

# APPENDIX A: SAR TEST RESULTS FOR $P_{LIMIT}$ CALCULATIONS

**Table A-1**  
**DSI = 2  $P_{Limit}$  Calculations – n48 Head SAR - Open**

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Duty Cycle	SAR (1g)	P <sub>limit</sub>	Overall P <sub>limit</sub>	
MHz	Ch.													(W/kg)			
3570.00	638000	Low	NR Band n48	40	Open	15.16	F	Right	Cheek	DFT-S-OFDM	QPSK	1	104	1:1	0.550	17.76	17.76
3624.99	641666	Mid	NR Band n48	40	Open	15.37	F	Right	Cheek	DFT-S-OFDM	QPSK	1	104	1:1	0.546	18.00	
3679.98	645332	High	NR Band n48	40	Open	15.63	F	Right	Cheek	DFT-S-OFDM	QPSK	1	104	1:1	0.565	18.11	
3570.00	638000	Low	NR Band n48	40	Open	15.24	F	Right	Cheek	DFT-S-OFDM	QPSK	50	56	1:1	0.537	17.94	
3624.99	641666	Mid	NR Band n48	40	Open	15.28	F	Right	Cheek	DFT-S-OFDM	QPSK	50	56	1:1	0.531	18.03	
3679.98	645332	High	NR Band n48	40	Open	15.48	F	Right	Cheek	DFT-S-OFDM	QPSK	50	56	1:1	0.565	17.96	
3679.98	645332	High	NR Band n48	40	Open	15.44	F	Right	Cheek	DFT-S-OFDM	QPSK	100	0	1:1	0.557	17.98	
3679.98	645332	High	NR Band n48	40	Open	15.35	F	Right	Cheek	CP-OFDM	QPSK	1	1	1:1	0.565	17.83	
3679.98	645332	High	NR Band n48	40	Open	15.63	F	Right	Tilt	DFT-S-OFDM	QPSK	1	104	1:1	0.388	19.74	
3679.98	645332	High	NR Band n48	40	Open	15.48	F	Right	Tilt	DFT-S-OFDM	QPSK	50	56	1:1	0.383	19.65	
3679.98	645332	High	NR Band n48	40	Open	15.63	F	Left	Cheek	DFT-S-OFDM	QPSK	1	104	1:1	0.238	21.86	
3679.98	645332	High	NR Band n48	40	Open	15.48	F	Left	Cheek	DFT-S-OFDM	QPSK	50	56	1:1	0.228	21.90	
3679.98	645332	High	NR Band n48	40	Open	15.63	F	Left	Tilt	DFT-S-OFDM	QPSK	1	104	1:1	0.136	24.29	
3679.98	645332	High	NR Band n48	40	Open	15.48	F	Left	Tilt	DFT-S-OFDM	QPSK	50	56	1:1	0.129	24.37	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.

**Table A-2**  
**DSI = 0  $P_{Limit}$  Calculations – n48 Body-Worn SAR - Open**




MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	P <sub>limit</sub>	Overall P <sub>limit</sub>	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	15 mm	back	1:1	0.181	26.33	26.12
3679.98	645332	High	NR Band n48	40	Open	18.86	F	DFT-S-OFDM	QPSK	50	56	15 mm	back	1:1	0.188	26.12	
3679.98	645332	High	NR Band n48	40	Open	18.82	F	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.175	26.39	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.

**Table A-3**  
**DSI = 0  $P_{Limit}$  Calculations – n48 Body-Worn SAR - Closed**

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	P <sub>limit</sub>	Overall P <sub>limit</sub>	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Closed	18.91	F	DFT-S-OFDM	QPSK	1	104	15 mm	back	1:1	0.015	37.15	36.27
3679.98	645332	High	NR Band n48	40	Closed	18.86	F	DFT-S-OFDM	QPSK	50	56	15 mm	back	1:1	0.016	36.82	
3679.98	645332	High	NR Band n48	40	Closed	18.82	F	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.018	36.27	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.

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**Table A-4**  
**DSI = 3  $P_{Limit}$  Calculations – n48 Hotspot SAR - Open**




MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Plimit	Overall Plimit	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Open	18.20	F	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.214	24.90	23.56
3679.98	645332	High	NR Band n48	40	Open	18.25	F	DFT-S-OFDM	QPSK	50	56	10 mm	back	1:1	0.226	24.71	
3679.98	645332	High	NR Band n48	40	Open	18.20	F	DFT-S-OFDM	QPSK	1	104	10 mm	front	1:1	0.155	26.30	
3679.98	645332	High	NR Band n48	40	Open	18.25	F	DFT-S-OFDM	QPSK	50	56	10 mm	front	1:1	0.158	26.26	
3679.98	645332	High	NR Band n48	40	Open	18.20	F	DFT-S-OFDM	QPSK	1	104	10 mm	top	1:1	0.084	28.96	
3679.98	645332	High	NR Band n48	40	Open	18.25	F	DFT-S-OFDM	QPSK	50	56	10 mm	top	1:1	0.085	28.96	
3679.98	645332	High	NR Band n48	40	Open	18.20	F	DFT-S-OFDM	QPSK	1	104	10 mm	left	1:1	0.291	23.56	
3679.98	645332	High	NR Band n48	40	Open	18.25	F	DFT-S-OFDM	QPSK	50	56	10 mm	left	1:1	0.292	23.60	
3679.98	645332	High	NR Band n48	40	Open	18.30	F	CP-OFDM	QPSK	1	1	10 mm	left	1:1	0.275	23.91	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.

**Table A-5**  
**DSI = 3  $P_{Limit}$  Calculations – n48 Hotspot SAR - Closed**

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Plimit	Overall Plimit	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Closed	18.20	F	DFT-S-OFDM	QPSK	1	104	5 mm	back	1:1	0.037	32.52	19.07
3679.98	645332	High	NR Band n48	40	Closed	18.25	F	DFT-S-OFDM	QPSK	50	56	5 mm	back	1:1	0.034	32.94	
3679.98	645332	High	NR Band n48	40	Closed	18.20	F	DFT-S-OFDM	QPSK	1	104	5 mm	front	1:1	0.504	21.18	
3679.98	645332	High	NR Band n48	40	Closed	18.25	F	DFT-S-OFDM	QPSK	50	56	5 mm	front	1:1	0.509	21.18	
3679.98	645332	High	NR Band n48	40	Closed	18.20	F	DFT-S-OFDM	QPSK	1	104	5 mm	bottom	1:1	0.187	25.48	
3679.98	645332	High	NR Band n48	40	Closed	18.25	F	DFT-S-OFDM	QPSK	50	56	5 mm	bottom	1:1	0.189	25.49	
3570.00	638000	Low	NR Band n48	40	Closed	17.87	F	DFT-S-OFDM	QPSK	1	104	5 mm	left	1:1	0.730	19.24	
3624.99	641666	Mid	NR Band n48	40	Closed	17.97	F	DFT-S-OFDM	QPSK	1	104	5 mm	left	1:1	0.659	19.78	
3679.98	645332	High	NR Band n48	40	Closed	18.20	F	DFT-S-OFDM	QPSK	1	104	5 mm	left	1:1	0.598	20.43	
3570.00	638000	Low	NR Band n48	40	Closed	17.79	F	DFT-S-OFDM	QPSK	50	56	5 mm	left	1:1	0.745	19.07	
3624.99	641666	Mid	NR Band n48	40	Closed	17.90	F	DFT-S-OFDM	QPSK	50	56	5 mm	left	1:1	0.656	19.73	
3679.98	645332	High	NR Band n48	40	Closed	18.25	F	DFT-S-OFDM	QPSK	50	56	5 mm	left	1:1	0.614	20.37	
3679.98	645332	High	NR Band n48	40	Closed	18.19	F	DFT-S-OFDM	QPSK	100	0	5 mm	left	1:1	0.752	19.43	
3679.98	645332	High	NR Band n48	40	Closed	18.30	F	CP-OFDM	QPSK	1	1	5 mm	left	1:1	0.655	20.14	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.

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**Table A-6**  
**DSI = 0  $P_{Limit}$  Calculations – n48 Phablet SAR - Open**




MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Plimit	Overall Plimit	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	back	1:1	1.540	21.01	18.98
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	front	1:1	1.680	20.64	
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	top	1:1	0.906	23.32	
3570.00	638000	Low	NR Band n48	40	Open	18.60	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.040	19.48	
3624.99	641666	Mid	NR Band n48	40	Open	18.79	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.310	19.13	
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.370	19.14	
3570.00	638000	Low	NR Band n48	40	Open	18.59	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.050	19.45	
3624.99	641666	Mid	NR Band n48	40	Open	18.64	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.240	19.12	
3679.98	645332	High	NR Band n48	40	Open	18.86	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.340	19.15	
3679.98	645332	High	NR Band n48	40	Open	18.82	F	DFT-S-OFDM	QPSK	100	0	0 mm	left	1:1	2.320	19.14	
3679.98	645332	High	NR Band n48	40	Open	18.82	F	CP-OFDM	QPSK	1	1	0 mm	left	1:1	2.410	18.98	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.  
Data highlighted in blue was tested and provided by the manufacturer.

**Table A-7**  
**DSI = 1  $P_{Limit}$  Calculations – n48 Phablet SAR - Open**

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Bandwidth [MHz]	Configuration	Conducted Power [dBm]	Antenna Config	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Plimit	Overall Plimit	
MHz	Ch.													(W/kg)			
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	back	1:1	1.540	21.01	18.98
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	front	1:1	1.680	20.64	
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	top	1:1	0.906	23.32	
3570.00	638000	Low	NR Band n48	40	Open	18.60	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.040	19.48	
3624.99	641666	Mid	NR Band n48	40	Open	18.79	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.310	19.13	
3679.98	645332	High	NR Band n48	40	Open	18.91	F	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	2.370	19.14	
3570.00	638000	Low	NR Band n48	40	Open	18.59	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.050	19.45	
3624.99	641666	Mid	NR Band n48	40	Open	18.64	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.240	19.12	
3679.98	645332	High	NR Band n48	40	Open	18.86	F	DFT-S-OFDM	QPSK	50	56	0 mm	left	1:1	2.340	19.15	
3679.98	645332	High	NR Band n48	40	Open	18.82	F	DFT-S-OFDM	QPSK	100	0	0 mm	left	1:1	2.320	19.14	
3679.98	645332	High	NR Band n48	40	Open	18.82	F	CP-OFDM	QPSK	1	1	0 mm	left	1:1	2.410	18.98	

For some bands/modes, a lower  $P_{Limit}$  was selected as a more conservative evaluation.  
Data highlighted in blue was tested and provided by the manufacturer.

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