

# RF Exposure Evaluation in co-locating with other transmitters

## 1. Configuration

The host PC device (DL-Note) has the following two types of configurations for the wireless communication features. The Figure-1 is designed for US and Canada, and the Figure-2 is for US only.

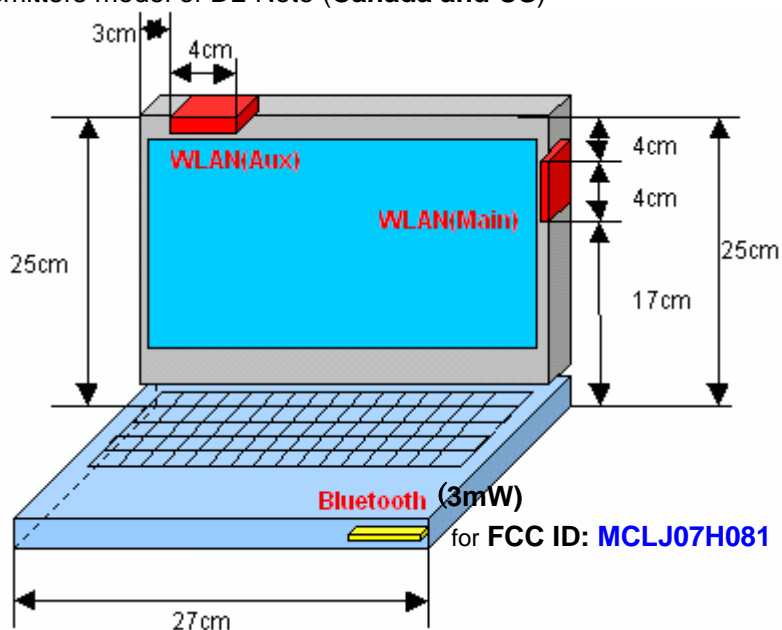
The applying modular transmitter device (FCC ID: N7N-MC5720) was previously certified by the Commission on October/31/2006 with the same configuration in this application.

The difference from the previous grant condition is:

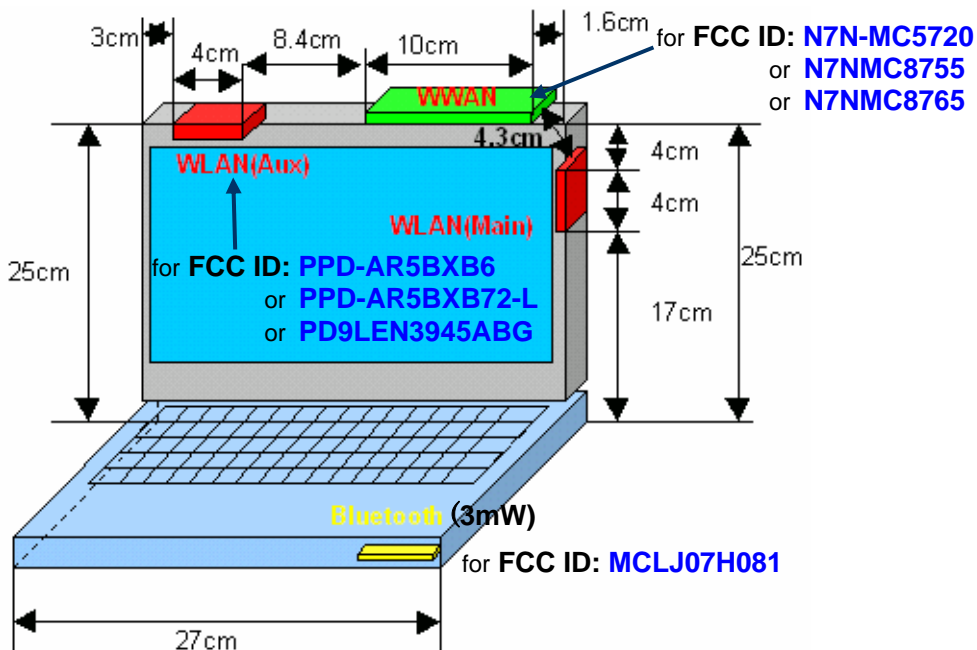
**to enable the simultaneous transmission with the WLAN modular transmitters listed below.**

The co-location with the Bluetooth module remains the same.

**Figure-1:** Dual transmitters model of DL-Note (Canada and US)



**Figure-2:** Triple transmitters model of DL-Note (US only)



## 2. Justification for SAR testing

The subjected host device is a tablet type PC and the transmission antennas are very close to the human body. Therefore the applying LMA transmitter and the antenna system are categorized as a Potable device pursuant to FCC CFR 47 Section 2.1093.

The separate SAR test report (Number: 06U10665-1B) was measured for the applying modular transmitter (FCC ID: N7N-MC5720) with the co-located WLAN (FCC ID: PPD-AR5BXB72-L) and Bluetooth (FCC ID: MCLJ07H081) in active. PPD-AR5BXB72-L was selected representatively as the worst case among the three co-located WLAN transmitter devices.

Also the co-located WLAN modules (FCC ID: PD9LEN3945ABG, PPD-AR5BXB72-L and PPD-AR5BXB6) were examined the SAR independently with the co-located Bluetooth (FCC ID: MCLJ07H081) in active, and granted on October/18/2006, October/31/2006 and November/07/2006. The document Numbers of SAR test reports for these transmitters referred in this exhibit are 06LR023SAR-F, 06U10634-4B and 06LR024SAR-F.

Hereafter, the calculation of grid-summed SAR result for WWAN and each WLAN SAR testing is used for the RF exposure evaluation.

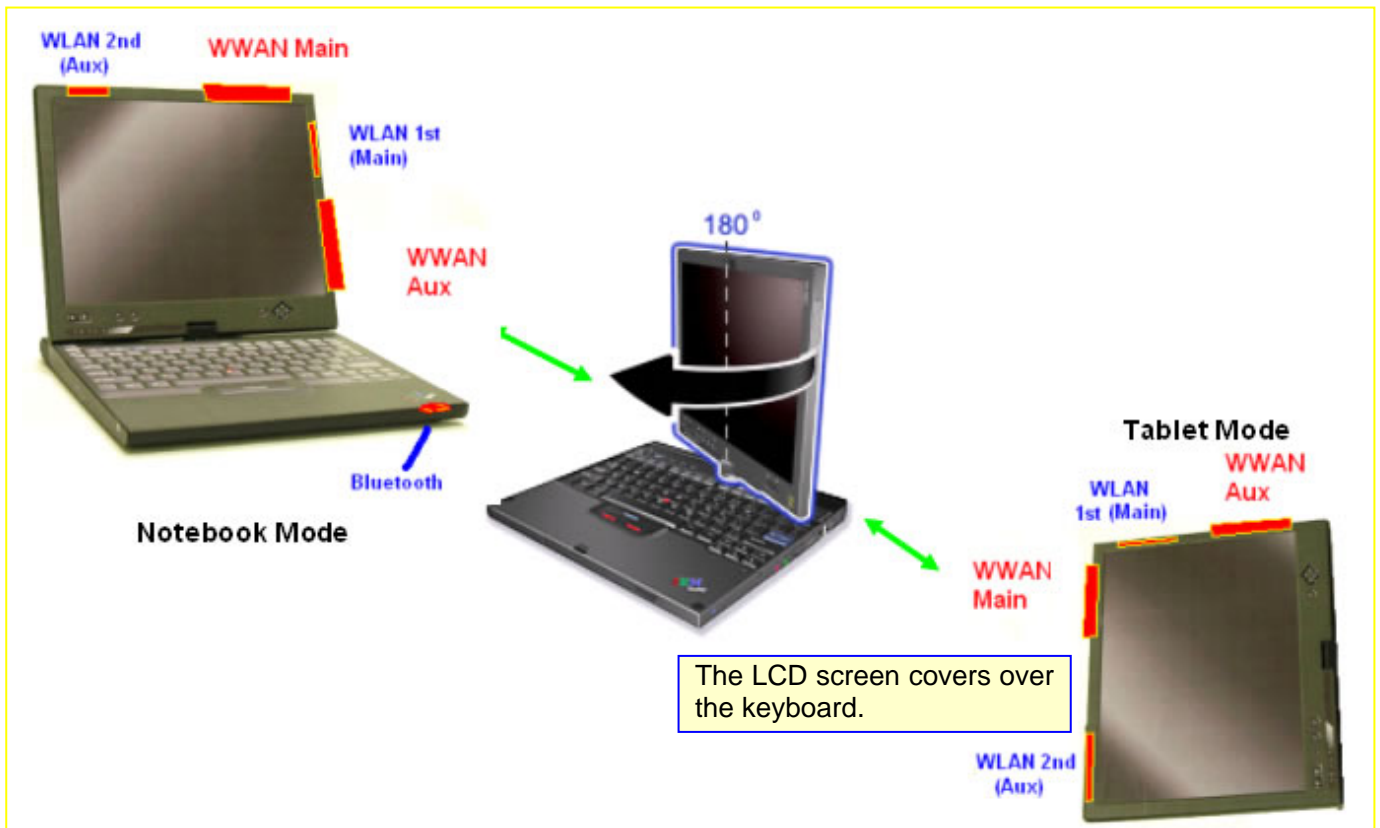
## 3. Conclusion

The maximum grid-summed SAR results for the WWAN and WLAN modules are as follows, then the applying device (FCC ID: N7N-MC5720) has found to comply with the limits for the SAR compliance according to FCC CFR 47 section 2.1093, Portable devices.

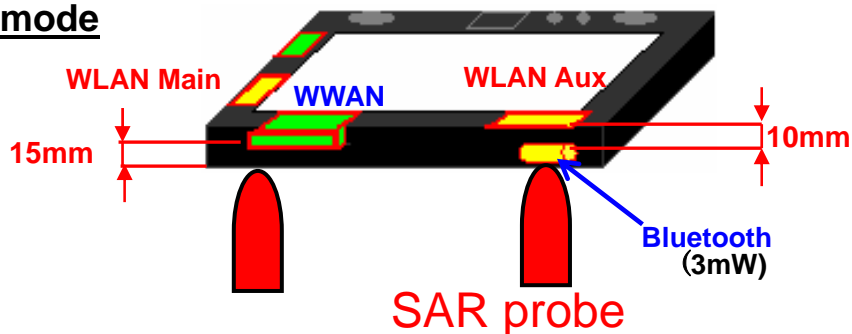
Part 22E with WLAN and Bluetooth	0.744 mW/g
Part 24H with WLAN and Bluetooth	0.772 mW/g

#### 4. Summary of grid-summed SAR result

The SAR test was performed with the following configuration, and the same terms of each configuration are referred in the SAR test report.



#### Laptop mode



**Table-1 Grid-summed SAR result of Laptop mode**

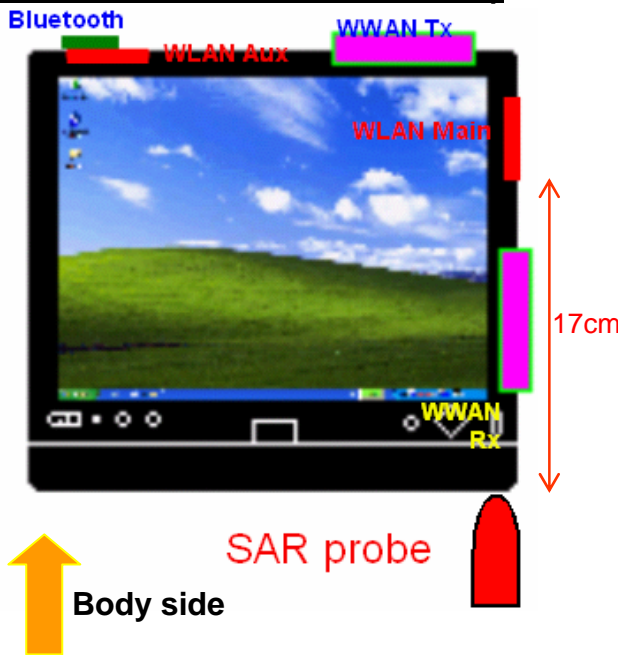
[Unit of results: mW/g]

WWAN		N7N-MC5720	WLAN		PPD-AR5BxB6 + MCLJ07H081	PD9LEN3945ABG + MCLJ07H081	Sum of WLAN + WWAN	
			PPD-AR5BxB72-L + MCLJ07H081	Aux				
SAR Test Report No.		06U10665-1B	06U10634-4B		06LR024SAR-F	06LR023SAR-F		
Laptop (Lap-Held)	EVDO-22H	0.076	2.4G (DTS)	0.115	0.122	0.067	0.051	0.412 *1
	EVDO-24E	0.436	5.2G (U-NII)	<b>0.264</b>	<b>0.072</b>	0.166	0.095	<b>0.772</b> *1
			5.8G (DTS)	0.173	0.050	0.185	0.103	

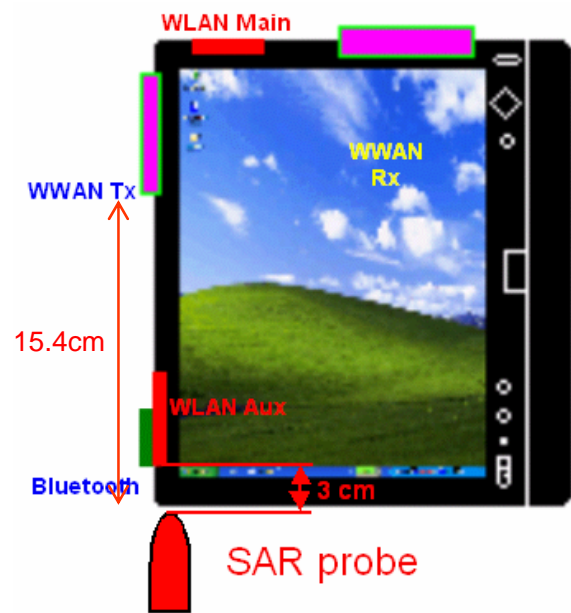
\*1: MC5720 SAR result + the highest SAR result of WLAN (i.e. MIMO Main+Aux in 5.2GHz band)



**Tablet PL (Primary Landscape)**



**Tablet PP (Primary Portrait)**



**Table-2 Grid-summed SAR result of Tablet Primary mode**

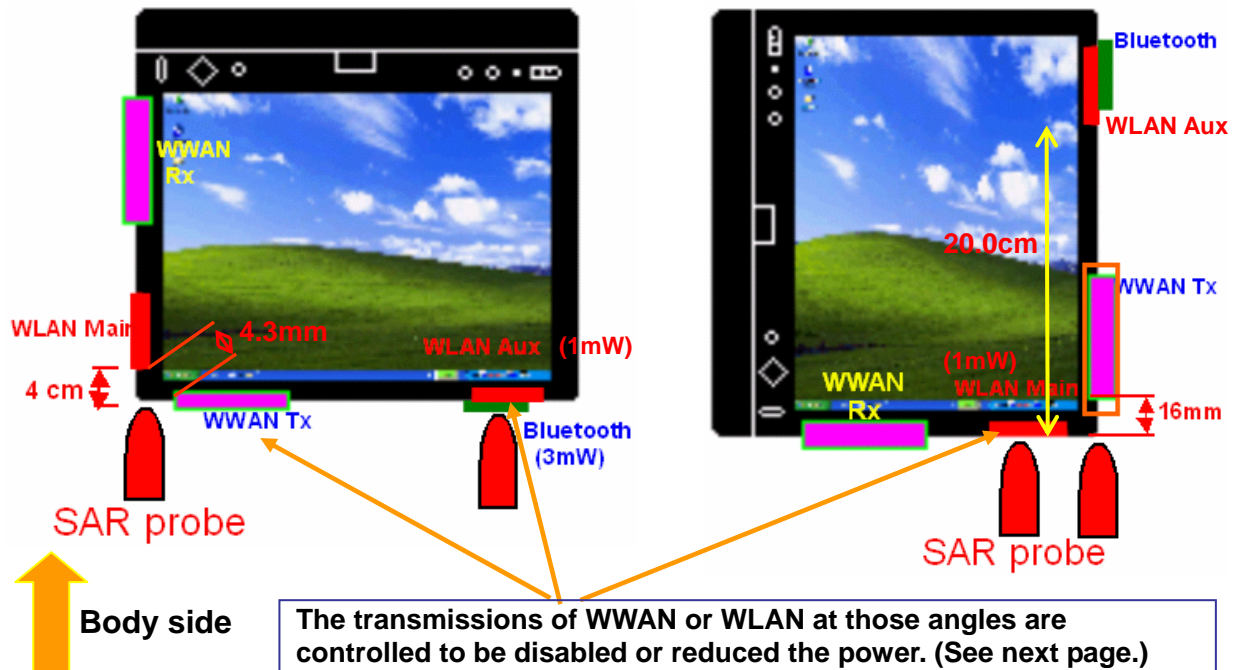
[Unit of results: mW/g]

WWAN		N7N-MC5720	WLAN		PPD-AR5BXB72-L + MCLJ07H081	PPD-AR5BXB6 + MCLJ07H081	PD9LEN3945ABG + MCLJ07H081	Sum of WLAN + WWAN
			Main	Aux	06U10634-4B	06LR024SAR-F	06LR023SAR-F	
SAR Test Report No.		06U10632-4B			06U10634-4B	06LR024SAR-F	06LR023SAR-F	
Primary Portrait	EVDO-22H	0.066	2.4G (DTS)	(mobile)	0.361	0.203	0.142	<b>0.744</b> *2
	EVDO-24E	0.046	5.2G (U-NII)	(mobile)	<b>0.678</b>	0.107	0.097	0.724 *2
			5.8G (DTS)	(mobile)	0.233	0.175	0.122	

\*2: MC5720 SAR result + the highest SAR result of WLAN

**Tablet SL (Secondary Landscape)**

**Tablet SP (Secondary Portrait)**



**Table-3 Grid-summed SAR result of Tablet Secondary mode**

[Unit of results: mW/g]

WWAN		N7N-MC5720	WLAN		PPD-AR5BxB72-L + MCLJ07H081	PPD-AR5BxB6 + MCLJ07H081	PD9LEN3945ABG + MCLJ07H081	Sum of WLAN + WWAN
SAR Test Report No.		06U10665-1B	Main	Aux	06U10634-4B	06LR024SAR-F	06LR023SAR-F	
Secondary Landscape	EVDO-22H	0.0 (disabled)	2.4G (DTS)	0.024	*3 (0.024)	0.053	0.040	0.140 *5
			5.2G (U-NII)	0.042	*3 (0.042)	0.097	0.062	
	EVDO-24E	0.0 (disabled)	5.8G (DTS)	<b>0.070</b>	*3 <b>(0.070)</b>	0.135	0.068	0.140 *5
Secondary Portrait	EVDO-22H	0.183	2.4G (DTS)	*3 (0.024)	*4 (0.024)	0.058	0.033	0.323 *5
			5.2G (U-NII)	*3 (0.042)	*4 (0.042)	0.079	0.125	
	EVDO-24E	0.091	5.8G (DTS)	*3 <b>(0.070)</b>	*4 <b>(0.070)</b>	0.053	0.120	0.231 *5

\*3: SAR exemption pursuant to the footnote 14 of the Section 3 in Supplement C to OET Bulletin 65.  
 Instead, the main WLAN antenna's values in Secondary Landscape mode are used as a worse case.

\*4: No SAR was measured for WLAN due to the distance of mobile antenna.  
 Instead, the main WLAN antenna's values in Secondary Landscape mode are used as a worse case.

\*5: MC5720 SAR result + the highest SAR result of WLAN

## [Transmission control in “Tablet” operation mode]

- The system recognizes mechanically that it is transformed from “**Notebook mode**” to “**Tablet mode**”.



- The screen angle of **Tablet mode** is determined by operators with the screen rotation switch shown below, then the system recognizes which screen mode in **PL**, **PP**, **SL** or **SP** is selected.
- When the **SL** screen mode was selected, the system controls the transmission power of the Aux antenna for WLAN module (FCC ID: PPD-AR5 BXB72-L) to restrain to **1mW**, or the transmission of WLAN module (FCC ID: PPD-AR5 BXB6 or PD9LEN3945ABG) is forced to switch to the main antenna.  
If WWAN module was active, the system does not function with **SL** mode for any WWAN module, and the screen returns to **PL** mode automatically so that operator won't use the **SL** mode.
- When the **SP** screen mode was selected, the system controls the transmission power of the Main antenna for WLAN module (FCC ID: PPD-AR5 BXB72-L) to restrain to **1mW**, or the transmission of WLAN module (FCC ID: PPD-AR5 BXB6 or PD9LEN3945ABG) is forced to switch to the Aux antenna.

