

APPENDIX E: MULTI-TX AND ANTENNA SAR CONSIDERATIONS

E.1 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 physical test configuration is ≤ 1.6 W/kg (or 4 W/kg for 10g). 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. Alternatively, simultaneous transmission SAR test exclusion may be evaluated using Total Exposure Ratio (TER). The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the TER.

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 (“-”).

This device is enabled with Qualcomm® Smart Transmit Gen2 with pre-defined antenna groups (AG0 and AG1) and 1 mmW module group (MG). Sub6 and mmW antennas cannot be decoupled from each other due to lack of regulatory criteria. This device operates using GEN2_SUB6 (Sub6-favor mode) which assumes all mmW modules (MG) are collocated with each sub6 AG0 and AG1 in this device. The Simultaneous transmission analysis is performed per antenna groups. Below analysis demonstrates the mutually exclusive operation of AG0 and AG1, and the compliance between each antenna group with non-Smart Transmit Radios. For this model, WWAN/WLAN/BT/mmWave Radios are managed under Smart Transmit. Non-Smart Transmit Radios include NFC/UWB/NTN.

When operating in the same antenna group, the compliance under dynamic transmission condition, including all supported simultaneous transmission scenarios, should be assessed and demonstrated in the Part 2 Report during algorithm validation. Therefore, no further simultaneous analysis is needed within an antenna group.

When all WWAN/WLAN/BT/mmWave Radios are managed under Smart Transmit, TER for WWAN/WLAN/BT/mmWave is covered in Part 2 testing. Only external radios outside of WWAN/WLAN/BT/mmWave (UWB, NFC) require TER analysis with WWAN/WLAN/BT/mmWave during simultaneous transmissions. NTN transmission also operates outside of Smart transmit; however, simultaneous analysis with modes outside of NTN are not evaluated because NTN is the only available radio in satellite mode.

E.3 Sub6 Antenna Groups

The 2nd generation of Smart Transmit (GEN2) operates based on pre-defined antenna groups (AG). Sub6/WLAN/BT Tx Antennas and/or mmW module groups (MG) 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 either of below conditions for all exposure scenarios:

- a) 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. This condition must be demonstrated for all antenna combinations of sub6 AGs.

(or)

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- b) Every antenna from each sub6 AG meets SPLSR criteria (Section 4.3.2(c) in FCC KDB 447498 D04) with every antenna from another sub6 AG. This criteria must be demonstrated for all antenna combinations for each pair of AGs.

This device supports two AGs: AG0 and AG1, with AG0 having 4 antennas (A, B, C, D) and AG1 having 4 antennas (E, F, G, H) and MG having 1 antenna (J). The conditions are verified through the following criteria:

- i) In Sub6-favor mode: All mmW antennas are assumed to collocate with each sub6 antenna group (AG). Also, since all mmW MGs are controlled by Smart Transmit, maximum mmW exposure is given by maximum out of all mmW modules:

$$\max.\text{norm.exp.mmW} = \max.\text{norm.exp.MG}$$

- ii) Sum of SAR: Demonstrate that the sum of $\max.\text{norm.exp.AG0}$ and $\max.\text{norm.exp.AG1}$ and the reported normalized SAR values from radios outside Smart Transmit (denoted as $\text{reported.norm.exp.ER}$) should be less than the regulatory limit for each supported DSI following the below procedure:

1. Obtain the worst-case *adjusted SAR* for each antenna group, i.e., maximum *reported SAR* at EFS $P_{\text{limit}} + \text{unc}$ (or max of $\{P_{\text{max}} + \text{unc}, \text{EFS } P_{\text{limit}}\}$ when $\text{EFS } P_{\text{limit}} > P_{\text{max}}$) out of all supported technologies, frequency bands and antennas in AG0 and AG1, then normalized to the regulatory limit to get the maximum normalized SAR for each antenna group, denoted as: $\max.\text{norm.exp.AG0}$ and $\max.\text{norm.exp.AG1}$

2. For external radios outside of Smart Transmit (NFC/UWB): Obtain the worst-case RF exposure for each external radio normalized to regulatory limit to get the normalized SAR for each external radio, denoted as: $\text{reported.norm.exp.NFC}$ and $\text{reported.norm.exp.UWB}$

3. Demonstrate that the sum of these RF exposures meets: $\{\max.\text{norm.exp.AG0} + \max.\text{norm.exp.AG1} + \text{reported.norm.exp.NFC} + \text{reported.norm.exp.UWB}\} \leq 1$.

- iii) SPLSR or composite exposure distribution criteria: when TER sum of an antenna pair is over the limit for a DSI/exposure position, SPLSR or composite exposure distribution can be done to demonstrate simultaneous transmission compliance.

1. SPLSR analysis for sub6 antenna pairs: For each antenna, obtain the highest *adjusted SAR* at EFS $P_{\text{limit}} + \text{unc}$ (or max of $\{P_{\text{max}} + \text{unc}, \text{EFS } P_{\text{limit}}\}$ when $\text{EFS } P_{\text{limit}} > P_{\text{max}}$) out of all supported technologies for each frequency band. Using these values, demonstrate for a given DSI that every antenna from one AG meets SPLSR criteria with every antenna in another AG for all frequency bands. This criterion must be demonstrated for all antenna pair combinations irrespective of supported simultaneous transmission scenarios as given below for each DSI. As it can be seen, these include all combinations of antenna groups, antennas, and frequency bands.

- If SPLSR criteria evaluation and analysis are needed to determine compliance for a certain DSI configuration, SPLSR is performed by taking the highest reported SAR for each of the supported technologies and bands per antenna, along with the peak SAR locations. Per Qualcomm guidance, only Y-axis coordinates are recorded in the analysis for calculation simplicity (assumes all 0mm of separation on the x-axis). Peak locations are documented in the Highest Report ER and Hotspot Location Section below for each DSI configuration. For bottom AG0, Y_max coordinates represents the worst-case hotspot location that is closest to the top AG1. Similarly, for top AG1, Y_min coordinate represents the worst-case hotspot location that is closest to the bottom AG0
- The following formula is used to calculate the SPLSR between AG0 and AG1 for each exposure configuration:

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$$SPLSR = \frac{(Max\ SAR\ Top\ Set + Max\ SAR\ Bottom\ Set)^{1.5}}{|Y_{max} - Y_{min}|}$$

E.4 Exposure Ratios

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

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

$$ER_{PD,n} = \frac{PD_n}{PD_{limit}}$$

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
- P_{txm} is the higher of maximum time-averaged conducted power or EIRP associated with the m -th UWB transmitter
- PD_l is the PD value for the l -th transmitter/test frequency
- PD_{limit} is the basic restriction limit that is applicable for the l -th transmitter/test frequency

Compliance with the SAR-PD-UWB based RF exposure limits is achieved if $TER_{SAR-PD-UWB} \leq 1$. When $TER_{SAR-PD-UWB} > 1$, 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 (DSI = 3) SAR Antenna Group Analysis

Table E-1
DSI=3 Held-to-ear AG0 Highest Adjusted Ratio to Limit

AG0 Ratio to Limit							
Head	Configuration	A	B	A+C	C	D	Max
	Right Cheek	0.253	0.337	0.333	0.072	0.007	0.337
	Right Tilt	0.109	0.233	0.168	0.025	0.000	0.233
	Left Cheek	0.181	0.267	0.215	0.153	0.000	0.267
	Left Tilt	0.078	0.133	0.134	0.120	0.000	0.134

Table E-2
DSI=3 Held-to-ear AG1 Highest Adjusted Ratio to Limit

AG1 Ratio to Limit							
Head	Configuration	E	F	G	H	MIMO	Max
	Right Cheek	0.545	0.518	0.659	0.614	0.520	0.659
	Right Tilt	0.613	0.610	0.752	0.203	0.621	0.752
	Left Cheek	0.624	0.608	0.726	0.618	0.551	0.726
	Left Tilt	0.624	0.619	0.855	0.395	0.616	0.855

Table E-3
DSI=3 Held-to-ear AG Verification

Head	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	AG0 + AG1 Ratio to Limit
	Right Cheek	0.337	0.659	0.996
	Right Tilt	0.233	0.752	0.985
	Left Cheek	0.267	0.726	0.993
	Left Tilt	0.134	0.855	0.989

Notes:

1. For all combinations where the TER sum of AG0+AG1 is not greater than 1, there's no further analysis required for compliance demonstration.

E.6 Body-worn (DSI = 1) SAR Antenna Group Analysis

Table E-4
DSI=1 Body-worn AG0 Highest Adjusted Ratio to Limit

AG0 Ratio to Limit							
Bodyworn	Configuration	A	B	A+C	C	D	Max
	Back	0.486	0.752	0.563	0.686	0.055	0.752
	Front	0.165	0.406	0.148	0.053	0.018	0.406

Table E-5
DSI=1 Body-worn AG1 Highest Adjusted Ratio to Limit

AG1 Ratio to Limit							
Bodyworn	Configuration	E	F	G	H	MIMO	Max
	Back	0.740	0.799	0.817	0.619	0.823	0.823
	Front	0.284	0.174	0.356	0.079	0.217	0.356

Table E-6
DSI=1 Body-worn AG Verification

Bodyworn	Configuration		AG0 Ratio to Limit		AG1 Ratio to Limit		AG0 + AG1 Ratio to Limit	
	Back		0.752		0.823		See Table Below	
	Front		0.406		0.356		0.762	

Back							
AG0			AG1			AG0 + AG1 Ratio to Limit	SPLSR
Antenna	Ratio to Limit	Position	Antenna	Ratio to Limit	Position		
Ant A	0.486	-70.3	Ant E	0.74	64.3	See Note 2	0.01
Ant A	0.486	-70.3	Ant F	0.799	69.7	See Note 2	0.01
Ant A	0.486	-70.3	Ant G	0.817	72.1	See Note 2	0.01
Ant A	0.486	-70.3	Ant H	0.619	20.5	See Note 2	0.01
Ant A	0.486	-70.3	MIMO	0.823	22.3	See Note 2	0.02
Ant B	0.752	-79	Ant E	0.74	64.3	See Note 2	0.01
Ant B	0.752	-79	Ant F	0.799	69.7	See Note 2	0.01
Ant B	0.752	-79	Ant G	0.817	72.1	See Note 2	0.01
Ant B	0.752	-79	Ant H	0.619	20.5	See Note 2	0.02
Ant B	0.752	-79	MIMO	0.823	22.3	See Note 2	0.02
Ant A+C	0.563	-71.5	Ant E	0.74	64.3	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant F	0.799	69.7	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant G	0.817	72.1	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant H	0.619	20.5	See Note 2	0.01
Ant A+C	0.563	-71.5	MIMO	0.823	22.3	See Note 2	0.02
Ant C	0.686	-80.7	Ant E	0.74	64.3	See Note 2	0.01
Ant C	0.686	-80.7	Ant F	0.799	69.7	See Note 2	0.01
Ant C	0.686	-80.7	Ant G	0.817	72.1	See Note 2	0.01
Ant C	0.686	-80.7	Ant H	0.619	20.5	See Note 2	0.01
Ant C	0.686	-80.7	MIMO	0.823	22.3	See Note 2	0.02
Ant D	0.070	N/A	Ant E	0.74	N/A	0.81	N/A
Ant D	0.070	N/A	Ant F	0.799	N/A	0.869	N/A
Ant D	0.070	N/A	Ant G	0.817	N/A	0.887	N/A
Ant D	0.070	N/A	Ant H	0.619	N/A	0.689	N/A
Ant D	0.070	N/A	MIMO	0.823	N/A	0.893	N/A

Notes:

1. For all combinations where the TER sum of AG0+AG1 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 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report ER and Hotspot Location Section for Y-axis peak locations

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E.7 Hotspot (DSI = 1) SAR Antenna Group Analysis

Table E-7
DSI=1 Hotspot AG0 Adjusted Ratio to Limit

AG0 Ratio to Limit							
Hotspot	Configuration	A	B	A+C	C	D	Max
	Back	0.486	0.752	0.563	0.686	0.070	0.752
	Front	0.165	0.406	0.148	0.053	0.018	0.406
	Top	-	-	-	-	-	-
	Bottom	0.099	0.471	0.136	0.150	-	0.471
	Right	0.228	-	0.413	0.021	0.007	0.413
	Left	-	0.054	0.121	0.020	-	0.121

Table E-8
DSI=1 Hotspot AG1 Adjusted Ratio to Limit

AG1 Ratio to Limit							
Hotspot	Configuration	E	F	G	H	MIMO	Max
	Back	0.626	0.799	0.817	0.619	0.666	0.817
	Front	0.284	0.109	0.356	0.079	0.168	0.356
	Top	0.258	0.274	0.431	-	0.389	0.431
	Bottom	-	-	-	-	-	-
	Right	0.324	-	0.059	0.166	0.189	0.324
	Left	-	0.070	-	-	0.051	0.070

Table E-9
DSI=1 Hotspot AG Verification

Hotspot		AG0 Ratio to Limit	AG1 Ratio to Limit	AG0 + AG1 Ratio to Limit
	Back	0.752	0.817	See Table Below
	Front	0.406	0.356	0.762
	Top	-	0.431	0.431
	Bottom	0.471	-	0.471
	Right	0.413	0.324	0.737
	Left	0.121	0.070	0.191

Back							
AG0			AG1			AG0 + AG1 Ratio to Limit	SPLSR
Antenna	Ratio to Limit	Position	Antenna	Ratio to Limit	Position		
Ant A	0.486	-70.3	Ant E	0.626	64.3	See Note 2	0.01
Ant A	0.486	-70.3	Ant F	0.799	70.7	See Note 2	0.01
Ant A	0.486	-70.3	Ant G	0.817	72.1	See Note 2	0.01
Ant A	0.486	-70.3	Ant H	0.619	20.5	See Note 2	0.01
Ant A	0.486	-70.3	MIMO	0.666	24.1	See Note 2	0.01
Ant B	0.752	-79	Ant E	0.626	64.3	See Note 2	0.01
Ant B	0.752	-79	Ant F	0.799	70.7	See Note 2	0.01
Ant B	0.752	-79	Ant G	0.817	72.1	See Note 2	0.01
Ant B	0.752	-79	Ant H	0.619	20.5	See Note 2	0.02
Ant B	0.752	-79	MIMO	0.666	24.1	See Note 2	0.02
Ant A+C	0.563	-71.5	Ant E	0.626	64.3	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant F	0.799	70.7	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant G	0.817	72.1	See Note 2	0.01
Ant A+C	0.563	-71.5	Ant H	0.619	20.5	See Note 2	0.01
Ant A+C	0.563	-71.5	MIMO	0.666	24.1	See Note 2	0.01
Ant C	0.686	-80.7	Ant E	0.626	64.3	See Note 2	0.01
Ant C	0.686	-80.7	Ant F	0.799	70.7	See Note 2	0.01
Ant C	0.686	-80.7	Ant G	0.817	72.1	See Note 2	0.01
Ant C	0.686	-80.7	Ant H	0.619	20.5	See Note 2	0.01
Ant C	0.686	-80.7	MIMO	0.666	24.1	See Note 2	0.02
Ant D	0.070	N/A	Ant E	0.626	N/A	0.696	N/A
Ant D	0.070	N/A	Ant F	0.799	N/A	0.869	N/A
Ant D	0.070	N/A	Ant G	0.817	N/A	0.887	N/A
Ant D	0.070	N/A	Ant H	0.619	N/A	0.689	N/A
Ant D	0.070	N/A	MIMO	0.666	N/A	0.736	N/A

Notes:

1. For all combinations where the TER sum of AG0+AG1 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 SPLSR ratio between the antenna pairs was not greater than 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report ER and Hotspot Location Section for Y-axis peak locations

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E.8 Max Phablet (DSI = 1) and Reduced Phablet (DSI=5) 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-10
DSI=1 and DSI=5 Max and Reduced Phablet AG1 Highest Adjusted Ratio to Limit

AG1 Ratio to Limit					
Phablet	Configuration	E	F	MIMO	Max
	Back	0.358	0.376	0.429	0.429
	Front	0.091	0.109	0.142	0.142
	Top	0.403	0.495	0.377	0.495
	Bottom	-	-	-	-
	Right	0.151	-	0.267	0.267
	Left	-	0.032	0.015	0.032

Table E-11
Simultaneous Transmission Scenarios of NFC/UWB (Phablet)

Phablet	Configuration	NFC Ratio to Limit	UWB Ratio to Limit
	Back	0.000	0.001
	Front	0.000	0.001
	Top	0.000	0.000
	Bottom	-	-
	Right	-	0.000
	Left	0.000	-

Table E-12
DSI=1 and DSI=5 Max and Reduced Phablet AG Verification

Phablet	Configuration	AG1 Ratio to Limit	NFC + UWB Ratio to Limit	AG1 + NFC + UWB Ratio to Limit
	Back	0.429	0.001	0.430
	Front	0.142	0.001	0.143
	Top	0.495	0.000	0.495
	Bottom	-	-	-
	Right	0.267	0.000	0.267
	Left	0.032	0.000	0.032

Notes:

1. For all combinations where the TER sum of AG1+UWB+NFC is not greater than 1, there's no further analysis required for compliance demonstration.

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E.9 Max Tablet (DSI=0) SAR Antenna Group Analysis

Table E-13
DSI=0 Max Tablet AG0 Highest Adjusted Ratio to Limit

AG0 Ratio to Limit							
Body	Configuration	A	B	A+C	C	D	Max
	Back	0.263	0.846	0.794	0.539	0.099	0.846
	Top	0.000	0.003	0.029	0.003	0.001	0.029
	Bottom	0.113	0.826	0.529	0.641	0.009	0.826
	Right	0.063	0.036	0.749	0.015	0.032	0.749
	Left	0.000	0.013	0.025	0.009	0.000	0.025

Table E-14
DSI=0 Max Tablet AG1 Highest Adjusted Ratio to Limit

AG1 Ratio to Limit							
Body	Configuration	E	F	G	H	MIMO	Max
	Back	0.802	0.542	0.751	0.807	0.824	0.824
	Top	0.849	0.854	0.524	0.042	0.795	0.854
	Bottom	0.028	0.003	0.022	0.007	0.015	0.028
	Right	0.711	0.020	0.849	0.595	0.669	0.849
	Left	0.034	0.015	0.157	0.001	0.015	0.157

Table E-15
Simultaneous Transmission Scenarios of NFC/UWB (Tablet)

	Configuration	Ratio to Limit	
		NFC	UWB
	Back	0.000	0.000
	Top	0.000	0.000
	Bottom	0.000	0.001
	Right	0.000	0.000
	Left	0.000	0.000

Table E-16
DSI=0 Max Tablet AG Verification

Body	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	NFC + UWB Ratio to Limit	AG0 + AG1 + NFC + UWB Ratio to Limit
	Back	0.846	0.824	0.000	See Table Below
	Top	0.029	0.854	0.000	0.883
	Bottom	0.826	0.028	0.001	0.855
	Right	0.749	0.849	0.000	See Table Below
	Left	0.025	0.157	0.000	0.182

Back											
Bottom Set			Top Set							Bottom Set + Top Set Ratio to Limit	SPLSR
AG0			AG1			NFC		UWB			
Antenna	Ratio to Limit	Position	Antenna	Ratio to Limit	Position	Ratio to Limit	Position	Ratio to Limit	Position		
Ant A	0.263	-74.6	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.01
Ant A	0.263	N/A	Ant F	0.542	N/A	0	N/A	0	N/A	0.805	N/A
Ant A	0.263	-74.6	Ant G	0.751	74.6	0	37.8	0	113.5	See Note 2	0.01
Ant A	0.263	-74.6	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.01
Ant A	0.263	-74.6	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.01
Ant B	0.846	-79	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.02
Ant B	0.846	-79	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01
Ant B	0.846	-79	Ant G	0.751	74.6	0	37.8	0	113.5	See Note 2	0.02
Ant B	0.846	-79	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02
Ant B	0.846	-79	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02
Ant A+C	0.794	-77.1	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.02
Ant A+C	0.794	-77.1	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01
Ant A+C	0.794	-77.1	Ant G	0.751	74.6	0	37.8	0	113.5	See Note 2	0.02
Ant A+C	0.794	-77.1	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02
Ant A+C	0.794	-77.1	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02
Ant C	0.539	-80.1	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.01
Ant C	0.539	-80.1	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01
Ant C	0.539	-80.1	Ant G	0.751	74.6	0	37.8	0	113.5	See Note 2	0.01
Ant C	0.539	-80.1	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02
Ant C	0.539	-80.1	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02
Ant D	0.099	N/A	Ant E	0.802	N/A	0	N/A	0	N/A	0.901	N/A
Ant D	0.099	N/A	Ant F	0.542	N/A	0	N/A	0	N/A	0.641	N/A
Ant D	0.099	N/A	Ant G	0.751	N/A	0	N/A	0	N/A	0.850	N/A
Ant D	0.099	N/A	Ant H	0.807	N/A	0	N/A	0	N/A	0.906	N/A
Ant D	0.099	N/A	MIMO	0.824	N/A	0	N/A	0	N/A	0.923	N/A

Right											
Bottom Set			Top Set							Bottom Set + Top Set Ratio to Limit	SPLSR
AG0			AG1			NFC		UWB			
Antenna	Ratio to Limit	Position	Antenna	Ratio to Limit	Position	Ratio to Limit	Position	Ratio to Limit	Position		
Ant A	0.063	N/A	Ant E	0.711	N/A	0	N/A	0	N/A	0.774	N/A
Ant A	0.063	N/A	Ant F	0.02	N/A	0	N/A	0	N/A	0.083	N/A
Ant A	0.063	N/A	Ant G	0.849	N/A	0	N/A	0	N/A	0.912	N/A
Ant A	0.063	N/A	Ant H	0.595	N/A	0	N/A	0	N/A	0.658	N/A
Ant A	0.063	N/A	MIMO	0.669	N/A	0	N/A	0	N/A	0.732	N/A
Ant B	0.036	N/A	Ant E	0.711	N/A	0	N/A	0	N/A	0.747	N/A
Ant B	0.036	N/A	Ant F	0.02	N/A	0	N/A	0	N/A	0.056	N/A
Ant B	0.036	N/A	Ant G	0.849	N/A	0	N/A	0	N/A	0.885	N/A
Ant B	0.036	N/A	Ant H	0.595	N/A	0	N/A	0	N/A	0.631	N/A
Ant B	0.036	N/A	MIMO	0.669	N/A	0	N/A	0	N/A	0.705	N/A
Ant A+C	0.749	38	Ant E	0.711	-40	0	-79	0	-54	See Note 2	0.02
Ant A+C	0.749	N/A	Ant F	0.02	N/A	0	N/A	0	N/A	0.769	N/A
Ant A+C	0.749	38	Ant G	0.849	-49.5	0	-79	0	-54	See Note 2	0.02
Ant A+C	0.749	38	Ant H	0.595	-34.9	0	-79	0	-54	See Note 2	0.02
Ant A+C	0.749	38	MIMO	0.669	-31.6	0	-79	0	-54	See Note 2	0.02
Ant C	0.015	N/A	Ant E	0.711	N/A	0	N/A	0	N/A	0.726	N/A
Ant C	0.015	N/A	Ant F	0.02	N/A	0	N/A	0	N/A	0.035	N/A
Ant C	0.015	N/A	Ant G	0.849	N/A	0	N/A	0	N/A	0.864	N/A
Ant C	0.015	N/A	Ant H	0.595	N/A	0	N/A	0	N/A	0.610	N/A
Ant C	0.015	N/A	MIMO	0.669	N/A	0	N/A	0	N/A	0.684	N/A
Ant D	0.032	N/A	Ant E	0.711	N/A	0	N/A	0	N/A	0.743	N/A
Ant D	0.032	N/A	Ant F	0.02	N/A	0	N/A	0	N/A	0.052	N/A
Ant D	0.032	N/A	Ant G	0.849	N/A	0	N/A	0	N/A	0.881	N/A
Ant D	0.032	N/A	Ant H	0.595	N/A	0	N/A	0	N/A	0.627	N/A
Ant D	0.032	N/A	MIMO	0.669	N/A	0	N/A	0	N/A	0.701	N/A

Notes:

1. For all combinations where the TER sum of AG0+AG1+UWB+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 0.02 per FCC KDB 447498 D04v01. Please see the Highest Report SAR and Hotspot Location Section for Y-axis peak locations.

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E.10 Reduced Tablet (DSI=4) SAR Antenna Group Analysis

Please refer to the above section, E.9 Max Tablet (DSI=0) SAR Antenna Group Analysis for DSI=4 evaluation for bottom, left, and right tablet edges as there is no change in these edges between DSI=0 and DSI=4.

Table E-17
DSI=4 Reduced Tablet AG0 Highest Adjusted Ratio to Limit

AG0 Ratio to Limit							
Body	Configuration	A	B	A+C	C	D	Max
	Back	0.263	0.846	0.794	0.539	0.099	0.846
	Top	0.000	0.003	0.029	0.003	0.001	0.029

Table E-18
DSI=4 Reduced Tablet AG1 Highest Adjusted Ratio to Limit

AG1 Ratio to Limit							
Body	Configuration	E	F	G	H	MIMO	Max
	Back	0.802	0.542	0.638	0.807	0.824	0.824
	Top	0.849	0.854	0.859	0.042	0.795	0.859

Table E-19
DSI=4 Reduced Tablet AG Verification

Body	Configuration	AG0 Ratio to Limit	AG1 Ratio to Limit	NFC + UWB Ratio to Limit	AG0 + AG1 + NFC + UWB Ratio to Limit						
	Back	0.846	0.824	0.000	See Table Below						
	Top	0.029	0.859	0.000	0.888						

Back												
Bottom Set			Top Set								Bottom Set + Top Set Ratio to Limit	SPLSR
AG0			AG1			NFC		UWB				
Antenna	Ratio to Limit	Position	Antenna	Ratio to Limit	Position	Ratio to Limit	Position	Ratio to Limit	Position			
Ant A	0.263	-74.6	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 1	0.01	
Ant A	0.263	N/A	Ant F	0.542	N/A	0	37.8	0	113.5	0.805	N/A	
Ant A	0.263	N/A	Ant G	0.638	N/A	0	37.8	0	113.5	0.901	N/A	
Ant A	0.263	-74.6	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 1	0.01	
Ant A	0.263	-74.6	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 1	0.01	
Ant B	0.846	-79	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.02	
Ant B	0.846	-79	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01	
Ant B	0.846	-79	Ant G	0.638	72.6	0	37.8	0	113.5	See Note 2	0.02	
Ant B	0.846	-79	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02	
Ant B	0.846	-79	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02	
Ant A+C	0.794	-77.1	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.02	
Ant A+C	0.794	-77.1	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01	
Ant A+C	0.794	-77.1	Ant G	0.638	72.6	0	37.8	0	113.5	See Note 2	0.01	
Ant A+C	0.794	-77.1	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02	
Ant A+C	0.794	-77.1	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02	
Ant C	0.539	-80.1	Ant E	0.802	67.9	0	37.8	0	113.5	See Note 2	0.01	
Ant C	0.539	-80.1	Ant F	0.542	70.2	0	37.8	0	113.5	See Note 2	0.01	
Ant C	0.539	-80.1	Ant G	0.638	72.6	0	37.8	0	113.5	See Note 2	0.01	
Ant C	0.539	-80.1	Ant H	0.807	22.4	0	37.8	0	113.5	See Note 2	0.02	
Ant C	0.539	-80.1	MIMO	0.824	21.6	0	37.8	0	113.5	See Note 2	0.02	
Ant D	0.099	N/A	Ant E	0.802	N/A	0	37.8	0	113.5	0.901	N/A	
Ant D	0.099	N/A	Ant F	0.542	N/A	0	37.8	0	113.5	0.641	N/A	
Ant D	0.099	N/A	Ant G	0.638	N/A	0	37.8	0	113.5	0.737	N/A	
Ant D	0.099	N/A	Ant H	0.807	N/A	0	37.8	0	113.5	0.906	N/A	
Ant D	0.099	N/A	MIMO	0.824	N/A	0	37.8	0	113.5	0.923	N/A	

Please see Table E-14 for AG0 Tablet worst case results and Table E-16 for NFC/UWB Tablet worst case results

Notes:

- For all combinations where the TER sum of AG0+AG1+UWB+NFC is not greater than 1, there's no further analysis required for compliance demonstration.
- 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 Y-axis peak locations.

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E.11 Power Density Theoretical Calculations

Table E-20
Worst Case PD Theoretical Exposure

PD Antennas - Theoretical Worst Case							
Antenna	AG	Bands	PD Design Target (W/m ²)	PD Uncertainty (dB)	Permanent Back off (dB)	PD Limit (W/m ²)	Theoretical Ratio to Limit
M	AG1	n258/n261/n260	7.24	1.4	0.5	10	0.891

Table E-21
DSI = 1 Phablet MG Verification

Phablet	Configuration	MG PD Ratio to Limit	NFC + UWB Ratio to Limit	MG + NFC + UWB Ratio to Limit
	Back	0.891	0.001	0.892
	Front	-	0.001	0.001
	Top	0.891	0.000	0.891
	Bottom	-	-	-
	Right	0.891	0.000	0.891
	Left	-	0.000	0.000

Table E-22
DSI = 0 Body MG Verification

Body	Configuration	MG PD Ratio to Limit	NFC + UWB Ratio to Limit	MG + NFC + UWB Ratio to Limit
	Back	0.891	0.001	0.892
	Front	0.891	0.001	0.892
	Top	0.891	0.000	0.891
	Bottom	-	-	0.000
	Right	0.891	0.000	0.891
	Left	-	0.000	0.000

Notes:

1. For all combinations where the TER sum of MG+UWB+NFC is not greater than 1, there's no further analysis required for compliance demonstration.

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Table E-24
DSI=0 Hotspot Back Side Peak Y Coordinates

Model/Band	Hotspot Back									
	Back					Top Set				
	Bottom Set					A61				
	A	B	A+E	C	D	E	F	G	H	MMX)
GSM 850 Ant A	IS	0.188	5.10m	5.10m	5.10m	5.10m	5.10m	5.10m	5.10m	5.10m
	P-Axis	-75.000				0.028				
GSM 850 Ant E	IS					0.028				
	P-Axis					0.028				
GSM 850 Ant A+C	IS					0.028				
	P-Axis					0.028				
GSM 1900 Ant B	IS	0.188								
	P-Axis	-36.400								
UMTS 850 Ant A	IS	0.188								
	P-Axis	-75.000								
UMTS 850 Ant E	IS					0.028				
	P-Axis					0.028				
UMTS 850 Ant A+C	IS					0.028				
	P-Axis					0.028				
UMTS 1755 Ant B	IS	0.188								
	P-Axis	-75.000								
UMTS 1900 Ant B	IS	0.188								
	P-Axis	-84.000								
LTE Band 71 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 71 Ant E	IS					0.027				
	P-Axis					0.027				
LTE Band 71 Ant A+C	IS					0.027				
	P-Axis					0.027				
LTE Band 12 Ant A	IS	0.188								
	P-Axis	-82.200				0.026				
LTE Band 12 Ant E	IS					0.026				
	P-Axis					0.026				
LTE Band 12 Ant A+C	IS					0.026				
	P-Axis					0.026				
LTE Band 13 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 13 Ant E	IS					0.027				
	P-Axis					0.027				
LTE Band 13 Ant A+C	IS					0.027				
	P-Axis					0.027				
LTE Band 14 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 14 Ant E	IS					0.027				
	P-Axis					0.027				
LTE Band 14 Ant A+C	IS					0.027				
	P-Axis					0.027				
LTE Band 26 Ant A	IS	0.188								
	P-Axis	-79.200				0.024				
LTE Band 26 Ant E	IS					0.024				
	P-Axis					0.024				
LTE Band 26 Ant A+C	IS					0.024				
	P-Axis					0.024				
LTE Band 5 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 5 Ant E	IS					0.027				
	P-Axis					0.027				
LTE Band 5 Ant A+C	IS					0.027				
	P-Axis					0.027				
LTE Band 66 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 66 Ant G	IS					0.027				
	P-Axis					0.027				
LTE Band 25 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 25 Ant G	IS					0.027				
	P-Axis					0.027				
LTE Band 30 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 30 Ant G	IS					0.027				
	P-Axis					0.027				
LTE Band 7 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 7 Ant G	IS					0.027				
	P-Axis					0.027				
LTE Band 41 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
LTE Band 41 Ant G	IS					0.027				
	P-Axis					0.027				
LTE Band 48 Ant F	IS					0.027				
	P-Axis					0.027				
LTE Band 48 Ant C	IS					0.027				
	P-Axis					0.027				
NR Band n71 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n71 Ant E	IS					0.027				
	P-Axis					0.027				
NR Band n71 Ant A+C	IS					0.027				
	P-Axis					0.027				
NR Band n12 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n12 Ant E	IS					0.027				
	P-Axis					0.027				
NR Band n12 Ant A+C	IS					0.027				
	P-Axis					0.027				
NR Band n18 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n18 Ant E	IS					0.027				
	P-Axis					0.027				
NR Band n18 Ant A+C	IS					0.027				
	P-Axis					0.027				
NR Band n26 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n26 Ant E	IS					0.027				
	P-Axis					0.027				
NR Band n26 Ant A+C	IS					0.027				
	P-Axis					0.027				
NR Band n5 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n5 Ant E	IS					0.027				
	P-Axis					0.027				
NR Band n5 Ant A+C	IS					0.027				
	P-Axis					0.027				
NR Band n70 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n70 Ant G	IS					0.027				
	P-Axis					0.027				
NR Band n66 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n66 Ant G	IS					0.027				
	P-Axis					0.027				
NR Band n25 Ant B	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n25 Ant G	IS					0.027				
	P-Axis					0.027				
NR Band n25 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n41 Ant H	IS					0.027				
	P-Axis					0.027				
NR Band n41 Ant D	IS					0.027				
	P-Axis					0.027				
NR Band n48 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n48 Ant C	IS					0.027				
	P-Axis					0.027				
NR Band n48 Ant F	IS					0.027				
	P-Axis					0.027				
NR Band n48 Ant G	IS					0.027				
	P-Axis					0.027				
NR Band n77 Ant A	IS	0.188								
	P-Axis	-83.200				0.027				
NR Band n77 Ant C	IS					0.027				
	P-Axis					0.027				
NR Band n77 Ant F	IS					0.027				
	P-Axis					0.027				
NR Band n77 Ant G	IS					0.027				
	P-Axis					0.027				
2.4 GHz WiFi Ant H	IS					0.027				
	P-Axis					0.027				
2.4 GHz WiFi Ant F	IS					0.027				
	P-Axis					0.027				
2.4 GHz WiFi Ant MMIO	IS					0.027				
	P-Axis					0.027				
5 GHz WiFi Ant F	IS					0.027				
	P-Axis					0.027				
5 GHz WiFi Ant E	IS					0.027				
	P-Axis					0.027				
5 GHz WiFi Ant MMIO	IS					0.027				
	P-Axis					0.027				
2.4 GHz Bluetooth Ant H	IS					0.027				
	P-Axis					0.027				

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Table E-25
DSI=0 Max Tablet Back Side Peak Y Coordinates

Body Back											
		Bottom Left								Top Left	
		A	B	A-C	E	G	F	H	MMO		
Antenna Model	Frequency	Antenna	Antenna	Antenna	Antenna	Antenna	Antenna	Antenna	Antenna	Antenna	Antenna
GSM 900 Ant A	900 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	900 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GSM 900 Ant C	900 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	900 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GSM 1800 Ant B	1800 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1800 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UMTS 900 Ant A	900 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	900 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UMTS 900 Ant C	900 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	900 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UMTS 1700 Ant B	1700 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1700 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UMTS 1800 Ant B	1800 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	1800 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 71 Ant A	710 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	710 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 71 Ant A+C	710 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	710 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 72 Ant A	720 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	720 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 72 Ant A+C	720 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	720 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 73 Ant A	730 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	730 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 73 Ant A+C	730 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	730 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 74 Ant A	740 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	740 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 74 Ant A+C	740 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	740 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 75 Ant A	750 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	750 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 75 Ant A+C	750 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	750 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 76 Ant A	760 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	760 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 76 Ant A+C	760 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	760 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 77 Ant A	770 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	770 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE Band 77 Ant A+C	770 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	770 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4 GHz WiFi Ant A	2400 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2400 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4 GHz WiFi Ant H	2400 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2400 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4 GHz WiFi Ant MMIMO	2400 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2400 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5 GHz WiFi Ant A	5000 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	5000 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5 GHz WiFi Ant MMIMO	5000 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	5000 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6 GHz WiFi Ant A	6000 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	6000 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6 GHz WiFi Ant MMIMO	6000 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	6000 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4 GHz Bluetooth Ant A	2400 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2400 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.4 GHz Bluetooth Ant MMIMO	2400 MHz	1	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2400 MHz	2	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Configuration		NFC Ratio to Limit	NFC y-coord	UWB Ratio to Limit	UWB y-coord
Body	Back	0.000	37.800	0.000	113.500

Table E-26
DSI=0 Max Tablet Right Edge Peak Y Coordinates

[illegible]

Table E-27
DSI=4 Reduced Tablet Back Side Peak Y Coordinates

Body Data											
		Rear View						Top View			
		A	B	A+C	D	E	F	G	H	MAND	
Model/Body	Configuration	Front	Side	Side	Side	Side	Side	Side	Side	Side	
	Front	Side	Side	Side	Side	Side	Side	Side	Side	Side	
GMAR02A A-A	Front	0.000									
	Side		0.000								
GMAR02A A-E	Front	0.000									
	Side		0.000								
GMAR02A A-C	Front	0.000									
	Side		0.000								
GMAR02A A-B	Front	0.000									
	Side		0.000								
L0M01 B02 A-A	Front	0.000									
	Side		0.000								
L0M01 B02 A-A-C	Front	0.000									
	Side		0.000								
L0M01 L00 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-A	Front	0.000									
	Side		0.000								
L10 B001 70 A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-B	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-E	Front	0.000									
	Side		0.000								
L10 B001 70 A-A-C	Front	0.000									

E.13 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 that MG TER is <1. TER simultaneous transmission cases will not exceed the SAR limit or PD 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.

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DUT Type: Portable Handset		APPENDIX E: Page 18 of 18