RF EXPOSURE

MEASUREMENT AND TEST REPORT

For

Phonetone Technology (Shenzhen) Co., Ltd.

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FCC ID: YYOPTENCP65

Report Type:	**Product Name:**
Original Report	Cell Phone Signal Booster

Test Engineer:	*Lorin Bian*
Report Number:	RDG160930004-MPE
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Reviewed By:	Henry Ding EMC Leader
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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) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
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;

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^2);
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^2)	MPE Limit (mW/cm^2)
		(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 was 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.