

MPE Declaration

Multitone IP133



Federal Communications Commission,
7435 Oakland Mills Road,
Columbia, MD
21046
USA

Maximum Permissible Exposure (MPE) Compliance Statement For the Multitone IP133 Radio Paging Transcoder

The Multitone IP133 Transcoder (438 - 470MHz) equipment, contains a low power (5 Watts) transmitter and is intended for use with a unity gain (or less) end-fed dipole or a "local" helical, or whip antenna. The equipment's performance may be characterized in accordance with the MPE requirements of 47 CFR, as below.

At the IP133's maximum rated operating frequency of 470MHz, the MPE limit for the General Population/Uncontrolled Exposure is $0.3\text{mW}/\text{cm}^2$. The IP133 may be shown to comply with this limit, at a line of sight distance of $<37\text{cm}$ from the antenna element.

Derivative analysis of this result is as follows: -

For the general uncontrolled population, the Maximum Permissible Exposure (MPE) limit is given by the formula $F/1500 \text{ mW}/\text{cm}^2$, where F is the operating frequency of the product. This equates to a limit of $0.3\text{mW}/\text{cm}^2$.

The prediction method provided, is based on the following worst-case (far-field) calculation: -

$$\text{Power Density } (P_D) = \text{EIRP}/(4\pi R^2)$$

Using this formula for the IP133 with the following values inserted; $P_D = 0.3\text{mW}/\text{cm}^2$;
EIRP = 5000mW (worst case), yields a radius figure of 36.42cm.

The Installation instructions include a warning under the heading "Important Safety Information". This warning instructs the installer to ensure that the unit and its associated antenna, are mounted in a position where people will not approach, or be located within, 1m of the radiating antenna. This distance provides an additional safety margin for the product.

Dated this 25th day of November 2011.

Signed: A handwritten signature in black ink, appearing to read "B.R. Merchant".

B.R. Merchant
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