APPENDIX E: DUT ANTENNA DIAGRAM & SAR TEST SETUP PHOTOGRAPHS

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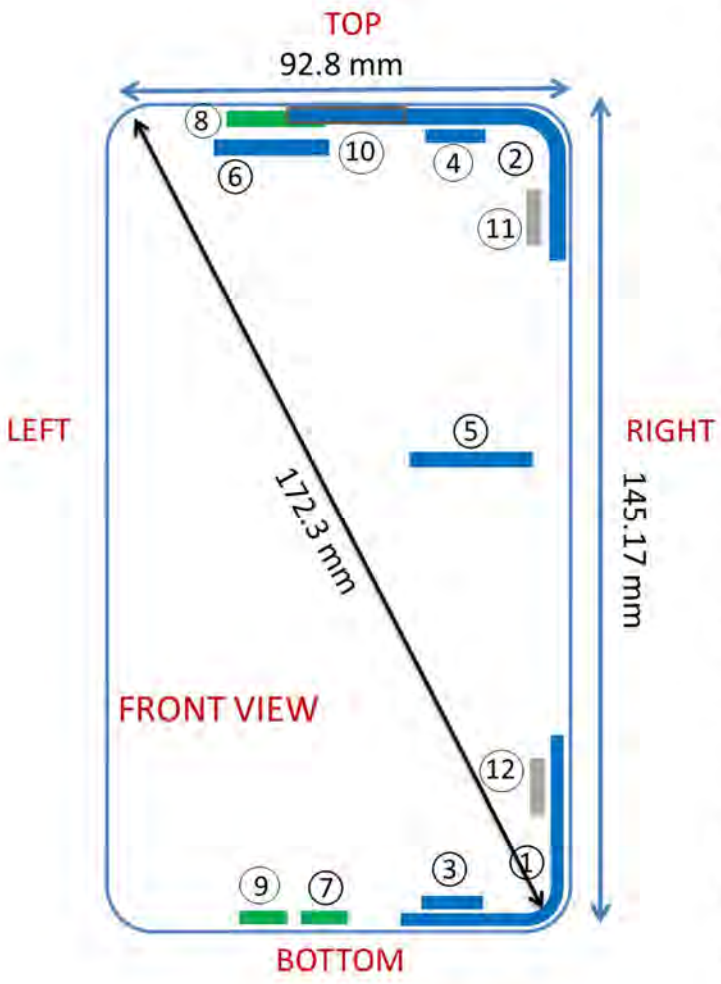
Note: Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC Filing.

Figure E-1
DUT Antenna Locations Flip/Closed Configuration (Handset)



1 Main Band Antenna PTRX1 South Tx/Rx
1. GSM/GPRS/EDGE 850/1900 MHz
2. UMTS Band 2/5
3. LTE Band 71/12/13/14/26/5/66/4/25/2/30/7/41
4. NR Band n71/5/66/25/2/41

2 Main Band Antenna DTRX2 North Tx/Rx
1. LTE Band 71/12/13/14/26/5/66/4/25/2/30/7/41
2. NR Band n71/5/66/25/2/41

3 Main Band Antenna UHB_TRX1 Tx/Rx
1. LTE Band 48

4 Main Band Antenna UHB_TRX2 Tx/Rx
1. Non-US Bands

5 Rear Facing Antenna mmWave Tx/Rx
1. NR mmW n260/n261

6 Front Facing Antenna mmWave Tx/Rx
1. NR mmW n260/n261

7 Antenna WIFI/BT 1 Tx/Rx (MIMO04_WiFi)
1. 2.45 GHz WIFI Antenna 1
2. 5 GHz WIFI Antenna 1
3. 2.45 GHz Bluetooth Antenna 1
4. NR Band n41 SRS #4
5. LTE Band 66/4/25/2/30/7/41 4x4 MIMO Rx only
6. NR Band n66/25/2/41 4x4 MIMO Rx only

8 Antenna WIFI/BT 2 Tx/Rx (GNSS_MIMO03_WiFi)
1. 2.45 GHz WIFI Antenna 2
2. 5 GHz WIFI Antenna 2
3. 2.45 GHz Bluetooth Antenna 2
4. GNSS
5. NR Band n41 SRS #3
6. LTE Band 66/4/25/2/30/7/41 4x4 MIMO Rx only
7. NR Band n66/25/2/41 4x4 MIMO Rx only

9 Antenna GNSS Tx/Rx
1. GNSS L5

10 NFC Antenna Tx/Rx
1. NFC

11 Sub Antenna UHB_MIMO03 Rx Only
1. Non-US Bands Rx only

12 Sub Antenna UHB_MIMO04 Rx Only
1. Non-US Bands Rx only

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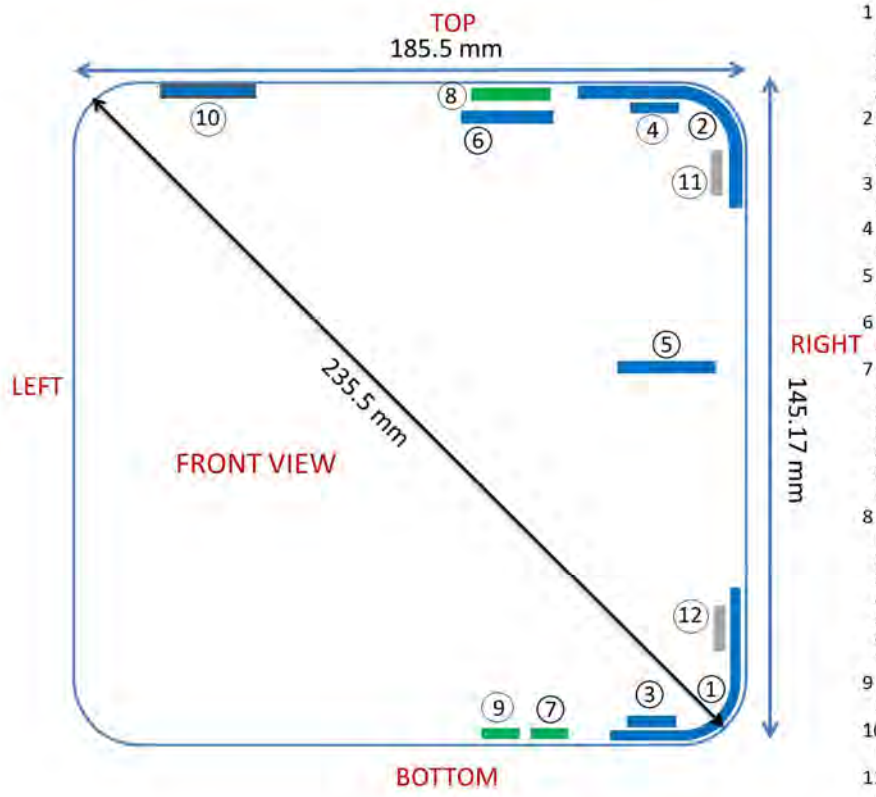
Figure E-2
DUT Antenna Locations Read/Flat Configuration (UMPC and Body)



1 Main Band Antenna PTRX1 South Tx/Rx
1. GSM/GPRS/EDGE 850/1900 MHz
2. UMTS Band 2/5
3. LTE Band 71/12/13/14/26/5/66/4/25/2/30/7/41
4. NR Band n71/5/66/25/2/41

2 Main Band Antenna DTRX2 North Tx/Rx
1. LTE Band 71/12/13/14/26/5/66/4/25/2/30/7/41
2. NR Band n71/5/66/25/2/41

3 Main Band Antenna UHB_TRX1 Tx/Rx
1. LTE Band 48

4 Main Band Antenna UHB_TRX2 Tx/Rx
1. Non-US Bands

5 Rear Facing Antenna mmWave Tx/Rx
1. NR mmW n260/n261

6 Front Facing Antenna mmWave Tx/Rx
1. NR mmW n260/n261

7 Antenna WIFI/BT 1 Tx/Rx (MIMO04_WiFi)
1. 2.45 GHz WIFI Antenna 1
2. 5 GHz WIFI Antenna 1
3. 2.45 GHz Bluetooth Antenna 1
4. NR Band n41 SRS #4
5. LTE Band 66/4/25/2/30/7/41 4x4 MIMO Rx only
6. NR Band n66/25/2/41 4x4 MIMO Rx only

8 Antenna WIFI/BT 2 Tx/Rx (GNSS_MIMO03_WiFi)
1. 2.45 GHz WIFI Antenna 2
2. 5 GHz WIFI Antenna 2
3. 2.45 GHz Bluetooth Antenna 2
4. GNSS
5. NR Band n41 SRS #3
6. LTE Band 66/4/25/2/30/7/41 4x4 MIMO Rx only
7. NR Band n66/25/2/41 4x4 MIMO Rx only

9 Antenna GNSS Tx/Rx
1. GNSS L5

10 NFC Antenna Tx/Rx
1. NFC

11 Sub Antenna UHB_MIMO03 Rx Only
1. Non-US Bands Rx only

12 Sub Antenna UHB_MIMO04 Rx Only
1. Non-US Bands Rx only

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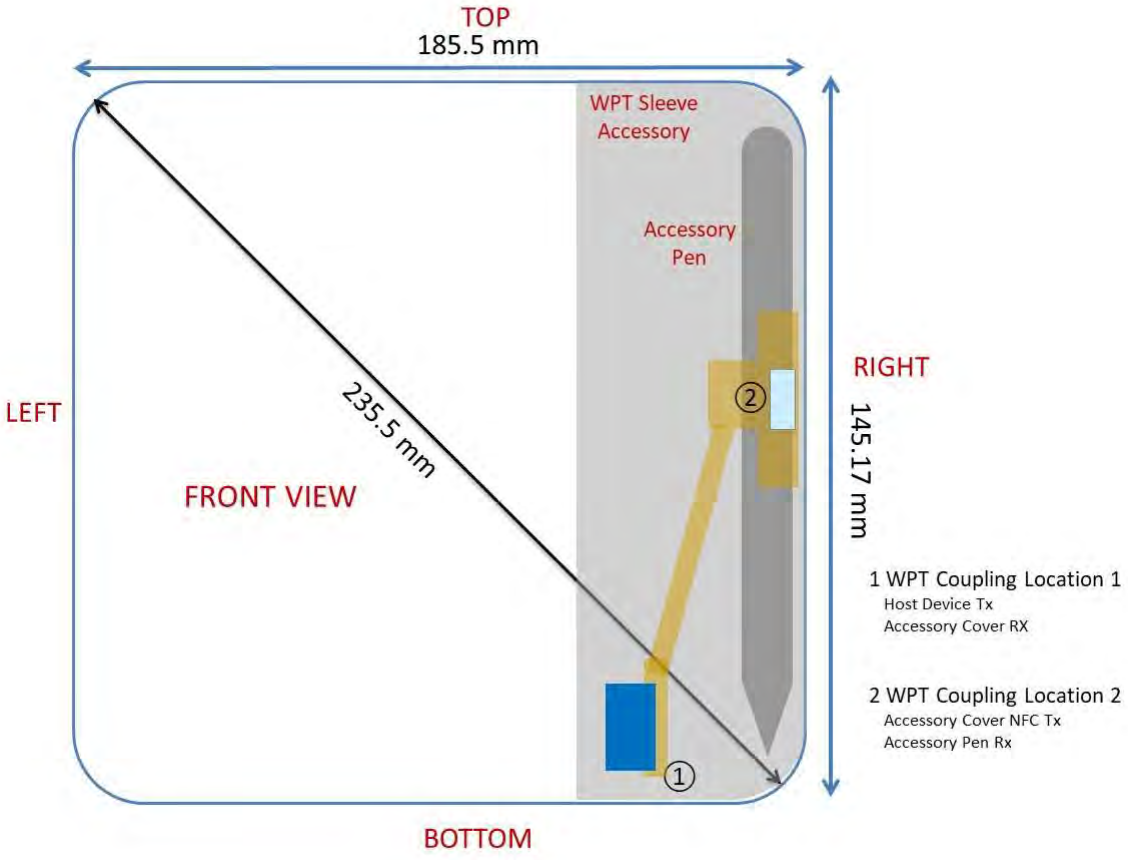
Figure E-3
WPT Sleeve and Pen Accessory Antenna Locations Read/Flat Configuration (Body)



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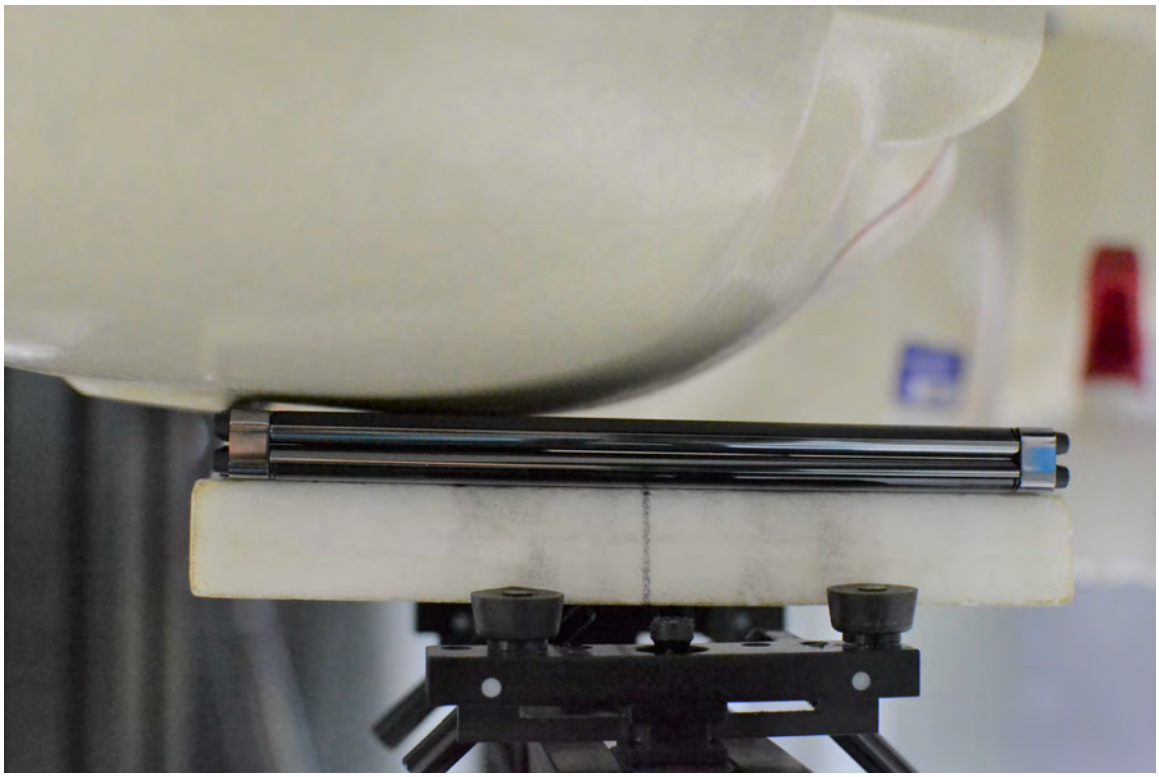
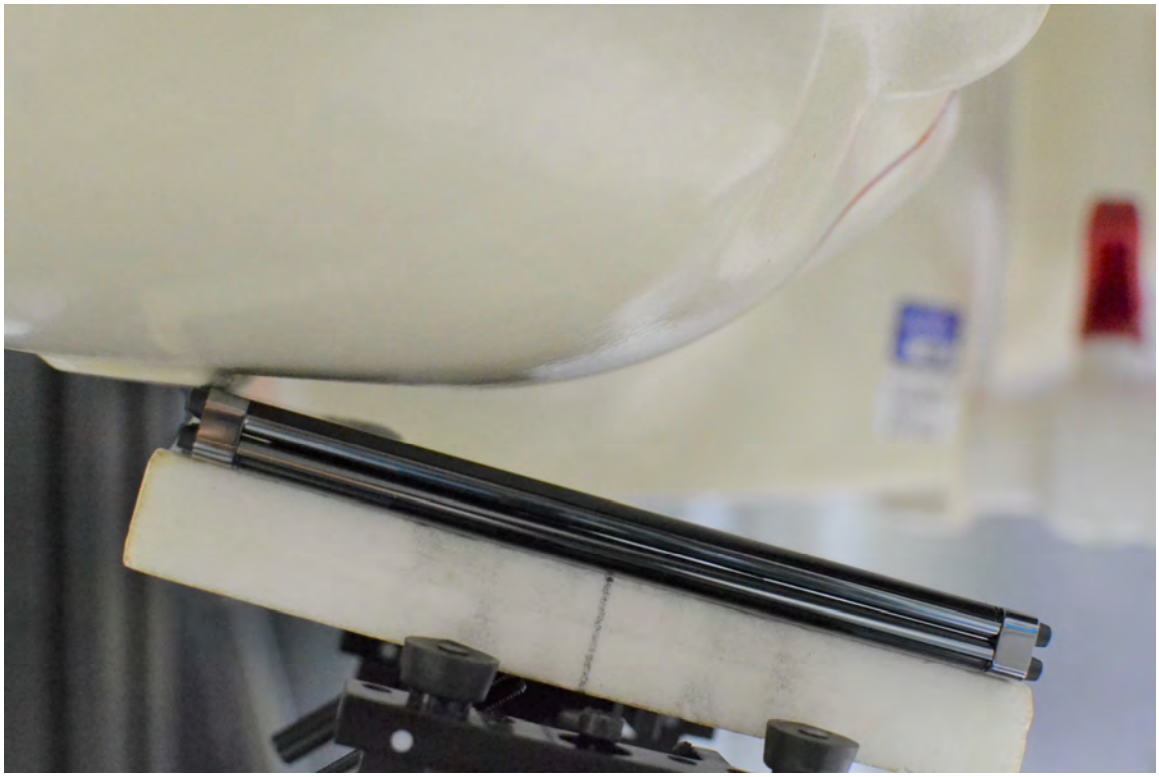


SAR Test Setup Photo 1– Flip Configuration (Handset), Head, Right Cheek, 0 mm



SAR Test Setup Photo 2– Flip Configuration (Handset), Head, Right Tilt, 0 mm

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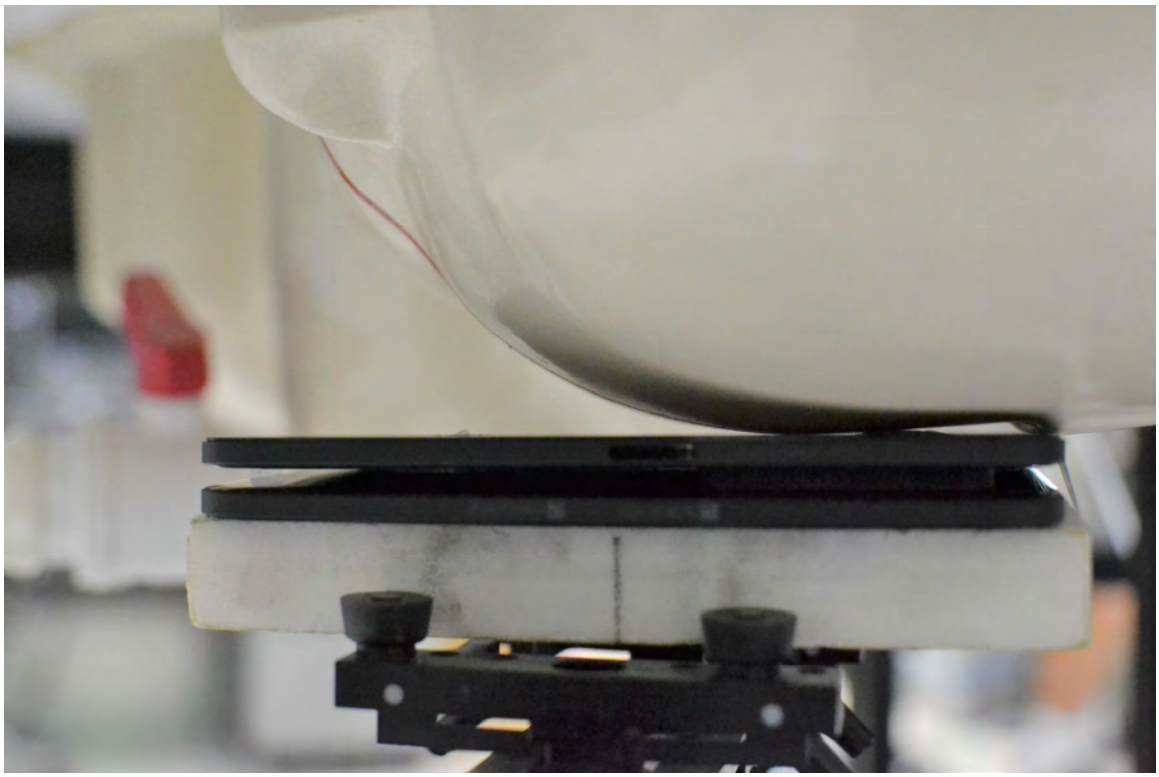
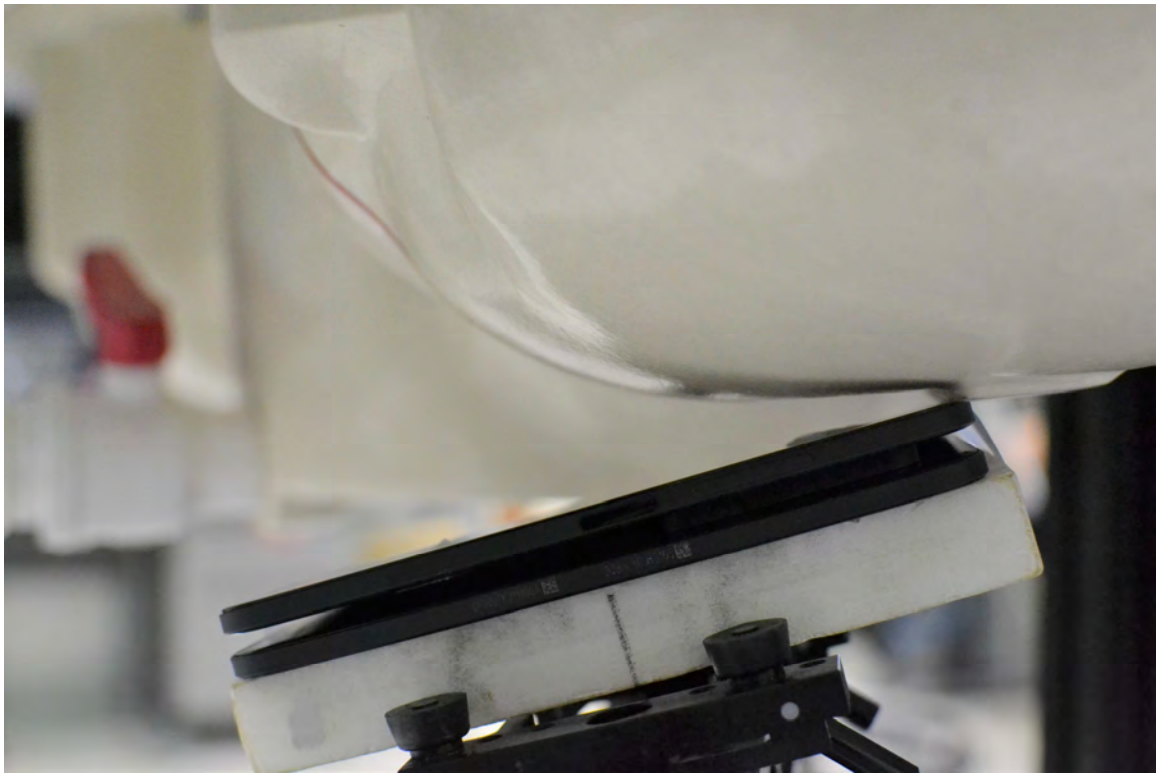


SAR Test Setup Photo 3– Flip Configuration (Handset), Head, Left Cheek, 0 mm



SAR Test Setup Photo 4– Flip Configuration (Handset), Head, Left Tilt, 0 mm

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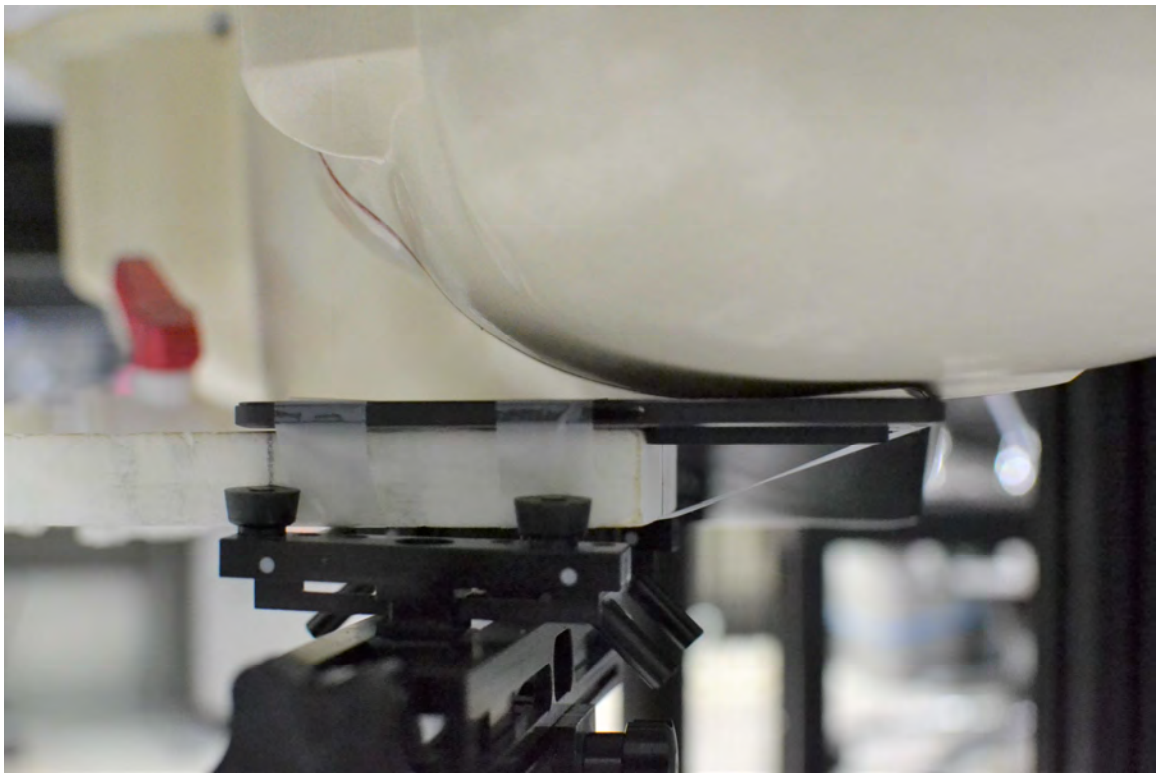
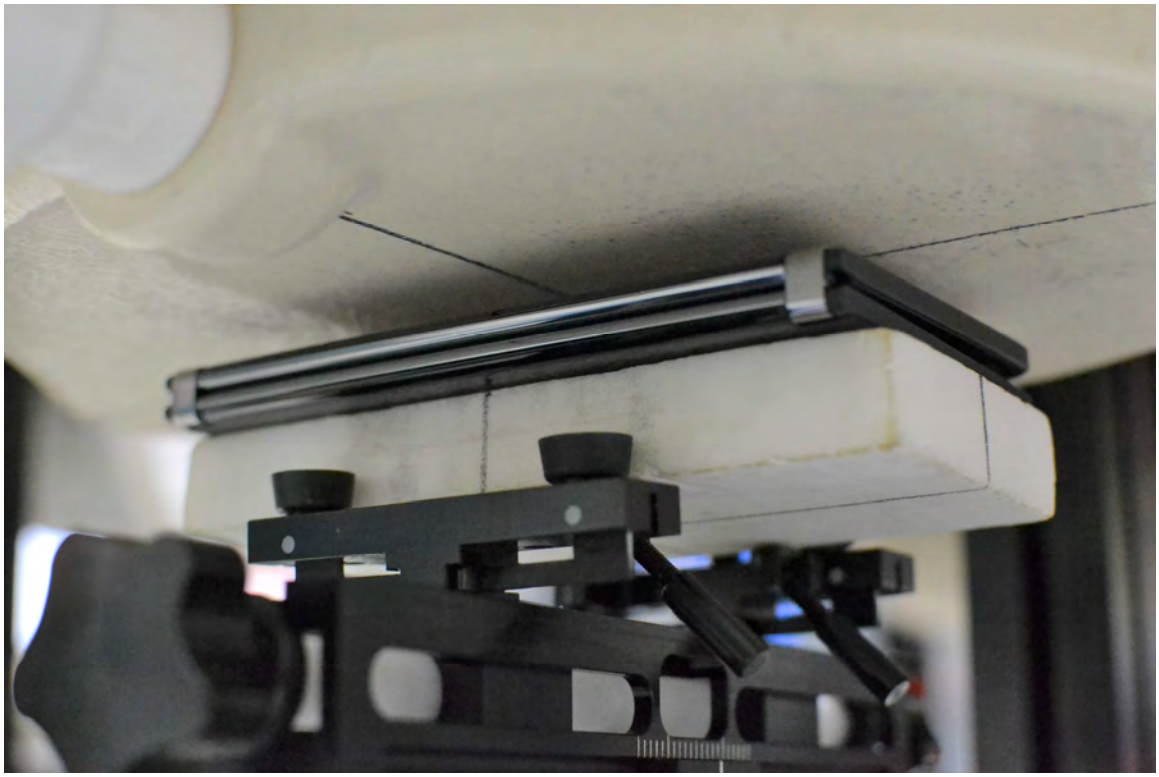


SAR Test Setup Photo 5– Flat Configuration (Body), Head, Left Cheek, 0 mm



SAR Test Setup Photo 6– Flip Configuration (Handset), Bodyworn/Hotspot, Back Side, 10 mm

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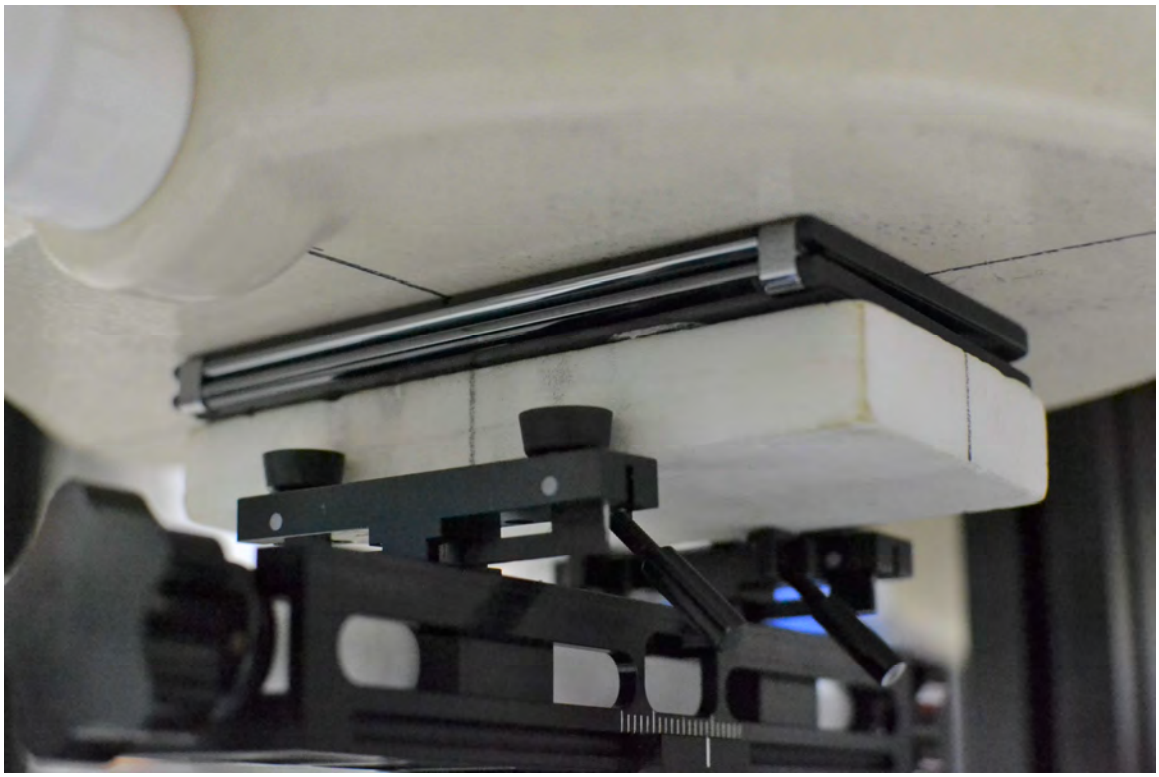
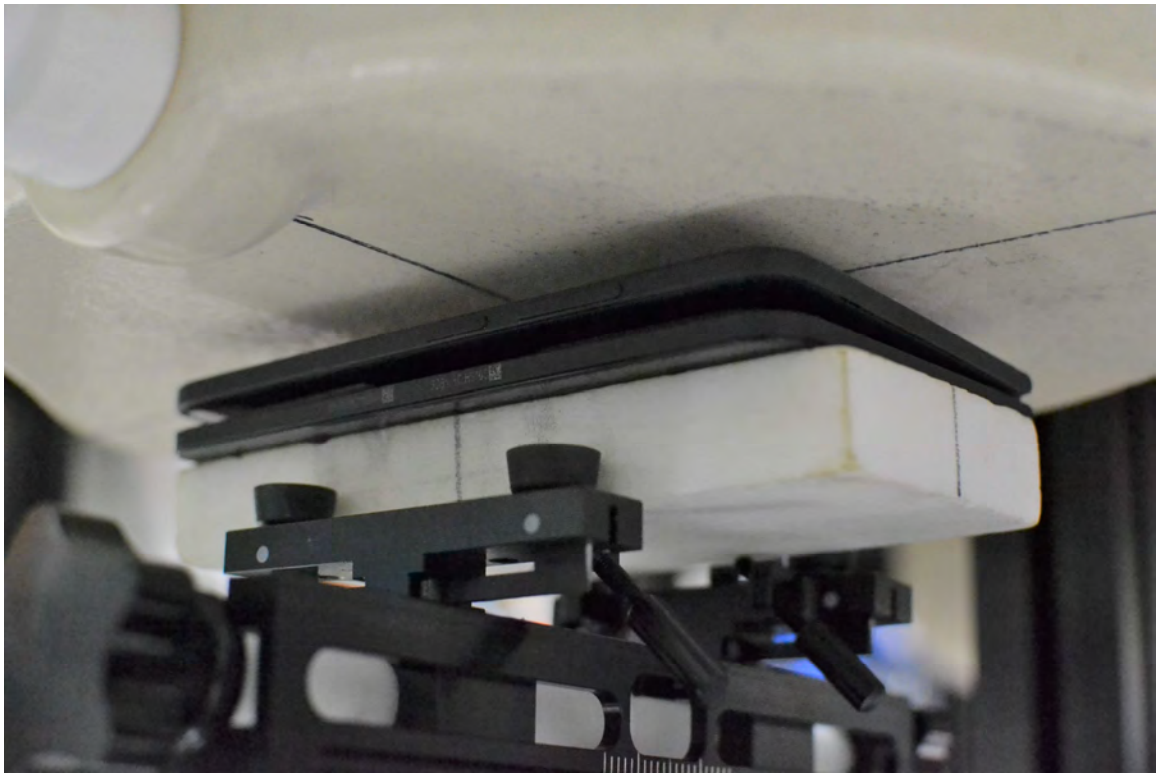


SAR Test Setup Photo 7– Flip Configuration (Handset), Phablet, Back Side, 0 mm



SAR Test Setup Photo 8– Flip Configuration (Handset), Bodyworn/Hotspot, Front Side, 10 mm

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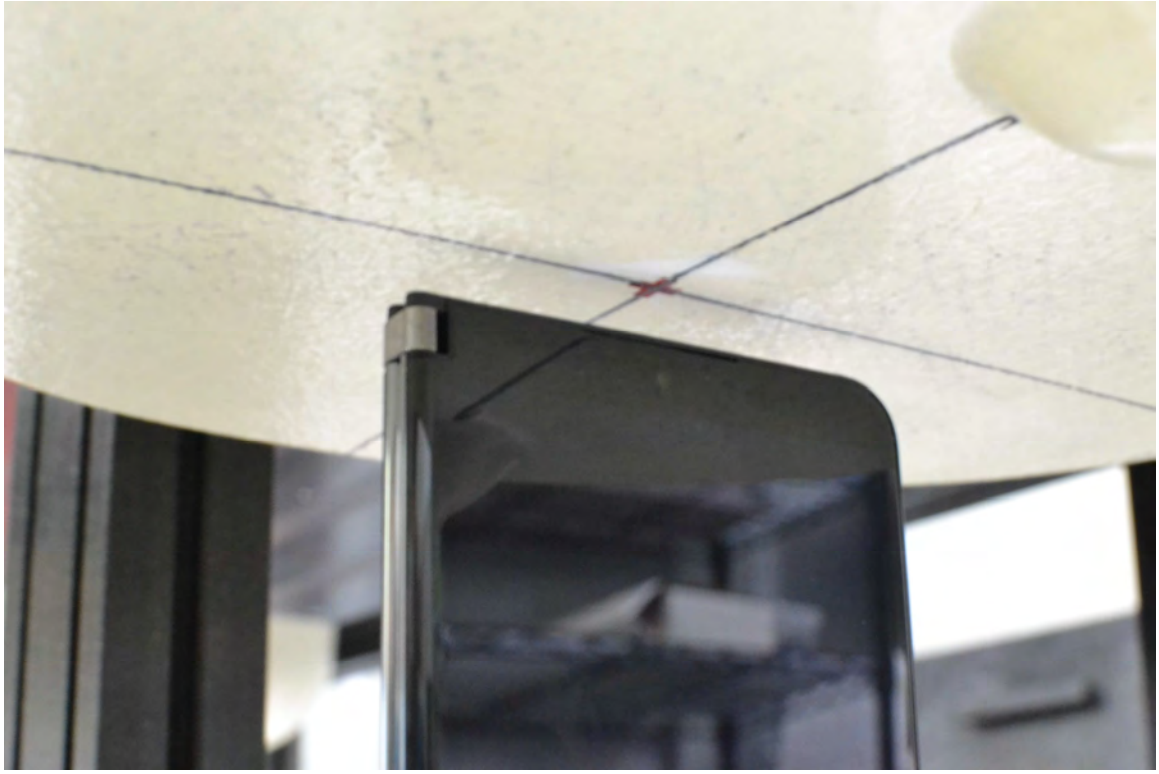
SAR Test Setup Photo 9– Flip Configuration (Handset), Phablet, Front Side, 0 mm



SAR Test Setup Photo 10– Flip Configuration (Handset), Hotspot, Top Edge, 10 mm

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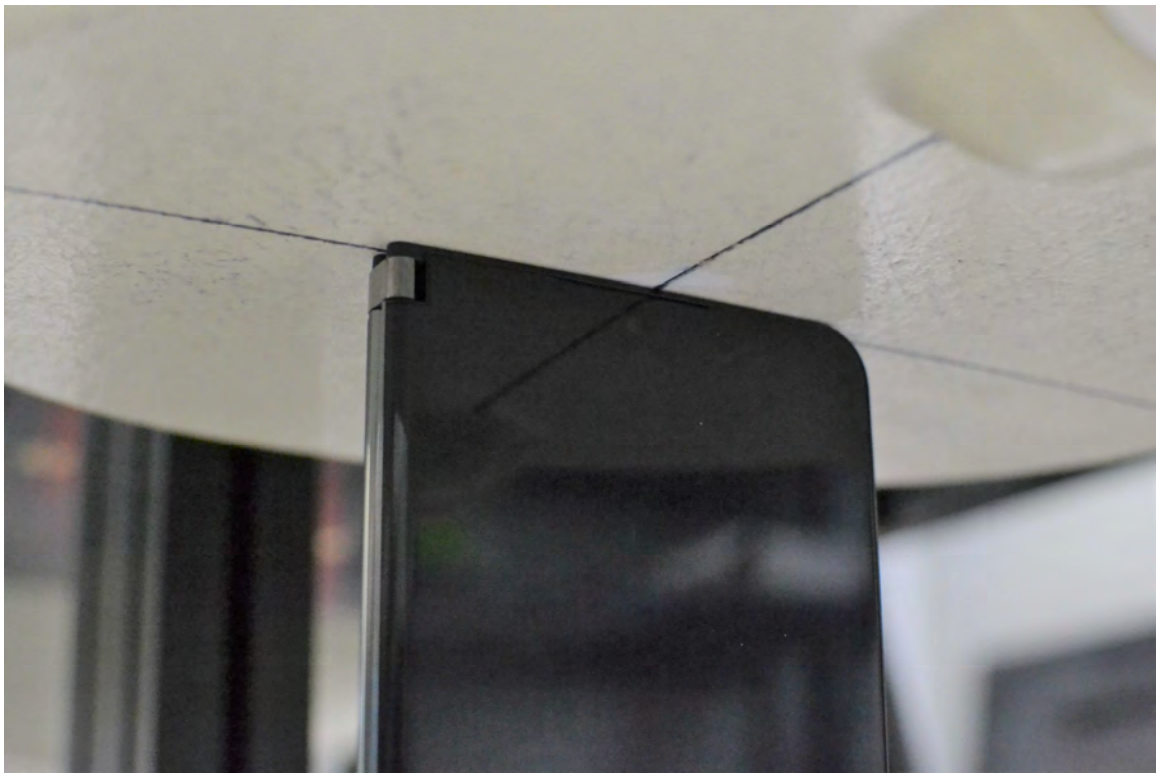

SAR Test Setup Photo 11– Flip Configuration (Handset), Phablet, Top Edge, 0 mm

SAR Test Setup Photo 12– Flip Configuration (Handset), Hotspot, Bottom Edge, 10 mm

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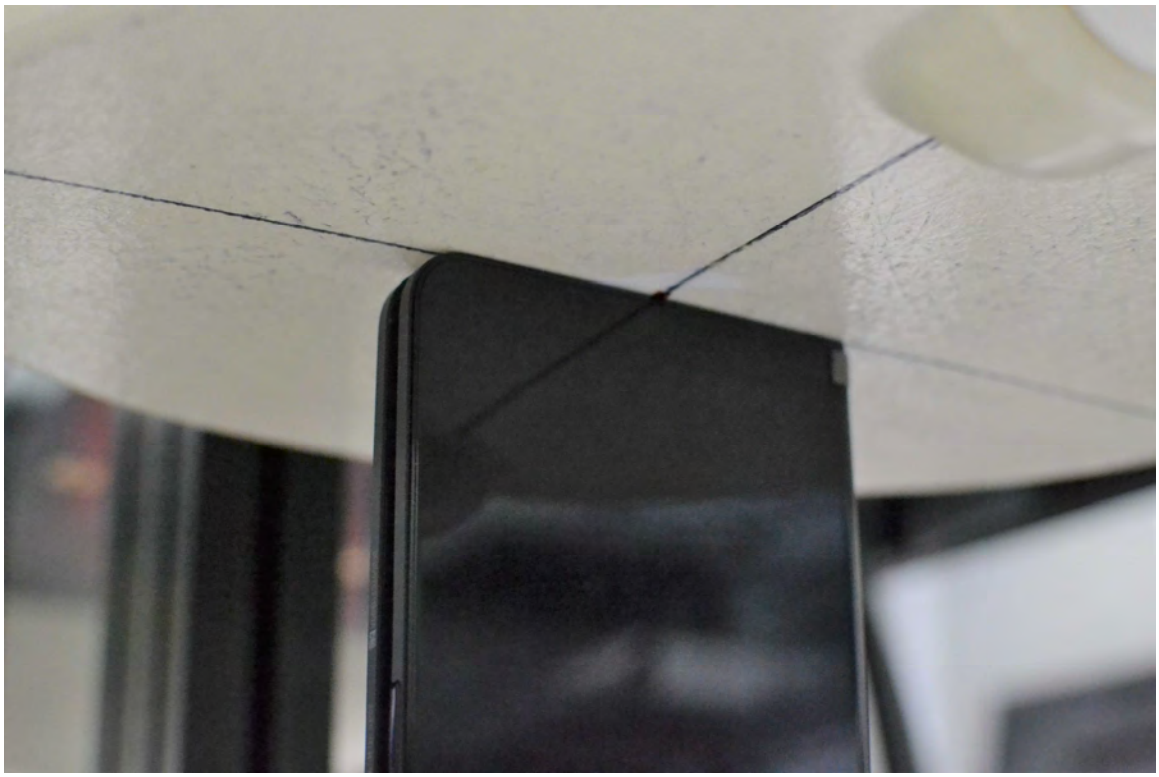
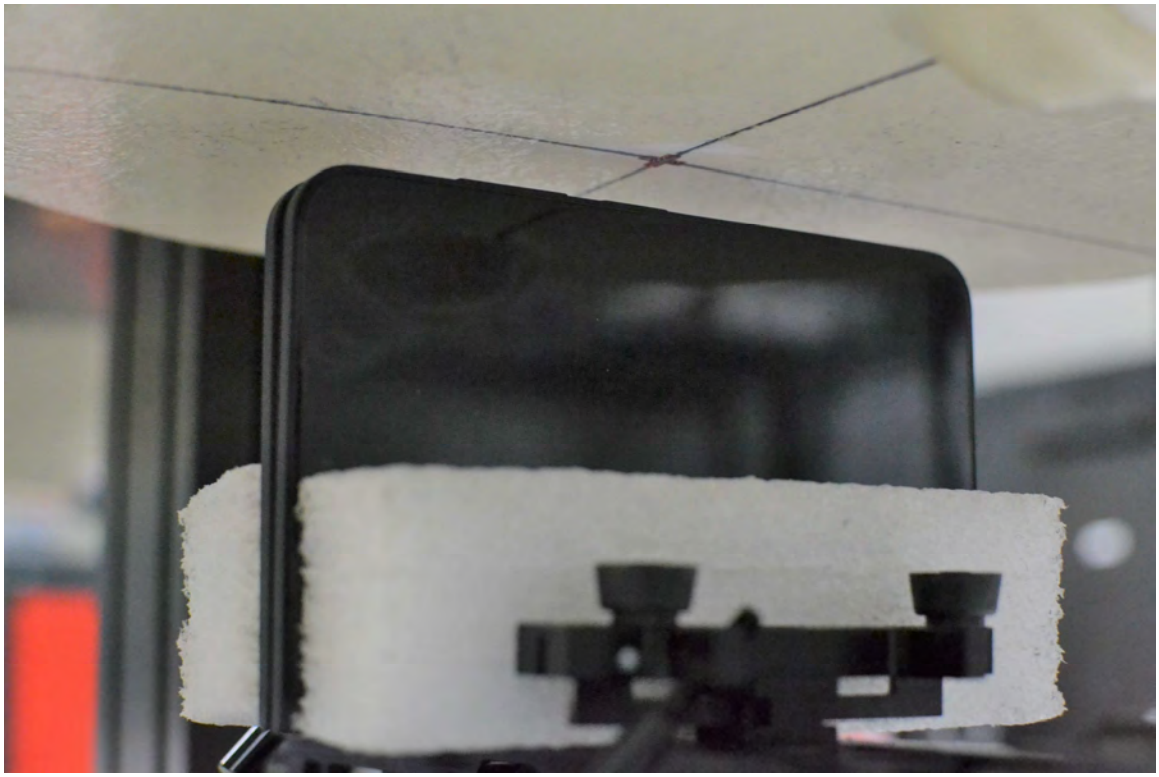


SAR Test Setup Photo 13– Flip Configuration (Handset), Phablet, Bottom Edge, 0 mm



SAR Test Setup Photo 14– Flip Configuration (Handset), Hotspot, Right Edge, 10 mm

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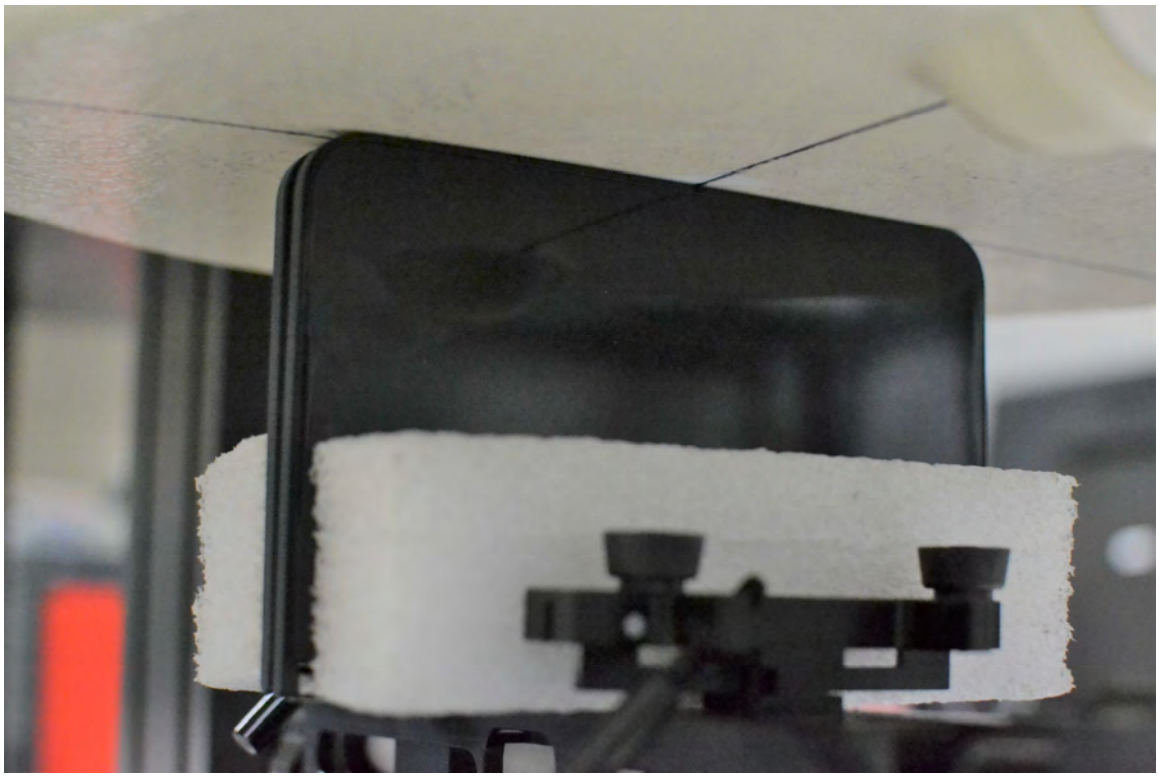
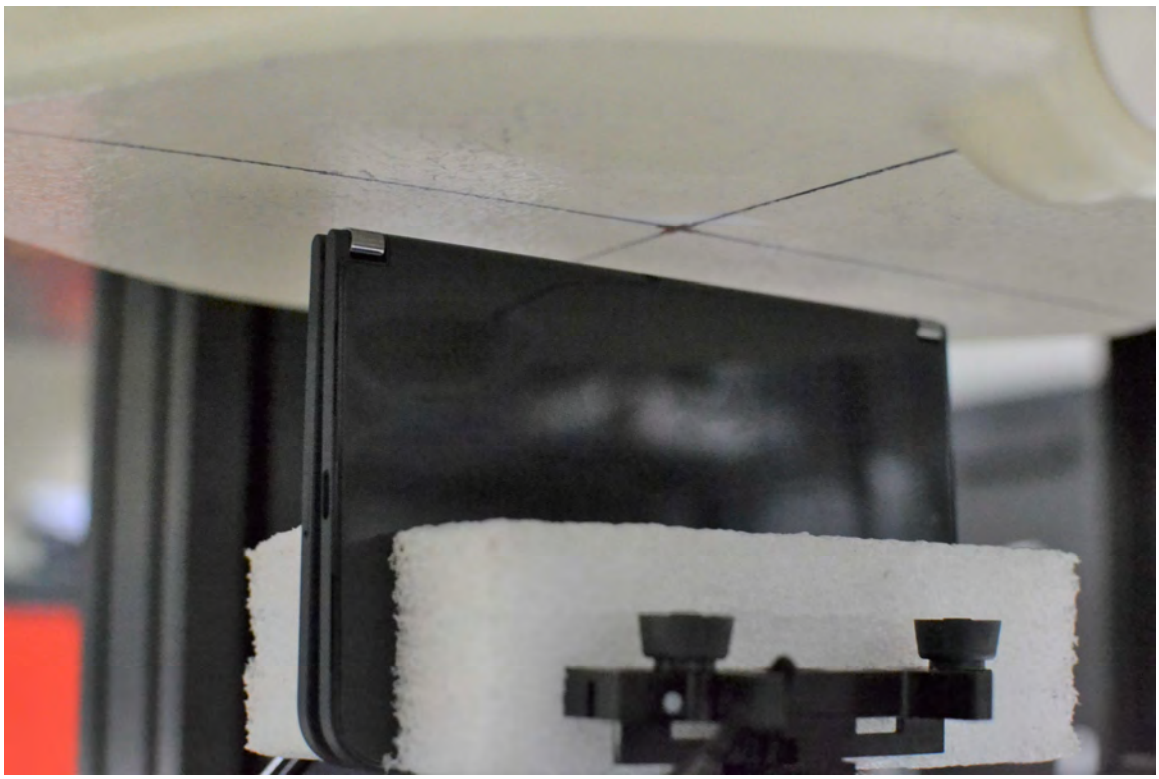


SAR Test Setup Photo 15– Flip Configuration (Handset), Phablet, Right Edge, 0 mm



SAR Test Setup Photo 16– Flip Configuration (Handset), Hotspot, Left Edge, 10 mm

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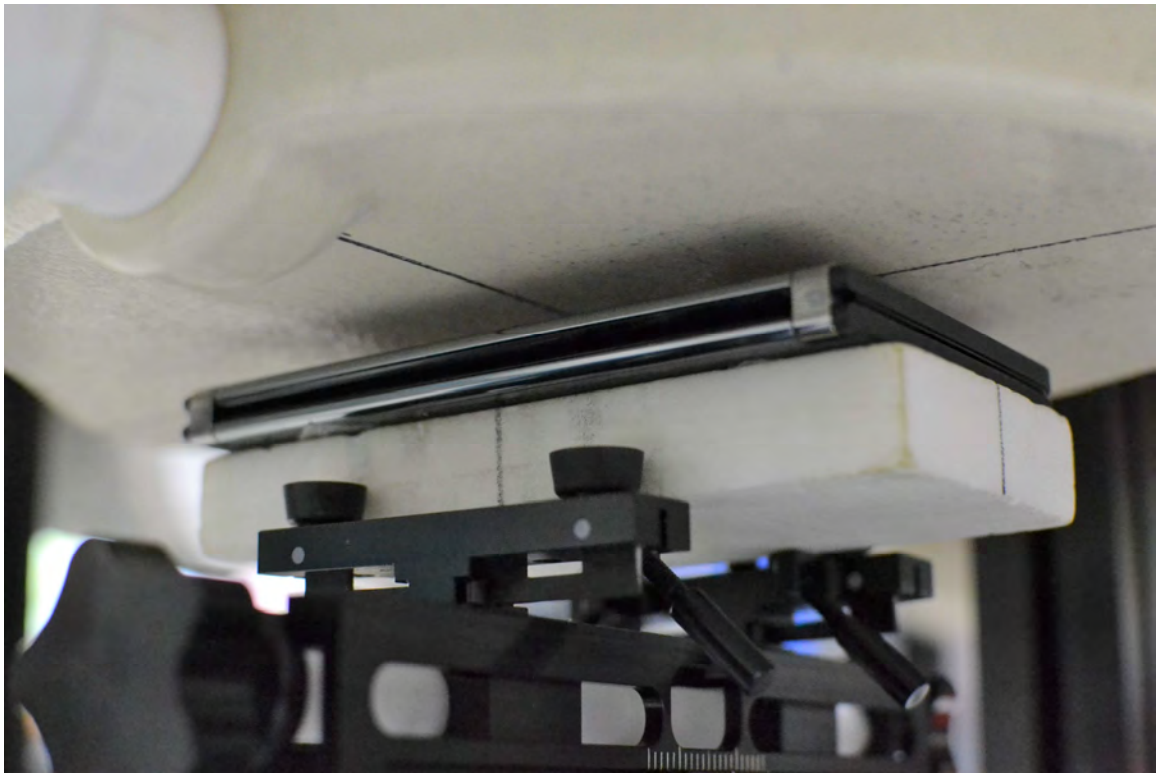
SAR Test Setup Photo 17– Flip Configuration (Handset), Phablet, Left Edge, 0 mm



SAR Test Setup Photo 18– Closed Configuration (Handset), Bodyworn/Hotspot, Back Side, 10 mm

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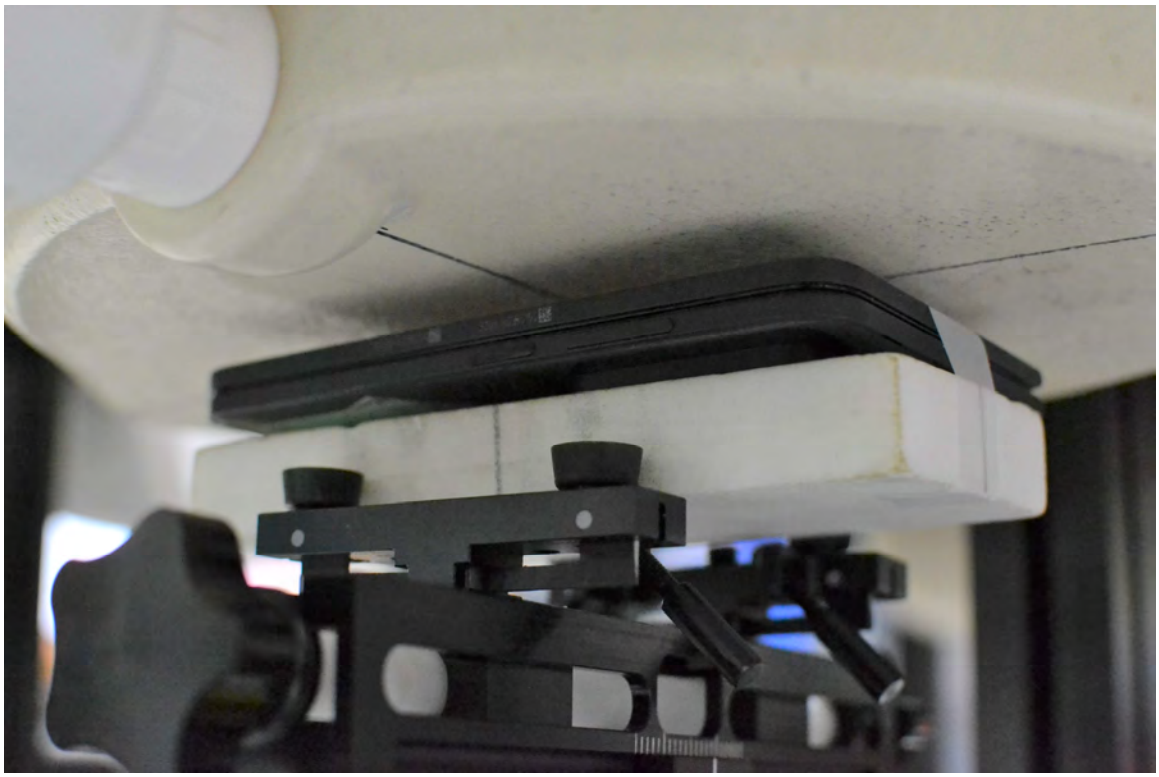
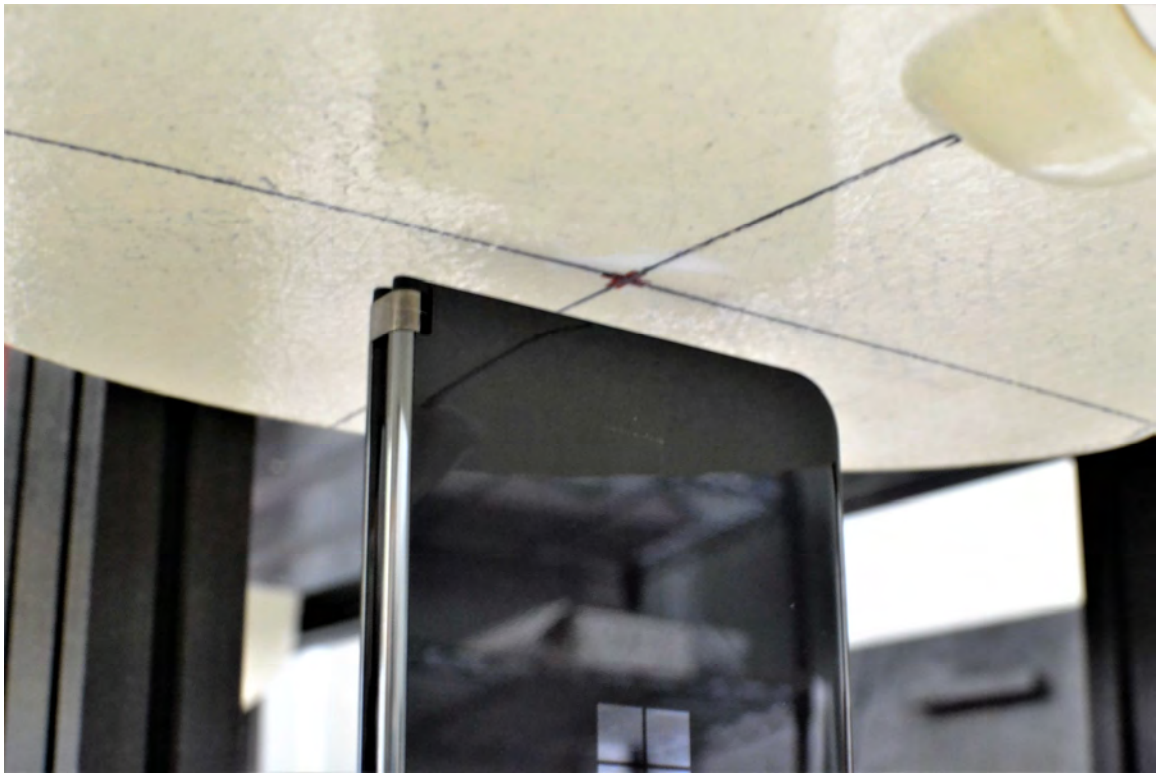


SAR Test Setup Photo 19– Closed Configuration (Handset), Bodyworn/Hotspot, Front Side, 10 mm



SAR Test Setup Photo 20– Closed Configuration (Handset), Hotspot, Top Edge, 10 mm

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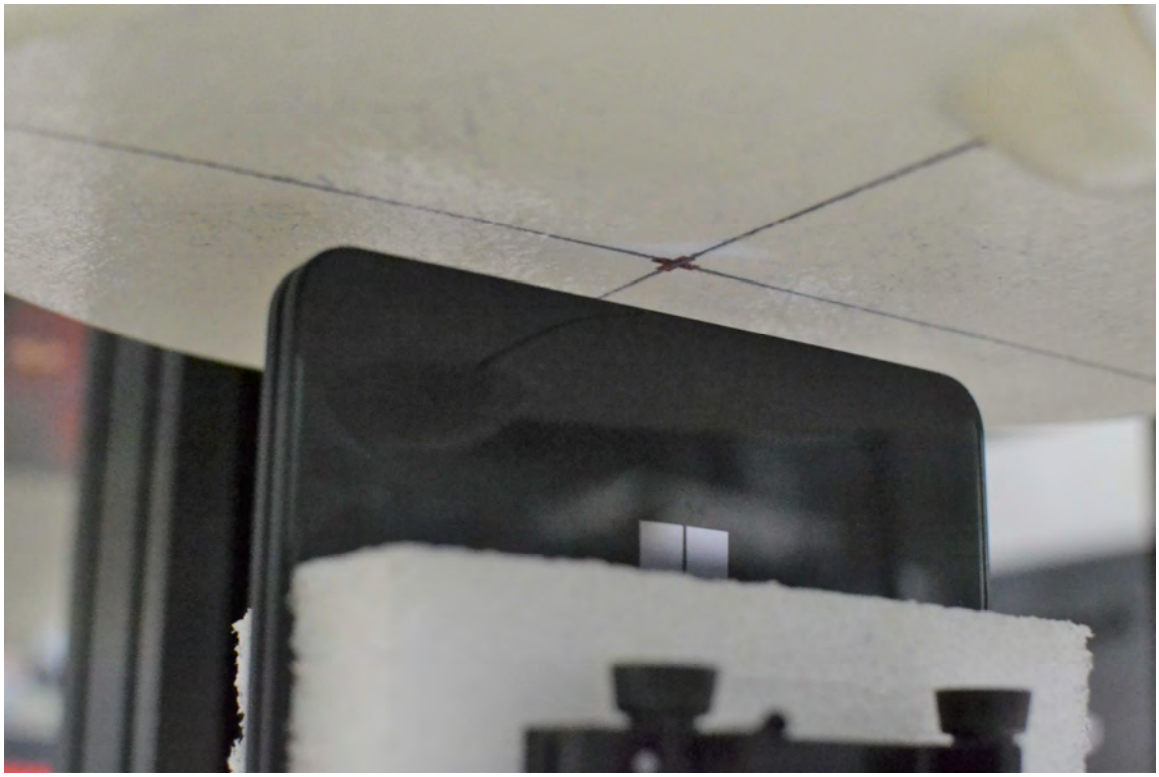
SAR Test Setup Photo 21– Closed Configuration (Handset), Hotspot, Bottom Edge, 10 mm



SAR Test Setup Photo 22– Closed Configuration (Handset), Hotspot, Right Edge, 10 mm

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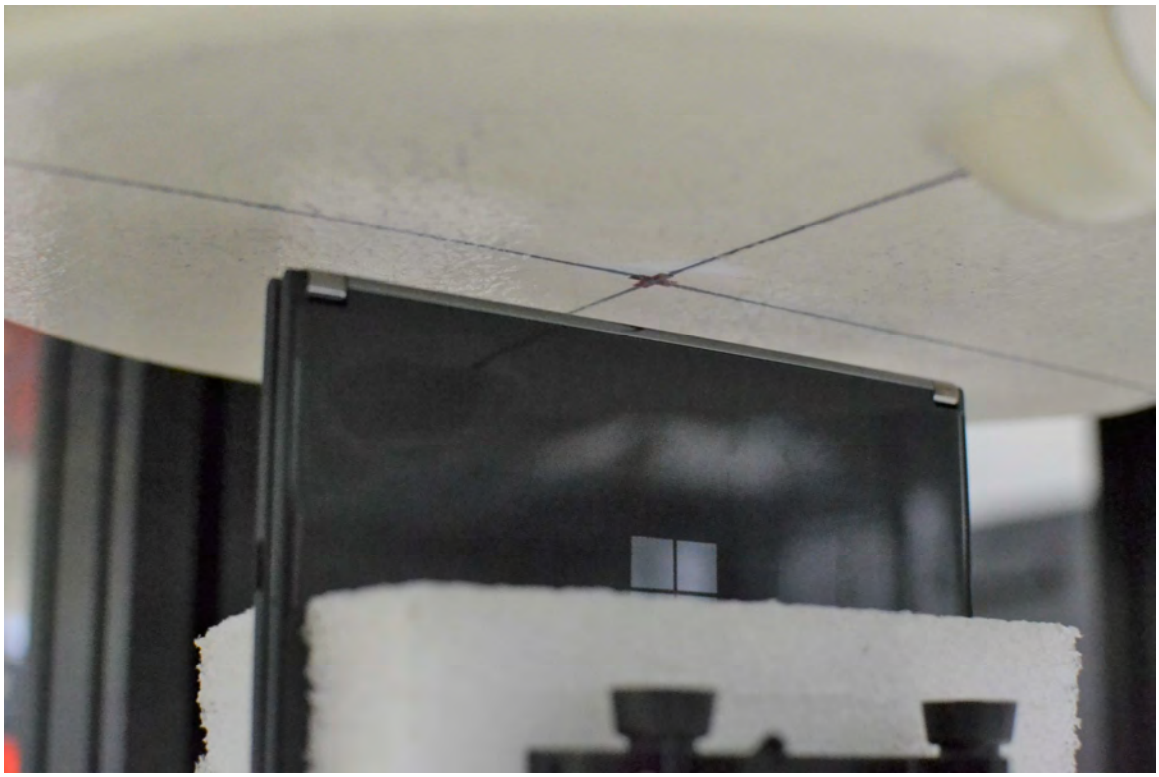
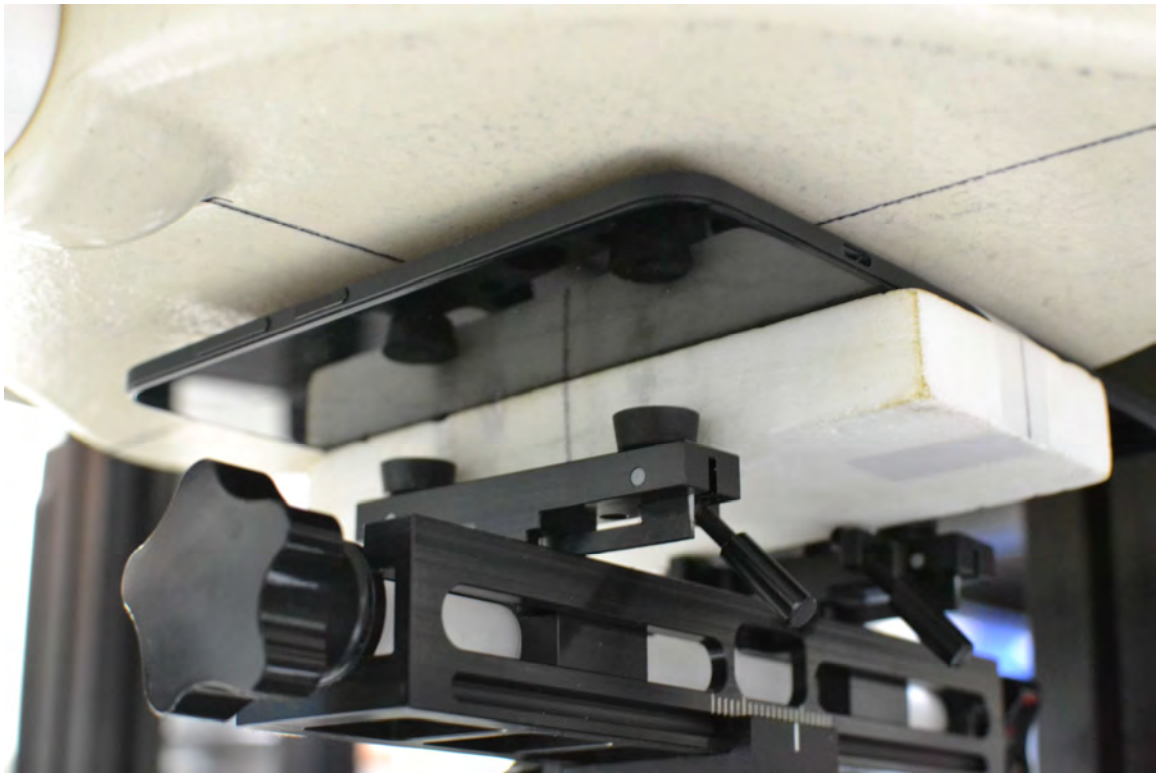


SAR Test Setup Photo 23– Closed Configuration (Handset), Hotspot, Left Edge, 10 mm



SAR Test Setup Photo 24– Read Configuration (UMPC), UMPC Body, Back Side, South Antenna, 5 mm

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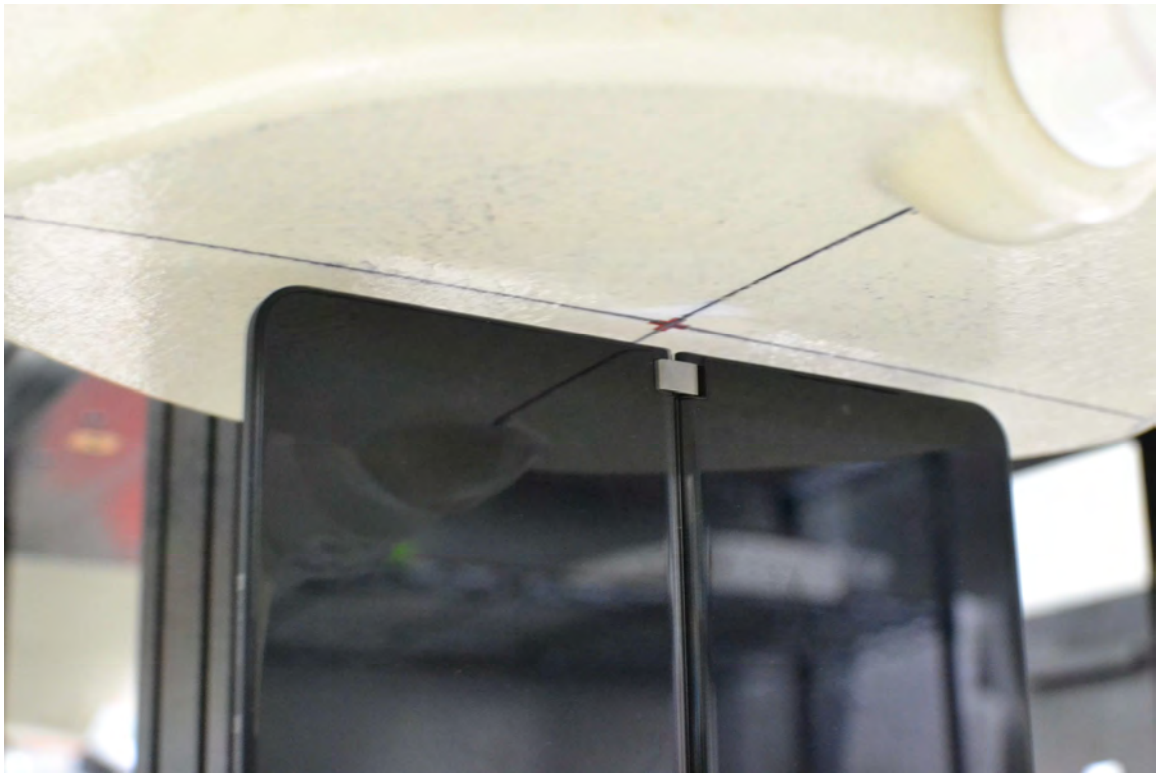
SAR Test Setup Photo 25– Read Configuration (UMPC), UMPC Body, Back Side, North Antenna, 5 mm



SAR Test Setup Photo 26– Read Configuration (UMPC), UMPC Body, Top Edge, 5 mm

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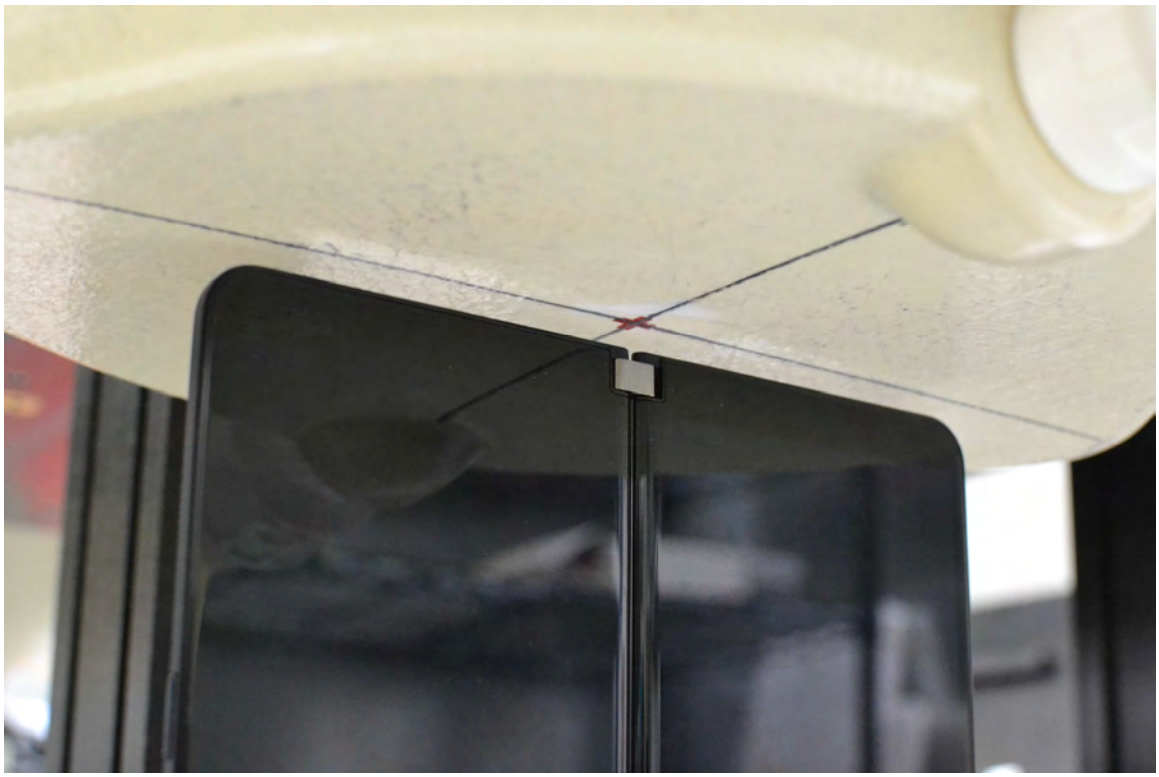

SAR Test Setup Photo 27– Read Configuration (UMPC), UMPC Extremity, Bottom Edge, 5 mm

SAR Test Setup Photo 28– Read Configuration (UMPC), UMPC Body, Right Edge, 5 mm

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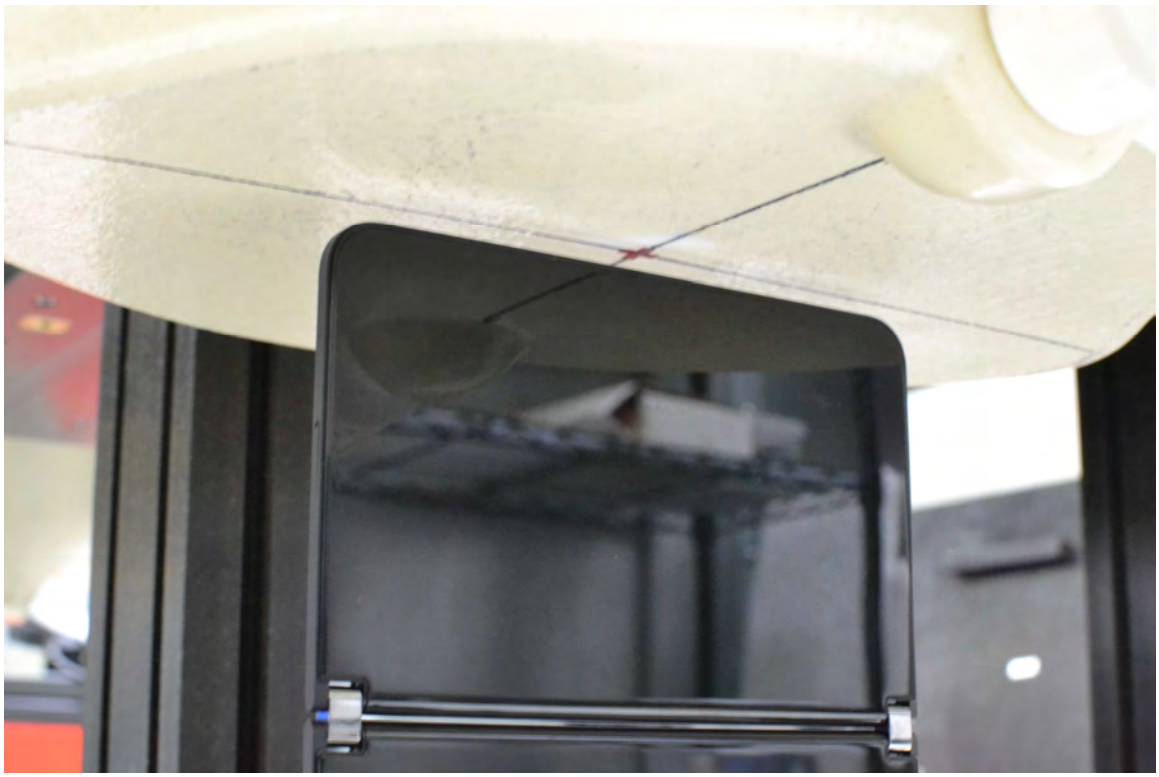
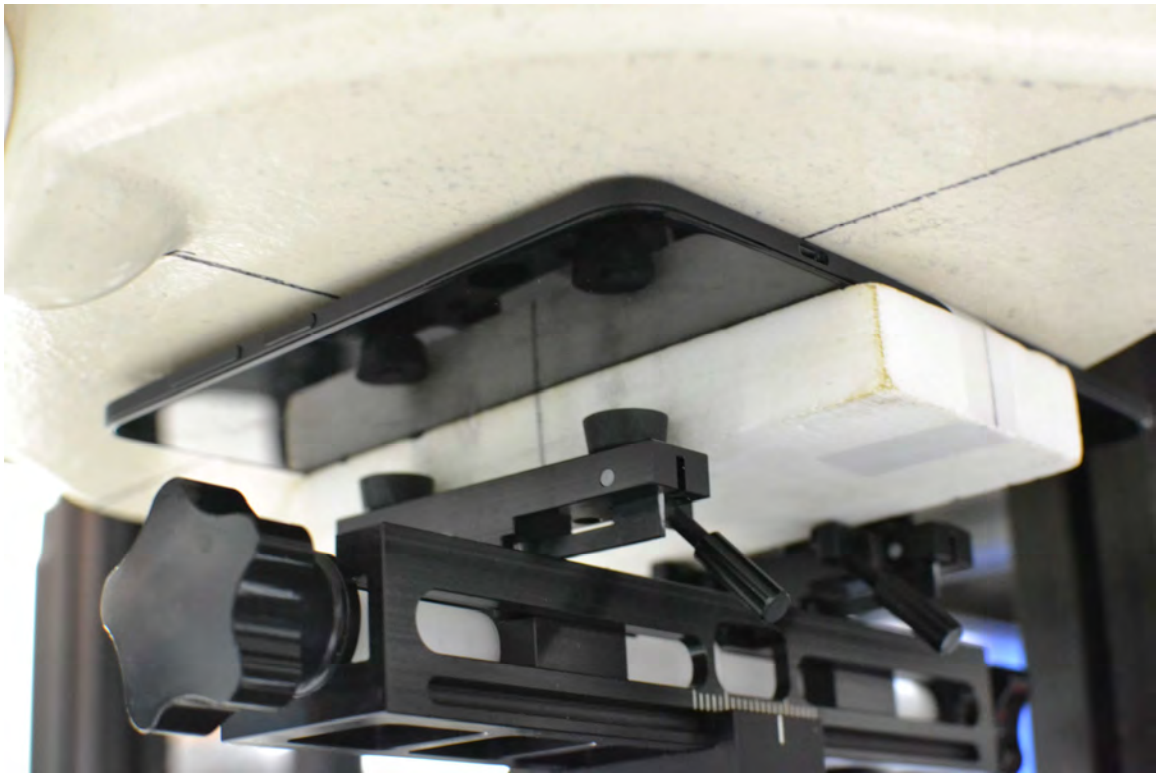


SAR Test Setup Photo 29– Read Configuration (UMPC), UMPC Extremity, Left Edge, 5 mm



SAR Test Setup Photo 30– Flat Configuration (Body), Body, Back Side, South Antenna, 0 mm

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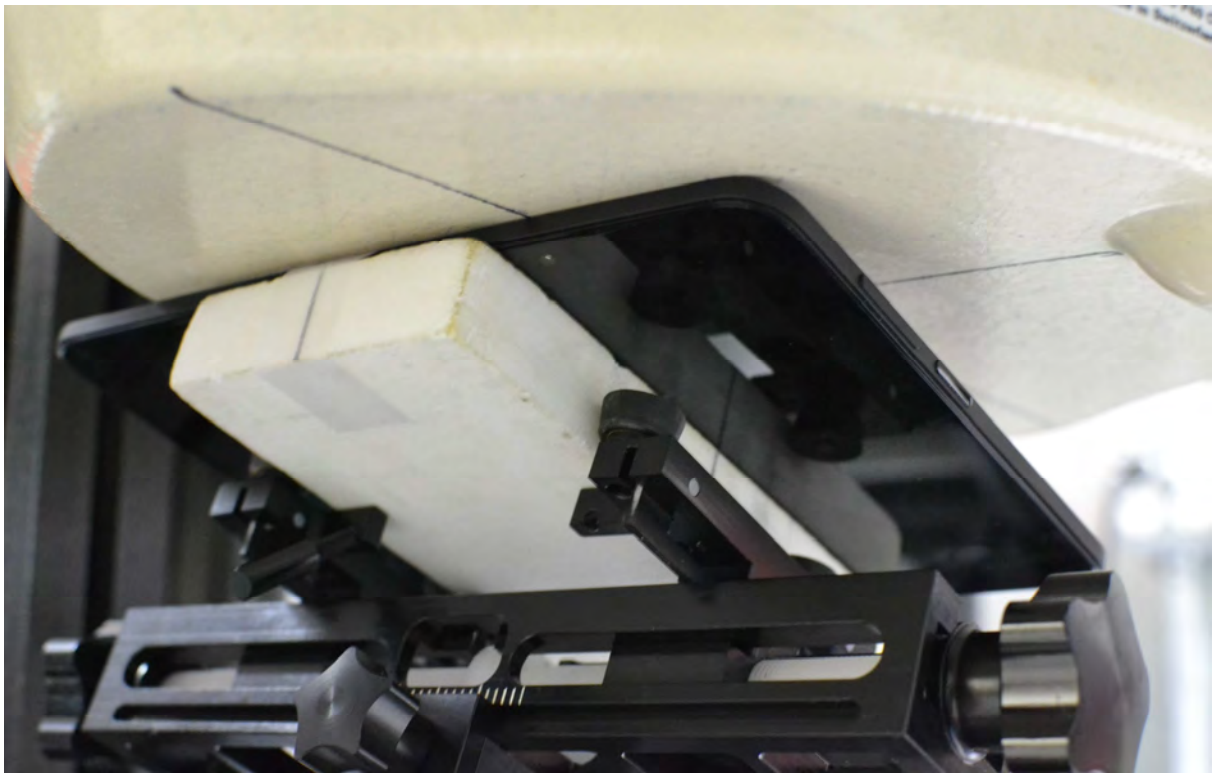
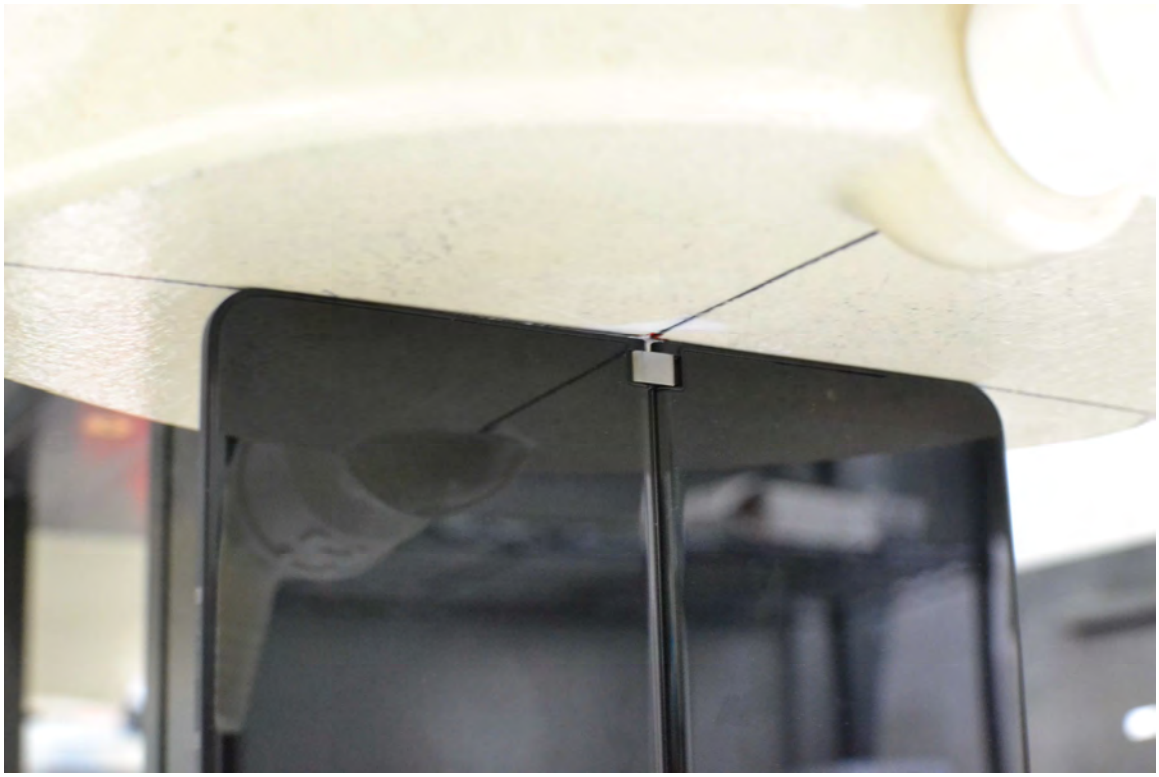


SAR Test Setup Photo 31– Flat Configuration (Body), Body, Back Side, North Antenna, 0 mm



SAR Test Setup Photo 32– Flat Configuration (Body), Body, Top Edge, 0 mm

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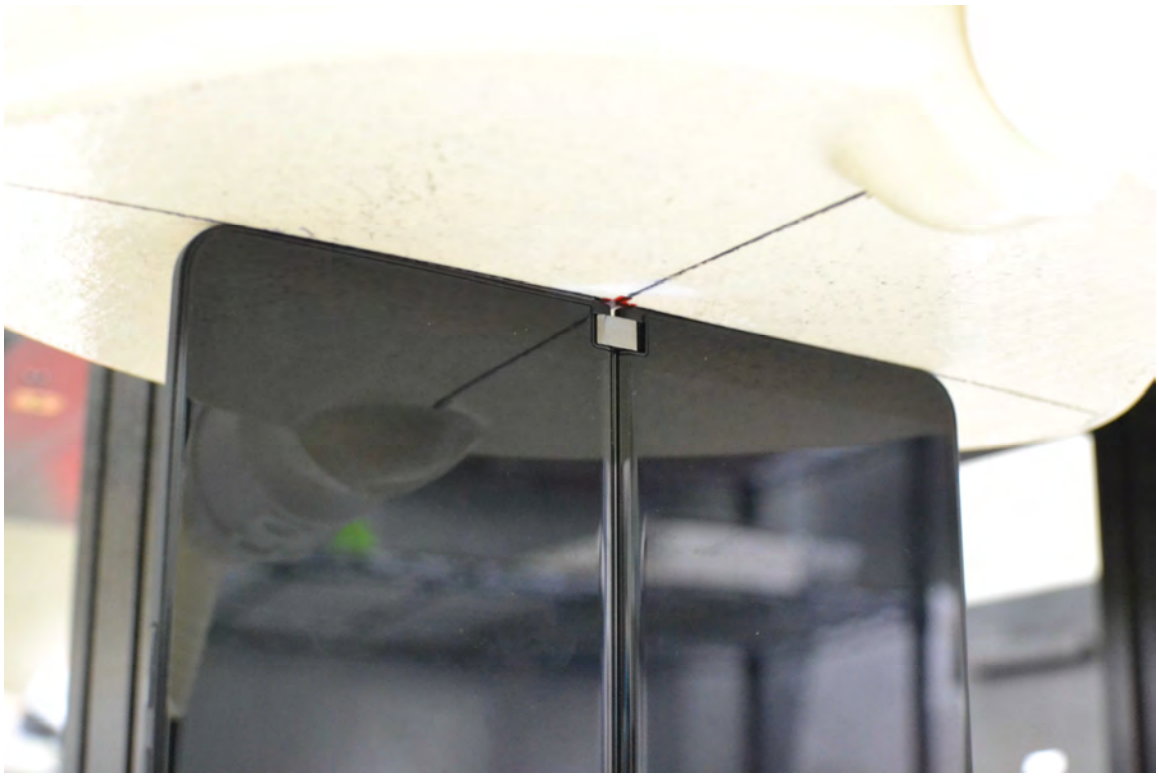

SAR Test Setup Photo 33– Flat Configuration (Body), Body, Bottom Edge, 0 mm

SAR Test Setup Photo 34– Flat Configuration (Body), Body, Right Edge, 0 mm

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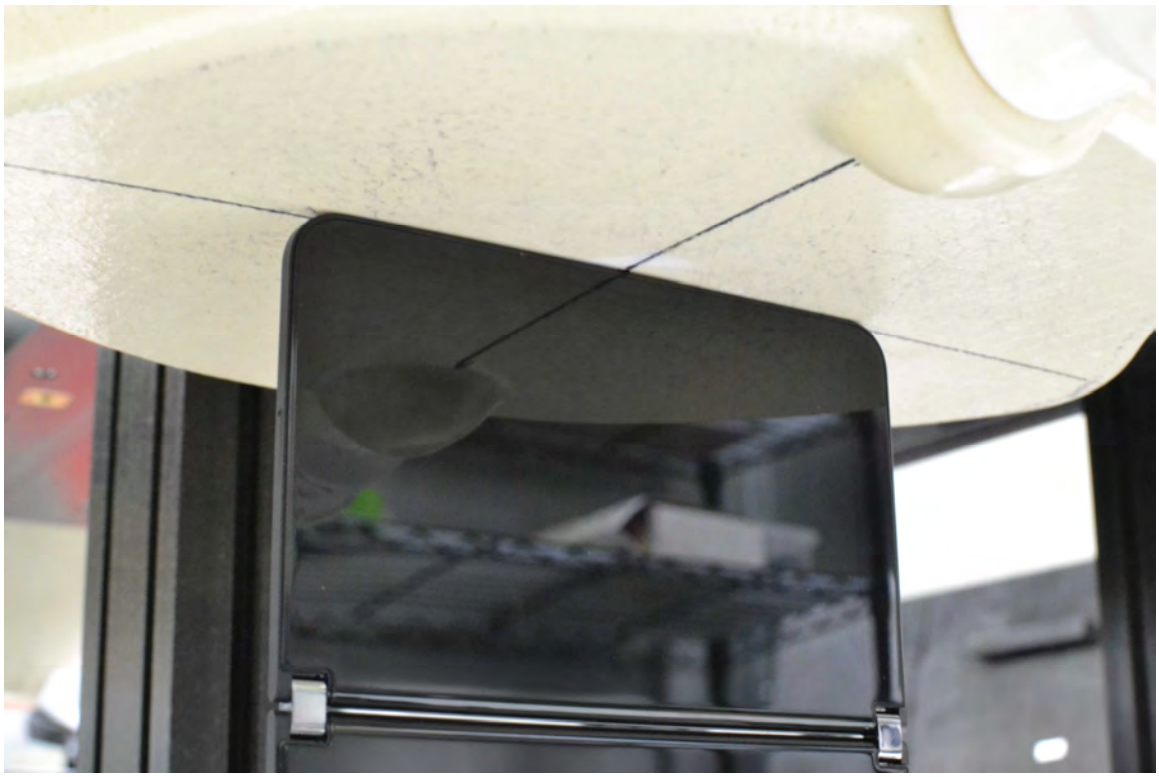
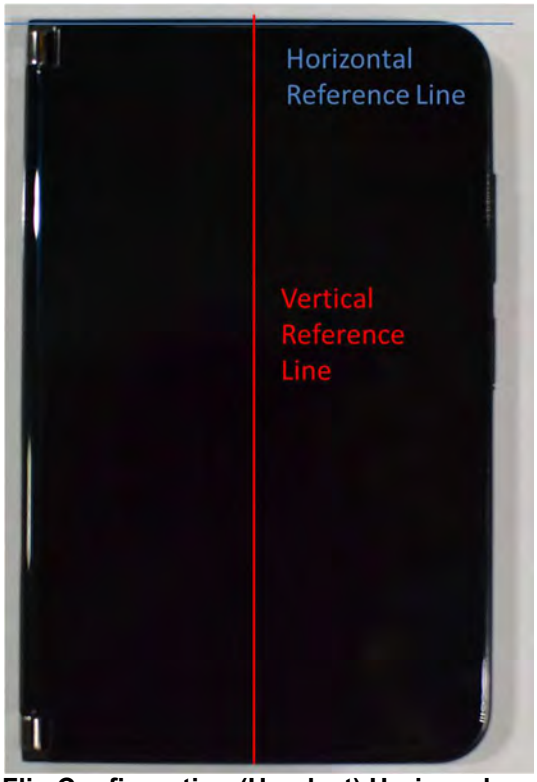


SAR Test Setup Photo 35– Flat Configuration (Body), Body, Left Edge, 0 mm



SAR Test Setup Photo 36– Flip Configuration (Handset) Horizonal and Vertical Reference Lines

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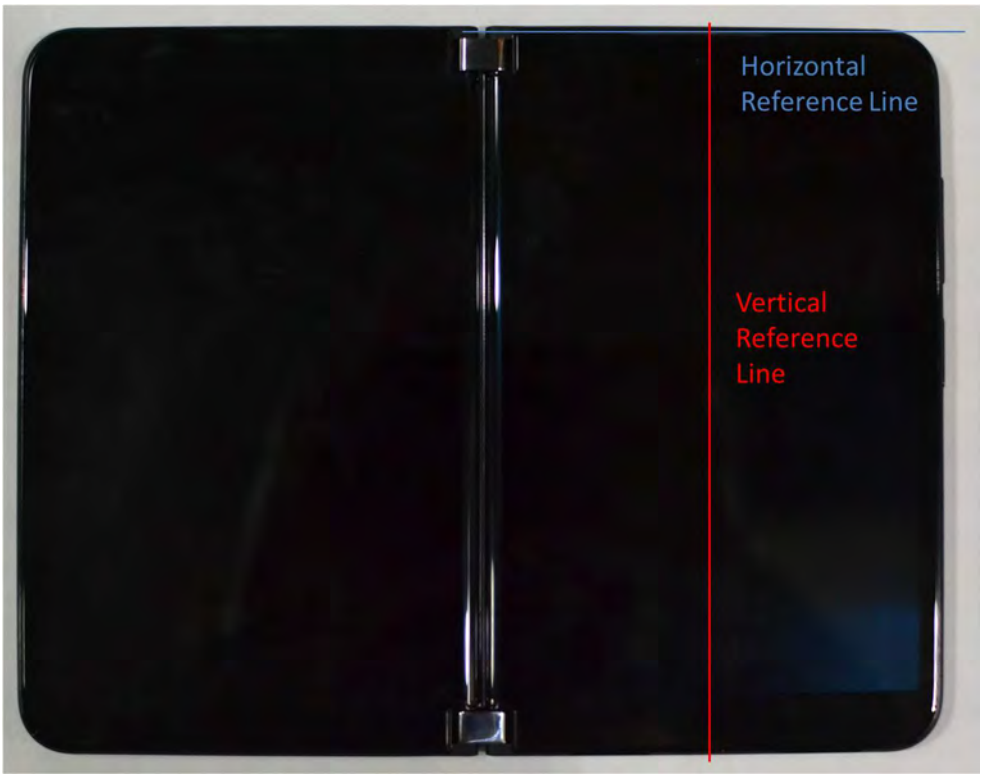
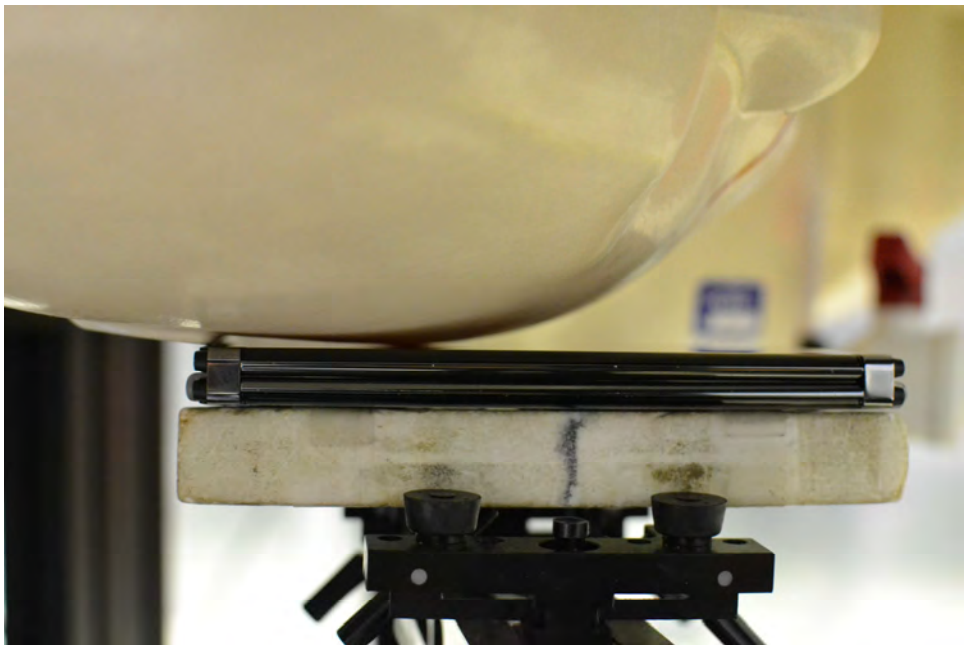


SAR Test Setup Photo 37– Flat Configuration (Body) Horizonal and Vertical Reference Lines



SAR Test Setup Photo 38 – Flip Configuration (Handset) Right Cheek with WPT Sleeve

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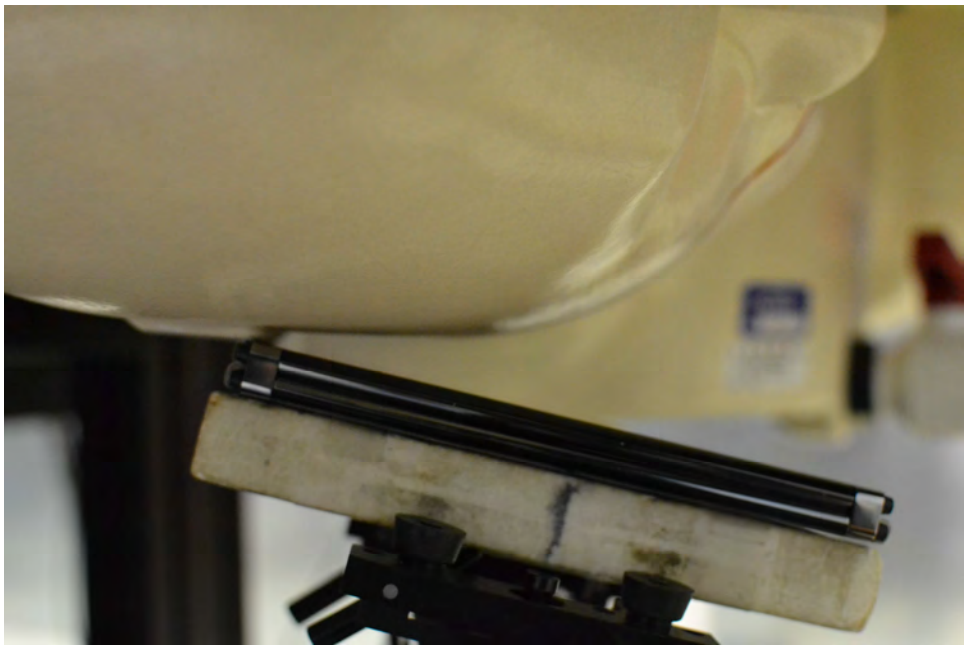
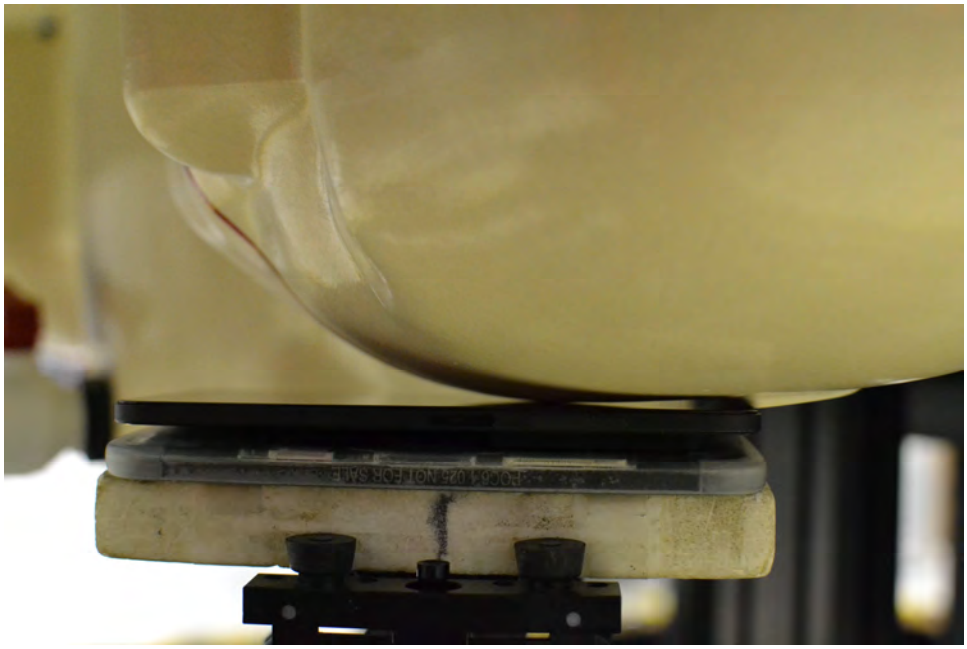


SAR Test Setup Photo 39 – Flip Configuration (Handset) Right Tilt with WPT Sleeve



SAR Test Setup Photo 40 – Flip Configuration (Handset) Left Cheek with WPT Sleeve

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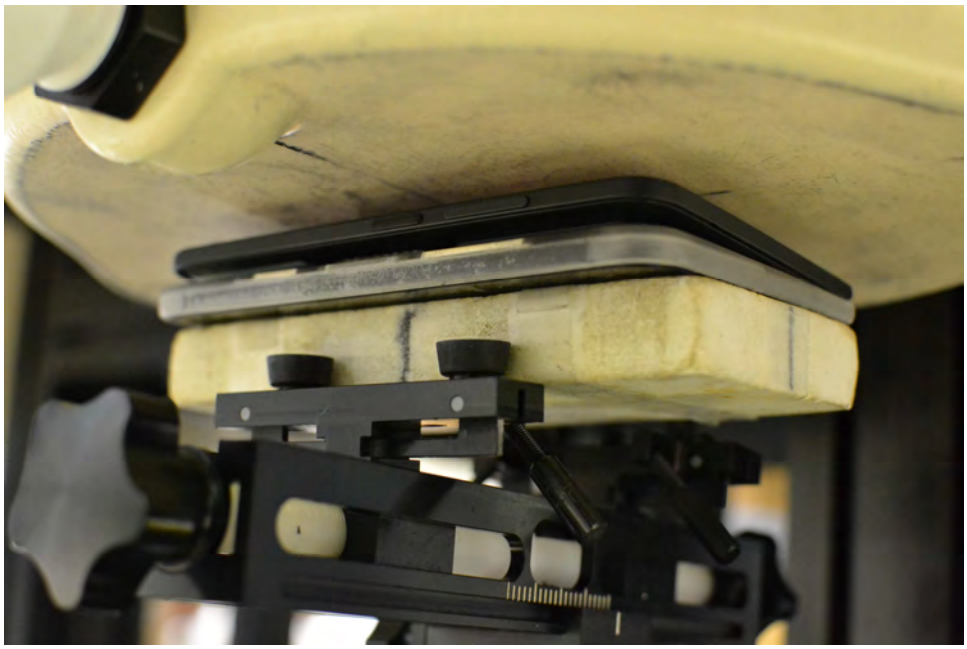
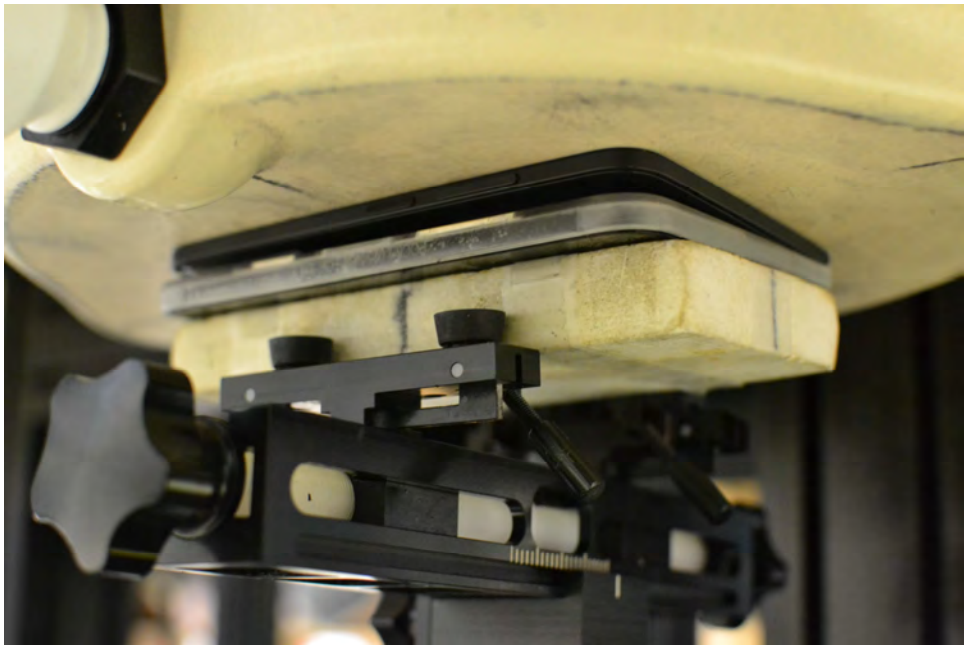


SAR Test Setup Photo 41 – Flip Configuration (Handset) Front Side at 10 mm with WPT Sleeve



SAR Test Setup Photo 42 – Flip Configuration (Handset) Front Side at 0 mm with WPT Sleeve

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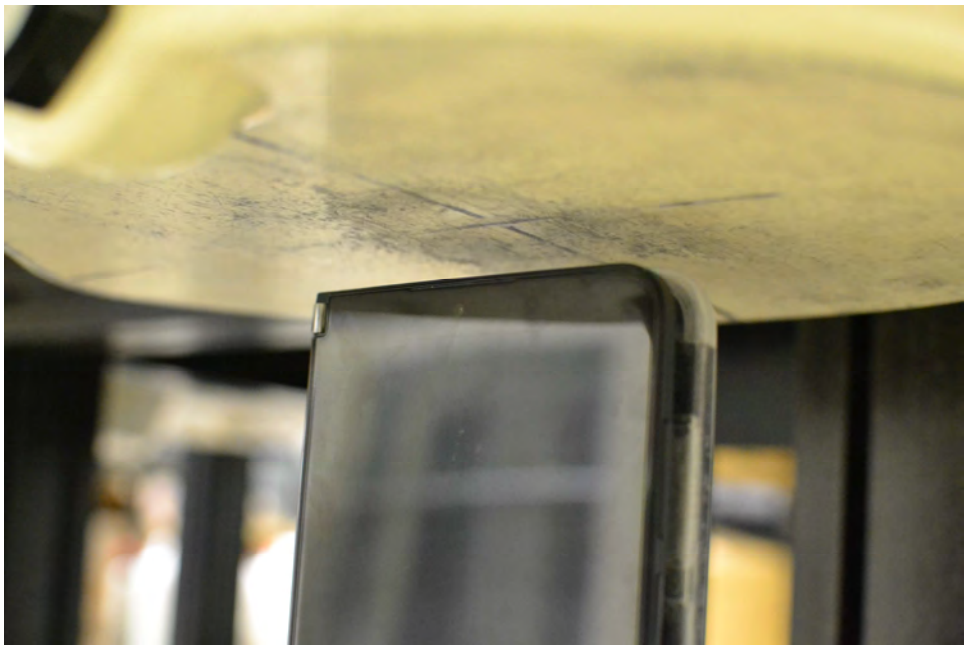
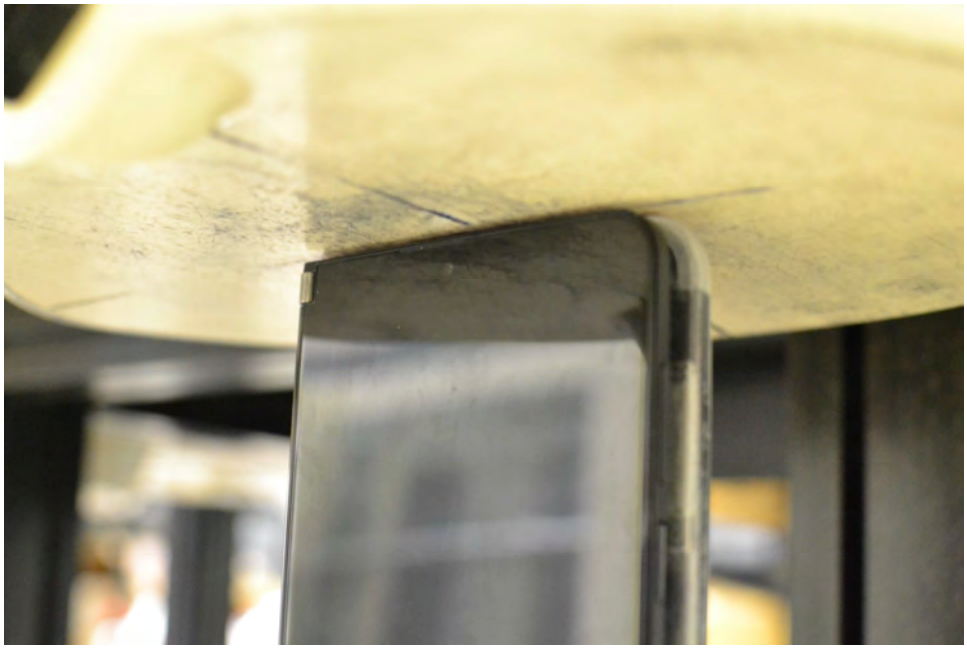


SAR Test Setup Photo 43 – Flip Configuration (Handset) Top Edge at 10 mm with WPT Sleeve



SAR Test Setup Photo 44 – Flip Configuration (Handset) Top Edge at 0 mm with WPT Sleeve

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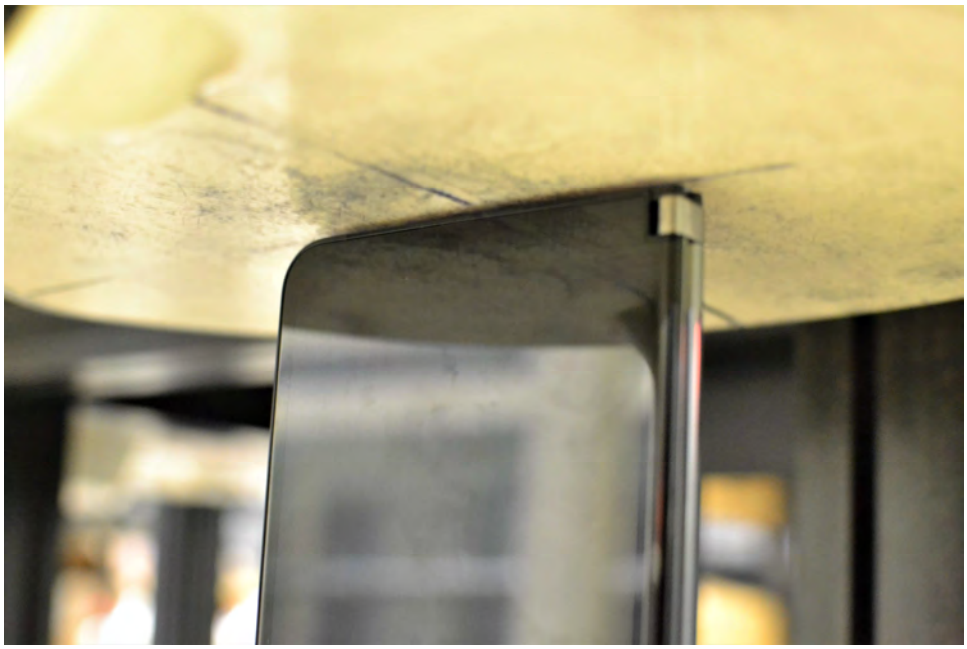
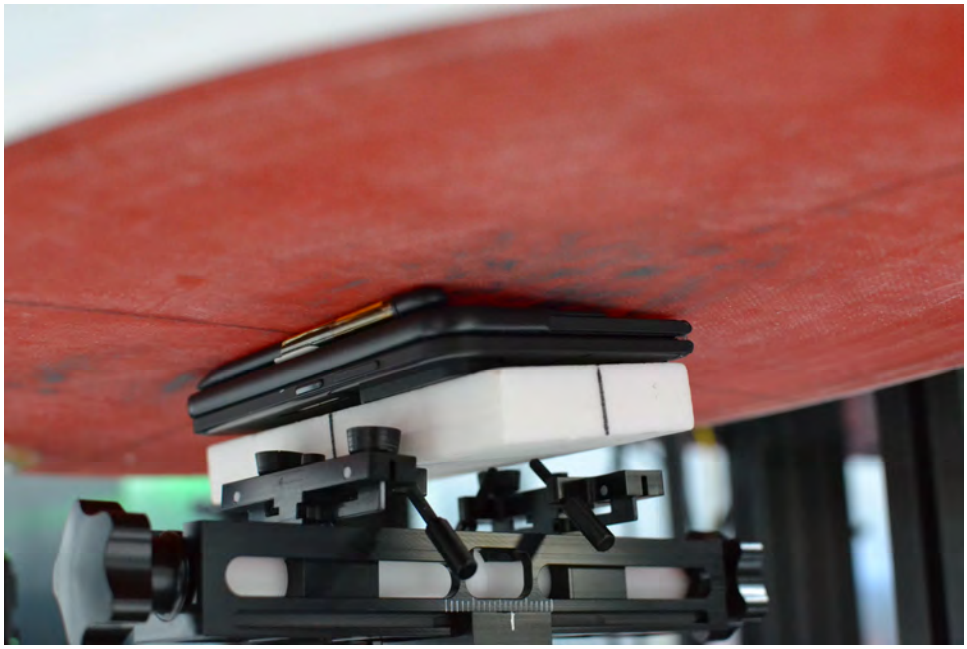


SAR Test Setup Photo 45 – Flip Configuration (Handset) Bottom Edge at 0 mm with WPT Sleeve



SAR Test Setup Photo 46 – Closed Configuration (Body) – Front Side at 0mm with WPT Sleeve and Pen

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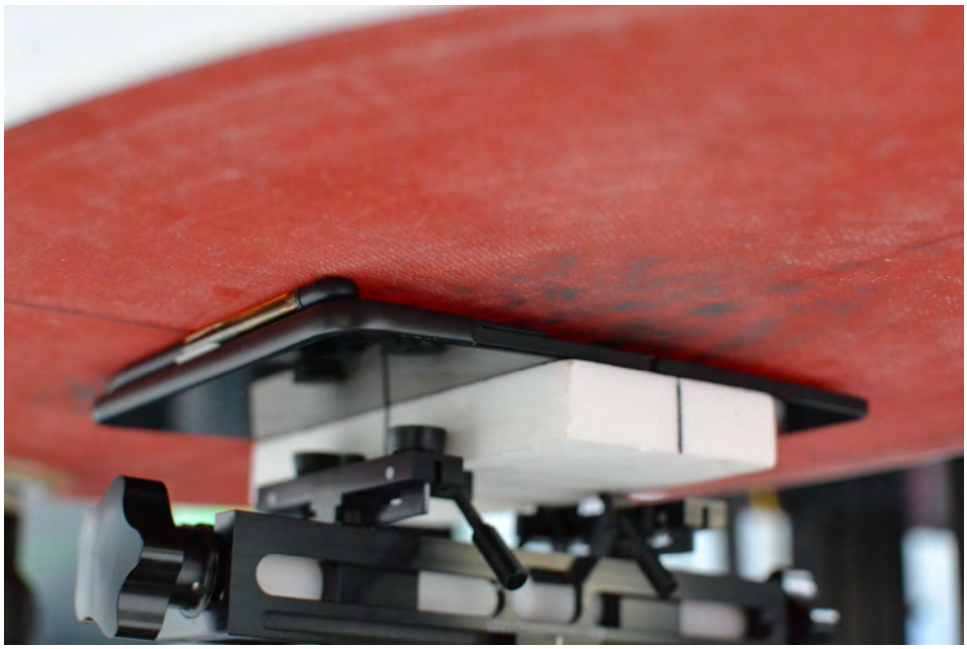

SAR Test Setup Photo 47 – Flat Configuration (Body) – Front Side of Sleeve/Pen at 0mm with WPT Sleeve and Pen

SAR Test Setup Photo 48 – Closed Configuration (Body) – Right Edge at 0mm with WPT Sleeve and Pen

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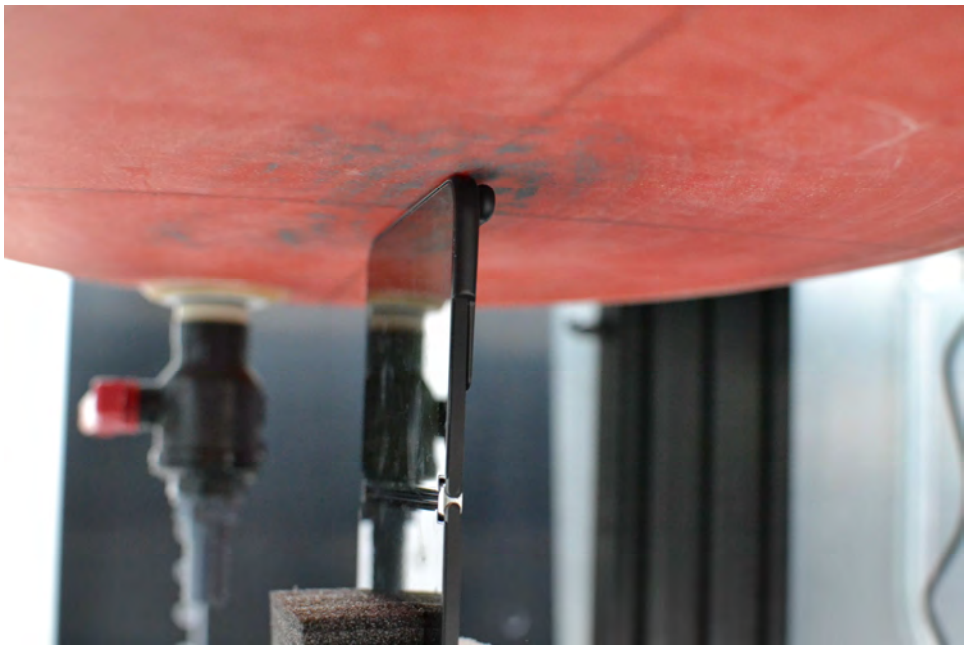

SAR Test Setup Photo 49 – Flat Configuration (Body) – Left Edge at 0mm with WPT Sleeve and Pen

SAR Test Setup Photo 50 – Closed Configuration (Body) – Bottom Edge at 0mm with WPT Sleeve and Pen

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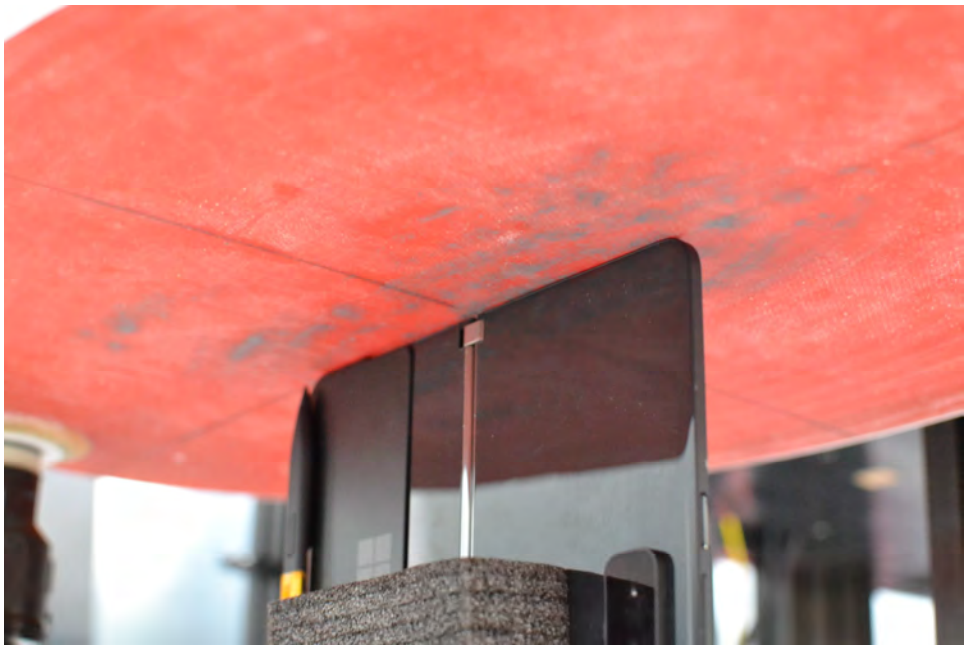
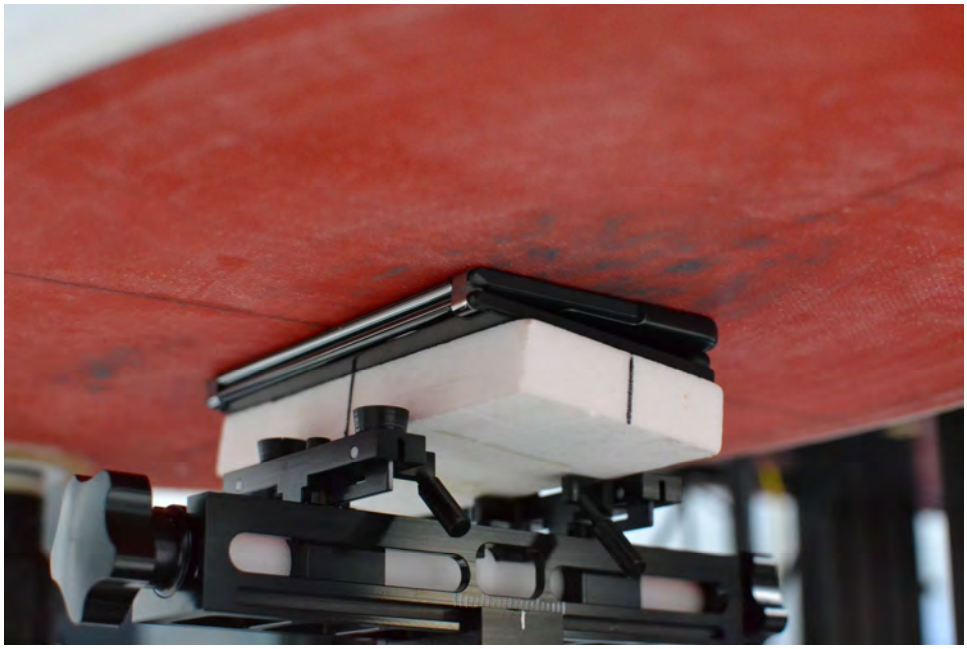


SAR Test Setup Photo 51 – Flat Configuration (Body) – Bottom Edge at 0mm with WPT Sleeve and Pen



SAR Test Setup Photo 52 – Flip Configuration (Body) – Front Side at 0mm with WPT Sleeve and Pen

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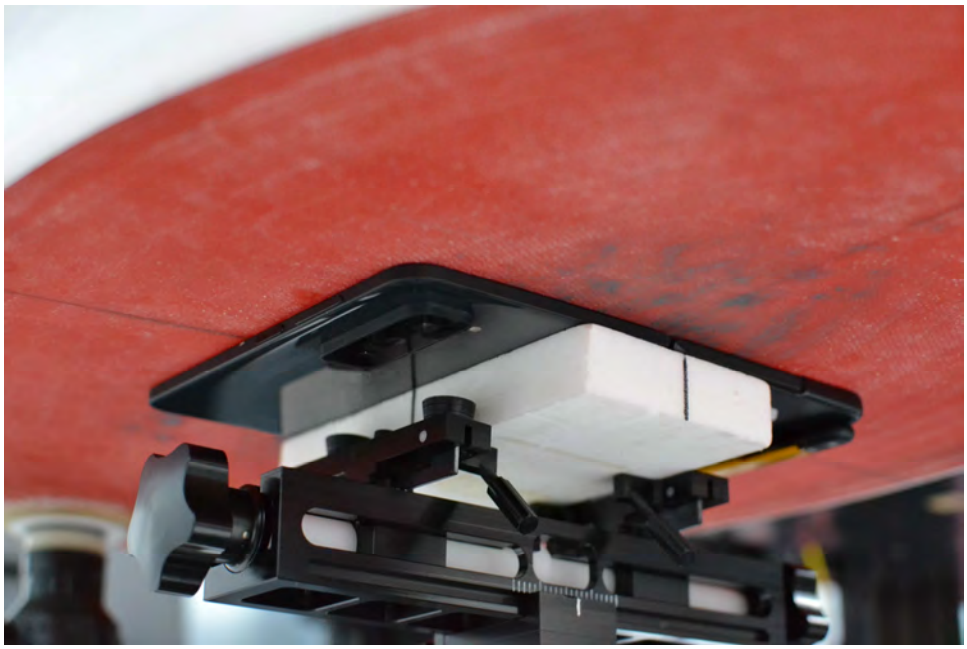

SAR Test Setup Photo 53 – Flat Configuration (Body) – Front Side at 0mm with WPT Sleeve and Pen

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