Report No.: SZ13050202S01

RF EXPOSURE EVALUATION REPORT

Issued to

Brightstar Corporation

For

Fixed Wireless Phone

Model Name	:	FXP-862W
Trade Name	:	Motorola
Brand Name	:	Motorola
FCC ID	:	WVB-FXP86XW
Standard	:	FCC Oet65 Supplement C Jun.2001 47CFR 2.1091 KDB 447498 D01 General RF Exposure Guidance v05
Test date	:	2013-7-3
Issue date	:	2013-7-4

by

Shenzhen MORLAB Communication Technology Co., Ltd.

Tested by Zou Jian	*Approved by* Zeng Dexin	*Review by* Zhu Zhan
Zou Jian	Zeng Dexin	Zhu Zhan
(Test Engineer)	*(Quality Manager)*	(SAR *Manager*)
Date 2013.7.4	*Date* 2013.7.4	*Date* 2013.7.4

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DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	Jul. 4, 2013	First edition

1.Testing Laboratory

1.1. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China 518101
FCC Registration Number:	695796

1.2. Accreditation Certificate

Accredited Testing Laboratory:	No. CNAS L3572

2.Technical Information

Note: the following data is based on the information by the applicant.

2.1. Identification of Applicant

Company Name:	Brightstar Corporation
Address:	9725 NW 117th Avenue, #300 Miami, FL 33178

2.2. Identification of Manufacturer

Company Name:	LAKIA Teletech Co., Ltd.
Address:	2/F,Unit A, Technology Service Building, Software Garden, 1phase, Xiamen, Fujian, China Zip: 361005

2.3. Equipment Under Test (EUT)

Model Name:	FXP-862W
Trade Name:	Motorola
Brand Name:	Motorola
Hardware Version:	FXP-862W_P4.0
Software Version:	Z93A_FXP862W_E33_V0.1.6
Frequency Bands:	GSM 850MHz / PCS 1900MHz; WCDMA 850MHz / 1900MHz; 802.11 b/g;
Modulation Mode:	GSM/GPRS: GMSK; WCDMA/HSDPA/HSUPA: QPSK; 802.11 b: DSSS; 802.11g: OFDM;
Multislot Class	GPRS: Multislot Class 12;
Antenna type:	External Monopole Antenna
Development Stage:	Identical prototype
Battery Model:	3A0600-30
Battery specification:	600mAh3.6V
3GPP version:	Release 6

2.3.1. Photographs of the EUT

Please see for photographs of the EUT.

2.3.2. Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	FXP-862W_P4.0	Z93A_FXP862W_E33_V0.1.6

2.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1091**	Radiofrequency Radiation Exposure Evaluation: mobile devices
2	**FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)**	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
3	**KDB 447498 D01**	General RF Exposure Guidance v05

3. Device Category and RF Exposure Limit

Per user manual, this device is a wireless phone within home use. Based on FCC OET65c and 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location.

Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

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.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

4. Measurement Of Conducted Peak Output Power.

1. WCDMA Conducted peak output power

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	20.69	21.06	20.61	17.55	19.90	19.51
HSDPA	1	20.57	21.03	20.58	17.49	19.87	19.45
	2	20.55	21.01	20.56	21.61	19.61	19.43
	3	20.06	20.52	20.03	21.15	19.34	18.97
	4	20.03	20.49	20.06	21.12	19.15	18.94
HSUPA	1	20.55	20.92	20.53	21.62	19.85	19.41
	2	18.61	18.95	18.69	19.59	17.54	17.55
	3	19.58	19.96	19.56	20.61	18.54	18.58
	4	18.62	18.92	18.66	19.65	17.53	17.55
	5	20.52	20.89	20.51	21.61	19.79	19.37

2. GSM Conducted peak output power

Band	Channel	Frequency (MHz)	Output Power (dBm)
GSM 850	128	824.2	28.25
	190	836.6	29.00
	251	848.8	29.82
PCS 1900	512	1850.2	23.71
	661	1880.0	23.05
	810	1909.8	22.87

3. GPRS Mode Conducted peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	27.28	27.07	27.08	27.01
	190	836.6	28.03	27.58	27.06	26.95
	251	848.8	28.89	28.56	27.30	26.33
PCS 1900	512	1850.2	23.19	22.76	22.56	22.40
	661	1880.0	22.50	22.21	22.23	22.15
	810	1909.8	22.31	22.20	22.13	22.22

GPRS Time-based Average Power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	18.28	21.05	22.82	24.00
	190	836.6	19.03	21.56	22.80	23.94
	251	848.8	19.89	22.54	23.04	23.32
PCS 1900	512	1850.2	14.19	16.74	18.30	19.39
	661	1880.0	13.50	16.19	17.97	19.14
	810	1909.8	13.31	16.18	17.87	19.21

Timeslot consignations:

No. Of Slots	Slot 1	Slot 2	Slot 3	Slot 4
Slot Consignation	1Up4Down	2Up2Down	3Up2Down	4Up1Down
Duty Cycle	1:8	1:4	1:2.67	1:2
Correct Factor	-9.00dB	-6.02dB	-4.26dB	-3.01dB

Note: 1. Correct Factor=10*log (Duty Cycle)
2. Average Power= Peak Power+ Correct Factor

4. WiFi Mode Conducted average output power

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11B (DSSS)	802.11G (OFDM)
WiFi	1	2412	14.15	9.81
	6	2437	13.63	9.28
	11	2462	13.51	8.97

5. RF Exposure Evaluation

Standalone transmission MPE evaluation

Bands	Frequency (MHz)	Antenna Gain (dBi)	Conducted Average Power (dBm)	Time-averaging EIRP (mW)	Calculated to ERP (mW)
GSM 850	848.8	2.10	20.82	195.884	119.399
GPRS850	824.2	1.90	24.00	389.045	237.137
WCDMA850	835	2.10	21.06	207.014	126.183
GSM 1900	1850.2	2.19	14.71	48.978	29.854
GPRS 1900	1850.2	2.19	19.39	143.880	87.700
WCDMA 1900	1880	2.14	19.90	159.956	97.499
WiFi 2450	2412	2.00	14.15	41.210	25.119

Note:
Per 47CFR 2.1091(c)
Mobile device are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if they operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more.
So standalone MPE evaluation is not required for GSM&WCDMA antenna and WiFi antenna.
EIRP=P*G, ERP=EIRP-2.15dB

Simultaneous transmission MPE evaluation

Bands	Frequency (MHz)	Antenna Gain (dBi)	Conducted Average Power (dBm)	Calculated Power Density (mW/cm^2)	Limit (mW/cm^2)	MPE ratio
GSM 850	848.8	2.10	20.82	0.039	0.566	0.069
GPRS850	824.2	1.90	24.00	0.077	0.549	0.141
WCDMA850	835	2.10	21.06	0.041	0.564	0.073
GSM 1900	1850.2	2.19	14.71	0.010	1.000	0.010
GPRS 1900	1850.2	2.19	19.39	0.029	1.000	0.029
WCDMA 1900	1880	2.14	19.90	0.032	1.000	0.032
WiFi 2450	2412	2.00	14.15	0.008	1.000	0.008

Note:
1.Per Section7.2 of KDB447498D01v05
Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on calculated or measured field strengths or power density, is ≤ 1.0.

2. Calculated Power Density = (PG)/(4 π R^2)

Where, S= Power Density ($1\ mW/cm^2$)

P = Power Input to antenna
G= Antenna Gain
R= Sparation distance between radiator and human body

3. Highest MPE ratio for GSM&WCDMA antenna is 0.141, and MPE ratio for WiFi antenna is 0.008, so the sum of MPE ratio is 0.149≤ 1.0, simultaneous transmission MPE test is not required.