



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

## CTK Co., Ltd.

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www.e-ctk.com

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# RF EXPOSURE EVALUATION

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

**Applicant Address** : 21F, FKI Tower, 24, Yeoui-daero,  
Yeongdeungpo-gu, Seoul, 150-881, Korea

**Kind of Product** : Tablet

**Equipment model name** : LPT-100SB

**Antenna type** : Dipole antenna

**Antenna Gain** : ANT\_1 : 2.23 dBi(2.4 GHz), 1.40 dBi(5GHz)  
ANT\_2 : 2.16 dBi(2.4 GHz), 2.63 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 <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.

### 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 <sup>2</sup> )	R (cm)
802.11a	12.11	16.26	2.63	<b>0.0059</b>	<b>1.54</b>
802.11an HT20	8.67	7.36		<b>0.0027</b>	<b>1.04</b>
802.11an HT40	8.88	7.73		<b>0.0028</b>	<b>1.06</b>

## (5GHz) ANT\_1 + ANT\_2

Mode	P (dBm)	P (mW)	G (dBi)	S (mW/cm <sup>2</sup> )	R (cm)
802.11n HT20	11.61	14.49	5.069	<b>0.0093</b>	<b>1.92</b>
802.11n HT40	11.61	14.49		<b>0.0093</b>	<b>1.92</b>

※ The tablet(LPT-100SB) is attached to the body of the robot. Not used alone to remove the tablet from the robot.

This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.