

RF Exposure Justification in co-locating with other transmitters

As shown in the separate exhibits “WWAN Antenna Info - xxx”, the applying host PC device incorporates the four kinds of transmitters listed below.

WWAN:	FCC ID: J9CUNDP-1L,	IC: 2723A-UNDP1
Bluetooth:	FCC ID: QDS-BRCM1033	IC: 4324A-BRCM1033
UWB:	FCC ID: V4EUWB3480MPE	N/A
WLAN/WiMAX:	FCC ID: PD9533ANMU (*1)	IC: 1000M-533ANMU (*1)
	FCC ID: PD9LEN512ANMU (*1)	IC: 1000M-L512ANMU (*1)
	FCC ID: PPD-AR5BHB63-L	IC: 4104A-ARBHB63L
	FCC ID: PD9533ANXMU (*1)	N/A

*1: in certification process separately.

The minimum separation distance between human body and the WWAN Tx antenna of the host PC device is **13mm**. Therefore the applying WWAN transmitter module (Model: **UNDP-1**) and the antenna system is subjected to SAR pursuant to FCC CFR 47 Section 2.1093 and “SAR Evaluation” category pursuant to IC RSS-102e clause 2.5.2.

The applying WWAN transmitter module has been tested and found to comply with the SAR limits as shown by the separate SAR report.

RF exposure justification regarding WWAN & WLAN (or WiMAX) co-location

The WLAN (or WiMAX) antennas locate very close to WWAN Tx (main) antenna. However both transmitter modules do not establish network link connections simultaneously, but switch the operation each other within 11 seconds of handover time if one of them is in active. See “Hand-over logic” exhibit. Therefore, no RF Exposure evaluation in co-locating with any WLAN (or WiMAX) transmitter is required.

RF exposure justification regarding WWAN & Bluetooth co-location

The “Figure-2: Lap held” mode in page 2 and “Fifure-6: Tablet Secondary Portrait” mode in page 3 were selected for SAR testing as the worse cases.

The minimum antenna separation distance between the WWAN and Bluetooth antennas is 64.7mm (>5cm), so the Bluetooth device is not considered as a co-located transmitter. And the transmission power of the Bluetooth device installed in the host PC devices is 4.1mW as below.

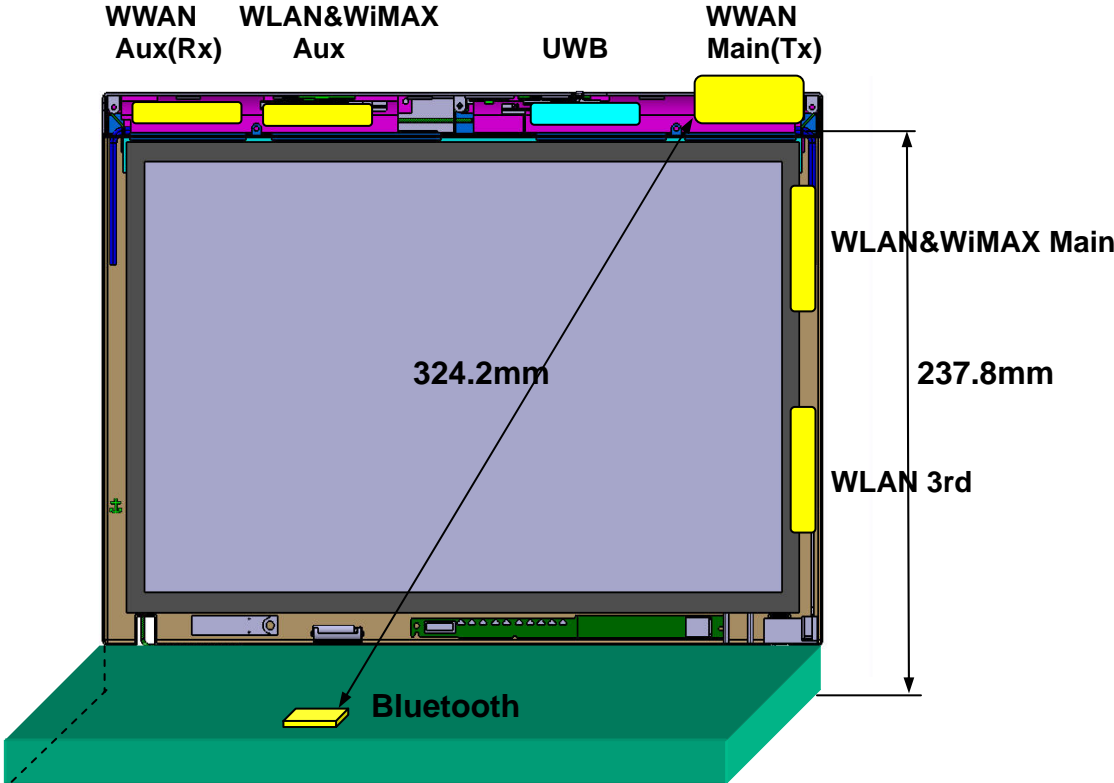
Bluetooth Model name	FCC ID, IC Cert. Number	Grantee Name	Granted Date	Conducted Tx power
BCM92046MD_GEN	FCC ID: QDS-BRCM1033	Broadcom Corporation	Dec./ 14 / 2007	4.1 mW
	IC: 4324A-BRCM1033		Dec./ 19 / 2007	

Therefore, no RF Exposure evaluation in co-locating with the Bluetooth transmitter is required pursuant to the FCC document “616217 D01 SAR for Laptop v01”, issued on December 7, 2007.

RF exposure justification regarding WLAN (or WiMAX) & UWB co-location

UWB transmitter is not mentioned in FCC CFR 47 Section 2.1091 and 2.1093, so it does not subject to RF exposure requirement. Therefore, no additional SAR testing or RF Exposure evaluation is required for any combination with UWB transmitter.

Figure-1: Notebook mode



Bluetooth (FCC ID: QDS-BRCM1033)
FCC grant date: Dec./14/2007 (4.1mW)

Figure-2: Lap Held mod

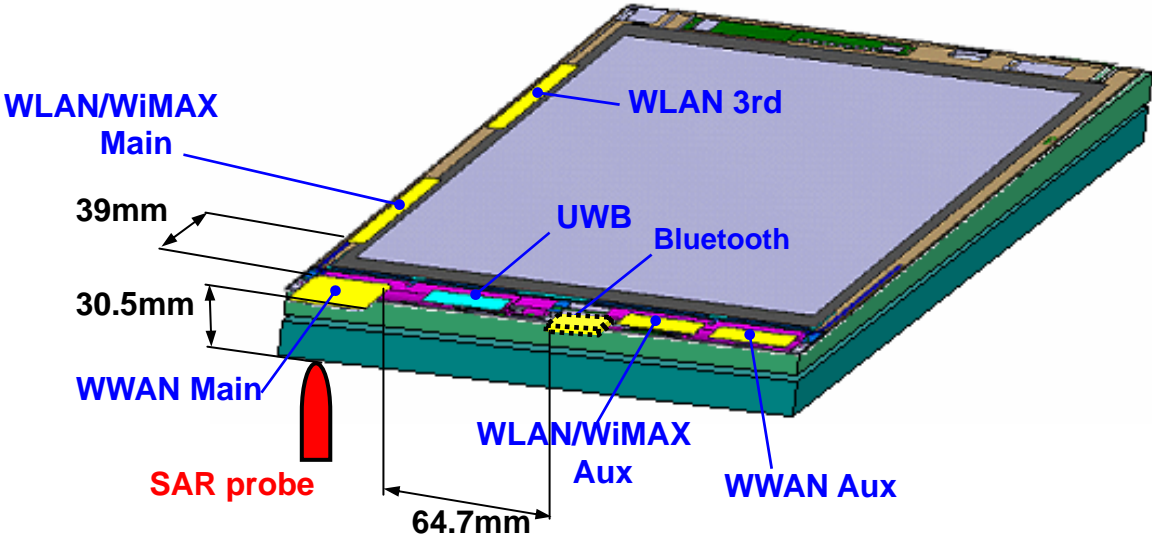


Figure-3:
Tablet PL (Primary Landscape)

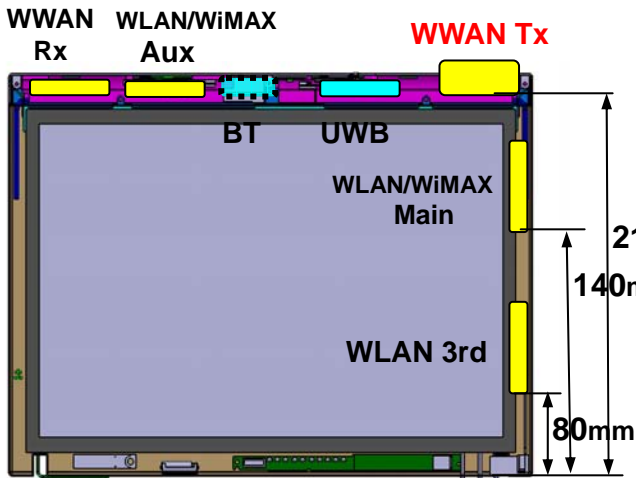


Figure-4:
Tablet PP (Primary Portrait)

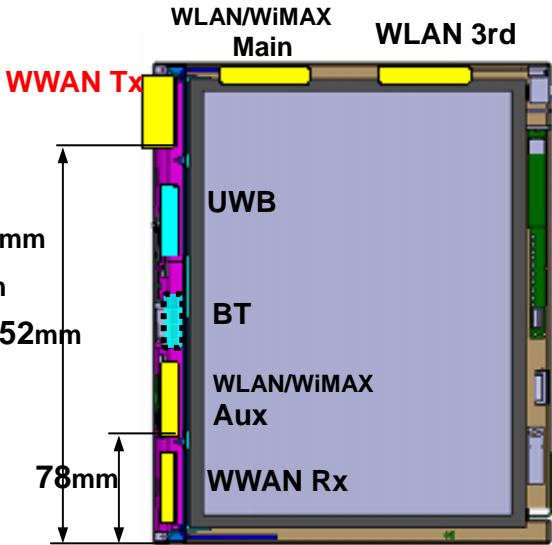


Figure-5:
Tablet SL (Secondary Landscape)

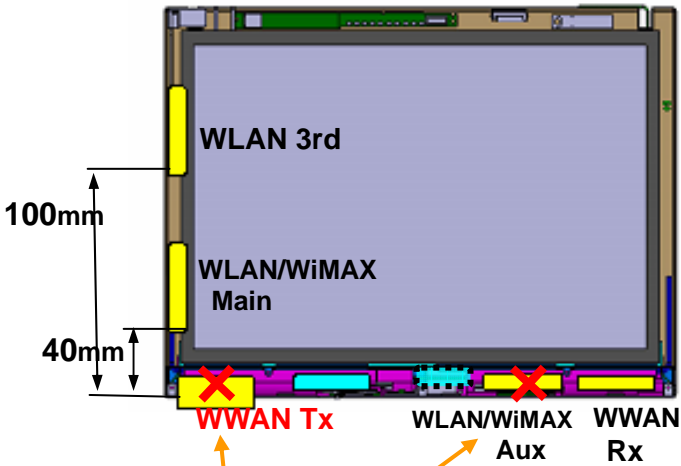
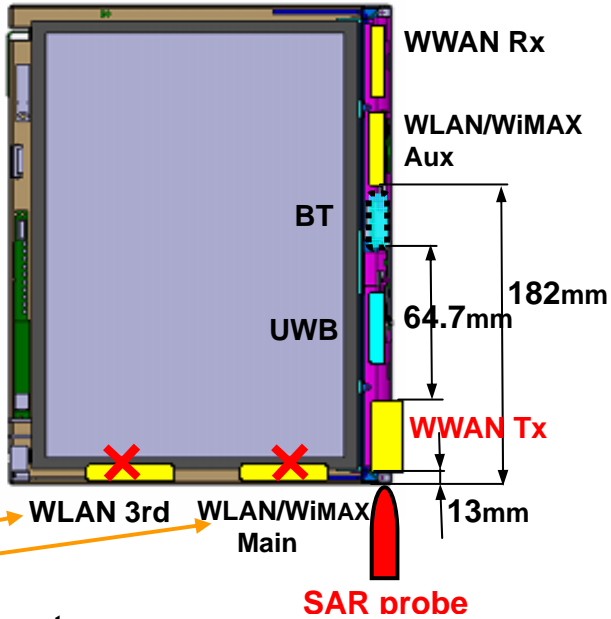


Figure-6:
Tablet SP (Secondary Portrait)



✗ Tx antennas in these rotary screen positions do not function.

*1: See separate exhibit "Tablet Tx control logic" in more details.