



RF Exposure Evaluation Report

APPLICANT : DENSO WAVE INCORPORATED
EQUIPMENT : Bar Code Handy Terminal
BRAND NAME : DENSO
MODEL NAME : BHT-710BB-CE
IC : 1551C-BHT710BB
FILING TYPE : Certification
STANDARD : OET Bulletin 65 Supplement C (Edition 01-01)

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with FCC OET Bulletin 65 Supplement C (Edition 01-01).

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Roy Wu / Manager

SPORTON INTERNATIONAL INC.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
CA912101-04	Rev. 01	Initial issue of report	Apr. 06, 2010



1. Introduction

The report has been prepared on behalf of DENSO WAVE INCORPORATED Bar Code Handy Terminal to show compliance with the RF Exposure.

➤ 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 DENSO BHT-710BB-CE 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, Bar Code Handy Terminal is evaluated to the General Population / Uncontrolled Exposure limits.

2. Administration Data

2.1 Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

2.2 Applicant

Company Name	DENSO WAVE INCORPORATED
Address	1, Yoshiike, Kusaki, agui-cho, Chita-gun, Aichi, japan, 470-2297

2.3 Manufacturer

Company Name	Universal Scientific Industrial CO., LTD.
Address	No. 141, Lane 351, Taiping Road, Sec. 1, Tsao Tuen, Nan-Tou, Taiwan

3. General Information

3.1 Description of Device Under Test (DUT)

Product Feature & Specification	
DUT Type	Bar Code Handy Terminal
Brand Name	DENSO
Model Name	BHT-710BB-CE
IC	1551C-BHT710BB
Tx Frequency	2400 MHz ~ 2483.5 MHz
Rx Frequency	2400 MHz ~ 2483.5 MHz
Antenna Type	Chip Antenna
HW Version	V3.4
SW Version	1.16a
Type of Modulation	Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK
DUT Stage	Production Unit

List of Accessory:

Accessories Specification		
Adapter 1	Brand Name	DENSO WAVE INCORPORATED
	Model Name	PMW1238A
	Power Rating	I/P:100-240Vac, 50-60Hz, 1A; O/P: 12Vdc, 3.75A
	AC Power Cord Type	1.3 meter shielded cable with ferrite core
Adapter 2	Brand Name	DENSO WAVE INCORPORATED
	Model Name	FSP096-AHB
	Power Rating	I/P:100-240Vac, 50-60Hz, 2A; O/P: 12Vdc, 8A
	AC Power Cord Type	1.8 meter shielded cable with ferrite core
Battery 1	Brand Name	DENSO
	Model Name	BT-700LL
	Power Rating	3.6Vdc, 3800mAh
	Type	Li-ion
Battery 2	Brand Name	DENSO
	Model Name	BT-700L
	Power Rating	3.7Vdc, 2200mAh
	Type	Li-ion
Cradle 1	Brand Name	DENSO
	Model Name	CH-751
Cradle 2	Brand Name	DENSO
	Model Name	CU-733
Cradle 3	Brand Name	DENSO
	Model Name	CU-714

Remark: The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

4. RF Exposure Evaluation

4.1 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)
3.58

Threshold for no RF exposure evaluation is 13.84 dBm.

Transmitter power of this device is 3.58 dBm.

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