

APPENDIX F: POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was to evaluate output power levels for individual or multiple triggering mechanisms.

F.1 Power Verification Procedure

The power verification was performed according to the following procedure:

1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered.
2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.
3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the combination cases, one mechanism was switched to a 'triggered' state at a time; powers were confirmed to be within tolerances after each additional mechanism was activated.

F.2 Angle Verification Procedure

The angle verification procedure was performed according to the following procedure:

1. A base station simulator was used to establish an RF connection and to monitor the power levels. For licensed modes, the device state index on the device UI was monitored to determine the triggering state.
2. The device was opened and closed to determine the angle at which the mechanism triggers and the output power is reduced, per the FCC TCB Workshop Slides from November 2019. The triggering conditions of the angles was sufficient such that all possible user scenarios with the device in open condition are in the reduced power state.

F.3 WIFI Verification Summary

**Table F-1
Power Measurement Verification 6 GHz WIFI – Antenna 1**

Antenna 1				
Mechanism(s)		Mode/Band	Conducted Powers (dBm)	
1st	2nd		Mechanism #1	Mechanism #2
No Motion	Motion + Tablet	802.11ax (6 GHz, 20 MHz BW)	4.70	4.70
No Motion	Motion + Tablet	802.11ax (6 GHz, 40 MHz BW)	6.30	4.80
No Motion	Motion + Tablet	802.11ax (6 GHz, 80 MHz BW)	9.50	4.90
No Motion	Motion + Tablet	802.11ax (6 GHz, 160 MHz BW)	12.60	4.60

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**Table F-2
Power Measurement Verification 6 GHz WIFI – Antenna 2**

Antenna 2				
Mechanism(s)		Mode/Band	Conducted Powers (dBm)	
1st	2nd		Mechanism #1	Mechanism #2
No Motion	Motion + Tablet	802.11ax (6 GHz, 20 MHz BW)	5.70	5.70
No Motion	Motion + Tablet	802.11ax (6 GHz, 40 MHz BW)	7.10	5.40
No Motion	Motion + Tablet	802.11ax (6 GHz, 80 MHz BW)	10.70	5.70
No Motion	Motion + Tablet	802.11ax (6 GHz, 160 MHz BW)	13.40	5.10

F.4 Angle Verification

**Table F-3
Angle Detection with Keyboard Accessory**

Mechanism(s)	Angle Measurements (°)		Angle (°) Range per Manufacturer
	Closing (360 to 0)	Opening (0 to 360)	
Keyboard Angle	205	205	210

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