



# RF EXPOSURE

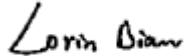
## MEASUREMENT AND TEST REPORT

For

### Phonetone Technology (Shenzhen) Co., Ltd.

Room 404, Building 12, Qianlong Garden, Minzhi Street, Bao'an District, Shenzhen, China

**FCC ID: YYOPTENCP65**

<b>Report Type:</b> Original Report	<b>Product Name:</b> Cell Phone Signal Booster
<b>Test Engineer:</b> <u>Lorin Bian</u> 	
<b>Report Number:</b> RDG160930004-MPE	
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<b>Reviewed By:</b> <u>EMC Leader</u> 	
<b>Test Laboratory:</b> Bay Area Compliance Laboratories Corp. (Chengdu) 5040, HuiLongWan Plaza, No. 1, ShaWan Road, JinNiu District, ChengDu, China Tel: 028-65523123, Fax: 028-65525125 <a href="http://www.baclcorp.com">www.baclcorp.com</a>	

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## **FCC §1.1307(b) & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

### **Applicable Standard**

According to subpart §1.1310, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	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;

According to §1.1310 and §2.1091 RF exposure is calculated.

### **Calculated Formulary:**

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

### **Calculated Data:**

Mode	Frequency Band	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
		(dBi)	(numeric)	(dBm)	(mW)			
Uplink	824-849	9	7.94	22	158.49	20.00	0.25	0.55
	1850-1910	10.5	11.22	22	158.49	20.00	0.35	1.00
Downlink	869-894	7	5.01	12	15.85	20.00	0.02	0.58
	1930-1990	8.5	7.08	12	15.85	20.00	0.02	1.00

Note: the power used for evaluation is rated power including tolerance.

The maximum authorized indoor antenna gain and outdoor antenna gain is declared by manufacturer.

**Result:** The device meet FCC MPE at 20 cm distance for outdoor antenna and 20cm for indoor antenna.