

RF Exposure Justification

In co-locating with other transmitters

1. RF Exposure evaluation for the applying modular transmitter

As shown in the separate exhibit "WLAN Antenna Info.pdf", the separation distance between human body and WLAN transmission antenna of the host PC device is 235mm.

Therefore the applying WLAN transmitter module(**FCC ID: PD9533ANM, IC: 1000M-533ANM**) and the antenna system are subjected to "Mobile device" pursuant to FCC CFR 47 Section 2.1091, or "RF Exposure Evaluation" category pursuant to IC RSS-102e clause 2.5.2.

[EIRP & MPE Evaluation]

The following table shows the highest conducted peak output power values of the applying modular transmitter device, and the maximum peak antenna gains of the new host device.

| Transmission mode | P: conducted peak output power | G: peak antenna gain |
|-------------------|--------------------------------|----------------------|
| 2.4GHz band | 0.07 W(18.45dBm) | 3.46dBi |
| 5.2GHz band | 0.045W(16.53dBm) | 3.30dBi |
| 5.8GHz band | 0.063W(17.99dBm) | 2.31dBi |

Thus, EIRP and the maximum power density at 20cm distance are calculated as follows.

| Transmission mode | EIRP=P+G (dBm) | EIRP(mW) | MPE Max. power density $S=EIRP/(4 \times \times 20^2)$ |
|-------------------|-------------------|----------|--|
| 2.4GHz band | 21.91 | 155.24 | 0.031mW/ cm ² |
| 5.2GHz band | 19.83 | 96.16 | 0.019mW/ cm ² |
| 5.8GHz band | 20.3 | 107.15 | 0.021mW/ cm ² |

With those results, the applying modular transmitter has found to comply with the FCC MPE limit (1.0mW/cm²) according to FCC CFR 47 section 2.1091 for general Population/Uncontrolled exposure.

Also the applying modular transmitter has found to comply with the IC "RF Exposure Evaluation", EIRP limit (5W) according to IC RSS-102e clause 2.5.2.

2. RF Exposure evaluation with co-located Bluetooth transmitter

The applying host PC device incorporates the following Bluetooth transmitter, as shown in the separate exhibit "WLAN Antenna Info".

| Model Name | FCC ID, IC Cert. Number | Grantee Name | Granted Date | Conducted Tx power | Antenna gain | EIRP |
|------------|----------------------------|------------------------------------|-----------------|-----------------------|-----------------|---------|
| T60H928.30 | FCC ID: MCLBCM92046 | HON HAI Precision Ind. Co., Ltd | 03/25/ 2008 | 1.285mW | 2.2dBi(Peak) | 2.944mW |
| | IC ID: 2878D-BCM92046 | | 03/25/ 2008 | | | |

The antenna separation distance between the WLAN and Bluetooth antennas is over 290mm, so both are **not** co-located transmitter each other.