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## RF Exposure Evaluation Report

|                            |  |
|----------------------------|--|
| <b>APPLICANT</b>           | BW BROADCAST LTD.  |
|                            | UNIT 27, IO CENTRE CROYDON ROAD<br>CROYDON CRO 4WQD UNITED KINGDOM |
| <b>FCC ID</b>              | 2ABPH-TX50V2   |
| <b>IC</b>                  | 11730A-TX5-V2  |
| <b>MODEL NUMBER</b>        | T50V2  |
| <b>PRODUCT DESCRIPTION</b> | 50W FM BROADCAST TX  |
| <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.

Applicant: BW BROADCAST LTD.  
FCC ID: 2ABPH-TX50V2  
IC: 11730A-TX50V2  
Report: V:\B\BW BROADCAST\1156AUT16\1156AUT16RF EXP MPE RPT160616.DOCX

## 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:** 10/17/2016

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# RF Exposure Requirements

## General information

Device type: 50W FM BROADCAST TX

Devices that operate under Part 73 of this chapter are subject to RF exposure evaluation prior to equipment authorization or use.

## 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 | 0               |
|               |             |      |                 |

## MPE Calculation:

The minimum separation distance is calculated as follows:

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

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

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## Minimum Separation Distance for Mobile or Fixed Devices

## Controlled Exposure

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

|               |     |                    |               |                  |       |         |
|---------------|-----|--------------------|---------------|------------------|-------|---------|
| Max Power     | 50  | W                  | <i>equals</i> | Max Power        | 50000 | mW      |
| Duty Cycle    | 100 | %                  | <i>equals</i> | Duty Factor      | 1     | numeric |
| Antenna Gain  | 0   | dBi                | <i>equals</i> | Gain numeric     | 1     | numeric |
| Coax Loss     | 0   | dB                 |               | Gain - Coax Loss | 1     | numeric |
| Power Density | 1   | mW/cm <sup>2</sup> |               |                  |       |         |

Enter power Density from the chart to the right

### Rule Part 1.1310, Table 1 (A)

| Frequency | 108 MHz       | Freq range | Power density    | Enter this value |
|-----------|---------------|------------|------------------|------------------|
|           | MHz           |            | $\text{mW/cm}^2$ | $\text{mW/cm}^2$ |
|           | 0.3 - 3       | 100        | 100              | 100              |
|           | 3 - 30        | $900/f^2$  | 0.1              | 0.1              |
|           | 30-300        | 1          | 1                | 1                |
|           | 300-1,500     | $f/300$    | 0.4              | 0.4              |
|           | 1,500-100,000 | 5          | 5                | 5                |

f = frequency in MHz

**Minimum Separation Distance**      **63 cm**      **0.63 m**

### Minimum Separation in Inches

24.81501 Inches

Applicant: BW BROADCAST LTD.

Applicant: BW BROADCASTING INC  
FCC ID: 2ARPHTX-V2

Report: B\BW BROADCAST\1156AUT16\1156AUT16TestReport.docx