



FCC SAR Test Report

Report No. : FA411904-01

	LTE Band 42C	20M	QPSK	1	0		Back	5mm	Ant 2		DSI 3	42990+42792	3540+3520.2	1	17.48	19.40	1.556	62.9	1.006	0.02	0.521	0.816
	LTE Band 42	20M	QPSK	50	0		Back	5mm	Ant 2		DSI 3	42590	3500	1	17.84	19.40	1.432	62.9	1.006	0.05	0.426	0.614
	LTE Band 42	20M	QPSK	50	0		Back	5mm	Ant 2		DSI 3	42190	3460	1	17.77	19.40	1.455	62.9	1.006	0.05	0.414	0.606
	LTE Band 42	20M	QPSK	50	0		Back	5mm	Ant 2		DSI 3	42990	3540	1	17.78	19.40	1.452	62.9	1.006	-0.03	0.426	0.622
	LTE Band 42	20M	QPSK	100	0		Back	5mm	Ant 2		DSI 3	42590	3500	1	17.82	19.40	1.439	62.9	1.006	-0.15	0.419	0.606
	LTE Band 42	20M	QPSK	1	0		Front	13mm	Ant 2		DSI 4	42590	3500	1	23.02	24.00	1.253	62.9	1.006	-0.1	0.306	0.386
	LTE Band 42	20M	QPSK	1	0		Back	16mm	Ant 2		DSI 4	42990	3540	1	22.79	24.00	1.321	62.9	1.006	0.07	0.397	0.528
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2		DSI 3	656000	3840	1	15.93	17.20	1.340		1.000	0.08	0.320	0.429
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2		DSI 3	656000	3840	1	15.92	17.20	1.343		1.000	-0.17	0.278	0.373
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2		DSI 3	656000	3840	1	15.93	17.20	1.340		1.000	-0.02	0.653	0.875
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 2		DSI 3	656000	3840	1	15.92	17.20	1.343		1.000	0.14	0.642	0.862
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 2		DSI 3	656000	3840	1	15.86	17.20	1.361		1.000	0.11	0.583	0.794
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2		DSI 3	656000	3840	1	19.03	20.20	1.309	50	1.000	0.04	0.669	0.876
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 2		DSI 4	656000	3840	1	23.26	24.00	1.186		1.000	0.18	0.489	0.580
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 2		DSI 4	656000	3840	1	26.25	27.00	1.189	50	1.000	-0.1	0.455	0.541
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 2		DSI 4	656000	3840	1	23.26	24.00	1.186		1.000	0.01	0.640	0.759
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 2		DSI 4	656000	3840	1	26.25	27.00	1.189	50	1.000	-0.15	0.603	0.717
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5		DSI 3	656000	3840	1	16.34	16.90	1.138		1.000	0.08	0.272	0.309
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5		DSI 3	656000	3840	1	16.19	16.90	1.178		1.000	0.19	0.288	0.339
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5		DSI 3	656000	3840	1	16.34	16.90	1.138		1.000	-0.06	0.567	0.645
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5		DSI 3	656000	3840	1	16.19	16.90	1.178		1.000	0.01	0.699	0.823
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 5		DSI 3	656000	3840	1	16.15	16.90	1.189		1.000	0	0.514	0.611
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5		DSI 3	656000	3840	1	19.16	19.90	1.186	50	1.000	0.06	0.739	0.876
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5		DSI 3	656000	3840	2	19.16	19.90	1.186	50	1.000	0.07	0.591	0.701
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	13mm	Ant 5		DSI 4	656000	3840	1	18.19	19.00	1.205		1.000	0.19	0.074	0.089
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	13mm	Ant 5		DSI 4	656000	3840	1	21.05	22.00	1.245	50	1.000	0.07	0.076	0.095
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	16mm	Ant 5		DSI 4	656000	3840	1	18.19	19.00	1.205		1.000	-0.18	0.121	0.146
	FR1 n77_HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	16mm	Ant 5		DSI 4	656000	3840	1	21.05	22.00	1.245	50	1.000	0.03	0.127	0.158
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7		DSI 3	656000	3840	1	16.38	17.30	1.236		1.000	0.1	0.307	0.379
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7		DSI 3	656000	3840	1	16.33	17.30	1.250		1.000	-0.18	0.265	0.331
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7		DSI 3	656000	3840	1	16.38	17.30	1.236		1.000	-0.09	0.712	0.880
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7		DSI 3	656000	3840	1	16.33	17.30	1.250		1.000	0.1	0.568	0.710
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 7		DSI 3	656000	3840	1	16.32	17.30	1.253		1.000	0.12	0.560	0.702
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7		DSI 3	656000	3840	1	19.45	20.30	1.216	50	1.000	0.09	0.726	0.883
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7		DSI 3	656000	3840	2	19.45	20.30	1.216	50	1.000	-0.06	0.593	0.721
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 7		DSI 4	656000	3840	1	19.49	20.00	1.125		1.000	-0.15	0.109	0.123
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 7		DSI 4	656000	3840	1	22.62	23.00	1.091	50	1.000	-0.15	0.106	0.116
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 7		DSI 4	656000	3840	1	19.49	20.00	1.125		1.000	0.11	0.151	0.170
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 7		DSI 4	656000	3840	1	22.62	23.00	1.091	50	1.000	-0.08	0.153	0.167
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 11		DSI 3	656000	3840	1	20.28	21.10	1.208		1.000	0.08	0.598	0.722
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 11		DSI 3	656000	3840	1	20.24	21.10	1.219		1.000	0.01	0.477	0.581
57	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 11		DSI 3	656000	3840	1	20.28	21.10	1.208		1.000	-0.14	1.020	1.232
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 11	Headset	DSI 3	656000	3840	1	20.28	21.10	1.208		1.000	0.09	0.958	1.157
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 11		DSI 3	656000	3840	1	20.24	21.10	1.219		1.000	-0.08	0.904	1.102
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 11		DSI 3	656000	3840	1	20.23	21.10	1.222		1.000	-0.08	0.919	1.123
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 11		DSI 3	656000	3840	1	23.26	24.10	1.213	50	1.000	-0.11	0.965	1.171
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 11		DSI 4	656000	3840	1	22.91	24.00	1.285		1.000	-0.08	0.155	0.199
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	13mm	Ant 11		DSI 4	656000	3840	1	25.81	27.00	1.315	50	1.000	0.1	0.145	0.191
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 11		DSI 4	656000	3840	1	22.91	24.00	1.285		1.000	-0.18	0.185	0.238
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	16mm	Ant 11		DSI 4	656000	3840	1	25.81	27.00	1.315	50	1.000	0.1	0.168	0.221



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	Sample	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)
Wifi&Bluetooth																		
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(8)		Standalone	6	2437	1	17.23	19.00	1.503	98.62	1.014	-0.08	0.415	0.633
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)		Standalone	6	2437	1	17.23	19.00	1.503	98.62	1.014	-0.18	0.791	1.206
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)		Standalone	1	2412	1	17.18	19.00	1.521	98.62	1.014	0.1	0.638	0.984
58	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)		Standalone	11	2462	1	17.21	19.00	1.510	98.62	1.014	-0.05	0.854	1.308
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)		Standalone	11	2462	2	17.21	19.00	1.510	98.62	1.014	0.01	0.812	1.243
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)	Headset	Standalone	11	2462	1	17.21	19.00	1.510	98.62	1.014	0.01	0.781	1.196
	WLAN2.4GHz	802.11n-HT40 MCS0	Back	5mm	Ant 6+8(8)		Standalone	6	2437	1	17.21	19.00	1.510	94.91	1.054	0.06	0.721	1.148
	WLAN2.4GHz	802.11n-HT40 MCS0	Back	5mm	Ant 6+8(5)		Standalone	9	2452	1	15.90	17.50	1.445	94.91	1.054	0.01	0.511	0.779
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(8)		Simultaneous	6	2437	1	14.22	16.00	1.507	98.62	1.014	0.03	0.215	0.328
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(8)		Simultaneous	11	2462	1	14.21	16.00	1.510	98.62	1.014	-0.01	0.429	0.657
	WLAN2.4GHz	802.11b 1Mbps	Front	13mm	Ant 6+8(8)		Full Power	6	2437	1	19.18	21.00	1.521	98.62	1.014	0.01	0.255	0.393
	WLAN2.4GHz	802.11b 1Mbps	Back	16mm	Ant 6+8(8)		Full Power	11	2462	1	18.79	20.50	1.483	98.62	1.014	0.06	0.326	0.490
	Bluetooth	1Mbps	Front	5mm	Ant 6		Standalone	39	2441	1	11.93	13.50	1.435	76.72	1.086	0.08	0.075	0.117
59	Bluetooth	1Mbps	Back	5mm	Ant 6		Standalone	39	2441	1	11.93	13.50	1.435	76.72	1.086	-0.07	0.109	0.170
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+8(5)		Standalone	54	5270	1	15.61	17.00	1.377	96.32	1.038	-0.03	0.318	0.455
60	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(5)		Standalone	54	5270	1	15.61	17.00	1.377	96.32	1.038	0.01	0.782	1.118
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(5)		Standalone	54	5270	2	15.61	17.00	1.377	96.32	1.038	0.09	0.721	1.031
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(5)		Standalone	62	5310	1	14.62	16.50	1.542	96.32	1.038	0.11	0.564	0.903
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+8(8)		Simultaneous	54	5270	1	13.18	15.00	1.521	96.32	1.038	0.01	0.199	0.314
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(8)		Simultaneous	54	5270	1	13.18	15.00	1.521	96.32	1.038	0.06	0.435	0.687
	WLAN5.3GHz	802.11n-HT20 MCS0	Front	13mm	Ant 5+8(8)		Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.02	0.275	0.407
	WLAN5.3GHz	802.11n-HT20 MCS0	Back	16mm	Ant 5+8(8)		Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	0.01	0.315	0.466
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(5)		Standalone	122	5610	1	12.76	14.50	1.493	93.06	1.075	0.18	0.285	0.457
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(5)		Standalone	138	5690	1	12.71	14.50	1.510	93.06	1.075	0.14	0.276	0.448
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Standalone	122	5610	1	12.76	14.50	1.493	93.06	1.075	-0.17	0.517	0.830
61	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Standalone	138	5690	1	12.71	14.50	1.510	93.06	1.075	-0.08	0.708	1.149
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(5)		Simultaneous	122	5610	1	10.62	12.00	1.374	93.06	1.075	0.03	0.201	0.297
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Simultaneous	138	5690	1	10.59	12.00	1.384	93.06	1.075	-0.15	0.455	0.677
	WLAN5.5GHz	802.11n-HT20 MCS0	Front	13mm	Ant 5+8(8)		Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	-0.11	0.325	0.483
	WLAN5.5GHz	802.11n-HT20 MCS0	Back	16mm	Ant 5+8(8)		Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	0.02	0.379	0.563
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(5)		Standalone	155	5775	1	14.95	16.50	1.429	93.06	1.075	-0.05	0.186	0.286
62	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Standalone	155	5775	1	14.95	16.50	1.429	93.06	1.075	0.05	0.762	1.170
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Standalone	155	5775	2	14.95	16.50	1.429	93.06	1.075	0.07	0.625	0.960
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(5)		Simultaneous	155	5775	1	12.49	14.00	1.416	93.06	1.075	-0.18	0.112	0.170
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)		Simultaneous	155	5775	1	12.49	14.00	1.416	93.06	1.075	0.07	0.451	0.686
	WLAN5.8GHz	802.11a 6Mbps	Front	13mm	Ant 5+8(5)		Full Power	165	5825	1	17.94	19.50	1.432	98.62	1.014	0.06	0.201	0.292
	WLAN5.8GHz	802.11a 6Mbps	Back	16mm	Ant 5+8(5)		Full Power	165	5825	1	17.94	19.50	1.432	98.62	1.014	-0.12	0.345	0.501



16.4 Product specific 10g SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
835MHz																					
	WCDMA V					RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	1	22.43	24.00	1.435		1.000	0.01	1.480	2.125
63	WCDMA V					RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4132	826.4	1	22.39	24.00	1.449		1.000	-0.16	1.500	2.173
	WCDMA V					RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4132	826.4	2	22.39	24.00	1.449		1.000	0.01	1.350	1.956
	WCDMA V					RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4233	846.6	1	22.29	24.00	1.483		1.000	0.1	1.340	1.987
64	LTE Band 26	15M	QPSK	1	0		Back	0mm	Ant 0	DSI 6	26865	831.5	1	22.60	24.00	1.380		1.000	0.01	1.430	1.974
1900MHz																					
	GSM1900					GPRS (2 Tx slots)	Back	0mm	Ant 0	DSI 6	661	1880	1	27.38	28.50	1.294		1.000	0.05	1.750	2.265
65	GSM1900					GPRS (2 Tx slots)	Back	0mm	Ant 1	DSI 6	512	1850.2	1	27.27	28.50	1.327		1.000	0.06	2.210	2.934
	GSM1900					GPRS (2 Tx slots)	Back	0mm	Ant 1	DSI 6	810	1909.8	1	27.21	28.50	1.346		1.000	0.05	1.650	2.221
	GSM1900					GPRS (2 Tx slots)	Bottom Side	0mm	Ant 1	DSI 6	661	1880	1	27.38	28.50	1.294		1.000	-0.03	1.060	1.372
	WCDMA II					RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9400	1880	1	22.44	23.50	1.276		1.000	0.11	2.270	2.898
	WCDMA II					RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9262	1852.4	1	22.26	23.50	1.330		1.000	-0.05	2.210	2.940
	WCDMA II					RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9538	1907.6	1	22.29	23.50	1.321		1.000	-0.01	2.190	2.894
66	WCDMA II					RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9400	1880	1	22.44	23.50	1.276		1.000	0.01	2.350	3.000
	WCDMA II					RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9400	1880	2	22.44	23.50	1.276		1.000	0	2.220	2.834
	WCDMA II					RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9262	1852.4	1	22.26	23.50	1.330		1.000	0.14	2.150	2.860
	WCDMA II					RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9538	1907.6	1	22.29	23.50	1.321		1.000	-0.12	1.940	2.563
	WCDMA II					RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9400	1880	1	22.44	23.50	1.276		1.000	-0.17	1.700	2.170
	WCDMA II					RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9262	1852.4	1	22.26	23.50	1.330		1.000	0.08	1.440	1.916
	WCDMA II					RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9538	1907.6	1	22.29	23.50	1.321		1.000	0.01	2.050	2.709
	WCDMA II					RMC 12.2Kbps	Front	4mm	Ant 1	DSI 4	9400	1880	1	22.44	24.00	1.432		1.000	-0.17	1.160	1.661
	WCDMA II					RMC 12.2Kbps	Back	7mm	Ant 1	DSI 4	9400	1880	1	22.44	24.00	1.432		1.000	-0.08	0.901	1.290
	WCDMA II					RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 4	9538	1907.6	1	22.29	24.00	1.483		1.000	-0.04	0.633	0.938
	LTE Band 2	20M	QPSK	1	0		Front	0mm	Ant 1	DSI 6	18900	1880	1	23.00	23.50	1.122		1.000	-0.01	2.520	2.827
	LTE Band 2	20M	QPSK	1	0		Front	0mm	Ant 1	DSI 6	18700	1860	1	22.96	23.50	1.132		1.000	0	2.530	2.865
	LTE Band 2	20M	QPSK	1	0		Front	0mm	Ant 1	DSI 6	19100	1900	1	22.91	23.50	1.146		1.000	-0.11	2.430	2.784
	LTE Band 2	20M	QPSK	50	0		Front	0mm	Ant 1	DSI 6	18900	1880	1	21.81	23.00	1.315		1.000	-0.06	1.530	2.012
	LTE Band 2	20M	QPSK	50	0		Front	0mm	Ant 1	DSI 6	18700	1860	1	21.69	23.00	1.352		1.000	-0.15	1.580	2.136
	LTE Band 2	20M	QPSK	50	0		Front	0mm	Ant 1	DSI 6	19100	1900	1	21.77	23.00	1.327		1.000	0.03	1.380	1.832
	LTE Band 2	20M	QPSK	100	0		Front	0mm	Ant 1	DSI 6	18900	1880	1	21.75	23.00	1.334		1.000	-0.13	1.480	1.974
	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	18900	1880	1	23.00	23.50	1.122		1.000	0.16	2.360	2.648
67	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	18700	1860	1	22.96	23.50	1.132		1.000	0.09	2.620	2.967
	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	19100	1900	1	22.91	23.50	1.146		1.000	-0.02	2.030	2.325
	LTE Band 2	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	18900	1880	1	21.81	23.00	1.315		1.000	-0.09	1.340	1.762
	LTE Band 2	20M	QPSK	100	0		Back	0mm	Ant 1	DSI 6	18900	1880	1	21.75	23.00	1.334		1.000	-0.09	1.340	1.787
	LTE Band 2	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	18900	1880	1	23.00	23.50	1.122		1.000	0.07	1.800	2.020
	LTE Band 2	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	18700	1860	1	22.96	23.50	1.132		1.000	-0.09	1.930	2.186
	LTE Band 2	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	19100	1900	1	22.91	23.50	1.146		1.000	-0.16	1.360	1.558
	LTE Band 2	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	18900	1880	1	21.81	23.00	1.315		1.000	-0.18	1.010	1.328
	LTE Band 2	20M	QPSK	100	0		Bottom Side	0mm	Ant 1	DSI 6	18900	1880	1	21.75	23.00	1.334		1.000	-0.07	1.010	1.347
	LTE Band 2	20M	QPSK	1	0		Front	4mm	Ant 1	DSI 4	18700	1860	1	22.96	24.00	1.271		1.000	-0.08	1.100	1.398
	LTE Band 2	20M	QPSK	1	0		Back	7mm	Ant 1	DSI 4	18700	1860	1	22.96	24.00	1.271		1.000	0.17	0.871	1.107
	LTE Band 2	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 4	18700	1860	1	22.96	24.00	1.271		1.000	0.18	0.750	0.953
	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 4	DSI 6	18900	1880	1	19.65	21.00	1.365		1.000	0	1.570	2.142
	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 4	DSI 6	18700	1860	1	19.52	21.00	1.406		1.000	-0.13	1.510	2.123
	LTE Band 2	20M	QPSK	1	0		Back	0mm	Ant 4	DSI 6	19100	1900	1	19.51	21.00	1.409		1.000	-0.01	1.620	2.283
	LTE Band 2	20M	QPSK	50	0		Back	0mm	Ant 4	DSI 6	18900	1880	1	19.59	21.00	1.384		1.000	-0.09	1.290	1.785
	LTE Band 2	20M	QPSK	100	0		Back	0mm	Ant 4	DSI 6	18900	1880	1	19.55	21.00	1.396		1.000	-0.13	1.340	1.871
	LTE Band 2	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	18900	1880	1	19.65	21.00	1.365		1.000	0.17	1.680	2.292
	LTE Band 2	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	18700	1860	1	19.52	21.00	1.406		1.000	0.06	1.720	2.418



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	LTE Band 2	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	19100	1900	1	19.51	21.00	1.409		1.000	0.03	1.730	2.438
	LTE Band 2	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	19100	1900	2	19.51	21.00	1.409		1.000	0.08	1.550	2.184
	LTE Band 2	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	18900	1880	1	19.59	21.00	1.384		1.000	0	1.550	2.145
	LTE Band 2	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	18700	1860	1	19.43	21.00	1.435		1.000	-0.04	1.420	2.038
	LTE Band 2	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	19100	1900	1	19.44	21.00	1.432		1.000	-0.15	1.380	1.976
	LTE Band 2	20M	QPSK	100	0		Top Side	0mm	Ant 4	DSI 6	18900	1880	1	19.55	21.00	1.396		1.000	0.11	1.390	1.941
	LTE Band 2	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 4	19100	1900	1	21.34	22.50	1.306		1.000	-0.04	0.259	0.338
	LTE Band 2	20M	QPSK	1	0		Top Side	13mm	Ant 4	DSI 4	19100	1900	1	21.34	22.50	1.306		1.000	-0.08	0.451	0.589
2600MHz																					
	LTE Band 7 ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	21100	2535	1	19.30	20.20	1.230		1.000	-0.16	1.770	2.178
	LTE Band 7 ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	20850	2510	1	19.28	20.20	1.236		1.000	-0.02	1.980	2.447
	LTE Band 7 ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	21350	2560	1	19.11	20.20	1.285		1.000	-0.02	1.690	2.172
	LTE Band 7 ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	21100	2535	1	19.25	20.20	1.245		1.000	0.15	1.610	2.004
	LTE Band 7 ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	20850	2510	1	19.17	20.20	1.268		1.000	-0.09	1.510	1.914
	LTE Band 7 ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	21350	2560	1	19.04	20.20	1.306		1.000	0.11	1.560	2.038
	LTE Band 7 ENDC	20M	QPSK	100	0		Top Side	0mm	Ant 4	DSI 6	21100	2535	1	19.21	20.20	1.256		1.000	-0.05	1.510	1.897
	LTE Band 7 ENDC	20M	QPSK	1	0		Top Side	13mm	Ant 4	DSI 4	20850	2510	1	22.88	24.00	1.294		1.000	-0.13	0.287	0.371
	LTE Band 7	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	21.31	22.00	1.172		1.000	-0.12	2.280	2.673
	LTE Band 7	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	20850	2510	1	21.19	22.00	1.205		1.000	0.15	2.120	2.555
68	LTE Band 7	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	21350	2560	1	21.18	22.00	1.208		1.000	0.04	2.410	2.911
	LTE Band 7C	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	21350+ 21152	2560+ 2540.2	1	21.04	22.00	1.247		1.000	-0.18	2.250	2.807
	LTE Band 7	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	21.28	22.00	1.180		1.000	-0.05	1.870	2.207
	LTE Band 7	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	20850	2510	1	21.12	22.00	1.225		1.000	-0.07	1.740	2.131
	LTE Band 7	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	21350	2560	1	21.06	22.00	1.242		1.000	0.1	1.760	2.185
	LTE Band 7	20M	QPSK	100	0		Bottom Side	0mm	Ant 1	DSI 6	21100	2535	1	21.23	22.00	1.194		1.000	-0.11	1.660	1.982
	LTE Band 7	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 4	21350	2560	1	22.66	24.00	1.361		1.000	-0.13	0.390	0.531
	LTE Band 41	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	40620	2593	1	23.14	24.00	1.219	62.9	1.006	-0.08	1.610	1.974
	LTE Band 41	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	39750	2506	1	23.04	24.00	1.247	62.9	1.006	-0.08	1.460	1.832
	LTE Band 41	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	40185	2549.5	1	23.01	24.00	1.256	62.9	1.006	0.17	1.510	1.908
	LTE Band 41	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	41055	2636.5	1	23.07	24.00	1.239	62.9	1.006	0.18	1.560	1.944
	LTE Band 41	20M	QPSK	1	0		Back	0mm	Ant 1	DSI 6	41490	2680	1	22.94	24.00	1.276	62.9	1.006	-0.04	1.460	1.875
	LTE Band 41	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	40620	2593	1	22.18	23.00	1.208	62.9	1.006	-0.08	1.520	1.847
	LTE Band 41	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	39750	2506	1	22.14	23.00	1.219	62.9	1.006	0.04	1.260	1.545
	LTE Band 41	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	40185	2549.5	1	22.09	23.00	1.233	62.9	1.006	0.06	1.330	1.650
	LTE Band 41	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	41055	2636.5	1	22.09	23.00	1.233	62.9	1.006	0.11	1.150	1.427
	LTE Band 41	20M	QPSK	50	0		Back	0mm	Ant 1	DSI 6	41490	2680	1	22.14	23.00	1.219	62.9	1.006	0.13	1.190	1.459
	LTE Band 41	20M	QPSK	100	0		Back	0mm	Ant 1	DSI 6	40620	2593	1	22.13	23.00	1.222	62.9	1.006	-0.13	1.110	1.364
	LTE Band 41	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	40620	2593	1	23.14	24.00	1.219	62.9	1.006	-0.13	2.050	2.514
	LTE Band 41	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	39750	2506	1	23.04	24.00	1.247	62.9	1.006	-0.03	2.070	2.598
	LTE Band 41	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	40185	2549.5	1	23.01	24.00	1.256	62.9	1.006	-0.03	1.890	2.388
	LTE Band 41	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	41055	2636.5	1	23.07	24.00	1.239	62.9	1.006	0.08	2.350	2.929
	LTE Band 41	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	41490	2680	1	22.94	24.00	1.276	62.9	1.006	-0.08	2.460	3.159
	LTE Band 41	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	40620	2593	1	22.18	23.00	1.208	62.9	1.006	-0.07	1.670	2.029
	LTE Band 41	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	39750	2506	1	22.14	23.00	1.219	62.9	1.006	0.05	1.590	1.950
	LTE Band 41	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	40185	2549.5	1	22.09	23.00	1.233	62.9	1.006	0.01	1.550	1.923
	LTE Band 41	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	41055	2636.5	1	22.09	23.00	1.233	62.9	1.006	0.11	1.540	1.910
	LTE Band 41	20M	QPSK	50	0		Bottom Side	0mm	Ant 1	DSI 6	41490	2680	1	22.14	23.00	1.219	62.9	1.006	-0.09	1.580	1.938
	LTE Band 41	20M	QPSK	100	0		Bottom Side	0mm	Ant 1	DSI 6	40620	2593	1	22.13	23.00	1.222	62.9	1.006	0	1.550	1.905
69	LTE Band 41_HPUE	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	41490	2680	1	25.20	26.20	1.259	42.9	1.009	-0.07	2.570	3.265
	LTE Band 41_HPUE	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	41490	2680	2	25.20	26.20	1.259	42.9	1.009	0.06	2.250	2.858
	LTE Band 38C	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	38150+ 37952	2610+ 2590.2	1	22.54	24.00	1.400	62.9	1.006	0.08	2.110	2.971
	LTE Band 41C	20M	QPSK	1	0		Bottom Side	0mm	Ant 1	DSI 6	41490+ 41292	2680+ 2660.2	1	15.94	17.00	1.276	62.9	1.006	0.12	0.515	0.661
	LTE Band 41	20M	QPSK	1	0		Back	7mm	Ant 1	DSI 4	40620	2593	1	22.77	24.00	1.327	62.9	1.006	0.06	0.267	0.357
	LTE Band 41_HPUE	20M	QPSK	1	0		Back	7mm	Ant 1	DSI 4	40620	2593	1	25.79	27.00	1.321	42.9	1.009	-0.03	0.334	0.445
	LTE Band 41	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 4	41490	2680	1	22.54	24.00	1.400	62.9	1.006	0.08	0.309	0.435



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	LTE Band 41_HPUE	20M	QPSK	1	0		Bottom Side	10mm	Ant 1	DSI 4	41490	2680	1	25.58	27.00	1.387	42.9	1.009	-0.03	0.388	0.543
	LTE Band 41_ENDC	20M	QPSK	1	0		Back	0mm	Ant 4	DSI 6	40620	2593	1	22.99	24.00	1.262	62.9	1.006	0.05	0.920	1.168
	LTE Band 41_ENDC	20M	QPSK	50	0		Back	0mm	Ant 4	DSI 6	40620	2593	1	21.89	23.00	1.291	62.9	1.006	0.05	0.880	1.143
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	40620	2593	1	22.99	24.00	1.262	62.9	1.006	0.05	1.550	1.968
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	39750	2506	1	22.84	24.00	1.306	62.9	1.006	-0.09	1.850	2.431
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	40185	2549.5	1	22.98	24.00	1.265	62.9	1.006	0.05	1.950	2.481
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	41055	2636.5	1	22.93	24.00	1.279	62.9	1.006	-0.08	1.170	1.506
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	41490	2680	1	22.88	24.00	1.294	62.9	1.006	0.13	0.869	1.131
	LTE Band 41_ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	40620	2593	1	21.89	23.00	1.291	62.9	1.006	0.12	1.430	1.858
	LTE Band 41_ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	39750	2506	1	21.79	23.00	1.321	62.9	1.006	0.18	1.460	1.941
	LTE Band 41_ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	40185	2549.5	1	21.81	23.00	1.315	62.9	1.006	0.16	1.550	2.051
	LTE Band 41_ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	41055	2636.5	1	21.79	23.00	1.321	62.9	1.006	-0.1	1.440	1.914
	LTE Band 41_ENDC	20M	QPSK	50	0		Top Side	0mm	Ant 4	DSI 6	41490	2680	1	21.78	23.00	1.324	62.9	1.006	0.07	1.450	1.932
	LTE Band 41_ENDC	20M	QPSK	100	0		Top Side	0mm	Ant 4	DSI 6	40620	2593	1	21.77	23.00	1.327	62.9	1.006	0.18	1.390	1.856
	LTE Band 41_HPUE ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	40185	2549.5	1	24.43	25.60	1.309	42.9	1.009	0.08	1.890	2.497
	LTE Band 41_HPUE ENDC	20M	QPSK	1	0		Top Side	0mm	Ant 4	DSI 6	40185	2549.5	2	24.43	25.60	1.309	42.9	1.009	0.01	1.410	1.863
	LTE Band 41_ENDC	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 4	40620	2593	1	22.99	24.00	1.262	62.9	1.006	0.01	0.080	0.102
	LTE Band 41_HPUE ENDC	20M	QPSK	1	0		Back	15mm	Ant 4	DSI 4	40620	2593	1	25.85	27.00	1.303	42.9	1.009	0.03	0.106	0.139
	LTE Band 41_ENDC	20M	QPSK	1	0		Top Side	13mm	Ant 4	DSI 4	40185	2549.5	1	22.98	24.00	1.265	62.9	1.006	-0.07	0.183	0.233
	LTE Band 41_HPUE ENDC	20M	QPSK	1	0		Top Side	13mm	Ant 4	DSI 4	40185	2549.5	1	25.79	27.00	1.321	42.9	1.009	0.05	0.229	0.305
70	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	1	21.19	22.20	1.262		1.000	-0.12	2.490	3.142
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	1	21.11	22.20	1.285		1.000	-0.1	2.360	3.033
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	1	21.03	22.20	1.309		1.000	0.01	1.930	2.527
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 1	DSI 4	507000	2535	1	23.24	24.00	1.191		1.000	-0.11	0.281	0.335
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	507000	2535	1	19.22	20.20	1.253		1.000	0.18	1.360	1.704
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	507000	2535	1	19.12	20.20	1.282		1.000	0.14	1.240	1.590
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	1	19.22	20.20	1.253		1.000	0.17	1.970	2.469
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	1	19.12	20.20	1.282		1.000	0.17	1.890	2.424
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	1	19.07	20.20	1.297		1.000	-0.05	1.430	1.855
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 4	DSI 4	507000	2535	1	23.35	24.00	1.161		1.000	-0.12	0.266	0.309
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	13mm	Ant 4	DSI 4	507000	2535	1	23.35	24.00	1.161		1.000	-0.12	0.315	0.366
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 1	DSI 6	518598	2592.99	1	21.52	22.70	1.312		1.000	-0.18	1.640	2.152
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 1	DSI 6	518598	2592.99	1	21.47	22.70	1.327		1.000	0.03	1.920	2.549
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	0mm	Ant 1	DSI 6	518598	2592.99	1	21.46	22.70	1.330		1.000	-0.15	1.610	2.142
71	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	518598	2592.99	1	21.52	22.70	1.312		1.000	-0.05	2.440	3.202
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	518598	2592.99	1	21.47	22.70	1.327		1.000	-0.15	2.200	2.920
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	518598	2592.99	1	21.46	22.70	1.330		1.000	0.11	1.930	2.568
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	7mm	Ant 1	DSI 4	518598	2592.99	1	23.16	24.00	1.213		1.000	0.03	0.378	0.459
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 4	518598	2592.99	1	23.25	24.00	1.189		1.000	-0.16	0.399	0.474
3400MHz~4000MHz																					
	LTE Band 42	20M	QPSK	1	0		Front	0mm	Ant 2	DSI 6	42590	3500	1	20.38	22.00	1.452	62.9	1.006	0	0.684	0.999
	LTE Band 42	20M	QPSK	50	0		Front	0mm	Ant 2	DSI 6	42590	3500	1	20.33	22.00	1.469	62.9	1.006	0.06	0.635	0.938
72	LTE Band 42	20M	QPSK	1	0		Back	0mm	Ant 2	DSI 6	42590	3500	1	20.38	22.00	1.452	62.9	1.006	-0.02	1.390	2.031
	LTE Band 42	20M	QPSK	1	0		Back	0mm	Ant 2	DSI 6	42590	3500	2	20.38	22.00	1.452	62.9	1.006	0.09	1.270	1.855
	LTE Band 42C	20M	QPSK	1	99		Back	0mm	Ant 2	DSI 6	42590+ 42788	3500+ 3519.8	1	20.22	22.00	1.507	62.9	1.006	0.09	1.310	1.985
	LTE Band 42	20M	QPSK	1	0		Back	0mm	Ant 2	DSI 6	42190	3460	1	20.23	22.00	1.503	62.9	1.006	0.11	1.310	1.981
	LTE Band 42	20M	QPSK	1	0		Back	0mm	Ant 2	DSI 6	42990	3540	1	20.29	22.00	1.483	62.9	1.006	-0.02	1.320	1.969
	LTE Band 42	20M	QPSK	50	0		Back	0mm	Ant 2	DSI 6	42590	3500	1	20.33	22.00	1.469	62.9	1.006	0.1	1.160	1.714
	LTE Band 42	20M	QPSK	50	0		Back	0mm	Ant 2	DSI 6	42190	3460	1	20.11	22.00	1.545	62.9	1.006	0.04	1.160	1.803
	LTE Band 42	20M	QPSK	50	0		Back	0mm	Ant 2	DSI 6	42990	3540	1	20.21	22.00	1.510	62.9	1.006	0.13	1.160	1.762
	LTE Band 42	20M	QPSK	100	0		Back	0mm	Ant 2	DSI 6	42590	3500	1	20.25	22.00	1.496	62.9	1.006	-0.18	1.150	1.731
	LTE Band 42	20M	QPSK	1	0		Left Side	0mm	Ant 2	DSI 6	42590	3500	1	20.38	22.00	1.452	62.9	1.006	-0.11	1.340	1.958
	LTE Band 42	20M	QPSK	1	0		Left Side	0mm	Ant 2	DSI 6	42190	3460	1	20.23	22.00	1.503	62.9	1.006	-0.16	1.340	2.026
	LTE Band 42	20M	QPSK	1	0		Left Side	0mm	Ant 2	DSI 6	42990	3540	1	20.29	22.00	1.483	62.9	1.006	-0.15	1.350	2.013
	LTE Band 42	20M	QPSK	50	0		Left Side	0mm	Ant 2	DSI 6	42590	3500	1	20.33	22.00	1.469	62.9	1.006	-0.06	1.160	1.714



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	LTE Band 42	20M	QPSK	50	0		Left Side	0mm	Ant 2	DSI 6	42190	3460	1	20.11	22.00	1.545	62.9	1.006	-0.14	1.150	1.788
	LTE Band 42	20M	QPSK	50	0		Left Side	0mm	Ant 2	DSI 6	42990	3540	1	20.21	22.00	1.510	62.9	1.006	-0.19	1.240	1.884
	LTE Band 42	20M	QPSK	100	0		Left Side	0mm	Ant 2	DSI 6	42590	3500	1	20.25	22.00	1.496	62.9	1.006	0.01	1.180	1.776
	LTE Band 42	20M	QPSK	1	0		Front	9mm	Ant 2	DSI 4	42590	3500	1	23.02	24.00	1.253	62.9	1.006	-0.02	0.253	0.319
	LTE Band 42	20M	QPSK	1	0		Back	15mm	Ant 2	DSI 4	42590	3500	1	23.02	24.00	1.253	62.9	1.006	0.15	0.170	0.214
	LTE Band 42	20M	QPSK	1	0		Left Side	11mm	Ant 2	DSI 4	42190	3460	1	22.74	24.00	1.337	62.9	1.006	-0.09	0.415	0.558
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	1	17.64	19.10	1.400		1.000	-0.04	1.460	2.043
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	2	17.64	19.10	1.400		1.000	0.07	1.420	1.987
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	1	17.60	19.10	1.413		1.000	0.14	1.350	1.907
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	1	17.58	19.10	1.419		1.000	0.1	1.330	1.887
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 2	DSI 6	656000	3840	1	17.64	19.10	1.400		1.000	-0.09	1.370	1.917
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 2	DSI 6	656000	3840	1	17.60	19.10	1.413		1.000	0.07	1.310	1.850
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 2	DSI 6	656000	3840	1	17.58	19.10	1.419		1.000	-0.09	1.270	1.802
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	1	20.67	22.10	1.390	50	1.000	-0.04	1.420	1.974
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 4	656000	3840	1	23.26	24.00	1.186		1.000	0.11	0.305	0.362
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 4	656000	3840	1	26.25	27.00	1.189	50	1.000	-0.05	0.316	0.376
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	11mm	Ant 2	DSI 4	656000	3840	1	23.26	24.00	1.186		1.000	-0.08	0.632	0.749
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	11mm	Ant 2	DSI 4	656000	3840	1	26.25	27.00	1.189	50	1.000	0.16	0.617	0.733
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 5	DSI 6	656000	3840	1	17.34	18.50	1.306		1.000	0.08	0.646	0.844
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 5	DSI 6	656000	3840	1	17.30	18.50	1.318		1.000	0.16	0.584	0.770
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	656000	3840	1	17.34	18.50	1.306		1.000	0.07	1.790	2.338
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	656000	3840	1	17.30	18.50	1.318		1.000	0.01	1.700	2.241
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	656000	3840	1	17.26	18.50	1.330		1.000	-0.16	1.680	2.235
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	656000	3840	1	20.45	21.50	1.274	50	1.000	0.02	1.810	2.305
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	656000	3840	2	20.45	21.50	1.274	50	1.000	0.07	1.410	1.796
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	12mm	Ant 5	DSI 4	656000	3840	1	18.35	19.00	1.161		1.000	0.05	0.085	0.099
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	12mm	Ant 5	DSI 4	656000	3840	1	21.33	22.00	1.167	50	1.000	0.05	0.093	0.109
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	12mm	Ant 5	DSI 4	656000	3840	1	18.35	19.00	1.161		1.000	-0.03	0.092	0.107
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	12mm	Ant 5	DSI 4	656000	3840	1	21.33	22.00	1.167	50	1.000	-0.15	0.097	0.113
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 7	DSI 6	656000	3840	1	19.09	19.50	1.099		1.000	0.1	0.703	0.773
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 7	DSI 6	656000	3840	1	18.81	19.50	1.172		1.000	-0.04	0.516	0.605
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	656000	3840	1	19.09	19.50	1.099		1.000	-0.01	1.820	2.000
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	656000	3840	1	18.81	19.50	1.172		1.000	-0.01	1.770	2.075
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	656000	3840	1	18.69	19.50	1.205		1.000	0	1.750	2.109
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	656000	3840	1	22.09	22.50	1.099	50	1.000	-0.06	1.830	2.011
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	656000	3840	2	22.09	22.50	1.099	50	1.000	0.11	1.620	1.780
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	7mm	Ant 7	DSI 4	656000	3840	1	19.49	20.00	1.125		1.000	0.02	0.190	0.214
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	7mm	Ant 7	DSI 4	656000	3840	1	22.62	23.00	1.091	50	1.000	0.07	0.202	0.220
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	12mm	Ant 7	DSI 4	656000	3840	1	19.49	20.00	1.125		1.000	0.16	0.152	0.171
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	12mm	Ant 7	DSI 4	656000	3840	1	22.62	23.00	1.091	50	1.000	0.13	0.153	0.167
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	656000	3840	1	21.06	22.10	1.271		1.000	0.08	1.770	2.249
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	656000	3840	1	20.99	22.10	1.291		1.000	-0.17	1.290	1.666
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	656000	3840	1	20.83	22.10	1.340		1.000	-0.03	1.340	1.795
73	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	1	21.06	22.10	1.271		1.000	0.06	2.400	3.049
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	2	21.06	22.10	1.271		1.000	0.07	2.230	2.833
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	1	20.99	22.10	1.291		1.000	0.14	2.160	2.789
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	1	20.83	22.10	1.340		1.000	0.11	2.240	3.001
	FR1 n77_HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	1	24.21	25.10	1.227	50	1.000	0.09	2.360	2.897



FCC SAR Test Report

Report No. : FA411904-01

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
WiFi&Bluetooth																	
74	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 6+8(8)	Standalone	6	2437	1	19.18	21.00	1.521	98.62	1.014	0.07	0.641	0.988
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 6+8(8)	Standalone	6	2437	1	19.18	21.00	1.521	98.62	1.014	-0.01	1.290	1.989
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 6+8(8)	Standalone	6	2437	1	19.18	21.00	1.521	98.62	1.014	-0.06	1.630	2.513
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 6+8(8)	Standalone	6	2437	2	19.18	21.00	1.521	98.62	1.014	0.11	1.230	1.896
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 6+8(8)	Standalone	11	2462	1	18.79	20.50	1.483	98.62	1.014	-0.09	1.050	1.578
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 6+8(8)	Simultaneous	6	2437	1	15.27	17.00	1.489	98.62	1.014	0.07	0.245	0.370
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 6+8(8)	Simultaneous	6	2437	1	15.27	17.00	1.489	98.62	1.014	0.18	0.487	0.735
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 6+8(8)	Simultaneous	6	2437	1	15.27	17.00	1.489	98.62	1.014	0.05	0.644	0.973
	WLAN2.4GHz	802.11b 1Mbps	Back	7mm	Ant 6+8(8)	Full Power	6	2437	1	19.18	21.00	1.521	98.62	1.014	-0.01	0.421	0.649
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 6+8(8)	Full Power	6	2437	1	19.18	21.00	1.521	98.62	1.014	0.00	0.475	0.732
	WLAN2.4GHz	802.11b 1Mbps	Top Side	12mm	Ant 6+8(8)	Full Power	6	2437	1	19.18	21.00	1.521	98.62	1.014	-0.11	0.206	0.318
	WLAN2.4GHz	802.11b 1Mbps	Top Side	12mm	Ant 6+8(8)	Full Power	6	2437	1	19.18	21.00	1.521	98.62	1.014	-0.11	0.206	0.318
75	WLAN5.2GHz	802.11n-HT20 MCS0	Back	0mm	Ant 5+8(8)	Standalone	48	5240	1	18.03	20.00	1.575	97.79	1.023	-0.11	0.854	1.376
	WLAN5.2GHz	802.11n-HT20 MCS0	Right Side	0mm	Ant 5+8(8)	Standalone	48	5240	1	18.03	20.00	1.575	97.79	1.023	-0.12	0.924	1.489
	WLAN5.2GHz	802.11n-HT20 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	48	5240	1	18.03	20.00	1.575	97.79	1.023	-0.03	1.040	1.676
	WLAN5.2GHz	802.11n-HT20 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	48	5240	2	18.03	20.00	1.575	97.79	1.023	0.07	1.020	1.644
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	46	5230	1	15.49	17.00	1.416	96.32	1.038	-0.11	0.488	0.717
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	46	5230	1	15.49	17.00	1.416	96.32	1.038	0.05	0.521	0.766
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	46	5230	1	15.49	17.00	1.416	96.32	1.038	0.01	0.645	0.948
	WLAN5.2GHz	802.11n-HT20 MCS0	Back	7mm	Ant 5+8(8)	Full Power	48	5240	1	18.03	20.00	1.575	97.79	1.023	-0.06	0.295	0.475
	WLAN5.2GHz	802.11n-HT20 MCS0	Right Side	5mm	Ant 5+8(8)	Full Power	48	5240	1	18.03	20.00	1.575	97.79	1.023	-0.15	0.344	0.554
	WLAN5.2GHz	802.11n-HT20 MCS0	Top Side	12mm	Ant 5+8(8)	Full Power	48	5240	1	18.03	20.00	1.575	97.79	1.023	0.03	0.165	0.266
	WLAN5.2GHz	802.11n-HT20 MCS0	Top Side	12mm	Ant 5+8(8)	Full Power	48	5240	1	18.03	20.00	1.575	97.79	1.023	0.03	0.165	0.266
	WLAN5.2GHz	802.11n-HT20 MCS0	Top Side	12mm	Ant 5+8(8)	Full Power	48	5240	1	18.03	20.00	1.575	97.79	1.023	0.03	0.165	0.266
76	WLAN5.3GHz	802.11n-HT20 MCS0	Front	0mm	Ant 5+8(8)	Standalone	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.16	0.545	0.806
	WLAN5.3GHz	802.11n-HT20 MCS0	Back	0mm	Ant 5+8(8)	Standalone	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.02	0.815	1.206
	WLAN5.3GHz	802.11n-HT20 MCS0	Right Side	0mm	Ant 5+8(8)	Standalone	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.01	0.995	1.472
	WLAN5.3GHz	802.11n-HT20 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.09	0.986	1.459
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 5+8(8)	Simultaneous	54	5270	1	16.06	17.50	1.392	96.32	1.038	0.14	0.325	0.470
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	54	5270	1	16.06	17.50	1.392	96.32	1.038	-0.17	0.511	0.738
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	54	5270	1	16.06	17.50	1.392	96.32	1.038	-0.05	0.595	0.860
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	54	5270	1	16.06	17.50	1.392	96.32	1.038	0.01	0.604	0.873
	WLAN5.3GHz	802.11n-HT20 MCS0	Front	3mm	Ant 5+8(8)	Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.13	0.425	0.629
	WLAN5.3GHz	802.11n-HT20 MCS0	Back	7mm	Ant 5+8(8)	Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	0.16	0.319	0.472
	WLAN5.3GHz	802.11n-HT20 MCS0	Right Side	5mm	Ant 5+8(8)	Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.15	0.296	0.438
	WLAN5.3GHz	802.11n-HT20 MCS0	Top Side	12mm	Ant 5+8(8)	Full Power	60	5300	1	18.40	20.00	1.446	97.79	1.023	-0.02	0.144	0.213
77	WLAN5.5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 5+8(8)	Standalone	110	5550	1	16.42	18.00	1.438	96.32	1.038	-0.05	0.669	0.998
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(8)	Standalone	110	5550	1	16.42	18.00	1.438	96.32	1.038	-0.08	0.688	1.027
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5+8(8)	Standalone	110	5550	1	16.42	18.00	1.438	96.32	1.038	0.05	0.469	0.700
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	110	5550	1	16.42	18.00	1.438	96.32	1.038	-0.05	1.920	2.866
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(5)	Standalone	126	5630	1	15.44	17.00	1.431	96.32	1.038	0.01	1.420	2.110
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	126	5630	2	16.18	18.00	1.521	98.62	1.014	0.04	1.830	2.822
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 5+8(5)	Simultaneous	122	5610	1	11.81	13.50	1.476	93.06	1.075	0.08	0.233	0.370
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 5+8(5)	Simultaneous	122	5610	1	11.81	13.50	1.476	93.06	1.075	0.01	0.245	0.389
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 5+8(5)	Simultaneous	122	5610	1	11.81	13.50	1.476	93.06	1.075	-0.08	0.158	0.251
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+8(5)	Simultaneous	122	5610	1	11.81	13.50	1.476	93.06	1.075	-0.08	0.628	0.996
	WLAN5.5GHz	802.11n-HT20 MCS0	Front	3mm	Ant 5+8(8)	Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	-0.09	0.722	1.073
	WLAN5.5GHz	802.11n-HT20 MCS0	Back	7mm	Ant 5+8(8)	Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	0.14	0.374	0.556
	WLAN5.5GHz	802.11n-HT20 MCS0	Right Side	5mm	Ant 5+8(8)	Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	0.1	0.375	0.557
	WLAN5.5GHz	802.11n-HT20 MCS0	Top Side	12mm	Ant 5+8(8)	Full Power	100	5500	1	18.38	20.00	1.453	97.79	1.023	-0.09	0.425	0.632
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5+8(5)	Standalone	165	5825	1	17.94	19.50	1.432	98.62	1.014	0.16	0.468	0.680
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(5)	Standalone	165	5825	1	17.94	19.50	1.432	98.62	1.014	-0.02	1.060	1.539
78	WLAN5.8GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(5)	Standalone	165	5825	2	17.94	19.50	1.432	98.62	1.014	0.09	1.040	1.510
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(5)	Standalone	157	5785	1	17.77	19.50	1.489	98.62	1.014	-0.03	0.806	1.217
	WLAN5.8GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(5)	Simultaneous	159	5795	1	15.73	17.50	1.502	96.32	1.038	0.1	0.299	0.466
	WLAN5.8GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(5)	Simultaneous	159	5795	1	15.73	17.50	1.502	96.32	1.038	-0.18	0.631	0.984
	WLAN5.8GHz	802.11a 6Mbps	Back	7mm	Ant 5+8(5)	Full Power	165	5825	1	17.94	19.50	1.432	98.62	1.014	0.07	0.297	0.431
	WLAN5.8GHz	802.11a 6Mbps	Top Side	12mm	Ant 5+8(5)	Full Power	165	5825	1	17.94	19.50	1.432	98.62	1.014	-0.09	0.224	0.325

16.5 Repeated SAR Measurement

<1g>

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)
1st	GSM850	-	-	-	-	GPRS (2 Tx slots)	Back	5mm	Ant 0	DSI 3	251	848.8	30.51	31.50	1.256	-	-	0	0.939	1	1.179
2nd	GSM850	-	-	-	-	GPRS (2 Tx slots)	Back	5mm	Ant 0	DSI 3	251	848.8	30.51	31.50	1.256	-	-	0.08	0.911	1.031	1.144
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3	9400	1880	20.94	21.60	1.164	-	-	0.01	1.080	1	1.257
2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3	9400	1880	20.94	21.60	1.164	-	-	0.09	1.050	1.029	1.222
1st	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	Back	DSI 3	21350	2560	21.18	22.00	1.208	-	-	0.04	1.080	1	1.304
2nd	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	Back	DSI 3	21350	2560	21.18	22.00	1.208	-	-	0.02	1.060	1.019	1.280
1st	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 11	DSI 3	656000	3840	20.28	21.10	1.208	-	-	-0.14	1.020	1	1.232
2nd	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 11	DSI 3	656000	3840	20.28	21.10	1.208	-	-	0.06	0.998	1.022	1.205
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(8)	Standalone	6	2437	16.22	18.00	1.507	98.62	1.014	0.01	0.882	1	1.347
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(8)	Standalone	6	2437	16.22	18.00	1.507	98.62	1.014	0.06	0.865	1.020	1.321

<10g>

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)
1st	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	18700	1860	22.96	23.50	1.132	-	-	0.09	2.620	1	2.967
2nd	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	18700	1860	22.96	23.50	1.132	-	-	0.07	2.510	1.044	2.842
1st	LTE Band 41_HPUE	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	41490	2680	25.20	26.20	1.259	42.9	1.009	-0.07	2.570	1	3.265
2nd	LTE Band 41_HPUE	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	41490	2680	25.20	26.20	1.259	42.9	1.009	0.07	2.450	1.049	3.112
1st	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	21.06	22.10	1.271	-	-	0.06	2.400	1	3.049
2nd	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	21.06	22.10	1.271	-	-	0.02	2.330	1.030	2.960

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
- 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.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16.6 TDD 5G NR<E Linearity Data Analysis

General Note:

This device support Power Class 2 and Power Class 3 operations for LTE Band 41 and TDD 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 B41-Linearity Data for Head Ant 1			LTE B41-Linearity Data for Head Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00	Maximum Tune up Power (dBm)	20.30	21.90
Reported 1g SAR (W/kg)	0.146	0.214	Reported 1g SAR (W/kg)	0.812	0.874
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	217.01	Frame Averaged (mW)	67.83	67.06
Linearity SAR (W/kg)	0.199		Linearity SAR (W/kg)	0.803	
% deviation from expected linearity		7.39%	% deviation from expected linearity		8.86%
LTE B41-Linearity Data for Body-worn Ant 1			LTE B41-Linearity Data for Body-worn Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	24.60	Maximum Tune up Power (dBm)	21.50	23.10
Reported 1g SAR (W/kg)	1.267	1.213	Reported 1g SAR (W/kg)	0.866	0.889
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	124.88	Frame Averaged (mW)	89.41	88.41
Linearity SAR (W/kg)	1.253		Linearity SAR (W/kg)	0.856	
% deviation from expected linearity		-3.17%	% deviation from expected linearity		3.82%
LTE B41-Linearity Data for Hotspot Ant 1			LTE B41-Linearity Data for Hotspot Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	22.40	24.00	Maximum Tune up Power (dBm)	19.30	20.90
Reported 1g SAR (W/kg)	1.242	1.255	Reported 1g SAR (W/kg)	0.581	0.618
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	110.00	108.76	Frame Averaged (mW)	53.88	53.27
Linearity SAR (W/kg)	1.228		Linearity SAR (W/kg)	0.574	
% deviation from expected linearity		2.20%	% deviation from expected linearity		7.58%
LTE B41-Linearity Data for Extremity Ant 1			LTE B41-Linearity Data for Extremity Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	26.20	Maximum Tune up Power (dBm)	24.00	25.60
Reported 10g SAR (W/kg)	3.159	3.265	Reported 10g SAR (W/kg)	2.481	2.497
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	180.50	Frame Averaged (mW)	159.00	157.21
Linearity SAR (W/kg)	3.586		Linearity SAR (W/kg)	2.453	
% deviation from expected linearity		-8.96%	% deviation from expected linearity		1.79%
FR1 n77 Part 270 (HPUE)-Linearity Data for Head Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Head Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20	Maximum Tune up Power (dBm)	16.90	19.90
Reported 1g SAR (W/kg)	0.851	0.900	Reported 1g SAR (W/kg)	0.866	0.865
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36	Frame Averaged (mW)	48.98	48.86
Linearity SAR (W/kg)	0.849		Linearity SAR (W/kg)	0.864	
% deviation from expected linearity		6.01%	% deviation from expected linearity		0.12%
FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	17.20	20.20	Maximum Tune up Power (dBm)	16.90	19.90
Reported 1g SAR (W/kg)	0.875	0.876	Reported 1g SAR (W/kg)	0.823	0.876

Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	52.36	Frame Averaged (mW)	48.98	48.86
Linearity SAR (W/kg)	0.873		Linearity SAR (W/kg)	0.821	
% deviation from expected linearity		0.35%	% deviation from expected linearity		6.69%
FR1 n77 Part 270 (HPUE)-Linearity Data for Hotspot Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Hotspot Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	14.10	17.10	Maximum Tune up Power (dBm)	15.10	18.10
Reported 1g SAR (W/kg)	0.561	0.615	Reported 1g SAR (W/kg)	0.621	0.626
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	25.70	25.64	Frame Averaged (mW)	32.36	32.28
Linearity SAR (W/kg)	0.560		Linearity SAR (W/kg)	0.620	
% deviation from expected linearity		9.89%	% deviation from expected linearity		1.04%
FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	19.10	22.10	Maximum Tune up Power (dBm)	18.50	21.50
Reported 10g SAR (W/kg)	2.043	1.974	Reported 10g SAR (W/kg)	2.338	2.305
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	81.28	81.09	Frame Averaged (mW)	70.79	70.63
Linearity SAR (W/kg)	2.038		Linearity SAR (W/kg)	2.332	
% deviation from expected linearity		-3.15%	% deviation from expected linearity		-1.18%

FR1 n77 Part 270 (HPUE)-Linearity Data for Head Ant 7			FR1 n77 Part 270 (HPUE)-Linearity Data for Head Ant 11		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	18.30	21.30	Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.822	0.874	Reported 1g SAR (W/kg)	0.226	0.222
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	67.61	67.45	Frame Averaged (mW)	251.19	250.59
Linearity SAR (W/kg)	0.820		Linearity SAR (W/kg)	0.225	
% deviation from expected linearity		6.58%	% deviation from expected linearity		-1.54%
FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 7			FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 11		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	17.30	20.30	Maximum Tune up Power (dBm)	21.10	24.10
Reported 1g SAR (W/kg)	0.880	0.883	Reported 1g SAR (W/kg)	1.232	1.171
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	53.70	53.58	Frame Averaged (mW)	128.82	128.52
Linearity SAR (W/kg)	0.878		Linearity SAR (W/kg)	1.229	
% deviation from expected linearity		0.58%	% deviation from expected linearity		-4.73%
FR1 n77 Part 270 (HPUE)-Linearity Data for Hotspot Ant 7			FR1 n77 Part 270 (HPUE)-Linearity Data for Hotspot Ant 11		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	14.20	17.20	Maximum Tune up Power (dBm)	19.50	22.50
Reported 1g SAR (W/kg)	0.612	0.614	Reported 1g SAR (W/kg)	1.240	1.134
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	26.30	26.24	Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	0.611		Linearity SAR (W/kg)	1.237	
% deviation from expected linearity		0.57%	% deviation from expected linearity		-8.33%
FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 7			FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 11		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	19.50	22.50	Maximum Tune up Power (dBm)	22.10	25.10
Reported 10g SAR (W/kg)	2.000	2.011	Reported 10g SAR (W/kg)	3.049	2.897
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	89.13	88.91	Frame Averaged (mW)	162.18	161.80
Linearity SAR (W/kg)	1.995		Linearity SAR (W/kg)	3.042	
% deviation from expected linearity		0.79%	% deviation from expected linearity		-4.76%

Sensor off

LTE B41-Linearity Data for Body-worn Ant 1			LTE B41-Linearity Data for Body-worn Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00	Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.321	0.446	Reported 1g SAR (W/kg)	0.358	0.444
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	217.01	Frame Averaged (mW)	159.00	217.01
Linearity SAR (W/kg)	0.438		Linearity SAR (W/kg)	0.489	
% deviation from expected linearity		1.80%	% deviation from expected linearity		-9.13%
LTE B41-Linearity Data for Extremity Ant 1			LTE B41-Linearity Data for Extremity Ant 4		
	LTE B41 (Power Class 3)	LTE B41 (Power Class 2)		LTE B41 (Power Class 3)	LTE B41 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00	Maximum Tune up Power (dBm)	24.00	27.00
Reported 10g SAR (W/kg)	0.435	0.543	Reported 10g SAR (W/kg)	0.233	0.305
Duty Cycle	63.30%	43.30%	Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	217.01	Frame Averaged (mW)	159.00	217.01
Linearity SAR (W/kg)	0.594		Linearity SAR (W/kg)	0.318	
% deviation from expected linearity		-8.54%	% deviation from expected linearity		-4.09%
FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00	Maximum Tune up Power (dBm)	19.00	22.00
Reported 1g SAR (W/kg)	0.759	0.717	Reported 1g SAR (W/kg)	0.146	0.158
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	250.59	Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	0.757		Linearity SAR (W/kg)	0.146	
% deviation from expected linearity		-5.31%	% deviation from expected linearity		8.48%
FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 2			FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 5		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	24.00	27.00	Maximum Tune up Power (dBm)	19.00	22.00
Reported 10g SAR (W/kg)	0.749	0.733	Reported 10g SAR (W/kg)	0.107	0.113
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	251.19	250.59	Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	0.747		Linearity SAR (W/kg)	0.107	
% deviation from expected linearity		-1.90%	% deviation from expected linearity		5.86%
FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 7			FR1 n77 Part 270 (HPUE)-Linearity Data for Body-worn Ant 11		
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	20.00	23.00	Maximum Tune up Power (dBm)	24.00	27.00
Reported 1g SAR (W/kg)	0.170	0.167	Reported 1g SAR (W/kg)	0.238	0.221
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	100.00	99.76	Frame Averaged (mW)	251.19	250.59
Linearity SAR (W/kg)	0.170		Linearity SAR (W/kg)	0.237	
% deviation from expected linearity		-1.53%	% deviation from expected linearity		-6.92%
FR1 n77 Part 270 (HPUE)-Linearity Data for Extremity Ant 7					
	FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)		FR1 n77 (Power Class 3)	FR1 n77 (Power Class 2)
Maximum Tune up Power (dBm)	20.00	23.00			
Reported 10g SAR (W/kg)	0.214	0.220			
Duty Cycle	100.00%	50.00%			
Frame Averaged (mW)	100.00	99.76			
Linearity SAR (W/kg)	0.213				
% deviation from expected linearity		3.05%			

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 + Bluetooth	Yes	Yes	Yes	Yes
4.	WWAN + WLAN2.4GHz+ NFC				Yes
5.	WWAN + WLAN5GHz+ NFC				Yes
6.	WWAN + Bluetooth+ NFC				Yes

General Note:

- This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- WWAN above includes 5G NR bands and EN-DC combination.
- 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). WLAN6GHz has no hotspot function.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- According to the EUT characteristic, WLAN 5GHz and Bluetooth can't transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and WLAN 2.4GHz can't transmit simultaneously.
- According to the EUT characteristic, WLAN 2.4GHz and Bluetooth cannot transmit simultaneously.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- For Headset SAR and non-Headset SAR always chose higher SAR to do co-located analysis.
- For standalone WWAN, always choose the highest SAR among all WWAN bands within the selected antenna for head each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
- The maximum SAR summation is calculated based on the same configuration and test position.
- 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.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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.
 - The SPLSR calculated results please refer to section 17.6.

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

Else, if $A + C > 1.0$ and/or $B + C > 1.0$, then the followings need to hold true for compliance:

- i. A and C are decoupled based on the SPLSR criteria, and
- ii. $(100-x)\% * B + C \leq 1.0$, and
- iii. $x\% * A + (100-x)\% * B \leq 1.0$

Note iii. is covered in Part 2 report; i. and ii. should be addressed in Part 2 report.

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:

Antenna Group 0 (AG0)	ANT0 & ANT1 & ANT11
Antenna Group 1 (AG1)	ANT2 & ANT4 & ANT 5 & 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: $\{ [\text{max.SAR.AG0} + \text{max.SAR.AG1}] + \text{WIFI/BT worst-case reported SAR} \} \leq 1.6$ (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:
 - b. 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.
 - c. Obtain combined SAR per AG: Obtain the worst-case conservative combined SAR and its peak location for each AG.
 - d. 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: $\{ \text{max.SAR.AG0} + \text{worst-case reported SAR} \} \leq 1.6$ and $\{ \text{max.SAR.AG1} + \text{worst-case reported SAR} \} \leq 1.6$ 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	Ant0	Ant1	Ant11	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Right Cheek	0.250	0.371	0.226	0.371
Right Tilted	0.129	0.169	0.091	0.169
Left Cheek	0.350	0.216	0.141	0.350
Left Tilted	0.248	0.152	0.139	0.248

<AG1 maximum report SAR>:

Test Position	Ant2	Ant4	Ant5	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Right Cheek 0mm	0.900	0.905	0.651	0.256	0.905
Right Tilted 0mm	0.415	0.890	0.821	0.233	0.890
Left Cheek 0mm	0.241	0.626	0.694	0.874	0.874
Left Tilted 0mm	0.169	0.894	0.866	0.655	0.894

<WLAN/BT Worse-case SAR>:

Test Position	NO	1	2	3	Wlan/BT worst case
		WLAN2.4GHz Ant 6+8	WLAN5GHz Ant 5+8	Bluetooth Ant 6	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)
Right Cheek 0mm		0.303	0.575	0.125	0.575
Right Tilted 0mm		0.308	0.694	0.111	0.694
Left Cheek 0mm		0.642	0.519	0.256	0.642
Left Tilted 0mm		0.469	0.650	0.199	0.650

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

Test Position	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan /BT worst case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Right Cheek 0mm	0.371	0.905	0.575	1.85
Right Tilted 0mm	0.169	0.890	0.694	1.75
Left Cheek 0mm	0.350	0.874	0.642	1.87
Left Tilted 0mm	0.248	0.894	0.650	1.79

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

Right Cheek					
Ant combination	AG0	AG1	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-Ant2	0.250	0.900	0.575	1.73	Case 1
Ant0-Ant4	0.250	0.905	0.575	1.73	Case 2
Ant0-Ant5	0.250	0.651	0.575	1.48	-
Ant0-Ant7	0.250	0.256	0.575	1.08	-
Ant1-Ant2	0.371	0.900	0.575	1.85	Case 3
Ant1-Ant4	0.371	0.905	0.575	1.85	Case 4
Ant1-Ant5	0.371	0.651	0.575	1.60	Case 5
Ant1-Ant7	0.371	0.256	0.575	1.20	-
Ant11-Ant2	0.226	0.900	0.575	1.70	Case 6
Ant11-Ant4	0.226	0.905	0.575	1.71	Case 7
Ant11-Ant5	0.226	0.651	0.575	1.45	-
Ant11-Ant7	0.226	0.256	0.575	1.06	-

Right Tilted					
Ant combination	AG0	AG1	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-Ant2	0.129	0.415	0.694	1.24	-
Ant0-Ant4	0.129	0.890	0.694	1.71	Case 8
Ant0-Ant5	0.129	0.821	0.694	1.64	Case 9
Ant0-Ant7	0.129	0.233	0.694	1.06	-
Ant1-Ant2	0.169	0.415	0.694	1.28	-
Ant1-Ant4	0.169	0.890	0.694	1.75	Case 10
Ant1-Ant5	0.169	0.821	0.694	1.68	Case 11
Ant1-Ant7	0.169	0.233	0.694	1.10	-
Ant11-Ant2	0.091	0.415	0.694	1.20	-
Ant11-Ant4	0.091	0.890	0.694	1.68	Case 12
Ant11-Ant5	0.091	0.821	0.694	1.61	Case 13
Ant11-Ant7	0.091	0.233	0.694	1.02	-

Left Cheek					
Ant combination	AG0	AG1	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-Ant2	0.350	0.241	0.642	1.23	-
Ant0-Ant4	0.350	0.626	0.642	1.62	Case 14
Ant0-Ant5	0.350	0.694	0.642	1.69	Case 15
Ant0-Ant7	0.350	0.874	0.642	1.87	Case 16
Ant1-Ant2	0.216	0.241	0.642	1.10	-
Ant1-Ant4	0.216	0.626	0.642	1.48	-
Ant1-Ant5	0.216	0.694	0.642	1.55	-
Ant1-Ant7	0.216	0.874	0.642	1.73	Case 17
Ant11-Ant2	0.141	0.241	0.642	1.02	-
Ant11-Ant4	0.141	0.626	0.642	1.41	-
Ant11-Ant5	0.141	0.694	0.642	1.48	-
Ant11-Ant7	0.141	0.874	0.642	1.66	Case 18

Left Tilted					
Ant combination	AG0	AG1	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-Ant2	0.248	0.169	0.650	1.07	-
Ant0-Ant4	0.248	0.894	0.650	1.79	Case 19
Ant0-Ant5	0.248	0.866	0.650	1.76	Case 20
Ant0-Ant7	0.248	0.655	0.650	1.55	-
Ant1-Ant2	0.152	0.169	0.650	0.97	-
Ant1-Ant4	0.152	0.894	0.650	1.70	Case 21
Ant1-Ant5	0.152	0.866	0.650	1.67	Case 22
Ant1-Ant7	0.152	0.655	0.650	1.46	-
Ant11-Ant2	0.139	0.169	0.650	0.96	-
Ant11-Ant4	0.139	0.894	0.650	1.68	Case 23
Ant11-Ant5	0.139	0.866	0.650	1.66	Case 24
Ant11-Ant7	0.139	0.655	0.650	1.44	-

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	Ant0	Ant1	Ant11	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.673	1.044	0.476	1.044
Back	1.291	1.241	0.813	1.291
Left Side	0.890	0.205	0.039	0.890
Right Side	0.134	0.371	1.240	1.240
Top Side				
Bottom Side	0.854	1.255	0.368	1.255

<AG1 maximum report SAR>:

Test Position	Ant2	Ant4	Ant5	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.261	0.330	0.233	0.196	0.330
Back	0.624	0.646	0.567	0.412	0.646
Left Side	0.630	0.362	0.054	0.025	0.630
Right Side	0.017	0.133	0.109	0.614	0.614
Top Side	0.093	0.643	0.626	0.124	0.643
Bottom Side					

<WLAN/BT Worse-case SAR>:

Test Position	1	2	3	Wlan/BT worst case
	WLAN2.4GHz Ant 6+8	WLAN5GHz Ant 5+8	Bluetooth Ant 6	Summed 1g SAR (W/kg)
Front	0.503	0.359	0.117	0.503
Back	0.935	0.933	0.170	0.935
Left Side				
Right Side	0.878	0.725	0.078	0.878
Top Side	0.752	0.844	0.251	0.844
Bottom Side				

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

Test Position	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan /BT worst case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	1.044	0.330	0.503	1.88
Back	1.291	0.646	0.935	2.87
Left Side	0.890	0.630		1.52
Right Side	1.240	0.614	0.878	2.73
Top Side		0.643	0.000	0.64
Bottom Side	1.255			1.26

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

Front					
Ant combination	AG0	AG1	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-Ant2	0.673	0.261	0.503	1.44	-
Ant0-Ant4	0.673	0.330	0.503	1.51	-
Ant0-Ant5	0.673	0.233	0.503	1.41	-
Ant0-Ant7	0.673	0.196	0.503	1.37	-
Ant1-Ant2	1.044	0.261	0.503	1.81	Case 41
Ant1-Ant4	1.044	0.330	0.503	1.88	Case 42
Ant1-Ant5	1.044	0.233	0.503	1.78	Case 43
Ant1-Ant7	1.044	0.196	0.503	1.74	Case 80
Ant11-Ant2	0.476	0.261	0.503	1.24	-
Ant11-Ant4	0.476	0.330	0.503	1.31	-
Ant11-Ant5	0.476	0.233	0.503	1.21	-
Ant11-Ant7	0.476	0.196	0.503	1.18	-

Back					
Ant combination	AG0	AG1	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-Ant2	1.291	0.624	0.935	2.85	Case 44
Ant0-Ant4	1.291	0.646	0.935	2.87	Case 45
Ant0-Ant5	1.291	0.567	0.935	2.79	Case 46
Ant0-Ant7	1.291	0.412	0.935	2.64	Case 47
Ant1-Ant2	1.241	0.624	0.935	2.80	Case 48
Ant1-Ant4	1.241	0.646	0.935	2.82	Case 49
Ant1-Ant5	1.241	0.567	0.935	2.74	Case 50
Ant1-Ant7	1.241	0.412	0.935	2.59	Case 51
Ant11-Ant2	0.813	0.624	0.935	2.37	Case 52
Ant11-Ant4	0.813	0.646	0.935	2.39	Case 53
Ant11-Ant5	0.813	0.567	0.935	2.32	Case 54
Ant11-Ant7	0.813	0.412	0.935	2.16	Case 55

Right Side					
Ant combination	AG0	AG1	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-Ant2	0.134	0.017	0.878	1.03	-
Ant0-Ant4	0.134	0.133	0.878	1.15	-
Ant0-Ant5	0.134	0.109	0.878	1.12	-
Ant0-Ant7	0.134	0.614	0.878	1.63	Case 57
Ant1-Ant2	0.371	0.017	0.878	1.27	-
Ant1-Ant4	0.371	0.133	0.878	1.38	-
Ant1-Ant5	0.371	0.109	0.878	1.36	-
Ant1-Ant7	0.371	0.614	0.878	1.86	Case 58
Ant11-Ant2	1.240	0.017	0.878	2.14	Case 59
Ant11-Ant4	1.240	0.133	0.878	2.25	Case 60
Ant11-Ant5	1.240	0.109	0.878	2.23	Case 61
Ant11-Ant7	1.240	0.614	0.878	2.73	Case 62

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	Ant0	Ant1	Ant11	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.673	1.197	0.722	1.197
Back	1.291	1.304	1.232	1.304

<AG1 maximum report SAR>:

Test Position	Ant2	Ant4	Ant5	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front	0.429	0.425	0.339	0.379	0.429
Back	0.901	0.889	0.876	0.883	0.901

<WLAN/BT Worse-case SAR>:

Test Position	NO	1	2	3	Wlan/BT worst case
		WLAN2.4GHz Ant 6+8	WLAN5GHz Ant 5+8	Bluetooth Ant 6	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front		0.328	0.314	0.117	0.328
Back		0.657	0.687	0.170	0.687

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

Test Position	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan/BT worst case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	1.197	0.429	0.328	1.95
Back	1.304	0.901	0.687	2.89

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

Front					
Ant combination	AG0	AG1	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-Ant2	0.673	0.429	0.328	1.43	-
Ant0-Ant4	0.673	0.425	0.328	1.43	-
Ant0-Ant5	0.673	0.339	0.328	1.34	-
Ant0-Ant7	0.673	0.379	0.328	1.38	-
Ant1-Ant2	1.197	0.429	0.328	1.95	Case 25
Ant1-Ant4	1.197	0.425	0.328	1.95	Case 26
Ant1-Ant5	1.197	0.339	0.328	1.86	Case 27
Ant1-Ant7	1.197	0.379	0.328	1.90	Case 28
Ant11-Ant2	0.722	0.429	0.328	1.48	-
Ant11-Ant4	0.722	0.425	0.328	1.48	-
Ant11-Ant5	0.722	0.339	0.328	1.39	-
Ant11-Ant7	0.722	0.379	0.328	1.43	-

Back					
Ant combination	AG0	AG1	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-Ant2	1.291	0.901	0.687	2.88	Case 29
Ant0-Ant4	1.291	0.889	0.687	2.87	Case 30
Ant0-Ant5	1.291	0.876	0.687	2.85	Case 31
Ant0-Ant7	1.291	0.883	0.687	2.86	Case 32
Ant1-Ant2	1.304	0.901	0.687	2.89	Case 33
Ant1-Ant4	1.304	0.889	0.687	2.88	Case 34
Ant1-Ant5	1.304	0.876	0.687	2.87	Case 35
Ant1-Ant7	1.304	0.883	0.687	2.87	Case 36
Ant11-Ant2	1.232	0.901	0.687	2.82	Case 37
Ant11-Ant4	1.232	0.889	0.687	2.81	Case 38
Ant11-Ant5	1.232	0.876	0.687	2.80	Case 39
Ant11-Ant7	1.232	0.883	0.687	2.80	Case 40

Sensor off

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

Simultaneous Transmission Evaluation of WWAN+WLAN/BT:
<AG0 maximum report SAR>:

Test Position	Ant0	Ant1	Ant11	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front 13mm	0.221	0.771	0.199	0.771
Back 16mm	0.225	0.763	0.238	0.763

<AG1 maximum report SAR>:

Test Position	Ant2	Ant4	Ant5	Ant7	MAX
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
Front 13mm	0.580	0.444	0.095	0.123	0.580
Back 16mm	0.759	0.504	0.158	0.170	0.759

<WLAN/BT Worse-case SAR>:

Test Position	NO	1	2	Wlan/BT worst case
		WLAN2.4GHz Ant 6+8	WLAN5GHz Ant 5+8	
		1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front 13mm		0.393	0.483	0.483
Back 16mm		0.490	0.563	0.563

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

Test Position	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan/BT worst case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front 13mm	0.771	0.580	0.483	1.83
Back 16mm	0.763	0.759	0.563	2.09

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

Front					
Ant combination	AG0	AG1	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-Ant2	0.221	0.580	0.483	1.28	-
Ant0-Ant4	0.221	0.409	0.483	1.11	-
Ant0-Ant5	0.221	0.095	0.483	0.80	-
Ant0-Ant7	0.221	0.123	0.483	0.83	-
Ant1-Ant2	0.771	0.580	0.483	1.83	Case 76
Ant1-Ant4	0.771	0.409	0.483	1.66	Case 77
Ant1-Ant5	0.771	0.095	0.483	1.35	-
Ant1-Ant7	0.771	0.123	0.483	1.38	-
Ant11-Ant2	0.199	0.580	0.483	1.26	-
Ant11-Ant4	0.199	0.409	0.483	1.09	-
Ant11-Ant5	0.199	0.095	0.483	0.78	-
Ant11-Ant7	0.199	0.123	0.483	0.81	-

Back					
Ant combination	AG0	AG1	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-Ant2	0.225	0.759	0.563	1.55	-
Ant0-Ant4	0.225	0.504	0.563	1.29	-
Ant0-Ant5	0.225	0.158	0.563	0.95	-
Ant0-Ant7	0.225	0.170	0.563	0.96	-
Ant1-Ant2	0.763	0.759	0.563	2.09	Case 78
Ant1-Ant4	0.763	0.504	0.563	1.83	Case 79
Ant1-Ant5	0.763	0.158	0.563	1.48	-
Ant1-Ant7	0.763	0.170	0.563	1.50	-
Ant11-Ant2	0.238	0.759	0.563	1.56	-
Ant11-Ant4	0.238	0.504	0.563	1.31	-
Ant11-Ant5	0.238	0.158	0.563	0.96	-
Ant11-Ant7	0.238	0.170	0.563	0.97	-

17.6 Product specific 10g SAR Exposure Conditions

General Note:

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.
2. The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN/BT+NFC:
<AG0 maximum report SAR>:

Test Position	Ant0	Ant1	Ant11	MAX
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front		2.940		2.940
Back	2.173	3.000	2.249	3.000
Left Side				0.000
Right Side			3.049	3.049
Top Side				
Bottom Side		3.265		3.265

<AG1 maximum report SAR>:

Test Position	Ant2	Ant4	Ant5	Ant7	MAX
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
Front	0.999				0.999
Back	2.043	2.283	0.844	0.773	2.283
Left Side	2.026				2.026
Right Side				2.011	2.011
Top Side		2.497	2.305		2.497
Bottom Side					

<WLAN +NFC Worse-case SAR>:

NO	1	2	3	1+3	2+3	Wlan +NFC worst case
Test Position	WLAN2.4GHz Ant 6+8	WLAN5GHz Ant 5+8	NFC	WLAN 2.4G+NFC	WLAN 5G+NFC	
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)
Front		0.470	0.001	0.001	0.471	0.471
Back	0.370	0.738	0.044	0.414	0.782	0.782
Left Side			0.002	0.002	0.002	0.002
Right Side	0.735	0.947	0.001	0.736	0.948	0.948
Top Side	0.973	0.996	0.001	0.974	0.997	0.997
Bottom Side			0.001	0.001	0.001	0.001

<Simultaneous Transmission analysis ofAG0 + AG1 + WLAN +NFC Worse-case >:

Test Position	AG0	AG1	Wlan+NFC worst case	AG0+AG1+Wlan+NFC worst case
	10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)	Summed 10g SAR (W/kg)
Front	2.940	0.999	0.471	4.41
Back	3.000	2.283	0.782	6.07
Left Side		2.026	0.002	2.03
Right Side	3.049	2.011	0.948	6.01
Top Side		2.497	0.997	3.49
Bottom Side	3.265		0.001	3.27

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

Front					
Ant combination	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan+NFC worst case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	
Ant0-Ant2		0.999	0.471	1.47	-
Ant0-Ant4			0.471	0.47	-
Ant0-Ant5			0.471	0.47	-
Ant0-Ant7			0.471	0.47	-
Ant1-Ant2	2.940	0.999	0.471	4.41	Case 63
Ant1-Ant4	2.940		0.471	3.41	-
Ant1-Ant5	2.940		0.471	3.41	-
Ant1-Ant7	2.940		0.471	3.41	-
Ant11-Ant2		0.999	0.471	1.47	-
Ant11-Ant4			0.471	0.47	-
Ant11-Ant5			0.471	0.47	-
Ant11-Ant7			0.471	0.47	-

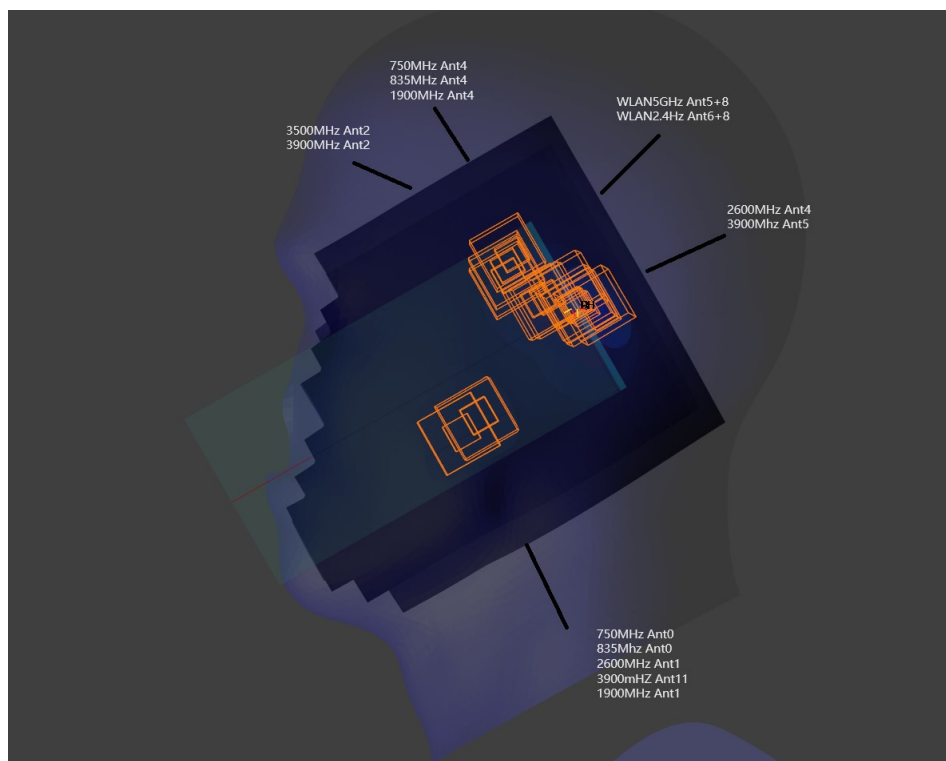
Back					
Ant combination	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan+NFC worst case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	
Ant0-Ant2	2.173	2.043	0.782	5.00	Case 64
Ant0-Ant4	2.173	2.283	0.782	5.24	Case 65
Ant0-Ant5	2.173	0.844	0.782	3.80	-
Ant0-Ant7	2.173	0.773	0.782	3.73	-
Ant1-Ant2	3.000	2.043	0.782	5.83	Case 66
Ant1-Ant4	3.000	2.283	0.782	6.07	Case 67
Ant1-Ant5	3.000	0.844	0.782	4.63	Case 68
Ant1-Ant7	3.000	0.773	0.782	4.56	Case 69
Ant11-Ant2	2.249	2.043	0.782	5.07	Case 70
Ant11-Ant4	2.249	2.283	0.782	5.31	Case 71
Ant11-Ant5	2.249	0.844	0.782	3.88	-
Ant11-Ant7	2.249	0.773	0.782	3.80	-

Right Side					
Ant combination	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan+NFC worst case	Note
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	
Ant0-Ant2			0.948	0.95	-
Ant0-Ant4			0.948	0.95	-
Ant0-Ant5			0.948	0.95	-
Ant0-Ant7		2.011	0.948	3.21	-
Ant1-Ant2			0.948	0.95	-
Ant1-Ant4			0.948	0.95	-
Ant1-Ant5			0.948	0.95	-
Ant1-Ant7		2.011	0.948	3.21	-
Ant11-Ant2	3.049		0.948	4.00	Case 72
Ant11-Ant4	3.049		0.948	4.00	Case 73
Ant11-Ant5	3.049		0.948	4.00	Case 74
Ant11-Ant7	3.049	2.011	0.948	6.01	Case 75

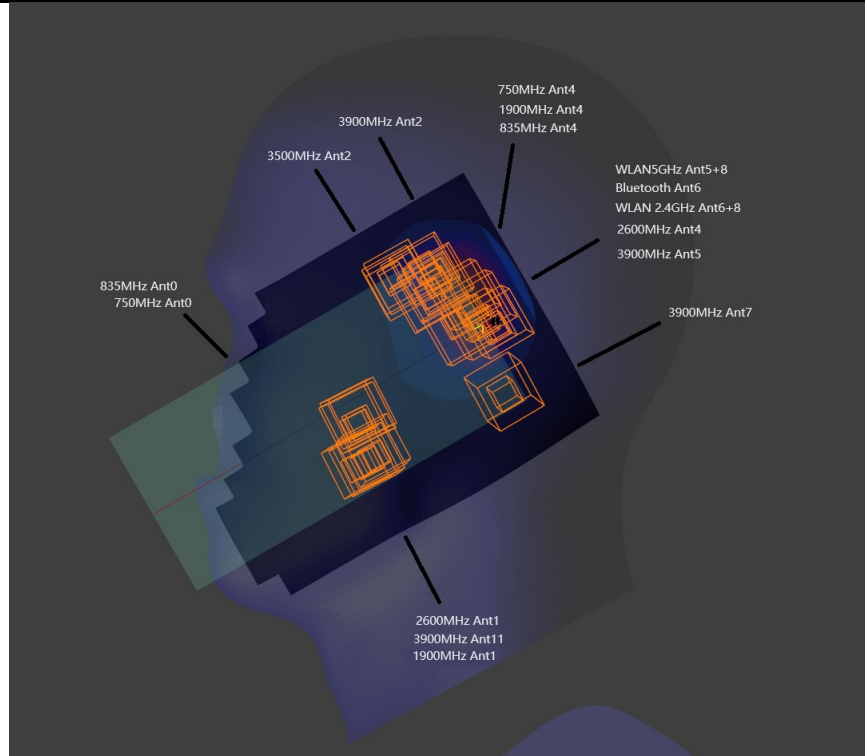
17.7 SPLSR Evaluation and Analysis

General Note:

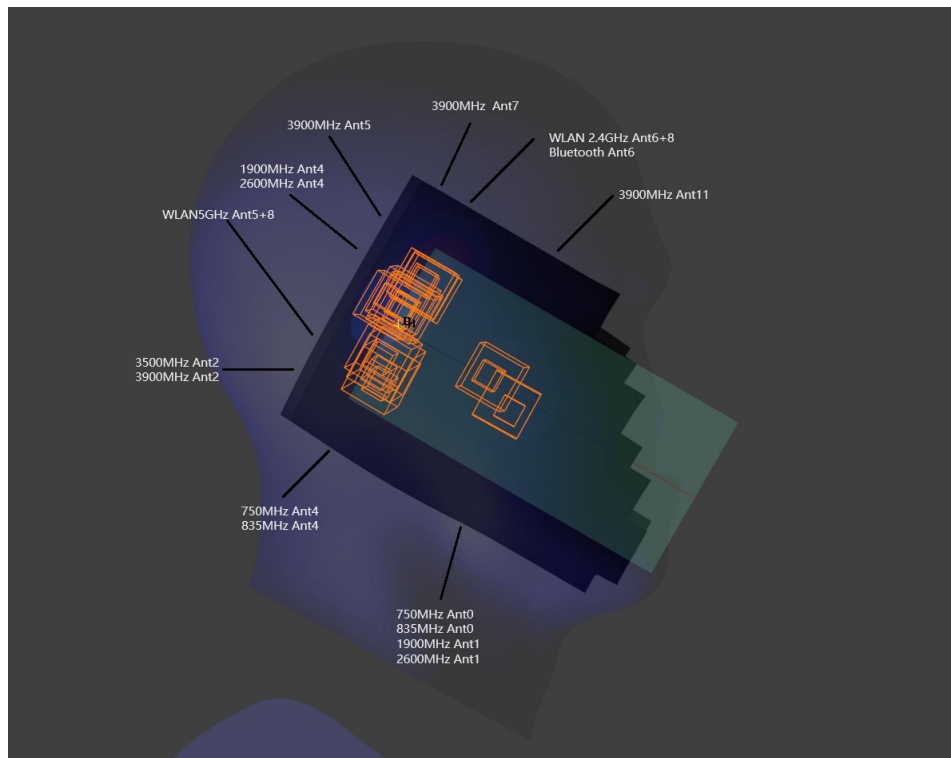
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where $(x1, y1, z1)$ and $(x2, y2, z2)$ are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. $SPLSR = (SAR1 + SAR2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
3. Per April 2022 TCB Workshop Notes, AG1 was summed algebraically with the BT/WIFI Antenna 5/6/8 and NFC antenna 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.



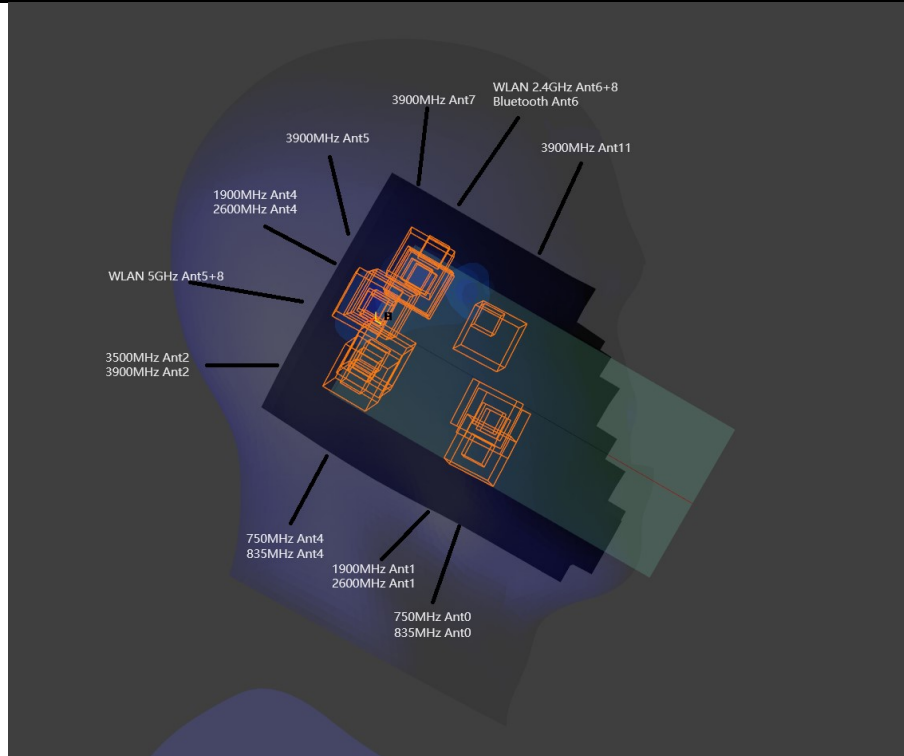
Head WWAN+WLAN+BT Right Tilted 0mm



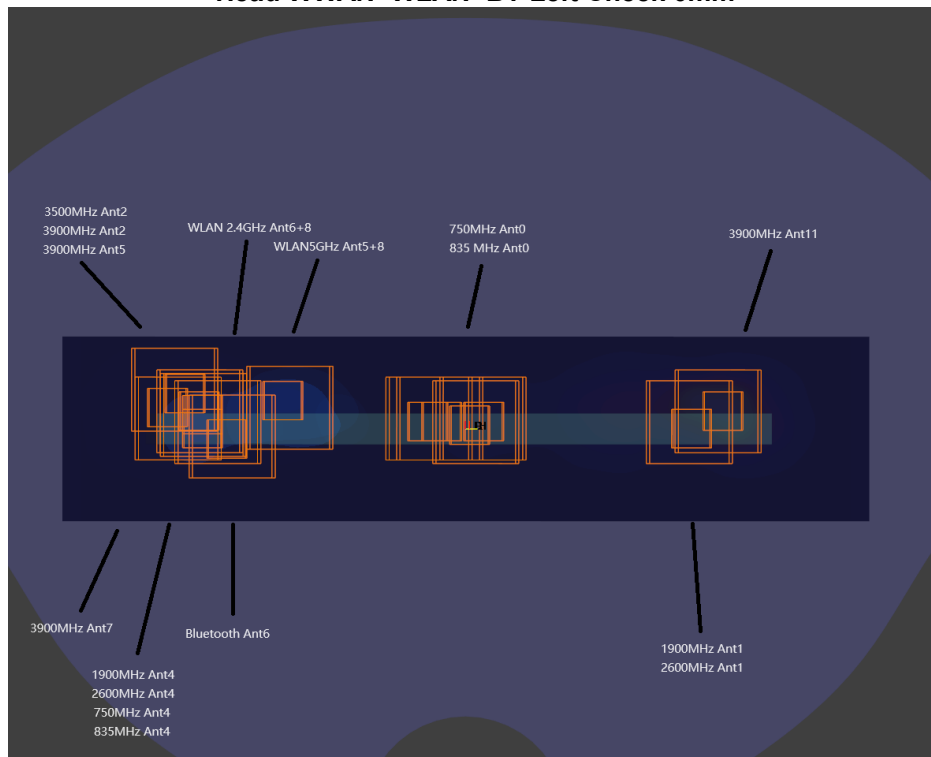
Head WWAN+WLAN+BT Right Cheek 0mm



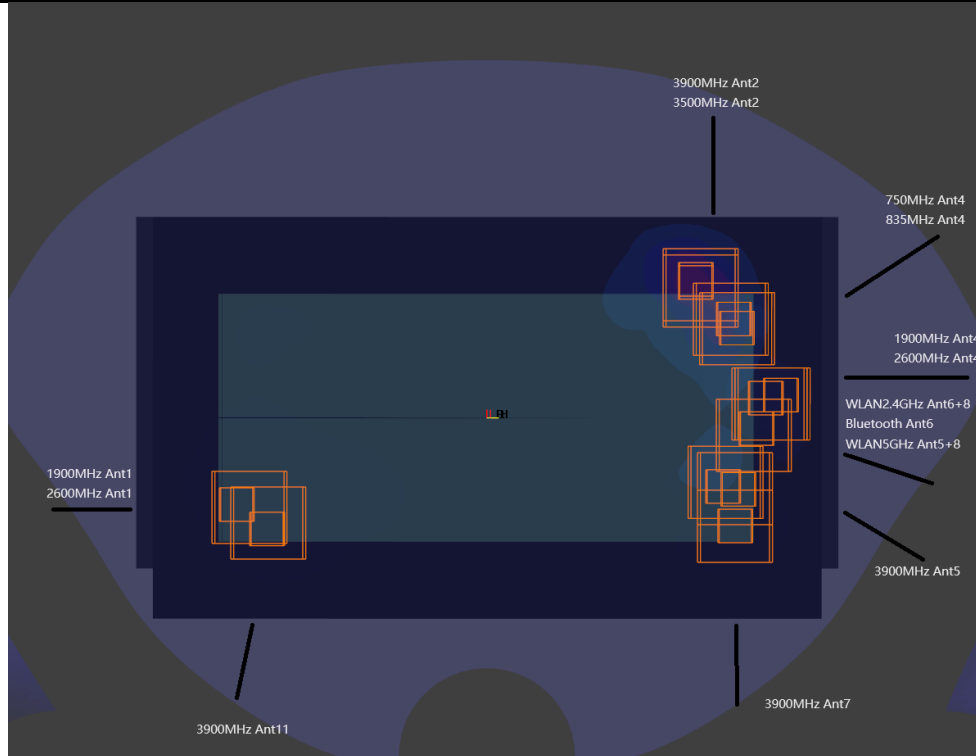
Head WWAN+WLAN+BT Left Tilted 0mm



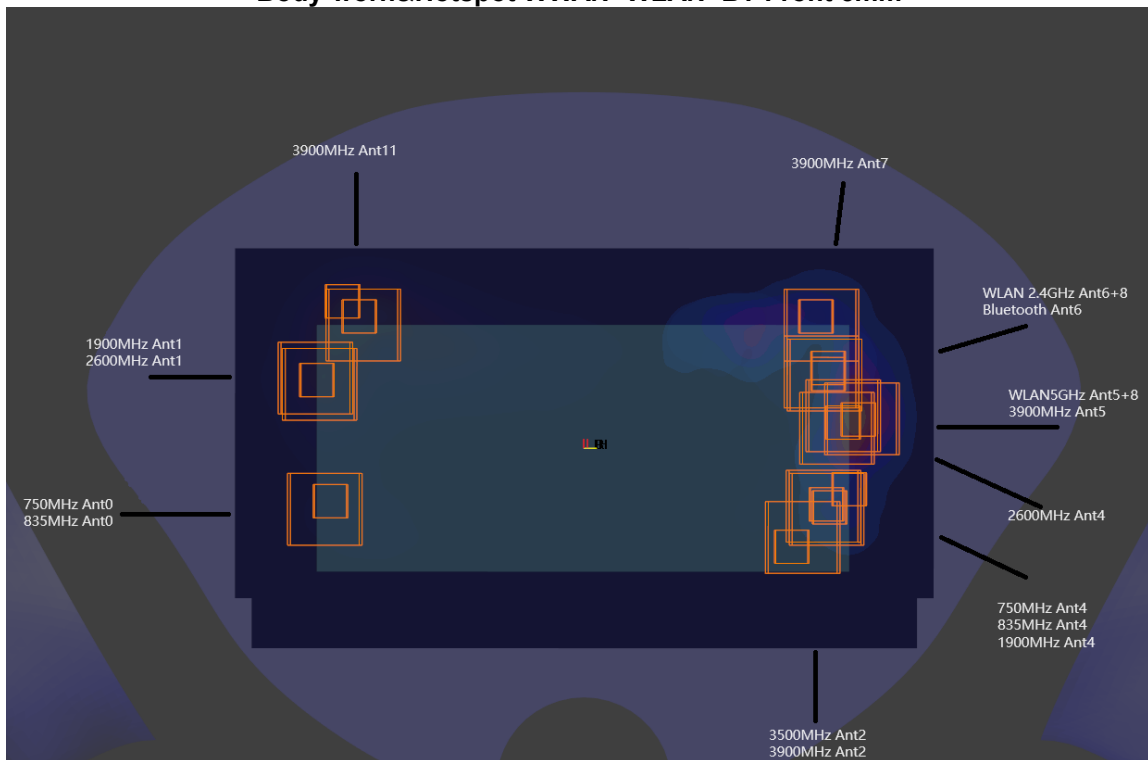
Head WWAN+WLAN+BT Left Cheek 0mm



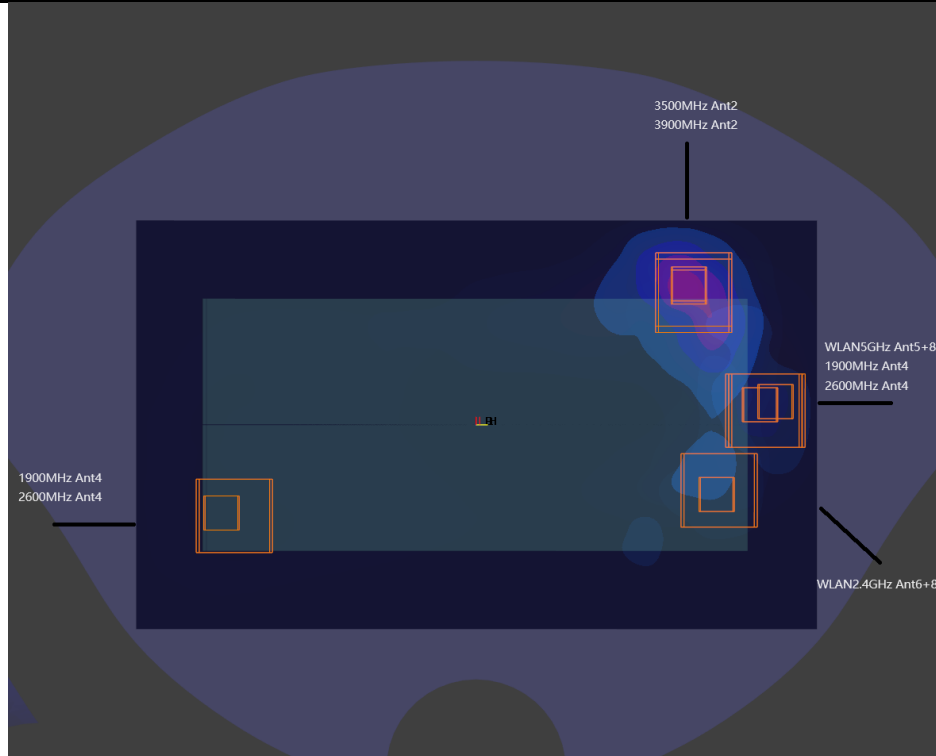
Hotspot WWAN+WLAN+BT Right Side 5mm



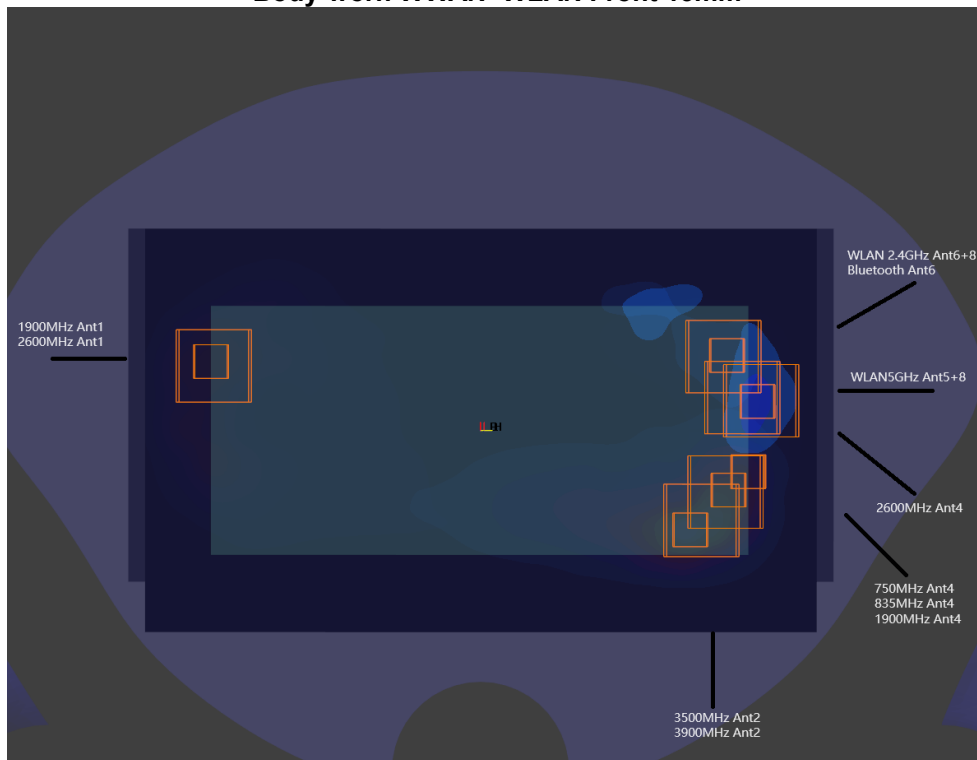
Body-worn&Hotspot WWAN+WLAN+BT Front 5mm



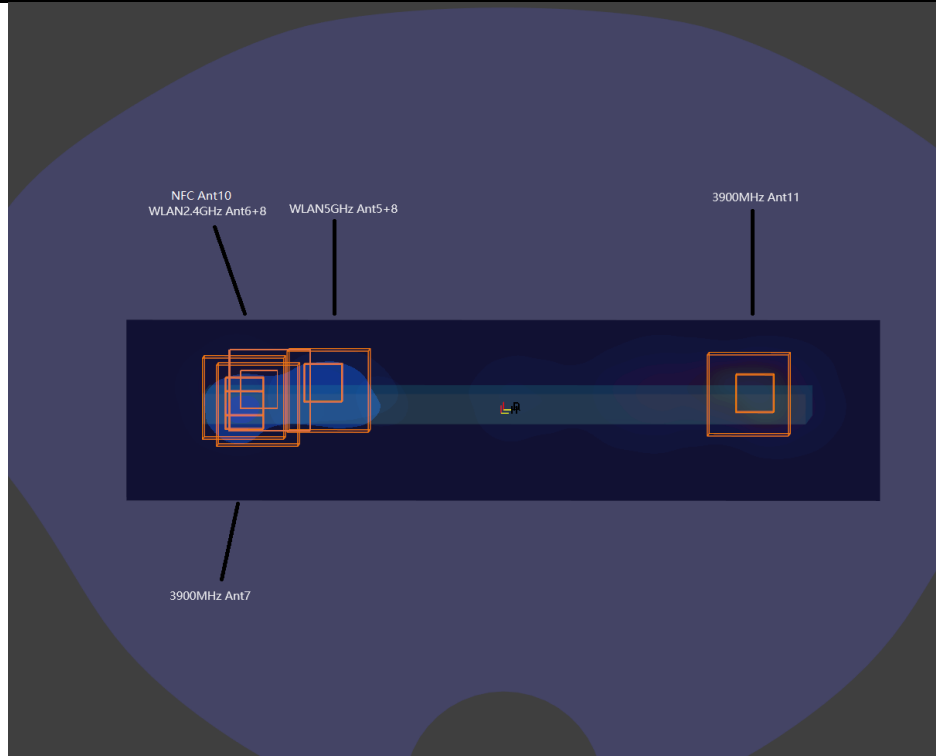
Body-worn&Hotspot WWAN+WLAN+BT Back 5mm



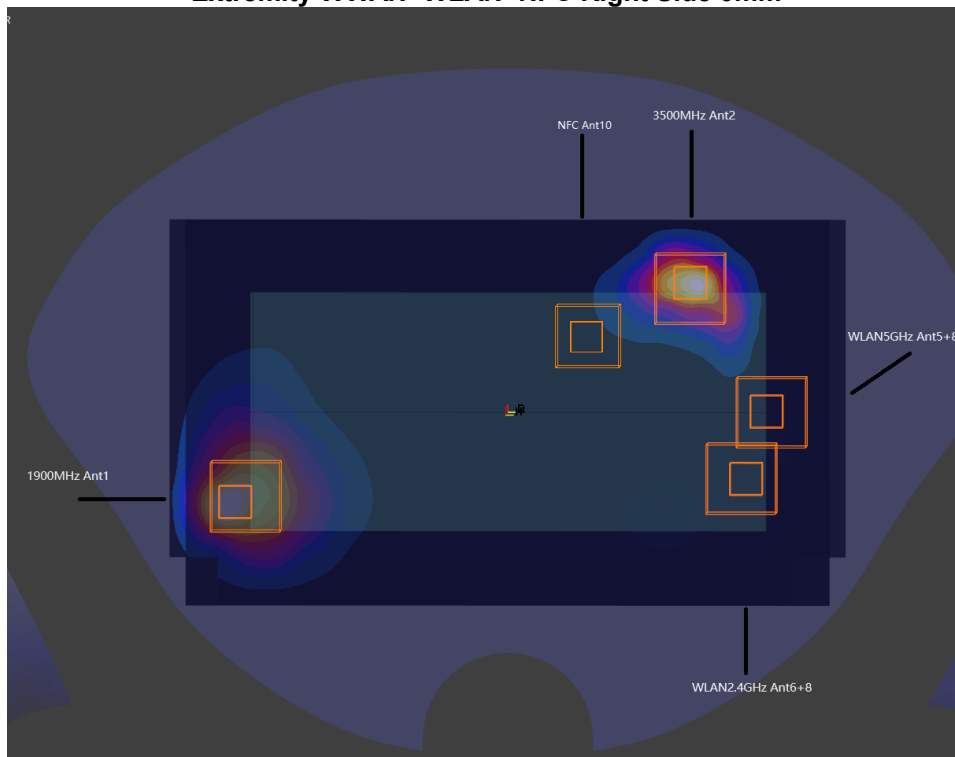
Body-worn WWAN+WLAN Front 13mm



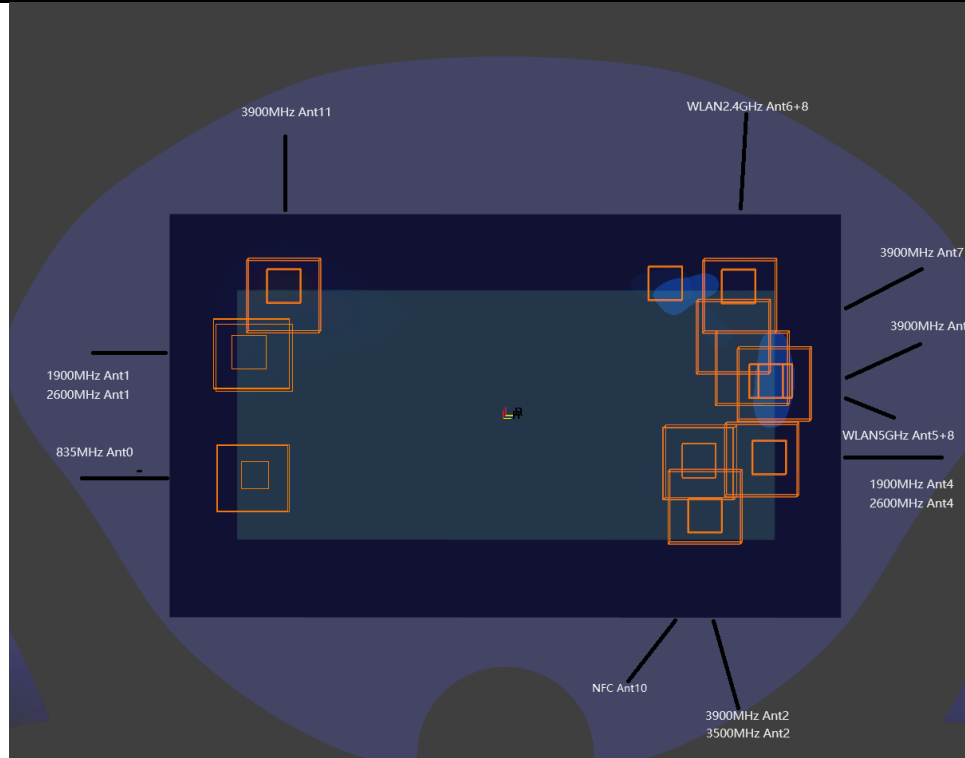
Body-worn WWAN+WLAN Back 16mm



Extremity WWAN+WLAN+NFC Right Side 0mm



Extremity WWAN+WLAN+NFC Front 0mm



Extremity WWAN+WLAN+NFC Back 0mm

<Head>

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 1	AG0-Ant0	Right Cheek	0.250	0.25	0mm	57	-267.3	-172.2	65.8	1.73	0.03	Not required
	AG1-Ant2		0.900	1.48	0mm	42.1	-331.4	-171.4				
	WLAN		0.575		0mm							
Case 2	AG0-Ant0	Right Cheek	0.250	0.25	0mm	57	-267.3	-172.2	65.8	1.73	0.03	Not required
	AG1-Ant4		0.905	1.48	0mm	42.1	-331.4	-171.4				
	WLAN		0.575		0mm							
Case 3	AG0-Ant1	Right Cheek	0.371	0.37	0mm	53.6	-252.3	-171.3	77.1	1.85	0.03	Not required
	AG1-Ant2		0.900	1.48	0mm							
	WLAN		0.575		0mm	17.7	-320.5	-171.5				
Case 4	AG0-Ant1	Right Cheek	0.371	0.37	0mm	53.6	-252.3	-171.3	75.7	1.85	0.03	Not required
	AG1-Ant4		0.905	1.48	0mm	4.8	-310.1	-169.8				
	WLAN		0.575		0mm							
Case 5	AG0-Ant1	Right Cheek	0.371	0.37	0mm	53.6	-252.3	-171.3	74.7	1.60	0.03	Not required
	AG1-Ant5		0.651	1.23	0mm	5.7	-309.6	-169.9				
	WLAN		0.575		0mm							
Case 6	AG0-Ant11	Right Cheek	0.226	0.23	0mm	51.2	-251.9	-171.7	76.3	1.70	0.03	Not required
	AG1-Ant2		0.900	1.48	0mm							
	WLAN		0.575		0mm	17.7	-320.5	-171.5				
Case 7	AG0-Ant11	Right Cheek	0.226	0.23	0mm	51.2	-251.9	-171.7	74.5	1.71	0.03	Not required
	AG1-Ant4		0.905	1.48	0mm	4.8	-310.1	-169.8				
	WLAN		0.575		0mm							

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 8	AG0-Ant0	Right Tilted	0.129	0.13	0mm	39.8	-264.2	-173.3	65.6	1.71	0.03	Not required
	AG1-Ant4		0.890	1.58	0mm	9.6	-322.4	-170.4				
	WLAN		0.694		0mm							
Case 9	AG0-Ant0	Right Tilted	0.129	0.13	0mm	39.8	-264.2	-173.3	69.4	1.64	0.03	Not required
	AG1-Ant5		0.821	1.52	0mm	3	-322.9	-169.4				
	WLAN		0.694		0mm							
Case 10	AG0-Ant1	Right Tilted	0.169	0.17	0mm	27.4	-257.4	-172	67.3	1.75	0.03	Not required
	AG1-Ant4		0.890	1.58	0mm	5.3	-320.9	-169.9				
	WLAN		0.694		0mm							
Case 11	AG0-Ant1	Right Tilted	0.169	0.17	0mm	27.4	-257.4	-172	69.9	1.68	0.03	Not required
	AG1-Ant5		0.821	1.52	0mm	3	-322.9	-169.4				
	WLAN		0.694		0mm							
Case 12	AG0-Ant11	Right Tilted	0.091	0.09	0mm	2.5	-253.9	-167.5	67.1	1.68	0.03	Not required
	AG1-Ant4		0.890	1.58	0mm	5.3	-320.9	-169.9				
	WLAN		0.694		0mm							
Case 13	AG0-Ant11	Right Tilted	0.091	0.09	0mm	2.5	-253.9	-167.5	69.0	1.61	0.03	Not required
	AG1-Ant5		0.821	1.52	0mm	3	-322.9	-169.4				
	WLAN		0.694		0mm							

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 14	AG0-Ant0	Left Cheek	0.350	0.35	0mm	55.1	267.5	-172.6	61.2	1.62	0.03	Not required
	AG1-Ant4		0.626	1.27	0mm	5.3	302.8	-168.5				
	WLAN		0.642		0mm							
Case 15	AG0-Ant0	Left Cheek	0.350	0.35	0mm	55.1	267.5	-172.6	66.5	1.69	0.03	Not required
	AG1-Ant5		0.694	1.34	0mm	6.3	312.6	-170.1				
	WLAN		0.642		0mm							
Case 16	AG0-Ant0	Left Cheek	0.350	0.35	0mm	55.1	267.5	-172.6	73.8	1.87	0.03	Not required
	AG1-Ant7		0.874	1.52	0mm							
	WLAN		0.642		0mm	36.4	338.9	-172.4				
Case 17	AG0-Ant1	Left Cheek	0.216	0.22	0mm	70.6	280.9	-169	67.4	1.73	0.03	Not required
	AG1-Ant7		0.874	1.52	0mm							
	WLAN		0.642		0mm	36.4	338.9	-172.4				
Case 18	AG0-Ant11	Left Cheek	0.141	0.14	0mm	55.4	271	-172.1	70.5	1.66	0.03	Not required
	AG1-Ant7		0.874	1.52	0mm							
	WLAN		0.642		0mm	36.4	338.9	-172.4				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 19	AG0-Ant0	Left Tilted	0.248	0.25	0mm	38.4	261.5	-173.2	70.7	1.79	0.03	Not required
	AG1-Ant4		0.894	1.54	0mm	7.8	325.2	-170.4				
	WLAN		0.650		0mm							
Case 20	AG0-Ant0	Left Tilted	0.248	0.25	0mm	38.4	261.5	-173.2	68.2	1.76	0.03	Not required
	AG1-Ant5		0.866	1.52	0mm	7.2	322.1	-170.2				
	WLAN		0.650		0mm							
Case 21	AG0-Ant1	Left Tilted	0.152	0.15	0mm	13.3	260.8	-170.9	64.6	1.70	0.03	Not required
	AG1-Ant4		0.894	1.54	0mm	7.8	325.2	-170.4				
	WLAN		0.650		0mm							
Case 22	AG0-Ant1	Left Tilted	0.152	0.15	0mm	13.3	260.8	-170.9	66.2	1.67	0.03	Not required
	AG1-Ant5		0.866	1.52	0mm							
	WLAN		0.650		0mm	3.2	326.2	-170				
Case 23	AG0-Ant11	Left Tilted	0.139	0.14	0mm	27	261.7	-173.2	66.4	1.68	0.03	Not required
	AG1-Ant4		0.894	1.54	0mm	7.8	325.2	-170.4				
	WLAN		0.650		0mm							
Case 24	AG0-Ant11	Left Tilted	0.139	0.14	0mm	27	261.7	-173.2	63.6	1.66	0.03	Not required
	AG1-Ant5		0.866	1.52	0mm	7.2	322.1	-170.2				
	WLAN		0.650		0mm							

<Hotspot>

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 41	AG0-Ant1	Front	1.044	1.04	5mm	2	-74.9	-204	145.1	1.81	0.02	Not required
	AG1-Ant2		0.261	0.76	5mm							
	WLAN		0.503		5mm	-6	70	-204				
Case 42	AG0-Ant1	Front	1.044	1.04	5mm	2	-74.9	-204	145.1	1.88	0.02	Not required
	AG1-Ant4		0.330	0.83	5mm							
	WLAN		0.503		5mm	-6	70	-204				
Case 43	AG0-Ant1	Front	1.044	1.04	5mm	2	-74.9	-204	145.1	1.78	0.02	Not required
	AG1-Ant5		0.233	0.74	5mm							
	WLAN		0.503		5mm	-6	70	-204				
Case 80	AG0-Ant1	Front	1.044	0.87	5mm	2	-74.9	-204	145.1	1.74	0.02	Not required
	AG1-Ant7		0.196	0.70	5mm							
	WLAN		0.503		5mm	-6	70	-204				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 44	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.0	2.85	0.03	Not required
	AG1-Ant2		0.624	1.56	5mm	4	70	-204				
	WLAN		0.935		5mm							
Case 45	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.87	0.03	Not required
	AG1-Ant4		0.646	1.58	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 46	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.79	0.03	Not required
	AG1-Ant5		0.567	1.50	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 47	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.64	0.03	Not required
	AG1-Ant7		0.412	1.35	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 48	AG0-Ant1	Back	1.241	1.24	5mm	-45	-80	-204	141.3	2.80	0.03	Not required
	AG1-Ant2		0.624	1.56	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 49	AG0-Ant1	Back	1.241	1.24	5mm	-45	-80	-204	141.3	2.82	0.03	Not required
	AG1-Ant4		0.646	1.58	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 50	AG0-Ant1	Back	1.241	1.24	5mm	-45	-80	-204	141.3	2.74	0.03	Not required
	AG1-Ant5		0.567	1.50	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 51	AG0-Ant1	Back	1.241	1.24	5mm	-45	-80	-204	141.3	2.59	0.03	Not required
	AG1-Ant7		0.412	1.35	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 52	AG0-Ant11	Back	0.813	0.81	5mm	-64	-79	-204	139.0	2.37	0.03	Not required
	AG1-Ant2		0.624	1.56	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 53	AG0-Ant11	Back	0.813	0.81	5mm	-64	-79	-204	139.0	2.39	0.03	Not required
	AG1-Ant4		0.646	1.58	5mm							
	WLAN		0.935		5mm	-64	60	-204				

Case 54	AG0-Ant11	Back	0.813	0.81	5mm	-64	-79	-204	139.0	2.32	0.03	Not required
	AG1-Ant5		0.567	1.50	5mm							
	WLAN		0.935		5mm	-64	60	-204				
Case 55	AG0-Ant11	Back	0.813	0.81	5mm	-64	-79	-204	139.0	2.16	0.02	Not required
	AG1-Ant7		0.412	1.35	5mm							
	WLAN		0.935		5mm	-64	60	-204				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 57	AG0-Ant0	Right Side	0.134	0.13	5mm	-26.6	0.6	-204	66.5	1.63	0.03	Not required
	AG1-Ant7		0.614	1.49	5mm	-29.8	67	-204				
	WLAN		0.878		5mm							
Case 58	AG0-Ant1	Right Side	0.371	0.37	5mm	-25	64.2	-204	133.3	1.86	0.02	Not required
	AG1-Ant7		0.614	1.49	5mm	-29.8	-69	-204				
	WLAN		0.878		5mm							
Case 59	AG0-Ant11	Right Side	1.240	1.24	5mm	-29.8	67	-204	138.1	2.14	0.02	Not required
	AG1-Ant2		0.017	0.90	5mm	-33.8	-71	-204				
	WLAN		0.878		5mm							
Case 60	AG0-Ant11	Right Side	1.240	1.24	5mm	-29.8	67	-204	101.5	2.25	0.03	Not required
	AG1-Ant4		0.133	1.01	5mm	-32.2	-34.5	-204				
	WLAN		0.878		5mm							
Case 61	AG0-Ant11	Right Side	1.240	1.24	5mm	-29.8	67	-204	136.0	2.23	0.02	Not required
	AG1-Ant5		0.109	0.99	5mm	-29	-69	-204				
	WLAN		0.878		5mm							
Case 62	AG0-Ant11	Right Side	1.240	1.24	5mm	-29.8	67	-204	136.0	2.73	0.03	Not required
	AG1-Ant7		0.614	1.49	5mm	-29.8	-69	-204				
	WLAN		0.878		5mm							

<Body-worn>

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 25	AG0-Ant1	Front	1.197	1.20	5mm	2	-74.9	-204	145.1	1.95	0.02	Not required
	AG1-Ant2		0.429	0.76	5mm							
	WLAN		0.328		5mm	-6	70	-204				
Case 26	AG0-Ant1	Front	1.197	1.20	5mm	2	-74.9	-204	145.1	1.95	0.02	Not required
	AG1-Ant4		0.425	0.75	5mm							
	WLAN		0.328		5mm	-6	70	-204				
Case 27	AG0-Ant1	Front	1.197	1.20	5mm	2	-74.9	-204	145.1	1.86	0.02	Not required
	AG1-Ant5		0.339	0.67	5mm							
	WLAN		0.328		5mm	-6	70	-204				
Case 28	AG0-Ant1	Front	1.197	1.20	5mm	2	-74.9	-204	145.1	1.90	0.02	Not required
	AG1-Ant7		0.379	0.71	5mm							
	WLAN		0.328		5mm	-6	70	-204				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 29	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.0	2.88	0.03	Not required
	AG1-Ant2		0.901	1.59	5mm	4	70	-204				
	WLAN		0.687		5mm							
Case 30	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.87	0.03	Not required
	AG1-Ant4		0.889	1.58	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 31	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.85	0.03	Not required
	AG1-Ant5		0.876	1.56	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 32	AG0-Ant0	Back	1.291	1.29	5mm	-8.5	-73.5	-204	144.6	2.86	0.03	Not required
	AG1-Ant7		0.883	1.57	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 33	AG0-Ant1	Back	1.304	1.30	5mm	-45	-80	-204	141.3	2.89	0.03	Not required
	AG1-Ant2		0.901	1.59	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 34	AG0-Ant1	Back	1.304	1.30	5mm	-45	-80	-204	141.3	2.88	0.03	Not required
	AG1-Ant4		0.889	1.58	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 35	AG0-Ant1	Back	1.304	1.30	5mm	-45	-80	-204	141.3	2.87	0.03	Not required
	AG1-Ant5		0.876	1.56	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 36	AG0-Ant1	Back	1.304	1.30	5mm	-45	-80	-204	141.3	2.87	0.03	Not required
	AG1-Ant7		0.883	1.57	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 37	AG0-Ant11	Back	1.232	1.23	5mm	-64	-79	-204	139.0	2.82	0.03	Not required
	AG1-Ant2		0.901	1.59	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 38	AG0-Ant11	Back	1.232	1.23	5mm	-64	-79	-204	139.0	2.81	0.03	Not required
	AG1-Ant4		0.889	1.58	5mm							
	WLAN		0.687		5mm	-64	60	-204				

Case 39	AG0-Ant11	Back	1.232	1.23	5mm	-64	-79	-204	139.0	2.80	0.03	Not required
	AG1-Ant5		0.876	1.56	5mm							
	WLAN		0.687		5mm	-64	60	-204				
Case 40	AG0-Ant11	Back	1.232	1.23	5mm	-64	-79	-204	139.0	2.80	0.03	Not required
	AG1-Ant7		0.883	1.57	5mm							
	WLAN		0.687		5mm	-64	60	-204				

Sensor off

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 76	AG0-Ant1	Front	0.771	0.77	13mm	2	-74.9	-204	145.1	1.83	0.02	Not required
	AG1-Ant2		0.580	1.06	13mm							
	WLAN		0.483		13mm	-6	70	-204				
Case 77	AG0-Ant1	Front	0.771	0.77	13mm	2	-74.9	-204	145.1	1.66	0.01	Not required
	AG1-Ant4		0.409	0.89	13mm							
	WLAN		0.483		13mm	-6	70	-204				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 78	AG0-Ant1	Back	0.763	0.76	16mm	-45	-80	-204	141.3	2.09	0.02	Not required
	AG1-Ant2		0.759	1.32	16mm							
	WLAN		0.563		16mm	-64	60	-204				
Case 79	AG0-Ant1	Back	0.763	0.76	16mm	-45	-80	-204	141.3	1.83	0.02	Not required
	AG1-Ant4		0.504	1.07	16mm							
	WLAN		0.563		16mm	-64	60	-204				

<Extremity>

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 63	AG0-Ant1	Front	2.940	2.94	0mm	3.5	-87	-204	161.3	4.41	0.06	Not required
	AG1-Ant2		0.999	1.47	0mm	-65	59	-204				
	WLAN		0.471		0mm							

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 64	AG0-Ant0	Back	2.173	2.17	0mm	-8.9	-73	-204	141.6	5.00	0.08	Not required
	AG1-Ant2		2.043	2.83	0mm	4	68	-204				
	WLAN		0.782		0mm							
Case 65	AG0-Ant0	Back	2.173	2.17	0mm	-8.9	-73	-204	142.0	5.24	0.08	Not required
	AG1-Ant4		2.283	3.07	0mm							
	WLAN		0.782		0mm	23.4	65.3	-204				
Case 66	AG0-Ant1	Back	3.000	3.00	0mm	-44	-81	-204	156.5	5.83	0.09	Not required
	AG1-Ant2		2.043	2.83	0mm	4	68	-204				
	WLAN		0.782		0mm							
Case 67	AG0-Ant1	Back	3.000	3.00	0mm	-44	-81	-204	158.2	6.07	0.09	Not required
	AG1-Ant4		2.283	3.07	0mm							
	WLAN		0.782		0mm	-10	73.5	-204				
Case 68	AG0-Ant1	Back	3.000	3.00	0mm	-44	-81	-204	158.2	4.63	0.06	Not required
	AG1-Ant5		0.844	1.63	0mm							
	WLAN		0.782		0mm	-10	73.5	-204				
Case 69	AG0-Ant1	Back	3.000	3.00	0mm	-44	-81	-204	152.3	4.56	0.06	Not required
	AG1-Ant7		0.773	1.56	0mm	-64	70	-204				
	WLAN		0.782		0mm							
Case 70	AG0-Ant11	Back	2.249	2.25	0mm	-64	-69	-204	145.0	5.07	0.08	Not required
	AG1-Ant2		2.043	2.83	0mm							
	WLAN		0.782		0mm	-64	76	-204				
Case 71	AG0-Ant11	Back	2.249	2.25	0mm	-64	-69	-204	145.0	5.31	0.08	Not required
	AG1-Ant4		2.283	3.07	0mm							
	WLAN		0.782		0mm	-64	76	-204				

Case No	Band	Position	SAR (W/kg)		Gap	SAR (W/kg) peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					(mm)	X	Y	Z				
Case 72	AG0-Ant11	Right Side	3.049	3.05	0mm	-29	78	-204	156.0	4.00	0.05	Not required
	AG1-Ant2			0.95	0mm							
	WLAN		0.948		0mm	-32.2	-78	-204				
Case 73	AG0-Ant11	Right Side	3.049	3.05	0mm	-29	78	-204	156.0	4.00	0.05	Not required
	AG1-Ant4			0.95	0mm							
	WLAN		0.948		0mm	-32.2	-78	-204				
Case 74	AG0-Ant11	Right Side	3.049	3.05	0mm	-29	78	-204	156.0	4.00	0.05	Not required
	AG1-Ant5			0.95	0mm							
	WLAN		0.948		0mm	-32.2	-78	-204				
Case 75	AG0-Ant11	Right Side	3.049	3.05	0mm	-29	78	-204	156.0	6.01	0.09	Not required
	AG1-Ant7		2.011	2.96	0mm							
	WLAN		0.948		0mm	-32.2	-78	-204				

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)	0.125	WLAN2.4G MIMO	SAR (W/kg)	0.303	WLAN5G MIMO	SAR (W/kg)	0.575
	Axis	X18.2 Y-321.4 Z-171.6		Axis	X17.7 Y-320.5 Z-171.5		Axis	X0.2 Y-314 Z-168.7

Right Cheek								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.25						
	Axis	X57 Y-266.5 Z-172.2						
GSM1900	SAR (W/kg)		0.242					
	Axis		X57.2 Y-251.1 Z-170.4					
WCDMA II	SAR (W/kg)		0.367					
	Axis		X57.2 Y-252.3 Z-170.4					
WCDMA V	SAR (W/kg)	0.211						
	Axis	X57 Y-264.9 Z-172.2						
LTE Band 2	SAR (W/kg)		0.371		0.754			
	Axis		X57.2 Y-250.0 Z-170.4		X24.4 Y-329.3 Z-171.6			
LTE Band 7	SAR (W/kg)		0.321		0.605			
	Axis		X53.6 Y-251.2 Z-171.3		X4.8 Y-311.9 Z-169.8			
LTE Band 26	SAR (W/kg)	0.179			0.879			
	Axis	X57 Y-265.2 Z-172.2			X25 Y-329.1 Z-171.7			
LTE Band 71	SAR (W/kg)	0.001			0.727			
	Axis	X 58.3Y -267.2 Z-171.9			X25.7 Y-331.2 Z-171.6			
LTE Band 41	SAR (W/kg)		0.214		0.457			
	Axis		X53.6 Y-251.1 Z-171.3		X4.8 Y-312.3 Z-169.8			
LTE Band 42 Part 27Q	SAR (W/kg)			0.892				
	Axis			X44.2 Y-335.0 Z-171.5				
FR1 n5	SAR (W/kg)	0.074			0.905			
	Axis	X57 Y-267.3 Z-172.2			X25 Y-327.3 Z-171.7			
FR1 n7	SAR (W/kg)		0.205		0.709			
	Axis		X53.6 Y-250.4 Z-171.3		X4.8 Y-310.1 Z-169.8			
FR1 n26	SAR (W/kg)	0.094			0.827			
	Axis	X57 Y-266.1 Z-172.2			X25 Y-327.6 Z-171.7			
FR1 n71	SAR (W/kg)	0.001			0.603			
	Axis	X 58.3Y -266.5 Z-171.9			X25.7 Y-328.5 Z-171.6			
FR1 n41	SAR (W/kg)		0.143					
	Axis		X53.6 Y-252.3 Z-171.3					
FR1 n77	SAR (W/kg)			0.9		0.651	0.256	0.226
	Axis			X42.1 Y-331.4 Z-171.4		X5.7 Y-309.6 Z-169.9	X-4.6 Y-279.4 Z-163.8	X51.2 Y-251.9 Z-171.7



Right Tilted								
BT Ant6	SAR (W/kg)	0.111	WLAN2.4G MIMO	SAR (W/kg)	0.308	WLAN5G MIMO	SAR (W/kg)	0.694
	Axis	X18.7 Y-332.2 Z-171.6		Axis	X14.8 Y-333.4 Z-171.2		Axis	X-4.6 Y-327.6 Z-168

Right Tilted								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.12						
	Axis	X39.8 Y-263.6 Z-173.3						
GSM1900	SAR (W/kg)		0.109					
	Axis		X27.4 Y-253.3 Z-172					
WCDMA II	SAR (W/kg)		0.153					
	Axis		X27.4 Y-252.8 Z-172					
WCDMA V	SAR (W/kg)	0.129						
	Axis	X39.8 Y-263.4 Z-173.3						
LTE Band 2	SAR (W/kg)		0.169		0.704			
	Axis		X27.4 Y-252.5 Z-172		X9.6 Y-322.4 Z-170.4			
LTE Band 7	SAR (W/kg)		0.144		0.866			
	Axis		X30.5 Y-257.4 Z-172		X5.3 Y-321.2 Z-169.9			
LTE Band 26	SAR (W/kg)	0.113			0.853			
	Axis	X39.8 Y-263.9 Z-173.3			X21.7 Y-338.5 Z-171.5			
LTE Band 71	SAR (W/kg)	0.001			0.831			
	Axis	X43.5 Y-261.3 Z-173.4			X23.1 Y-340.5 Z-171.5			
LTE Band 41	SAR (W/kg)		0.043		0.874			
	Axis		X30.5 Y-257.5 Z-172		X5.3 Y-321.7 Z-169.9			
LTE Band 42 Part 27Q	SAR (W/kg)			0.278				
	Axis			X29.0 Y-332.3 Z-171.6				
FR1 n5	SAR (W/kg)	0.049			0.588			
	Axis	X39.8 Y-263.1 Z-173.3			X21.7 Y-337.5 Z-171.5			
FR1 n7	SAR (W/kg)		0.119		0.89			
	Axis		X30.5 Y-256.9 Z-172		X5.3 Y-320.9 Z-169.9			
FR1 n26	SAR (W/kg)	0.062			0.573			
	Axis	X39.8 Y-264.2 Z-173.3			X21.7 Y-339.2 Z-171.5			
FR1 n71	SAR (W/kg)	0.001			0.615			
	Axis	X43.5 Y-260.8 Z-173.4			X23.1 Y-340 Z-171.5			
FR1 n41	SAR (W/kg)		0.075					
	Axis		X30.5 Y-257.2 Z-172					
FR1 n77	SAR (W/kg)			0.415		0.821	0.233	0.091
	Axis			X28.9 Y-330.1 Z-171.8		X3.0 Y-322.9 Z-169.4	X4.8 Y-310.1 Z-169.8	X2.5 Y-253.9 Z-167.5



Left Cheek								
BT Ant6	SAR (W/kg)	0.256	WLAN2.4G MIMO	SAR (W/kg)	0.642	WLAN5G MIMO	SAR (W/kg)	0.519
	Axis	X23.2 Y335.1 Z-171.5		Axis	X26.6 Y338.1 Z-171.8		Axis	X36.4 Y338.9 Z-172.4

Left Cheek								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.35						
	Axis	X55.1 Y266.9 Z-172.6						
GSM1900	SAR (W/kg)		0.144					
	Axis		X70.6 Y280.6 Z-169					
WCDMA II	SAR (W/kg)		0.216					
	Axis		X70.6 Y280.9 Z-169					
WCDMA V	SAR (W/kg)	0.26						
	Axis	X55.1 Y267.2 Z-172.6						
LTE Band 2	SAR (W/kg)		0.208		0.626			
	Axis		X70.6 Y280.3 Z-169		X11.3 Y316.3 Z-170.6			
LTE Band 7	SAR (W/kg)		0.186		0.577			
	Axis		X52.0 Y251.6 Z-171.7		X6.8 Y323.9 Z-170.2			
LTE Band 26	SAR (W/kg)	0.297			0.276			
	Axis	X55.1 Y267.4 Z-172.6			X11.3 Y317.4 Z-170.6			
LTE Band 71	SAR (W/kg)	0.082			0.319			
	Axis	X58.1 Y264.1 Z-171.7			X0.5 Y298.1 Z-166.5			
LTE Band 41	SAR (W/kg)		0.112		0.37			
	Axis		X52.0 Y251.9 Z-171.7		X6.8 Y323.8 Z-170.2			
LTE Band 42 Part 27Q	SAR (W/kg)			0.241				
	Axis			X0.4 Y280 Z-165.4				
FR1 n5	SAR (W/kg)	0.112			0.288			
	Axis	X55.1 Y266.7 Z-172.6			X5.3 Y302.8 Z-168.5			
FR1 n7	SAR (W/kg)		0.151		0.608			
	Axis		X52.0 Y251.4 Z-171.7		X6.8 Y323.5 Z-170.2			
FR1 n26	SAR (W/kg)	0.143			0.293			
	Axis	X55.1 Y267.5 Z-172.6			X11.3 Y316.8 Z-170.6			
FR1 n71	SAR (W/kg)	0.071			0.206			
	Axis	X58.1 Y263.2 Z-171.7			X0.5 Y297.2 Z-166.5			
FR1 n41	SAR (W/kg)		0.119					
	Axis		X52.0 Y252.1 Z-171.7					
FR1 n77	SAR (W/kg)			0.198		0.694	0.874	0.141
	Axis			X-1.6 Y284.5 Z-165.6		X6.3 Y312.6 Z-170.1	X32.4 Y338.2 Z-171.2	X55.4 Y271 Z-172.1



Left Tilted								
BT Ant6	SAR (W/kg)	0.199	WLAN2.4G MIMO	SAR (W/kg)	0.469	WLAN5G MIMO	SAR (W/kg)	0.65
	Axis	X18.3 Y332.5 Z-171.2		Axis	X19 Y332.8 Z-171.4		Axis	X3.2 Y326.2 Z-170

Left Tilted								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.134						
	Axis	X38.4 Y261.1 Z-173.2						
GSM1900	SAR (W/kg)		0.084					
	Axis		X18.5 Y255.9 Z-171.6					
WCDMA II	SAR (W/kg)		0.136					
	Axis		X18.5 Y256.4 Z-171.6					
WCDMA V	SAR (W/kg)	0.248						
	Axis	X38.4 Y261.2 Z-173.2						
LTE Band 2	SAR (W/kg)		0.152		0.894			
	Axis		X18.5 Y255.8 Z-171.6		X11.7 Y332.9 Z-170.7			
LTE Band 7	SAR (W/kg)		0.132		0.653			
	Axis		X13.3 Y251.4 Z-170.9		X7.8 Y335.7 Z-170.4			
LTE Band 26	SAR (W/kg)	0.148			0.534			
	Axis	X38.4 Y261.5 Z-173.2			X-0.5 Y334.7 Z-167.4			
LTE Band 71	SAR (W/kg)	0.001			0.409			
	Axis	X47.3 Y256.8 Z-173.3			X-1.5 Y326.9 Z-165.9			
LTE Band 41	SAR (W/kg)		0.064		0.457			
	Axis		X13.3 Y251.6 Z-170.9		X7.8 Y325.9 Z-170.4			
LTE Band 42 Part 27Q	SAR (W/kg)			0.162				
	Axis			X0.5 Y282.2 Z-165.8				
FR1 n5	SAR (W/kg)	0.067			0.28			
	Axis	X38.4 Y260.5 Z-173.2			X-0.5 Y324.6 Z-167.4			
FR1 n7	SAR (W/kg)		0.075		0.692			
	Axis		X13.3 Y260.8 Z-170.9		X7.8 Y325.2 Z-170.4			
FR1 n26	SAR (W/kg)	0.085			0.27			
	Axis	X38.4 Y261.3 Z-173.2			X-0.5 Y324.6 Z-167.4			
FR1 n71	SAR (W/kg)	0.001			0.252			
	Axis	X47.3 Y256.5 Z-173.3			X-1.5 Y326.7 Z-165.9			
FR1 n41	SAR (W/kg)		0.061					
	Axis		X13.3 Y251.7 Z-170.9					
FR1 n77	SAR (W/kg)			0.169		0.866	0.655	0.139
	Axis			X-0.8 Y284 Z-165.8		X7.2 Y322.1 Z-170.2	X6.8 Y313.5 Z-170.2	X27 Y261.7 Z-171.9

<Hotspot>

Front								
BT Ant6	SAR (W/kg)	0.117	WLAN2.4G MIMO	SAR (W/kg)	0.503	WLAN5G MIMO	SAR (W/kg)	0.359
	Axis	X-3 Y75 Z-204		Axis	X-6 Y70 Z-204		Axis	X-31 Y83 Z-204

Front								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.569						
	Axis	X-68.5 Y-74.5 Z-204						
GSM1900	SAR (W/kg)		1.044					
	Axis		X-1 Y-83.2 Z-204					
WCDMA II	SAR (W/kg)		0.848					
	Axis		X-1 Y-83.1 Z-204					
WCDMA V	SAR (W/kg)	0.673						
	Axis	X-68.5 Y-74.8 Z-204						
LTE Band 2	SAR (W/kg)		0.767		0.2			
	Axis		X-1 Y-82.5 Z-204		X-26.5 Y72 Z-204			
LTE Band 7	SAR (W/kg)		0.869		0.254			
	Axis		X2 Y-75.8 Z-204		X-34 Y89.5 Z-204			
LTE Band 26	SAR (W/kg)	0.38			0.33			
	Axis	X-68.5 Y-74.9 Z-204			X-52 Y73.9 Z-204			
LTE Band 71	SAR (W/kg)	0.289			0.253			
	Axis	X-70 Y-76.2 Z-204			X-53.5 Y73.7 Z-204			
LTE Band 41	SAR (W/kg)		0.806		0.329			
	Axis		X2 Y-75.5 Z-204		X-34 Y89.9 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.261				
	Axis			X-65 Y61 Z-204				
FR1 n5	SAR (W/kg)	0.423			0.28			
	Axis	X-68.5 Y-75 Z-204			X-52 Y73.5 Z-204			
FR1 n7	SAR (W/kg)		0.8		0.288			
	Axis		X2 Y-76 Z-204		X-34 Y89 Z-204			
FR1 n26	SAR (W/kg)	0.45			0.289			
	Axis	X-68.5 Y-75.2 Z-204			X-52 Y74.2 Z-204			
FR1 n71	SAR (W/kg)	0.311			0.173			
	Axis	X-70 Y-75 Z-204			X-53.5 Y73.5 Z-204			
FR1 n41	SAR (W/kg)		0.783					
	Axis		X2 Y-74.9 Z-204					
FR1 n77	SAR (W/kg)			0.207		0.233	0.196	0.476
	Axis			X-65 Y61 Z-204		X-24 Y80 Z-204	X7 Y75 Z-204	X6 Y-68 Z-204

Back								
BT Ant6	SAR (W/kg)	0.17	WLAN2.4G MIMO	SAR (W/kg)	0.935	WLAN5G MIMO	SAR (W/kg)	0.933
	Axis	X-52 Y76 Z-204		Axis	X-64 Y60 Z-204		Axis	X-34 Y81 Z-204

Back								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	1.179						
	Axis	X-8.5 Y-74 Z-204						
GSM1900	SAR (W/kg)		1.241					
	Axis		X-38.5 Y-84.1 Z-204					
WCDMA II	SAR (W/kg)		0.984					
	Axis		X-38.5 Y-83.5 Z-204					
WCDMA V	SAR (W/kg)	1.291						
	Axis	X-8.5 Y-73.5 Z-204						
LTE Band 2	SAR (W/kg)		0.899		0.616			
	Axis		X-38.5 Y-82.5 Z-204		X-10 Y73.5 Z-204			
LTE Band 7	SAR (W/kg)		0.93		0.466			
	Axis		X-45 Y-80.5 Z-204		X-15 Y80.5 Z-204			
LTE Band 26	SAR (W/kg)	1.273			0.516			
	Axis	X-8.5 Y-74.2 Z-204			X-10 Y73.8 Z-204			
LTE Band 71	SAR (W/kg)	0.498			0.646			
	Axis	X-8.5 Y-76.2 Z-204			X-8.5 Y74.1 Z-204			
LTE Band 41	SAR (W/kg)		1.12		0.486			
	Axis		X-45 Y-81.1 Z-204		X-15 Y81.1 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.624				
	Axis			X4 Y70 Z-204				
FR1 n5	SAR (W/kg)	0.771			0.592			
	Axis	X-8.5 Y-75 Z-204			X-10 Y73.5 Z-204			
FR1 n7	SAR (W/kg)		0.812		0.555			
	Axis		X-45 Y-80 Z-204		X-15 Y80 Z-204			
FR1 n26	SAR (W/kg)	0.819			0.591			
	Axis	X-8.5 Y-75.5 Z-204			X-10 Y73.6 Z-204			
FR1 n71	SAR (W/kg)	0.56			0.538			
	Axis	X-8.5 Y-75 Z-204			X-8.5 Y73.5 Z-204			
FR1 n41	SAR (W/kg)		1.008					
	Axis		X-45 Y-80.9 Z-204					
FR1 n77	SAR (W/kg)			0.421		0.567	0.412	0.813
	Axis			X5 Y71 Z-204		X-34 Y78 Z-204	X-65 Y70 Z-204	X-64 Y-69 Z-204



Right Side								
BT Ant6	SAR (W/kg)	0.078	WLAN2.4G MIMO	SAR (W/kg)	0.878	WLAN5G MIMO	SAR (W/kg)	0.725
	Axis	X-22.6 Y-78 Z-204		Axis	X-32.2 Y-76 Z-204		Axis	X-25 Y-79 Z-204

Right Side								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	0.116						
	Axis	X-27.4 Y-3.5 Z-204						
GSM1900	SAR (W/kg)		0.371					
	Axis		X-38.6 Y73.6 Z-204					
WCDMA II	SAR (W/kg)		0.371					
	Axis		X-38.6 Y74.1 Z-204					
WCDMA V	SAR (W/kg)	0.134						
	Axis	X-27.4 Y-3.1 Z-204						
LTE Band 2	SAR (W/kg)		0.311		0.042			
	Axis		X-38.6 Y72.5 Z-204		X-32.2 Y-34.5 Z-204			
LTE Band 7	SAR (W/kg)		0.294		0.034			
	Axis		X-25 Y65 Z-204		X-31.4 Y-81 Z-204			
LTE Band 26	SAR (W/kg)	0.126			0.099			
	Axis	X-27.4 Y-3.3 Z-204			X-27.4 Y-38.5 Z-204			
LTE Band 71	SAR (W/kg)	0.065			0.133			
	Axis	X-26.6 Y0.6 Z-204			X-26.6 Y-36.5 Z-204			
LTE Band 41	SAR (W/kg)		0.241		0.04			
	Axis		X-25 Y64.5 Z-204		X-31.4 Y-80.5 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.017				
	Axis			X-33.8 Y-71 Z-204				
FR1 n5	SAR (W/kg)	0.076			0.002			
	Axis	X-27.4 Y-6 Z-204			X-27.4 Y-37.5 Z-204			
FR1 n7	SAR (W/kg)		0.314		0.035			
	Axis		X-25 Y66.1 Z-204		X-31.4 Y-78 Z-204			
FR1 n26	SAR (W/kg)	0.081			0.001			
	Axis	X-27.4 Y-6.3 Z-204			X-27.4 Y-38.6 Z-204			
FR1 n71	SAR (W/kg)	0.066			0.092			
	Axis	X-26.6 Y0.2 Z-204			X-26.6 Y-36 Z-204			
FR1 n41	SAR (W/kg)		0.283					
	Axis		X-25 Y64.2 Z-204					
FR1 n77	SAR (W/kg)			0.01		0.109	0.614	1.24
	Axis			X-33.8 Y-72 Z-204		X-29 Y-69 Z-204	X-29.8 Y-69 Z-204	X-29.8 Y67 Z-204

<Body-worn>

Front								
BT Ant6	SAR (W/kg)	0.117	WLAN2.4G MIMO	SAR (W/kg)	0.328	WLAN5G MIMO	SAR (W/kg)	0.314
	Axis	X-3 Y75 Z-204		Axis	X-6 Y70 Z-204		Axis	X-31 Y83 Z-204

Front								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)							
	Axis							
GSM1900	SAR (W/kg)		1.044					
	Axis		X-1 Y-83.2 Z-204					
WCDMA II	SAR (W/kg)		1.084					
	Axis		X-1 Y-83.1 Z-204					
WCDMA V	SAR (W/kg)							
	Axis							
LTE Band 2	SAR (W/kg)		1.131		0.273			
	Axis		X-1 Y-82.5 Z-204		X-26.5 Y72 Z-204			
LTE Band 7	SAR (W/kg)		1.197		0.41			
	Axis		X2 Y-75.8 Z-204		X-34 Y89.5 Z-204			
LTE Band 26	SAR (W/kg)				0.425			
	Axis				X-52 Y73.9 Z-204			
LTE Band 71	SAR (W/kg)				0.253			
	Axis				X-53.5 Y73.7 Z-204			
LTE Band 41	SAR (W/kg)		0.913		0.425			
	Axis		X2 Y-75.5 Z-204		X-34 Y89.9 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.386				
	Axis			X-65 Y61 Z-204				
FR1 n5	SAR (W/kg)				0.28			
	Axis				X-52 Y73.5 Z-204			
FR1 n7	SAR (W/kg)		1.101		0.416			
	Axis		X2 Y-76 Z-204		X-34 Y89 Z-204			
FR1 n26	SAR (W/kg)				0.289			
	Axis				X-52 Y74.2 Z-204			
FR1 n71	SAR (W/kg)				0.173			
	Axis				X-53.5 Y73.5 Z-204			
FR1 n41	SAR (W/kg)		0.983					
	Axis		X2 Y-74.9 Z-204					
FR1 n77	SAR (W/kg)			0.429		0.339	0.379	0.722
	Axis			X-65 Y61 Z-204		X-24 Y80 Z-204	X7 Y75 Z-204	X6 Y-68 Z-204



Back								
BT Ant6	SAR (W/kg)	0.17	WLAN2.4G MIMO	SAR (W/kg)	0.657	WLAN5G MIMO	SAR (W/kg)	0.687
	Axis	X-52 Y76 Z-204		Axis	X-64 Y60 Z-204		Axis	X-34 Y81 Z-204

Back								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	1.179						
	Axis	X-8.5 Y-74 Z-204						
GSM1900	SAR (W/kg)		1.241					
	Axis		X-38.5 Y-84.1 Z-204					
WCDMA II	SAR (W/kg)		1.257					
	Axis		X-38.5 Y-83.5 Z-204					
WCDMA V	SAR (W/kg)	1.291						
	Axis	X-8.5 Y-73.5 Z-204						
LTE Band 2	SAR (W/kg)		1.248		0.874			
	Axis		X-38.5 Y-82.5 Z-204		X-10 Y73.5 Z-204			
LTE Band 7	SAR (W/kg)		1.304		0.882			
	Axis		X-45 Y-80.5 Z-204		X-15 Y80.5 Z-204			
LTE Band 26	SAR (W/kg)	1.273			0.665			
	Axis	X-8.5 Y-74.2 Z-204			X-10 Y73.8 Z-204			
LTE Band 71	SAR (W/kg)	0.498			0.646			
	Axis	X-8.5 Y-76.2 Z-204			X-8.5 Y74.1 Z-204			
LTE Band 41	SAR (W/kg)		1.267		0.889			
	Axis		X-45 Y-81.1 Z-204		X-15 Y81.1 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.901				
	Axis			X4 Y70 Z-204				
FR1 n5	SAR (W/kg)	0.771			0.592			
	Axis	X-8.5 Y-75 Z-204			X-10 Y73.5 Z-204			
FR1 n7	SAR (W/kg)		1.126		0.802			
	Axis		X-45 Y-80 Z-204		X-15 Y80 Z-204			
FR1 n26	SAR (W/kg)	0.819			0.591			
	Axis	X-8.5 Y-75.5 Z-204			X-10 Y73.6 Z-204			
FR1 n71	SAR (W/kg)	0.56			0.538			
	Axis	X-8.5 Y-75 Z-204			X-8.5 Y73.5 Z-204			
FR1 n41	SAR (W/kg)		1.264					
	Axis		X-45 Y-80.9 Z-204					
FR1 n77	SAR (W/kg)			0.876		0.876	0.883	1.232
	Axis			X5 Y71 Z-204		X-34 Y78 Z-204	X-65 Y70 Z-204	X-64 Y-79 Z-204

Sensor off

Front					
WLAN2.4G MIMO	SAR (W/kg)	0.483	WLAN5G MIMO	SAR (W/kg)	0.563
	Axis	X-6 Y70 Z-204		Axis	X-31 Y83 Z-204

Front								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)							
	Axis							
GSM1900	SAR (W/kg)		0.455					
	Axis		X-1 Y-83.2 Z-204					
WCDMA II	SAR (W/kg)		0.771					
	Axis		X-1 Y-83.1 Z-204					
WCDMA V	SAR (W/kg)							
	Axis							
LTE Band 2	SAR (W/kg)		0.694		0.398			
	Axis		X-1 Y-82.5 Z-204		X-26.5 Y72 Z-204			
LTE Band 7	SAR (W/kg)		0.549		0.35			
	Axis		X2 Y-75.8 Z-204		X-34 Y89.5 Z-204			
LTE Band 26	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 71	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 41	SAR (W/kg)		0.446		0.444			
	Axis		X2 Y-75.5 Z-204		X-34 Y89.9 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.386				
	Axis			X-65 Y61 Z-204				
FR1 n5	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n7	SAR (W/kg)		0.29		0.364			
	Axis		X2 Y-76 Z-204		X-34 Y89 Z-204			
FR1 n26	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n71	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n41	SAR (W/kg)		0.362					
	Axis		X2 Y-74.9 Z-204					
FR1 n77	SAR (W/kg)			0.58				
	Axis			X-65 Y61 Z-204				

Back					
WLAN2.4G MIMO	SAR (W/kg)	0.49	WLAN5G MIMO	SAR (W/kg)	0.563
	Axis	X-64 Y60 Z-204		Axis	X-34 Y81 Z-204

Back								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)							
	Axis							
GSM1900	SAR (W/kg)		0.419					
	Axis		X-38.5 Y-84.1 Z-204					
WCDMA II	SAR (W/kg)		0.763					
	Axis		X-38.5 Y-83.5 Z-204					
WCDMA V	SAR (W/kg)							
	Axis							
LTE Band 2	SAR (W/kg)		0.643		0.504			
	Axis		X-38.5 Y-82.5 Z-204		X-10 Y73.5 Z-204			
LTE Band 7	SAR (W/kg)		0.342		0.421			
	Axis		X-45 Y-80.5 Z-204		X-15 Y80.5 Z-204			
LTE Band 26	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 71	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 41	SAR (W/kg)		0.305		0.444			
	Axis		X-45 Y-81.1 Z-204		X-15 Y81.1 Z-204			
LTE Band 42 Part 27Q	SAR (W/kg)			0.528				
	Axis			X4 Y70 Z-204				
FR1 n5	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n7	SAR (W/kg)		0.216		0.387			
	Axis		X-45 Y-80 Z-204		X-15 Y80 Z-204			
FR1 n26	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n71	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n41	SAR (W/kg)		0.263					
	Axis		X-45 Y-80.9 Z-204					
FR1 n77	SAR (W/kg)			0.759				
	Axis			X5 Y71 Z-204				

<Extremity>

Front								
WLAN2.4G MIMO	SAR (W/kg)	0	WLAN5G MIMO	SAR (W/kg)	0.47	NFC	SAR (W/kg)	0.001
	Axis	X-5 Y75 Z-204		Axis	X-25 Y81 Z-204		Axis	X 7 Y 81.2 Z -204

Front								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)							
	Axis							
GSM1900	SAR (W/kg)		N/A					
	Axis		N/A					
WCDMA II	SAR (W/kg)		2.94					
	Axis		X3.5 Y-88.2 Z-204					
WCDMA V	SAR (W/kg)							
	Axis							
LTE Band 2	SAR (W/kg)		2.865					
	Axis		X3.5 Y-87 Z-204					
LTE Band 7	SAR (W/kg)		N/A					
	Axis		N/A					
LTE Band 26	SAR (W/kg)							
	Axis							
LTE Band 71	SAR (W/kg)							
	Axis							
LTE Band 41	SAR (W/kg)		N/A					
	Axis		N/A					
LTE Band 42 Part 27Q	SAR (W/kg)			0.999				
	Axis			X-65 Y59 Z-204				
FR1 n5	SAR (W/kg)							
	Axis							
FR1 n7	SAR (W/kg)		N/A					
	Axis		N/A					
FR1 n26	SAR (W/kg)							
	Axis							
FR1 n71	SAR (W/kg)							
	Axis							
FR1 n41	SAR (W/kg)		N/A					
	Axis		N/A					
FR1 n77	SAR (W/kg)			N/A				
	Axis			N/A				

Back								
WLAN2.4G MIMO	SAR (W/kg)	0.355	WLAN5G MIMO	SAR (W/kg)	0.738	NFC	SAR (W/kg)	0.044
	Axis	X-64 Y76 Z-204		Axis	X-35 Y80 Z-204		Axis	X 23.4 Y 65.3 Z -204

Back								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)	N/A						
	Axis	N/A						
GSM1900	SAR (W/kg)		2.934					
	Axis		X-38.5 Y-84.5 Z-204					
WCDMA II	SAR (W/kg)		3					
	Axis		X-38.5 Y-84.2 Z-204					
WCDMA V	SAR (W/kg)	2.173						
	Axis	X-8.9 Y-74.1 Z-204						
LTE Band 2	SAR (W/kg)		2.967		2.283			
	Axis		X-38.5 Y-83.5 Z-204		X-10 Y73.5 Z-204			
LTE Band 7	SAR (W/kg)		N/A		N/A			
	Axis		N/A		N/A			
LTE Band 26	SAR (W/kg)	1.974			N/A			
	Axis	X-8.9 Y-73 Z-204			N/A			
LTE Band 71	SAR (W/kg)	N/A			N/A			
	Axis	N/A			N/A			
LTE Band 41	SAR (W/kg)		1.974		N/A			
	Axis		X-44 Y-82.2 Z-204		N/A			
LTE Band 42 Part 27Q	SAR (W/kg)			2.031				
	Axis			X4 Y68 Z-204				
FR1 n5	SAR (W/kg)	N/A			N/A			
	Axis	N/A			N/A			
FR1 n7	SAR (W/kg)		N/A		1.704			
	Axis		N/A		X-15 Y79 Z-204			
FR1 n26	SAR (W/kg)	N/A			N/A			
	Axis	N/A			N/A			
FR1 n71	SAR (W/kg)	N/A			N/A			
	Axis	N/A			N/A			
FR1 n41	SAR (W/kg)		2.549					
	Axis		X-44 Y-81 Z-204					
FR1 n77	SAR (W/kg)			2.043		0.844	0.773	2.249
	Axis			X4 Y68 Z-204		X-35 Y79 Z-204	X-64 Y70 Z-204	X-64 Y-69 Z-204



Right Side								
WLAN2.4G MIMO	SAR (W/kg)	0.735	WLAN5G MIMO	SAR (W/kg)	0.947	NFC	SAR (W/kg)	0.001
	Axis	X-32.2 Y-78 Z-204		Axis	X-25 Y-79 Z-204		Axis	X -28.6 Y -81.5 Z -204

Right Side								
Band		Ant0	Ant1	Ant2	Ant4	Ant5	Ant7	Ant11
GSM850	SAR (W/kg)							
	Axis							
GSM1900	SAR (W/kg)							
	Axis							
WCDMA II	SAR (W/kg)							
	Axis							
WCDMA V	SAR (W/kg)							
	Axis							
LTE Band 2	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 7	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 26	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 71	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 41	SAR (W/kg)				N/A			
	Axis				N/A			
LTE Band 42 Part 27Q	SAR (W/kg)			N/A				
	Axis			N/A				
FR1 n5	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n7	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n26	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n71	SAR (W/kg)				N/A			
	Axis				N/A			
FR1 n41	SAR (W/kg)							
	Axis							
FR1 n77	SAR (W/kg)			N/A		N/A	2.011	3.049
	Axis			N/A		N/A	X-28.2 Y-78 Z-204	X-29 Y78 Z-204

18. Supplemental Tuner Tests Results

General Note:

1. This device implements impedance tuner (384 states) antenna tuning techniques in the LTE Band 5/71 and 5GNR n5/71 for ANT0.
2. Per 2019, April TCBC Workshop titled "RF Exposure Procedures", the following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions.
 - 1) SAR is measured according to required procedures with dynamic tuner active allowing device to automatically tune. Auto-tune state determined by device during normal SAR measurement verified and listed alongside the reported SAR results.
 - 2) Total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
 - 3) 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).
 - 4) Single point measurements performed at the peak SAR location of the highest measured SAR configuration for each combination. SAR probe remains stationary throughout the entire series of single point measurements for each combination.
 - 5) If any single point SAR measurement result is > 1.2 W/kg for 1gSAR (or > 3.0 W/kg for 10gSAR) for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination.
3. The above test procedures were followed to demonstrate that the SAR results in Section 16 represented 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.
4. To evaluate all of the tuner states, the 384 tuner states for ANT0 is 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. When the single point SAR or 1g SAR was > 1.2 W/kg or 10g SAR was > 3.0 W/kg for a particular band / mode / exposure condition, point SAR measurements were made for all 384 tuner states.
5. According to KDB 648474 D04 v01r03, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, certain SAR screening procedures were considered to identify the higher SAR between body-worn and hotspot scenarios that need normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.
6. According to KDB 648474 D04 v01r03, 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.
7. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

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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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