

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 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 802.11ax/be RU WLAN Output Power

The table below is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot, or Phablet), DSI=1 (Head)

Mode		IEEE 802.11ax/be 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	Maximum	15 ch. 12: 6.0 ch. 13: 0.0	16 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0	15 ch. 12: 6.0 ch. 13: 0.0	16 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0	15 ch. 12: 6.0 ch. 13: 0.0	16 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0	17 ch. 12: 6.0 ch. 13: 0.0
	Nominal	14 ch. 12: 5.0 ch. 13: -1.0	15 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0	14 ch. 12: 5.0 ch. 13: -1.0	15 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0	14 ch. 12: 5.0 ch. 13: -1.0	15 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0	16 ch. 12: 5.0 ch. 13: -1.0

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

The table below is applicable in the following conditions:

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

Mode			IEEE 802.11ax/be RU (in dBm)																					
			SISO								SISO								SISO in MIMO					
			Antenna 3								Antenna 5								Antenna 1					
5 GHz WIFI (20MHz BW)	LINE12A2C234	Maximum	26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2	
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (40MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (80MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (160MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

The table below is applicable in the following conditions:

- DSI=1 (Head)

Mode			IEEE 802.11ax/be RU (in dBm)																				
			SISO								SISO								SISO in MIMO				
			Antenna 3								Antenna 5								Antenna 1				
5 GHz WIFI (20MHz BW)	LINE12A2C234	Maximum	26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2	26T	52T	106T	242T	484T	996T	996T*2
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (40MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (80MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
5 GHz WIFI (160MHz BW)	LINE12A2C234	Maximum	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0
		Nominal	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0	11.0	14.0	14.0	14.0	14.0	14.0	14.0

FCC ID: A3LSMS928B	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX J: Page 1 of 2

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

The table below is applicable in the following conditions:

- Pmax

Mod	Modulation	EIRP (dBm)																MFRS (dBm)															
		SSB				MCS0				MCS1-9				MCS10-11				SSB				MCS0				MCS1-9				MCS10-11			
		20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35
6 GHz 802.11ax (RU) (MIMO 2x2)	Maximum	30.0	30.0	30.0	30.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	30.0	30.0	30.0	30.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
	Minimum	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0

The table below is applicable in the following conditions:

- DSI=0 (Body-worn, Hotspot, or Phablet) or DSI=1 (Head)

Mod	Modulation	EIRP (dBm)																MFRS (dBm)															
		SSB				MCS0				MCS1-9				MCS10-11				SSB				MCS0				MCS1-9				MCS10-11			
		20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35	20	25	30	35
6 GHz 802.11ax (RU) (MIMO 2x2)	Maximum	30.0	30.0	30.0	30.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	30.0	30.0	30.0	30.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
	Minimum	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0