APPENDIX H: IEEE 802.11AX RU SAR EXCLUSION

H.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, 996T and 996Tx2.

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. Please refer to 1M2303200036-05.A3L and 1M2303200036-07.A3L for IEEE 802.11ax RU powers.

H.2 IEEE 802.11ax RU Target Powers

H.2.1 Maximum 2.4 GHz 802.11ax RU WLAN Output Power

Tones		SISO (ANT2) /in dBm	MIMO (ALL) /in dBm
		2.4GHz	**2.4GHz**
26T	Maximum	10 ch 12: 9.0 ch 13: 3.0	13 ch 12: 9.0 ch 13: 3.0
	Nominal	9 ch 12: 8.0 ch 13: 2.0	12 ch 12: 8.0 ch 13: 2.0
52T	Maximum	13 ch 12: 9.0 ch 13: 3.0	16 ch 12: 9.0 ch 13: 3.0
	Nominal	12 ch 12: 8.0 ch 13: 2.0	15 ch 12: 8.0 ch 13: 2.0
106T	Maximum	15 ch 12: 9.0 ch 13: 3.0	18 ch 12: 9.0 ch 13: 3.0
	Nominal	14 ch 12: 8.0 ch 13: 2.0	17 ch 12: 8.0 ch 13: 2.0
242T	Maximum	18 ch 1: 17.0 ch 2: 17.5 ch 10: 17.5 ch 11: 16.0 ch 12: 9.0 ch 13: 3.0	21 ch 1: 20.0 ch 2: 20.5 ch 10: 20.5 ch 11: 19.0 ch 12: 9.0 ch 13: 3.0
	Nominal	17 ch 1: 16.0 ch 2: 16.5 ch 10: 16.5 ch 11: 15.0 ch 12: 8.0 ch 13: 2.0	20 ch 1: 19.0 ch 2: 19.5 ch 10: 19.5 ch 11: 18.0 ch 12: 8.0 ch 13: 2.0

H.2.2 Reduced 2.4 GHz 802.11ax RU WLAN Output Power

The table below is applicable in the following condition:

- Grip Sensor Active

Tones		SISO (ANT2) /in dBm	MIMO (ALL) /in dBm
		2.4GHz	**2.4GHz**
26T	Maximum	10 ch 12: 9.0 ch 13: 3.0	13 ch 12: 9.0 ch 13: 3.0
	Nominal	9 ch 12: 8.0 ch 13: 2.0	12 ch 12: 8.0 ch 13: 2.0
52T	Maximum	13 ch 12: 9.0 ch 13: 3.0	16 ch 12: 9.0 ch 13: 3.0
	Nominal	12 ch 12: 8.0 ch 13: 2.0	15 ch 12: 8.0 ch 13: 2.0
106T	Maximum	13 ch 12: 9.0 ch 13: 3.0	16 ch 12: 9.0 ch 13: 3.0
	Nominal	12 ch 12: 8.0 ch 13: 2.0	15 ch 12: 8.0 ch 13: 2.0
242T	Maximum	13 ch 12: 9.0 ch 13: 3.0	16 ch 12: 9.0 ch 13: 3.0
	Nominal	12 ch 12: 8.0 ch 13: 2.0	15 ch 12: 8.0 ch 13: 2.0

H.2.3 Maximum 5 GHz 802.11ax RU WLAN Output Power

Tones		MIMO (ALL) /in dBm			
		5GHz/20MHz	**5GHz/40MHz**	**5GHz/80MHz**	**5GHz/160MHz**
26T	Maximum	13	13	13	13
	Nominal	12	12	12	12
52T	Maximum	16	16	16	16
	Nominal	15	15	15	15
106T	Maximum	18	18	18	18
	Nominal	17	17	17	17
242T	Maximum	21	20	19	18
		ch 36: 20 ch 64: 19 ch 100: 20			
	Nominal	20	19	18	17
		ch 36: 19.0 ch 64: 18.0 ch 100: 19.0			
484T	Maximum		20	19	18
			ch 38: 19.0 ch 62: 17.5 ch 102: 19.0		
	Nominal		19	18	17
			ch 38: 18.0 ch 62: 16.5 ch 102: 18.0		
996T	Maximum			19	18
				ch 58: 18.5 ch 106: 18.5	
	Nominal			18	17
				ch 58: 17.5 ch 106: 17.5	
2x996T	Maximum				18
	Nominal				17

H.2.4 Reduced 5 GHz 802.11ax RU WLAN Output Power

The table below is applicable in the following condition:

• Grip Sensor Active

Tones		MIMO (ALL) /in dBm			
		5GHz/20MHz	**5GHz/40MHz**	**5GHz/80MHz**	**5GHz/160MHz**
26T	Maximum	12	12	12	12
	Nominal	11	11	11	11
52T	Maximum	12	12	12	12
	Nominal	11	11	11	11
106T	Maximum	12	12	12	12
	Nominal	11	11	11	11
242T	Maximum	12	12	12	12
	Nominal	11	11	11	11
484T	Maximum		12	12	12
	Nominal		11	11	11
996T	Maximum			12	12
	Nominal			11	11
2x996T	Maximum				12
	Nominal				11