

# APPENDIX J: RU SAR EXCLUSION

## J.1 IEEE 802.11ax RU SAR Exclusion

To make the most efficient use of the additional available subcarriers (data tones), IEEE 802.11ax/be can utilize Orthogonal Frequency-Division Multiple Access (OFDMA) which divides the existing 802.11 channels into smaller subchannels called Resource Units (RUs). Possible RU sizes are: 26T, 52T, 106T, 242T, 484T, 996T and 996Tx2, and for WIFI 6E additionally 996Tx4.

Per FCC Guidance, 802.11ax/be was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 D01v02r02 for OFDM mode selection. Therefore, SAR tests were not required for 802.11ax/be based on the maximum allowed output powers of OFDM modes and the reported SAR values. Per FCC Guidance, maximum conducted powers were performed for each RU size to demonstrate that the output powers would not be higher than the other OFDM 802.11 modes.

## J.2 RU Target Powers

### J.2.1 2.4 GHz WLAN 802.11ax/be RU WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Band		IEEE 802.11axRU (in dBm)											
			SISO Ant H (in dBm)				SISO Ant J (in dBm)				Antenna 1 & Antenna 2 in MIMO			
			26T	52T	106T	242T	26T	52T	106T	242T	26T	52T	106T	242T
2.4 GHz WIFI	2.45 GHz	Maximum	14	15	17	18	14	15	17	18	14	15	17	18
		Nominal	13	14	16	17	13	14	16	17	13	14	16	17

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head)

Mode	Band		IEEE 802.11axbe RU (in dBm)											
			SISO Ant H (in dBm)				SISO Ant J (in dBm)				Antenna 1 & Antenna 2 in MIMO			
			26T	52T	106T	242T	26T	52T	106T	242T	26T	52T	106T	242T
2.4 GHz WIFI	2.45 GHz	Maximum	14	15	17	17	14	15	17	17	14	15	17	17
		Nominal	13	14	16	16	13	14	16	16	13	14	16	16

### J.2.2 5 GHz WLAN 802.11ax/be RU WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Band		IEEE 802.11ax RU (in dBm)																											
			SISO Antenna 1												SISO Antenna 2												Antenna 1 & Antenna 2 in MIMO			
			26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2							
5 GHz WIFI (20MHz BW)	UNH-12A/2C/34	Maximum	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	18.0	18.0	18.0							
		Nominal	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	17.0	17.0	17.0							
5 GHz WIFI (80MHz BW)	UNH-12A/2C/34	Maximum	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	18.0	18.0	18.0							
		Nominal	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	17.0	17.0	17.0							
5 GHz WIFI (160MHz BW)	UNH-12A/2C/34	Maximum	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	11.0	14.0	16.0	18.0	18.0	18.0	18.0	18.0	18.0							
		Nominal	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	10.0	13.0	15.0	17.0	17.0	17.0	17.0	17.0	17.0							

FCC ID: A3LSMS928U	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX J: Page 1 of 2

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head)

Mode	Channel	Bandwidth	IEEE 802.11ax RU (in dBm)																										
			SSB Antenna H								SSB Antenna E																		
			2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST	2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST											
5 GHz WFI (20MHz BW)	UNR-12A/2C/34	Maximum	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
5 GHz WFI (40MHz BW)	UNR-12A/2C/34	Maximum	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
5 GHz WFI (80MHz BW)	UNR-12A/2C/34	Maximum	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
5 GHz WFI (160MHz BW)	UNR-12A/2C/34	Maximum	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	11.0	14.0	16.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
5 GHz WFI (160MHz BW)	UNR-12A/2C/34	Normal	10.0	13.0	15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	10.0	13.0	15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	

## J.2.3 6 GHz WLAN 802.11ax/be RU WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Mode	Channel	Bandwidth	IEEE 802.11ax/be RU (in dBm)																									
			SSB Antenna H								SSB Antenna E																	
			2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST	2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST										
6 GHz WFI (20MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (40MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (80MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (160MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (160MHz BW)	UNR-12A/2C/34	Normal	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head) and/or DSI=0 (Body-worn or Phablet)

Mode	Channel	Bandwidth	IEEE 802.11ax/be RU (in dBm)																									
			SSB Antenna H								SSB Antenna E																	
			2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST	2ST	3ST	4ST	5ST	6ST	7ST	8ST	9ST										
6 GHz WFI (20MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (40MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (80MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (160MHz BW)	UNR-12A/2C/34	Maximum	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6 GHz WFI (160MHz BW)	UNR-12A/2C/34	Normal	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0

FCC ID: A3LSMS928U	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX J: Page 2 of 2