

13.2 Body Simultaneous Transmission SAR Evaluation for WWAN Antenna with WLAN 2.4G Or WLAN 5G and BT

Band	Antenna	Position	Stand alone SAR				SUM SAR		SPLSR SAR	
			1	2	3	4				
			WWAN	2.4GWIFI	5GWIFI Max	Bluetooth	WWAN+2.4G WIFI	WWAN+5G WIFI+BT		
				Ant.2	Ant.2	Ant.2	(1+2)	(1+3+4)	(1+2)	(1+3+4)
GSM850	Ant.1	Back Side 0mm	0.958	0.545	0.422	0.149	1.503	1.529	/	/
	Ant.1	Right Edge 0mm	0.571	0.000	0.000	0.000	0.571	0.571	/	/
	Ant.1	Top Edge 0mm	0.350	0.843	0.554	0.765	1.193	1.669	/	0.03
GSM1900	Ant.1	Back Side 0mm	1.028	0.545	0.422	0.149	1.573	1.599	/	/
	Ant.1	Right Edge 0mm	0.326	0.000	0.000	0.000	0.326	0.326	/	/
	Ant.1	Top Edge 0mm	0.182	0.843	0.554	0.765	1.025	1.501	/	/
WCDMA B2	Ant.1	Back Side 0mm	1.090	0.545	0.061	0.149	1.635	1.300	0.02	/
	Ant.1	Right Edge 0mm	0.302	0.000	0.126	0.003	0.302	0.431	/	/
	Ant.1	Top Edge 0mm	0.167	0.843	0.554	0.765	1.010	1.486	/	/
WCDMA B4	Ant.1	Back Side 0mm	1.072	0.545	0.061	0.149	1.617	1.282	0.02	/
	Ant.1	Right Edge 0mm	0.140	0.000	0.126	0.003	0.140	0.269	/	/
	Ant.1	Top Edge 0mm	0.490	0.843	0.554	0.765	1.333	1.809	/	0.03
WCDMA B5	Ant.1	Back Side 0mm	1.053	0.545	0.061	0.149	1.598	1.263	/	/
	Ant.1	Right Edge 0mm	0.529	0.000	0.126	0.003	0.529	0.658	/	/
	Ant.1	Top Edge 0mm	0.252	0.843	0.554	0.765	1.095	1.571	/	/
LTE B2	Ant.1	Back Side 0mm	1.099	0.545	0.061	0.149	1.644	1.309	0.03	/
	Ant.1	Right Edge 0mm	0.403	0.000	0.126	0.003	0.403	0.532	/	/
	Ant.1	Top Edge 0mm	0.213	0.843	0.554	0.765	1.056	1.532	/	/
LTE B4	Ant.1	Back Side 0mm	0.946	0.545	0.061	0.149	1.491	1.156	/	/
	Ant.1	Right Edge 0mm	0.224	0.000	0.126	0.003	0.224	0.353	/	/
	Ant.1	Top Edge 0mm	0.166	0.843	0.554	0.765	1.009	1.485	/	/

BL-SZ2531395-AST	Ant.1	Back Side 0mm	1.107	0.545	0.061	0.149	1.652	1.317	0.03	/
	Ant.1	Right Edge 0mm	0.425	0.000	0.126	0.003	0.425	0.554	/	/
	Ant.1	Top Edge 0mm	0.275	0.843	0.554	0.765	1.118	1.594	/	/
LTE B7	Ant.1	Back Side 0mm	1.166	0.545	0.061	0.149	1.711	1.376	0.03	/
	Ant.1	Right Edge 0mm	0.258	0.000	0.126	0.003	0.258	0.387	/	/
	Ant.1	Top Edge 0mm	0.370	0.843	0.554	0.765	1.213	1.689	/	0.03
LTE B12	Ant.1	Back Side 0mm	0.919	0.545	0.061	0.149	1.464	1.129	/	/
	Ant.1	Right Edge 0mm	0.706	0.000	0.126	0.003	0.706	0.835	/	/
	Ant.1	Top Edge 0mm	0.264	0.843	0.554	0.765	1.107	1.583	/	/
LTE B13	Ant.1	Back Side 0mm	1.038	0.545	0.061	0.149	1.583	1.248	/	/
	Ant.1	Right Edge 0mm	0.951	0.000	0.126	0.003	0.951	1.080	/	/
	Ant.1	Top Edge 0mm	0.455	0.843	0.554	0.765	1.298	1.774	/	0.03
LTE B17	Ant.1	Back Side 0mm	0.986	0.545	0.061	0.149	1.531	1.196	/	/
	Ant.1	Right Edge 0mm	0.717	0.000	0.126	0.003	0.717	0.846	/	/
	Ant.1	Top Edge 0mm	0.267	0.843	0.554	0.765	1.110	1.586	/	/
LTE B26	Ant.1	Back Side 0mm	1.002	0.545	0.061	0.149	1.547	1.212	/	/
	Ant.1	Right Edge 0mm	0.736	0.000	0.126	0.003	0.736	0.865	/	/
	Ant.1	Top Edge 0mm	0.263	0.843	0.554	0.765	1.106	1.582	/	/
LTE B66	Ant.1	Back Side 0mm	0.757	0.545	0.061	0.149	1.302	0.967	/	/
	Ant.1	Right Edge 0mm	0.105	0.000	0.126	0.003	0.105	0.234	/	/
	Ant.1	Top Edge 0mm	0.239	0.843	0.554	0.765	1.082	1.558	/	/
LTE B38	Ant.1	Back Side 0mm	1.041	0.545	0.061	0.149	1.586	1.251	/	/
	Ant.1	Right Edge 0mm	0.042	0.000	0.126	0.003	0.042	0.171	/	/
	Ant.1	Top Edge 0mm	0.520	0.843	0.554	0.765	1.363	1.839	/	0.03
LTE B41	Ant.1	Back Side 0mm	1.079	0.545	0.061	0.149	1.624	1.289	0.02	/
	Ant.1	Right Edge 0mm	0.184	0.000	0.126	0.003	0.184	0.313	/	/
	Ant.1	Top Edge 0mm	0.425	0.843	0.554	0.765	1.268	1.744	/	0.03

Note:

1: The highest Summed 1g SAR is 1.839 W/Kg > 1.6 W/kg, so Simultaneous Transmission SAR test exclusion is determined by the SAR to peak location separation ratio.

2: The simultaneous transmission combinations of the more antennas contain combinations of less antennas, so only the worst SPLSR simultaneous transmission combinations is shown in this report.

3: The SPLSR is 0.03< 0.04, so Simultaneous Transmission SAR test is not required.

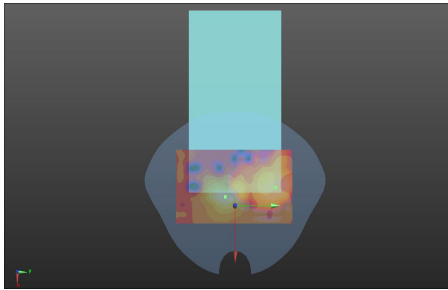
SPLSR SAR

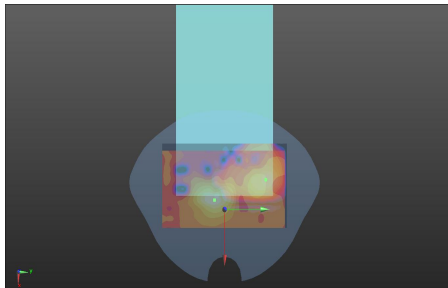
Case 1	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	WCDMA Band2 Ant.1	Back Side	1.090	-0.04	0.086	-0.203	86.6	1.64	0.02	Not required
2	WIFI2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				

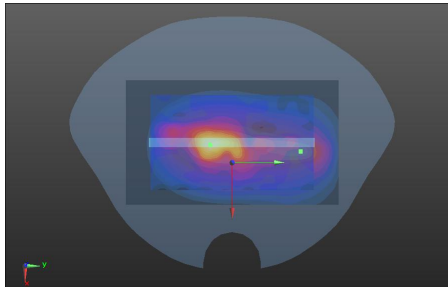
Case 2	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	WCDMA Band4 Ant.1	Back Side	1.072	-0.0385	0.083	-0.203	83.3	1.62	0.02	Not required
2	WIFI2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				

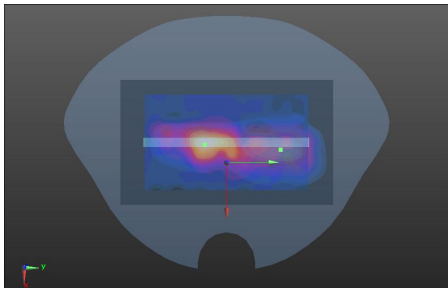
Case 3	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band2 Ant.1	Back Side	1.099	-0.016	0.086	-0.203	82.0	1.64	0.03	Not required
2	WIFI2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				

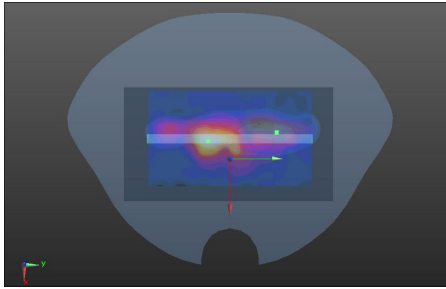
Case 4	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band5 Ant.1	Back Side	1.107	-0.0235	0.0815	-0.203	78.3	1.65	0.03	Not required
2	WIFI2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				

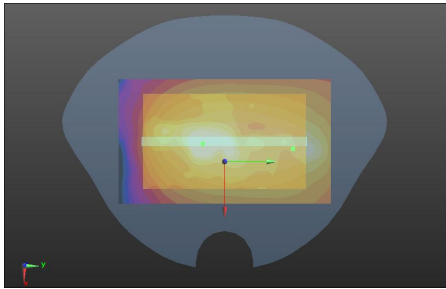
Case 6	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band41 Ant.1	Back Side	1.166	-0.0238	0.0669	-0.205	83.7	1.71	0.03	Not required
2	WiFi2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				
										

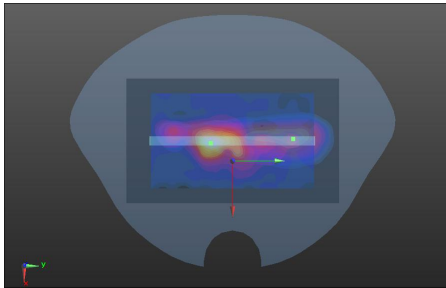
Case 6	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band41 Ant.1	Back Side	1.079	-0.037	0.0645	-0.205	84.3	1.62	0.02	Not required
2	WiFi2.4G Ant.2		0.545	-0.0118	-0.0159	-0.203				
										

Case 7	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	GPRS850 Ant.1	Top Edge	0.350	-0.0095	0.063	-0.203	83.2	1.67	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
										

Case 8	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	WCDMA Band4 Ant.1	Top Edge	0.490	-0.011	0.0495	-0.203	69.6	1.81	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
										

Case 9	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band7 Ant.1	Top Edge	0.370	-0.0221	0.0429	-0.203	63.3	1.69	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
										

Case 10	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band13 Ant.1	Top Edge	0.455	-0.011	0.063	-0.203	83.1	1.77	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
										

Case 11	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band38 Ant.1	Top Edge	0.520	-0.0209	0.0549	-0.203	75.2	1.84	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
										

Case 12	Band	Position	SAR (W/kg)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Plot No				X	Y	Z				
1	LTE Band41 Ant.1	Top Edge	0.425	-0.0185	0.0555	-0.203	75.6	1.74	0.03	Not required
2	WiFi5G+Bluetooth Ant.2		1.319	-0.015	-0.02	-0.205				
