

APPENDIX E: MULTI-TX AND ANTENNA SAR CONSIDERATIONS

E.1 Int Introduction

The following procedures adopted from FCC KDB Publication 447498 D04v01 are applicable to devices with built-in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

E.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D04v01 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤ 1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

Per FCC KDB Publication 941225 D06v02r01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR ("-"). For top edge, AG0 testing was excluded and for bottom edge AG1 testing was excluded, therefore, no spatial analysis required for those edges. For left and right edges, not every band was tested, therefore, not every combination between AG0 and AG1 was evaluated.

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required if wireless router 1g SAR (scaled to the maximum output power, including tolerance) < 1.2 W/kg. Therefore no further analysis beyond the tables included in this section was required to determine that possible simultaneous transmission scenarios would not exceed the SAR limit.

This device is enabled with Samsung S.LSI TAS (Time Average SAR) algorithms, specifically F-TAS for cellular bands and DC-TAS for unlicensed bands (WLAN/BT over Cellular). The device is configured with pre-defined antenna groups where AG0 represents the Cellular antennas, and AG1 represents the worst-case SAR from Cellular/WLAN/BT. Per the R-Matrix defining the relationship between antenna groups, the analysis demonstrates that the 1g SAR for both AG0 and AG1 independently remains ≤ 1.6 W/kg. Although AG0 and AG1 are decoupled, the sum of AG0 + AG1 was evaluated to further demonstrate this decoupling. While FCC compliance is determined by the 1.6 W/kg limit ($TER \leq 1.0$), this report conservatively applies SPLSR analysis for scenarios where the summed SAR exceeds the design target of 1.0 W/kg ($ER > 0.625$). Analysis demonstrates:

1. The mutually exclusive operation of AG1 and AG0 via SAR summation ($SAR \leq 1.0$ W/kg, $TER \leq 0.625$) or SPLSR evaluation.
2. The compliance between AG1 and NFC, and between AG0 and NFC.

When operating in the same antenna group, Samsung S.LSI TAS algorithm in WWAN directly adds the time-averaged RF exposure from 4G and time-averaged RF exposure from 5G NR. S.LSI algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G operations within an antenna group is demonstrated in the Part 2 Report during algorithm validation.

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E.3 Antenna Groups

The Samsung S.LSI TAS operates based on pre-defined antenna groups (AG). Tx antennas in the device (Sub6, WLAN, and Bluetooth) are grouped based on the spatial variation of RF exposure distributions, where the RF exposure of one AG is mutually exclusive from that of other AGs.

This is accomplished by demonstrating the conditions below for all exposure scenarios:

1. Each antenna combination between the two AGs (Sub6/WLAN/Bluetooth) sums to less than the manufacturer's design target.
2. If the sum for antenna combination is greater than SAR design target, then that combination meets SPLSR criteria (Section 4.3.2(c) in FCC KDB 447498 D04).

This device supports two sub6 AG: AG0 and AG1, with AG0 having 2 antennas (A, B) and AG1 having 5 antennas (E, F, G, H,J), and NFC external radio antennas. Demonstrating that AG0 is fully uncorrelated to AG1 through the following criteria:

- A. For each antenna, obtain the highest reported SAR for each of the supported technologies and bands (including Sub6, WLAN, and Bluetooth) along with the peak SAR locations. Using these values, demonstrate for a given position in an exposure condition that every antenna from one antenna group (AG) (Sub6/WLAN/BT) meets SPLSR criteria with every antenna in another AG (Sub6/WLAN/BT) for all frequency bands. This criterion must be demonstrated for all antenna pair combinations according to simultaneous transmission scenarios.

The following formula is used to calculate the SPLSR between antenna pair for each exposure configuration:

$$SPLSR = \frac{(SAR_i + SAR_j)^{1.5}}{\sqrt{(x_i - x_j)^2 + (y_i - y)^2 + (z_i - z_j)^2}}$$

Where i and j are bands/modes that can transmit simultaneously across AG0 and AG1, with x/y/z coordinates.

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E.4 Exposure Ratios

Exposure ratio (ER) for different transmitters is calculated as following:

$$ER_{SAR,n} = \frac{SAR_n}{SAR_{limit}}$$

Where:

- SAR_n is the SAR value for the n -th transmitter/test frequency
- SAR_{limit} is the basic restriction limit that is applicable to the n -th transmitter/test frequency

Compliance with the SAR based RF exposure limits is achieved if $TER_{SAR} \leq 1$. When $TER_{SAR} > 1$, SPLSR is additionally evaluated per below equation:

$$SPLSR = \frac{(ER_j + ER_k)^{1.5}}{R}$$

Where:

- ER_j and ER_k are exposure ratio of transmitter j and k
- R is the distance between transmitter j and k

When SPLSR is ≤ 0.02 for 1g exposure conditions or SPLSR is ≤ 0.013 for 10g exposure conditions simultaneous SAR evaluation is not required.

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E.5 Head (RSI = 1) SAR Antenna Group Analysis

Table E-1
RSI = 1 Held-to-ear AG Verification

Head	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	AG0 + AG1 Ratio to Limit
	Right Cheek	0.146	0.533	See Table Below
	Right Tilt	0.078	0.546	0.624
	Left Cheek	0.119	0.561	See Table Below
	Left Tilt	0.078	0.407	0.485

Right Cheek						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A_GSM 850	AG1: Ant E_UMTS 850	0.134	0.528	0.662	75.19	0.01
AG0: Ant A_GSM 850	AG1: Ant F_LTE Band 25	0.134	0.515	0.649	76.87	0.01
AG0: Ant A_GSM 850	AG1: Ant F_NR Band n41	0.134	0.533	0.667	80.28	0.01
AG0: Ant A_GSM 850	AG1: Ant F_NR Band n77	0.134	0.519	0.653	80.75	0.01
AG0: Ant A_LTE Band 13	AG1: Ant E_UMTS 850	0.146	0.528	0.674	77.31	0.01
AG0: Ant A_LTE Band 13	AG1: Ant F_LTE Band 25	0.146	0.515	0.661	79.79	0.01
AG0: Ant A_LTE Band 13	AG1: Ant F_LTE Band 41	0.146	0.484	0.63	82.36	0.01
AG0: Ant A_LTE Band 13	AG1: Ant F_NR Band n41	0.146	0.533	0.679	83.11	0.01
AG0: Ant A_LTE Band 13	AG1: Ant F_NR Band n66	0.146	0.488	0.634	85.93	0.01
AG0: Ant A_LTE Band 13	AG1: Ant F_NR Band n77	0.146	0.519	0.665	83.61	0.01
AG0: Ant A_LTE Band 13	AG1: Ant H_NR Band n41	0.146	0.487	0.633	77.12	0.01
AG0: Ant A_LTE Band 26	AG1: Ant E_UMTS 850	0.127	0.528	0.655	75.19	0.01
AG0: Ant A_LTE Band 26	AG1: Ant F_LTE Band 25	0.127	0.515	0.642	76.87	0.01
AG0: Ant A_LTE Band 26	AG1: Ant F_NR Band n41	0.127	0.533	0.66	80.28	0.01
AG0: Ant A_LTE Band 26	AG1: Ant F_NR Band n77	0.127	0.519	0.646	80.75	0.01
AG0: Ant A_NR Band n5	AG1: Ant E_UMTS 850	0.134	0.528	0.662	73.48	0.01
AG0: Ant A_NR Band n5	AG1: Ant F_LTE Band 25	0.134	0.515	0.649	74.96	0.01
AG0: Ant A_NR Band n5	AG1: Ant F_NR Band n41	0.134	0.533	0.667	78.39	0.01
AG0: Ant A_NR Band n5	AG1: Ant F_NR Band n77	0.134	0.519	0.653	78.86	0.01
AG0: Ant A_GSM 850	AG1: Ant F_NR Band n66	0.134	0.488	0.622	83.06	N/A

Note: The light gray highlighted row shows the worst case sum of all AG combinations under 1W/kg. Since the sum of these combinations is less than or equal to 1 W/kg (SAR design target for this EUT), therefore no further analysis is needed.

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Left Cheek						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A_GSM 850	AG1: Ant E_UMTS 850	0.09	0.561	0.651	65.13	0.01
AG0: Ant A_LTE Band 12	AG1: Ant E_UMTS 850	0.097	0.561	0.658	69.07	0.01
AG0: Ant A_LTE Band 13	AG1: Ant E_UMTS 850	0.119	0.561	0.68	65.13	0.01
AG0: Ant A_LTE Band 25	AG1: Ant E_UMTS 850	0.087	0.561	0.648	91.46	0.01
AG0: Ant A_LTE Band 26	AG1: Ant E_UMTS 850	0.109	0.561	0.67	65.25	0.01
AG0: Ant A_LTE Band 66	AG1: Ant E_UMTS 850	0.099	0.561	0.66	89.25	0.01
AG0: Ant A_NR Band n5	AG1: Ant E_UMTS 850	0.104	0.561	0.665	66.06	0.01
AG0: Ant A_NR Band n66	AG1: Ant E_UMTS 850	0.094	0.561	0.655	95.05	0.01
AG0: Ant A_UMTS 1750	AG1: Ant E_UMTS 850	0.115	0.561	0.676	88.48	0.01
AG0: Ant B_NR Band n41	AG1: Ant E_UMTS 850	0.094	0.561	0.655	89.38	0.01
AG0: Ant A_GSM 1900	AG1: Ant E_UMTS 850	0.059	0.561	0.62	90.42	N/A

Note: The light gray highlighted row shows the worst case sum of all AG combinations under 1W/kg. Since the sum of these combinations is less than or equal to 1 W/kg (SAR design target for this EUT), therefore no further analysis is needed.

Notes:

1. For Right Tilt and Left Tilt, since the worst case sum of all AG combinations are under 1 W/kg (0.625 Ratio to Limit), the AGs are considered fully uncoupled and no further analysis is needed.
2. No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report SAR and Hotspot Location Section for peak locations

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E.6 Body-worn (RSI = 0) SAR Antenna Group Analysis

Table E-2
RSI=0 Body-worn AG Verification

Bodyworn	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	AG0 + AG1 Ratio to Limit
	Back	0.739	0.672	See Table Below
	Front	0.631	0.416	See Table Below

Body-worn Back Side					
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)
AG0: Ant A, GSM 1900	AG1: Ant E, GSM 850	0.624	0.672	1.296	171.98
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 12	0.624	0.318	0.942	172.24
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 13	0.624	0.379	1.003	170.79
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 26	0.624	0.354	0.978	173.81
AG0: Ant A, GSM 1900	AG1: Ant E, NR Band n5	0.624	0.433	1.057	172.31
AG0: Ant A, GSM 1900	AG1: Ant E, UMTS 850	0.624	0.379	1.003	170.61
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 25	0.624	0.304	0.928	168.31
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 41	0.624	0.363	0.987	164.4
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 66	0.624	0.217	0.841	168.31
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n41	0.624	0.404	1.028	169.11
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n66	0.624	0.328	0.952	170.35
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n77	0.624	0.454	1.078	165.37
AG0: Ant A, GSM 1900	AG1: Ant G, 5 GHz WiFi	0.624	0.382	1.006	158.13
AG0: Ant A, GSM 1900	AG1: Ant G, 6 GHz WiFi	0.624	0.039	0.663	162.06
AG0: Ant A, GSM 1900	AG1: Ant H, 2.4 GHz Bluetooth	0.624	0.33	0.954	149.27
AG0: Ant A, GSM 1900	AG1: Ant H, 2.4 GHz WiFi	0.624	0.271	0.895	149.96
AG0: Ant A, GSM 1900	AG1: Ant H, NR Band n41	0.624	0.426	1.05	149.75
AG0: Ant A, GSM 1900	AG1: Ant J, NR Band n41	0.624	0.138	0.762	103.3
AG0: Ant A, GSM 1900	AG1: Ant MIMO, 2.4 GHz WiFi	0.624	0.305	0.929	165.68
AG0: Ant A, GSM 1900	AG1: Ant MIMO, 5 GHz WiFi	0.624	0.452	1.076	156.4
AG0: Ant A, GSM 1900	AG1: Ant MIMO, 6 GHz WiFi	0.624	0.027	0.651	162.06
AG0: Ant A, GSM 850	AG1: Ant E, GSM 850	0.609	0.672	1.281	164.75
AG0: Ant A, GSM 850	AG1: Ant E, LTE Band 12	0.609	0.318	0.927	164.82
AG0: Ant A, GSM 850	AG1: Ant E, LTE Band 13	0.609	0.379	0.988	163.59
AG0: Ant A, GSM 850	AG1: Ant E, LTE Band 26	0.609	0.354	0.963	166.67
AG0: Ant A, GSM 850	AG1: Ant E, NR Band n5	0.609	0.433	1.042	164.2
AG0: Ant A, GSM 850	AG1: Ant E, UMTS 850	0.609	0.379	0.988	162.9
AG0: Ant A, GSM 850	AG1: Ant F, LTE Band 25	0.609	0.304	0.913	157.23
AG0: Ant A, GSM 850	AG1: Ant F, LTE Band 41	0.609	0.363	0.972	152.92
AG0: Ant A, GSM 850	AG1: Ant F, LTE Band 66	0.609	0.217	0.826	157.23
AG0: Ant A, GSM 850	AG1: Ant F, NR Band n41	0.609	0.404	1.013	158.12
AG0: Ant A, GSM 850	AG1: Ant F, NR Band n66	0.609	0.328	0.937	159.16
AG0: Ant A, GSM 850	AG1: Ant F, NR Band n77	0.609	0.454	1.063	153.84
AG0: Ant A, GSM 850	AG1: Ant G, 5 GHz WiFi	0.609	0.382	0.991	144.34
AG0: Ant A, GSM 850	AG1: Ant G, 6 GHz WiFi	0.609	0.039	0.648	148.66
AG0: Ant A, GSM 850	AG1: Ant H, 2.4 GHz Bluetooth	0.609	0.33	0.939	135.28
AG0: Ant A, GSM 850	AG1: Ant H, 2.4 GHz WiFi	0.609	0.271	0.88	135.73
AG0: Ant A, GSM 850	AG1: Ant H, NR Band n41	0.609	0.426	1.035	136.39
AG0: Ant A, GSM 850	AG1: Ant J, NR Band n41	0.609	0.138	0.747	102.25
AG0: Ant A, GSM 850	AG1: Ant MIMO, 2.4 GHz WiFi	0.609	0.305	0.914	151.99
AG0: Ant A, GSM 850	AG1: Ant MIMO, 5 GHz WiFi	0.609	0.452	1.061	142.44
AG0: Ant A, GSM 850	AG1: Ant MIMO, 6 GHz WiFi	0.609	0.027	0.636	148.66
AG0: Ant A, LTE Band 12	AG1: Ant E, GSM 850	0.443	0.672	1.115	164.47
AG0: Ant A, LTE Band 12	AG1: Ant E, LTE Band 12	0.443	0.318	0.761	164.56
AG0: Ant A, LTE Band 12	AG1: Ant E, LTE Band 13	0.443	0.379	0.822	163.32
AG0: Ant A, LTE Band 12	AG1: Ant E, LTE Band 26	0.443	0.354	0.797	166.39
AG0: Ant A, LTE Band 12	AG1: Ant E, NR Band n5	0.443	0.433	0.876	163.97
AG0: Ant A, LTE Band 12	AG1: Ant E, UMTS 850	0.443	0.379	0.822	162.65
AG0: Ant A, LTE Band 12	AG1: Ant F, LTE Band 25	0.443	0.304	0.747	157.16
AG0: Ant A, LTE Band 12	AG1: Ant F, LTE Band 41	0.443	0.363	0.806	152.87
AG0: Ant A, LTE Band 12	AG1: Ant F, LTE Band 66	0.443	0.217	0.66	157.16
AG0: Ant A, LTE Band 12	AG1: Ant F, NR Band n41	0.443	0.404	0.847	158.05
AG0: Ant A, LTE Band 12	AG1: Ant F, NR Band n66	0.443	0.328	0.771	159.1
AG0: Ant A, LTE Band 12	AG1: Ant F, NR Band n77	0.443	0.454	0.897	153.79
AG0: Ant A, LTE Band 12	AG1: Ant G, 5 GHz WiFi	0.443	0.382	0.825	144.42
AG0: Ant A, LTE Band 12	AG1: Ant H, 2.4 GHz Bluetooth	0.443	0.33	0.773	135.37
AG0: Ant A, LTE Band 12	AG1: Ant H, 2.4 GHz WiFi	0.443	0.271	0.714	135.83
AG0: Ant A, LTE Band 12	AG1: Ant H, NR Band n41	0.443	0.426	0.869	136.44
AG0: Ant A, LTE Band 12	AG1: Ant MIMO, 2.4 GHz WiFi	0.443	0.305	0.748	152.07
AG0: Ant A, LTE Band 12	AG1: Ant MIMO, 5 GHz WiFi	0.443	0.452	0.895	142.53
AG0: Ant A, LTE Band 13	AG1: Ant E, GSM 850	0.623	0.672	1.295	167.59
AG0: Ant A, LTE Band 13	AG1: Ant E, LTE Band 12	0.623	0.318	0.941	167.67
AG0: Ant A, LTE Band 13	AG1: Ant E, LTE Band 13	0.623	0.379	1.002	166.44
AG0: Ant A, LTE Band 13	AG1: Ant E, LTE Band 26	0.623	0.354	0.977	169.51
AG0: Ant A, LTE Band 13	AG1: Ant E, NR Band n5	0.623	0.433	1.056	167.04
AG0: Ant A, LTE Band 13	AG1: Ant E, UMTS 850	0.623	0.379	1.002	165.75
AG0: Ant A, LTE Band 13	AG1: Ant F, LTE Band 25	0.623	0.304	0.927	160.02
AG0: Ant A, LTE Band 13	AG1: Ant F, LTE Band 41	0.623	0.363	0.986	155.7
AG0: Ant A, LTE Band 13	AG1: Ant F, LTE Band 66	0.623	0.217	0.84	160.02
AG0: Ant A, LTE Band 13	AG1: Ant F, NR Band n41	0.623	0.404	1.027	160.92
AG0: Ant A, LTE Band 13	AG1: Ant F, NR Band n66	0.623	0.328	0.951	161.95
AG0: Ant A, LTE Band 13	AG1: Ant F, NR Band n77	0.623	0.454	1.077	156.62
AG0: Ant A, LTE Band 13	AG1: Ant G, 5 GHz WiFi	0.623	0.382	1.005	147.03
AG0: Ant A, LTE Band 13	AG1: Ant G, 6 GHz WiFi	0.623	0.039	0.662	151.37
AG0: Ant A, LTE Band 13	AG1: Ant H, 2.4 GHz Bluetooth	0.623	0.33	0.953	137.97
AG0: Ant A, LTE Band 13	AG1: Ant H, 2.4 GHz WiFi	0.623	0.271	0.894	138.4
AG0: Ant A, LTE Band 13	AG1: Ant H, NR Band n41	0.623	0.426	1.049	139.11
AG0: Ant A, LTE Band 13	AG1: Ant J, NR Band n41	0.623	0.138	0.761	104.96
AG0: Ant A, LTE Band 13	AG1: Ant MIMO, 2.4 GHz WiFi	0.623	0.305	0.928	154.68
AG0: Ant A, LTE Band 13	AG1: Ant MIMO, 5 GHz WiFi	0.623	0.452	1.075	145.12
AG0: Ant A, LTE Band 13	AG1: Ant MIMO, 6 GHz WiFi	0.623	0.027	0.65	151.37
AG0: Ant A, LTE Band 25	AG1: Ant E, GSM 850	0.6	0.672	1.272	170.54
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 12	0.6	0.318	0.918	170.82
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 13	0.6	0.379	0.979	169.34
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 26	0.6	0.354	0.954	172.36
AG0: Ant A, LTE Band 25	AG1: Ant E, NR Band n5	0.6	0.433	1.033	170.93
AG0: Ant A, LTE Band 25	AG1: Ant E, UMTS 850	0.6	0.379	0.979	169.2
AG0: Ant A, LTE Band 25	AG1: Ant F, LTE Band 25	0.6	0.304	0.904	167.15
AG0: Ant A, LTE Band 25	AG1: Ant F, LTE Band 41	0.6	0.363	0.963	163.28
AG0: Ant A, LTE Band 25	AG1: Ant F, LTE Band 66	0.6	0.217	0.817	167.15
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n41	0.6	0.404	1.004	167.95
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n66	0.6	0.328	0.928	169.2
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n77	0.6	0.454	1.054	164.25
AG0: Ant A, LTE Band 25	AG1: Ant G, 5 GHz WiFi	0.6	0.382	0.982	157.22
AG0: Ant A, LTE Band 25	AG1: Ant G, 6 GHz WiFi	0.6	0.039	0.639	161.11
AG0: Ant A, LTE Band 25	AG1: Ant H, 2.4 GHz Bluetooth	0.6	0.33	0.93	148.38
AG0: Ant A, LTE Band 25	AG1: Ant H, 2.4 GHz WiFi	0.6	0.271	0.871	149.1
AG0: Ant A, LTE Band 25	AG1: Ant H, NR Band n41	0.6	0.426	1.026	148.8
AG0: Ant A, LTE Band 25	AG1: Ant J, NR Band n41	0.6	0.138	0.738	101.57
AG0: Ant A, LTE Band 25	AG1: Ant MIMO, 2.4 GHz WiFi	0.6	0.305	0.905	164.76
AG0: Ant A, LTE Band 25	AG1: Ant MIMO, 5 GHz WiFi	0.6	0.452	1.052	155.51
AG0: Ant A, LTE Band 25	AG1: Ant MIMO, 6 GHz WiFi	0.6	0.027	0.627	161.11

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Body-worn Back Side						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A, LTE Band 26	AG1: Ant E, GSM 850	0.544	0.672	1.216	159.14	0.01
AG0: Ant A, LTE Band 26	AG1: Ant E, LTE Band 12	0.544	0.318	0.862	159.21	0.01
AG0: Ant A, LTE Band 26	AG1: Ant E, LTE Band 13	0.544	0.379	0.923	157.99	0.01
AG0: Ant A, LTE Band 26	AG1: Ant E, LTE Band 26	0.544	0.354	0.898	161.07	0.01
AG0: Ant A, LTE Band 26	AG1: Ant E, NR Band n5	0.544	0.433	0.977	158.55	0.01
AG0: Ant A, LTE Band 26	AG1: Ant E, UMTS 850	0.544	0.379	0.923	157.28	0.01
AG0: Ant A, LTE Band 26	AG1: Ant F, LTE Band 25	0.544	0.304	0.848	151.53	0.01
AG0: Ant A, LTE Band 26	AG1: Ant F, LTE Band 41	0.544	0.363	0.907	147.22	0.01
AG0: Ant A, LTE Band 26	AG1: Ant F, LTE Band 66	0.544	0.217	0.761	151.53	0
AG0: Ant A, LTE Band 26	AG1: Ant F, NR Band n41	0.544	0.404	0.948	152.42	0.01
AG0: Ant A, LTE Band 26	AG1: Ant F, NR Band n66	0.544	0.328	0.872	153.46	0.01
AG0: Ant A, LTE Band 26	AG1: Ant F, NR Band n77	0.544	0.454	0.998	148.14	0.01
AG0: Ant A, LTE Band 26	AG1: Ant G, 5 GHz WiFi	0.544	0.382	0.926	138.7	0.01
AG0: Ant A, LTE Band 26	AG1: Ant H, 2.4 GHz Bluetooth	0.544	0.33	0.874	129.65	0.01
AG0: Ant A, LTE Band 26	AG1: Ant H, 2.4 GHz WiFi	0.544	0.271	0.815	130.11	0.01
AG0: Ant A, LTE Band 26	AG1: Ant H, NR Band n41	0.544	0.426	0.97	130.73	0.01
AG0: Ant A, LTE Band 26	AG1: Ant J, NR Band n41	0.544	0.138	0.682	97.27	0.01
AG0: Ant A, LTE Band 26	AG1: Ant MIMO, 2.4 GHz WiFi	0.544	0.305	0.849	146.35	0.01
AG0: Ant A, LTE Band 26	AG1: Ant MIMO, 5 GHz WiFi	0.544	0.452	0.996	136.8	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, GSM 850	0.739	0.672	1.411	170.83	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 12	0.739	0.318	1.057	171.06	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 13	0.739	0.379	1.118	169.64	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 26	0.739	0.354	1.093	172.67	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, NR Band n5	0.739	0.433	1.172	171.01	0.01
AG0: Ant A, LTE Band 66	AG1: Ant E, UMTS 850	0.739	0.379	1.118	169.38	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, LTE Band 25	0.739	0.304	1.043	166.53	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, LTE Band 41	0.739	0.363	1.102	162.55	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, LTE Band 66	0.739	0.217	0.956	166.53	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n41	0.739	0.404	1.143	167.35	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n66	0.739	0.328	1.067	168.56	0.01
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n77	0.739	0.454	1.193	163.52	0.01
AG0: Ant A, LTE Band 66	AG1: Ant G, 5 GHz WiFi	0.739	0.382	1.121	155.91	0.01
AG0: Ant A, LTE Band 66	AG1: Ant G, 6 GHz WiFi	0.739	0.039	0.778	159.9	0
AG0: Ant A, LTE Band 66	AG1: Ant H, 2.4 GHz Bluetooth	0.739	0.33	1.069	147	0.01
AG0: Ant A, LTE Band 66	AG1: Ant H, 2.4 GHz WiFi	0.739	0.271	1.01	147.66	0.01
AG0: Ant A, LTE Band 66	AG1: Ant H, NR Band n41	0.739	0.426	1.165	147.58	0.01
AG0: Ant A, LTE Band 66	AG1: Ant J, NR Band n41	0.739	0.138	0.677	103.01	0.01
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 2.4 GHz WiFi	0.739	0.305	1.044	163.48	0.01
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 5 GHz WiFi	0.739	0.452	1.191	154.15	0.01
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 6 GHz WiFi	0.739	0.027	0.766	159.9	0
AG0: Ant A, NR Band n5	AG1: Ant E, GSM 850	0.529	0.672	1.201	157.35	0.01
AG0: Ant A, NR Band n5	AG1: Ant E, LTE Band 12	0.529	0.318	0.847	157.36	0
AG0: Ant A, NR Band n5	AG1: Ant E, LTE Band 13	0.529	0.379	0.908	156.22	0.01
AG0: Ant A, NR Band n5	AG1: Ant E, LTE Band 26	0.529	0.354	0.883	159.3	0.01
AG0: Ant A, NR Band n5	AG1: Ant E, NR Band n5	0.529	0.433	0.962	156.51	0.01
AG0: Ant A, NR Band n5	AG1: Ant E, UMTS 850	0.529	0.379	0.908	155.36	0.01
AG0: Ant A, NR Band n5	AG1: Ant F, LTE Band 25	0.529	0.304	0.833	148.62	0.01
AG0: Ant A, NR Band n5	AG1: Ant F, LTE Band 41	0.529	0.363	0.892	144.2	0.01
AG0: Ant A, NR Band n5	AG1: Ant F, LTE Band 66	0.529	0.217	0.746	148.62	0
AG0: Ant A, NR Band n5	AG1: Ant F, NR Band n41	0.529	0.404	0.933	149.53	0.01
AG0: Ant A, NR Band n5	AG1: Ant F, NR Band n66	0.529	0.328	0.857	150.51	0.01
AG0: Ant A, NR Band n5	AG1: Ant F, NR Band n77	0.529	0.454	0.983	145.1	0.01
AG0: Ant A, NR Band n5	AG1: Ant G, 5 GHz WiFi	0.529	0.382	0.911	135	0.01
AG0: Ant A, NR Band n5	AG1: Ant H, 2.4 GHz Bluetooth	0.529	0.33	0.859	125.91	0.01
AG0: Ant A, NR Band n5	AG1: Ant H, 2.4 GHz WiFi	0.529	0.271	0.8	126.29	0.01
AG0: Ant A, NR Band n5	AG1: Ant H, NR Band n41	0.529	0.426	0.955	127.19	0.01
AG0: Ant A, NR Band n5	AG1: Ant J, NR Band n41	0.529	0.138	0.667	97.72	0.01
AG0: Ant A, NR Band n5	AG1: Ant MIMO, 2.4 GHz WiFi	0.529	0.305	0.834	142.65	0.01
AG0: Ant A, NR Band n5	AG1: Ant MIMO, 5 GHz WiFi	0.529	0.452	0.981	133.05	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, GSM 850	0.717	0.672	1.389	165.05	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 12	0.717	0.318	1.035	165.26	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 13	0.717	0.379	1.096	163.86	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 26	0.717	0.354	1.071	166.9	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, NR Band n5	0.717	0.433	1.15	165.15	0.01
AG0: Ant A, NR Band n66	AG1: Ant E, UMTS 850	0.717	0.379	1.096	163.55	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 25	0.717	0.304	1.021	160.44	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 41	0.717	0.363	1.08	156.44	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 66	0.717	0.217	0.934	160.44	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n41	0.717	0.404	1.121	161.26	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n66	0.717	0.328	1.045	162.46	0.01
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n77	0.717	0.454	1.171	157.4	0.01
AG0: Ant A, NR Band n66	AG1: Ant G, 5 GHz WiFi	0.717	0.382	1.099	149.72	0
AG0: Ant A, NR Band n66	AG1: Ant G, 6 GHz WiFi	0.717	0.039	0.756	153.72	0
AG0: Ant A, NR Band n66	AG1: Ant H, 2.4 GHz Bluetooth	0.717	0.33	1.047	140.81	0.01
AG0: Ant A, NR Band n66	AG1: Ant H, 2.4 GHz WiFi	0.717	0.271	0.988	141.46	0.01
AG0: Ant A, NR Band n66	AG1: Ant H, NR Band n41	0.717	0.426	1.143	141.4	0.01
AG0: Ant A, NR Band n66	AG1: Ant J, NR Band n41	0.717	0.138	0.655	97.97	0.01
AG0: Ant A, NR Band n66	AG1: Ant MIMO, 2.4 GHz WiFi	0.717	0.305	1.022	157.29	0.01
AG0: Ant A, NR Band n66	AG1: Ant MIMO, 5 GHz WiFi	0.717	0.452	1.169	147.95	0.01
AG0: Ant A, NR Band n66	AG1: Ant MIMO, 6 GHz WiFi	0.717	0.027	0.744	153.72	0
AG0: Ant A, UMTS 1750	AG1: Ant E, GSM 850	0.419	0.672	1.091	167.85	0.01
AG0: Ant A, UMTS 1750	AG1: Ant E, LTE Band 12	0.419	0.318	0.737	168.08	0
AG0: Ant A, UMTS 1750	AG1: Ant E, LTE Band 13	0.419	0.379	0.798	166.67	0
AG0: Ant A, UMTS 1750	AG1: Ant E, LTE Band 26	0.419	0.354	0.773	169.7	0
AG0: Ant A, UMTS 1750	AG1: Ant E, NR Band n5	0.419	0.433	0.852	168.02	0
AG0: Ant A, UMTS 1750	AG1: Ant E, UMTS 850	0.419	0.379	0.798	166.39	0
AG0: Ant A, UMTS 1750	AG1: Ant F, LTE Band 25	0.419	0.304	0.723	163.5	0
AG0: Ant A, UMTS 1750	AG1: Ant F, LTE Band 41	0.419	0.363	0.782	159.53	0
AG0: Ant A, UMTS 1750	AG1: Ant F, LTE Band 66	0.419	0.217	0.636	163.5	0
AG0: Ant A, UMTS 1750	AG1: Ant F, NR Band n41	0.419	0.404	0.823	164.32	0
AG0: Ant A, UMTS 1750	AG1: Ant F, NR Band n66	0.419	0.328	0.747	165.53	0
AG0: Ant A, UMTS 1750	AG1: Ant F, NR Band n77	0.419	0.454	0.873	160.49	0.01
AG0: Ant A, UMTS 1750	AG1: Ant G, 5 GHz WiFi	0.419	0.382	0.801	152.91	0
AG0: Ant A, UMTS 1750	AG1: Ant H, 2.4 GHz Bluetooth	0.419	0.33	0.749	144.01	0
AG0: Ant A, UMTS 1750	AG1: Ant H, 2.4 GHz WiFi	0.419	0.271	0.69	144.67	0
AG0: Ant A, UMTS 1750	AG1: Ant H, NR Band n41	0.419	0.426	0.845	144.58	0.01
AG0: Ant A, UMTS 1750	AG1: Ant MIMO, 2.4 GHz WiFi	0.419	0.305	0.724	160.48	0
AG0: Ant A, UMTS 1750	AG1: Ant MIMO, 5 GHz WiFi	0.419	0.452	0.871	151.15	0.01

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Body-worn Back Side						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A, UMTS 1900	AG1: Ant E, GSM 850	0.403	0.672	1.075	169.43	0.01
AG0: Ant A, UMTS 1900	AG1: Ant E, LTE Band 12	0.403	0.318	0.721	169.71	0
AG0: Ant A, UMTS 1900	AG1: Ant E, LTE Band 13	0.403	0.379	0.782	168.24	0
AG0: Ant A, UMTS 1900	AG1: Ant E, LTE Band 26	0.403	0.354	0.757	171.25	0
AG0: Ant A, UMTS 1900	AG1: Ant E, NR Band n5	0.403	0.433	0.836	169.83	0
AG0: Ant A, UMTS 1900	AG1: Ant E, UMTS 850	0.403	0.379	0.782	168.1	0
AG0: Ant A, UMTS 1900	AG1: Ant F, LTE Band 25	0.403	0.304	0.707	166.11	0
AG0: Ant A, UMTS 1900	AG1: Ant F, LTE Band 41	0.403	0.363	0.766	162.25	0
AG0: Ant A, UMTS 1900	AG1: Ant F, NR Band n41	0.403	0.404	0.807	166.91	0
AG0: Ant A, UMTS 1900	AG1: Ant F, NR Band n66	0.403	0.328	0.731	168.16	0
AG0: Ant A, UMTS 1900	AG1: Ant F, NR Band n77	0.403	0.454	0.857	163.22	0
AG0: Ant A, UMTS 1900	AG1: Ant G, 5 GHz WiFi	0.403	0.382	0.785	156.26	0
AG0: Ant A, UMTS 1900	AG1: Ant H, 2.4 GHz Bluetooth	0.403	0.33	0.733	147.43	0
AG0: Ant A, UMTS 1900	AG1: Ant H, 2.4 GHz WiFi	0.403	0.271	0.674	148.15	0
AG0: Ant A, UMTS 1900	AG1: Ant H, NR Band n41	0.403	0.426	0.829	147.83	0.01
AG0: Ant A, UMTS 1900	AG1: Ant MIMO, 2.4 GHz WiFi	0.403	0.305	0.708	163.79	0
AG0: Ant A, UMTS 1900	AG1: Ant MIMO, 5 GHz WiFi	0.403	0.452	0.855	154.55	0.01
AG0: Ant A, UMTS 850	AG1: Ant E, GSM 850	0.486	0.672	1.158	159.8	0.01
AG0: Ant A, UMTS 850	AG1: Ant E, LTE Band 12	0.486	0.318	0.804	159.84	0
AG0: Ant A, UMTS 850	AG1: Ant E, LTE Band 13	0.486	0.379	0.865	158.66	0.01
AG0: Ant A, UMTS 850	AG1: Ant E, LTE Band 26	0.486	0.354	0.84	161.74	0
AG0: Ant A, UMTS 850	AG1: Ant E, NR Band n5	0.486	0.433	0.919	159.09	0.01
AG0: Ant A, UMTS 850	AG1: Ant E, UMTS 850	0.486	0.379	0.865	157.87	0.01
AG0: Ant A, UMTS 850	AG1: Ant F, LTE Band 25	0.486	0.304	0.79	151.6	0
AG0: Ant A, UMTS 850	AG1: Ant F, LTE Band 41	0.486	0.363	0.849	147.23	0.01
AG0: Ant A, UMTS 850	AG1: Ant F, LTE Band 66	0.486	0.217	0.703	151.6	0
AG0: Ant A, UMTS 850	AG1: Ant F, NR Band n41	0.486	0.404	0.89	152.5	0.01
AG0: Ant A, UMTS 850	AG1: Ant F, NR Band n66	0.486	0.328	0.814	153.5	0
AG0: Ant A, UMTS 850	AG1: Ant F, NR Band n77	0.486	0.454	0.94	148.14	0.01
AG0: Ant A, UMTS 850	AG1: Ant G, 5 GHz WiFi	0.486	0.382	0.868	138.31	0.01
AG0: Ant A, UMTS 850	AG1: Ant H, 2.4 GHz Bluetooth	0.486	0.33	0.816	129.23	0.01
AG0: Ant A, UMTS 850	AG1: Ant H, 2.4 GHz WiFi	0.486	0.271	0.757	129.65	0.01
AG0: Ant A, UMTS 850	AG1: Ant H, NR Band n41	0.486	0.426	0.912	130.43	0.01
AG0: Ant A, UMTS 850	AG1: Ant MIMO, 2.4 GHz WiFi	0.486	0.305	0.791	145.96	0
AG0: Ant A, UMTS 850	AG1: Ant MIMO, 5 GHz WiFi	0.486	0.452	0.938	136.38	0.01
AG0: Ant B, LTE Band 41	AG1: Ant E, GSM 850	0.411	0.672	1.083	170.32	0.01
AG0: Ant B, LTE Band 41	AG1: Ant E, LTE Band 12	0.411	0.318	0.729	170.33	0
AG0: Ant B, LTE Band 41	AG1: Ant E, LTE Band 13	0.411	0.379	0.79	169.19	0
AG0: Ant B, LTE Band 41	AG1: Ant E, LTE Band 26	0.411	0.354	0.765	172.27	0
AG0: Ant B, LTE Band 41	AG1: Ant E, NR Band n5	0.411	0.433	0.844	169.45	0
AG0: Ant B, LTE Band 41	AG1: Ant E, UMTS 850	0.411	0.379	0.79	168.31	0
AG0: Ant B, LTE Band 41	AG1: Ant F, LTE Band 25	0.411	0.304	0.715	161.3	0
AG0: Ant B, LTE Band 41	AG1: Ant F, LTE Band 41	0.411	0.363	0.774	156.82	0
AG0: Ant B, LTE Band 41	AG1: Ant F, LTE Band 66	0.411	0.217	0.628	161.3	0
AG0: Ant B, LTE Band 41	AG1: Ant F, NR Band n41	0.411	0.404	0.815	162.22	0
AG0: Ant B, LTE Band 41	AG1: Ant F, NR Band n66	0.411	0.328	0.739	163.16	0
AG0: Ant B, LTE Band 41	AG1: Ant F, NR Band n77	0.411	0.454	0.865	157.72	0.01
AG0: Ant B, LTE Band 41	AG1: Ant G, 5 GHz WiFi	0.411	0.382	0.793	147.18	0
AG0: Ant B, LTE Band 41	AG1: Ant H, 2.4 GHz Bluetooth	0.411	0.33	0.741	138.07	0
AG0: Ant B, LTE Band 41	AG1: Ant H, 2.4 GHz WiFi	0.411	0.271	0.682	138.38	0
AG0: Ant B, LTE Band 41	AG1: Ant H, NR Band n41	0.411	0.426	0.837	139.5	0.01
AG0: Ant B, LTE Band 41	AG1: Ant MIMO, 2.4 GHz WiFi	0.411	0.305	0.716	154.83	0
AG0: Ant B, LTE Band 41	AG1: Ant MIMO, 5 GHz WiFi	0.411	0.452	0.863	145.19	0.01
AG0: Ant B, NR Band n41	AG1: Ant E, GSM 850	0.496	0.672	1.168	172.33	0.01
AG0: Ant B, NR Band n41	AG1: Ant E, LTE Band 12	0.496	0.318	0.814	172.33	0
AG0: Ant B, NR Band n41	AG1: Ant E, LTE Band 13	0.496	0.379	0.875	171.2	0
AG0: Ant B, NR Band n41	AG1: Ant E, LTE Band 26	0.496	0.354	0.85	174.28	0
AG0: Ant B, NR Band n41	AG1: Ant E, NR Band n5	0.496	0.433	0.929	171.43	0.01
AG0: Ant B, NR Band n41	AG1: Ant E, UMTS 850	0.496	0.379	0.875	170.31	0
AG0: Ant B, NR Band n41	AG1: Ant F, LTE Band 25	0.496	0.304	0.8	163.14	0
AG0: Ant B, NR Band n41	AG1: Ant F, LTE Band 41	0.496	0.363	0.859	158.65	0.01
AG0: Ant B, NR Band n41	AG1: Ant F, LTE Band 66	0.496	0.217	0.713	163.14	0
AG0: Ant B, NR Band n41	AG1: Ant F, NR Band n41	0.496	0.404	0.9	164.07	0.01
AG0: Ant B, NR Band n41	AG1: Ant F, NR Band n66	0.496	0.328	0.824	165	0
AG0: Ant B, NR Band n41	AG1: Ant F, NR Band n77	0.496	0.454	0.95	159.54	0.01
AG0: Ant B, NR Band n41	AG1: Ant G, 5 GHz WiFi	0.496	0.382	0.878	148.86	0.01
AG0: Ant B, NR Band n41	AG1: Ant H, 2.4 GHz Bluetooth	0.496	0.33	0.826	139.75	0.01
AG0: Ant B, NR Band n41	AG1: Ant H, 2.4 GHz WiFi	0.496	0.271	0.767	140.04	0
AG0: Ant B, NR Band n41	AG1: Ant H, NR Band n41	0.496	0.426	0.922	141.22	0.01
AG0: Ant B, NR Band n41	AG1: Ant J, NR Band n41	0.496	0.138	0.634	112.23	0
AG0: Ant B, NR Band n41	AG1: Ant MIMO, 2.4 GHz WiFi	0.496	0.305	0.801	156.51	0
AG0: Ant B, NR Band n41	AG1: Ant MIMO, 5 GHz WiFi	0.496	0.452	0.948	146.86	0.01
AG0: Ant A, UMTS 850	AG1: Ant J, NR Band n41	0.486	0.138	0.624	98.96	N/A

Note: The light gray highlighted row shows the worst case sum of all AG combinations under 1W/kg. Since the sum of these combinations is less than or equal to 1 W/kg (SAR design target for this EUT), therefore no further analysis is needed.

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Body-worn Front Side					
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)
AG0: Ant A, GSM 1900	AG1: Ant E, GSM 850	0.538	0.416	0.954	178.31
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 12	0.538	0.221	0.759	175.82
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 13	0.538	0.333	0.871	177.13
AG0: Ant A, GSM 1900	AG1: Ant E, LTE Band 26	0.538	0.286	0.824	175.6
AG0: Ant A, GSM 1900	AG1: Ant E, NR Band n5	0.538	0.3	0.838	176.22
AG0: Ant A, GSM 1900	AG1: Ant E, UMTS 850	0.538	0.345	0.883	173.21
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 25	0.538	0.221	0.759	170.64
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 41	0.538	0.204	0.742	169.27
AG0: Ant A, GSM 1900	AG1: Ant F, LTE Band 66	0.538	0.16	0.698	171.36
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n41	0.538	0.257	0.795	173.08
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n66	0.538	0.216	0.754	173.34
AG0: Ant A, GSM 1900	AG1: Ant F, NR Band n77	0.538	0.227	0.765	170.64
AG0: Ant A, GSM 1900	AG1: Ant G, 5 GHz WiFi	0.538	0.328	0.866	149.36
AG0: Ant A, GSM 1900	AG1: Ant H, 2.4 GHz Bluetooth	0.538	0.259	0.797	147.65
AG0: Ant A, GSM 1900	AG1: Ant H, 2.4 GHz WiFi	0.538	0.229	0.767	146.94
AG0: Ant A, GSM 1900	AG1: Ant H, NR Band n41	0.538	0.274	0.812	149.36
AG0: Ant A, GSM 1900	AG1: Ant J, NR Band n41	0.538	0.145	0.683	106.26
AG0: Ant A, GSM 1900	AG1: Ant MIMO, 2.4 GHz WiFi	0.538	0.256	0.794	149.36
AG0: Ant A, GSM 1900	AG1: Ant MIMO, 5 GHz WiFi	0.538	0.328	0.866	151.73
AG0: Ant A, GSM 850	AG1: Ant E, GSM 850	0.302	0.416	0.718	168.07
AG0: Ant A, GSM 850	AG1: Ant E, LTE Band 13	0.302	0.333	0.635	167.54
AG0: Ant A, GSM 850	AG1: Ant E, UMTS 850	0.302	0.345	0.647	164.66
AG0: Ant A, GSM 850	AG1: Ant G, 5 GHz WiFi	0.302	0.328	0.63	133.69
AG0: Ant A, GSM 850	AG1: Ant MIMO, 5 GHz WiFi	0.302	0.328	0.63	136.36
AG0: Ant A, LTE Band 12	AG1: Ant E, GSM 850	0.251	0.416	0.667	174.92
AG0: Ant A, LTE Band 13	AG1: Ant E, GSM 850	0.361	0.416	0.777	176.01
AG0: Ant A, LTE Band 13	AG1: Ant E, LTE Band 13	0.361	0.333	0.694	175.28
AG0: Ant A, LTE Band 13	AG1: Ant E, LTE Band 26	0.361	0.286	0.647	174.26
AG0: Ant A, LTE Band 13	AG1: Ant E, NR Band n5	0.361	0.3	0.661	174.71
AG0: Ant A, LTE Band 13	AG1: Ant E, UMTS 850	0.361	0.345	0.706	172.07
AG0: Ant A, LTE Band 13	AG1: Ant G, 5 GHz WiFi	0.361	0.328	0.689	143.06
AG0: Ant A, LTE Band 13	AG1: Ant H, NR Band n41	0.361	0.274	0.635	143.06
AG0: Ant A, LTE Band 13	AG1: Ant MIMO, 5 GHz WiFi	0.361	0.328	0.689	145.67
AG0: Ant A, LTE Band 25	AG1: Ant E, GSM 850	0.426	0.416	0.842	179.51
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 12	0.426	0.221	0.647	177.01
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 13	0.426	0.333	0.759	178.32
AG0: Ant A, LTE Band 25	AG1: Ant E, LTE Band 26	0.426	0.286	0.712	176.36
AG0: Ant A, LTE Band 25	AG1: Ant E, NR Band n5	0.426	0.3	0.726	177.4
AG0: Ant A, LTE Band 25	AG1: Ant E, UMTS 850	0.426	0.345	0.771	174.38
AG0: Ant A, LTE Band 25	AG1: Ant F, LTE Band 25	0.426	0.221	0.647	171.9
AG0: Ant A, LTE Band 25	AG1: Ant F, LTE Band 41	0.426	0.204	0.63	170.52
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n41	0.426	0.257	0.683	174.33
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n66	0.426	0.216	0.642	174.59
AG0: Ant A, LTE Band 25	AG1: Ant F, NR Band n77	0.426	0.227	0.653	171.9
AG0: Ant A, LTE Band 25	AG1: Ant G, 5 GHz WiFi	0.426	0.328	0.754	150.65
AG0: Ant A, LTE Band 25	AG1: Ant H, 2.4 GHz Bluetooth	0.426	0.259	0.685	148.94
AG0: Ant A, LTE Band 25	AG1: Ant H, 2.4 GHz WiFi	0.426	0.229	0.655	148.23
AG0: Ant A, LTE Band 25	AG1: Ant H, NR Band n41	0.426	0.274	0.7	150.65
AG0: Ant A, LTE Band 25	AG1: Ant MIMO, 2.4 GHz WiFi	0.426	0.256	0.682	150.65
AG0: Ant A, LTE Band 25	AG1: Ant MIMO, 5 GHz WiFi	0.426	0.328	0.754	153.02
AG0: Ant A, LTE Band 26	AG1: Ant E, GSM 850	0.296	0.416	0.712	168.44
AG0: Ant A, LTE Band 26	AG1: Ant E, LTE Band 13	0.296	0.333	0.629	167.88
AG0: Ant A, LTE Band 26	AG1: Ant E, UMTS 850	0.296	0.345	0.641	164.96
AG0: Ant A, LTE Band 66	AG1: Ant E, GSM 850	0.631	0.416	1.047	178.42
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 12	0.631	0.221	0.852	176.03
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 13	0.631	0.333	0.964	177.35
AG0: Ant A, LTE Band 66	AG1: Ant E, LTE Band 26	0.631	0.286	0.917	175.95
AG0: Ant A, LTE Band 66	AG1: Ant E, NR Band n5	0.631	0.3	0.931	176.53
AG0: Ant A, LTE Band 66	AG1: Ant E, UMTS 850	0.631	0.345	0.976	173.61
AG0: Ant A, LTE Band 66	AG1: Ant F, LTE Band 25	0.631	0.221	0.852	170.23
AG0: Ant A, LTE Band 66	AG1: Ant F, LTE Band 41	0.631	0.204	0.835	168.93
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band 66	0.631	0.16	0.791	170.93
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n41	0.631	0.257	0.888	172.1
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n66	0.631	0.216	0.847	172.99
AG0: Ant A, LTE Band 66	AG1: Ant F, NR Band n77	0.631	0.227	0.858	170.23
AG0: Ant A, LTE Band 66	AG1: Ant G, 5 GHz WiFi	0.631	0.328	0.959	148.41
AG0: Ant A, LTE Band 66	AG1: Ant G, 6 GHz WiFi	0.631	0.053	0.684	148.93
AG0: Ant A, LTE Band 66	AG1: Ant H, 2.4 GHz Bluetooth	0.631	0.259	0.89	146.72
AG0: Ant A, LTE Band 66	AG1: Ant H, 2.4 GHz WiFi	0.631	0.229	0.86	145.96
AG0: Ant A, LTE Band 66	AG1: Ant H, NR Band n41	0.631	0.274	0.905	148.41
AG0: Ant A, LTE Band 66	AG1: Ant J, NR Band n41	0.631	0.145	0.776	107.61
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 2.4 GHz WiFi	0.631	0.256	0.887	148.41
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 5 GHz WiFi	0.631	0.328	0.959	150.84
AG0: Ant A, LTE Band 66	AG1: Ant MIMO, 6 GHz WiFi	0.631	0.028	0.659	151.82
AG0: Ant A, NR Band n5	AG1: Ant E, GSM 850	0.283	0.416	0.699	161.9
AG0: Ant A, NR Band n5	AG1: Ant E, UMTS 850	0.283	0.345	0.628	158.8
AG0: Ant A, NR Band n66	AG1: Ant E, GSM 850	0.568	0.416	0.984	171.74
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 12	0.568	0.221	0.789	169.2
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 13	0.568	0.333	0.901	170.5
AG0: Ant A, NR Band n66	AG1: Ant E, LTE Band 26	0.568	0.286	0.854	168.91
AG0: Ant A, NR Band n66	AG1: Ant E, NR Band n5	0.568	0.3	0.868	169.56
AG0: Ant A, NR Band n66	AG1: Ant E, UMTS 850	0.568	0.345	0.913	166.5
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 25	0.568	0.221	0.789	164.43
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 41	0.568	0.204	0.772	163.01
AG0: Ant A, NR Band n66	AG1: Ant F, LTE Band 66	0.568	0.16	0.728	165.16
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n41	0.568	0.257	0.825	166.84
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n66	0.568	0.216	0.784	167.08
AG0: Ant A, NR Band n66	AG1: Ant F, NR Band n77	0.568	0.227	0.795	164.43
AG0: Ant A, NR Band n66	AG1: Ant G, 5 GHz WiFi	0.568	0.328	0.896	143.63
AG0: Ant A, NR Band n66	AG1: Ant H, 2.4 GHz Bluetooth	0.568	0.259	0.827	141.88
AG0: Ant A, NR Band n66	AG1: Ant H, 2.4 GHz WiFi	0.568	0.229	0.797	141.23
AG0: Ant A, NR Band n66	AG1: Ant H, NR Band n41	0.568	0.274	0.842	143.63
AG0: Ant A, NR Band n66	AG1: Ant J, NR Band n41	0.568	0.145	0.713	99.31
AG0: Ant A, NR Band n66	AG1: Ant MIMO, 2.4 GHz WiFi	0.568	0.256	0.824	143.63
AG0: Ant A, NR Band n66	AG1: Ant MIMO, 5 GHz WiFi	0.568	0.328	0.896	145.93

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Body-worn Front Side						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A, UMTS 1750	AG1: Ant E, GSM 850	0.349	0.416	0.765	175.9	0
AG0: Ant A, UMTS 1750	AG1: Ant E, LTE Band 13	0.349	0.333	0.682	174.75	0
AG0: Ant A, UMTS 1750	AG1: Ant E, LTE Band 26	0.349	0.286	0.635	173.25	0
AG0: Ant A, UMTS 1750	AG1: Ant E, NR Band n5	0.349	0.3	0.649	173.86	0
AG0: Ant A, UMTS 1750	AG1: Ant E, UMTS 850	0.349	0.345	0.694	170.87	0
AG0: Ant A, UMTS 1750	AG1: Ant G, 5 GHz WIFI	0.349	0.328	0.677	146.81	0
AG0: Ant A, UMTS 1750	AG1: Ant MIMO, 5 GHz WIFI	0.349	0.328	0.677	149.18	0
AG0: Ant A, UMTS 1900	AG1: Ant E, GSM 850	0.36	0.416	0.776	175.42	0
AG0: Ant A, UMTS 1900	AG1: Ant E, LTE Band 13	0.36	0.333	0.693	174.21	0
AG0: Ant A, UMTS 1900	AG1: Ant E, LTE Band 26	0.36	0.286	0.646	172.65	0
AG0: Ant A, UMTS 1900	AG1: Ant E, NR Band n5	0.36	0.3	0.66	173.28	0
AG0: Ant A, UMTS 1900	AG1: Ant E, UMTS 850	0.36	0.345	0.705	170.24	0
AG0: Ant A, UMTS 1900	AG1: Ant G, 5 GHz WIFI	0.36	0.328	0.688	146.89	0
AG0: Ant A, UMTS 1900	AG1: Ant H, NR Band n41	0.36	0.274	0.634	146.89	0
AG0: Ant A, UMTS 1900	AG1: Ant MIMO, 5 GHz WIFI	0.36	0.328	0.688	149.23	0
AG0: Ant A, UMTS 850	AG1: Ant E, GSM 850	0.308	0.416	0.724	167.55	0
AG0: Ant A, UMTS 850	AG1: Ant E, LTE Band 13	0.308	0.333	0.641	166.96	0
AG0: Ant A, UMTS 850	AG1: Ant E, UMTS 850	0.308	0.345	0.653	164	0
AG0: Ant A, UMTS 850	AG1: Ant G, 5 GHz WIFI	0.308	0.328	0.636	133.64	0
AG0: Ant A, UMTS 850	AG1: Ant MIMO, 5 GHz WIFI	0.308	0.328	0.636	136.29	0
AG0: Ant B, LTE Band 41	AG1: Ant E, GSM 850	0.212	0.416	0.628	174.59	0
AG0: Ant B, NR Band n41	AG1: Ant E, GSM 850	0.278	0.416	0.694	174.18	0
AG0: Ant A, LTE Band 26	AG1: Ant G, 5 GHz WIFI	0.296	0.328	0.624	134.31	N/A

Note: The light gray highlighted row shows the worst case sum of all AG combinations under 1W/kg. Since the sum of these combinations is less than or equal to 1 W/kg (SAR design target for this EUT), therefore no further analysis is needed.

Notes:

1. For Back Side and Front Side, since the worst case sum of all AG combinations are under 1 W/kg (0.625 Ratio to Limit), the AGs are considered fully uncoupled and no further analysis is needed.
2. No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLSR ratio between the antenna pairs was not greater than 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report SAR and Hotspot Location Section for peak locations

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E.7 Hotspot (RSI = 0) SAR Antenna Group Analysis

Table E-3
RSI = 0 Hotspot AG Verification

Hotspot		AG0 Ratio to Limit	AG1 Ratio to Limit	AG0 + AG1 Ratio to Limit
	Back	0.739	0.672	See table below
	Front	0.631	0.416	See table below
	Right	0.159	0.143	0.302
	Left	0.114	0.265	0.379

Hotspot Back Side						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A_GSM 1900	AG1: Ant G_5 GHz WIFI	0.624	0.36	0.984	155.16	0.01
AG0: Ant A_GSM 850	AG1: Ant G_5 GHz WIFI	0.609	0.36	0.969	141.16	0.01
AG0: Ant A_LTE Band 12	AG1: Ant G_5 GHz WIFI	0.443	0.36	0.803	141.25	0.01
AG0: Ant A_LTE Band 13	AG1: Ant G_5 GHz WIFI	0.623	0.36	0.983	143.83	0.01
AG0: Ant A_LTE Band 25	AG1: Ant G_5 GHz WIFI	0.6	0.36	0.96	154.27	0.01
AG0: Ant A_LTE Band 26	AG1: Ant G_5 GHz WIFI	0.544	0.36	0.904	135.52	0.01
AG0: Ant A_LTE Band 66	AG1: Ant G_5 GHz WIFI	0.739	0.36	1.099	152.9	0.01
AG0: Ant A_NR Band n5	AG1: Ant G_5 GHz WIFI	0.529	0.36	0.889	131.76	0.01
AG0: Ant A_NR Band n66	AG1: Ant G_5 GHz WIFI	0.717	0.36	1.077	146.7	0.01
AG0: Ant A_UMTS 1750	AG1: Ant G_5 GHz WIFI	0.419	0.36	0.779	149.9	0
AG0: Ant A_UMTS 1900	AG1: Ant G_5 GHz WIFI	0.403	0.36	0.763	153.31	0
AG0: Ant A_UMTS 850	AG1: Ant G_5 GHz WIFI	0.486	0.36	0.846	135.1	0.01
AG0: Ant B_LTE Band 41	AG1: Ant G_5 GHz WIFI	0.411	0.36	0.771	143.89	0
AG0: Ant B_NR Band n41	AG1: Ant G_5 GHz WIFI	0.496	0.36	0.856	145.57	0.01

Hotspot Front Side						
AG0 Band/Antenna	AG1 Band/Antenna	AG0 ER	AG1 ER	Standalone Sum ER	Distance (mm)	SPLSR
AG0: Ant A_GSM 1900	AG1: Ant H_2.4 GHz Bluetooth	0.538	0.233	0.771	147.99	0
AG0: Ant A_LTE Band 25	AG1: Ant H_2.4 GHz Bluetooth	0.426	0.233	0.659	149.28	0
AG0: Ant A_LTE Band 66	AG1: Ant H_2.4 GHz Bluetooth	0.631	0.233	0.864	147	0.01
AG0: Ant A_NR Band n66	AG1: Ant H_2.4 GHz Bluetooth	0.568	0.233	0.801	142.3	0.01

Notes:

1. Because body-worn and hotspot back and front sides contain duplicate combinations, this section includes only those combinations that are unique to hotspot. Combinations that are common to both exposure conditions are presented in Section E.5 and are not repeated here.
2. For Right and Left edges, since the worst case sum of all AG combinations are under 1 W/kg (0.625 Ratio to Limit), the AGs are considered fully uncoupled and no further analysis is needed.
3. No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLSR ratio between the antenna pairs was not greater than 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report SAR and Hotspot Location Section for peak locations

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E.8 Phablet (RSI = 0) SAR Antenna Group Analysis

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required if wireless router 1g SAR (scaled to the maximum output power, including tolerance) < 1.2 W/kg. Therefore no further analysis beyond the tables included in this section was required to determine that possible simultaneous transmission scenarios would not exceed the SAR limit.

Table E-4
RSI = 0 Phablet AG0 Highest Adjusted Ratio to Limit

AG0 Ratio to Limit				
	Configuration	A	B	Max
Phablet	Bottom	0.284	0.400	0.400

Table E-5
RSI = 0 Phablet AG1 Highest Ratio to Limit

AG1 Ratio to Limit						
	Configuration	F	G	H	MIMO	Max
Phablet	Back	-	0.216	0.208	0.235	0.235
	Front	-	0.191	0.147	0.183	0.191
	Top	0.275	0.085	0.071	0.079	0.275
	Bottom	-	-	-	-	-
	Right	-	-	-	0.044	0.044
	Left	-	0.164	0.507	0.199	0.507

Table E-6
Phablet NFC Highest Ratio to Limit

	Configuration	NFC
Phablet	Back	0.005
	Front	0.000
	Top	0
	Bottom	-
	Right	0.000
	Left	0.000

Table E-7
RSI = 0 Phablet AG Verification

	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	NFC Ratio to Limit	AG0 + AG1 + NFC Ratio to Limit
Phablet	Back	-	0.235	0.005	0.240
	Front	-	0.191	0.000	0.191
	Top	-	0.275	0.000	0.275
	Bottom	0.400	-	-	0.400
	Right	-	0.044	0.000	0.044
	Left	-	0.507	0.000	0.507

Notes:

1. For all combinations where the TER sum of AG0+AG1+NFC is not greater than 1, there's no further analysis required for compliance demonstration.
2. No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.013 per FCC KDB 447498 D04v01.

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E.9 Highest ER and SAR Hotspot Locations

As a conservative assessment, the distances between Bottom Set and Top Set were determined using the coordinates of the peak locations (assumes 0 mm separation on z axis for Body only)

Table E-8
RS I= 1 Held-to-ear Right Cheek Peak X, Y, Z Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord
AG0	A	GSM 850	0.134	58.0	-258.0
AG1	E	GSM 850	0.440	2.8	-312.5
AG0	A	GSM 1900	0.038	61.8	-306.3
AG0	A	UMTS 850	0.017	56.3	-256.2
AG1	E	UMTS 850	0.528	2.6	-308.8
AG0	A	UMTS 1750	0.067	65.1	-296.7
AG0	A	UMTS 1900	0.029	56.5	-242.5
AG0	A	LTE Band 12	0.083	49.9	-249.4
AG1	E	LTE Band 12	0.303	2.7	-314.8
AG0	A	LTE Band 13	0.146	57.4	-254.3
AG1	E	LTE Band 13	0.370	1.5	-311.9
AG0	A	LTE Band 26	0.127	58.0	-258.0
AG1	E	LTE Band 26	0.314	1.4	-310.7
AG0	A	LTE Band 66	0.072	64.6	-302.0
AG1	F	LTE Band 66	0.373	19.1	-324.3
AG0	A	LTE Band 25	0.054	66.3	-302.6
AG1	F	LTE Band 25	0.515	19.1	-324.3
AG0	B	LTE Band 41	0.026	60.5	-290.2
AG1	F	LTE Band 41	0.484	16.0	-325.5
AG0	A	NR Band n5	0.134	57.3	-259.8
AG1	E	NR Band n5	0.384	4.0	-312.0
AG0	A	NR Band n66	0.048	56.6	-242.9
AG1	F	NR Band n66	0.488	14.4	-328.7
AG0	B	NR Band n41	0.047	59.1	-284.0
AG1	F	NR Band n41	0.533	14.7	-325.6
AG1	H	NR Band n41	0.487	41.2	-329.7
AG1	J	NR Band n41	0.229	47.2	-250.5
AG1	F	NR Band n77	0.519	15.4	-326.6
AG1	H	2.4 GHz WIFI	0.297	44.0	-330.7
AG1	MIMO	2.4 GHz WIFI	0.314	43.0	-330.7
AG1	G	5 GHz WIFI	0.367	39.1	-327.7
AG1	MIMO	5 GHz WIFI	0.427	40.7	-328.7
AG1	G	6 GHz WIFI	0.130	19.8	-326.0
AG1	MIMO	6 GHz WIFI	0.096	18.8	-329.2
AG1	H	2.4 GHz Bluetooth	0.460	42.4	-329.7

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Table E-9
RS I= 1 Held-to-ear Right Tilt Exposure Ratio

Antenna Group	Antenna	Mode/Band	ER
AG0	A	GSM 850	0.057
AG1	E	GSM 850	0.379
AG0	A	GSM 1900	0.029
AG0	A	UMTS 850	0.010
AG1	E	UMTS 850	0.454
AG0	A	UMTS 1750	0.051
AG0	A	UMTS 1900	0.026
AG0	A	LTE Band 12	0.056
AG1	E	LTE Band 12	0.256
AG0	A	LTE Band 13	0.078
AG1	E	LTE Band 13	0.321
AG0	A	LTE Band 26	0.066
AG1	E	LTE Band 26	0.279
AG0	A	LTE Band 66	0.033
AG1	F	LTE Band 66	0.335
AG0	A	LTE Band 25	0.033
AG1	F	LTE Band 25	0.433
AG0	B	LTE Band 41	0.024
AG1	F	LTE Band 41	0.508
AG0	A	NR Band n5	0.063
AG1	E	NR Band n5	0.330
AG0	A	NR Band n66	0.037
AG1	F	NR Band n66	0.546
AG0	B	NR Band n41	0.048
AG1	F	NR Band n41	0.503
AG1	H	NR Band n41	0.351
AG1	J	NR Band n41	0.020
AG1	F	NR Band n77	0.485
AG1	H	2.4 GHz WIFI	0.183
AG1	MIMO	2.4 GHz WIFI	0.265
AG1	G	5 GHz WIFI	0.127
AG1	MIMO	5 GHz WIFI	0.154
AG1	G	6 GHz WIFI	0.064
AG1	MIMO	6 GHz WIFI	0.059
AG1	H	2.4 GHz Bluetooth	0.357

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Table E-10
RS I= 1 Held-to-ear Left Cheek Peak X, Y, Z Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord	Z-Coord
AG0	A	GSM 850	0.090	63.8	285.9	-169.5
AG1	E	GSM 850	0.480	19.2	330.6	-169.3
AG0	A	GSM 1900	0.059	53.6	248.8	-169.2
AG0	A	UMTS 850	0.041	60.4	288.1	-170.3
AG1	E	UMTS 850	0.561	17.5	331.7	-169.1
AG0	A	UMTS 1750	0.115	53.1	250.7	-169.6
AG0	A	UMTS 1900	0.043	54.9	247.5	-168.9
AG0	A	LTE Band 12	0.097	59.4	276.8	-170.4
AG1	E	LTE Band 12	0.407	20.4	330.6	-169.4
AG0	A	LTE Band 13	0.119	63.8	285.9	-169.5
AG1	E	LTE Band 13	0.437	19.9	333.6	-169.2
AG0	A	LTE Band 26	0.109	60.8	282.9	-170.2
AG1	E	LTE Band 26	0.368	17.5	331.7	-169.1
AG0	A	LTE Band 66	0.099	53.2	249.9	-169.4
AG1	F	LTE Band 66	0.147	5.2	311.2	-167.9
AG0	A	LTE Band 25	0.087	53.9	247.8	-169.1
AG1	F	LTE Band 25	0.206	4.0	311.9	-167.8
AG0	B	LTE Band 41	0.054	51.6	251.2	-169.8
AG1	F	LTE Band 41	0.235	3.2	303.4	-167.1
AG0	A	NR Band n5	0.104	59.1	280.4	-170.5
AG1	E	NR Band n5	0.473	15.8	329.4	-169.1
AG0	A	NR Band n66	0.094	56.0	244.8	-170.2
AG1	F	NR Band n66	0.265	4.7	303.3	-167.4
AG0	B	NR Band n41	0.094	49.9	248.4	-169.6
AG1	F	NR Band n41	0.269	-1.0	298.9	-165.9
AG1	H	NR Band n41	0.100	-7.7	284.2	-161.9
AG1	J	NR Band n41	0.121	67.1	303.4	-168.1
AG1	F	NR Band n77	0.248	-2.3	296.0	-165.2
AG1	H	2.4 GHz WIFI	0.073	33.0	259.3	-168.5
AG1	MIMO	2.4 GHz WIFI	0.111	47.2	270.8	-171.4
AG1	G	5 GHz WIFI	0.064	-6.8	292.5	-163.7
AG1	MIMO	5 GHz WIFI	0.229	29.7	331.8	-169.7
AG1	G	6 GHz WIFI	0.023	-4.1	294.4	-164.6
AG1	MIMO	6 GHz WIFI	0.074	31.4	330.4	-169.8
AG1	H	2.4 GHz Bluetooth	0.106	33.2	261.1	-168.8

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Table E-11
RS I= 1 Held-to-ear Left Tilt Exposure Ratio

Antenna Group	Antenna	Mode/Band	ER
AG0	A	GSM 850	0.053
AG1	E	GSM 850	0.407
AG0	A	GSM 1900	0.044
AG0	A	UMTS 850	0.014
AG1	E	UMTS 850	0.395
AG0	A	UMTS 1750	0.072
AG0	A	UMTS 1900	0.023
AG0	A	LTE Band 12	0.063
AG1	E	LTE Band 12	0.325
AG0	A	LTE Band 13	0.078
AG1	E	LTE Band 13	0.368
AG0	A	LTE Band 26	0.071
AG1	E	LTE Band 26	0.333
AG0	A	LTE Band 66	0.041
AG1	F	LTE Band 66	0.204
AG0	A	LTE Band 25	0.047
AG1	F	LTE Band 25	0.283
AG0	B	LTE Band 41	0.023
AG1	F	LTE Band 41	0.263
AG0	A	NR Band n5	0.059
AG1	E	NR Band n5	0.396
AG0	A	NR Band n66	0.035
AG1	F	NR Band n66	0.324
AG0	B	NR Band n41	0.056
AG1	F	NR Band n41	0.268
AG1	H	NR Band n41	0.118
AG1	J	NR Band n41	0.011
AG1	F	NR Band n77	0.248
AG1	H	2.4 GHz WIFI	0.043
AG1	MIMO	2.4 GHz WIFI	0.056
AG1	G	5 GHz WIFI	0.057
AG1	MIMO	5 GHz WIFI	0.176
AG1	G	6 GHz WIFI	0.033
AG1	MIMO	6 GHz WIFI	0.061
AG1	H	2.4 GHz Bluetooth	0.095

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Table E-12
RSI = 0 Body-worn Back Side Peak X, Y Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord
AG0	A	GSM 850	0.609	-41.4	76.7
AG1	E	GSM 850	0.672	-14.9	-85.9
AG0	A	GSM 1900	0.624	-20.1	86.0
AG0	A	UMTS 850	0.486	-44.7	71.1
AG1	E	UMTS 850	0.379	-18.6	-84.6
AG0	A	UMTS 1750	0.419	-24.1	81.7
AG0	A	UMTS 1900	0.403	-18.3	83.5
AG0	A	LTE Band 12	0.443	-40.3	76.6
AG1	E	LTE Band 12	0.318	-16.3	-86.2
AG0	A	LTE Band 13	0.623	-41.9	79.5
AG1	E	LTE Band 13	0.379	-14.7	-84.7
AG0	A	LTE Band 26	0.544	-41.5	71.0
AG1	E	LTE Band 26	0.354	-14.0	-87.7
AG0	A	LTE Band 66	0.739	-23.7	84.7
AG1	F	LTE Band 66	0.217	-44.7	-80.5
AG0	A	LTE Band 25	0.600	-18.6	84.6
AG1	F	LTE Band 25	0.304	-44.7	-80.5
AG0	B	LTE Band 41	0.411	-50.3	80.7
AG1	F	LTE Band 41	0.363	-47.5	-76.1
AG0	A	NR Band n5	0.529	-47.2	68.1
AG1	E	NR Band n5	0.433	-21.6	-86.3
AG0	A	NR Band n66	0.717	-25.6	78.8
AG1	F	NR Band n66	0.328	-45.8	-82.4
AG0	B	NR Band n41	0.496	-51.5	82.5
AG1	F	NR Band n41	0.404	-44.1	-81.4
AG1	H	NR Band n41	0.426	-59.4	-58.5
AG1	J	NR Band n41	0.138	5.8	-14.0
AG1	F	NR Band n77	0.454	-48.0	-77.0
AG1	H	2.4 GHz WIFI	0.271	-65.9	-56.8
AG1	MIMO	2.4 GHz WIFI	0.305	-65.3	-73.4
AG1	G	5 GHz WIFI	0.382	-64.4	-65.8
AG1	MIMO	5 GHz WIFI	0.452	-65.4	-63.7
AG1	G	6 GHz WIFI	0.039	-62.2	-70.5
AG1	MIMO	6 GHz WIFI	0.027	-62.2	-70.5
AG1	H	2.4 GHz Bluetooth	0.330	-63.9	-56.7

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Table E-13
RSI = 0 Body-worn Front Side Peak X, Y Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord
AG0	A	GSM 850	0.302	-5.2	76.2
AG1	E	GSM 850	0.416	-25.8	-90.6
AG0	A	GSM 1900	0.538	-27.5	87.7
AG0	A	UMTS 850	0.308	-7.1	75.9
AG1	E	UMTS 850	0.345	-37.8	-85.2
AG0	A	UMTS 1750	0.349	-26.6	85.3
AG0	A	UMTS 1900	0.360	-28.7	84.8
AG0	A	LTE Band 12	0.251	-11.1	83.7
AG1	E	LTE Band 12	0.221	-30.1	-88.1
AG0	A	LTE Band 13	0.361	-11.2	84.8
AG1	E	LTE Band 13	0.333	-30.6	-89.4
AG0	A	LTE Band 26	0.296	-6.2	76.7
AG1	E	LTE Band 26	0.286	-35.9	-87.7
AG0	A	LTE Band 66	0.631	-23.3	87.8
AG1	F	LTE Band 66	0.160	-3.7	-82.0
AG0	A	LTE Band 25	0.426	-28.0	88.9
AG1	F	LTE Band 25	0.221	-4.6	-81.4
AG0	B	LTE Band 41	0.212	-33.9	83.8
AG1	F	LTE Band 41	0.204	-7.6	-80.4
AG0	A	NR Band n5	0.283	-2.4	69.6
AG1	E	NR Band n5	0.300	-34.1	-88.4
AG0	A	NR Band n66	0.568	-29.7	81.1
AG1	F	NR Band n66	0.216	-6.8	-84.4
AG0	B	NR Band n41	0.278	-35.7	83.3
AG1	F	NR Band n41	0.257	-5.7	-84.0
AG1	H	NR Band n41	0.274	11.8	-56.4
AG1	J	NR Band n41	0.145	-57.3	-14.3
AG1	F	NR Band n77	0.227	-4.6	-81.4
AG1	H	2.4 GHz WIFI	0.229	12.1	-53.8
AG1	MIMO	2.4 GHz WIFI	0.256	11.8	-56.4
AG1	G	5 GHz WIFI	0.328	11.8	-56.4
AG1	MIMO	5 GHz WIFI	0.328	10.1	-59.3
AG1	G	6 GHz WIFI	0.053	8.5	-57.7
AG1	MIMO	6 GHz WIFI	0.028	4.8	-61.4
AG1	H	2.4 GHz Bluetooth	0.259	10.4	-55.0

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Table E-14
RSI = 0 Hotspot Back Side Peak X, Y Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord
AG1	G	5 GHz WIFI	0.360	-65.4	-62.4

Note: Because body-worn and hotspot back contain duplicate bands, this table only includes bands that are unique to hotspot. Bands that are common to both exposure conditions can be found in Table E-18

Table E-15
RSI = 0 Hotspot Front Side Peak X, Y Coordinates

Antenna Group	Antenna	Mode/Band	ER	X-Coord	Y-Coord
AG1	H	2.4 GHz Bluetooth	0.233	12.8	-54.7

Note: Because body-worn and hotspot front contain duplicate bands, this table only includes bands that are unique to hotspot. Bands that are common to both exposure conditions can be found in Table E-19

Table E-16
RSI = 0 Hotspot Right Edge Exposure Ratio

Antenna Group	Antenna	Mode/Band	ER
AG0	A	GSM 850	0.114
AG1	E	GSM 850	0.121
AG0	A	GSM 1900	0.048
AG0	A	UMTS 850	0.137
AG1	E	UMTS 850	0.111
AG0	A	UMTS 1750	0.021
AG0	A	UMTS 1900	0.051
AG0	A	LTE Band 12	0.102
AG1	E	LTE Band 12	0.103
AG0	A	LTE Band 13	0.159
AG1	E	LTE Band 13	0.143
AG0	A	LTE Band 26	0.114
AG1	E	LTE Band 26	0.079
AG0	A	LTE Band 66	0.032
AG0	A	LTE Band 25	0.041
AG0	A	NR Band n5	0.127
AG1	E	NR Band n5	0.103
AG0	A	NR Band n66	0.033
AG1	J	NR Band n41	0.019
AG1	MIMO	2.4 GHz WIFI	0.010
AG1	MIMO	5 GHz WIFI	0.028
AG1	MIMO	6 GHz WIFI	0.005

Table E-17
RSI = 0 Hotspot Left Edge Exposure Ratio

Antenna Group	Antenna	Mode/Band	ER
AG0	A	GSM 850	0.063
AG0	A	GSM 1900	0.031
AG0	A	UMTS 850	0.059
AG0	A	UMTS 1750	0.046
AG0	A	UMTS 1900	0.023
AG0	A	LTE Band 12	0.064
AG0	A	LTE Band 13	0.056
AG0	A	LTE Band 26	0.029
AG0	A	LTE Band 66	0.061
AG1	F	LTE Band 66	0.032
AG0	A	LTE Band 25	0.018
AG1	F	LTE Band 25	0.009
AG0	B	LTE Band 41	0.090
AG1	F	LTE Band 41	0.013
AG0	A	NR Band n5	0.060
AG0	A	NR Band n66	0.043
AG1	F	NR Band n66	0.058
AG0	B	NR Band n41	0.114
AG1	F	NR Band n41	0.009
AG1	H	NR Band n41	0.265
AG1	F	NR Band n77	0.014
AG1	H	2.4 GHz WIFI	0.170
AG1	MIMO	2.4 GHz WIFI	0.167
AG1	G	5 GHz WIFI	0.134
AG1	MIMO	5 GHz WIFI	0.116
AG1	G	6 GHz WIFI	0.018
AG1	MIMO	6 GHz WIFI	0.014
AG1	H	2.4 GHz Bluetooth	0.182

E.10 Conclusion

The above numerical summed TER results and SPLSR for all the combinations of antenna groups are sufficient to show that AG0 is mutually exclusive from AG1 and TER is < 1. TER simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D04v01 and IEEE 1528-2013 Section 6.3.4.1.2

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