









FCC SAR Test Report

Report No. : FA202807-01

Table with columns for device model, power, modulation, bandwidth, frequency, antenna, and SAR values. Includes sub-sections for 350MHz and various LTE/FR1 bands.



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	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	656000	3840	16.20	17.20	1.259	-	-	0.14	0.312	0.393
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	656000	3840	16.17	17.20	1.268	-	-	0.09	0.341	0.432
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	656000	3840	16.20	17.20	1.259	-	-	0.16	0.275	0.346
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	656000	3840	16.17	17.20	1.268	-	-	-0.07	0.252	0.319
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	656000	3840	19.09	20.20	1.291	50	1.000	0.09	0.315	0.407
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	16mm	Ant 5	-	DSI 4	656000	3840	22.56	24.00	1.393	-	-	0.03	0.289	0.403
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	16mm	Ant 5	-	DSI 4	656000	3840	22.51	24.00	1.409	-	-	0.01	0.271	0.382
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 5	-	DSI 4	656000	3840	22.56	24.00	1.393	-	-	0.06	0.215	0.300
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	16.25	17.20	1.245	-	-	-0.05	0.354	0.441
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	16.17	17.20	1.268	-	-	0.06	0.373	0.473
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	16.25	17.20	1.245	-	-	0.14	0.308	0.383
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	16.17	17.20	1.268	-	-	-0.03	0.278	0.352
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	19.23	20.20	1.250	50	1.000	0.06	0.359	0.449
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	16mm	Ant 5	-	DSI 4	633334	3500.01	22.64	24.00	1.368	-	-	0.06	0.255	0.349
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	16mm	Ant 5	-	DSI 4	633334	3500.01	22.59	24.00	1.384	-	-	0.01	0.249	0.345
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 5	-	DSI 4	633334	3500.01	22.64	24.00	1.368	-	-	-0.12	0.198	0.271
81	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	656000	3840	17.78	19.50	1.486	-	-	-0.09	0.804	<b>1.195</b>
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	656000	3840	17.71	19.50	1.510	-	-	0.06	0.783	1.182
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	656000	3840	17.66	19.50	1.528	-	-	-0.17	0.735	1.123
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	656000	3840	17.78	19.50	1.486	-	-	0.01	0.628	0.933
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	656000	3840	17.71	19.50	1.510	-	-	0.06	0.446	0.673
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	656000	3840	17.66	19.50	1.528	-	-	-0.19	0.499	0.762
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	656000	3840	20.77	22.50	1.489	50	1.000	0.03	0.788	1.174
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	16mm	Ant 7	-	DSI 4	656000	3840	18.52	20.30	1.507	-	-	0.06	0.223	0.336
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 7	-	DSI 4	656000	3840	18.52	20.30	1.507	-	-	0.1	0.201	0.303
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	18.21	19.50	1.346	-	-	-0.02	0.568	0.764
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	18.12	19.50	1.374	-	-	-0.1	0.479	0.658
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	633334	3500.01	18.21	19.50	1.346	-	-	0.01	0.389	0.524
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	633334	3500.01	18.12	19.50	1.374	-	-	0.14	0.332	0.456
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	21.23	22.50	1.340	50	1.000	0.06	0.542	0.726
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	16mm	Ant 7	-	DSI 4	633334	3500.01	18.87	20.30	1.390	-	-	0.06	0.154	0.214
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 7	-	DSI 4	633334	3500.01	18.87	20.30	1.390	-	-	0.03	0.133	0.185



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
<b>WiFi&amp;BT</b>																		
82	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	-	Standalone	6	2437	22.34	23.50	1.306	97.94	1.021	0.06	0.892	<b>1.190</b>	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	-	DBS only	6	2437	19.68	21	1.355	97.94	1.021	-0.07	0.575	0.796	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	-	WWAN+non DBS	6	2437	16.65	18.00	1.365	97.94	1.021	-0.04	0.287	0.400	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	-	WWAN+non DBS	6	2437	16.65	18.00	1.365	97.94	1.021	0.17	0.228	0.318	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	-	WWAN+DBS	6	2437	13.73	15.00	1.340	97.94	1.021	-0.11	0.145	0.198	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	-	WWAN+DBS	6	2437	13.73	15.00	1.340	97.94	1.021	0.16	0.115	0.157	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	-	Standalone	1	2412	22.24	23.50	1.337	97.94	1.021	-0.07	0.844	1.152	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	-	Standalone	6	2437	22.34	23.50	1.306	97.94	1.021	-0.18	0.812	1.083	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	-	Standalone	1	2412	22.34	23.50	1.306	97.94	1.021	0.03	0.744	0.992	
	WLAN2.4GHz	802.11b 1Mbps	Front	16mm	Ant 3+6	-	Full Power	6	2437	22.34	23.50	1.306	97.94	1.021	0.15	0.049	0.065	
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 3+6	-	Full Power	6	2437	22.34	23.50	1.306	97.94	1.021	0.03	0.066	0.088	
	Buletooth	1Mbps	Front	5mm	Ant 6	-	Full Power	0	2402	11.33	12.00	1.167	76.56	1.088	-0.07	0.051	0.065	
	Buletooth	1Mbps	Back	5mm	Ant 6	-	Full Power	0	2402	11.33	12.00	1.167	76.56	1.088	0.03	0.042	0.053	
	Buletooth	1Mbps	Front	5mm	Ant 3	-	Full Power	78	2480	9.21	10.50	1.346	76.97	1.082	0.1	0.061	0.089	
83	Buletooth	1Mbps	Back	5mm	Ant 3	-	Full Power	78	2480	9.21	10.50	1.346	76.97	1.082	-0.17	0.071	<b>0.103</b>	
84	WLAN5.3GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	Standalone&DBS only	64	5320	19.93	21.00	1.279	99.23	1.008	0.01	0.456	<b>0.588</b>	
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+non DBS	58	5290	16.32	17.50	1.312	99.30	1.007	0.15	0.263	0.348	
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+non DBS	58	5290	16.32	17.50	1.312	99.30	1.007	-0.15	0.108	0.143	
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+DBS	58	5290	12.88	14.50	1.452	99.30	1.007	-0.08	0.132	0.193	
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+DBS	58	5290	12.88	14.50	1.452	99.30	1.007	0.05	0.054	0.079	
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 4+5	-	Standalone&DBS only	64	5320	19.93	21.00	1.279	99.23	1.008	-0.09	0.265	0.342	
	WLAN5.3GHz	802.11a 6Mbps	Front	16mm	Ant 4+5	-	Full Power	64	5320	19.93	21.00	1.279	99.23	1.008	-0.11	0.075	0.097	
	WLAN5.3GHz	802.11a 6Mbps	Back	18mm	Ant 4+5	-	Full Power	64	5320	19.93	21.00	1.279	99.23	1.008	-0.1	0.041	0.053	
85	WLAN5.5GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	Standalone	140	5700	18.96	20.50	1.426	99.23	1.008	-0.07	0.821	<b>1.180</b>	
	WLAN5.5GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	DBS only	140	5700	17.49	19.00	1.416	99.23	1.008	-0.03	0.511	0.729	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+non DBS	106	5530	14.88	16.00	1.294	99.30	1.007	-0.16	0.274	0.357	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+non DBS	106	5530	14.88	16.00	1.294	99.30	1.007	0.13	0.136	0.177	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+DBS	106	5530	11.91	13.00	1.285	99.30	1.007	-0.17	0.153	0.198	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+DBS	106	5530	11.91	13.00	1.285	99.30	1.007	0.14	0.068	0.088	
	WLAN5.5GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	Standalone	144	5720	18.91	20.50	1.442	99.23	1.008	0.07	0.720	1.047	
	WLAN5.5GHz	802.11a 6Mbps	Back	5mm	Ant 4+5	-	Standalone	140	5700	18.96	20.50	1.426	99.23	1.008	-0.01	0.472	0.678	
	WLAN5.5GHz	802.11a 6Mbps	Front	16mm	Ant 4+5	-	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	0.03	0.137	0.186	
	WLAN5.5GHz	802.11a 6Mbps	Back	18mm	Ant 4+5	-	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	0.02	0.133	0.181	
86	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	Standalone	149	5745	18.95	20.50	1.429	99.23	1.008	0.18	0.826	<b>1.190</b>	
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	Headset	Standalone	149	5745	18.95	20.50	1.429	99.23	1.008	0.03	0.796	1.146	
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	DBS only	149	5745	17.42	19.00	1.439	99.23	1.008	-0.08	0.565	0.820	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+non DBS	155	5775	14.18	15.50	1.355	99.30	1.007	0.13	0.282	0.385	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+non DBS	155	5775	14.18	15.50	1.355	99.30	1.007	0.18	0.173	0.236	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 4+5	-	WWAN+DBS	155	5775	10.94	12.50	1.432	99.30	1.007	-0.17	0.134	0.193	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 4+5	-	WWAN+DBS	155	5775	10.94	12.50	1.432	99.30	1.007	-0.15	0.088	0.127	
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	-	Standalone	165	5825	18.80	20.50	1.479	99.23	1.008	0.17	0.688	1.026	
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 4+5	-	Standalone	149	5745	18.95	20.50	1.429	99.23	1.008	-0.07	0.506	0.729	
	WLAN5.8GHz	802.11a 6Mbps	Front	16mm	Ant 4+5	-	Full Power	149	5745	19.56	21.00	1.393	99.23	1.008	0.05	0.147	0.206	
	WLAN5.8GHz	802.11a 6Mbps	Back	18mm	Ant 4+5	-	Full Power	149	5745	19.56	21.00	1.393	99.23	1.008	0.09	0.141	0.198	















Table with columns for Band, Modulation, Power, Frequency, Location, Antenna, etc. Includes rows for LTE Bands 7, 41, and FR1 n7.









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Table with 18 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Reported 10g SAR (W/kg). Rows include FR1 n77 and FR1 n77\_HPUE.

Detailed SAR test results table with 18 columns: Plot No., Band, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Reported 10g SAR (W/kg). Sectioned by WIFI&BT with sub-sections 107, 108, and 109.





**FCC SAR Test Report**

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	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 4+5	WWAN+non DBS	106	5530	15.92	17.00	1.282	99.30	1.007	-0.18	0.328	0.423
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4+5	WWAN+DBS	106	5530	12.93	14.00	1.279	99.30	1.007	-0.02	0.292	0.376
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 4+5	WWAN+DBS	106	5530	12.93	14.00	1.279	99.30	1.007	0.03	0.080	0.103
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 4+5	WWAN+DBS	106	5530	12.93	14.00	1.279	99.30	1.007	0.01	0.005	0.006
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 4+5	WWAN+DBS	106	5530	12.93	14.00	1.279	99.30	1.007	-0.16	0.185	0.239
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 4+5	WWAN+DBS	106	5530	12.93	14.00	1.279	99.30	1.007	0.01	0.173	0.223
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 4+5	Standalone	140	5700	19.70	21.00	1.349	99.23	1.008	-0.19	0.403	0.548
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 4+5	Standalone	140	5700	19.70	21.00	1.349	99.23	1.008	-0.12	0.027	0.037
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 4+5	Standalone	140	5700	19.70	21.00	1.349	99.23	1.008	-0.17	0.894	1.216
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 4+5	Standalone	140	5700	19.70	21.00	1.349	99.23	1.008	-0.02	0.839	1.141
	WLAN5.5GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	0.09	0.535	0.727
	WLAN5.5GHz	802.11a 6Mbps	Back	9mm	Ant 4+5	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	0.01	0.185	0.252
	WLAN5.5GHz	802.11a 6Mbps	Right Side	6mm	Ant 4+5	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	0.08	0.406	0.552
	WLAN5.5GHz	802.11a 6Mbps	Top Side	6mm	Ant 4+5	Full Power	140	5700	19.70	21.00	1.349	99.23	1.008	-0.02	0.498	0.677
110	WLAN5.8GHz	802.11a 6Mbps	Front	0mm	Ant 4+5	Standalone&DBS only	149	5745	19.56	21.00	1.393	99.23	1.008	0.01	1.200	<b>1.685</b>
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4+5	WWAN+non DBS	155	5775	14.96	16.50	1.426	99.30	1.007	0.06	0.552	0.792
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 4+5	WWAN+DBS	155	5775	11.56	13.00	1.393	99.30	1.007	-0.01	0.265	0.372
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Ant 4+5	Full Power	149	5745	19.56	21.00	1.393	99.23	1.008	0.08	0.447	0.628



16.5 Repeated SAR Measurement

<1g>

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB Offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Ratio, Reported 1g SAR (W/kg)

<10g>

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB Offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 10g SAR (W/kg), Ratio, Reported 10g SAR (W/kg)

General Note:

- 1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated measured SAR.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

**16.6 TDD LTE and NR Linearity Data Analysis**

**General Note:**

This device support Power Class 2 and Power Class 3 operations for LTE Band 41/5G NR n41/n77. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg for 1g and < 3.5 W/kg for 10g, Separate SAR testing for Power Class 2 is not required.

LTE Band 41(HPUE) Ant 0-Linearity Data for Head		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.068	0.098
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	217.01
Linearity SAR (W/kg)	0.093	
% deviation from expected linearity		5.59%
LTE Band 41(HPUE) Ant 0-Linearity Data for Body-worn		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	20.60	22.20
Reported 1g SAR (W/kg)	1.220	1.259
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	72.68	71.86
Linearity SAR (W/kg)	1.206	
% deviation from expected linearity		4.37%
LTE Band 41(HPUE) Ant 0-Linearity Data for Hotspot		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	20.60	22.20
Reported 1g SAR (W/kg)	1.220	1.259
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	72.68	71.86
Linearity SAR (W/kg)	1.206	
% deviation from expected linearity		4.37%
LTE Band 41(HPUE) Ant 0-Linearity Data for Extremity SAR		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	23.20	24.80
Reported 10g SAR (W/kg)	2.721	2.681
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	132.25	130.76
Linearity SAR (W/kg)	2.690	
% deviation from expected linearity		-0.35%

LTE Band 41(HPUE) Ant 1-Linearity Data for Head		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	18.30	19.90
Reported 1g SAR (W/kg)	0.990	0.947
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	42.80	42.31
Linearity SAR (W/kg)	0.979	
% deviation from expected linearity		-3.25%
LTE Band 41(HPUE) Ant 1-Linearity Data for Body-worn		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	19.30	20.90
Reported 1g SAR (W/kg)	0.691	0.649
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	53.88	53.27
Linearity SAR (W/kg)	0.683	
% deviation from expected linearity		-5.01%
LTE Band 41(HPUE) Ant 1-Linearity Data for Hotspot		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	19.30	20.90
Reported 1g SAR (W/kg)	0.987	0.978
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	53.88	53.27
Linearity SAR (W/kg)	0.976	
% deviation from expected linearity		0.22%
LTE Band 41(HPUE) Ant 1-Linearity Data for Extremity SAR		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	24.60
Reported 10g SAR (W/kg)	2.624	2.372
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	124.88
Linearity SAR (W/kg)	2.594	
% deviation from expected linearity		-8.57%



<b>FR1 N41(HPUE) Ant 0-Linearity Data for Head</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	26.00
Reported 1g SAR (W/kg)	0.095	0.072
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	199.05
Linearity SAR (W/kg)	0.075	
% deviation from expected linearity		-4.36%
<b>FR1 N41(HPUE) Ant 0-Linearity Data for Body-worn</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	19.90	22.90
Reported 1g SAR (W/kg)	1.127	1.211
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	97.72	97.49
Linearity SAR (W/kg)	1.124	
% deviation from expected linearity		7.71%
<b>FR1 N41(HPUE) Ant 0-Linearity Data for Hotspot</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	19.90	22.90
Reported 1g SAR (W/kg)	1.248	1.176
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	97.72	97.49
Linearity SAR (W/kg)	1.245	
% deviation from expected linearity		-5.55%
<b>FR1 N41(HPUE) Ant 0-Linearity Data for Extremity SAR</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	22.10	25.10
Reported 10g SAR (W/kg)	2.756	2.626
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	162.18	161.80
Linearity SAR (W/kg)	2.749	
% deviation from expected linearity		-4.49%

<b>FR1 N41(HPUE) Ant 1-Linearity Data for Head</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	15.70	18.70
Reported 1g SAR (W/kg)	0.954	0.981
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	37.15	37.07
Linearity SAR (W/kg)	0.952	
% deviation from expected linearity		3.07%
<b>FR1 N41(HPUE) Ant 1-Linearity Data for Body-worn</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	16.40	19.40
Reported 1g SAR (W/kg)	0.582	0.574
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	43.65	43.55
Linearity SAR (W/kg)	0.581	
% deviation from expected linearity		-1.14%
<b>FR1 N41(HPUE) Ant 1-Linearity Data for Hotspot</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	16.40	19.40
Reported 1g SAR (W/kg)	0.949	0.980
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	43.65	43.55
Linearity SAR (W/kg)	0.947	
% deviation from expected linearity		3.51%
<b>FR1 N41(HPUE) Ant 1-Linearity Data for Extremity SAR</b>		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	21.10	24.10
Reported 10g SAR (W/kg)	2.724	2.498
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	128.82	128.52
Linearity SAR (W/kg)	2.718	
% deviation from expected linearity		-8.08%



FR1 N41(HPUE) Ant 2-Linearity Data for Head		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	17.40	20.40
Reported 1g SAR (W/kg)	0.974	0.952
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	54.95	54.82
Linearity SAR (W/kg)	0.972	
% deviation from expected linearity		-2.03%
FR1 N41(HPUE) Ant 2-Linearity Data for Body-worn		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.412	0.445
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.411	
% deviation from expected linearity		8.27%
FR1 N41(HPUE) Ant 2-Linearity Data for Hotspot		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.980	0.964
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.978	
% deviation from expected linearity		-1.40%
FR1 N41(HPUE) Ant 2-Linearity Data for Extremity SAR		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	21.00	24.00
Reported 10g SAR (W/kg)	2.718	2.652
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	125.89	125.59
Linearity SAR (W/kg)	2.712	
% deviation from expected linearity		-2.20%

FR1 N41(HPUE) Ant 7-Linearity Data for Head		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.352	0.324
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	250.59
Linearity SAR (W/kg)	0.351	
% deviation from expected linearity		-7.74%
FR1 N41(HPUE) Ant 7-Linearity Data for Body-worn		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	20.30	23.30
Reported 1g SAR (W/kg)	0.593	0.548
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	107.15	106.90
Linearity SAR (W/kg)	0.592	
% deviation from expected linearity		-7.37%
FR1 N41(HPUE) Ant 7-Linearity Data for Hotspot		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	20.30	23.30
Reported 1g SAR (W/kg)	1.235	1.167
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	107.15	106.90
Linearity SAR (W/kg)	1.232	
% deviation from expected linearity		-5.28%
FR1 N41(HPUE) Ant 7-Linearity Data for Extremity SAR		
	FR1 N41 (Power Class 3)	FR1 N41 (Power Class 2)
Maximum Tune up Power (dBm)	20.30	23.30
Reported 10g SAR (W/kg)	2.545	2.642
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	107.15	106.90
Linearity SAR (W/kg)	2.539	
% deviation from expected linearity		4.06%



FR1 N770(HPUE) Ant 2-Linearity Data for Head		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	13.30	16.30
Reported 1g SAR (W/kg)	0.916	0.974
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	21.38	21.33
Linearity SAR (W/kg)	0.914	
% deviation from expected linearity		6.58%
FR1 N77Q(HPUE) Ant 2-Linearity Data for Head		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	13.30	16.30
Reported 1g SAR (W/kg)	0.558	0.575
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	21.38	21.33
Linearity SAR (W/kg)	0.557	
% deviation from expected linearity		3.29%
FR1 N770(HPUE) Ant 2-Linearity Data for Body-worn		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	12.90	15.90
Reported 1g SAR (W/kg)	0.345	0.351
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	19.50	19.45
Linearity SAR (W/kg)	0.344	
% deviation from expected linearity		1.98%
FR1 N77Q(HPUE) Ant 2-Linearity Data for Body-worn		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	12.90	15.90
Reported 1g SAR (W/kg)	0.226	0.245
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	19.50	19.45
Linearity SAR (W/kg)	0.225	
% deviation from expected linearity		8.66%
FR1 N770(HPUE) Ant 2-Linearity Data for Hotspot		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	12.90	15.90
Reported 1g SAR (W/kg)	0.978	0.959
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	19.50	19.45
Linearity SAR (W/kg)	0.976	
% deviation from expected linearity		-1.71%
FR1 N77Q(HPUE) Ant 2-Linearity Data for Hotspot		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	12.90	15.90
Reported 1g SAR (W/kg)	0.513	0.555
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	19.50	19.45
Linearity SAR (W/kg)	0.512	
% deviation from expected linearity		8.44%
FR1 N770(HPUE) Ant 2-Linearity Data for Extremity SAR		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.60	20.60
Reported 10g SAR (W/kg)	2.707	2.437

FR1 N770(HPUE) Ant 4-Linearity Data for Head		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	15.20	18.20
Reported 1g SAR (W/kg)	0.985	0.914
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	33.11	33.03
Linearity SAR (W/kg)	0.983	
% deviation from expected linearity		-6.99%
FR1 N77Q(HPUE) Ant 4-Linearity Data for Head		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	15.20	18.20
Reported 1g SAR (W/kg)	0.800	0.823
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	33.11	33.03
Linearity SAR (W/kg)	0.798	
% deviation from expected linearity		3.12%
FR1 N770(HPUE) Ant 4-Linearity Data for Body-worn		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	16.60	19.60
Reported 1g SAR (W/kg)	0.457	0.451
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	45.71	45.60
Linearity SAR (W/kg)	0.456	
% deviation from expected linearity		-1.08%
FR1 N77Q(HPUE) Ant 4-Linearity Data for Body-worn		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	16.60	19.60
Reported 1g SAR (W/kg)	0.347	0.333
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	45.71	45.60
Linearity SAR (W/kg)	0.346	
% deviation from expected linearity		-3.81%
FR1 N770(HPUE) Ant 4-Linearity Data for Hotspot		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	16.60	19.60
Reported 1g SAR (W/kg)	0.981	0.882
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	45.71	45.60
Linearity SAR (W/kg)	0.979	
% deviation from expected linearity		-9.88%
FR1 N77Q(HPUE) Ant 4-Linearity Data for Hotspot		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	16.60	19.60
Reported 1g SAR (W/kg)	0.702	0.686
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	45.71	45.60
Linearity SAR (W/kg)	0.700	
% deviation from expected linearity		-2.05%
FR1 N770(HPUE) Ant 4-Linearity Data for Extremity SAR		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.70	23.70
Reported 10g SAR (W/kg)	2.721	2.631



Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	57.54	57.41
Linearity SAR (W/kg)	2.701	
% deviation from expected linearity		-9.76%
<b>FR1 N77Q(HPUE) Ant 2-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.60	20.60
Reported 10g SAR (W/kg)	1.263	1.257
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	57.54	57.41
Linearity SAR (W/kg)	1.260	
% deviation from expected linearity		-0.24%

Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	117.49	117.21
Linearity SAR (W/kg)	2.715	
% deviation from expected linearity		-3.08%
<b>FR1 N77Q(HPUE) Ant 4-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.70	23.70
Reported 10g SAR (W/kg)	2.765	2.666
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	117.49	117.21
Linearity SAR (W/kg)	2.758	
% deviation from expected linearity		-3.35%

<b>FR1 N77O(HPUE) Ant 5-Linearity Data for Head</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	14.50	17.50
Reported 1g SAR (W/kg)	0.974	0.910
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	28.18	28.12
Linearity SAR (W/kg)	0.972	
% deviation from expected linearity		-6.35%

<b>FR1 N77O(HPUE) Ant 7-Linearity Data for Head</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.203	0.197
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	250.59
Linearity SAR (W/kg)	0.203	
% deviation from expected linearity		-2.73%

<b>FR1 N77Q(HPUE) Ant 5-Linearity Data for Head</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	14.50	17.50
Reported 1g SAR (W/kg)	0.713	0.701
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	28.18	28.12
Linearity SAR (W/kg)	0.711	
% deviation from expected linearity		-1.45%

<b>FR1 N77Q(HPUE) Ant 7-Linearity Data for Head</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.326	0.330
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	250.59
Linearity SAR (W/kg)	0.325	
% deviation from expected linearity		1.47%

<b>FR1 N77O(HPUE) Ant 5-Linearity Data for Body-worn</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.432	0.407
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.431	
% deviation from expected linearity		-5.56%

<b>FR1 N77O(HPUE) Ant 7-Linearity Data for Body-worn</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	19.50	22.50
Reported 1g SAR (W/kg)	1.195	1.174
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	1.192	
% deviation from expected linearity		-1.52%

<b>FR1 N77Q(HPUE) Ant 5-Linearity Data for Body-worn</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.473	0.449
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.472	
% deviation from expected linearity		-4.85%

<b>FR1 N77Q(HPUE) Ant 7-Linearity Data for Body-worn</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	19.50	22.50
Reported 1g SAR (W/kg)	0.764	0.726
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	0.762	
% deviation from expected linearity		-4.75%

<b>FR1 N77O(HPUE) Ant 5-Linearity Data for Hotspot</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.987	0.898
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.985	
% deviation from expected linearity		-8.80%

<b>FR1 N77O(HPUE) Ant 7-Linearity Data for Hotspot</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	19.50	22.50
Reported 1g SAR (W/kg)	1.195	1.174
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	1.192	
% deviation from expected linearity		-1.52%

<b>FR1 N77Q(HPUE) Ant 5-Linearity Data for Hotspot</b>		
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<b>FR1 N77Q(HPUE) Ant 7-Linearity Data for Hotspot</b>		
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	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20
Reported 1g SAR (W/kg)	0.789	0.716
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36
Linearity SAR (W/kg)	0.787	
% deviation from expected linearity		-9.04%
<b>FR1 N77Q(HPUE) Ant 5-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.50	23.50
Reported 10g SAR (W/kg)	2.738	2.669
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	112.20	111.94
Linearity SAR (W/kg)	2.732	
% deviation from expected linearity		-2.29%
<b>FR1 N77Q(HPUE) Ant 5-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.50	23.50
Reported 10g SAR (W/kg)	2.503	2.302
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	112.20	111.94
Linearity SAR (W/kg)	2.497	
% deviation from expected linearity		-7.81%

	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	19.50	22.50
Reported 1g SAR (W/kg)	1.238	1.148
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	1.235	
% deviation from expected linearity		-7.05%
<b>FR1 N77Q(HPUE) Ant 7-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.30	23.30
Reported 10g SAR (W/kg)	2.290	2.225
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	107.15	106.90
Linearity SAR (W/kg)	2.285	
% deviation from expected linearity		-2.61%
<b>FR1 N77Q(HPUE) Ant 7-Linearity Data for Extremity SAR</b>		
	FR1 N77 (Power Class 3)	FR1 N77 (Power Class 2)
Maximum Tune up Power (dBm)	20.30	23.30
Reported 10g SAR (W/kg)	2.752	2.509
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	107.15	106.90
Linearity SAR (W/kg)	2.745	
% deviation from expected linearity		-8.61%



## **17. Simultaneous Transmission Analysis**

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + WLAN6GHz	Yes	Yes	Yes	Yes
4.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WLAN2.4GHz + WLAN5GHz	Yes	Yes	Yes	Yes
6.	WLAN2.4GHz + WLAN6GHz	Yes	Yes	Yes	Yes
7.	WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
8.	WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes
9.	WWAN + WLAN2.4GHz + WLAN5GHz	Yes	Yes	Yes	Yes
10.	WWAN + WLAN2.4GHz + WLAN6GHz	Yes	Yes	Yes	Yes
11.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
12.	WWAN + WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes

**General Note:**

- This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- WWAN above includes 5G NR bands.
- The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
- EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using one of 4G or 5G NR.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only). WLAN 6GHz has no hotspot function.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- WLAN 2.4GHz and Bluetooth share the same antenna, and they cannot transmit simultaneously each other.
- According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
- According to the EUT characteristic, WLAN 2.4GHz and Bluetooth can't transmit simultaneously.
- According to the EUT characteristic, two Bluetooth antennas cannot transmit simultaneously with each other.
- The maximum SAR summation is calculated based on the same configuration and test position.
- For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
- For standalone WWAN, always choose the highest SAR among the selected WWAN bands within the selected antenna for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each bands.
- For distance SAR and non-distance SAR always chose higher SAR to do co-located analysis.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
  - $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - If  $SPLSR \leq 0.04$  for 1g SAR and  $SPLSR \leq 0.10$  for 10g SAR, simultaneously transmission SAR measurement is not necessary.
  - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

- v) The SPLSR calculated results please refer to section 17.7.
20. The WLAN 6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The simultaneous transmission and test exemption analysis per KDB 447498 D01, and the device does not support FR2 or another MPE field measurement, therefore SAR report in section 17 has include TER analysis requirement according to KDB 987594.

### 17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

In 5G NR + LTE + WLAN + BT simultaneous transmission, 5G NR and LTE transmission are managed and controlled by Qualcomm® Smart Transmit, while the RF exposure from WLAN and BT radios is managed using legacy approach, i.e., through a fixed power back-off if needed.

Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

Smart Transmit current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x%, then the exposure margin left for 5G NR is capped to (100-x)%. Thus, the compliance equation for LTE + 5G NR is

$$x\% * A + (100-x)\% * B \leq 1.0,$$

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and  $A \leq 1.0$ ; B is normalized reported time-averaged exposure ratio from 5G NR (i.e. SAR exposure for 5G FR1), and  $B \leq 1.0$ .

Let C = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

$$x\% * A + (100-x)\% * B + C \leq 1.0 \quad (1)$$

$$x\% * A + (100-x)\% * B \leq x\% * \max(A, B) + (100-x)\% * \max(A, B) \leq \max(A, B)$$

$$x\% * A + (100-x)\% * B + C \leq \max(A, B) + C \leq 1.0 \quad (2)$$

if  $A + C \leq 1.0$  and  $B + C \leq 1.0$  can be proven, then " $x\% * A + (100-x)\% * B + C \leq 1.0$ ". Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1

Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

Above analysis is also apply to LTE inter-band uplink, LTE1 + LTE2 + WLAN + BT simultaneous transmission, So inter-band uplink CA no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE + WLAN + BT < 1.

**17.2 Sub6 Antenna Groups**

The 2nd generation of Smart Transmit (GEN2) operates based on pre-defined sub6 antenna groups (AG). Sub6 Tx antennas in the device are grouped based on spatial variation of RF exposure distributions, where the RF exposure of one AG is mutually exclusive from other AG. This is accomplished by demonstrating below conditions for all exposure positions under each DSI for a given exposure category.

- 1) Case 1: Sum of SAR of one antenna from each of the sub6 AGs and the RF exposure from radios outside Smart Transmit is less than regulatory limits for each supported DSI. This condition must be demonstrated for all antenna combinations of sub6 AGs.
  - i. For a given DSI, obtain the highest *reported* SAR for each antenna out of all supported technologies and frequency bands. Obtain the maximum *reported* SAR for each AG by taking the maximum out of *reported* SAR for all antennas belonging to each AG.
  - ii. Demonstrate that the sum of maximum reported SAR (normalized to regulatory limit) from each of the sub6 AGs and the sum of reported SAR (normalized to regulatory limit) from all supported radios outside of Smart Transmit should be less than 1.0
- 2) Case 2: If the Case 1 is NOT met, then for a given antenna grouping scheme plus external radios/antennas (ERs) (referred to as 'configuration'), demonstrate all AG pairs, all ER pairs and all (AG, ER) pairs in the configuration meet SPLSR criteria (Section 4.3.2 (c) in FCC KDB 447498 D01 v06) for each exposure position under each supported DSI. For a given exposure position under a given DSI, prove all AG pairs, all ER pairs and all (AG, ER) pairs (if there are external radios outside Smart Transmit) in the configuration meet SPLSR.

This device supports two sub6 AG: AG0 and AG1, the detailed please refer to the below table:

<b>Antenna Group 0 (AG0)</b>	ANT1 & ANT2 & ANT4 & ANT5
<b>Antenna Group 1 (AG1)</b>	ANT0 & ANT7

The conditions are verified through the following criterias:

- i) (SAR1 + SAR2 criteria): If SPLSR criteria is not used, then the highest reported SAR at *Plimit* for each antenna should be obtained out of all supported technologies and frequency bands for each DSI. Demonstrate that the sum of reported SAR of one antenna from each of the sub6 AGs and the sum of RF exposure from all supported radios outside of Smart Transmit should be less than the regulatory limit as given below for each DSI.
  1. Obtain the worst-case reported SAR for each antenna group (i.e., maximum *reported* SAR at *Plimit* out of all supported technologies, frequency bands and antennas in AG0 and AG1), denoted as max.SAR.AG0 and max.SAR.AG1, and obtain the worst-case RF exposure for each external radio, and demonstrate that the sum of these RF exposures meets: { [max.SAR.AG0+ max.SAR.AG1] + WIFI/BT worst-case reported SAR} ≤ 1.6 (for 1g, or 4.0 for 10g). (WIFI/BT worst-case reported SAR is the worst SAR in all combinations of WIFI and BT simultaneous transmission)
- ii) (SPLSR criteria): For each antenna, obtain the highest reported SAR value at *Plimit* out of all supported technologies for each frequency band. Using these values, demonstrate for a given DSI that every antenna from one sub6 AG meets SPLSR criteria with every antenna in another sub6 AG for all frequency bands. This criteria must be demonstrated for all antenna pair combinations irrespective of supported simultaneous transmission scenarios as given below for each DSI:
  - a. SPLSR criteria should be met for all antenna pair combinations of AG0 and AG1. As it can be seen, these include all combinations of antenna groups, antennas, and frequency bands.
  - b. Obtain combined SAR per AG: Obtain the worst-case conservative combined SAR and its peak location for each AG.
  - c. Use the 'closest' peak location out of all antennas of AGj to evaluate SPLSR with other AGs in the configuration. Note, by 'closest', select the peak location out of all antennas (ε AGj) that is closest to the peak location of other AG where SPLSR is evaluated.
- iii) (combination of SPLSR & SAR1+SAR2 criteria): If SPLSR criteria for all the combinations of sub6 antenna groups in (i) is demonstrated to show that each AG is mutually exclusive from other AGs, and if the WIFI/BT antennas supported outside of Smart Transmit do not meet SPLSR criteria, then the condition in (ii) reduces to: {max.SAR.AG0 + worst-case reported SAR} ≤ 1.6 and {max.SAR.AG1+ worst-case reported SAR } ≤ 1.6 for compliance demonstration (for 1g, or 4.0 for 10g).

For summed SAR results and SPLSR detailed analysis, please refer to section 17.3 / 17.4 / 17.5 / 17.6 /17.7 of this report. All of the combinations of sub6 antenna groups are sufficient to show that AG0 is mutually exclusive from AG1 and that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528- 2013 Section 6.3.4.1.

### 17.3 Head Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum report SAR>:

Test Position	Ant1	Ant2	Ant4	Ant5	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Right Cheek	0.990	0.984	0.689	0.247	0.990
Right Tilted	0.990	0.215	0.764	0.234	0.990
Left Cheek	0.610	0.266	0.985	0.974	0.985
Left Tilted	0.703	0.091	0.976	0.833	0.976

<AG1 maximum report SAR>:

Test Position	Ant0	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Right Cheek	0.333	0.189	0.333
Right Tilted	0.180	0.251	0.251
Left Cheek	0.229	0.352	0.352
Left Tilted	0.162	0.173	0.173

<WLAN+BT Worse-case SAR>:

NO	1	2	3	4	5	6	7	8	3+5	3+6	5+7	6+7	2+4	2+8	Wlan+BT worse case
Test Position	WLAN2.4GHz Ant 3+6 WWAN+non DBS	WLAN2.4GHz Ant 3+6 WWAN+DBS	WLAN5GHz Ant 4+5 WWAN+non DBS	WLAN5GHz Ant 4+5 WWAN+DBS	Bluetooth Ant 6	Bluetooth Ant 3	WLAN6GHz Ant 4+5	WLAN6GHz Ant 4+5 WWAN+DBS	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)							
Right Cheek	0.146	0.078	0.146	0.073	0.060	0.086	0.187	0.086	0.206	0.232	0.247	0.273	0.151	0.164	0.273
Right Tilted	0.173	0.091	0.138	0.069	0.014	0.100	0.217	0.100	0.152	0.238	0.231	0.317	0.160	0.191	0.317
Left Cheek	0.354	0.188	0.399	0.199	0.189	0.167	0.284	0.131	0.588	0.566	0.473	0.451	0.387	0.319	0.588
Left Tilted	0.370	0.196	0.330	0.165	0.048	0.172	0.399	0.185	0.378	0.502	0.447	0.571	0.361	0.381	0.571

Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case:

Test Position	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan +BT worse case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Right Cheek	0.990	0.333	0.273	1.60
Right Tilted	0.990	0.251	0.317	1.56
Left Cheek	0.985	0.352	0.588	1.93
Left Tilted	0.976	0.173	0.571	1.72

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Right Cheek					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	0.333	0.990	0.273	1.60	Case 1
Ant0-Ant2	0.333	0.984	0.273	1.59	-
Ant0-Ant4	0.333	0.689	0.273	1.30	-
Ant0-Ant5	0.333	0.247	0.273	0.85	-
Ant7-Ant1	0.189	0.990	0.273	1.45	-
Ant7-Ant2	0.189	0.984	0.273	1.45	-
Ant7-Ant4	0.189	0.689	0.273	1.15	-
Ant7-Ant5	0.189	0.247	0.273	0.71	-



Left Cheek					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant1	0.229	0.610	0.588	1.43	-
Ant0-Ant2	0.229	0.266	0.588	1.08	-
Ant0-Ant4	0.229	0.985	0.588	<b>1.80</b>	<b>Case 2</b>
Ant0-Ant5	0.229	0.974	0.588	<b>1.79</b>	<b>Case 3</b>
Ant7-Ant1	0.352	0.610	0.588	1.55	-
Ant7-Ant2	0.352	0.266	0.588	1.21	-
Ant7-Ant4	0.352	0.985	0.588	<b>1.93</b>	<b>Case 4</b>
Ant7-Ant5	0.352	0.974	0.588	<b>1.91</b>	<b>Case 5</b>

Left Tilted					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant1	0.162	0.703	0.571	1.44	-
Ant0-Ant2	0.162	0.091	0.571	0.82	-
Ant0-Ant4	0.162	0.976	0.571	<b>1.71</b>	<b>Case 6</b>
Ant0-Ant5	0.162	0.833	0.571	1.57	-
Ant7-Ant1	0.171	0.703	0.571	1.45	-
Ant7-Ant2	0.171	0.091	0.571	0.83	-
Ant7-Ant4	0.171	0.976	0.571	<b>1.72</b>	<b>Case 7</b>
Ant7-Ant5	0.171	0.833	0.571	1.58	-

<Simultaneous Transmission analysis of WLAN/BT only without WWAN>

NO	1	2	3	4	5	6	7	8						
Test Position	WLAN2.4GHz Ant 3+6 Without WWAN Non DBS	WLAN2.4GHz Ant 3+6 Without WWAN DBS only	WLAN5GHz Ant 4+5 Without WWAN Non DBS	WLAN5GHz Ant 4+5 Without WWAN DBS only	Bluetooth Ant 6	Bluetooth Ant 3	WLAN6GHz Ant 4+5 Without WWAN Non DBS	WLAN6GHz Ant 4+5 Without WWAN DBS Only	2+4	2+8	3+5	3+6	5+7	6+7
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Right Cheek	0.554	0.798	0.414	0.787	0.066	0.111	0.187	0.187	<b>1.59</b>	0.99	0.48	0.53	0.25	0.30
Right Tilted	0.654	0.798	0.391	0.787	0.017	0.119	0.217	0.217	1.59	1.02	0.41	0.51	0.23	0.34
Left Cheek	1.338	0.798	1.198	0.787	0.194	0.188	0.284	0.284	1.59	1.08	1.39	1.39	0.48	0.47
Left Tilted	1.400	0.798	0.932	0.787	0.043	0.182	0.399	0.399	1.59	1.20	0.98	1.11	0.44	0.58

### 17.4 Hotspot Exposure Conditions

**General Note:** The unit of SAR evaluation is W/kg.  
**Simultaneous Transmission Evaluation of WWAN+WLAN+BT:**  
**<AG0 maximum report SAR>:**

Test Position	Ant1	Ant2	Ant4	Ant5	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.904	0.421	0.457	0.473	0.904
Back	0.990	0.314	0.415	0.383	0.990
Left Side	0.534	0.990	0.093	0.018	0.990
Right Side	0.210	0.015	0.172	0.480	0.480
Top Side	1.048	0.091	0.981	0.987	1.048
Bottom Side					

**<AG1 maximum report SAR>:**

Test Position	Ant0	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	1.208	1.195	1.208
Back	1.259	0.933	1.259
Left Side	0.295	1.238	1.238
Right Side	0.519	0.031	0.519
Top Side			
Bottom Side	1.259	0.267	1.259

**<WLAN+BT Worse-case SAR>:**

NO	1	2	3	4	5	6				Wlan+BT worse case
Test Position	WLAN2.4GHz Ant 3+6 WWAN+non DBS	WLAN2.4GHz Ant 3+6 WWAN+DBS	WLAN5GHz Ant 4+5 WWAN+non DBS	WLAN5GHz Ant 4+5 WWAN+DBS	Bluetooth Ant 6	Bluetooth Ant 3	3+5	3+6	2+4	
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	0.315	0.145	0.385	0.193	0.065	0.089	0.170	0.474	0.338	0.474
Back	0.288	0.132	0.236	0.127	0.053	0.103	0.200	0.339	0.259	0.339
Left Side	0.026	0.011	0.040	0.019	0.001	0.001	0.041	0.041	0.030	0.041
Right Side	0.252	0.115	0.261	0.131	0.121	0.001	0.382	0.262	0.246	0.382
Top Side	0.400	0.186	0.348	0.186	0.001	0.150	0.349	0.498	0.372	0.498
Bottom Side										

**<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:**

Test Position	AG0	AG1	Wlan+BT worst case	AG0+AG1+wlan +BT worse case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	0.904	1.208	0.474	<b>2.59</b>
Back	0.990	1.259	0.339	<b>2.59</b>
Left Side	0.990	1.238	0.041	<b>2.27</b>
Right Side	0.480	0.519	0.382	1.38
Top Side	1.048		0.498	1.55
Bottom Side		1.259		1.26

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.



Front					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	1.208	0.904	0.474	2.59	Case 8
Ant0-Ant2	1.208	0.421	0.474	2.10	Case 24
Ant0-Ant4	1.208	0.457	0.474	2.14	Case 10
Ant0-Ant5	1.208	0.473	0.474	2.16	Case 11
Ant7-Ant1	1.195	0.904	0.474	2.57	Case 12
Ant7-Ant2	1.195	0.421	0.474	2.09	Case 25
Ant7-Ant4	1.195	0.457	0.474	2.13	Case 14
Ant7-Ant5	1.195	0.473	0.474	2.14	Case 15

Back					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	1.259	0.990	0.339	2.59	Case 26
Ant0-Ant2	1.259	0.314	0.339	1.91	Case 27
Ant0-Ant4	1.259	0.415	0.339	2.01	Case 28
Ant0-Ant5	1.259	0.383	0.339	1.98	Case 29
Ant7-Ant1	0.933	0.990	0.339	2.26	Case 30
Ant7-Ant2	0.933	0.314	0.339	1.59	-
Ant7-Ant4	0.933	0.415	0.339	1.69	Case 31
Ant7-Ant5	0.933	0.383	0.339	1.66	Case 32

Left side					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	0.295	0.534	0.041	0.87	-
Ant0-Ant2	0.295	0.990	0.041	1.33	-
Ant0-Ant4	0.295	0.093	0.041	0.43	-
Ant0-Ant5	0.295	0.018	0.041	0.35	-
Ant7-Ant1	1.238	0.534	0.041	1.81	Case 33
Ant7-Ant2	1.238	0.990	0.041	2.27	Case 34
Ant7-Ant4	1.238	0.093	0.041	1.37	-
Ant7-Ant5	1.238	0.018	0.041	1.30	-

**17.5 Body-Worn Accessory Exposure Conditions**

**General Note:** The unit of SAR evaluation is W/kg.

**Simultaneous Transmission Evaluation of WWAN+WLAN+BT:**

**<AG0 maximum report SAR>:**

Test Position	Ant1	Ant2	Ant4	Ant5	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.904	0.445	0.457	0.473	0.904
Back	0.990	0.314	0.415	0.383	0.990

**<AG1 maximum report SAR>:**

Test Position	Ant0	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	1.208	1.195	1.208
Back	1.259	0.933	1.259

**<WLAN+BT Worse-case SAR>:**

NO	1	2	3	4	5	6	7	3+5	3+6	5+7	6+7	2+4	2+7	Wlan+BT worse case
Test Position	WLAN2.4GHz Ant 3+6 WWAN+non DBS	WLAN2.4GHz Ant 3+6 WWAN+DBS	WLAN5GHz Ant 4+5 WWAN+non DBS	WLAN5GHz Ant 4+5 WWAN+DBS	Bluetooth Ant 6	Bluetooth Ant 3	WLAN6GHz Ant 4+5							
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	0.400	0.198	0.385	0.198	0.065	0.089	0.170	0.450	0.474	0.235	0.259	0.396	0.368	0.474
Back	0.318	0.157	0.236	0.127	0.053	0.103	0.200	0.289	0.339	0.253	0.303	0.284	0.357	0.357

**<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:**

Test Position	AG0	AG1	Wlan+BT worst case	AG0+AG1+wlan +BT worse case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	0.904	1.208	0.474	<b>2.59</b>
Back	0.990	1.259	0.357	<b>2.61</b>

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Front					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	1.208	0.904	0.474	<b>2.59</b>	<b>Case 8</b>
Ant0-Ant2	1.208	0.445	0.474	<b>2.13</b>	<b>Case 9</b>
Ant0-Ant4	1.208	0.457	0.474	<b>2.14</b>	<b>Case 10</b>
Ant0-Ant5	1.208	0.473	0.474	<b>2.16</b>	<b>Case 11</b>
Ant7-Ant1	1.195	0.904	0.474	<b>2.57</b>	<b>Case 12</b>
Ant7-Ant2	1.195	0.445	0.474	<b>2.11</b>	<b>Case 13</b>
Ant7-Ant4	1.195	0.457	0.474	<b>2.13</b>	<b>Case 14</b>
Ant7-Ant5	1.195	0.473	0.474	<b>2.14</b>	<b>Case 15</b>





Back					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	
Ant0-Ant1	1.259	0.990	0.357	<b>2.61</b>	<b>Case 16</b>
Ant0-Ant2	1.259	0.314	0.357	<b>1.93</b>	<b>Case 17</b>
Ant0-Ant4	1.259	0.415	0.357	<b>2.03</b>	<b>Case 18</b>
Ant0-Ant5	1.259	0.383	0.357	<b>2.00</b>	<b>Case 19</b>
Ant7-Ant1	0.933	0.990	0.357	<b>2.28</b>	<b>Case 20</b>
Ant7-Ant2	0.933	0.314	0.357	<b>1.60</b>	<b>Case 21</b>
Ant7-Ant4	0.933	0.415	0.357	<b>1.71</b>	<b>Case 22</b>
Ant7-Ant5	0.933	0.383	0.357	<b>1.67</b>	<b>Case 23</b>

**<Simultaneous Transmission analysis of WLAN/BT only without WWAN>:**

NO	1	2	3	4	5	6	7	8						
Test Position	WLAN2.4GHz Ant 3+6 Without WWAN Non DBS	WLAN2.4GHz Ant 3+6 Without WWAN DBS only	WLAN5GHz Ant 4+5 Without WWAN Non DBS	WLAN5GHz Ant 4+5 Without WWAN DBS only	Bluetooth Ant 6	Bluetooth Ant 3	WLAN6GHz Ant 4+5 Without WWAN Non DBS	WLAN6GHz Ant 4+5 Without WWAN DBS Only	2+4	2+8	3+5	3+6	5+7	6+7
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	1.190	0.796	1.190	0.790	0.065	0.089	0.170	0.170	1.59	0.97	1.26	1.28	0.24	0.26
Back	1.083	0.796	0.729	0.790	0.053	0.103	0.200	0.200	1.59	1.00	0.78	0.83	0.25	0.30

### 17.6 Product specific 10g SAR Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum report SAR>:

Test Position	Ant1	Ant2	Ant4	Ant5	MAX
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front	2.756	2.019	2.765	2.738	2.765
Back	2.076	1.454	1.326	1.026	2.076
Left Side	0.818	2.748			2.748
Right Side				1.388	1.388
Top Side	2.764		2.613	2.522	2.764
Bottom Side					

<AG1 maximum report SAR>:

Test Position	Ant0	Ant7	MAX
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front	2.749	1.430	2.749
Back	2.756	0.976	2.756
Left Side		2.752	2.752
Right Side			
Top Side			
Bottom Side	2.153		2.153

<WLAN+BT Worse-case SAR>:

NO	1	2	3	4	5	Wlan+BT worse case
Test Position	WLAN2.4GHz Ant 3+6 WWAN+non DBS	WLAN2.4GHz Ant 3+6 WWAN+DBS	WLAN5GHz Ant 4+5 WWAN+non DBS	WLAN5GHz Ant 4+5 WWAN+DBS	WLAN6GHz Ant 4+5	
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front	0.792	0.399	0.792	0.379	0.391	0.792
Back	0.529	0.266	0.200	0.105	0.141	0.200
Left Side			0.017	0.007		0.017
Right Side			0.451	0.239	0.054	0.451
Top Side	0.736	0.371	0.423	0.223	0.449	0.449
Bottom Side						

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG0	AG1	Wlan+BT worst case	AG0+AG1+wlan +BT worse case Summed 10g SAR (W/kg)
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	
Front	2.765	2.749	0.792	6.31
Back	2.076	2.756	0.200	5.03
Left Side	2.748	2.752	0.017	5.52
Right Side	1.388		0.451	1.84
Top Side	2.764		0.449	3.21
Bottom Side		2.153		2.15

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.



Front					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)	
Ant0-Ant1	2.749	2.756	0.792	6.30	Case 35
Ant0-Ant2	2.749	2.019	0.792	5.56	Case 36
Ant0-Ant4	2.749	2.765	0.792	6.31	Case 37
Ant0-Ant5	2.749	2.738	0.792	6.28	Case 38
Ant7-Ant1	1.430	2.756	0.792	4.98	Case 39
Ant7-Ant2	1.430	2.019	0.792	4.24	Case 44
Ant7-Ant4	1.430	2.765	0.792	4.99	Case 45
Ant7-Ant5	1.430	2.738	0.792	4.96	Case 46

Back					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)	
Ant0-Ant1	2.756	2.076	0.200	5.03	Case 40
Ant0-Ant2	2.756	1.454	0.200	4.41	Case 42
Ant0-Ant4	2.756	1.326	0.200	4.28	Case 41
Ant0-Ant5	2.756	1.026	0.200	3.98	
Ant7-Ant1	0.976	2.076	0.200	3.25	-
Ant7-Ant2	0.976	1.454	0.200	2.63	-
Ant7-Ant4	0.976	1.326	0.200	2.50	-
Ant7-Ant5	0.976	1.026	0.200	2.20	-

Left side					
Ant combination	AG1	AG0	Wlan+BT worst case	AG0+AG1+wlan +BT worse case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)	
Ant0-Ant1		0.818	0.017	0.84	-
Ant0-Ant2		2.748	0.017	2.77	-
Ant0-Ant4			0.017	0.02	-
Ant0-Ant5			0.017	0.02	-
Ant7-Ant1	2.752	0.818	0.017	3.59	-
Ant7-Ant2	2.752	2.748	0.017	5.52	Case 43
Ant7-Ant4	2.752		0.017	2.77	-
Ant7-Ant5	2.752		0.017	2.77	-

**Remark:**

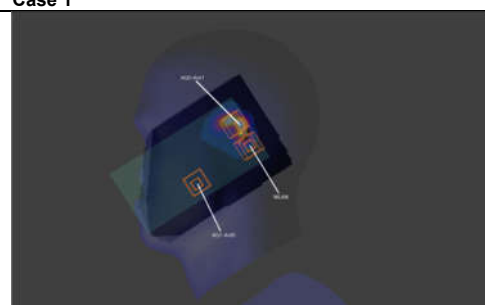
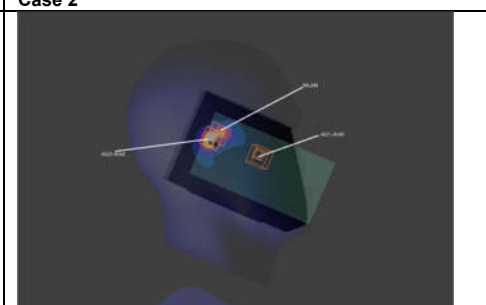
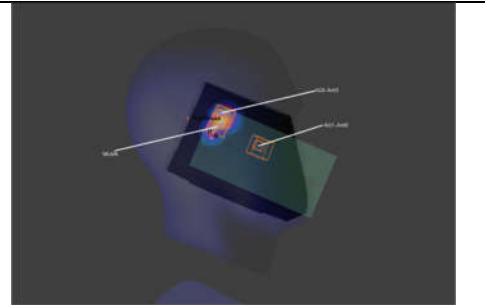
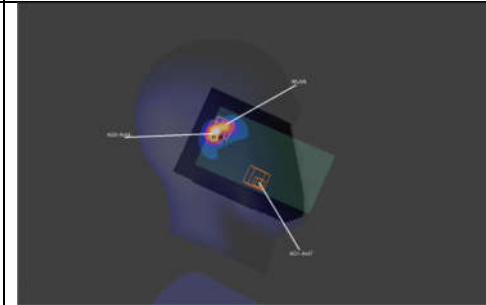
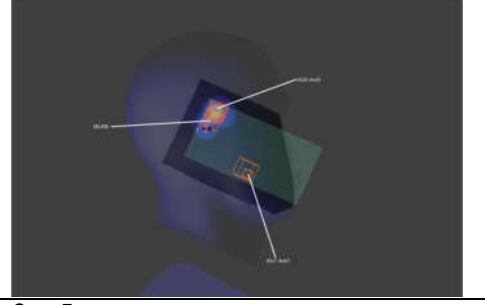
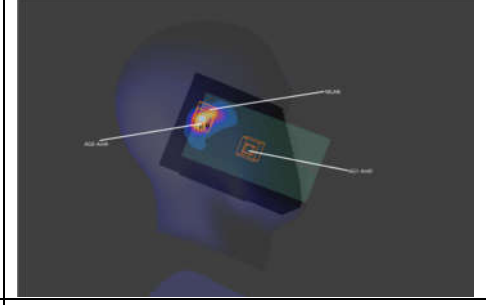
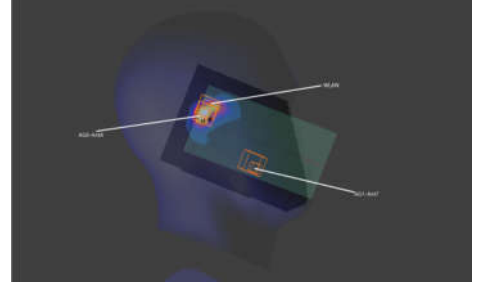
1. For Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

### 17.7 SPLSR Evaluation and Analysis

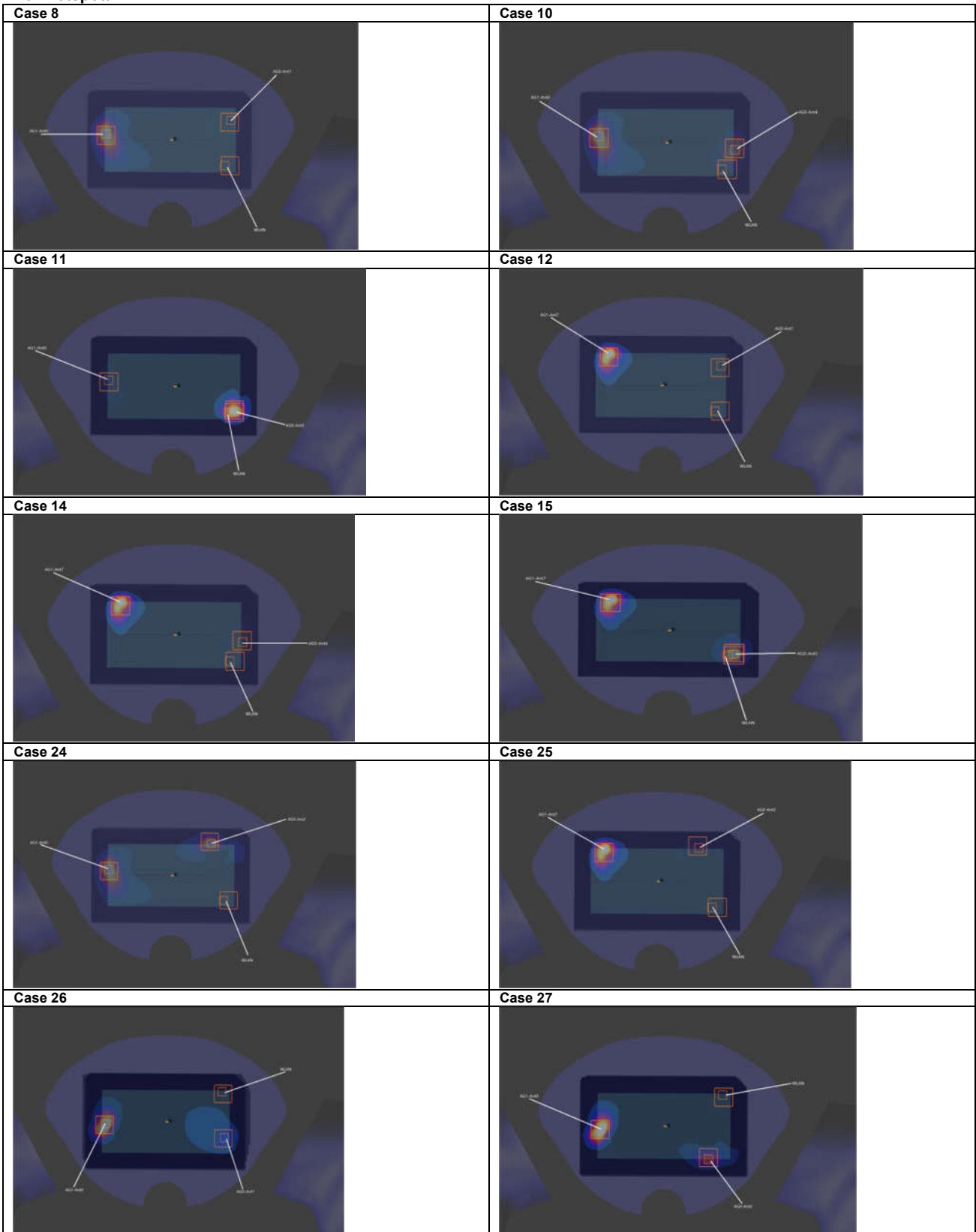
**General Note:**

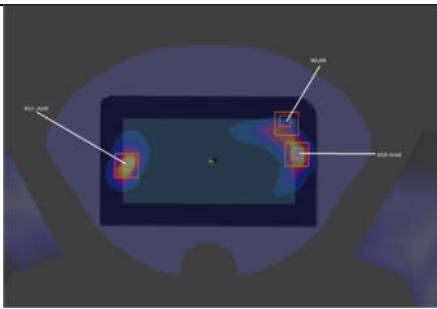
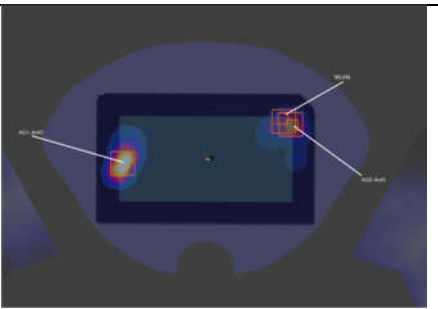
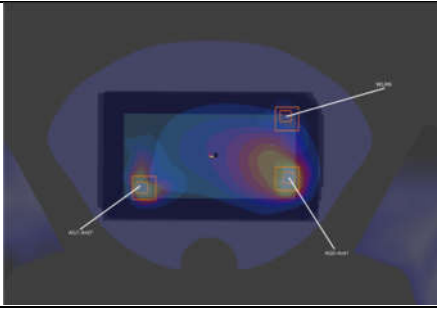
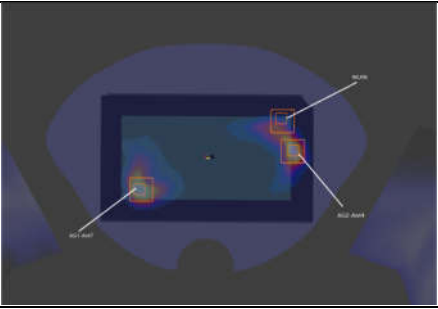
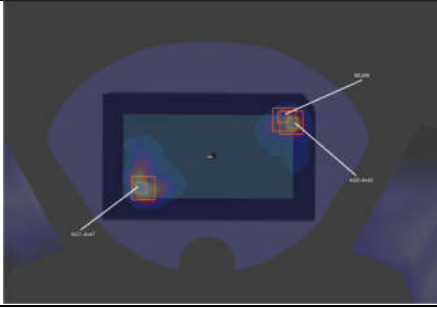
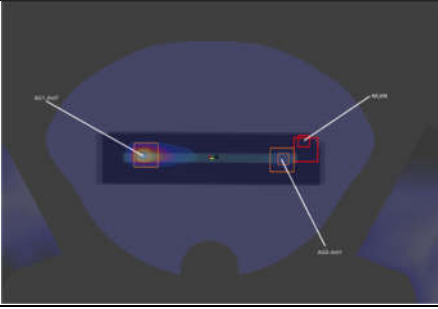
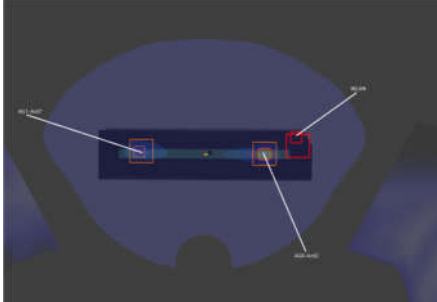
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where  $(x1, y1, z1)$  and  $(x2, y2, z2)$  are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2.  $SPLSR = (SAR1 + SAR2)1.5 / (\text{min. separation distance, mm})$ . If  $SPLSR \leq 0.04$  for 1g SAR, simultaneously transmission SAR measurement is not necessary.
3. Per April 2022 TCB Workshop Notes, AG0 was summed algebraically with the BT/WIFI Antenna 3/4/5/6 for the purposes of hybrid SPLSR combination and they are located at the Top of the device.
4. Per April 2022 TCB Workshop, instead of doing a small volume scan over a co-located antenna pair, used summing the SAR values of the co-located pair and using that value in SPLSR calculation. In the calculation used the minimum distance between the spatially separated antenna and the closest antenna of the co-located antenna pair to be conservative.
5. The axis peak locations refer to Section 17.8.

**For Head:**

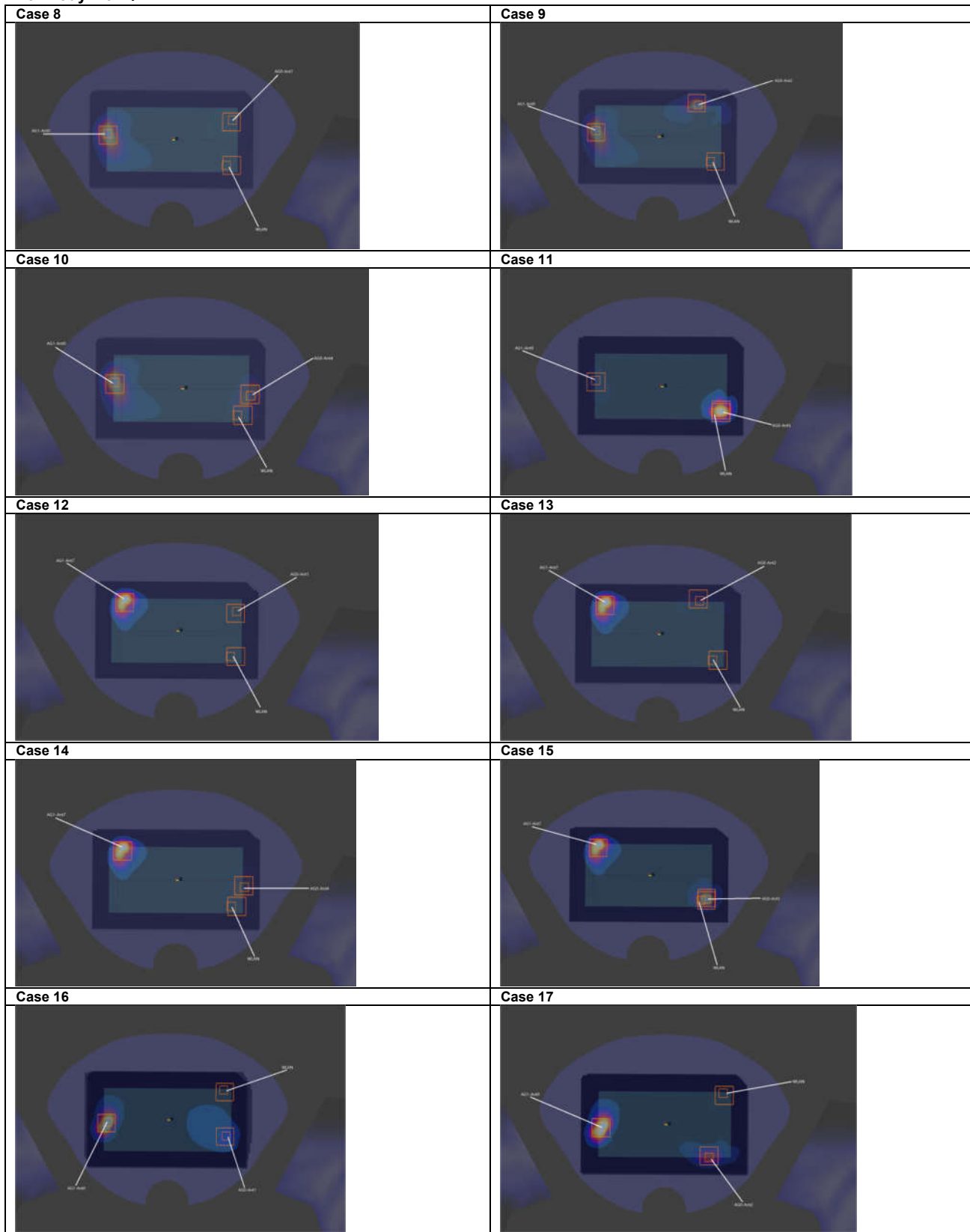
<p><b>Case 1</b></p> 	<p><b>Case 2</b></p> 
<p><b>Case 3</b></p> 	<p><b>Case 4</b></p> 
<p><b>Case 5</b></p> 	<p><b>Case 6</b></p> 
<p><b>Case 7</b></p> 	

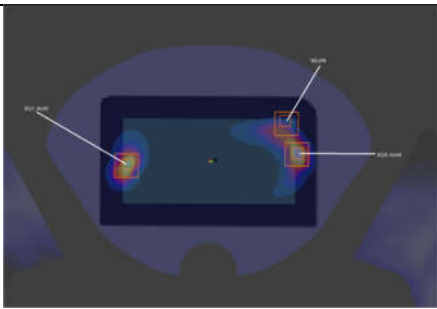
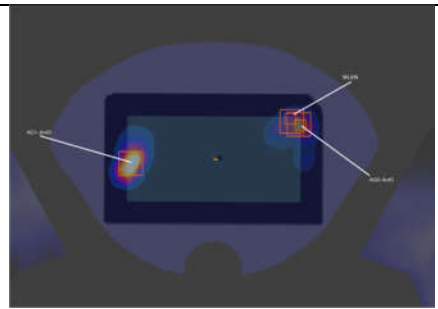
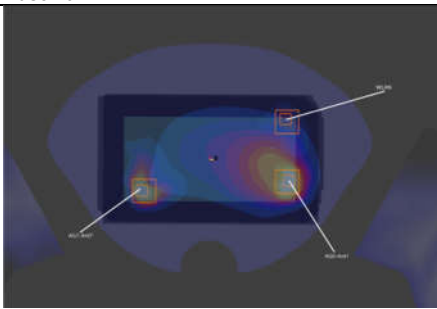
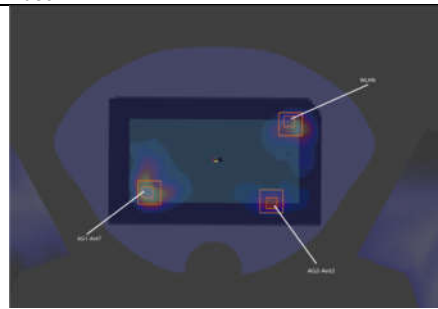
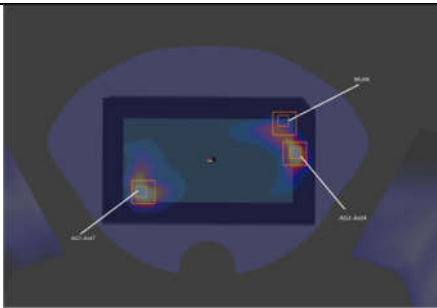
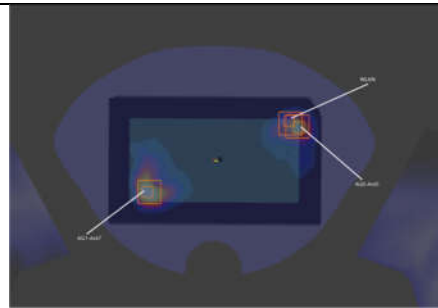
For Hotspot:



<p><b>Case 28</b></p> 	<p><b>Case 29</b></p> 
<p><b>Case 30</b></p> 	<p><b>Case 31</b></p> 
<p><b>Case 32</b></p> 	<p><b>Case 33</b></p> 
<p><b>Case 34</b></p> 	

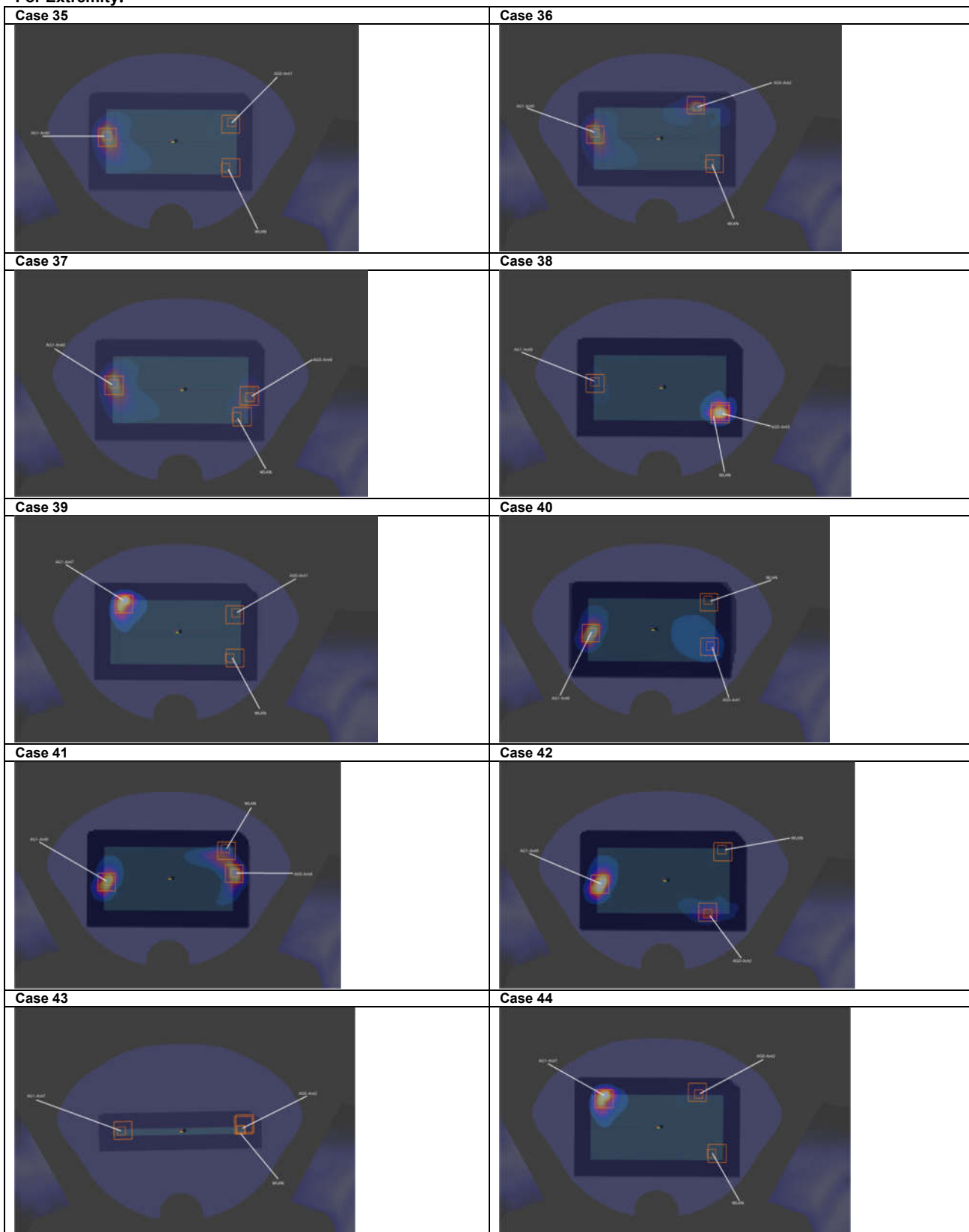
**For Body-worn:**

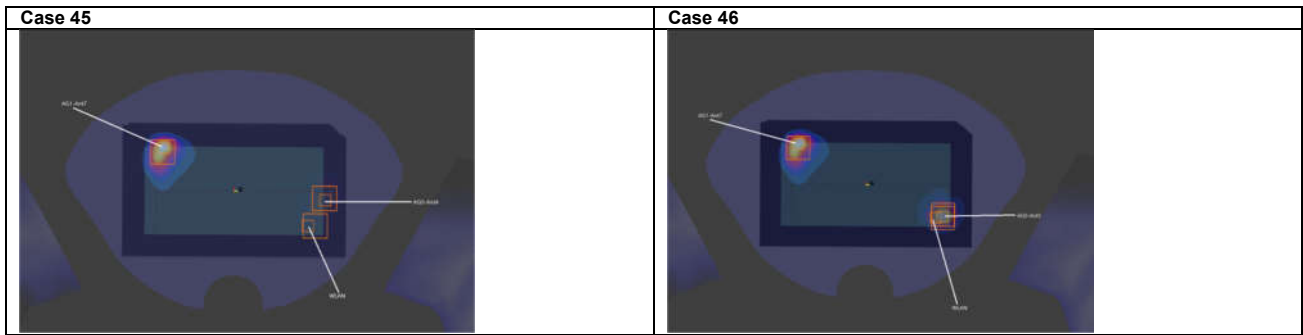


<p><b>Case 18</b></p> 	<p><b>Case 19</b></p> 
<p><b>Case 20</b></p> 	<p><b>Case 21</b></p> 
<p><b>Case 22</b></p> 	<p><b>Case 23</b></p> 



**For Extremity:**







<Head>

Case No	Band	Position	SAR (W/kg)		Gap (mm)	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 1	AG1-Ant0	Right Cheek	0.333	0.33	0mm	54.8	-264.1	-170.8	72.0	1.60	0.03	Not required
	AG0-Ant1		0.990	1.26	0mm	8.1	-318.8	-168.8				
	WLAN		0.273		0mm							
	AG1-Ant0		0.333	0.33	0mm	54.8	-264.1	-170.8	66.9	1.60	0.03	Not required
	AG0-Ant1		0.990	1.26	0mm							
	WLAN		0.273		0mm	-0.7	-301.2	-166.5				

Case No	Band	Position	SAR (W/kg)		Gap (mm)	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 2	AG1-Ant0	Left Cheek	0.229	0.23	0mm	68.9	280.5	-171.1	60.4	1.80	0.04	Not required
	AG0-Ant4		0.985	1.57	0mm	23.8	320.7	-170.8				
	WLAN		0.588		0mm							
	AG1-Ant0		0.229	0.23	0mm	68.9	280.5	-171.1	66.1	1.80	0.04	Not required
	AG0-Ant4		0.985	1.57	0mm							
	WLAN		0.588		0mm	18.9	323.8	-171.2				
Case 3	AG1-Ant0	Left Cheek	0.229	0.23	0mm	68.9	280.5	-171.1	68.2	1.79	0.04	Not required
	AG0-Ant5		0.974	1.56	0mm	23.8	331.7	-169.8				
	WLAN		0.588		0mm							
	AG1-Ant0		0.229	0.23	0mm	68.9	280.5	-171.1	66.1	1.79	0.04	Not required
	AG0-Ant5		0.974	1.56	0mm							
	WLAN		0.588		0mm	18.9	323.8	-171.2				
Case 4	AG1-Ant7	Left Cheek	0.352	0.35	0mm	53.5	247.2	-165.9	79.4	1.93	0.03	Not required
	AG0-Ant4		0.985	1.57	0mm	23.8	320.7	-170.8				
	WLAN		0.588		0mm							
	AG1-Ant7		0.352	0.35	0mm	53.5	247.2	-165.9	84.2	1.93	0.03	Not required
	AG0-Ant4		0.985	1.57	0mm							
	WLAN		0.588		0mm	18.9	323.8	-171.2				
Case 5	AG1-Ant7	Left Cheek	0.352	0.35	0mm	53.5	247.2	-165.9	89.7	1.91	0.03	Not required
	AG0-Ant5		0.974	1.56	0mm	23.8	331.7	-169.8				
	WLAN		0.588		0mm							
	AG1-Ant7		0.352	0.35	0mm	53.5	247.2	-165.9	84.2	1.91	0.03	Not required
	AG0-Ant5		0.974	1.56	0mm							
	WLAN		0.588		0mm	18.9	323.8	-171.2				
Case 6	AG1-Ant0	Left Cheek	0.162	0.16	0mm	42.5	268.4	-172.9	62.3	1.71	0.04	Not required
	AG0-Ant4		0.976	1.55	0mm	7.5	319.8	-169.6				
	WLAN		0.571		0mm							
	AG1-Ant0		0.162	0.16	0mm	42.5	268.4	-172.9	58.5	1.71	0.04	Not required
	AG0-Ant4		0.976	1.55	0mm							
	WLAN		0.571		0mm	20.5	322.6	-171.2				
Case 7	AG1-Ant7	Left Cheek	0.173	0.17	0mm	54.2	245.7	-169.7	87.6	1.72	0.03	Not required
	AG0-Ant4		0.976	1.55	0mm	7.5	319.8	-169.6				
	WLAN		0.571		0mm							
	AG1-Ant7		0.173	0.17	0mm	54.2	245.7	-169.7	84.0	1.72	0.03	Not required
	AG0-Ant4		0.976	1.55	0mm							
	WLAN		0.571		0mm	20.5	322.6	-171.2				



<Hotspot>

Case No	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 8	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.8	-203	152.7	2.59	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm	-55	73.6	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.8	-203	151.8	2.59	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 24	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	134.3	2.10	0.02	Not required
	AG0-Ant2		0.421	0.90	5mm	-65	53.8	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.10	0.02	Not required
	AG0-Ant2		0.421	0.90	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 10	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	161.5	2.14	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm	-15.3	83.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.14	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 11	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	164.2	2.16	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm	5	82.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.16	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 12	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	151.7	2.57	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm	-55	73.6	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.57	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 25	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	131.6	2.09	0.02	Not required
	AG0-Ant2		0.421	0.90	5mm	-65	53.8	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.09	0.02	Not required
	AG0-Ant2		0.421	0.90	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 14	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	168.5	2.13	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm	-15.3	83.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.13	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 15	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	174.6	2.14	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm	5	82.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.14	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 26	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	150.8	2.59	0.03	Not required
	AG0-Ant1		0.990	1.33	5mm	-55	72.4	-203				
	WLAN		0.339		5mm							



	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	148.9	2.59	0.03	Not required
	AG0-Ant1		0.990	1.33	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 27	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	134.3	1.91	0.02	Not required
	AG0-Ant2		0.314	0.65	5mm	-65	53.8	-203				
	WLAN		0.339		5mm							
	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	148.9	1.91	0.02	Not required
	AG0-Ant2		0.314	0.65	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 28	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	161.5	2.01	0.02	Not required
	AG0-Ant4		0.415	0.75	5mm	-15.3	83.2	-203				
	WLAN		0.339		5mm							
	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	148.9	2.01	0.02	Not required
	AG0-Ant4		0.415	0.75	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 29	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	164.2	1.98	0.02	Not required
	AG0-Ant5		0.383	0.72	5mm	5	82.2	-203				
	WLAN		0.339		5mm							
	AG1-Ant0	Back	1.259	1.26	5mm	-35	-77.1	-203	148.9	1.98	0.02	Not required
	AG0-Ant5		0.383	0.72	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 30	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	136.3	2.26	0.03	Not required
	AG0-Ant1		0.990	1.33	5mm	-55	72.4	-203				
	WLAN		0.339		5mm							
	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	149.8	2.26	0.02	Not required
	AG0-Ant1		0.990	1.33	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 31	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	154.9	1.69	0.01	Not required
	AG0-Ant4		0.415	0.75	5mm	-15.3	83.2	-203				
	WLAN		0.339		5mm							
	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	149.8	1.69	0.01	Not required
	AG0-Ant4		0.415	0.75	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 32	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	161.6	1.66	0.01	Not required
	AG0-Ant5		0.383	0.72	5mm	5	82.2	-203				
	WLAN		0.339		5mm							
	AG1-Ant7	Back	0.933	0.93	5mm	-65	-63.5	-203	149.8	1.66	0.01	Not required
	AG0-Ant5		0.383	0.72	5mm							
	WLAN		0.339		5mm	15	63.2	-203				
Case 33	AG1-Ant7	Left Side	1.238	1.24	5mm	-25	-63.2	-203	128.5	1.81	0.02	Not required
	AG0-Ant1		0.534	0.58	5mm	-22	65.3	-203				
	WLAN		0.041		5mm							
	AG1-Ant7	Left Side	1.238	1.24	5mm	-25	-63.2	-203	127.3	1.81	0.02	Not required
	AG0-Ant1		0.534	0.58	5mm							
	WLAN		0.041		5mm	-25	64.1	-203				
Case 34	AG1-Ant7	Left Side	1.238	1.24	5mm	-25	-63.2	-203	116.4	2.27	0.03	Not required
	AG0-Ant2		0.990	1.03	5mm	-33	52.9	-203				
	WLAN		0.041		5mm							
	AG1-Ant7	Left Side	1.238	1.24	5mm	-25	-63.2	-203	127.3	2.27	0.03	Not required
	AG0-Ant2		0.990	1.03	5mm							
	WLAN		0.041		5mm	-25	64.1	-203				



<Body-worn>

Case No	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 8	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.8	-203	152.7	2.59	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm	-55	73.6	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.8	-203	151.8	2.59	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 9	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	134.3	2.13	0.02	Not required
	AG0-Ant2		0.445	0.92	5mm	-65	53.8	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.13	0.02	Not required
	AG0-Ant2		0.445	0.92	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 10	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	161.5	2.14	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm	-15.3	83.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.14	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 11	AG1-Ant0	Front	1.208	1.21	5mm	-35	-77.1	-203	164.2	2.16	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm	5	82.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant0		1.208	1.21	5mm	-35	-77.1	-203	151.1	2.16	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 12	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	151.7	2.57	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm	-55	73.6	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.57	0.03	Not required
	AG0-Ant1		0.904	1.38	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 13	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	131.6	2.11	0.02	Not required
	AG0-Ant2		0.445	0.92	5mm	-65	53.8	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.11	0.02	Not required
	AG0-Ant2		0.445	0.92	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 14	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	168.5	2.13	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm	-15.3	83.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.13	0.02	Not required
	AG0-Ant4		0.457	0.93	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 15	AG1-Ant7	Front	1.195	1.20	5mm	-65	-77.8	-203	174.6	2.14	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm	5	82.2	-203				
	WLAN		0.474		5mm							
	AG1-Ant7		1.195	1.20	5mm	-65	-77.8	-203	164.1	2.14	0.02	Not required
	AG0-Ant5		0.473	0.95	5mm							
	WLAN		0.474		5mm	15	65.5	-203				
Case 16	AG1-Ant0	Back	1.259	1.26	5mm	-15	-73.1	-203	147.1	2.61	0.03	Not required
	AG0-Ant1		0.990	1.35	5mm	-10	73.9	-203				
	WLAN		0.357		5mm							



	AG1-Ant0		1.259	1.26	5mm	-15	-73.1	-203	131.5	2.61	0.03	Not required
	AG0-Ant1		0.990	1.35	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 17	AG1-Ant0	Back	1.259	1.26	5mm	-15	-73.1	-203	133.3	1.93	0.02	Not required
	AG0-Ant2		0.314	0.67	5mm	15	56.8	-203				
	WLAN		0.357		5mm							
	AG1-Ant0		1.259	1.26	5mm	-15	-73.1	-203	131.5	1.93	0.02	Not required
	AG0-Ant2		0.314	0.67	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 18	AG1-Ant0	Back	1.259	1.26	5mm	-15	-73.1	-203	155.9	2.03	0.02	Not required
	AG0-Ant4		0.415	0.77	5mm	-25	82.5	-203				
	WLAN		0.357		5mm							
	AG1-Ant0		1.259	1.26	5mm	-15	-73.1	-203	131.5	2.03	0.02	Not required
	AG0-Ant4		0.415	0.77	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 19	AG1-Ant0	Back	1.259	1.26	5mm	-15	-73.1	-203	156.1	2.00	0.02	Not required
	AG0-Ant5		0.383	0.74	5mm	-55	77.8	-203				
	WLAN		0.357		5mm							
	AG1-Ant0		1.259	1.26	5mm	-15	-73.1	-203	131.5	2.00	0.02	Not required
	AG0-Ant5		0.383	0.74	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 20	AG1-Ant7	Back	0.933	0.93	5mm	5	-68.8	-203	143.5	2.28	0.02	Not required
	AG0-Ant1		0.990	1.35	5mm	-10	73.9	-203				
	WLAN		0.357		5mm							
	AG1-Ant7		0.933	0.93	5mm	5	-68.8	-203	136.5	2.28	0.03	Not required
	AG0-Ant1		0.990	1.35	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 21	AG1-Ant7	Back	0.933	0.93	5mm	5	-68.8	-203	126.0	1.60	0.02	Not required
	AG0-Ant2		0.314	0.67	5mm	15	56.8	-203				
	WLAN		0.357		5mm							
	AG1-Ant7		0.933	0.93	5mm	5	-68.8	-203	136.5	1.60	0.01	Not required
	AG0-Ant2		0.314	0.67	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 22	AG1-Ant7	Back	0.933	0.93	5mm	5	-68.8	-203	154.2	1.71	0.01	Not required
	AG0-Ant4		0.415	0.77	5mm	-25	82.5	-203				
	WLAN		0.357		5mm							
	AG1-Ant7		0.933	0.93	5mm	5	-68.8	-203	136.5	1.71	0.02	Not required
	AG0-Ant4		0.415	0.77	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				
Case 23	AG1-Ant7	Back	0.933	0.93	5mm	5	-68.8	-203	158.4	1.67	0.01	Not required
	AG0-Ant5		0.383	0.74	5mm	-55	77.8	-203				
	WLAN		0.357		5mm							
	AG1-Ant7		0.933	0.93	5mm	5	-68.8	-203	136.5	1.67	0.02	Not required
	AG0-Ant5		0.383	0.74	5mm							
	WLAN		0.357		5mm	-64.2	48.9	-203				



<Extremity>

Case No	Band	Position	SAR (W/kg)		Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
						X	Y	Z				
Case 35	AG1-Ant0	Front	2.749	2.75	0mm	-35	-97.6	-203	179.9	6.30	0.09	Not required
	AG0-Ant1		2.756	3.55	0mm	-55	81.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant0		2.749	2.75	0mm	-35	-97.6	-203	178.1	6.30	0.09	Not required
	AG0-Ant1		2.756	3.55	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 36	AG1-Ant0	Front	2.749	2.75	0mm	-35	-97.6	-203	154.7	5.56	0.08	Not required
	AG0-Ant2		2.019	2.81	0mm	-65	54.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant0		2.749	2.75	0mm	-35	-97.6	-203	178.1	5.56	0.07	Not required
	AG0-Ant2		2.019	2.81	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 37	AG1-Ant0	Front	2.749	2.75	0mm	-35	-97.6	-203	181.9	6.31	0.09	Not required
	AG0-Ant4		2.765	3.56	0mm	-15	83.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant0		2.749	2.75	0mm	-35	-97.6	-203	178.1	6.31	0.09	Not required
	AG0-Ant4		2.765	3.56	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 38	AG1-Ant0	Front	2.749	2.75	0mm	-35	-97.6	-203	176.9	6.28	0.09	Not required
	AG0-Ant5		2.738	3.53	0mm	5	74.7	-203				
	WLAN		0.792		0mm							
	AG1-Ant0		2.749	2.75	0mm	-35	-97.6	-203	178.1	6.28	0.09	Not required
	AG0-Ant5		2.738	3.53	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 39	AG1-Ant7	Front	1.430	1.43	0mm	-55	-70.8	-203	152.0	4.98	0.07	Not required
	AG0-Ant1		2.756	3.55	0mm	-55	81.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant7		1.430	1.43	0mm	-55	-70.8	-203	158.5	4.98	0.07	Not required
	AG0-Ant1		2.756	3.55	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 44	AG1-Ant7	Front	1.430	1.43	0mm	-55	-70.8	-203	125.4	4.24	0.07	Not required
	AG0-Ant2		2.019	2.81	0mm	-65	54.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant7		1.430	1.43	0mm	-55	-70.8	-203	158.5	4.24	0.06	Not required
	AG0-Ant2		2.019	2.81	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 45	AG1-Ant7	Front	1.430	1.43	0mm	-55	-70.8	-203	159.1	4.99	0.07	Not required
	AG0-Ant4		2.765	3.56	0mm	-15	83.2	-203				
	WLAN		0.792		0mm							
	AG1-Ant7		1.430	1.43	0mm	-55	-70.8	-203	158.5	4.99	0.07	Not required
	AG0-Ant4		2.765	3.56	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 46	AG1-Ant7	Front	1.430	1.43	0mm	-55	-70.8	-203	157.4	4.96	0.07	Not required
	AG0-Ant5		2.738	3.53	0mm	5	74.7	-203				
	WLAN		0.792		0mm							
	AG1-Ant7		1.430	1.43	0mm	-55	-70.8	-203	158.5	4.96	0.07	Not required
	AG0-Ant5		2.738	3.53	0mm							
	WLAN		0.792		0mm	5	75.9	-203				
Case 43	AG1-Ant7	Left Side	2.752	2.75	0mm	-25	-86.8	-203	157.6	5.52	0.08	Not required
	AG0-Ant2		2.748	2.77	0mm	-33	70.6	-203				
	WLAN		0.017		0mm							
	AG1-Ant7		2.752	2.75	0mm	-25	-86.8	-203	157.2	5.52	0.08	Not required
	AG0-Ant2		2.748	2.77	0mm							
	WLAN		0.017		0mm	-25	70.4	-203				





Case No	Band	Position	SAR (W/kg)		Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 40	AG1-Ant0	Back	2.756	2.76	0mm	-25	-69.1	-203	147.0	5.03	0.08	Not required
	AG0-Ant1		2.076	2.28	0mm	-15	77.6	-203				
	WLAN		0.200		0mm							
	AG1-Ant0		2.756	2.76	0mm	-25	-69.1	-203	145.5	5.03	0.08	Not required
	AG0-Ant1		2.076	2.28	0mm							
	WLAN		0.200		0mm	-65	70.8	-203				
Case 41	AG1-Ant0	Back	2.756	2.76	0mm	-25	-69.1	-203	151.9	4.28	0.06	Not required
	AG0-Ant4		1.326	1.53	0mm	-25	82.8	-203				
	WLAN		0.200		0mm							
	AG1-Ant0		2.756	2.76	0mm	-25	-69.1	-203	145.5	4.28	0.06	Not required
	AG0-Ant4		1.326	1.53	0mm							
	WLAN		0.200		0mm	-65	70.8	-203				
Case 42	AG1-Ant0	Back	2.756	2.76	0mm	-25	-69.1	-203	132.1	4.41	0.07	Not required
	AG0-Ant2		1.454	1.65	0mm	15	56.8	-203				
	WLAN		0.200		0mm							
	AG1-Ant0		2.756	2.76	0mm	-25	-69.1	-203	145.5	4.41	0.06	Not required
	AG0-Ant2		1.454	1.65	0mm							
	WLAN		0.200		0mm	-65	70.8	-203				

**17.8 Maximum Report SAR And SAR Peak Locations**

**General Note:**

1. The maximum report SAR and SAR Peak Locations corresponding to each position of each frequency band of each antenna in the below tables are as follows.
2. The unit of SAR evaluation is W/kg. The unit of x, y, z with Axis evaluation is mm.

**<Head>**

Right Cheek								
BT Ant6	SAR (W/kg)	0.06	WLAN2.4G MIMO	SAR (W/kg)	0.146			
	Axis	X30.1;Y-261.4;Z-169		Axis	X30.7;Y-261.1;Z-169			
BT Ant3	SAR (W/kg)	0.086	WLAN5G MIMO	SAR (W/kg)	0.146	WLAN6E MIMO	SAR (W/kg)	0.187
	Axis	X9.7;Y-301.1;Z-169.2		Axis	X-0.7;Y-301.2;Z-166.5		Axis	X0.28;Y-299.6;Z-166.8
Left Cheek								
BT Ant6	SAR (W/kg)	0.189	WLAN2.4G MIMO	SAR (W/kg)	0.354			
	Axis	X45.8;Y330;Z169.9		Axis	X22.6;Y333.5;Z-169.7			
BT Ant3	SAR (W/kg)	0.167	WLAN5G MIMO	SAR (W/kg)	0.399	WLAN6E MIMO	SAR (W/kg)	0.284
	Axis	X14.5;Y326.5;Z-169.8		Axis	X18.9;Y323.8;Z-171.2		Axis	X18.9;Y326.1;Z-169.8
Left Tilted								
BT Ant6	SAR (W/kg)	0.048	WLAN2.4G MIMO	SAR (W/kg)	0.37			
	Axis	X43.8;Y331.8;Z-169.8		Axis	X14.6;Y325.8;Z-171.2			
BT Ant3	SAR (W/kg)	0.172	WLAN5G MIMO	SAR (W/kg)	0.33	WLAN6E MIMO	SAR (W/kg)	0.399
	Axis	X12.9;Y326.8;Z-171.4		Axis	X20.8;Y322.9;Z-171.4		Axis	X20.5;Y322.6;Z-171.2

Right Cheek							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR (W/kg)	0.333			0.983		
	Axis	X54.8;Y-264.1;Z-170.8			X23.9;Y-331.9;Z-169.9		
GSM1900	SAR (W/kg)	0.001			0.989		
	Axis	X68.8;Y-259.6;Z-168.8			X19.9;Y-334.8;Z-169.9		
WCDMA II	SAR (W/kg)	0.111			0.989		
	Axis	X66.1;Y-257.4;Z-169.2			X9.9;Y-323.2;Z-168.9		
WCDMA IV	SAR (W/kg)	0.055			0.977		
	Axis	X52.8;Y-246.5;Z-168.9			X21.9;Y-333.8;Z-169.8		
WCDMA V	SAR (W/kg)	0.332			0.983		
	Axis	X56.6;Y-260.5;Z-171.4			X23.9;Y-331.9;Z-168.9		
LTE Band 2	SAR (W/kg)	0.127			0.989		
	Axis	X69.8;Y-258.4;Z-168.9			X20.1;Y-323.5;Z-169.1		
LTE Band 7	SAR (W/kg)	0.019			0.845		
	Axis	X61.5;Y-241.8;Z-166.8			X22.9;Y-332.8;Z-168.8		
LTE Band 12	SAR (W/kg)	0.185			0.921		
	Axis	X59.5;Y-258.8;Z-168.9			X22.4;Y-328.8;Z-169.5		
LTE Band 13	SAR (W/kg)	0.205			0.959		
	Axis	X58.5;Y-259.8;Z-169.4			X24.1;Y-324.9;Z-169.1		
LTE Band 14	SAR (W/kg)	0.222			0.984		
	Axis	X59.1;Y-260.2;Z-170.3			X22.4;Y-333.1;Z-168.8		
LTE Band 26	SAR (W/kg)	0.213			0.978		
	Axis	X58.8;Y-259.9;Z-171.1			X24.8;Y-331.2;Z-168.7		
LTE Band 41	SAR (W/kg)	0.098			0.363		
	Axis	X60.2;Y-242.8;Z-168.8			X8.1;Y-318.8;Z-168.8		
LTE Band 66	SAR (W/kg)	0.123			0.98		
	Axis	X52.9;Y-244.9;Z-168.3			X22.1;Y-333.8;Z-168.4		
LTE Band 71	SAR (W/kg)	0.101			0.681		
	Axis	X60.2;Y-258.5;Z-167.9			X23.2;Y-331.8;Z-169.1		
LTE Band 48	SAR (W/kg)		0.98				



	Axis		X51.5;Y-328.1;Z-168.4				
FR1 n2	SAR (W/kg)	0.068			0.977		
	Axis	X69.1;Y-257.7;Z-169.5			X19.9;Y-334.2;Z-170.2		
FR1 n5	SAR (W/kg)	0.183			0.99		
	Axis	X58.1;Y-263.1;Z-169.2			X25.2;Y-329.8;Z-168.8		
FR1 n7	SAR (W/kg)	0.081			0.805		
	Axis	X49.8;Y-250.1;Z-169.8			X20.2;Y-323.8;Z-168.8		
FR1 n14	SAR (W/kg)	0.174					
	Axis	X57.7;Y-258.8;Z-169.5					
FR1 n66	SAR (W/kg)	0.101			0.982		
	Axis	X55.8;Y-244.4;Z-168.4			X19.9;Y-334.8;Z-171.2		
FR1 n71	SAR (W/kg)	0.078			0.912		
	Axis	X62.2;Y-258.1;Z-166.5			X22.7;Y-330.9;Z-168.8		
FR1 n41	SAR (W/kg)	0.087	0.974		0.56		0.189
	Axis	X51.7;Y-258.2;Z-170.9	X48.9;Y-325.6;Z-166.1		X19.8;Y-323.5;Z-171.2		X111.8;Y-263.1.7;Z-127.4
FR1 n48	SAR (W/kg)		0.984				
	Axis		X50.9;Y-329.9;Z-166.8				
FR1 n77	SAR (W/kg)		0.974	NA		NA	0.163
	Axis		X49.2;Y-328.8;Z-171.5	NA		NA	X111.8;Y-266.9.7;Z-127.4

**Left Cheek**

Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR (W/kg)	0.203			NA		
	Axis	X68.9;Y280.5;Z-171.1			NA		
GSM1900	SAR (W/kg)	0.087			NA		
	Axis	X53.9;Y245.9;Z-168.8			NA		
WCDMA II	SAR (W/kg)	0.215			NA		
	Axis	X53.4;Y245.8;Z-168.9			NA		
WCDMA IV	SAR (W/kg)	0.177			NA		
	Axis	X54.9;Y245.8;Z-168.8			NA		
WCDMA V	SAR (W/kg)	0.201			NA		
	Axis	X56.4;Y278.2;Z-170.1			NA		
LTE Band 2	SAR (W/kg)	0.229			NA		
	Axis	X53.7;Y245.2;Z-168.3			NA		
LTE Band 7	SAR (W/kg)	0.091			NA		
	Axis	X54.8;Y278.6;Z-171			NA		
LTE Band 12	SAR (W/kg)	0.144			NA		
	Axis	X68.8;Y279.4;Z-168.6			NA		
LTE Band 13	SAR (W/kg)	0.153			NA		
	Axis	X68.7;Y278.6;Z-168.9			NA		
LTE Band 14	SAR (W/kg)	0.13			NA		
	Axis	X69.9;Y279.5;Z-170.5			NA		
LTE Band 26	SAR (W/kg)	0.131			NA		
	Axis	X58.2;Y271.9;Z-170.8			NA		
LTE Band 41	SAR (W/kg)	0.033			NA		
	Axis	X113.8;Y242.1;Z-127.4			NA		
LTE Band 66	SAR (W/kg)	0.172			NA		
	Axis	X53.2;Y245.1;Z-169.4			NA		
LTE Band 71	SAR (W/kg)	0.076			NA		
	Axis	X68.8;Y279.2;Z-168.5			NA		
LTE Band 48	SAR (W/kg)		NA				
	Axis		NA				
FR1 n2	SAR (W/kg)	0.12			NA		
	Axis	X53.1;Y244.9;Z-171.5			NA		
FR1 n5	SAR (W/kg)	0.101			NA		
	Axis	X61.5;Y279.1;Z-170.8			NA		



FR1 n7	SAR (W/kg)	0.078			NA		
	Axis	X53.4;Y279.3;Z-171.6			NA		
FR1 n14	SAR (W/kg)	0.133					
	Axis	X68.8;Y281.7;Z-169.4					
FR1 n66	SAR (W/kg)	0.144			NA		
	Axis	X54.5;Y245.9;Z-168.2			NA		
FR1 n71	SAR (W/kg)	0.058			NA		
	Axis	X68.5;Y279.2;Z-170.2			NA		
FR1 n41	SAR (W/kg)	0.095	NA		NA		0.352
	Axis	X50.6;Y260.2;Z-170.8	NA		NA		X53.5;Y244.4;Z-165.9
FR1 n48	SAR (W/kg)		NA				
	Axis		NA				
FR1 n77	SAR (W/kg)		NA	0.985		0.974	0.33
	Axis		NA	X23.8;Y320.7;Z-170.8		X23.8;Y331.7;Z-169.8	X53.5;Y247.2;Z-165.9

Left Tilted							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR (W/kg)	0.161			NA		
	Axis	X13.1;Y254.8;Z-168.5			NA		
GSM1900	SAR (W/kg)	0.001			NA		
	Axis	X41.4;Y260.5;Z-172.1			NA		
WCDMA II	SAR (W/kg)	0.089			NA		
	Axis	X12.7;Y254.6;Z-169.5			NA		
WCDMA IV	SAR (W/kg)	0.045			NA		
	Axis	X13;Y255.1;Z-169.8			NA		
WCDMA V	SAR (W/kg)	0.162			NA		
	Axis	X43.5;Y254.8;Z-172.3			NA		
LTE Band 2	SAR (W/kg)	0.101			NA		
	Axis	X12.5;Y254.8;Z-169.5			NA		
LTE Band 7	SAR (W/kg)	0.009			NA		
	Axis	X13.3;Y255.1;Z-169.8			NA		
LTE Band 12	SAR (W/kg)	0.098			NA		
	Axis	X41.2;Y255.4;Z-172.9			NA		
LTE Band 13	SAR (W/kg)	0.125			NA		
	Axis	X41.1;Y255.2;Z-172.6			NA		
LTE Band 14	SAR (W/kg)	0.11			NA		
	Axis	X41.5;Y255.1;Z-172.8			NA		
LTE Band 26	SAR (W/kg)	0.099			NA		
	Axis	X44.7;Y253.5;Z-172.2			NA		
LTE Band 41	SAR (W/kg)	0.052			NA		
	Axis	X15.4;Y255.1;Z-170.8			NA		
LTE Band 66	SAR (W/kg)	0.096			NA		
	Axis	X15.1;Y253.1;Z-169.4			NA		
LTE Band 71	SAR (W/kg)	0.034			NA		
	Axis	X41.1;Y254.8;Z-171.3			NA		
LTE Band 48	SAR (W/kg)		NA				
	Axis		NA				
FR1 n2	SAR (W/kg)	0.001			NA		
	Axis	X12.1;Y254.1;Z-169.6			NA		
FR1 n5	SAR (W/kg)	0.067			NA		
	Axis	X42.5;Y268.4;Z-172.9			NA		
FR1 n7	SAR (W/kg)	0.042			NA		
	Axis	X13.4;Y252.5;Z-169.8			NA		
FR1 n14	SAR (W/kg)	0.107					
	Axis	X41.4;Y258.2;Z-171.3					



FR1 n66	SAR (W/kg)	0.069			NA		
	Axis	X10.7;Y255.4;Z-169.3			NA		
FR1 n71	SAR (W/kg)	0.001			NA		
	Axis	X41.4;Y254.5;Z-171.8			NA		
FR1 n41	SAR (W/kg)	0.045	NA		NA		0.13
	Axis	X10.1;Y256.5;Z-168.9	NA		NA		X54.2;Y244.3;Z-169.7
FR1 n48	SAR (W/kg)		NA				
	Axis		NA				
FR1 n77	SAR (W/kg)		NA	0.976		NA	0.173
	Axis		NA	X7.5;Y319.8;Z-169.6		NA	X54.2;Y245.7;Z-169.7

<Hotspot>

Front					
BT Ant6	SAR	0.065	WLAN2.4G MIMO	SAR	0.315
	Axis	X15;Y65.5;Z-203		Axis	X-5;Y86.8;Z-203
BT Ant3	SAR	0.089	WLAN5G MIMO	SAR	0.385
	Axis	X-5.2;Y84.6;Z-203		Axis	X5;Y65.9;Z-203
Back					
BT Ant6	SAR	0.053	WLAN2.4G MIMO	SAR	0.288
	Axis	X-64.2;Y48.9;Z-203		Axis	X-55;Y80.6;Z-203
BT Ant3	SAR	0.103	WLAN5G MIMO	SAR	0.236
	Axis	X-54.8;Y81.1;Z-203		Axis	X-55;Y73.4;Z-203
Left side					
BT Ant6	SAR	0.01	WLAN2.4G MIMO	SAR	0.026
	Axis	X-41;Y82;Z-203		Axis	X-41;Y83.7;Z-203
BT Ant3	SAR	0.001	WLAN5G MIMO	SAR	0.04
	Axis	X-41;Y79;Z-203		Axis	X-25;Y64.1;Z-203

Front							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	1.185			0.665		
	Axis	X-40;Y-81.2;Z-203			X-55;Y78.2;Z-203		
GSM1900	SAR	0.424			0.53		
	Axis	X-25;Y-77.9;Z-203			X-55;Y88.1;Z-203		
WCDMA II	SAR	0.621			0.778		
	Axis	X-25;Y-76.1;Z-203			X-55;Y87.6;Z-203		
WCDMA IV	SAR	0.622			0.841		
	Axis	X-25;Y-78.1;Z-203			X-55;Y88.7;Z-203		
WCDMA V	SAR	1.206			0.542		
	Axis	X-40;Y-81.2;Z-203			X-55;Y80.9;Z-203		
LTE Band 2	SAR	0.662			0.904		
	Axis	X-25;Y-79.1;Z-203			X-55;Y87.8;Z-203		
LTE Band 7	SAR	0.541			0.422		
	Axis	X-25;Y-78.3;Z-203			X-45;Y84.9;Z-203		
LTE Band 12	SAR	1.036			0.413		
	Axis	X-40;Y-84.5;Z-203			X-55;Y73.6;Z-203		
LTE Band 13	SAR	1.208			0.412		
	Axis	X-25;Y-85.2;Z-203			X-55;Y73.8;Z-203		
LTE Band 14	SAR	1.203			0.407		
	Axis	X-25;Y-85.1;Z-203			X-55;Y74.6;Z-203		
LTE Band 26	SAR	1.127			0.801		
	Axis	X-25;Y-82.6;Z-203			X-55;Y82.7;Z-203		
LTE Band 41	SAR	0.558			0.52		
	Axis	X-25;Y-81.2;Z-203			X-35;Y87.5;Z-203		
LTE Band 66	SAR	0.659			0.835		
	Axis	X-10;Y-82.9;Z-203			X-55;Y89.3;Z-203		



LTE Band 71	SAR	0.851			0.373		
	Axis	X-25;Y-83.9;Z-203			X-55;Y74.3;Z-203		
LTE Band 48	SAR		0.35				
	Axis		X-65;Y51.1;Z-203				
FR1 n2	SAR	0.613			0.665		
	Axis	X-25;Y-79.1;Z-203			X-55;Y82.9;Z-203		
FR1 n5	SAR	1.028			0.656		
	Axis	X-25;Y-78.9;Z-203			X-55;Y79.8;Z-203		
FR1 n7	SAR	0.713			0.454		
	Axis	X-25;Y-78.2;Z-203			X-35;Y84.8;Z-203		
FR1 n14	SAR	0.799					
	Axis	X-25;Y-83.5;Z-203					
FR1 n66	SAR	0.844			0.623		
	Axis	X-10;Y-84.3;Z-203			X-55;Y85.6;Z-203		
FR1 n71	SAR	0.085			0.244		
	Axis	X-25;Y-83.5;Z-203			X-55;Y75.2;Z-203		
FR1 n41	SAR	0.636	0.445		0.398		0.549
	Axis	X-35;Y-77.8;Z-203	X-65;Y52.7;Z-203		X-35;Y86.1;Z-203		X-65;Y-79.6;Z-203
FR1 n48	SAR		0.421				
	Axis		X-65;Y53.1;Z-203				
FR1 n77	SAR		0.351	0.457		0.473	1.195
	Axis		X-65;Y53.8;Z-203	X-15.3;Y83.2;Z-203		X5;Y82.2;Z-203	X-65;Y-77.8;Z-203

Back							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	1.035			0.921		
	Axis	X-25;Y-77.4;Z-203			X-10;Y74.9;Z-203		
GSM1900	SAR	0.413			0.558		
	Axis	X-40;Y-78.8;Z-203			X-10;Y81.6;Z-203		
WCDMA II	SAR	0.787			0.932		
	Axis	X-40;Y-79.8;Z-203			X-10;Y83.5;Z-203		
WCDMA IV	SAR	0.723			0.922		
	Axis	X-25;Y-79.8;Z-203			X-10;Y85.6;Z-203		
WCDMA V	SAR	1.081			0.918		
	Axis	X-10;Y-81.9;Z-203			X-10;Y76.1;Z-203		
LTE Band 2	SAR	0.651			0.989		
	Axis	X-40;Y-81.2;Z-203			X-10;Y83.8;Z-203		
LTE Band 7	SAR	1.071			0.569		
	Axis	X-15;Y-74;Z-203			X-5;Y76.5;Z-203		
LTE Band 12	SAR	0.917			0.731		
	Axis	X-10;Y-78.8;Z-203			X-10;Y73.9;Z-203		
LTE Band 13	SAR	1.075			0.69		
	Axis	X-10;Y-81.5;Z-203			X-10;Y75.1;Z-203		
LTE Band 14	SAR	1.017			0.644		
	Axis	X-10;Y-80.9;Z-203			X-10;Y74.8;Z-203		
LTE Band 26	SAR	1.088			0.99		
	Axis	X-10;Y-81.2;Z-203			X-10;Y75.7;Z-203		
LTE Band 41	SAR	1.259			0.691		
	Axis	X-15;Y-75.8;Z-203			X-15;Y80.9;Z-203		
LTE Band 66	SAR	0.813			0.986		
	Axis	X-25;Y-81.5;Z-203			X-10;Y84.2;Z-203		
LTE Band 71	SAR	0.468			0.731		
	Axis	X-10;Y-81.6;Z-203			X-10;Y75.2;Z-203		
LTE Band 48	SAR		0.236				
	Axis		X15;Y57.4;Z-203				
FR1 n2	SAR	0.607			0.77		



FR1 n5	Axis	X-40;Y-80.5;Z-203			X-10;Y81.6;Z-203		
	SAR	0.901			0.882		
FR1 n7	Axis	X-10;Y-79.9;Z-203			X-10;Y75.8;Z-203		
	SAR	0.976			0.624		
FR1 n14	Axis	X-15;Y-75.1;Z-203			X-5;Y81.2;Z-203		
	SAR	0.682					
FR1 n66	Axis	X-10;Y-80.8;Z-203					
	SAR	0.711			0.519		
FR1 n71	Axis	X-25;Y-82.8;Z-203			X-10;Y81.8;Z-203		
	SAR	0.08			0.475		
FR1 n41	Axis	X-10;Y-82.1;Z-203			X-10;Y72.6;Z-203		
	SAR	1.211	0.314		0.582		0.493
FR1 n48	Axis	X-15;Y-73.1;Z-203	X15;Y52.6;Z-203		X-15;Y78.8;Z-203		X5;Y-71.9;Z-203
	SAR		0.255				
FR1 n77	Axis		X15;Y56.4;Z-203				
	SAR		0.24	0.415		0.383	0.933
	Axis		X15;Y56.8;Z-203	X-25;Y82.5;Z-203		X-55;Y77.8;Z-203	X5;Y-68.8;Z-203

Left Side							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	NA			0.353		
	Axis	NA			X-33;Y71.2;Z-203		
GSM1900	SAR	NA			0.313		
	Axis	NA			X-33;Y78.9;Z-203		
WCDMA II	SAR	NA			0.321		
	Axis	NA			X-33;Y77.4;Z-203		
WCDMA IV	SAR	NA			0.269		
	Axis	NA			X-33;Y78.2;Z-203		
WCDMA V	SAR	NA			0.401		
	Axis	NA			X-33;Y67.8;Z-203		
LTE Band 2	SAR	NA			0.444		
	Axis	NA			X-33;Y77.6;Z-203		
LTE Band 7	SAR	NA			0.07		
	Axis	NA			X-33;Y86.3;Z-203		
LTE Band 12	SAR	NA			0.428		
	Axis	NA			X-22;Y67.2;Z-203		
LTE Band 13	SAR	NA			0.266		
	Axis	NA			X-22;Y67.4;Z-203		
LTE Band 14	SAR	NA			0.261		
	Axis	NA			X-22;Y65.3;Z-203		
LTE Band 26	SAR	NA			0.534		
	Axis	NA			X-33;Y71.9.8;Z-203		
LTE Band 66	SAR	NA			0.26		
	Axis	NA			X-33;Y77.9;Z-203		
LTE Band 71	SAR	NA			0.518		
	Axis	NA			X-22;Y67.3;Z-203		
LTE Band 41	SAR	NA			0.051		
	Axis	NA					
LTE Band 48	SAR		0.99				
	Axis		X-33;Y52.9;Z-203				
FR1 n2	SAR	NA			0.247		
	Axis	NA			X-33;Y73.8;Z-203		
FR1 n5	SAR	NA			0.416		
	Axis	NA			X-33;Y70.1;Z-203		
FR1 n7	SAR	NA			0.064		
	Axis	NA			X-41;Y82.8;Z-203		



FR1 n14	SAR	NA					
	Axis	NA					
FR1 n66	SAR	NA			0.205		
	Axis	NA			X-33;Y72.7;Z-203		
FR1 n71	SAR	NA			0.334		
	Axis	NA			X-22;Y66.3;Z-203		
FR1 n41	SAR	NA	0.98		0.055		1.235
	Axis	NA	X-33;Y51.3;Z-203		X-33;Y83.8;Z-203		X-25;Y-68.1;Z-203
FR1 n48	SAR		0.953				
	Axis		X-33;Y51.1;Z-203				
FR1 n77	SAR		0.978	NA		NA	1.238
	Axis		X-33;Y50.4;Z-203	NA		NA	X-25;Y-63.2;Z-203

<Body-worn>

Front								
BT Ant6	SAR	0.065	WLAN2.4G MIMO	SAR	0.4			
	Axis	X15;Y65.5;Z-203		Axis	X-5;Y86.8;Z-203			
BT Ant3	SAR	0.089	WLAN5G MIMO	SAR	0.385	WLAN6E MIMO	SAR	0.17
	Axis	X-5.2;Y84.6;Z-203		Axis	X5;Y65.9;Z-203		Axis	X-8.2;Y75.9;Z-203
Back								
BT Ant6	SAR	0.053	WLAN2.4G MIMO	SAR	0.318			
	Axis	X-64.2;Y48.9;Z-203		Axis	X-55;Y80.6;Z-203			
BT Ant3	SAR	0.103	WLAN5G MIMO	SAR	0.236	WLAN6E MIMO	SAR	0.2
	Axis	X-54.8;Y81.1;Z-203		Axis	X-55;Y73.4;Z-203		Axis	X-41;Y82.5;Z-203

Front							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	1.185			0.665		
	Axis	X-40;Y-81.2;Z-203			X-55;Y78.2;Z-203		
GSM1900	SAR	0.424			0.53		
	Axis	X-25;Y-77.9;Z-203			X-55;Y88.1;Z-203		
WCDMA II	SAR	0.621			0.778		
	Axis	X-25;Y-76.1;Z-203			X-55;Y87.6;Z-203		
WCDMA IV	SAR	0.622			0.841		
	Axis	X-25;Y-78.1;Z-203			X-55;Y88.7;Z-203		
WCDMA V	SAR	1.206			0.542		
	Axis	X-40;Y-81.2;Z-203			X-55;Y80.9;Z-203		
LTE Band 2	SAR	0.662			0.904		
	Axis	X-25;Y-79.1;Z-203			X-55;Y87.8;Z-203		
LTE Band 7	SAR	0.541			0.422		
	Axis	X-25;Y-78.3;Z-203			X-45;Y84.9;Z-203		
LTE Band 12	SAR	1.036			0.413		
	Axis	X-40;Y-84.5;Z-203			X-55;Y73.6;Z-203		
LTE Band 13	SAR	1.208			0.412		
	Axis	X-25;Y-85.2;Z-203			X-55;Y73.8;Z-203		
LTE Band 14	SAR	1.203			0.407		
	Axis	X-25;Y-85.1;Z-203			X-55;Y74.6;Z-203		
LTE Band 26	SAR	1.127			0.801		
	Axis	X-25;Y-82.6;Z-203			X-55;Y82.7;Z-203		
LTE Band 41	SAR	0.558			0.52		
	Axis	X-25;Y-81.2;Z-203			X-35;Y87.5;Z-203		
LTE Band 66	SAR	0.659			0.835		
	Axis	X-10;Y-82.9;Z-203			X-55;Y89.3;Z-203		
LTE Band 71	SAR	0.851			0.373		
	Axis	X-25;Y-83.9;Z-203			X-55;Y74.3;Z-203		
LTE Band 48	SAR		0.35				





	Axis		X-65;Y51.1;Z-203				
FR1 n2	SAR	0.613			0.665		
	Axis	X-25;Y-79.1;Z-203			X-55;Y82.9;Z-203		
FR1 n5	SAR	1.028			0.656		
	Axis	X-25;Y-78.9;Z-203			X-55;Y79.8;Z-203		
FR1 n7	SAR	0.713			0.454		
	Axis	X-25;Y-78.2;Z-203			X-35;Y84.8;Z-203		
FR1 n14	SAR	0.799					
	Axis	X-25;Y-83.5;Z-203					
FR1 n66	SAR	0.844			0.623		
	Axis	X-10;Y-84.3;Z-203			X-55;Y85.6;Z-203		
FR1 n71	SAR	0.085			0.244		
	Axis	X-25;Y-83.5;Z-203			X-55;Y75.2;Z-203		
FR1 n41	SAR	0.636	0.445		0.398		0.549
	Axis	X-35;Y-77.8;Z-203	X-65;Y52.7;Z-203		X-35;Y86.1;Z-203		X-65;Y-79.6;Z-203
FR1 n48	SAR		0.421				
	Axis		X-65;Y53.1;Z-203				
FR1 n77	SAR		0.351	0.457		0.473	1.195
	Axis		X-65;Y53.8;Z-203	X-15.3;Y83.2;Z-203		X5;Y82.2;Z-203	X-65;Y-77.8;Z-203

Back							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	1.035			0.921		
	Axis	X-25;Y-77.4;Z-203			X-10;Y74.9;Z-203		
GSM1900	SAR	0.413			0.558		
	Axis	X-40;Y-78.8;Z-203			X-10;Y81.6;Z-203		
WCDMA II	SAR	0.787			0.932		
	Axis	X-40;Y-79.8;Z-203			X-10;Y83.5;Z-203		
WCDMA IV	SAR	0.723			0.922		
	Axis	X-25;Y-79.8;Z-203			X-10;Y85.6;Z-203		
WCDMA V	SAR	1.081			0.918		
	Axis	X-10;Y-81.9;Z-203			X-10;Y76.1;Z-203		
LTE Band 2	SAR	0.651			0.989		
	Axis	X-40;Y-81.2;Z-203			X-10;Y83.8;Z-203		
LTE Band 7	SAR	1.071			0.569		
	Axis	X-15;Y-74;Z-203			X-5;Y76.5;Z-203		
LTE Band 12	SAR	0.917			0.731		
	Axis	X-10;Y-78.8;Z-203			X-10;Y73.9;Z-203		
LTE Band 13	SAR	1.075			0.69		
	Axis	X-10;Y-81.5;Z-203			X-10;Y75.1;Z-203		
LTE Band 14	SAR	1.017			0.644		
	Axis	X-10;Y-80.9;Z-203			X-10;Y74.8;Z-203		
LTE Band 26	SAR	1.088			0.99		
	Axis	X-10;Y-81.2;Z-203			X-10;Y75.7;Z-203		
LTE Band 41	SAR	1.259			0.691		
	Axis	X-15;Y-75.8;Z-203			X-15;Y80.9;Z-203		
LTE Band 66	SAR	0.813			0.986		
	Axis	X-25;Y-81.5;Z-203			X-10;Y84.2;Z-203		
LTE Band 71	SAR	0.468			0.731		
	Axis	X-10;Y-81.6;Z-203			X-10;Y75.2;Z-203		
LTE Band 48	SAR		0.236				
	Axis		X15;Y57.4;Z-203				
FR1 n2	SAR	0.607			0.77		
	Axis	X-40;Y-80.5;Z-203			X-10;Y81.6;Z-203		
FR1 n5	SAR	0.901			0.882		
	Axis	X-10;Y-79.9;Z-203			X-10;Y75.8;Z-203		



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FR1 n7	SAR	0.976			0.624		
	Axis	X-15;Y-75.1;Z-203			X-5;Y81.2;Z-203		
FR1 n14	SAR	0.682					
	Axis	X-10;Y-80.8;Z-203					
FR1 n66	SAR	0.711			0.519		
	Axis	X-25;Y-82.8;Z-203			X-10;Y81.8;Z-203		
FR1 n71	SAR	0.08			0.475		
	Axis	X-10;Y-82.1;Z-203			X-10;Y72.6;Z-203		
FR1 n41	SAR	1.211	0.314		0.582		0.493
	Axis	X-15;Y-73.1;Z-203	X15;Y52.6;Z-203		X-15;Y78.8;Z-203		X5;Y-71.9;Z-203
FR1 n48	SAR		0.255				
	Axis		X15;Y56.4;Z-203				
FR1 n77	SAR		0.24	0.415		0.383	0.933
	Axis		X15;Y56.8;Z-203	X-25;Y82.5;Z-203		X-55;Y77.8;Z-203	X5;Y-68.8;Z-203



<Extremity>

Front		
WLAN2.4G MIMO	SAR	0.792
	Axis	X-5;Y85.9;Z-203
WLAN5G MIMO	SAR	0.781
	Axis	X5;Y75.9;Z-203
WLAN6E MIMO	SAR	0.391
	Axis	X-16.5;Y84.2;Z-203
Back		
WLAN2.4G MIMO	SAR	0.529
	Axis	X-55;Y80.2;Z-203
WLAN5G MIMO	SAR	0.2
	Axis	X-65;Y70.8;Z-203
WLAN6E MIMO	SAR	0.141
	Axis	X-42;Y81.9;Z-203
Left side		
WLAN5G MIMO	SAR	0.017
	Axis	X-25;Y70.4;Z-203

Front							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR	1.196					
	Axis	X-17;Y-99.1;Z-203					
GSM1900	SAR	2.687			2.606		
	Axis	X-17;Y-98.6;Z-203			X-55;Y84.8;Z-203		
WCDMA II	SAR	2.707			2.246		
	Axis	X-10;Y-98.4;Z-203			X-55;Y83.9;Z-203		
WCDMA IV	SAR	2.749			2.081		
	Axis	X-10;Y-99.6;Z-203			X-55;Y83.8;Z-203		
WCDMA V	SAR	2.663					
	Axis	X-25;Y-99.1;Z-203					
LTE Band 2	SAR	2.719			1.811		
	Axis	X-10;Y-99.3;Z-203			X-55;Y85.3;Z-203		
LTE Band 7	SAR	1.685			1.759		
	Axis	X-35;Y-99.4;Z-203			X-35;Y83.8;Z-203		
LTE Band 12	SAR						
	Axis						
LTE Band 13	SAR						
	Axis						
LTE Band 14	SAR	2.304					
	Axis	X-10;Y-97.5;Z-203					
LTE Band 26	SAR						
	Axis						
LTE Band 41	SAR	1.872			1.702		
	Axis	X-35;Y-97.6;Z-203			X-35;Y85.2;Z-203		
LTE Band 66	SAR	2.747			2.021		
	Axis	X-10;Y-99.1;Z-203			X-55;Y86.4;Z-203		
LTE Band 71	SAR						
	Axis						
LTE Band 48	SAR		1.661				
	Axis		X-65;Y53.4;Z-203				
FR1 n2	SAR	2.742			2.352		
	Axis	X-10;Y-97.8;Z-203			X-55;Y81.2;Z-203		
FR1 n5	SAR						
	Axis						
FR1 n7	SAR	1.408			1.625		
	Axis	X-35;Y-99.2;Z-203			X-35;Y85.1;Z-203		
FR1 n14	SAR						



	Axis						
FR1 n66	SAR	2.67			2.756		
	Axis	X-10;Y-99.3;Z-203			X-55;Y82.8;Z-203		
FR1 n71	SAR						
	Axis						
FR1 n41	SAR		2.019		1.994		
	Axis		X-65;Y48.9;Z-203		X-35;Y85.7;Z-203		
FR1 n48	SAR		1.85				
	Axis		X-65;Y52.8;Z-203				
FR1 n77	SAR		1.703	2.765		2.738	1.43
	Axis		X-65;Y54.2;Z-203	X-15;Y83.2;Z-203		X5;Y74.7;Z-203	X-55;Y-70.8;Z-203

Back							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR						
	Axis						
GSM1900	SAR	2.637			1.514		
	Axis	X-31;Y-79.3;Z-203			X-10;Y81.6;Z-203		
WCDMA II	SAR	2.65			1.621		
	Axis	X-25;Y-82.8;Z-203			X-10;Y81.8;Z-203		
WCDMA IV	SAR	2.514			1.688		
	Axis	X-25;Y-83.2;Z-203			X-10;Y82.6;Z-203		
WCDMA V	SAR				1.541		
	Axis				X-10;Y82.2;Z-203		
LTE Band 2	SAR	2.637			1.228		
	Axis	X-25;Y-82.6;Z-203			X-10;Y81.6;Z-203		
LTE Band 7	SAR	2.755			1.647		
	Axis	X-15;Y-75.5;Z-203			X-5;Y78.5;Z-203		
LTE Band 12	SAR						
	Axis						
LTE Band 13	SAR						
	Axis						
LTE Band 14	SAR						
	Axis						
LTE Band 26	SAR				2.076		
	Axis				X-10;Y81.1;Z-203		
LTE Band 41	SAR	2.721			1.517		
	Axis	X-15;Y-75.6;Z-203			X-5;Y80.6;Z-203		
LTE Band 66	SAR	2.471			1.504		
	Axis	X-25;Y-81.9;Z-203			X-10;Y81.8;Z-203		
LTE Band 71	SAR						
	Axis						
LTE Band 48	SAR		0.689				
	Axis		X5;Y54.3;Z-203				
FR1 n2	SAR	2.609			1.628		
	Axis	X-25;Y-82.5;Z-203			X-10;Y79.6;Z-203		
FR1 n5	SAR						
	Axis						
FR1 n7	SAR	1.655			1.508		
	Axis	X-15;Y-74.3;Z-203			X-5;Y79.4;Z-203		
FR1 n14	SAR						
	Axis						
FR1 n66	SAR	2.719			1.76		
	Axis	X-25;Y-81.9;Z-203			X-10;Y78.1;Z-203		
FR1 n71	SAR						
	Axis						
FR1 n41	SAR	2.756	1.454		1.72		
	Axis	X-25;Y-69.1;Z-203	X5;Y54.9;Z-203		X-15;Y77.6;Z-203		



FR1 n48	SAR		0.699				
	Axis		X5;Y55.3;Z-203				
FR1 n77	SAR		0.803	1.326		NA	NA
	Axis		X15;Y56.8;Z-203	X-25;Y82.8;Z-203		NA	NA

Left Side							
Band		Ant0	Ant2	Ant4	Ant1	Ant5	Ant7
GSM850	SAR						
	Axis						
GSM1900	SAR	NA			NA		
	Axis	NA			NA		
WCDMA II	SAR	NA			NA		
	Axis	NA			NA		
WCDMA IV	SAR	NA			NA		
	Axis	NA			NA		
WCDMA V	SAR				NA		
	Axis				NA		
LTE Band 2	SAR	NA			NA		
	Axis	NA			NA		
LTE Band 7	SAR	NA			NA		
	Axis	NA			NA		
LTE Band 12	SAR						
	Axis						
LTE Band 13	SAR						
	Axis						
LTE Band 14	SAR						
	Axis						
LTE Band 26	SAR				NA		
	Axis				NA		
LTE Band 41	SAR	NA			NA		
	Axis	NA			NA		
LTE Band 66	SAR	NA			NA		
	Axis	NA			NA		
LTE Band 71	SAR						
	Axis						
LTE Band 48	SAR		2.740				
	Axis		X-33;Y72.9;Z-203				
FR1 n2	SAR	NA			NA		
	Axis	NA			NA		
FR1 n5	SAR						
	Axis						
FR1 n7	SAR	NA			NA		
	Axis	NA			NA		
FR1 n14	SAR						
	Axis						
FR1 n66	SAR	NA			NA		
	Axis	NA			NA		
FR1 n71	SAR						
	Axis						
FR1 n41	SAR	NA	2.718		NA		
	Axis	NA	X-33;Y75.3;Z-203		NA		
FR1 n48	SAR		2.748				
	Axis		X-33;Y72.4;Z-203				
FR1 n77	SAR		2.707	NA		NA	2.752
	Axis		X-33;Y70.6.7;Z-203	NA		NA	X-25;Y-86.8;Z-203

## **18. Supplemental tuner tests results**

### **General Note:**

1. This device implements impedance tuner (144 states) antenna tuning techniques in the WCDMA B2/4/5, LTE Band 2/4/5/7/12/26/66/38/41, and 5GNR n5/n7/n66/n41 for ANT0.
2. This device implements impedance tuner (144 states) antenna tuning techniques in the WCDMA B2/4/5, LTE Band 2/4/5/7/12/26/66/38/41, and 5GNR n7/n41 for ANT1.
3. LTE B38 / B5 SAR test was covered by LTE B41 / B26; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced.
4. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.
5. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
6. To evaluate all of the tuner states, the 144 tuner states for ANT0 and the impedance tuner 144 states for ANT1 are divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination.
7. According to April 2019 TCB workshop, total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
8. According to April 2019 TCB workshop, if any single point SAR measurement result is  $> 1.2 \text{ W/kg}$  for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination. So we verified the single point SAR that bands with SAR value high than  $1.2 \text{ W/kg}$ .
9. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).
10. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

### **18.1 Supplemental Tuner Head & Body SAR Results**

Please refer to Appendix F.

**Test Engineer** : Martin Li, Varus Wang, Ricky Gu, Light Wang



## **19. Uncertainty Assessment**

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg and the measured 10-g SAR within a frequency band is  $< 3.75$  W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

## **20. References**

- [1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”
- [2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992
- [3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [6] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.
- [7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.
- [8] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.
- [9] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015
- [10] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015
- [11] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015
- [12] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015
- [13] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [14] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

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