

# FCC ID : NM8MAPL120

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No simultaneous SAR justification

Per " 648474 D01 SAR Handsets Multi Xmitter and Ant, v01r05" , Test mode of SAR is as below

Test mode	Test channel	Max sar value ( W/kg )	Remark
GSM WCDMA	Low ,middle, High	1.26	
11 b/g	Highest power	0.503	less than 0.8W/kg , other channels is unnecessary
Bluetooth	na	na	Distance between Bluetooth and GSM / WCDMA antenna is 8.01 cm > 5cm and highest output power is 1.663 mW < 60/f(GHz) mW. Therefore, stand-alone SAR is unnecessary

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**Max SAR value ( W/ kg ) of each mode :**

Test mode	Right head		Left head		Á Body Á
	Cheek	Tilt	Cheek	Tilt	
GSM 850	0.280	0.188	<b>0.313</b>	0.203	0.334
WCDMA850	0.250	0.167	0.269	0.177	0.522
GSM1900	0.610	0.363	0.336	0.246	0.697
WCDMA1900	<b>1.260</b>	0.800	0.732	0.552	0.530
11 B/G	<b>0.356</b>	0.217	0.503	0.238	0.154
Bluetooth	na	na	na	na	na

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**Distance between antennas ( cm ) :**

	GSM / WCDMA	WLAN	BT
GSM / WCDMA		8.01	8.01
WLAN	8.01		0
BT	8.01	0	

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Note

1) The EUT used the same antenna for Wireless LAN & Bluetooth function, but the two functions CAN NOT be used at the same time.

2) Please refer to" OpDes-Antenna\_NM8MAPL120 " for antenna separation distance

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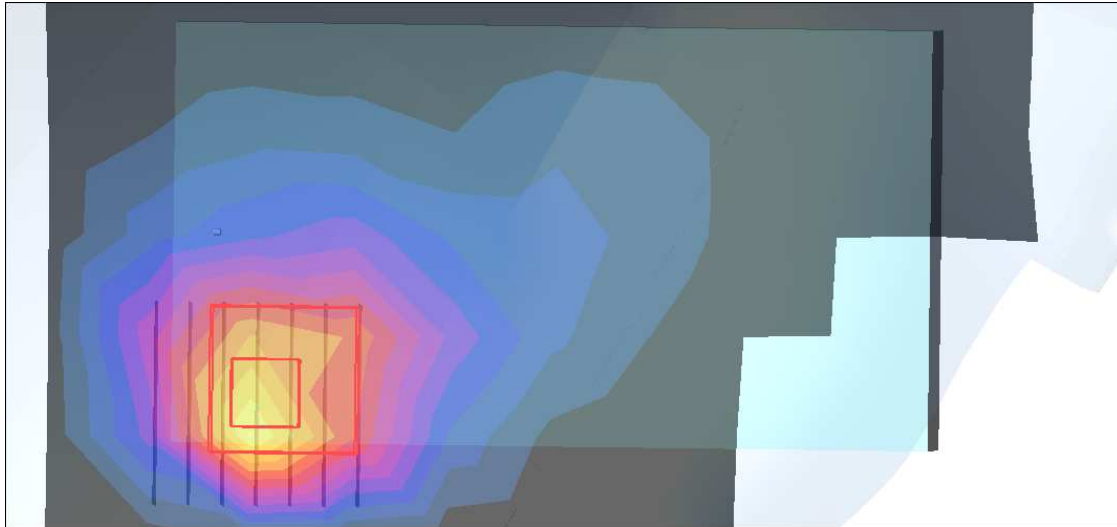
## Peak-locations spacing

Cheek position of Right head has max sum of SAR .

Plot 1 and 2 are shown peak sar location of WCDMA and WLAN.

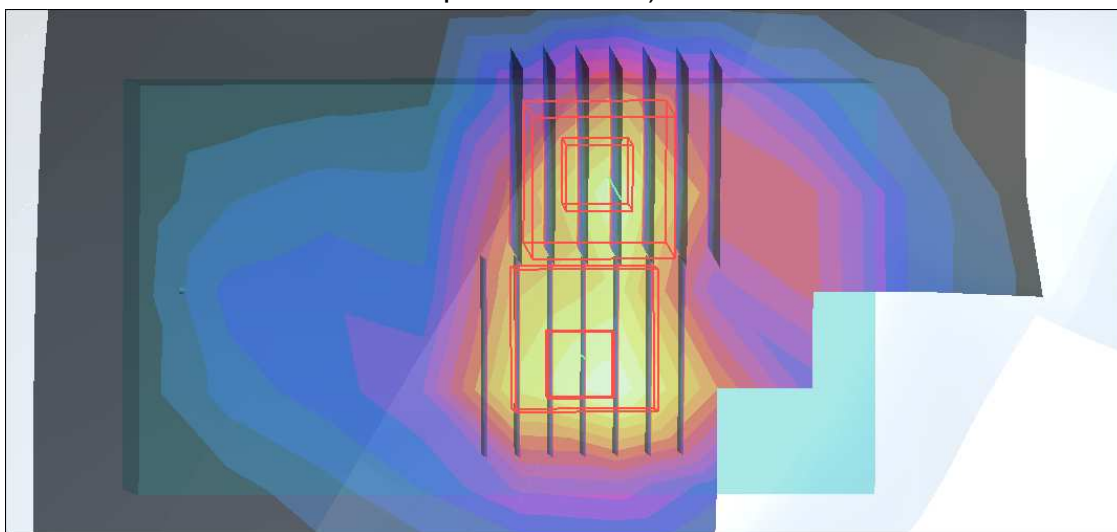
### Plot 1 : WCDMA Peak SAR location

M37 of Test Rpt-SAR (Mobile)\_NM8MAPL120



### Plot 2 : WLAN Peak SAR location

M01 of Test Rpt-SAR WLAN)\_NM8MAPL120



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Plot 1 and plot 2 are merged into Plot 3 and Plot 4 by DASY5 test program.

Green points are peak SAR point of WCDMA and WLAN.

Distance between green points can be calculated by using method as below.

Length of L1 is 48.1% of length of eut = 48.1 % X 112mm =53.87mm

Length of L2 is 24.7% of width of eut = 24.7% X 62mm=15.31mm

Peak-locations spacing = Green point to Green point

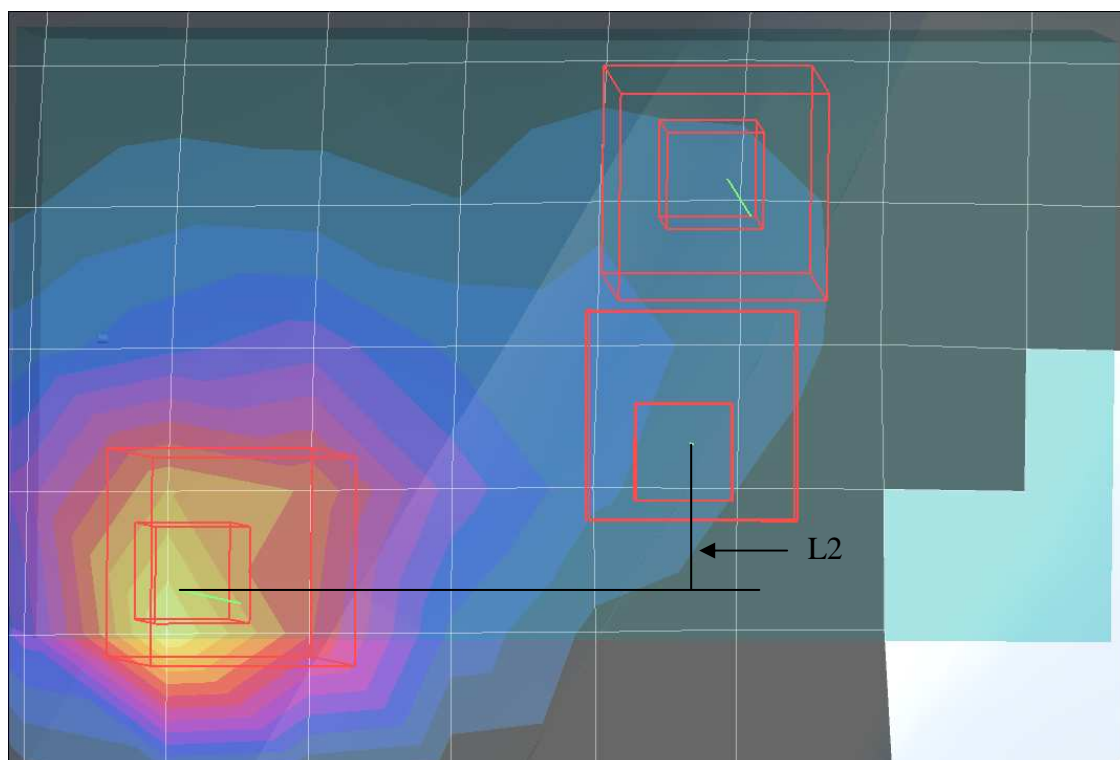
$$=\sqrt{(53.87 \times 53.87 + 15.31 \times 15.31)}$$

$$=56 \text{ mm}$$

**Plot 3 :WCDMA +WLAN Peak SAR location**



**Plot 4 :WCDMA +WLAN Peak SAR location**



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## Conclusion:

1. Antenna Separation is 8.01cm > 5cm

2. Sum of SAR is 1.26+0.356=1.616 W / kg > 1.6 W/kg

$$\text{SPLSR}_{xy} = (\text{SAR}_x + \text{SAR}_y) / L_{xy}$$

$$= 1.616 / *5.6 \quad ( * \text{ Peak-locations spacing } )$$

$$= 0.289 < 0.3$$

Accordingly, simultaneous Transmission SAR is not required for this EUT