

APPENDIX J: IEEE 802.11AX 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 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 and 996T

Per FCC Guidance, 802.11ax 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 IEEE 802.11ax RU Target Powers

J.2.1 Maximum 802.11ax RU WLAN Output Power

Tones		2.4GHz SISO (ANT1/M), 5GHz SISO (ANT G/M) /in dBm				SISO in MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	9 ch 12: 7.0 ch 13: -8.5	10	10	9.5	12 ch 12: 10.0 ch 13: -5.0	13	13	12.5
	Nominal	8 ch 12: 6.0 ch 13: -9.5	9	9	8.5	11 ch 12: 9.0 ch 13: -6.0	12	12	11.5
52T	Maximum	12 ch 12: 7.0 ch 13: -8.5	13	13	12	15 ch 12: 10.0 ch 13: -5.5	16	16	15
	Nominal	11 ch 12: 6.0 ch 13: -9.5	12	12	11	14 ch 12: 9.0 ch 13: -6.5	15	15	14
106T	Maximum	15 ch 12: 7.0 ch 13: -8.5	14	14	13	18 ch 12: 10.0 ch 13: -5.5	17	17	16
	Nominal	14 ch 12: 6.0 ch 13: -9.5	13	13	12	17 ch 12: 9.0 ch 13: -6.5	16	16	15
242T	Maximum	16 ch 12: 7.0 ch 13: -8.5	14	14	13	19 ch 12: 10.0 ch 13: -5.5	17	17	16
	Nominal	15 ch 12: 6.0 ch 13: -9.5	13	13	12	18 ch 12: 9.0 ch 13: -6.5	16	16	15
484T	Maximum			14	13			17	16
	Nominal			13	12			16	15
996T	Maximum				13				16
	Nominal				12				15

FCC ID: A3LSMA356E	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX J: Page 1 of 2

J.2.2 Reduced 802.11ax RU WLAN Output Power

The below is applicable in the following conditions:

- RCV Active

Tones		2.4GHz SISO (ANT1/M), 5GHz SISO (ANT G/M) /in dBm				SISO in MIMO (ALL) /in dBm			
		2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz	2.4GHz	5GHz/20MHz	5GHz/40MHz	5GHz/80MHz
26T	Maximum	9 ch 12: 7.0 ch 13: -8.5	10	10	9.5	12 ch 12: 10.0 ch 13: -5.0	13	13	12.5
	Nominal	8 ch 12: 6.0 ch 13: -9.5	9	9	8.5	11 ch 12: 9.0 ch 13: -6.0	12	12	11.5
52T	Maximum	12 ch 12: 7.0 ch 13: -8.5	13	13	12	15 ch 12: 10.0 ch 13: -5.0	16	16	15
	Nominal	11 ch 12: 6.0 ch 13: -9.5	12	12	11	14 ch 12: 9.0 ch 13: -6.0	15	15	14
106T	Maximum	14 ch 12: 7.0 ch 13: -8.5	14	14	13	17 ch 12: 10.0 ch 13: -5.0	17	17	16
	Nominal	13 ch 12: 6.0 ch 13: -9.5	13	13	12	16 ch 12: 9.0 ch 13: -6.0	16	16	15
242T	Maximum	14 ch 12: 7.0 ch 13: -8.5	14	14	13	17 ch 12: 10.0 ch 13: -5.0	17	17	16
	Nominal	13 ch 12: 6.0 ch 13: -9.5	13	13	12	16 ch 12: 9.0 ch 13: -6.0	16	16	15
484T	Maximum			14	13			17	16
	Nominal			13	12			16	15
996T	Maximum				13				16
	Nominal				12				15

FCC ID: A3LSMA356E	SAR EVALUATION REPORT	Approved by: Technical Manager
DUT Type: Portable Handset		APPENDIX J: Page 2 of 2