



# RF Exposure Evaluation Report

<b>APPLICANT</b>	CRESCEND TECHNOLOGIES, LLC
<b>ADDRESS</b>	140 E. State Parkway SCHAUMBURG IL 60173 USA
<b>FCC ID</b>	CWWDSDTJK50
<b>MODEL NUMBER</b>	DSDTJK50-01T
<b>PRODUCT DESCRIPTION</b>	700/800 MHZ MOBILE PA
<b>DATE SAMPLE RECEIVED</b>	08/23/2019
<b>FINAL TEST DATE</b>	08/28/2019
<b>PREPARED BY</b>	Franklin Rose
<b>TEST RESULTS</b>	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

Report Number	Report Version	Description	Issue Date
2233AUT19 MPETestReport_	Rev1	Initial Issue	08/28/2019

**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:**



<b>Name and Title</b>	Franklin Rose, Project Manager / EMC Specialist
<b>Date</b>	08/28/2019

## GENERAL INFORMATION

<b>EUT Description</b>	700/800 MHZ MOBILE PA		
<b>Model Number</b>	DSDTJK50-01T		
<b>EUT Power Source</b>	<input type="checkbox"/> 110–120Vac, 50–60Hz	<input checked="" type="checkbox"/> DC Power (13.8 VDC)	<input type="checkbox"/> Battery Operated
<b>Test Item</b>	<input type="checkbox"/> Engineering Prototype	<input checked="" type="checkbox"/> Pre-Production	<input type="checkbox"/> Production
<b>Type of Equipment</b>	<input type="checkbox"/> Fixed	<input checked="" type="checkbox"/> Mobile	<input type="checkbox"/> Portable
<b>Antenna Connector</b>	External, TNC Type		
<b>Test Conditions</b>	The temperature was 26°C Relative humidity of 50%.		
<b>Modification to the EUT</b>	No Modification to EUT.		
<b>Applicable Standards</b>	FCC CFR 47 Part 2.1091		
<b>Test Facility</b>	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA. Designation #: US1070		

## ANTENNA INFORMATION

Antenna is Provided	Type	Max Gain (dBi)
No	n/a	0.0

## POWER OUTPUT OF EUT

Frequency	AGC Level	Input (dBm)	Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	Gain (dB)	Output ERP (W)
772.0	AGC	22.45	46.86	0.00	0.00	24.4	48.53
772.0	AGC+3	25.45	47.01	0.00	0.00	21.6	50.23
772.0	Saturation	36.45	47.01	0.00	0.00	10.6	50.23
802.0	AGC	22.45	46.92	0.00	0.00	24.5	49.20
802.0	AGC+3	25.45	46.98	0.00	0.00	21.5	49.89
802.0	Saturation	36.45	46.98	0.00	0.00	10.5	49.89
815.0	AGC	22.45	46.88	0.00	0.00	24.4	48.75
815.0	AGC+3	25.45	46.93	0.00	0.00	21.5	49.32
815.0	Saturation	36.45	46.93	0.00	0.00	10.5	49.32
860.0	AGC	22.45	46.73	0.00	0.00	24.3	47.10
860.0	AGC+3	25.45	46.76	0.00	0.00	21.3	47.42
860.0	Saturation	36.45	46.76	0.00	0.00	10.3	47.42

**Measured Power Output = 50.23 W**

**Tuning Range Maximum Power Output < 52 W.**

Applicant: CRESCEND TECHNOLOGIES, LLC  
 FCC ID: CWWDSDTJK50  
 Report: 2233AUT19 MPE\_TestReport\_Rev1

## MPE CALCULATION

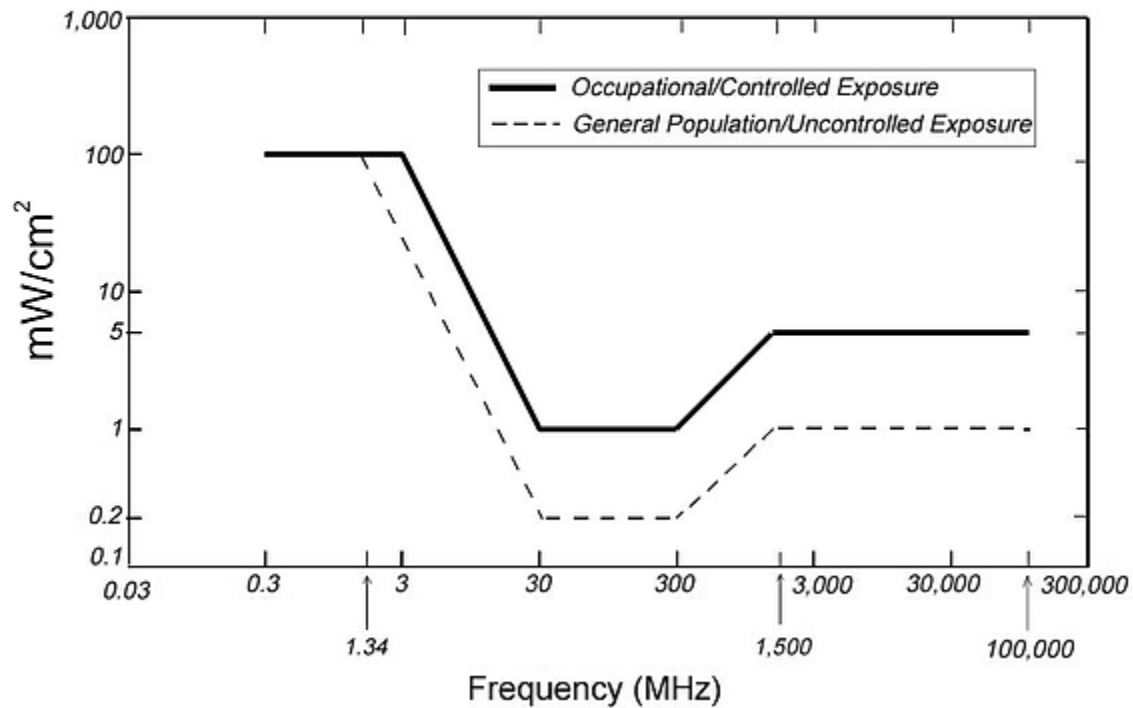
The minimum separation distance is calculated as follows:

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

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

## MPE LIMITS

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

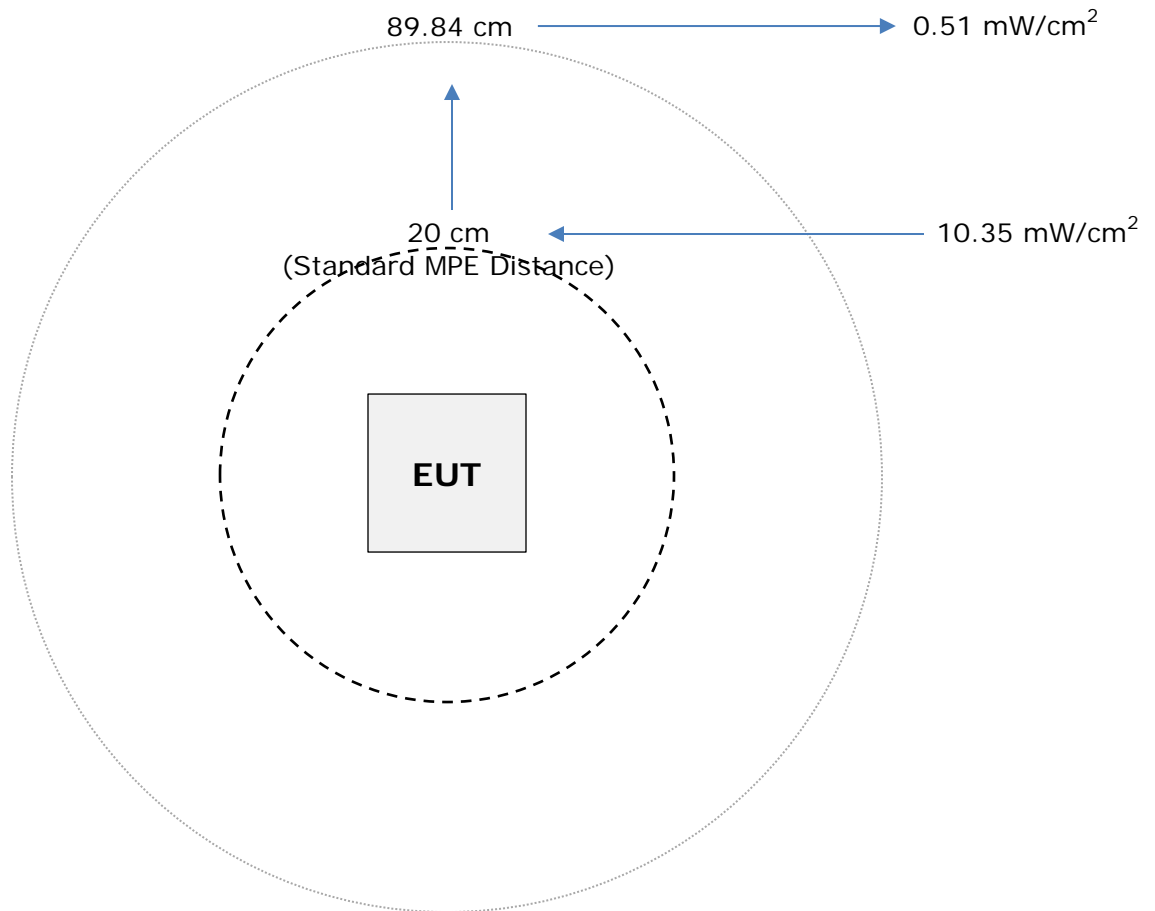


## MPE Table

### 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	52.0 W
Frequency Range	769 - 869 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	0.51 mW/cm <sup>2</sup>
Minimum Separation Distance	89.84 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	52.0 W
Frequency Range	769 - 869 MHz
Duty Cycle (at full power)	100%
Max Antenna Gain	0 dBi
Coax Loss	0 dB
Power Density	2.56 mW/cm <sup>2</sup>
Minimum Separation Distance	89.84 cm

