

Application **CJ6PA3121BT**

This evaluation has been made in order to proof that this transmitter and its antennas meet the MPE limit of 1 mW/cm² even in case of co-location in TOSHIBA notebooks with the WLAN module covered by FCC ID CJ6PA3070WL using the same antenna type.

Prediction of MPE limit at given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P_{WLAN} * G_{WLAN} + P_{BT} * G_{BT}}{4\pi R^2}$$

where: S = power density

P = power input to the 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

Prediction

Antenna Type: [Film Antenna HTL-004 \(used for WLAN and BT\)](#)

Location of Antenna: [behind Display of Notebook, upper border, see picture on 2nd page](#)

WLAN: Maximum peak output power at antenna input terminal:	<u>20.00</u>	dBm
WLAN: Maximum peak output power at antenna input terminal:	<u>100.00</u>	mW
WLAN: Antenna gain(typical):	<u>1.12</u>	dBi
WLAN: Maximum antenna gain:	<u>1.29</u>	numeric
BT: Maximum peak output power at antenna input terminal:	<u>0.00</u>	dBm
BT: Maximum peak output power at antenna input terminal:	<u>1.00</u>	mW
BT: Antenna gain(typical):	<u>1.12</u>	dBi
BT: Maximum antenna gain:	<u>1.29</u>	numeric
Prediction distance:	<u>20</u>	cm
Prediction frequency:	<u>2442</u>	MHz
MPE limit for uncontrolled exposure at prediction frequency:	<u>1</u>	$\frac{mW}{cm^2}$
Power density at prediction frequency:	<u>0.0259</u>	$\frac{mW}{cm^2}$

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This prediction, along with the following photographs, demonstrate the following:

- 1) The power density levels at a distance of 20 cm are well below the maximum levels allowed by the FCC regulations.
- 2) A minimum separation distance of 20 cm can practically be maintained during normal use of the equipment as shown in picture below.

