APPENDIX I: 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 divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

Please see the original filing for all other operations that were not evaluated in this permissive change.

I.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 device state index as displayed on the device UI was recorded before and after the 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.

I.2 Main Antenna Verification Summary

Table I-1
Power Measurement Verification for Main Antenna

Mechanism(s)		Mode/Band	Device State index (DSI)		
1st	2nd		Free Space	Mechanism #1	Mechanism #2
Hotspot On	Held-to-Ear	UMTS 1750	0	3	2
Held-to-Ear	Hotspot On	UMTS 1750	0	2	2
Hotspot On	Held-to-Ear	UMTS 1900	0	3	2
Held-to-Ear	Hotspot On	UMTS 1900	0	2	2
Hotspot On	Held-to-Ear	LTE Band 66 Ant A	0	3	2
Held-to-Ear	Hotspot On	LTE Band 66 Ant A	0	2	2
Hotspot On	Held-to-Ear	LTE Band 4 Ant A	0	3	2
Held-to-Ear	Hotspot On	LTE Band 4 Ant A	0	2	2
Hotspot On	Held-to-Ear	LTE Band 25 Ant A	0	3	2
Held-to-Ear	Hotspot On	LTE Band 25 Ant A	0	2	2
Hotspot On	Held-to-Ear	LTE Band 2 Ant A	0	3	2
Held-to-Ear	Hotspot On	LTE Band 2 Ant A	0	2	2
Hotspot On	Held-to-Ear	LTE Band 30 Ant A	0	3	2
Held-to-Ear	Hotspot On	LTE Band 30 Ant A	0	2	2
Hotspot On	Held-to-Ear	LTE Band 7 Ant B	0	3	2
Held-to-Ear	Hotspot On	LTE Band 7 Ant B	0	2	2
Held-to-Ear		LTE Band 41 PC3 Ant B	0	2	
Held-to-Ear		LTE Band 41 PC2 Ant B	0	2	
Held-to-Ear		LTE Band 38 Ant B	0	2	
Hotspot On	Held-to-Ear	NR FDD Band n66 Ant A	0	3	2
Held-to-Ear	Hotspot On	NR FDD Band n66 Ant A	0	2	2
Hotspot On	Held-to-Ear	NR FDD Band n25 Ant A	0	3	2
Held-to-Ear	Hotspot On	NR FDD Band n25 Ant A	0	2	2
Hotspot On	Held-to-Ear	NR FDD Band n2 Ant A	0	3	2
Held-to-Ear	Hotspot On	NR FDD Band n2 Ant A	0	2	2
Hotspot On	Held-to-Ear	NR FDD Band n30 Ant A	0	3	2
Held-to-Ear	Hotspot On	NR FDD Band n30 Ant A	0	2	2
Hotspot On	Held-to-Ear	NR FDD Band n7 Ant B	0	3	2
Held-to-Ear	Hotspot On	NR FDD Band n7 Ant B	0	2	2

*Note: This device uses different Device State Indices (DSI) to configure different time averaged power levels based on certain exposure scenarios. For this device, DSI = 2 represents the case where the device is held to ear, and DSI = 3 represents the case when hotspot mode is active. DSI = 0 is configured when the device cannot detect the use condition.