



RF Exposure Evaluation Report

Report Number : FA8D2432
Equipment : Bluetooth Handsfree Car kit
Trade Name : Mantis Wireless Products
Model Name : Mantis C1000/C1050
FCC ID : WZHC10XX
Filing Type : Certification
Issued Date of Report : Jan. 17, 2009
Applicant : Mantis Products LLC
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1. Introduction

The report has been prepared on behalf of Mantis Products LLC Bluetooth Handsfree Car kit to show compliance with the RF Exposure.

1.1 Requirements

Three different categories of transmitters are defined by the FCC in OET Bulletin 65. These categories are fixed installation, mobile and portable and are defined as follows:

- Fixed installation:**

Fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans from the antenna is maintained to at least 2 meters.

- Mobile Devices:**

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located, such as a wireless modem operating in a laptop computer, are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR 2.1091.

- Portable Devices:**

A portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR 2.1093)

For this test report the Mantis Products LLC Mantis C1000/C1050 is being done as a mobile device and the MPE is evaluated at the 20cm test distance.



The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/Controlled Exposure and General Population/Uncontrolled Exposure. These two categories are defined as follows:

▪ Occupational/controlled Exposure:

In general, occupational/controlled exposure limits are applicable to situation in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure. Awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program. If appropriate, warning signs and labels can also be used to establish such awareness by providing prominent information on the risk of potential exposure and instructions on methods to minimize such exposure risks.

▪ General Population/Uncontrolled Exposure:

The general population / uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Since there are no warnings or training associated with this unit and it can be used by anyone, Bluetooth Handsfree Car kit is evaluated to the General Population / Uncontrolled Exposure limits.



1.2 Radio Frequency Radiation Exposure Evaluation

For this device, the calculation is as follows:

➤ No evaluation required if power is below this threshold:

Frequency (GHz)	Power (mW)	Power (dBm)
2.48	24.19	13.84

Maximum measured transmitter power for the EUT:

Power (dBm)
-1.42

Threshold for no RF exposure evaluation is 13.84 dBm.

Transmitter power of this device is -1.42 dBm.

Conclusion: No RF exposure evaluation required since Transmitter Pout is below FCC threshold.