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 includes evaluation of 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 Main Antenna Verification Summary

- Low band refers to: GSM850, UMTS B5, LTE B5/12/13, NR n5; Mid band refers to: GSM1900, LTE B2/4/66, NR n66; High band refers to: LTE B41, NR n41.

- This device uses different Device State Indices (DSI) to configure different time averaged power levels based on certain exposure scenarios. For this device DSI = 1 represents the case where the device is held-to-ear. DSI = 0 is configured when the device cannot detect the held-to-ear use conditions.

Table F-1
Power Measurement Verification for Main Antenna

Mechanism(s)	Mode/Band	Device State Index (DSI)	
1st		Free Space	Mechanism #1
Held-to-Ear	Low Band Ant E	0	1
Held-to-Ear	Mid Band Ant A	0	1
Held-to-Ear	Mid Band Ant F	0	1
Held-to-Ear	High Band Ant B	0	1
Held-to-Ear	High Band Ant F	0	1

F.3 WIFI Verification Summary

Table F-2
Power Measurement Verification WIFI

Mechanism(s)	Mode/Band	Device State Index (DSI)	
1st		Free Space	Mechanism #1
Held-to-Ear	2.4 GHz WLAN Ant H	0	1
Held-to-Ear	5 GHz WLAN Ant H	0	1
Held-to-Ear	6 GHz WLAN Ant H	0	1
Held-to-Ear	2.4 GHz WLAN Ant J	0	1
Held-to-Ear	5 GHz WLAN Ant E	0	1
Held-to-Ear	6 GHz WLAN Ant E	0	1

*Note: MIMO WIFI modes were not evaluated due to equipment limitations.

Table F-3
Power Measurement Verification Bluetooth

Mechanism(s)	Mode/Band	Device State Index (DSI)	
1st		Free Space	Mechanism #1
Held-to-Ear	Bluetooth Ant 1	0	1
Held-to-Ear	Bluetooth Ant 2	0	1