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Report On

RF Exposure Estimation of the Beijing Choice Electronic Company Co.,
Ltd Bluetooth Pulse Oximeter MD300C318

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DATED 24 April 2009



RF Exposure Measurement

1 Introduction

This document was prepared to analyze the expected level of Non-Ionizing Electromagnetic Radiation (“NIER”) caused by the radio transmission equipment Bluetooth Pulse Oximeter MD300C318 belonging to Beijing Choice Electronic Company Co., Ltd.

2 Limits and Guidelines on Maximum Permissible Exposure (MPE)

Based on Section Part 1.1037(b) requirement for environmental impact of human exposure to radio-frequency (RF) radiation, according to the KBD447498 Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies, a device may be used in portable exposure conditions with no restrictions when output power is $\leq 60/f_{\text{GHz}}$ mW as specified in the following table:

Threshold for Output Power

| Exposure Category | Low Threshold | High Threshold |
|--------------------|---|---|
| General Population | $(60/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(120/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm | $(900/f_{\text{GHz}})$ mW, $d < 20$ cm |
| Occupational | $(375/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(900/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm | $(2250/f_{\text{GHz}})$ mW, $d < 20$ cm |

f_{GHz} is the mid-band frequency in a transmission band

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

3 Calculation of Output Power threshold for Bluetooth Pulse Oximeter MD300C318

Below method describes a theoretical approach to compare the output power of the Choice Bluetooth Pulse Oximeter MD300C318 based on a typical configuration with the low threshold for portable device.

In accordance with 47CFR FCC Part 2.1091, the product was defined as a portable device.

3.1 Typical Configuration of the Bluetooth Pulse Oximeter MD300C318

The Bluetooth Pulse Oximeter MD300C318 supports frequency band of 2402MHz - 2483.5MHz. It supports GFSK and 8PSK modulation over a bandwidth of 1 kHz.

3.2 Antennas and Technical Description of Bluetooth Pulse Oximeter MD300C318

| Max. output power at antenna connector(dBm) | Modulation Type | CH Bottom (2402MHz) | CH Middle (2441MHz) | CH Top (2480MHz) |
|---|--------------------|---------------------|---------------------|------------------|
| | GFSK | 5.21 | 6.20 | 6.14 |
| 8PSK | 3.14 | 3.99 | 3.76 | |
| Transmitter frequency band | 2402MHz -2483.5MHz | | | |
| Number of antenna ports | 1 | | | |
| External antenna gain | 2dBi | | | |

3.3 Calculation result

This Bluetooth device operate with distance $d < 2.5\text{cm}$,
Low threshold $=60/2.445\text{GHz} = 24.54\text{mW}$.

The output power of this portable transmitter is 6.20dBm, which is equal to 4.17mW, less than 24.54mW low threshold.

Based on above calculation, this device is not required to conduct SAR test.