



RF Exposure Evaluation Report

APPLICANT : Integrity Tracking LLC, dba MobileHelp
EQUIPMENT : Wireless Base Station Gen1.0
BRAND NAME : MobileHelp
MODEL NAME : WBS GEN1.0
FCC ID : PXTWBS-01
FILING TYPE : Certification
STANDARD : OET Bulletin 65 Supplement C (Edition 01-01)

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with FCC OET Bulletin 65 Supplement C (Edition 01-01), and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai / Manager

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA311506	Rev. 01	Initial issue of report	Feb. 21, 2013



1. Administration Data

1.1. 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

1.2. Applicant

Company Name	Integrity TRACKING LLC, DBA MOBILEHELP
Address	3701 FAU Blvd., Suite 300, Boca Raton FL 33431, USA

1.3. Manufacturer

Company Name	Daviscomms (Malaysia) Sdn Bhd
Address	Plot 18, Lorong Perusahaan Maju 1, Kawasan, Perusahaan Perai 4, 13600 Perai, Malaysia

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Wireless Base Station Gen1.0
Brand Name	MobileHelp
Model Name	WBS GEN1.0
Marketing Name	WBS GEN1.0
FCC ID	PXTWBS-01
IMEI Code	355306040051874
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz 433.92MHz Transceiver: 433.92MHz
Antenna Type	WWAN : Dipole Antenna 433.92MHz Transceiver : omnidirectional Antenna
HW Version	R02
SW Version	R01
Uplink Modulation	GPRS: GMSK EDGE: GMSK / 8PSK WCDMA (Rel 99): QPSK HSDPA (Rel 6): QPSK HSUPA (Rel 6): QPSK 433.92MHz Transceiver: ASK
EUT Stage	Production Unit

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



3. RF Exposure Limit Introduction

The FCC categorizes the RF exposure limit based on the intended usage of the device and the user's awareness and ability to exercise control over his or her exposure. This is a consumer product to be used in the home, hence this device was evaluated by mobile device with general population/uncontrolled exposure condition. The definition of these category are shown as follows:

▪ **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 transmitters' 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 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.

▪ **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.

Per OET Bulletin 65, the power density limit for General Population/Uncontrolled Exposure summary here:

Table: Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Power Density (S) (mW/cm ²)
0.3–1.34	*(100)
1.34–30	*(180/f ²)
30–300	0.2
300–1500	f/1500
1500–100,000	1.0

f = frequency in MHz

* = Plane-wave equivalent power density



4. Maximum RF output power among production units

Mode	GSM 850	GSM 1900
	Burst Average power	
GPRS/EDGE (GMSK, 1 Tx slot)	33	30
GPRS/EDGE (GMSK, 2 Tx slots)	33	30
GPRS/EDGE (GMSK, 3 Tx slots)	33	30
GPRS/EDGE (GMSK, 4 Tx slots)	32	29
EDGE (8PSK, 1 Tx slot)	28	27
EDGE (8PSK, 2 Tx slots)	28	27
EDGE (8PSK, 3 Tx slots)	27	26
EDGE (8PSK, 4 Tx slots)	26	25

Mode	WCDMA Band V	WCDMA Band II
	Burst Average power	
RMC 12.2K	24	24
HSDPA Subtest-1	24	24
HSUPA Subtest-5	24	24

Power unit: dBm



5. Radio Frequency Radiation Exposure Evaluation

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna (i.e., 20 cm for this product)

For this device, the calculation is as follows:

WWAN Operating frequency ≤ 1.5GHz

Function	Frequency (MHz)	Antenna Gain (dBi)	Burst Average Power	Source-Based Time-Average Power (dBm)	Source-Based Time-Average Power (mW)	Source-Based Time-Average EIRP (mW)	Source-Based Time-Average ERP (mW)	Calculated RF Exposure (mW/cm ²)	Limit (mW/cm ²)
GPRS 850 (1 Tx slot)	824.2	-3.00	33	24	251.19	125.89	76.74	0.03	0.55
GPRS 850 (2 Tx slots)	824.2	-3.00	33	27	501.19	251.19	153.11	0.05	0.55
GPRS 850 (3 Tx slots)	824.2	-3.00	33	28.74	748.17	374.97	228.56	0.07	0.55
GPRS 850 (4 Tx slots)	824.2	-3.00	32	29	794.33	398.11	242.66	0.08	0.55
WCDMA Band 5	826.4	-3.00	24	24	251.19	125.89	76.74	0.03	0.55

WWAN Operating frequency > 1.5GHz

Function	Frequency (MHz)	Antenna Gain (dBi)	Burst Average Power (dBm)	Source-Based Time-Average Power (dBm)	Source-Based Time-Average Power (mW)	Source-Based Time-Average EIRP (mW)	Calculated RF Exposure (mW/cm ²)	Limit (mW/cm ²)
GPRS 1900 (1 Tx slot)	1850.20	-3.00	30	21	125.89	63.10	0.01	1.00
GPRS 1900 (2 Tx slots)	1850.20	-3.00	30	24	251.19	125.89	0.03	1.00
GPRS 1900 (3 Tx slots)	1850.20	-3.00	30	25.74	374.97	187.93	0.04	1.00
GPRS 1900 (4 Tx slots)	1850.20	-3.00	29	26	398.11	199.53	0.04	1.00
WCDMA Band 2	1852.40	-3.00	24	24	251.19	125.89	0.03	1.00

Function	Frequency (MHz)	Average Fundamental (dBuV/m)@3m	EIRP Average Output Power (dBm)	EIRP Average Output Power (mW)	Calculated RF Exposure (mW/cm ²)	Limit (mW/cm ²)
433.92MHz Transceiver	433.92	76.8	-18.43	0.01	0.000003	0.29

Note: The worse average fundamental emission of 433.92MHz transceiver is referred from RF report (Sporton report number FR311506)



For Simultaneous Transmission Consideration

The worst case of each band of WWAN is chosen to be summed with 433.92MHz transceiver

- Cellular band + 433.92MHz: $0.08/0.55 + 0.000003/0.29 = 0.145 < 1$
- PCS band + 433.92MHz: $0.04/1 + 0.000003/0.29 = 0.04 < 1$

Conclusion:

Per part 2.1091(c), EUT source-based time-averaged ERP < 1.5W for RF operating frequency \leq 1.5GHz, EUT source-based time-averaged EIRP < 3W for RF operating frequency > 1.5GHz, routine evaluation of MPE is not required; MPE calculation is sufficient to show compliance. The MPE calculation results indicate that the EUT complies with the RF exposure limit of FCC OET Bulletin 65 Supplement C (Edition 01-01).