



CTK Co., Ltd.
The Prime Leader of Global Regulatory Compliance

CTK Co., Ltd.

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RF EXPOSURE EVALUATION

Applicant : LG CNS CO., LTD.

Applicant Address : Prime Tower, #10-1, Hoehyun-dong, 2-ga, Jung-gu, Seoul, South Korea

Kind of Product : Tablet

Equipment model name : LPT-100SB

Antenna type : Dipole antenna

Antenna Gain : ANT_1 : 4.969 dBi(2.4 GHz), 3.928 dBi(5GHz)
ANT_2 : 1.911 dBi(2.4 GHz), 5.231 dBi(5GHz)

**** MPE Calculations ****

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)
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The numeric gain(G) of the antenna with a gain specified in dB is determined by:

$$G = \text{Log}^{-1} (\text{dB antenna gain} / 10)$$

Power density at the specific separation:

$S = PG / (4R^2\pi)$	Where, S = Maximum power density (mW/cm ²) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)
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The Maximum permissible exposure (MPE) for the general population is 1 mW/cm².

The power density at 20cm does not exceed the 1 mW/cm² limit.

Estimated safe separation:

$R = \sqrt{(PG / 4\pi)}$	Where, P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)
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(5GHz)

Mode	P (dBm)	P (mW)	G (dBi)	S (mW/cm ²)	R (cm)
802.11a	11.76	15.00	5.231	0.010	2.00
802.11an HT20	9.20	8.32		0.006	1.49
802.11an HT40	9.06	8.05		0.005	1.46

(2.4GHz)

Mode	P (dBm)	P (mW)	G (dBi)	S (mW/cm ²)	R (cm)
802.11b	16.78	47.64	4.969	0.030	3.45
802.11g	18.95	78.52		0.049	4.43
802.11n HT20	17.85	60.95		0.038	3.90
802.11n HT40	16.13	41.02		0.026	3.20

(5GHz) ANT_1 + ANT_2

Mode	P (dBm)	P (mW)	G (dBi)	S (mW/cm ²)	R (cm)
802.11n HT20	11.77	15.03	7.638	0.017	2.64
802.11n HT40	11.68	14.72		0.017	2.61

(2.4GHz) ANT_1 + ANT_2

Mode	P (dBm)	P (mW)	G (dBi)	S (mW/cm ²)	R (cm)
802.11n HT20	20.42	110.15	6.714	0.103	6.41
802.11n HT40	19.01	79.62		0.074	5.45