Appendix H: Power Reduction Verification

H.1.Procedures

According to 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 device state index (DSI) for individual or multiple triggering mechanisms.

This device supports manufacturer's proprietary mechanism which can detect motion of the device and then configure the DSI with different time averaged power levels based on certain exposure scenarios. Details of this mechanism can be found in the Operational Description. When the device is being used near the user, the device will detect motion and reduce the time-averaged output power of the antenna, by configuring the DSI in the device to DSI=3. When no motion is detected, DSI=4 is configured by the device. For this device DSI = 3 represents the case when in "on-body" or extremity conditions. DSI = 4 is configured when the device cannot detect the use condition.

The power verification was performed using a base station simulator to establish a conducted RF connection for relevant modes and frequency bands. The DSI as displayed on the DUT was recorded before and after the mechanism was triggered. The motion detection operation was verified using a "on-body" use case, where only minimal movement was applied, in order to represent a conservative verification scenario.

H.2.Power Reduction Verification Result

Table H-1

Exposure Scenario	Free-Space	Body/Extremity
Band/Mode	Device State Index (DSI)	
Low Band Main1 Antenna	4	3
Low Band Sub Antenna	4	3
Mid Band Main2 Antenna	4	3
High Band Main2 Antenna	4	3
Ultra High Band Main1 Antenna	4	3
Ultra High Band Sub-UHB Antenna	4	3

Note: Low band refers to LTE B71/12/17/13/5 and NR n71/n5. Mid band refers to LTE B66/4/25/2 and NR n66/n25/n2. High band refers to LTE B30/41 and NR n30/n41. Ultra high band refers to LTE B48 and NR n48/n77.