


SAR REFERENCE DIPOLE CALIBRATION REPORT

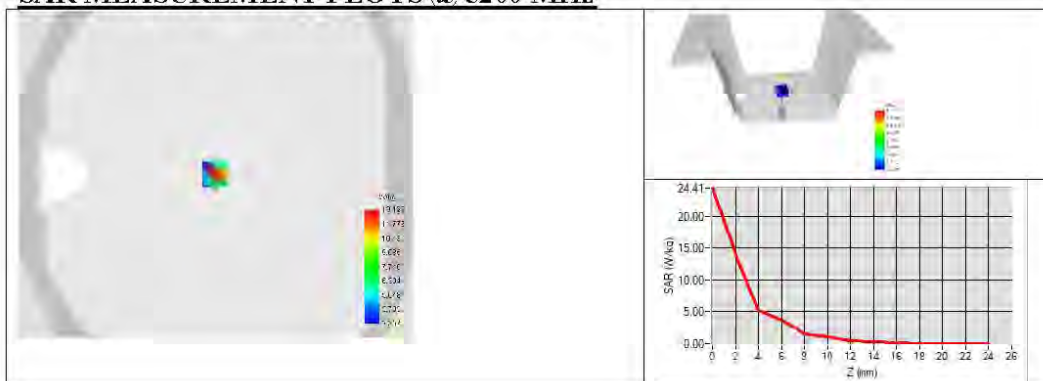
Ref: ACR.329.17.24.BES.A

7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

At those frequencies, the target SAR value can not be generic. Hereunder is the target SAR value defined by MVG, within the uncertainty for the system validation. All SAR values are normalized to 1 W net power. In bracket, the measured SAR is given with the used input power.

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values 5200 MHz: eps' :34.44 sigma : 4.64 Head Liquid Values 5400 MHz: eps' :33.63 sigma : 4.88 Head Liquid Values 5600 MHz: eps' :32.80 sigma : 5.12 Head Liquid Values 5800 MHz: eps' :32.63 sigma : 5.31
Distance between dipole and liquid	10 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=4mm/dy=4m/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

Frequency (MHz)	1 g SAR (W/kg)		10 g SAR (W/kg)	
	required	measured	required	measured
5200	76.50	76.41 (7.64)	21.60	21.86 (2.19)
5400	-	80.52 (8.05)	-	22.91 (2.29)
5600	-	79.08 (7.91)	-	22.73 (2.27)
5800	78.00	76.49 (7.65)	21.90	22.03 (2.20)

SAR MEASUREMENT PLOTS @ 5200 MHz


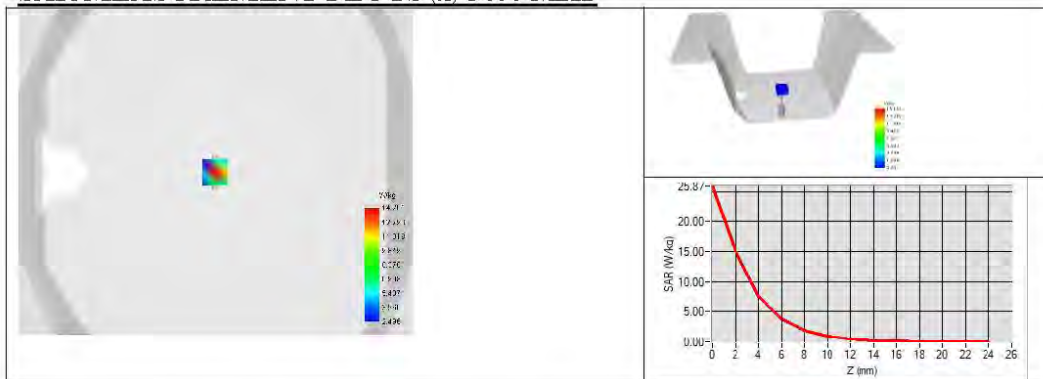
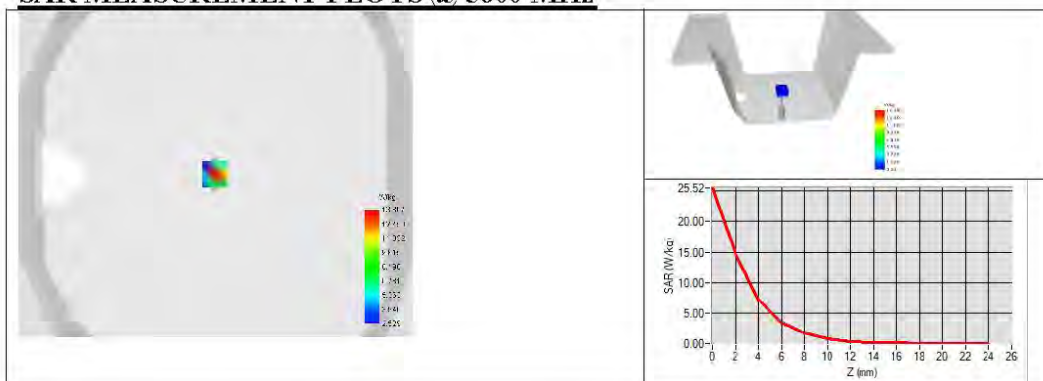
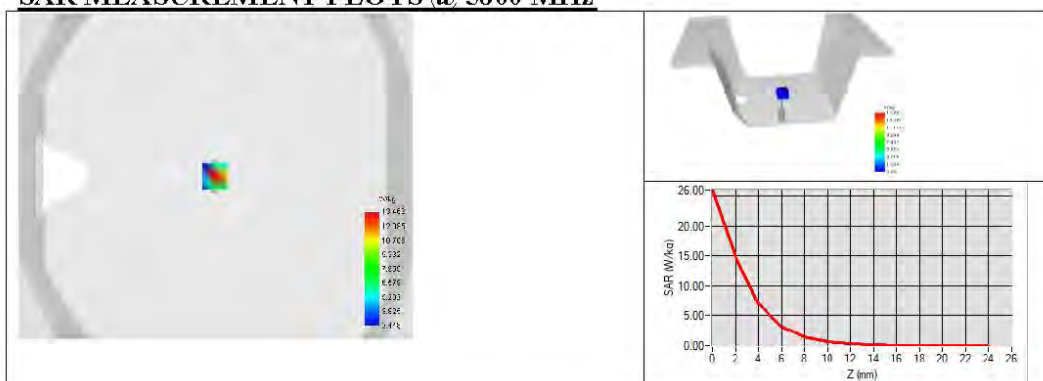
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Template ACR.DDD.N.FY.MVGB.ISSUE SAR Reference Dipole5GHz vD

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SAR MEASUREMENT PLOTS @ 5400 MHz

SAR MEASUREMENT PLOTS @ 5600 MHz

SAR MEASUREMENT PLOTS @ 5800 MHz


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7.3 BODY LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ϵ_r')		Conductivity (σ) S/m	
	required	measured	required	measured
5200	49.0 \pm10 %	45.50	5.30 \pm10 %	5.63
5300	48.9 \pm10 %		5.42 \pm10 %	
5400	48.7 \pm10 %	44.78	5.53 \pm10 %	5.95
5500	48.6 \pm10 %		5.65 \pm10 %	
5600	48.5 \pm10 %	44.85	5.77 \pm10 %	6.26
5800	48.2 \pm10 %	44.45	6.00 \pm10 %	6.58

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Body Liquid Values 5200 MHz: ϵ_r' :45.50 sigma : 5.63 Body Liquid Values 5400 MHz: ϵ_r' :44.78 sigma : 5.95 Body Liquid Values 5600 MHz: ϵ_r' :44.85 sigma : 6.26 Body Liquid Values 5800 MHz: ϵ_r' :44.45 sigma : 6.58
Distance between dipole and liquid	10 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=4mm/dy=4m/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

Frequency (MHz)	1 g SAR (W/kg)	10 g SAR (W/kg)
	measured	measured
5200	73.02 (7.30)	20.58 (2.06)
5400	77.86 (7.79)	21.85 (2.19)
5600	79.90 (7.99)	22.73 (2.27)
5800	71.90 (7.19)	20.50 (2.05)

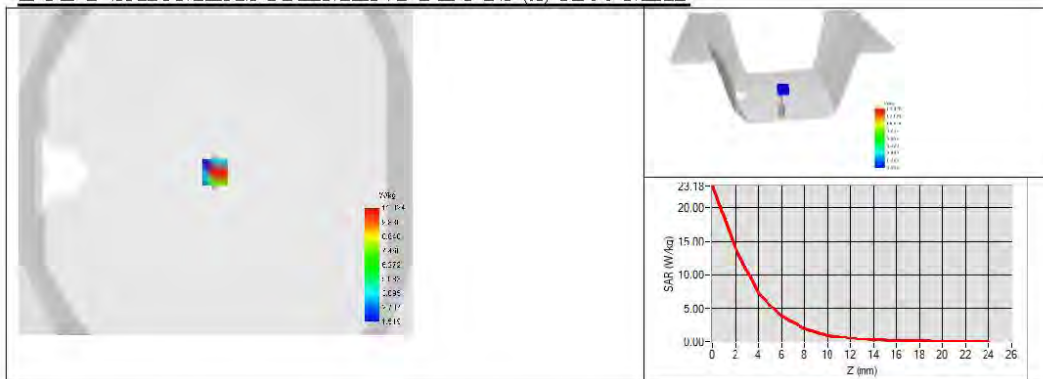
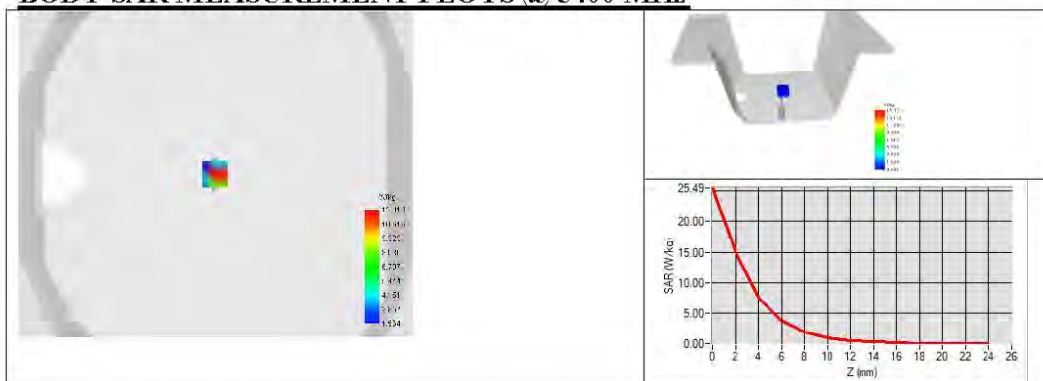
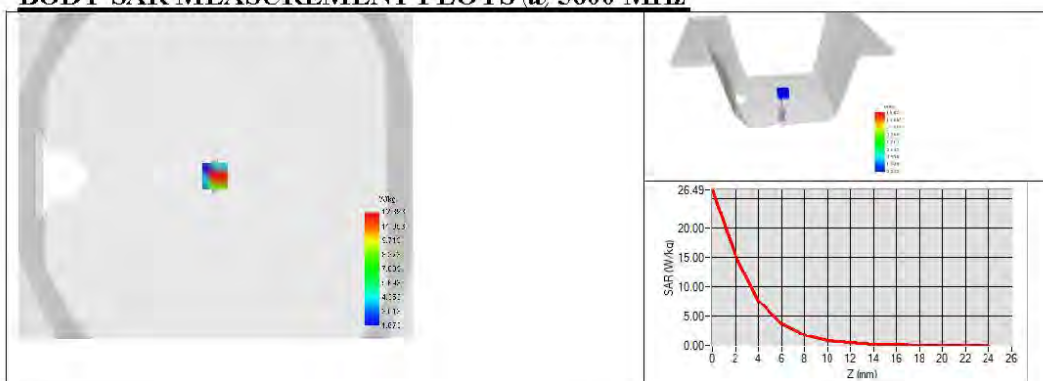
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BODY SAR MEASUREMENT PLOTS @ 5200 MHz

BODY SAR MEASUREMENT PLOTS @ 5400 MHz

BODY SAR MEASUREMENT PLOTS @ 5600 MHz


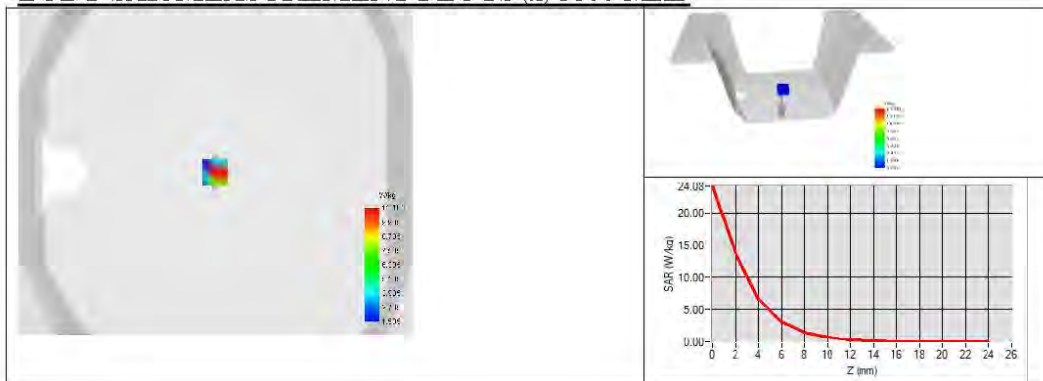
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BODY SAR MEASUREMENT PLOTS @ 5800 MHz


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8 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
SAM Phantom	MVG	SN 13/09 SAM68	Validated. No cal required.	Validated. No cal required.
COMOSAR Test Bench	Version 3	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rohde & Schwarz ZVM	100203	08/2024	08/2027
Network Analyzer	Agilent 8753ES	MY40003210	10/2022	10/2025
Network Analyzer – Calibration kit	Rohde & Schwarz ZV-Z235	101223	05/2022	05/2025
Network Analyzer – Calibration kit	HP 85033D	3423A08186	06/2021	06/2027
Calipers	Mitutoyo	SN 0009732	10/2022	10/2025
Reference Probe	MVG	SN 41/18 EPG0333	10/2024	10/2025
Multimeter	Keithley 2000	1160271	02/2023	02/2026
Signal Generator	Rohde & Schwarz SMB	106589	04/2022	04/2027
Amplifier	MVG	MODU-023-C-0002	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	NI-USB 5680	170100013	06/2024	06/2027
Power Meter	Rohde & Schwarz NRVD	832839-056	11/2022	11/2025
Directional Coupler	Krytar 158020	131467	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Temperature / Humidity Sensor	Testo 184 H1	44225320	06/2024	06/2027

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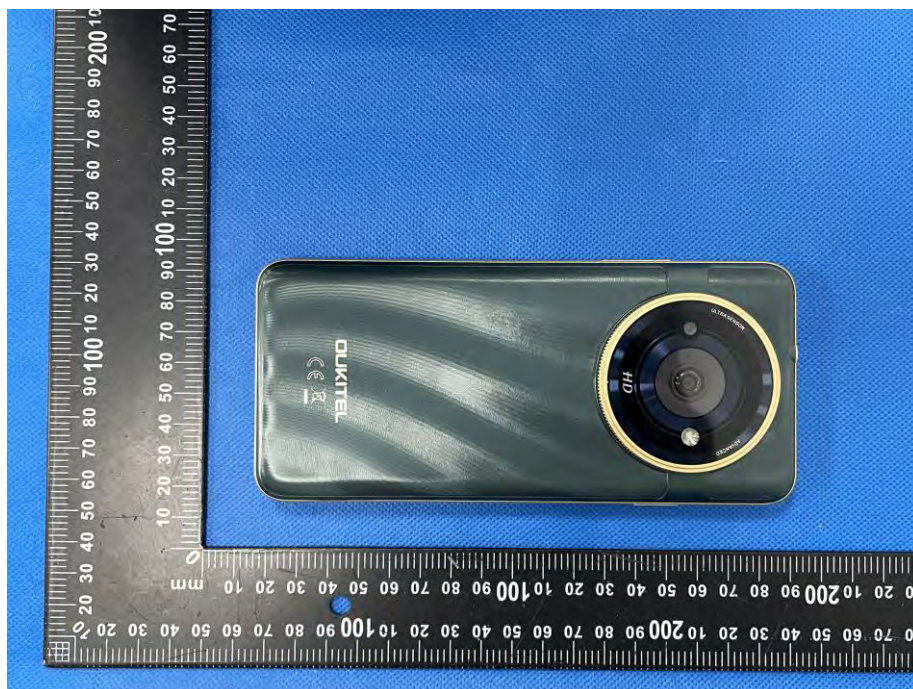
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17. EUT Photographs

EUT Front View



EUT Back View



18. Photographs Of The Liquid



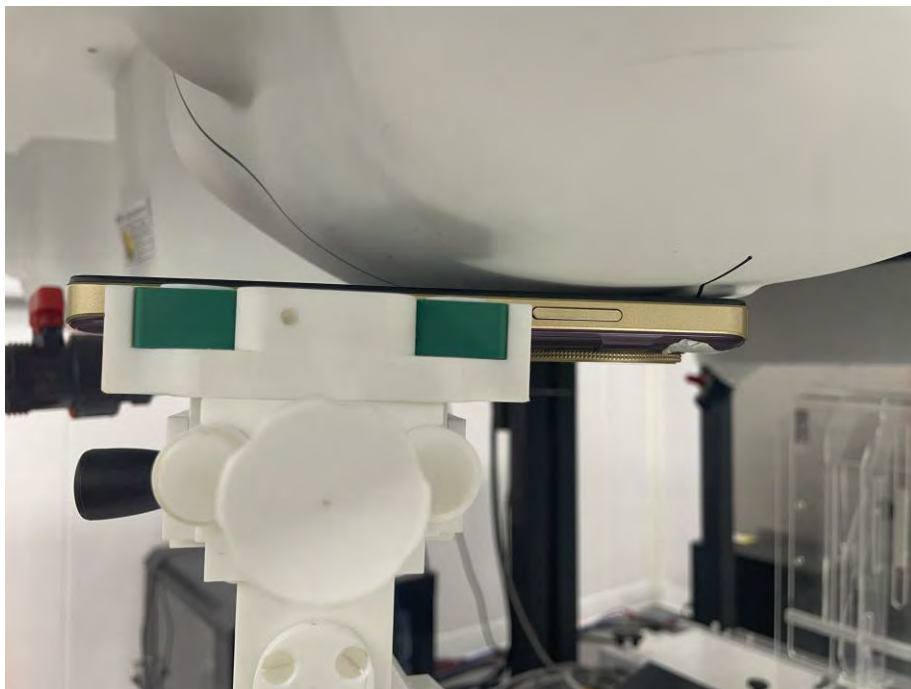
Photograph of the depth in the Body Phantom (600-10000MHz, depth >15cm)

SPINZEN A

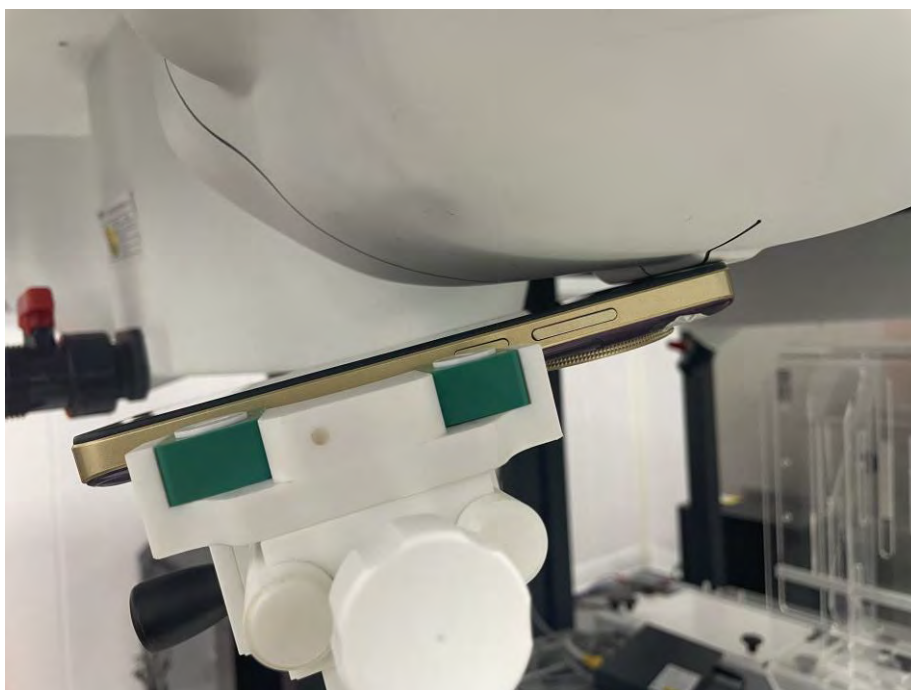
19. EUT Test Setup Photographs

Head mode Exposure Conditions

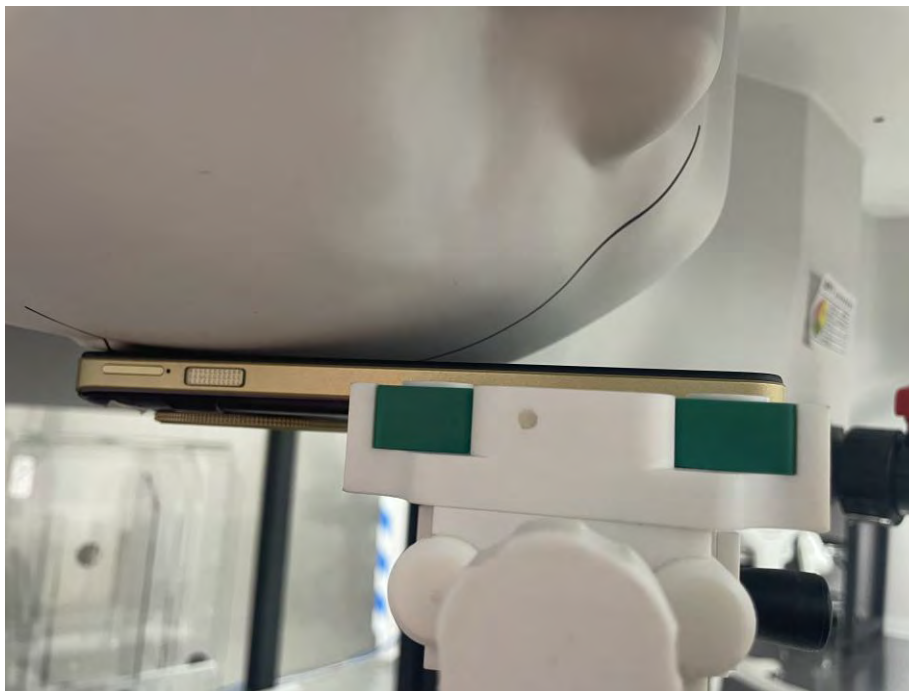
Left Cheek



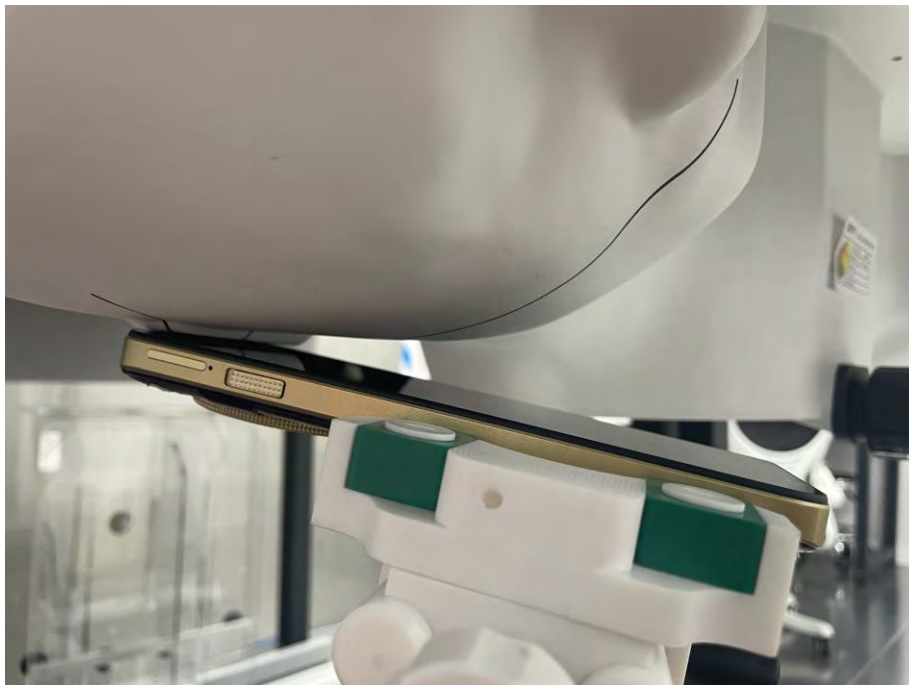
Left Tilt



Right Cheek

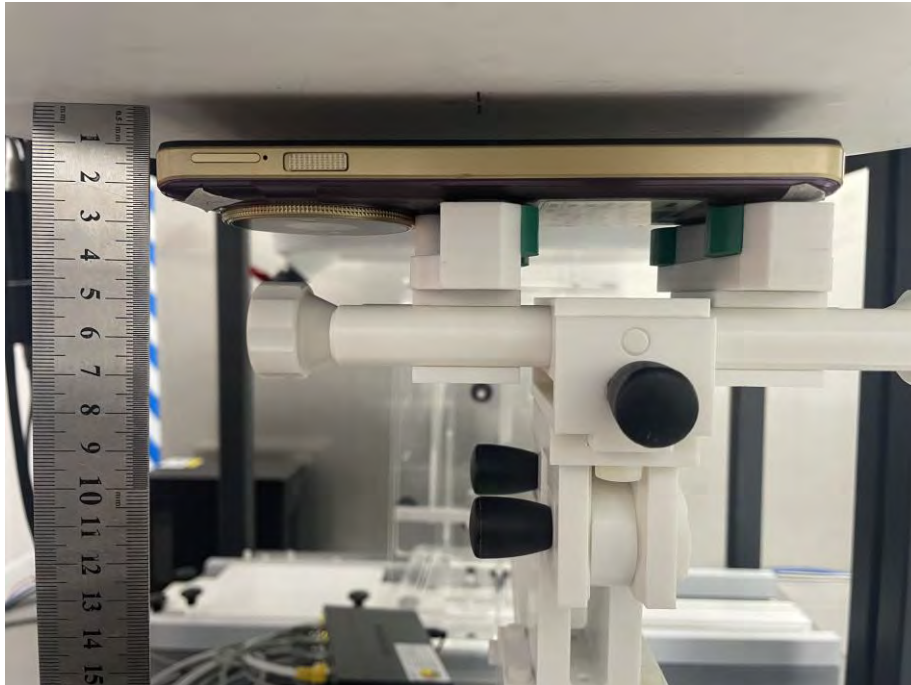


Right Tilt

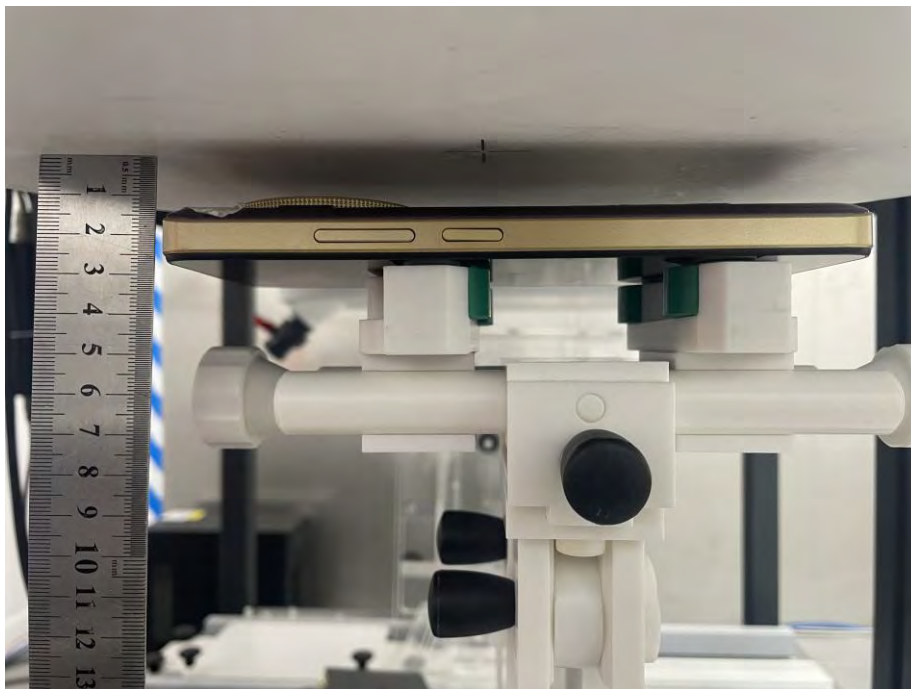


Body mode Exposure Conditions
Test distance: 10mm

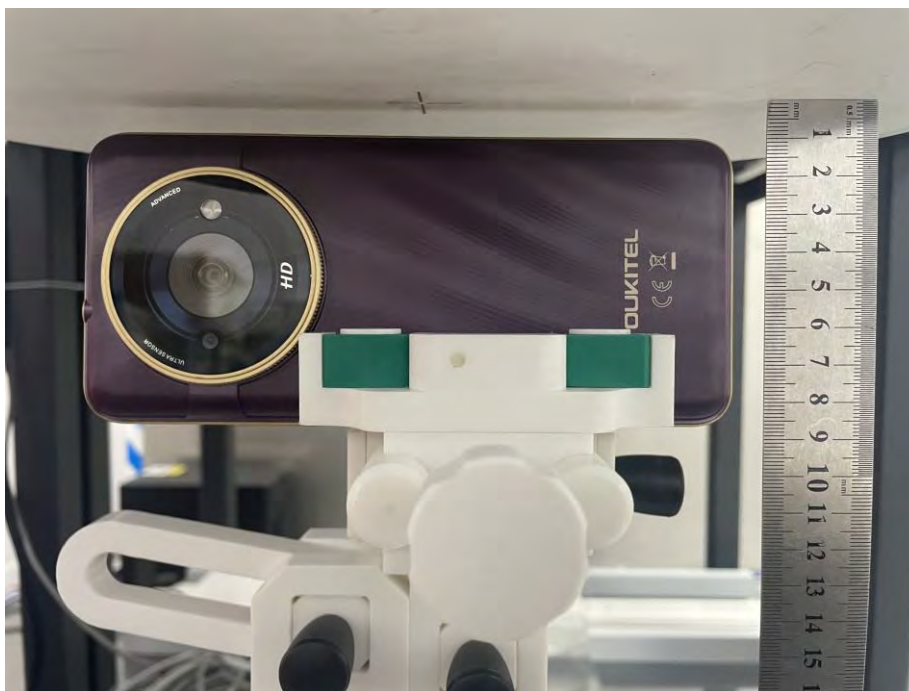
Front



Back



Left



Right



EST
C
ED
al

Top



Bottom



STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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***** END *****