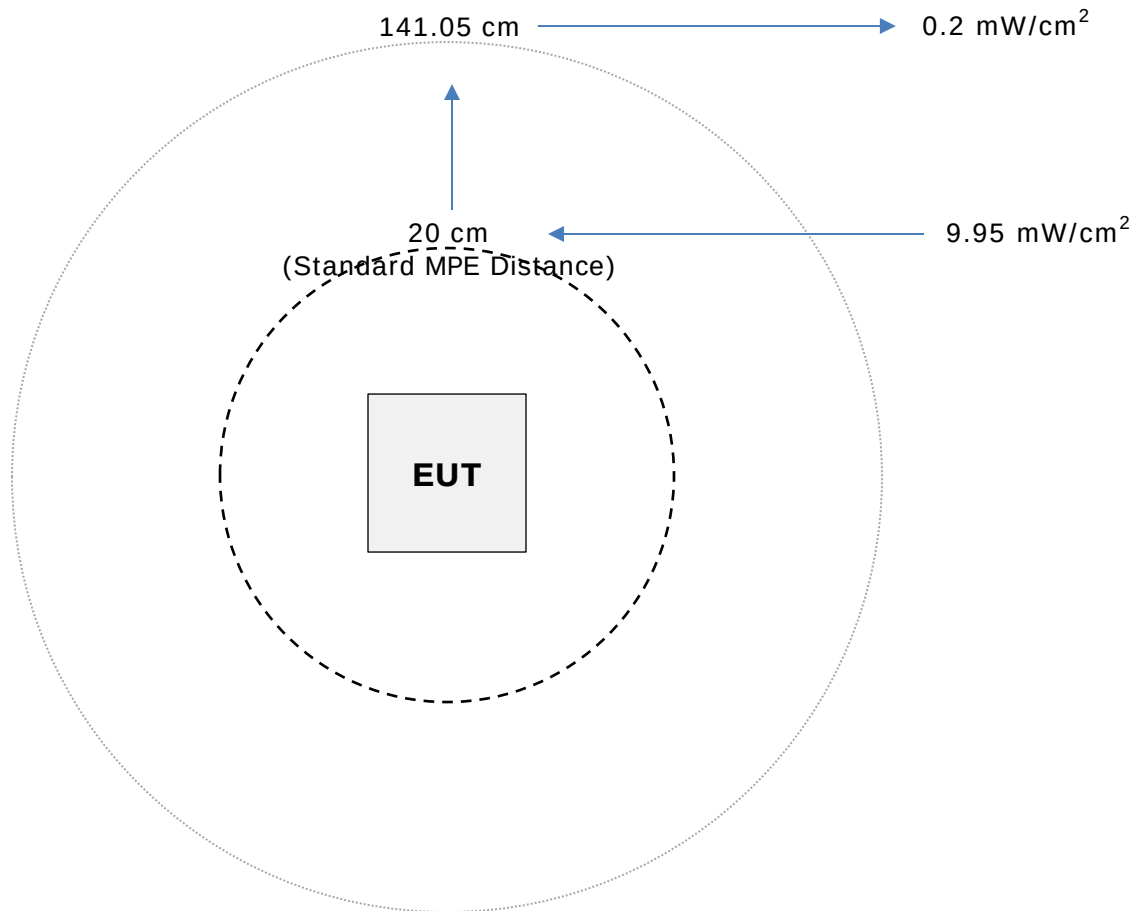


MPE Table

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	50.0 W
Frequency Range	33.0 - 49.6 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	0.2 mW/cm ²
Minimum Separation Distance	141.05 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	50.0 W
Frequency Range	33.0 - 49.6 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	1.0 mW/cm ²
Minimum Separation Distance	63.08 cm

