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## RF Exposure Evaluation Report

|                            |                                                |
|----------------------------|------------------------------------------------|
| <b>APPLICANT</b>           | FUNK-ELECTRONIC PICIORGROS GMBH                |
|                            | Claudiastr. 5 * 51149<br>Cologne 51145 GERMANY |
| <b>FCC ID</b>              | TO9TMO-100                                     |
| <b>IC</b>                  | 10682A-TMO100B                                 |
| <b>MODEL NUMBER</b>        | TMO-100                                        |
| <b>PRODUCT DESCRIPTION</b> | 800 MHZ TETRA RADIO                            |
| <b>STANDARD APPLIED</b>    | CFR 47 Part 2.1091                             |
| <b>PREPARED BY</b>         | Cory Leverett                                  |

We, TIMCO ENGINEERING, INC. would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and meets the requirements.

The attached report shall not be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

## **GENERAL REMARKS**

### **Attestations**

This equipment has been evaluated in accordance with the standards identified in this report. To the best of my knowledge and belief, these evaluations were performed using the procedures described in this report.

I attest that the necessary evaluations were made, under my supervision, at:

**Timco Engineering Inc.  
849 NW State Road 45  
Newberry, FL 32669**



**Authorized Signatory Name:**

Cory Leverett

Engineering Project Manager

**Date: 2/14/2017**

Applicant: FUNK-ELECTRONIC PICIORGROS GMBH  
FCC ID: TO9TMO-100  
IC: 10682A-TMO100B  
Report: 36AUT17 RF Exp MPT Rpt.docx

## RF Exposure Requirements

### **General information**

Device type: 800 MHZ TETRA RADIO

### **Antenna**

The manufacturer does not specify an antenna, but a typical antenna has a gain of 0 dBi.

| Configuration | Antenna p/n | Type | Max. Gain (dBi) |
|---------------|-------------|------|-----------------|
| Fixed mounted | Any         | omni | 13              |
|               |             |      |                 |

### **Operating configuration and exposure conditions:**

The conducted output power is shown in the table below. Typical use qualifies for a maximum duty cycle factor of 100%.

### **MPE Calculation:**

The minimum separation distance is calculated as follows:

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

The limit for general uncontrolled exposure environment is shown in FCC rule Part 1.11310, Table 1.

**Minimum Separation Distance for Mobile or Fixed Devices  
General Population/Uncontrolled Exposure**

**Insert values in yellow highlighted boxes to determine Minimum Separation Distance**

|                                                        |     |                    |               |                  |          |         |
|--------------------------------------------------------|-----|--------------------|---------------|------------------|----------|---------|
| Max Power                                              | 1.8 | W                  | <i>equals</i> | Max Power        | 1800     | mW      |
| Duty Cycle                                             | 100 | %                  | <i>equals</i> | Duty Factor      | 1        | numeric |
| Antenna Gain                                           | 13  | dBi                | <i>equals</i> | Gain numeric     | 19.95262 | numeric |
| Coax Loss                                              | 0   | dB                 |               | Gain - Coax Loss | 19.95262 | numeric |
| Power Density                                          | 0.6 | mW/cm <sup>2</sup> |               |                  |          |         |
| <b>Enter power Density from the chart to the right</b> |     |                    |               |                  |          |         |
| Frequency                                              | 869 | MHz                |               |                  |          |         |

**Rule Part 1.1310, Table 1 (B)**

| Frequency range | Power den          | Enter this value   |
|-----------------|--------------------|--------------------|
| MHz             | mW/cm <sup>2</sup> | mW/cm <sup>2</sup> |
| 0.3-1.34        | 100                | 100                |
| 1.34-30         | 180/f <sup>2</sup> | 0.0                |
| 30-300          | 0.2                | 0.2                |
| 300-1,500       | f/1500             | 0.6                |
| 1,500-100,000   | 1                  | 1                  |

f = frequency in MHz

**Minimum Separation Distance**

**69 cm**

**0.69 m**

Minimum Separation in Inches      27.15126 Inches

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