

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 included the evaluation of output power levels or device state indices 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 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. The device state index as displayed on the device UI was recorded before and after the mechanism was triggered.

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 were sufficient such that all possible user scenarios with the device in open condition are in the reduced power state.

FCC ID A3LSMF776U	RF EXPOSURE PART 1 TEST REPORT	Approved by: Technical Manager
DUT Type: Portable Handset	This report is Blockchain Verified. To verify the report authenticity, please visit HTTPS://WWW.BLOCKCHAIN-VERIFIED.COM or by clicking on the Blockchain logo. 	APPENDIX F: Page 1 of 4

F.3 Main Antenna Verification Summary

- Low band refers to: GSM850, UMTS B5, LTE B12/13/14/26/5/71, NR n71/12/14/26/5; Mid band refers to: GSM1900, UMTS B2/4, LTE B2/4/25/66, NR n66/70/25/2; High band refers to: LTE B7/30/38/41, NR n30/7/38/41; Ultra High band refers to: LTE B48, NR n48/77/78.
- 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 is in the open configuration and cannot detect the use conditions. For the closed configuration, DSI = 3 is configured when the device cannot detect the use conditions.

Table F-1
Power Measurement Verification for WWAN Antennas – Open Configurations

Mode/Band	Device State Index (DSI)	
	Free Space	Mechanism #1 (Head)
Low Band Ant A	0	1
Low Band Ant E	0	1
Mid Band Ant B	0	1
Mid Band Ant H	0	1
High Band Ant B	0	1
High Band Ant H	0	1
Ultra High Band Ant F	0	1

Table F-2
Power Measurement Verification for WWAN Antennas – Folder Open and Closed

Mechanism(s)	Mode/Band	Device State Index (DSI)	
		Free Space	Mechanism #1
1st			
Open	Low Band Ant A	0	3
Open	Low Band Ant E	0	3
Open	Mid Band Ant B	0	3
Open	Mid Band Ant H	0	3
Open	High Band Ant B	0	3
Open	High Band Ant H	0	3
Open	Ultra High Band Ant F	0	3
Closed	Low Band Ant A	3	0
Closed	Low Band Ant E	3	0
Closed	Mid Band Ant B	3	0
Closed	Mid Band Ant H	3	0
Closed	High Band Ant B	3	0
Closed	High Band Ant H	3	0
Closed	Ultra High Band Ant F	3	0

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F.4 WIFI Verification Summary

Table F-3
Power Measurement Verification WIFI – Open Configurations

Mode/Band	Device State Index (DSI)	
	Free Space	Mechanism #1 (Head)
2.4 GHz WLAN Ant G	0	1
2.4 GHz WLAN Ant C	0	1
5 GHz WLAN Ant F	0	1
5 GHz WLAN Ant I	0	1
6 GHz WLAN Ant F	0	1
6 GHz WLAN Ant I	0	1
2.4 GHz Bluetooth Ant G	0	1
2.4 GHz Bluetooth Ant C	0	1

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

Table F-4
Power Measurement Verification WIFI – Folder Open and Closed

Mechanism(s)	Mode/Band	Device State Index (DSI)	
1st		Free Space	Mechanism #1
Open	2.4 GHz WLAN Ant G	0	3
Open	2.4 GHz WLAN Ant C	0	3
Open	6 GHz WLAN Ant F	0	3
Open	6 GHz WLAN Ant I	0	3
Closed	2.4 GHz WLAN Ant G	3	0
Closed	2.4 GHz WLAN Ant C	3	0
Closed	6 GHz WLAN Ant F	3	0
Closed	6 GHz WLAN Ant I	3	0

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

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F.5 Angle Verification Summary

Table F-5
Open Angle Detection

Mechanism(s)	Angle Measurements (°)	
	Opening (0 to 180)	Opening Posture Readout (DSI)
Folder Angle	0	3
	90	3
	150	3
	160	3
	161	3
	162	0
	163	0
	165	0
	170	0
	180	0

Table F-6
Closed Angle Detection

Mechanism(s)	Angle Measurements (°)	
	Close (180 to 0)	Closing Posture Readout
Folder Angle	180	0
	170	0
	160	0
	155	0
	154	0
	153	0
	152	3
	151	3
	150	3
	130	3
	90	3
	0	3