



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

## CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

Tel: +82-31-339-9970 Fax: +82-31-624-9501

www.e-ctk.com

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# RF EXPOSURE EVALUATION

**Applicant** : LG CNS CO.,LTD.

**Applicant Address** : FKI Tower, 24, Yeoui-daero, Yeongdeungpo-gu,  
Seoul, Korea, 07320

**Kind of Product** : Tablet PC

**Equipment  
model name** : LPT-200AR

**Antenna type** : PCB antenna

**Antenna Gain** : 4.1 dBi @2.4GHz, 5.9 dBi @5GHz



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## \*\* 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 <sup>2</sup> ) 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/cm<sup>2</sup>. The power density at 20cm does not exceed the 1 mW/cm<sup>2</sup> limit.

### RF Exposure Limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
<b>(A)Limits For Occupational / Control Exposures</b>				
300-1500	...	...	F/300	6
1500-100,000	...	...	5	6
<b>(B)Limits For General Population / Uncontrolled Exposure</b>				
300-1500	...	...	F/1500	6
1500-100,000	...	...	1.0	30

F = Frequency in MHz



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## RF Exposure Evaluation

Mode	Frequency Range (MHz)	P (dBm)	P (mW)	G (dBi)	S (mW/cm <sup>2</sup> )
802.11b	2412 - 2462	17.07	50.93	4.1	<b>0.0260</b>
802.11g	2412 - 2462	15.07	32.14	4.1	<b>0.0164</b>
802.11n HT20	2412 - 2462	14.75	29.85	4.1	<b>0.0153</b>
802.11n HT40	2422 - 2452	14.07	50.93	4.1	<b>0.0260</b>
BLE	2402 - 2480	-4.07	0.39	4.1	<b>0.0002</b>
Bluetooth -GFSK	2402 - 2480	6.56	4.53	4.1	<b>0.0023</b>
Bluetooth -8DPSK	2402 - 2480	5.43	3.49	4.1	<b>0.0018</b>
802.11a	5180 - 5825	16.49	44.57	5.9	<b>0.0345</b>
802.11n_HT20	5180 - 5825	16.29	42.56	5.9	<b>0.0329</b>
802.11n HT40	5180 - 5825	16.53	44.98	5.9	<b>0.0348</b>