Report No.: LCS190617048AEB



SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

Ref: ACR.273.5.18.SATU.A

7.3 BODY LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ϵ_r ')		Conductivity (σ) S/m	
	required	measured	required	measured
5200	49.0 ±10 %	PASS	5.30 ±10 %	PASS
5300	48.9 ±10 %		5.42 ±10 %	
5400	48.7 ±10 %	PASS	5.53 ±10 %	PASS
5500	48.6 ±10 %		5.65 ±10 %	
5600	48.5 ±10 %	PASS	5.77 ±10 %	PASS
5800	48.2 ±10 %	PASS	6.00 ±10 %	PASS

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

	Exception in very series and a series of the		
Software	OPENSAR V4		
Phantom	SN 20/09 SAM71		
Probe	SN 18/11 EPG122		
Liquid	Body Liquid Values 5200 MHz: eps' :48.64 sigma : 5.51 Body Liquid Values 5400 MHz: eps' :46.52 sigma : 5.77 Body Liquid Values 5600 MHz: eps' :46.79 sigma : 5.77 Body Liquid Values 5800 MHz: eps' :47.04 sigma : 6.10		
Distance between dipole waveguide and liquid	0 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	21 °C		
Lab Temperature	21 °C		
Lab Humidity	45 %		

Frequency (MHz)	1 g SAR (W/kg)	10 g SAR (W/kg)	
	measured	measured	
5200	159.09 (15.91)	56.13 (5.61)	
5400	164.56 (16.46)	57.31 (5.73)	
5600	172.25 (17.23)	59.72 (5.97)	
5800	177.77 (17.78)	61.06 (6.11)	

Page: 10/13

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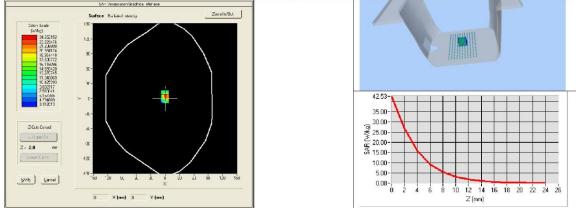
Report No.: LCS190617048AEB



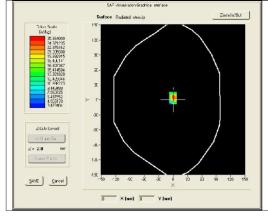
SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

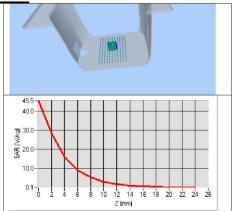
Ref: ACR.273.5.18.SATU.A

BODY SAR MEASUREMENT PLOTS @ 5200 MHz

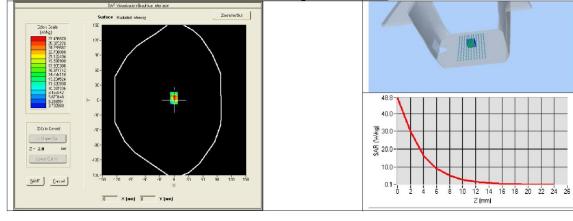


BODY SAR MEASUREMENT PLOTS @ 5400 MHz





BODY SAR MEASUREMENT PLOTS @ 5600 MHz



Page: 11/13

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Report No.: LCS190617048AEB



SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

Ref: ACR.273.5.18.SATU.A

BODY SAR MEASUREMENT PLOTS @ 5800 MHz n birachica inter ac Zuu #In/Oct Surface Raliated nte 150-[/// CI 26.54C777 26.350189 26.251600 27.57017 21.352724 21.352724 21.352724 14.х-E.5/c2/7 7.326658 5.334070 2.73240* 2.334893 C.430305 8310716 1.51728 (51703) (871951 x-51.2 40.0-Z-Cuts Connel 9 30.0-·X U HVS 20.0-Z- 2.0 roar -12 10.0--197-SAVE Larcel 50 120 0.1-0 12 14 16 18 20 22 24 26 Z (mm) 10 0 × (mm) 8 ¥ (mm)

Page: 12/13

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SAR REFERENCE WAVEGUIDE CALIBRATION REPORT

8 LIST OF EQUIPMENT

Equipment Summary Sheet								
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date				
Flat Phantom	MVG	SN-20/09-SAM71	Validated. No cal required.	Validated. No cal required.				
COMOSAR Test Bench	Version 3	NA	Validated. No cal required.	Validated. No cal required.				
Network Analyzer	Rhode & Schwarz ZVA	SN100132	02/2016	02/2019				
Calipers	Carrera	CALIPER-01	01/2017	01/2020				
Reference Probe	MVG	EPG122 SN 18/11	10/2017	10/2018				
Multimeter	Keithley 2000	1188656	01/2017	01/2020				
Signal Generator	Agilent E4438C	MY49070581	01/2017	01/2020				
Amplifier	Aethercomm	SN 046	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.				
Power Meter	HP E4418A	US38261498	01/2017	01/2020				
Power Sensor	HP ECP-E26A	US37181460	01/2017	01/2020				
Directional Coupler	Narda 4216-20	01386	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.				
Temperature and Humidity Sensor	Control Company	150798832	11/2017	11/2020				

Page: 13/13

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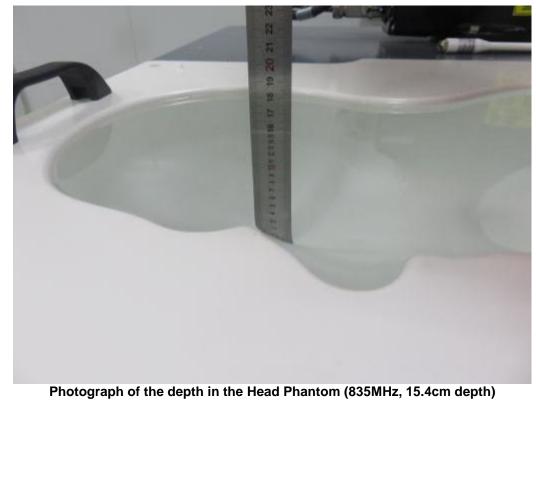
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6. EUT TEST PHOTOGRAPHS

6.1 Photograph of liquid depth



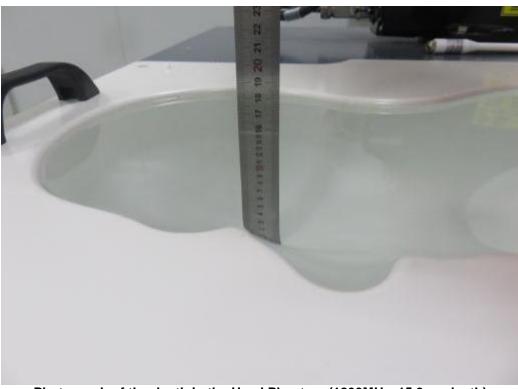
Photograph of the depth in the Head Phantom (750MHz, 15.3cm depth)



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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB



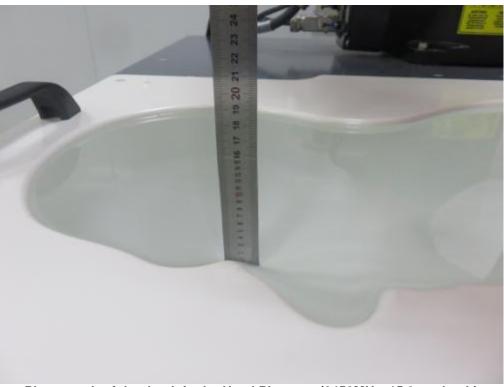
Photograph of the depth in the Head Phantom (1800MHz, 15.3cm depth)



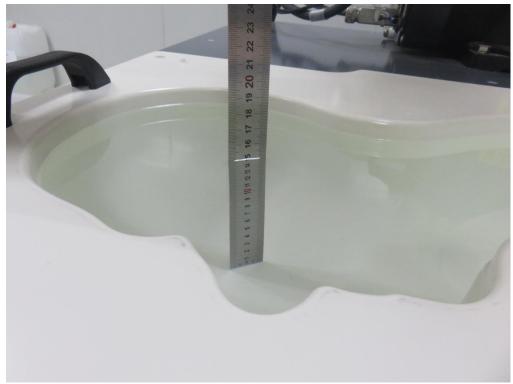
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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB



Photograph of the depth in the Head Phantom (2450MHz, 15.3cm depth)



Photograph of the depth in the Head Phantom (2600MHz, 15.5cm depth)

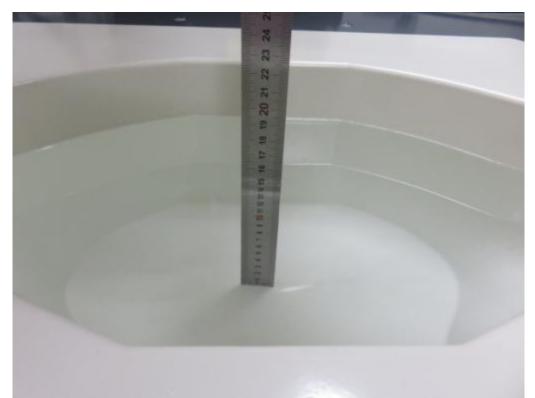
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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB



Photograph of the depth in the Head Phantom (5-6GHz, 15.5cm depth)

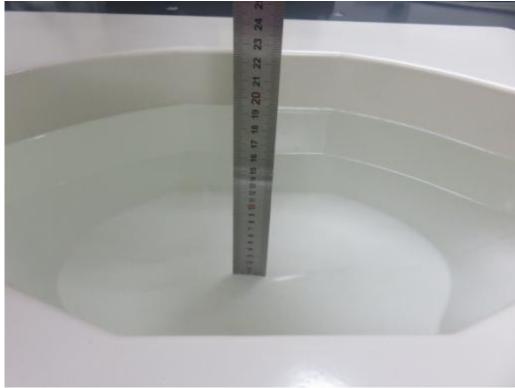


Photograph of the depth in the Body Phantom (750MHz, 15.4cm depth)

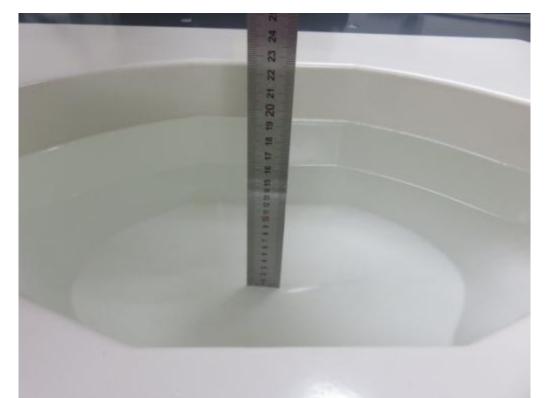
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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB



Photograph of the depth in the Body Phantom (835MHz, 15.2cm depth)

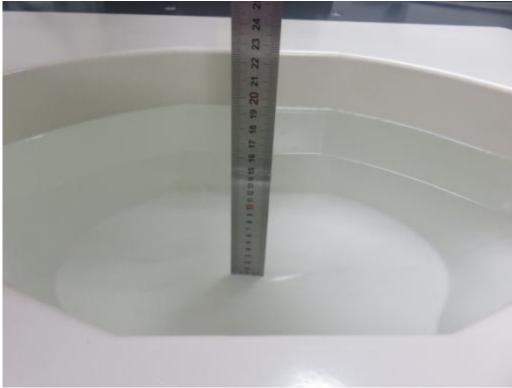


Photograph of the depth in the Body Phantom (1800MHz, 15.2cm depth)

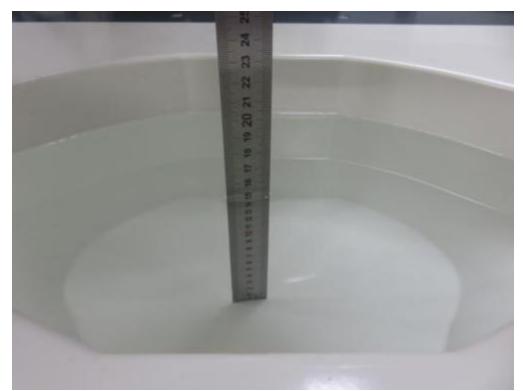
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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB



Photograph of the depth in the Body Phantom (1900MHz, 15.4 cm depth)

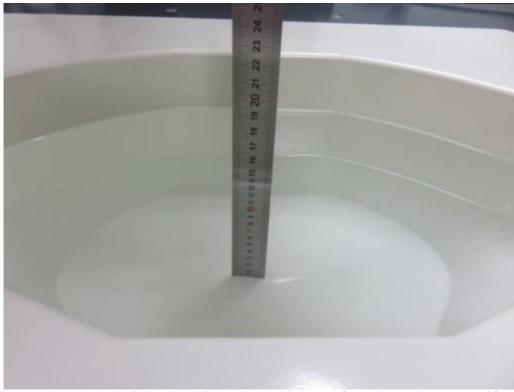


Photograph of the depth in the Body Phantom (2450MHz, 15.3cm depth)

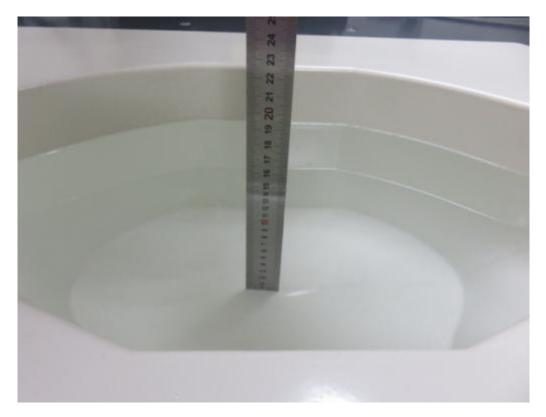
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Report No.: LCS190617048AEB



Photograph of the depth in the Body Phantom (2600MHz, 15.2cm depth)



Photograph of the depth in the Body Phantom (5-6GHz, 15.2cm depth)

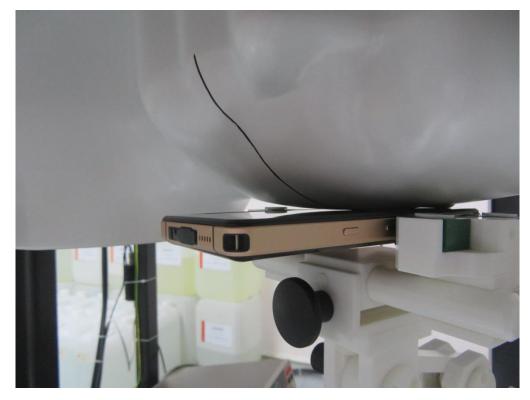
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FCC ID: 2ATTU-X7

Report No.: LCS190617048AEB

6.2 Photograph of the Test

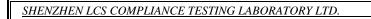
Head Setup Photo (Left Cheek)



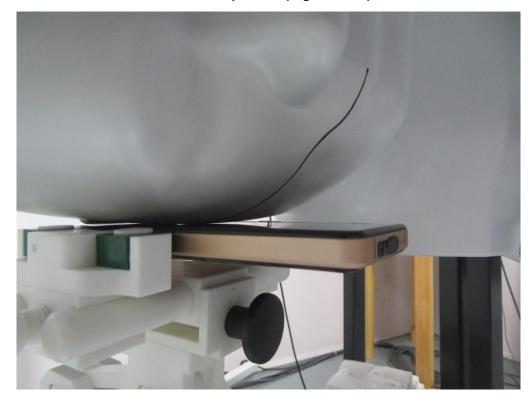
Head Setup Photo (Left Tilt)



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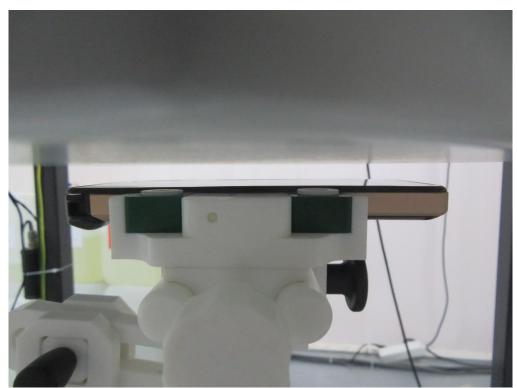
Head Setup Photo (Right Cheek)



Head Setup Photo (Right Tilt)

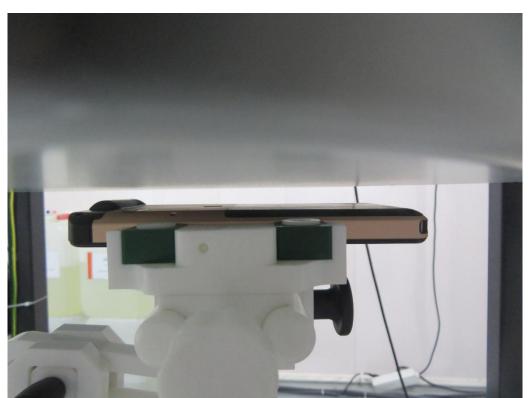


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10mm body-worn Back Side Setup Photo (hotspot)

10mm body-worn Front Side Setup Photo (hotspot)



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10mm body-worn Left Side Setup Photo (hotspot)



10mm body-worn Right Side Setup Photo (hotspot)

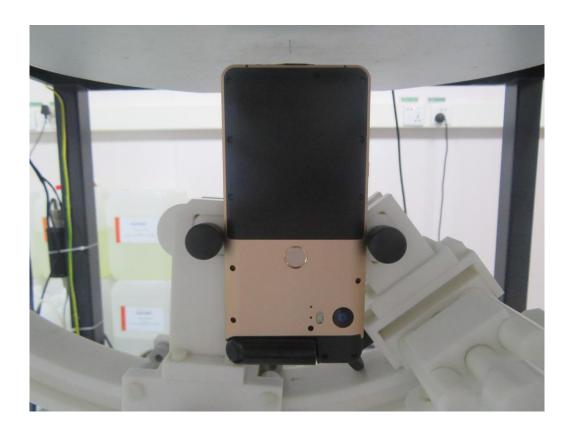


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10mm body-worn Top Side Setup Photo (hotspot)

10mm body-worn Bottom Side Setup Photo (hotspot)



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7. EUT Photographs

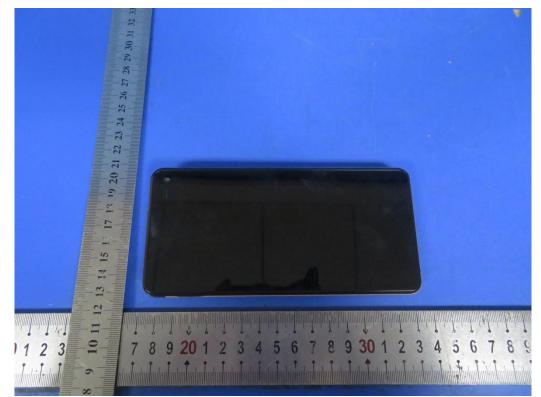
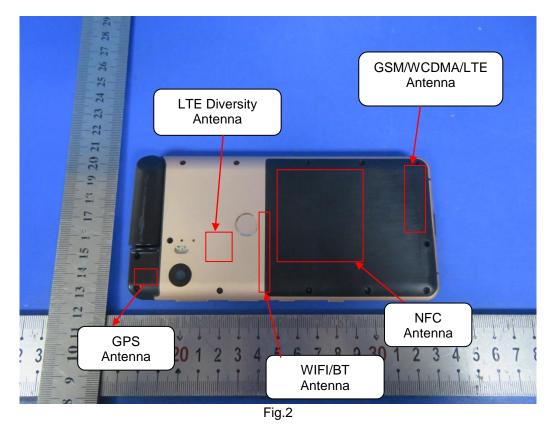


Fig.1



.....The End of Test Report.....

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