

* Standalone SAR test exclusion considerations

1. Applicable Standard

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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2, H 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2, H 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	30
3.0-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

Note : f=frequency in MHz

***=Plane-wave equivalent power density**

2. MPE Calculation Method

S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

3. Calculated Result and Limit

(R = 20cm)

Mode	Frequency (MHz)	Max. Tune-up Output Power		Antenna Gain		Power Density (S)	Limit of Power Density (S)	Result
		(dBm)	(mW)	(dBi)	(numeric)	(mW/cm ²)	(mW/cm ²)	
GPRS850 1TX SLOT	824.20	33.000	1995.262	-2.100	0.617	0.245	0.549	PASS
	836.60	33.000	1995.262	-2.100	0.617	0.245	0.558	PASS
	848.80	33.000	1995.262	-2.100	0.617	0.245	0.566	PASS
GPRS850 2TX SLOT	824.20	31.500	1412.538	-2.100	0.617	0.173	0.549	PASS
	836.60	31.500	1412.538	-2.100	0.617	0.173	0.558	PASS
	848.80	31.500	1412.538	-2.100	0.617	0.173	0.566	PASS
GPRS1900 1TX SLOT	1850.20	29.500	891.251	2.000	1.585	0.281	1.000	PASS
	1880.00	29.500	891.251	2.000	1.585	0.281	1.000	PASS
	1909.80	29.500	891.251	2.000	1.585	0.281	1.000	PASS
GPRS1900 2TX SLOT	1850.20	29.000	794.328	2.000	1.585	0.250	1.000	PASS
	1880.00	29.000	794.328	2.000	1.585	0.250	1.000	PASS
	1909.80	29.000	794.328	2.000	1.585	0.250	1.000	PASS