

**IEEE C95.1
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091**

RF EXPOSURE REPORT

For

MX-LOCare

Model: BR1

Trade Name: MobilMAX

Issued to

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Issued by

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	2015/07/28	Initial Issue	ALL	Kelly Cheng

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1. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

2. EUT SPECIFICATION

EUT	MX-LOCare																
Model	BR1																
Model Discrepancy	N/A																
Frequency band (Operating)	<input checked="" type="checkbox"/> GSM 850MHz: 824.2MHz ~ 848.8MHz <input checked="" type="checkbox"/> GSM 1900MHz: 1850.2MHz ~ 1909.8MHz <input type="checkbox"/> WCDMA Band II: 1852.4MHz ~ 1907.6MHz <input type="checkbox"/> WCDMA Band IV: 1712.4MHz ~ 1752.6MHz <input type="checkbox"/> WCDMA Band V: 826.4MHz ~ 846.6MHz <input type="checkbox"/> Others																
Multislot classes	<input type="checkbox"/> Class 1 <input checked="" type="checkbox"/> Class 10 <input type="checkbox"/> Class 12 <input type="checkbox"/> Class 33																
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others																
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)																
Antenna Specification	GSM / GPRS 850MHz : 1.27 dBi (Numeric gain 1.34) GSM / GPRS 1900MHz : 1.94 dBi (Numeric gain 1.56)																
Measurement Average output power	<table border="1"> <thead> <tr> <th>System</th> <th>Power</th> <th></th> </tr> </thead> <tbody> <tr> <td>GSM850</td> <td>33.20 dBm</td> <td>(2089.30 mW)</td> </tr> <tr> <td>GPRS850</td> <td>32.80 dBm</td> <td>(1905.46 mW)</td> </tr> <tr> <td>GSM1900</td> <td>29.60 dBm</td> <td>(912.01 mW)</td> </tr> <tr> <td>GPRS1900</td> <td>29.10 dBm</td> <td>(812.83 mW)</td> </tr> </tbody> </table>		System	Power		GSM850	33.20 dBm	(2089.30 mW)	GPRS850	32.80 dBm	(1905.46 mW)	GSM1900	29.60 dBm	(912.01 mW)	GPRS1900	29.10 dBm	(812.83 mW)
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GPRS1900	29.0 dBm	± 1 dB															

Max tune up Power/ Max time Average Power GPRS/EGPRS	System	Max Tune up Power	Time Average Power
	GSM850	33.5dBm (2238.721mW)	24.5dBm (281.838mW)
	GPRS850	33.5dBm (2238.721mW)	27.5dBm (562.341mW)
	GSM1900	30.0dBm (1000.000mW)	21.0dBm (125.893mW)
	GPRS1900	30.0dBm (1000.000mW)	24.0dBm (251.189mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		

3. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where $E =$ Field strength in Volts / meter

$P =$ Power in Watts

$G =$ Numeric antenna gain

$d =$ Distance in meters

$S =$ Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where $d =$ Distance in cm

$P =$ Power in mW

$G =$ Numeric antenna gain

$S =$ Power density in mW / cm²

4. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where $P =$ Power in mW

$G =$ Numeric antenna gain

$S =$ Power density in mW / cm²

GSM850 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
128	824	281.838	1.34	20	0.0752	0.549

GPRS850 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
128	824	562.341	1.34	20	0.1500	0.549

GSM1900 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
512	1850	125.893	1.56	20	0.0391	1.000

GPRS1900 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
512	1850	251.189	1.56	20	0.0780	1.000