

**Annex acc. to FCC Title 47 CFR Part 15  
relating to  
AMBER wireless GmbH  
AMB9626**

# **Annex no. 11**

## **MPE Calculations**

**Title 47 - Telecommunication  
Part 15 - Radio Frequency Devices  
Subpart C – Intentional Radiators  
ANSI C63.4-2014  
ANSI C63.10-2013**



Deutsche  
Akkreditierungsstelle  
D-PL-12053-01-00

EUT: AMB9626

FCC ID: R7TAMB9626

FCC Title 47 CFR Part 15

Date of issue: 2017-08-29

## Radio frequency hazard

### Regulation

15.247(i) Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

### MPE calculation to the FCC ID: R7TAMB9626

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a "worst case" prediction.

$$S = PG/4\pi R^2 \text{ Or } S = \text{EIRP}/ (4\pi R^2)$$

Where

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units e.g. mW)

G = power gain of the antenna in the direction of interest relative to the isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units e.g. cm)

EIRP = equivalent isotropically radiated power

### Calculation:

| Radio frequency hazard (Section 15.247) |           |       |          |                          |                      |                      |
|---|-----------|-------|----------|--------------------------|----------------------|----------------------|
| Frequency                               | Max. EIRP |       | Distance | Calculated Power Density | Limit*               | Margin               |
| MHz                                     | dBm       | mW    | cm       | mW / cm <sup>2</sup>     | mW / cm <sup>2</sup> | mW / cm <sup>2</sup> |
| 902.5                                   | 19.8      | 95.50 | 20       | <b>0.019</b>             | 0.602                | <b>0.583</b>         |
| 915.0                                   | 19.4      | 87.10 | 20       | <b>0.017</b>             | 0.610                | <b>0.593</b>         |
| 927.5                                   | 19.2      | 83.18 | 20       | <b>0.016</b>             | 0.618                | <b>0.602</b>         |

**\*Limit: the reference level for general public exposure according to the OET Bulletin 65, edition 97-01 Table 1.**