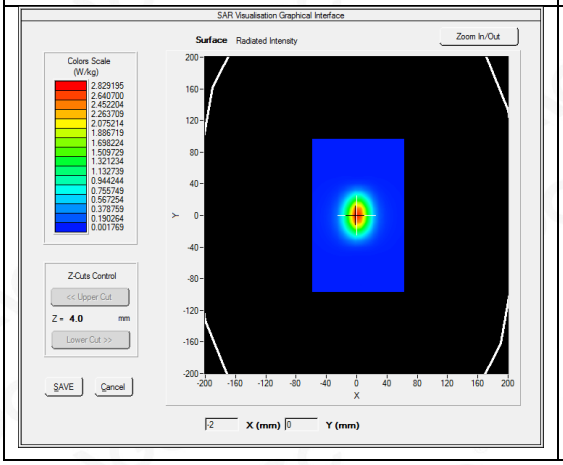
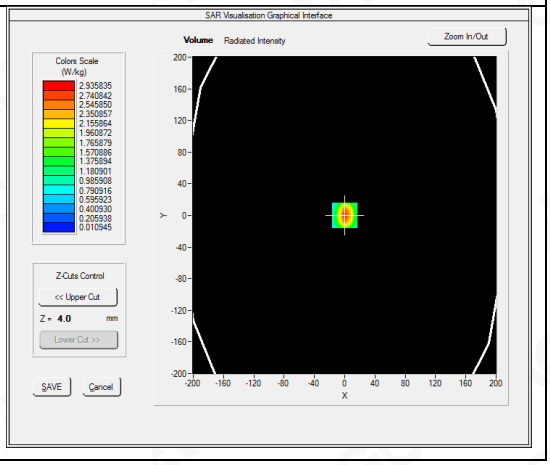
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
System Check Body 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1; Conv.F=5.39
Frequency: 1900 MHz; Medium parameters used: f = 1850 MHz; σ =1.53 mho/m; ε_r =53.08; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.1, Liquid temperature (℃): 20.7

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

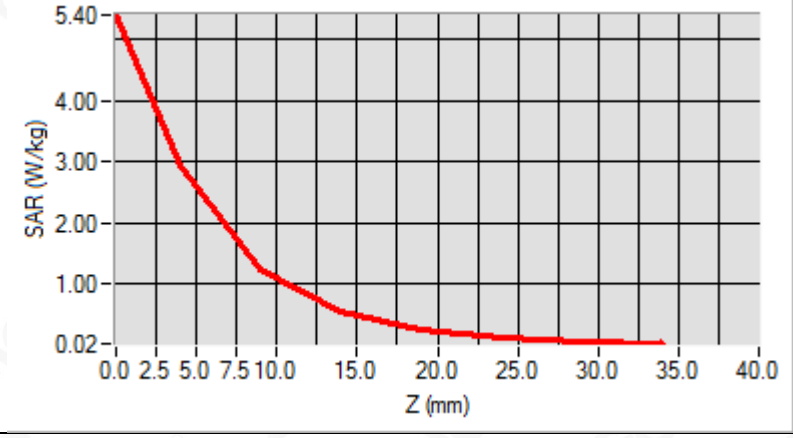
Configuration/System Check 1900MHz Body/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 1900MHz Body/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

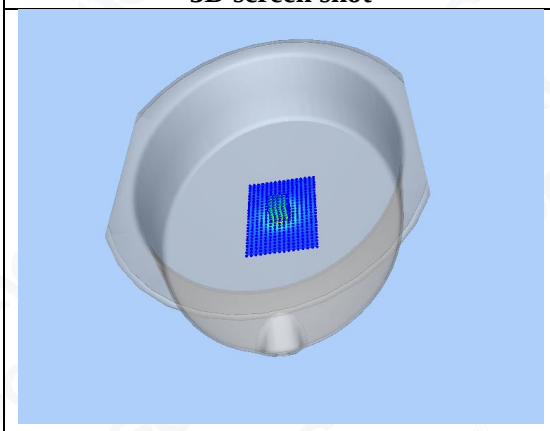
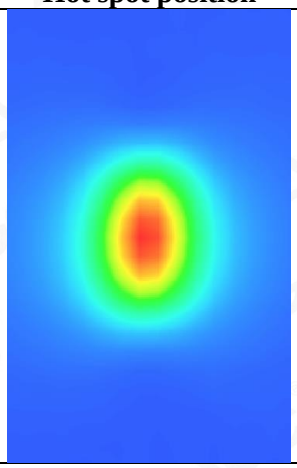
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00
SAR Peak: 5.33 W/kg

SAR 10g (W/Kg)	1.252349
SAR 1g (W/Kg)	2.806244

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	5.3947	2.9328	1.2335	0.5485	0.2345	0.1068	0.0447

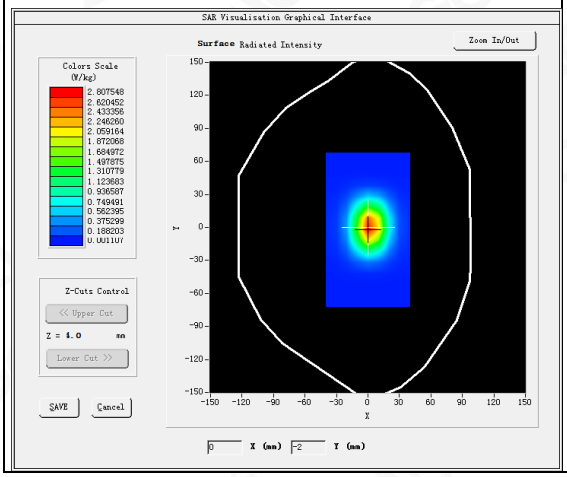
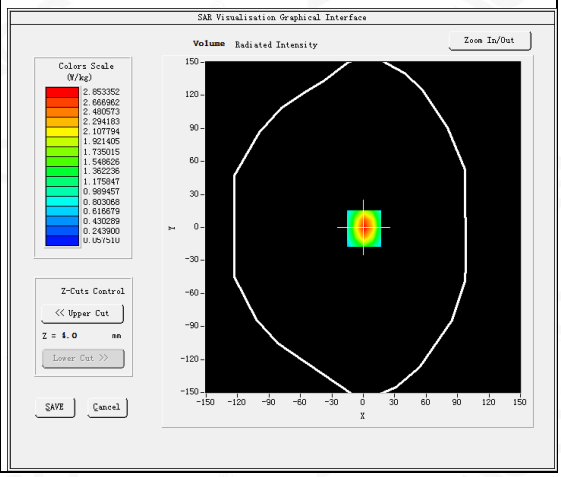


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2019**
System Check Head 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1; Conv.F=5.24
Frequency: 1900 MHz; Medium parameters used: f = 1850 MHz; σ =1.42 mho/m; ε r =39.26; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.2, Liquid temperature (℃): 20.9

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

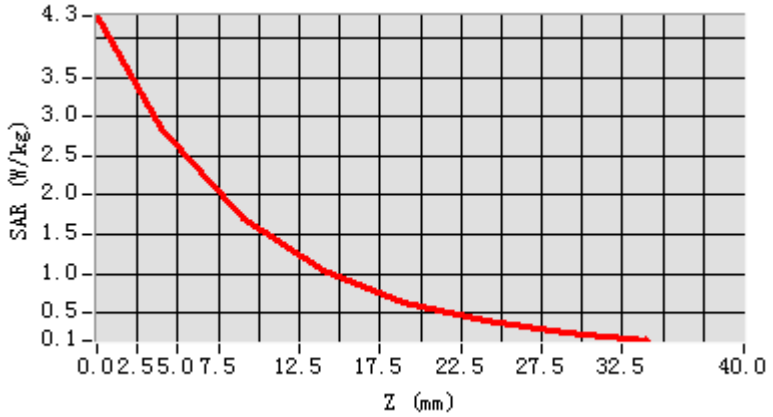
Configuration/System Check 1900MHz Head/Area Scan: Measurement grid: dx=10mm, dy=10mm
Configuration/System Check 1900MHz Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

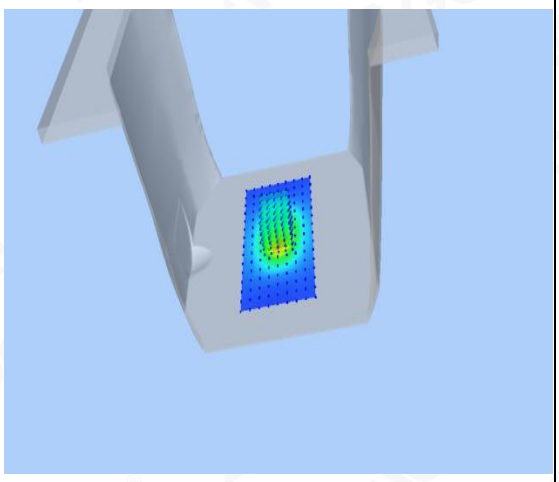
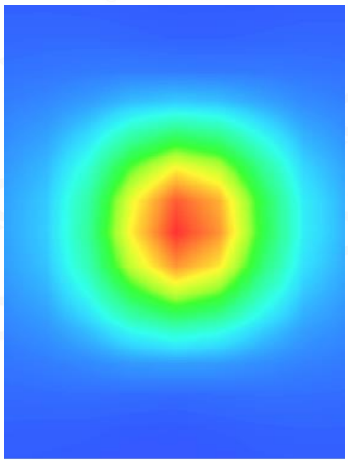
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=-1.00
SAR Peak: 4.29 W/kg

SAR 10g (W/Kg)	1.381355
SAR 1g (W/Kg)	2.671684

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	4.2814	2.8527	1.6936	1.0425	0.6362	0.3917	0.2405

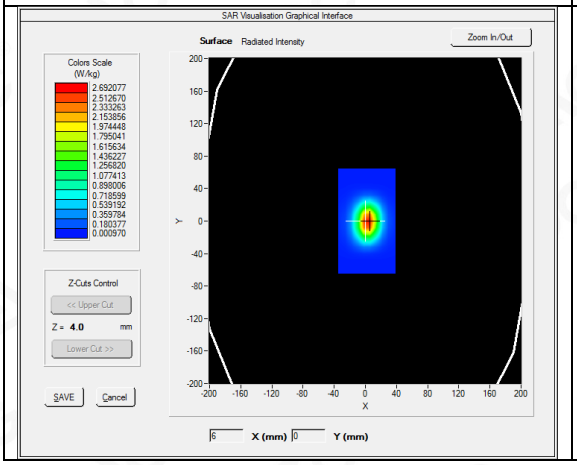
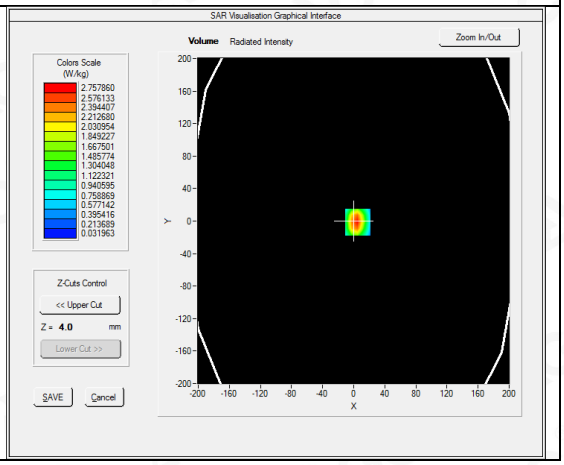


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2019**
System Check Body 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1; Conv.F=5.39
Frequency: 1900 MHz; Medium parameters used: f = 1850 MHz; σ =1.46 mho/m; εr =51.26; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.2, Liquid temperature (℃): 20.8

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

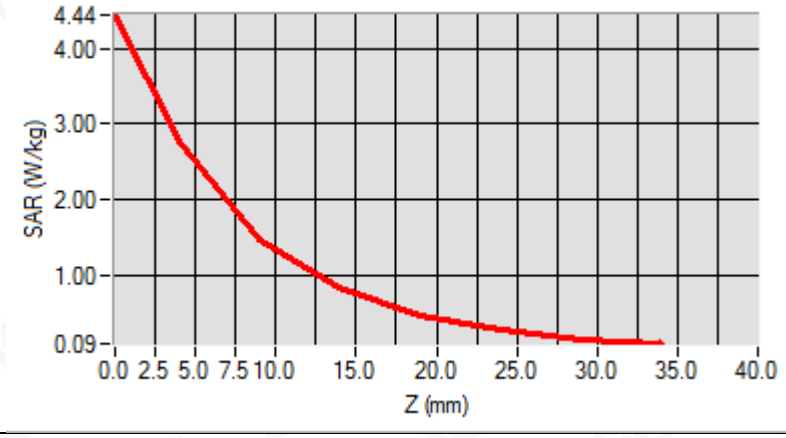
Configuration/System Check 1900MHz Body/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 1900MHz Body/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

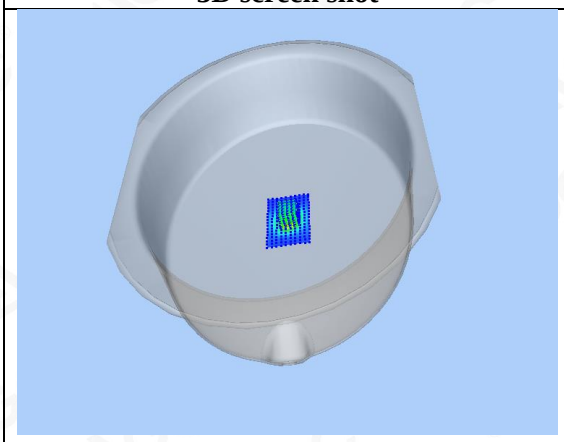
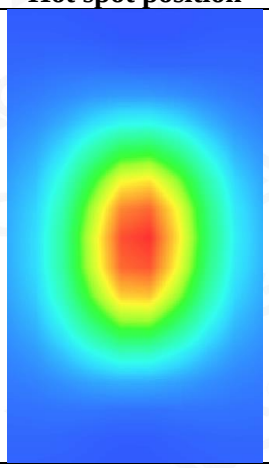
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=-1.00
SAR Peak: 4.49 W/kg

SAR 10g (W/Kg)	1.302494
SAR 1g (W/Kg)	2.623251

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	4.4412	2.7535	1.4764	0.8227	0.4682	0.2641	0.1473

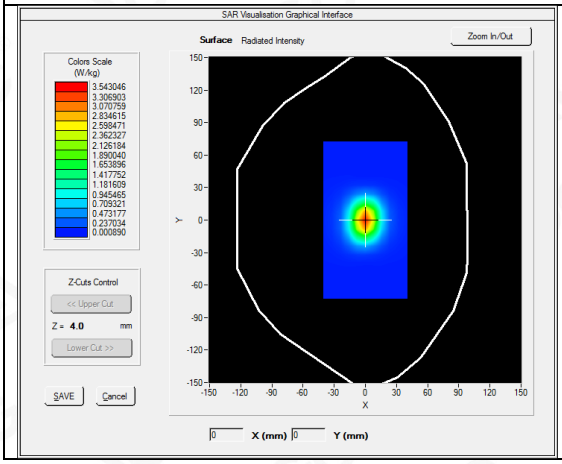
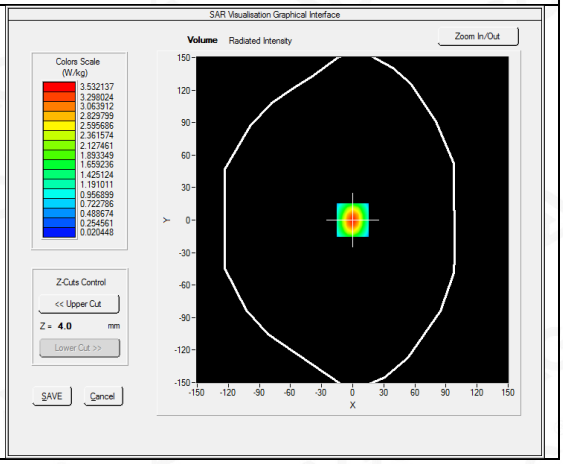


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 08,2019**
System Check Head 2450 MHz
DUT: Dipole 2450 MHz Type: SID 2450
Communication System CW; Communication System Band: D2450 (2450.0 MHz); Duty Cycle: 1:1; Conv.F=4.90
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ =1.80 mho/m; ε r =39.60; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.1, Liquid temperature (℃): 20.8

SATIMO Configuration
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

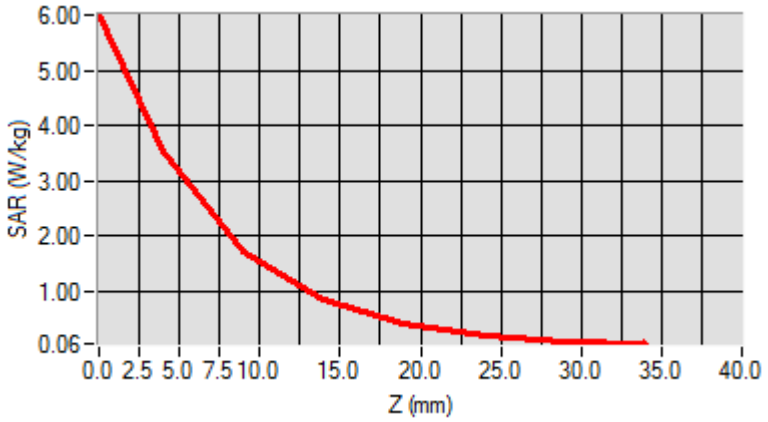
Configuration/System Check 2450MHz Head/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 2450MHz Head/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

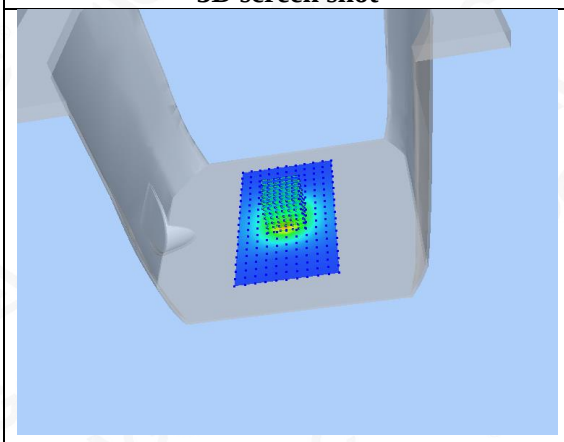
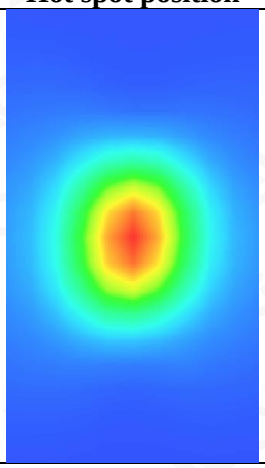
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00
SAR Peak: 5.93 W/kg

SAR 10g (W/Kg)	1.492437
SAR 1g (W/Kg)	3.223873

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	5.9980	3.5317	1.7158	0.8537	0.4262	0.258	0.1074

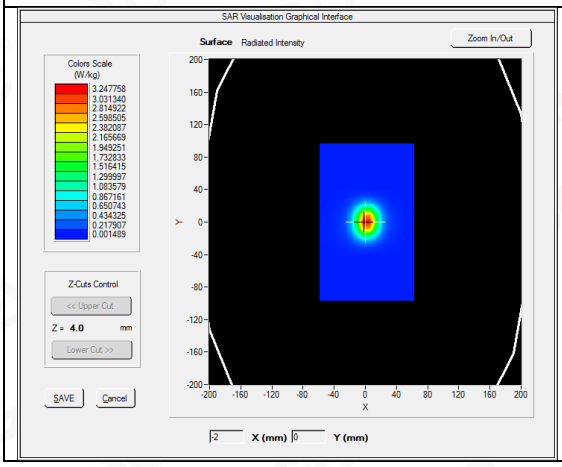
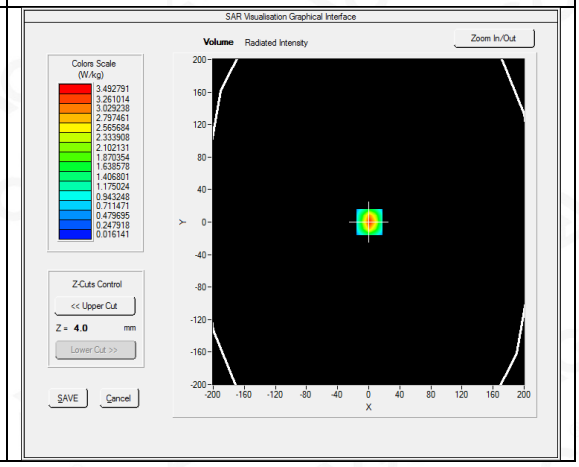


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 08,2019**
System Check Body 2450 MHz
DUT: Dipole 2450 MHz Type: SID 2450
Communication System CW; Communication System Band: D2450 (2450.0 MHz); Duty Cycle: 1:1; Conv.F=5.04
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ =1.92 mho/m; εr =52.10; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):21.1, Liquid temperature (℃): 20.7

SATIMO Configuration
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

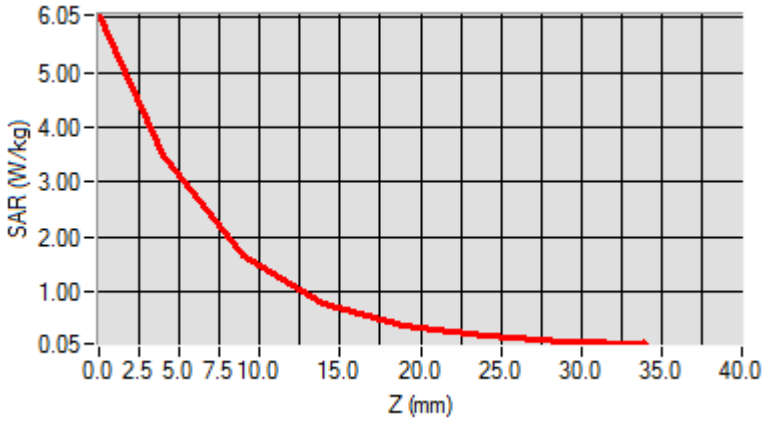
Configuration/System Check 2450MHz Body/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/System Check 2450MHz Body/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

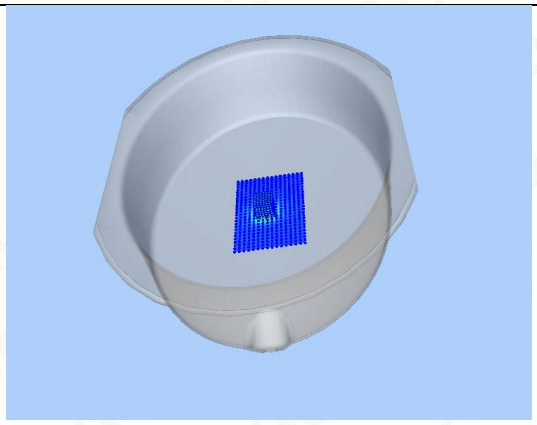
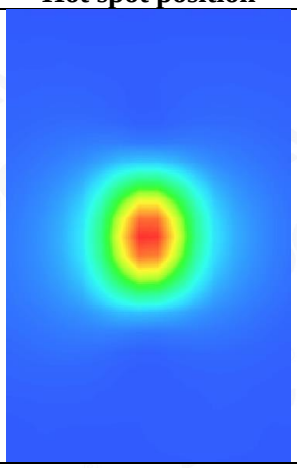
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00
SAR Peak: 6.01 W/kg

SAR 10g (W/Kg)	1.468423
SAR 1g (W/Kg)	3.257245

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.0524	3.4938	1.6474	0.7985	0.3846	0.1935	0.0280

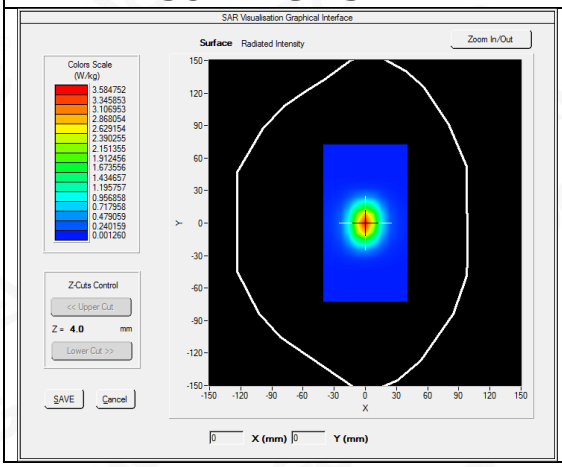
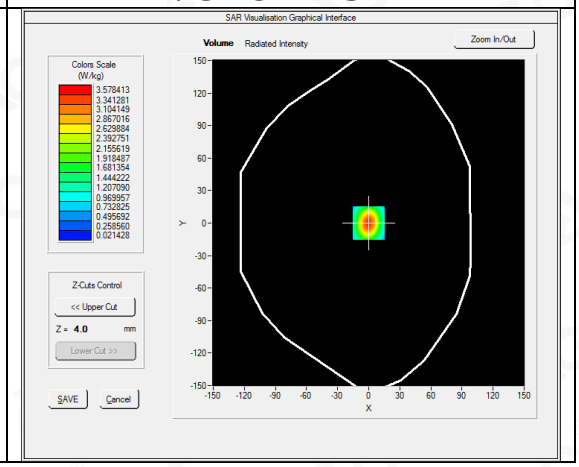


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 01,2019**
System Check Head 2600MHz
DUT: Dipole 2600 MHz; Type: SID 2600
Communication System: CW; Communication System Band: D2600 (2600.0 MHz); Duty Cycle: 1:1; Conv.F=4.57
Frequency:2600 MHz; Medium parameters used: f = 2600 MHz; σ =1.95 mho/m; ε r =38.62; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

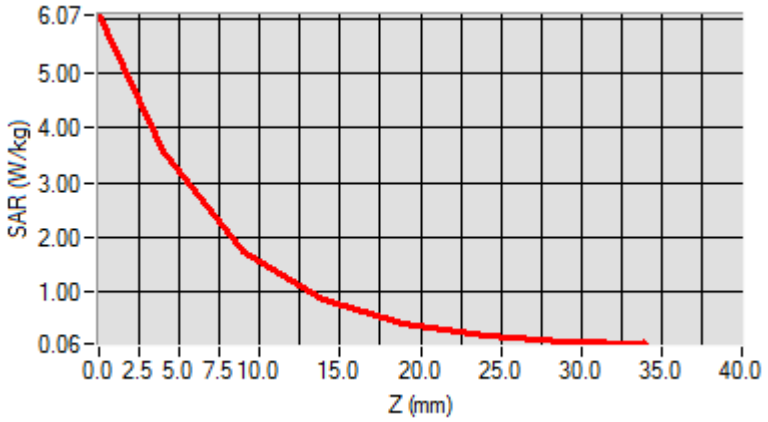
Configuration/System Check 2600 Head/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 2600 Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

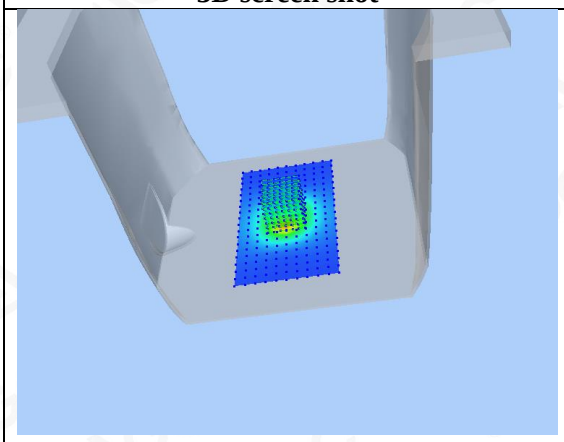
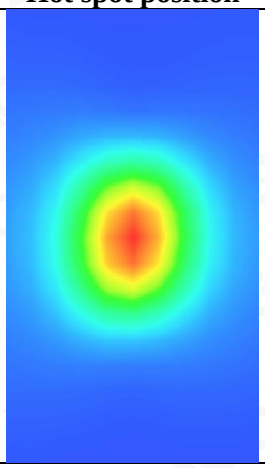
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00
SAR Peak: 5.99 W/kg

SAR 10g (W/Kg)	1.516524
SAR 1g (W/Kg)	3.261257

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.0612	3.5756	1.7434	0.8628	0.4317	0.2268	0.1124

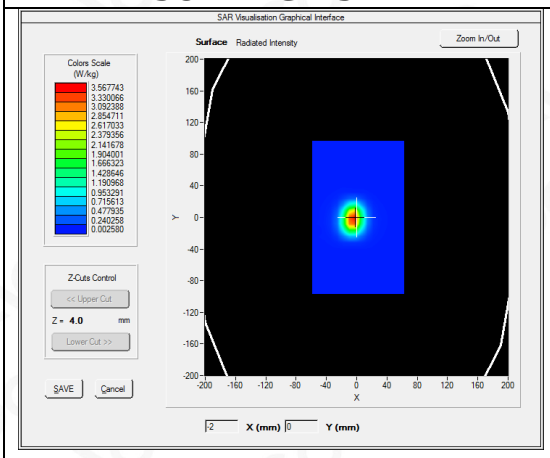
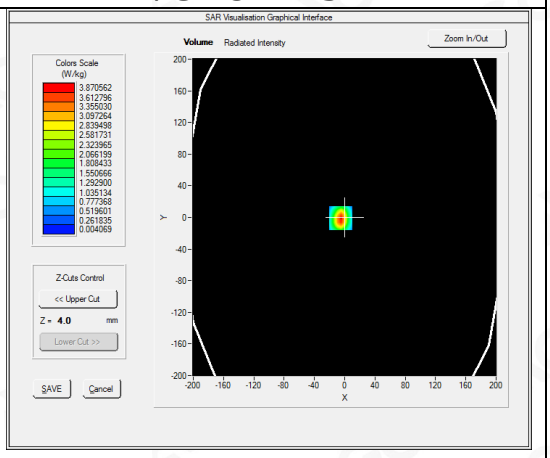


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 01,2019**
System Check Body 2600MHz
DUT: Dipole 2600 MHz; Type: SID 2600
Communication System: CW; Communication System Band: D2600 (2600.0 MHz); Duty Cycle: 1:1; Conv.F=4.68
Frequency:2600 MHz; Medium parameters used: f = 2600 MHz; σ =2.14 mho/m; εr =52.47; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

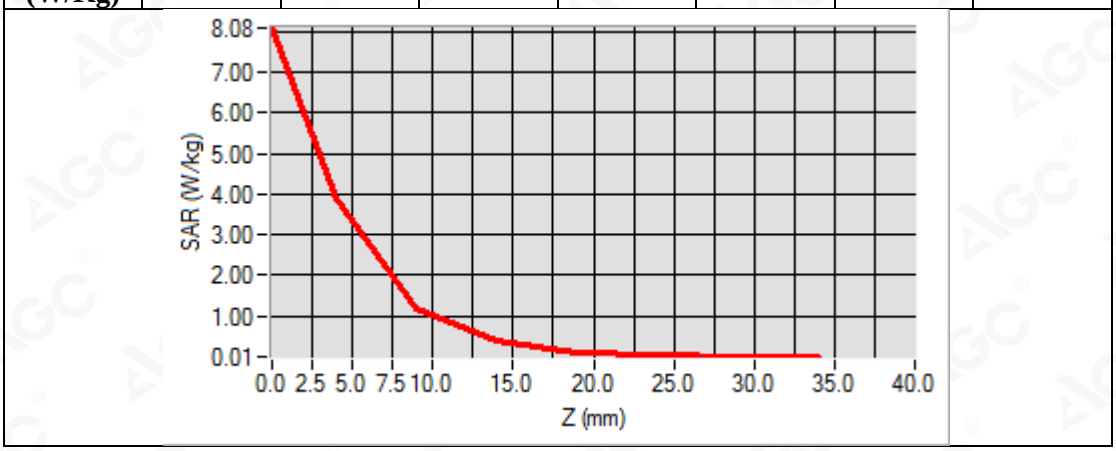
Configuration/System Check 2600 Body/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 2600 Body /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

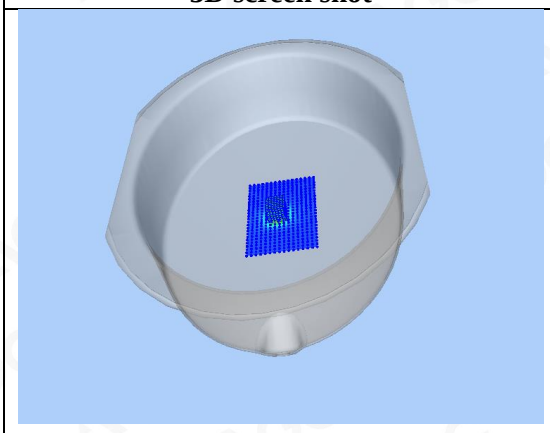
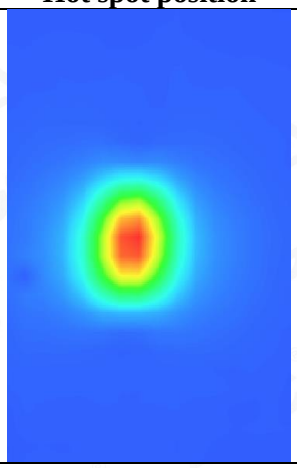
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-5.00, Y=-1.00
SAR Peak: 7.90 W/kg

SAR 10g (W/Kg)	1.503144
SAR 1g (W/Kg)	3.423194

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	8.0767	3.8706	1.2044	0.3868	0.1287	0.0443	0.0167

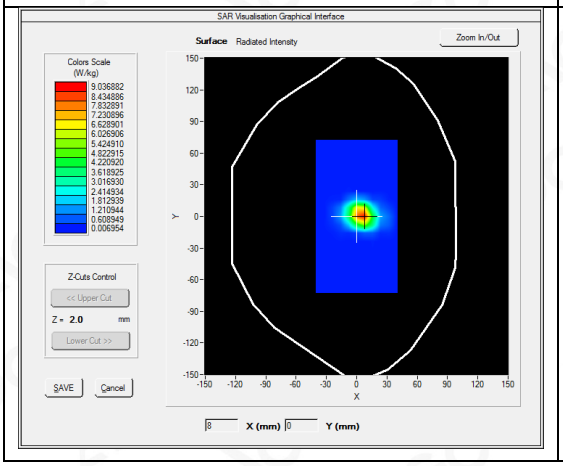
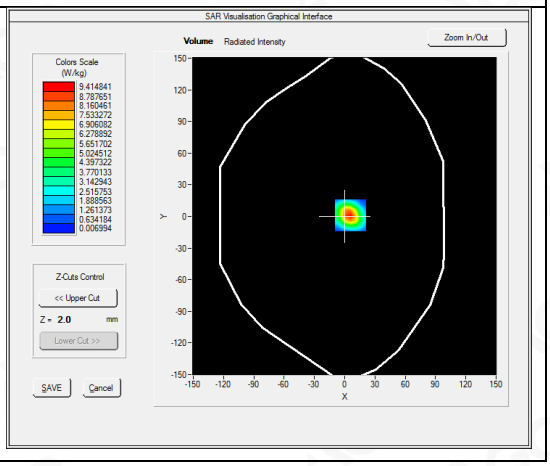


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 28,2019**
System Check Head 5200 MHz
DUT: Dipole 5000MHz Type: SWG5500
Communication System: CW; Communication System Band: D5000 (5000.0 MHz); Duty Cycle: 1:1; Conv.F=2.46
Frequency: 5200 MHz; Medium parameters used: f = 5200 MHz; σ =4.61 mho/m; εr =35.64; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=15dBm
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.3

SATIMO Configuration:
- Probe: SSE2; Calibrated: Mar. 25,2019; Serial No.: SN 45/15 EPGO281
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

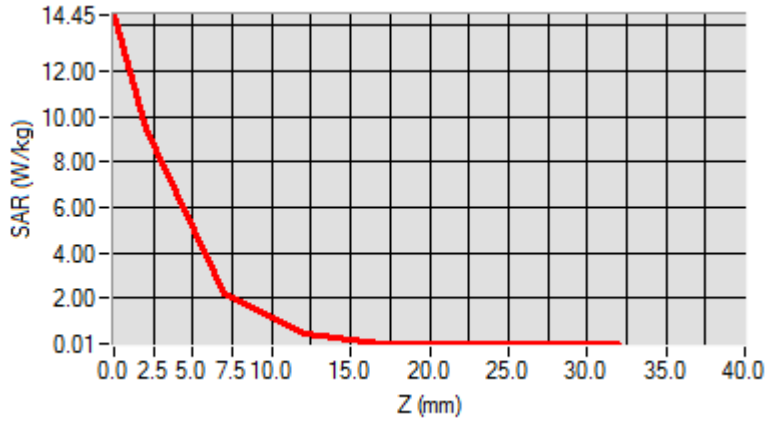
Configuration/System Check 5200 Head/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 5200 Head/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

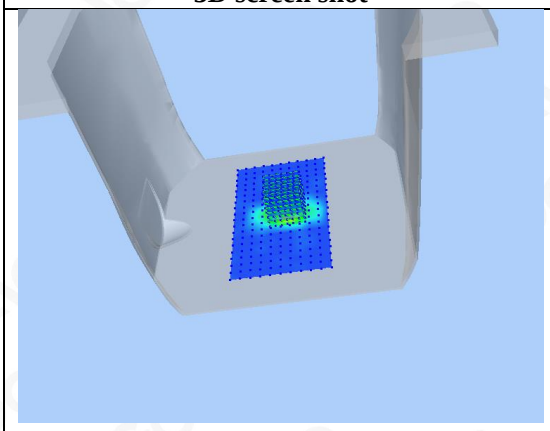
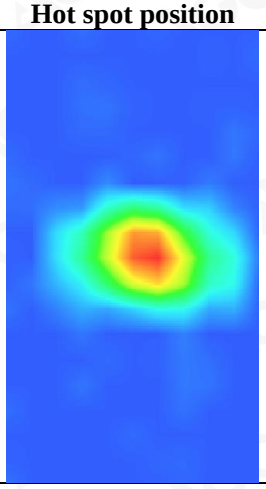
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=1.00
SAR Peak: 15.09 W/kg

SAR 10g (W/Kg)	1.742684
SAR 1g (W/Kg)	5.052657

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	14.4365	9.4015	2.2038	0.378	0.0085	0.0226	0.0072

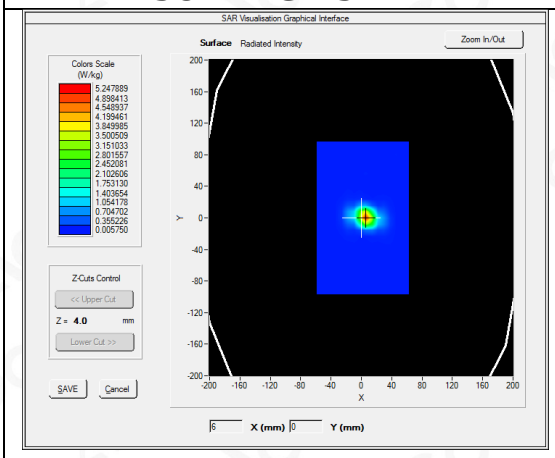
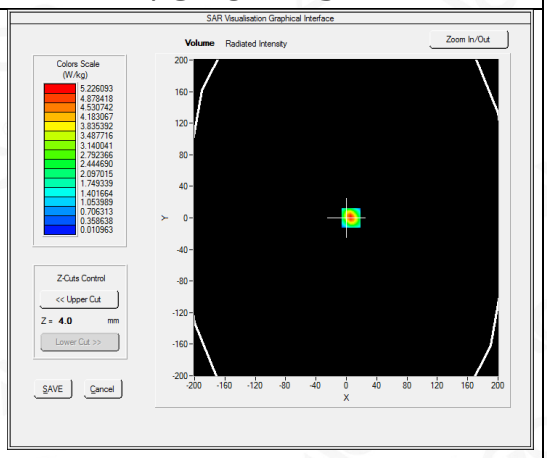


3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 28,2019**
System Check Body 5200 MHz
DUT: Dipole 5000MHz Type: SWG5500
Communication System: CW; Communication System Band: D5000 (5000.0 MHz); Duty Cycle: 1:1; Conv.F=2.52
Frequency: 5200 MHz; Medium parameters used: f = 5200 MHz; σ =5.32 mho/m; εr =48.90; ρ = 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=15dBm
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE2; Calibrated: Mar. 25,2019; Serial No.: SN 45/15 EPGO281
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

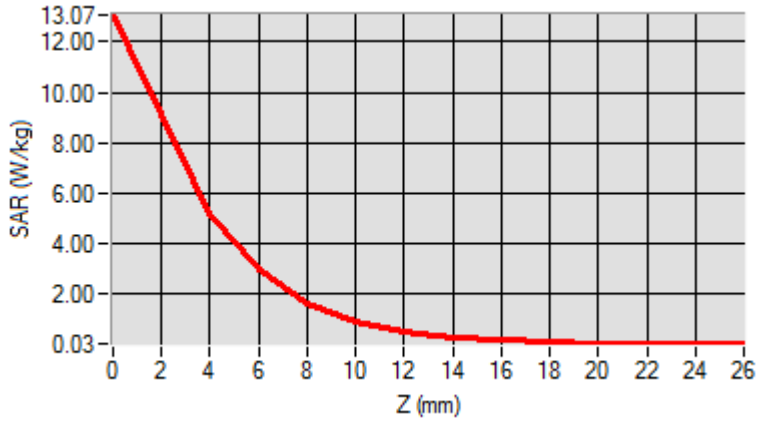
Configuration/System Check 5200 Body/Area Scan: Measurement grid: dx=8mm,dy=8mm
Configuration/System Check 5200 Body /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm

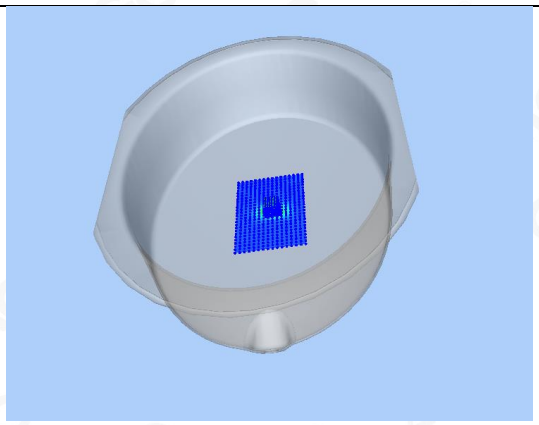
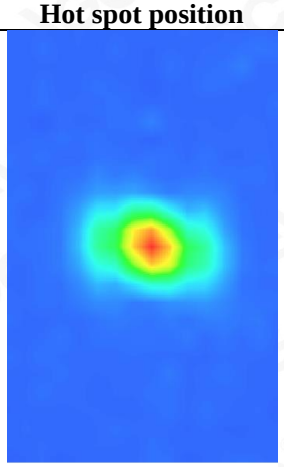
SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=0.00
SAR Peak: 12.84 W/kg

SAR 10g (W/Kg)	1.648521
SAR 1g (W/Kg)	4.884215

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	13.0652	5.2243	2.9475	1.6452	0.9147	0.5119	0.2936	0.1608	0.0942	0.0674	0.0339	0.0217



3D screen shot	Hot spot position
	

APPENDIX B. SAR MEASUREMENT DATA

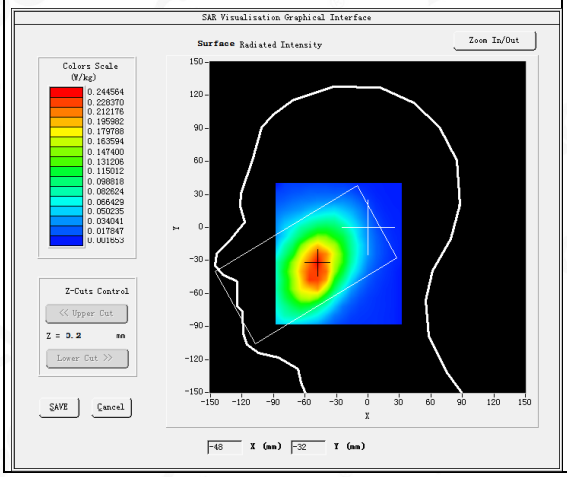
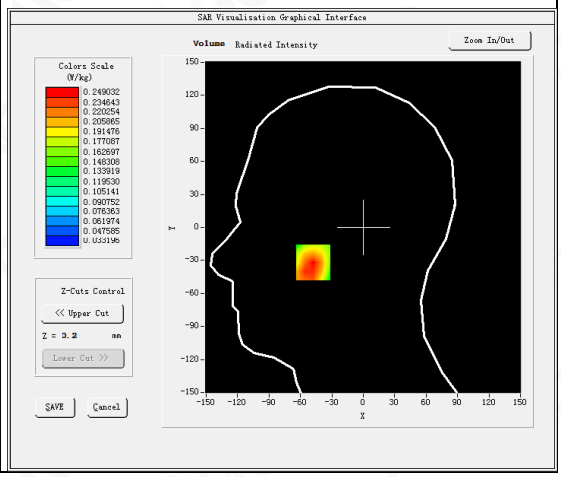
Test Laboratory: AGC Lab **Date: Aug. 04,2019**
GSM 850 Mid-Touch-Left <SIM 1>
DUT: Smart Phone; Type: X19

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3; Conv.F=5.29; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ =0.92 mho/m; ε r =40.74; ρ = 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.8

SATIMO Configuration
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GSM 850 Mid-Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GSM 850 Mid-Touch-Left/Zoom Scan : Measurement grid: dx=8mm,dy=8mm, dz=5mm

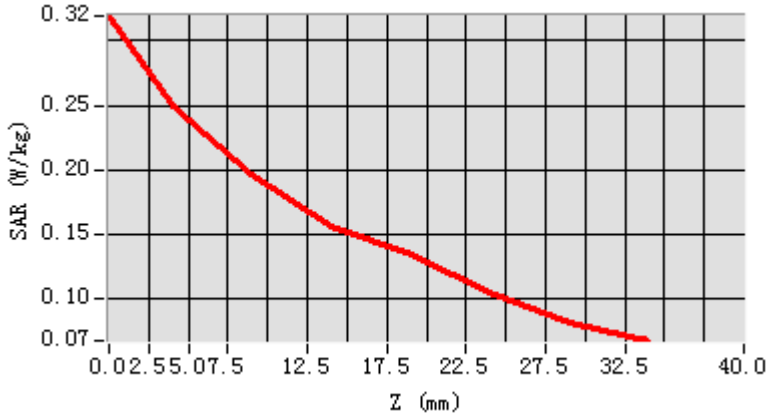
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	GSM 850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

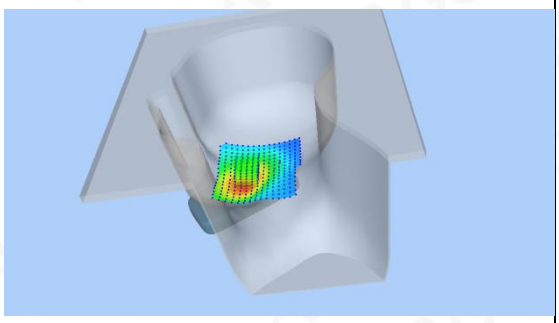
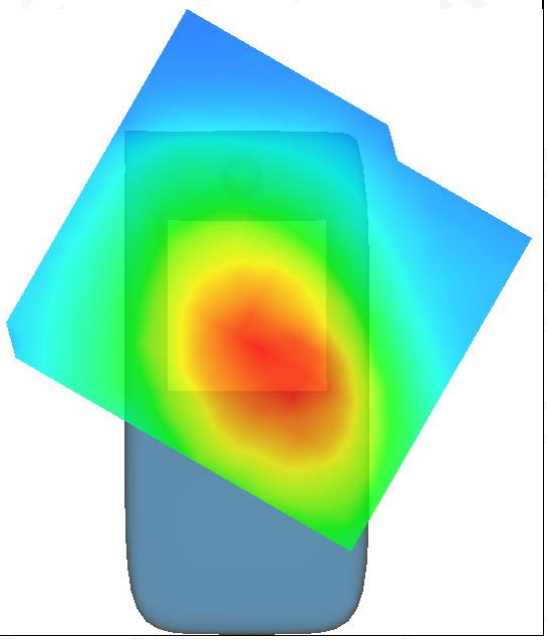
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-48.00, Y=-32.00
SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.176407
SAR 1g (W/Kg)	0.241911

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3194	0.2490	0.1968	0.1558	0.1342	0.1051	0.0813



3D screen shot	Hot spot position
	

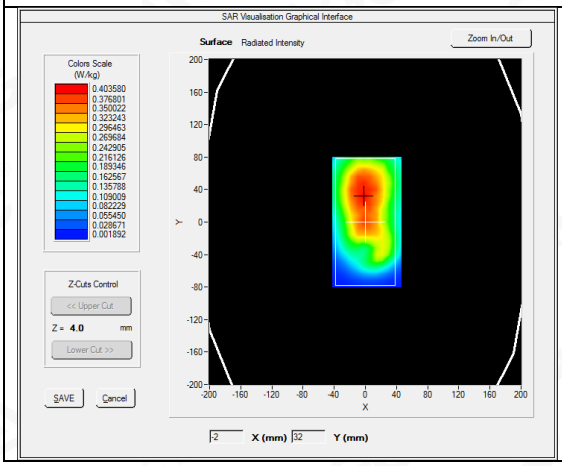
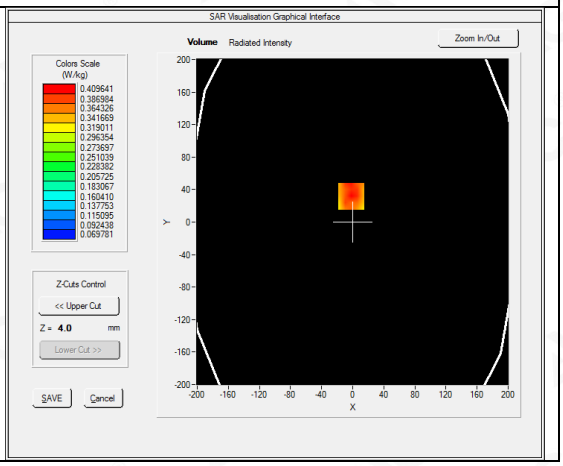
Test Laboratory: AGC Lab **Date: Aug. 04,2019**
GPRS 850 Mid- Body- Back (2up)
DUT: Smart Phone; Type: X19

Communication System: GPRS-2 Slot; Communication System Band: GSM 850; Duty Cycle: 1:4.2; Conv.F=5.49;
Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ = 0.96 mho/m; ε r = 54.08; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GPRS 850 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GPRS 850 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

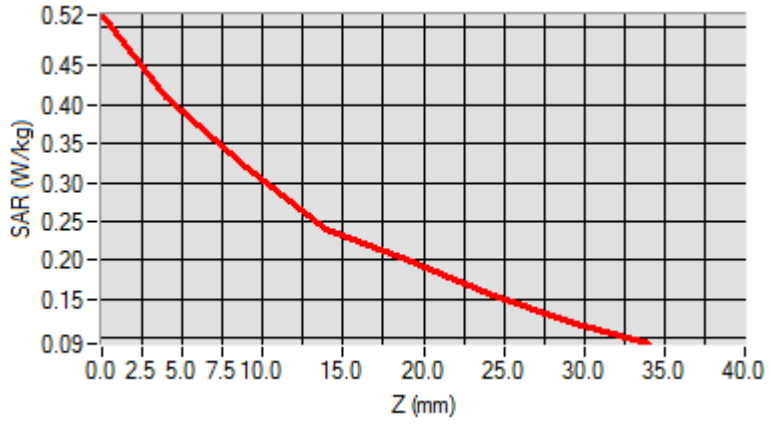
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	ELLI
Device Position	Body Back
Band	GSM 850
Channels	Middle
Signal	TDMA (Crest factor: 4.0)

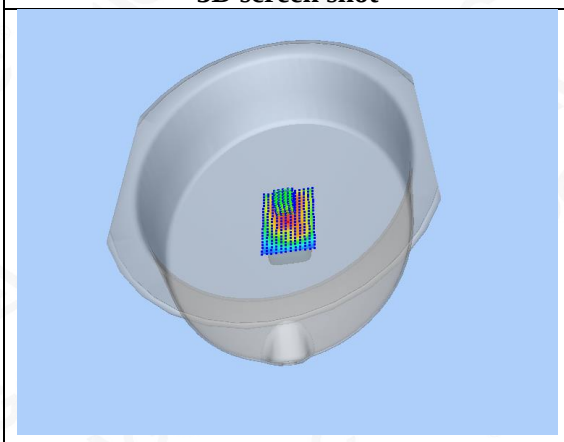
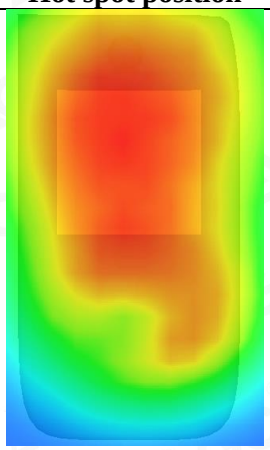
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-2.00, Y=32.00
SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.294576
SAR 1g (W/Kg)	0.397423

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5154	0.4096	0.3198	0.2388	0.2013	0.1573	0.1207



3D screen shot	Hot spot position
	

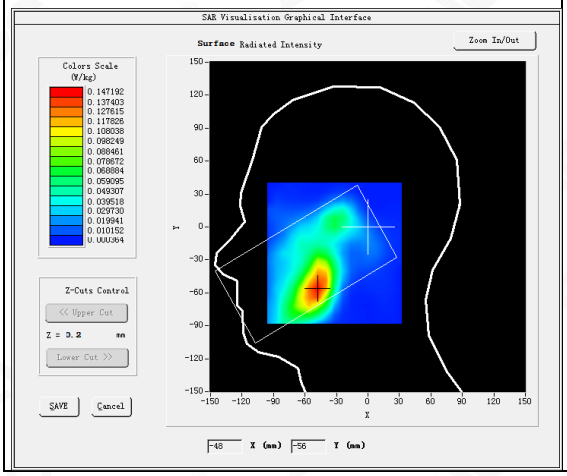
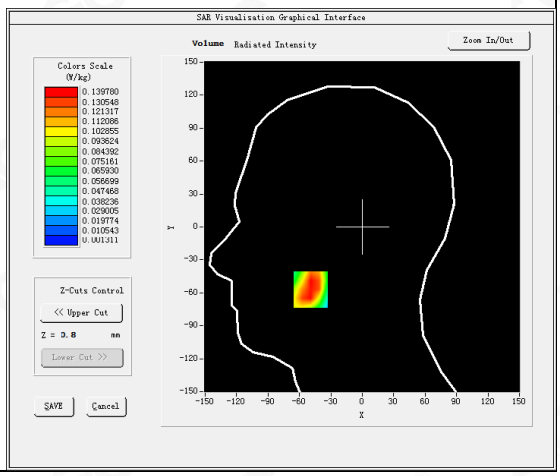
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
PCS 1900 Mid-Touch-Right <SIM 1>
DUT: Smart Phone; Type: X19

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Conv.F=5.24;
Frequency: 1880 MHz; Medium parameters used: f = 1850 MHz; σ = 1.40 mho/m; εr =40.45; ρ = 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/PCS1900 Mid-Touch-Right/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/PCS1900 Mid-Touch-Right/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

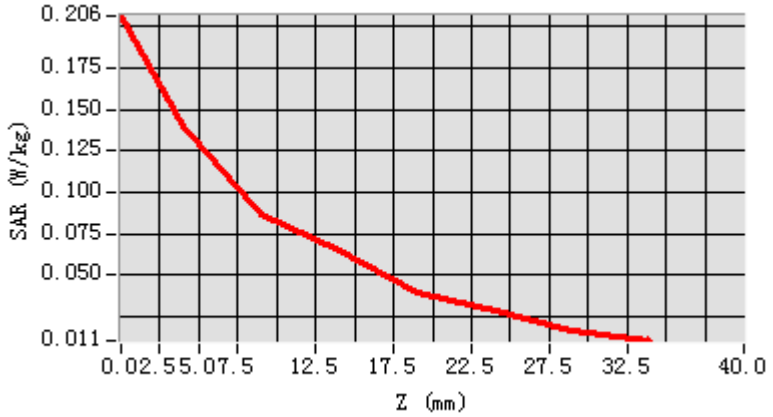
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	PCS 1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

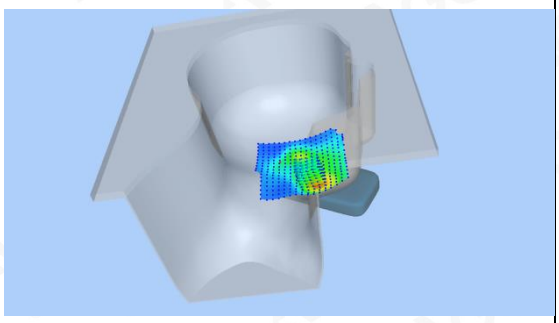
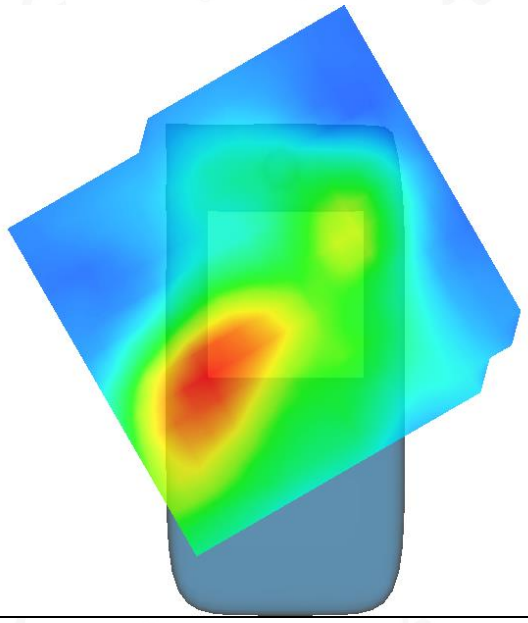
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-57.00
SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.080286
SAR 1g (W/Kg)	0.134726

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2063	0.1398	0.0863	0.0648	0.0392	0.0286	0.0171



3D screen shot	Hot spot position
	

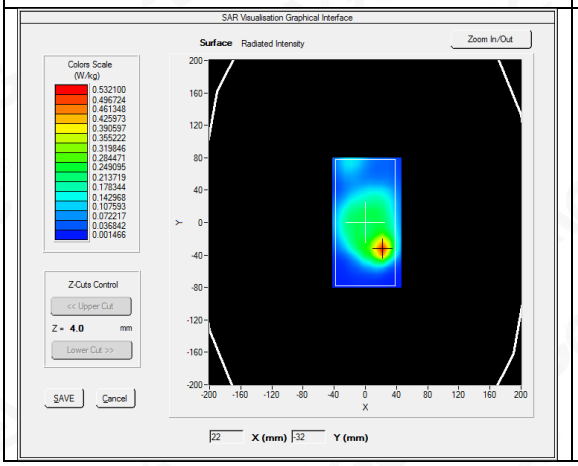
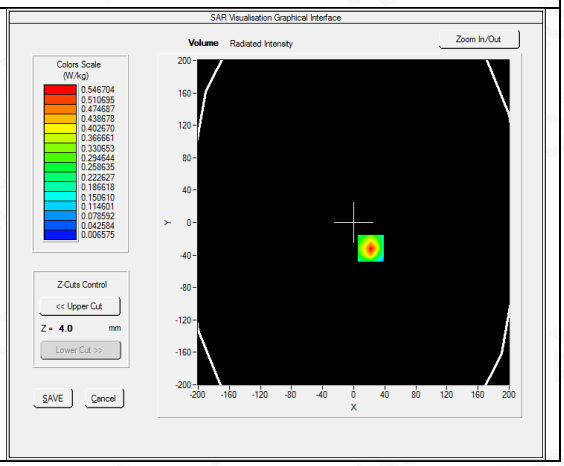
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
GPRS 1900 Mid-Body-Back (3up)
DUT: Smart Phone; Type: X19

Communication System: GPRS-3Slot; Communication System Band: PCS 1900; Duty Cycle: 1:4.2; Conv.F=5.39;
Frequency: 1880 MHz; Medium parameters used: f = 1850 MHz; σ = 1.52 mho/m; ε r =53.26; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/GPRS1900 Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/GPRS1900 Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

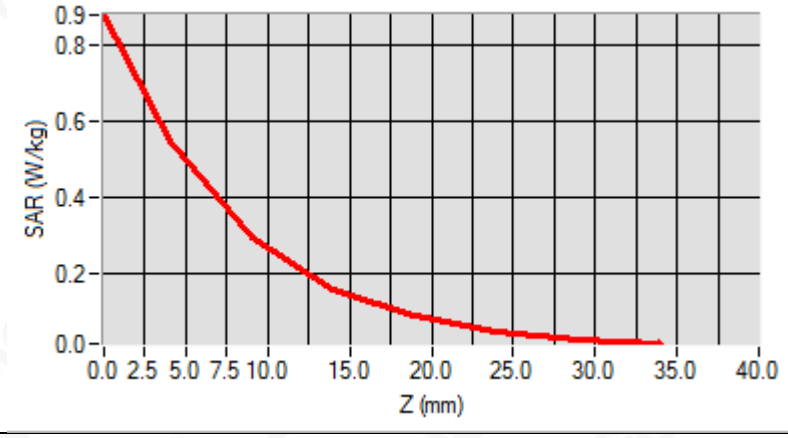
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	ELLI
Device Position	Body Back
Band	PCS 1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)

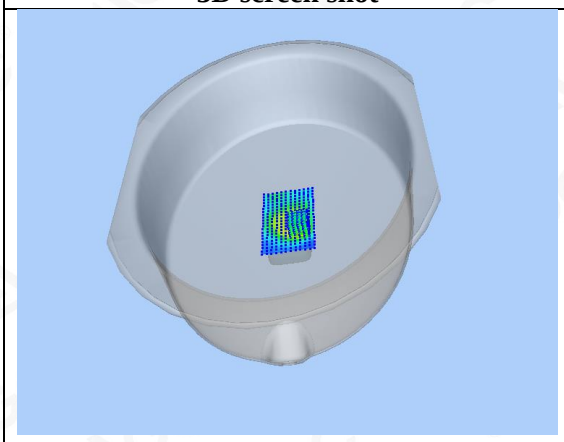
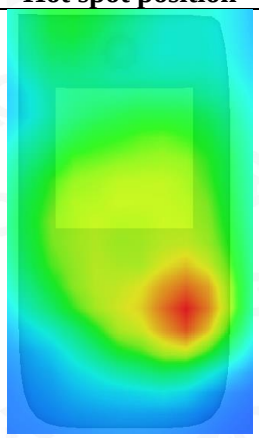
SURFACE SAR	VOLUME SAR
	

Maximum location: X=22.00, Y=-32.00
SAR Peak: 0.88 W/kg

SAR 10g (W/Kg)	0.251130
SAR 1g (W/Kg)	0.503105

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8765	0.5467	0.2939	0.1596	0.0891	0.0491	0.0272



3D screen shot	Hot spot position
	

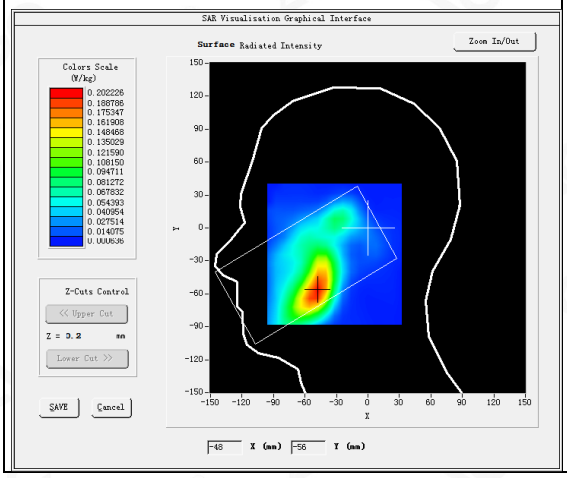
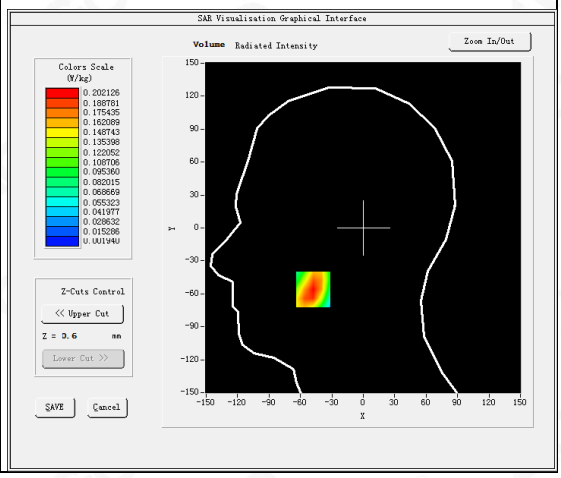
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
WCDMA Band II Mid-Touch-Right (RMC)
DUT: Smart Phone; Type: X19

Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=5.24;
Frequency: 1880 MHz; Medium parameters used: f = 1850 MHz; σ = 1.40 mho/m; εr =40.45; ρ = 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/WCDMA band II Mid-Touch-Right/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/WCDMA band II Mid-Touch-Right/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

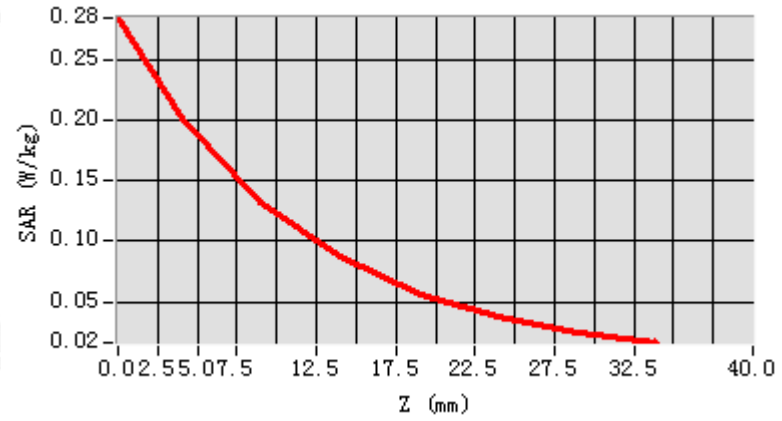
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	WCDMA band II
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

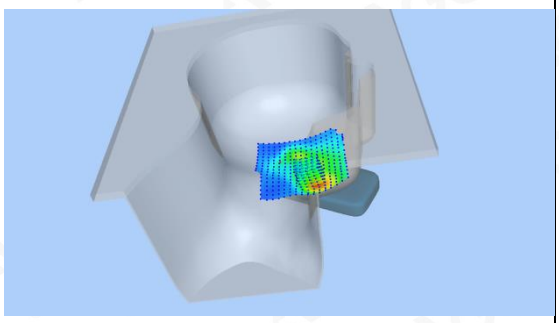
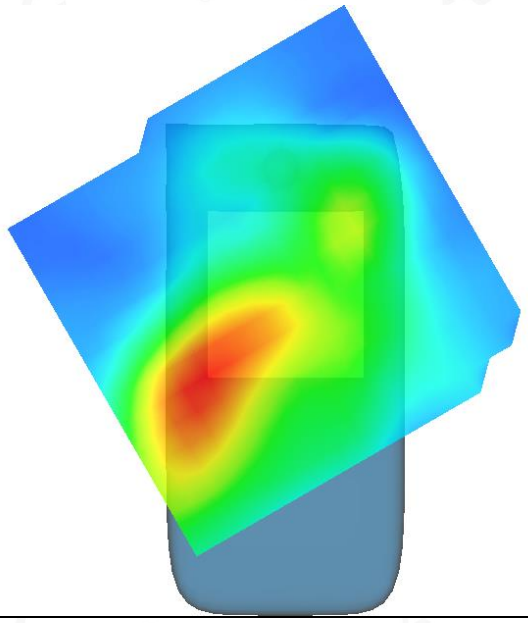
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-48.00, Y=-56.00
SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.114386
SAR 1g (W/Kg)	0.193664

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2839	0.2021	0.1314	0.0872	0.0569	0.0374	0.0247



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 08,2019**
WCDMA Band II Mid-Body-Towards Grounds (RMC 12.2kbps)
DUT: Smart Phone; Type: X19

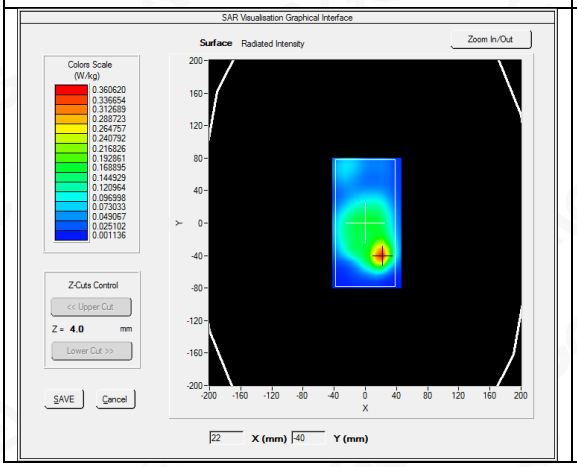
Communication System: UMTS; Communication System Band: Band II UTRA/FDD ;Duty Cycle:1:1; Conv.F=5.39;
Frequency: 1880 MHz; Medium parameters used: f = 1850 MHz; σ =1.52 mho/m; ε r =53.26; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

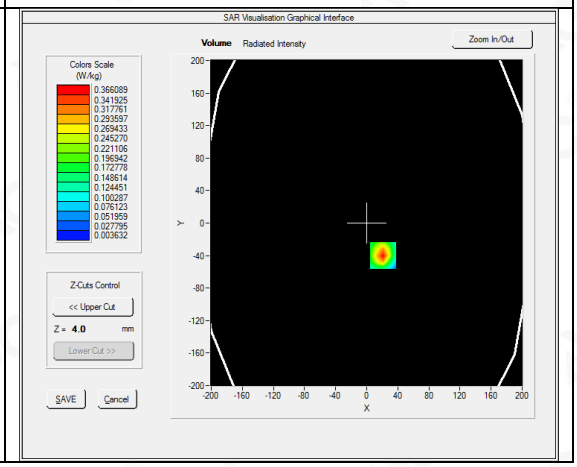
Configuration/ WCDMA band II Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA band II Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	ELLI
Device Position	Body Back
Band	WCDMA band II
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

SURFACE SAR



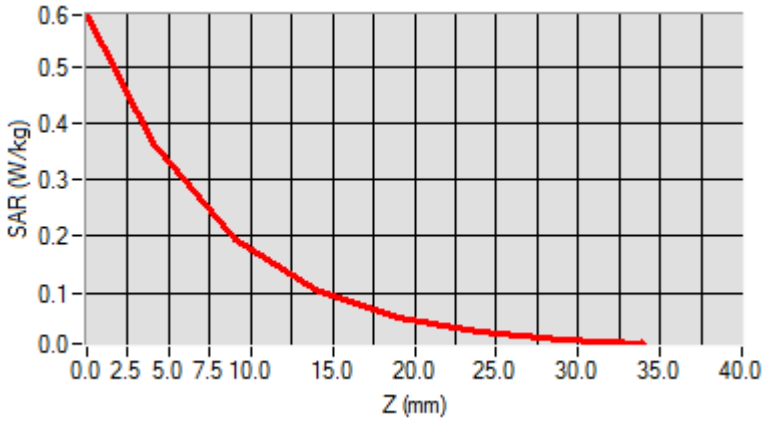
VOLUME SAR

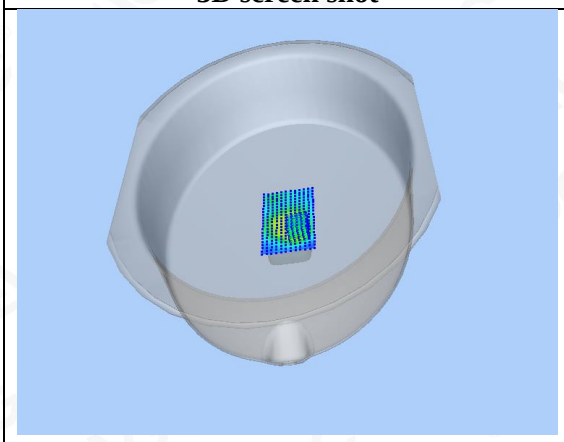
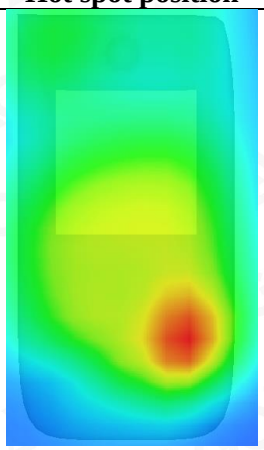


Maximum location: X=21.00, Y=-40.00
SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.169767
SAR 1g (W/Kg)	0.340809

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5923	0.3661	0.1930	0.1047	0.0563	0.0309	0.0171



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2019**

WCDMA Band Ⅴ Mid-Touch-Left (RMC)

DUT: Smart Phone; Type: X19

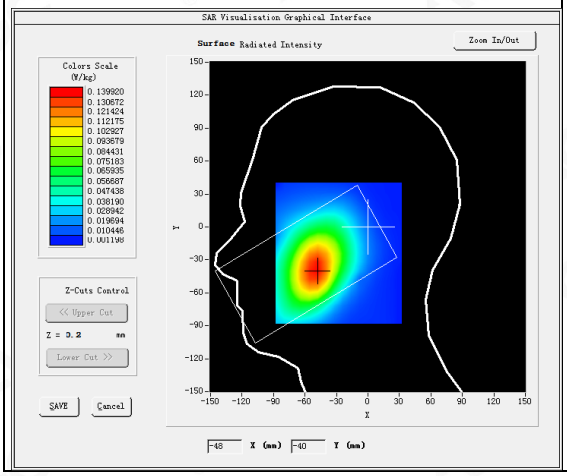
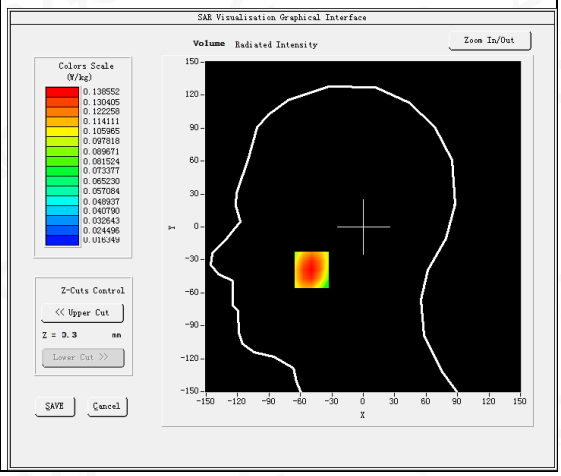
Communication System: UMTS; Communication System Band: BAND V UTRA/FDD ; Duty Cycle:1: 1; Conv.F=5.29; Frequency: 836.6 MHz; Medium parameters used: f = 835MHz; σ =0.92 mho/m; ε r =40.74; ρ = 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.8

SATIMO Configuration:

- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band V Mid-Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band V Mid-Touch-Left/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm

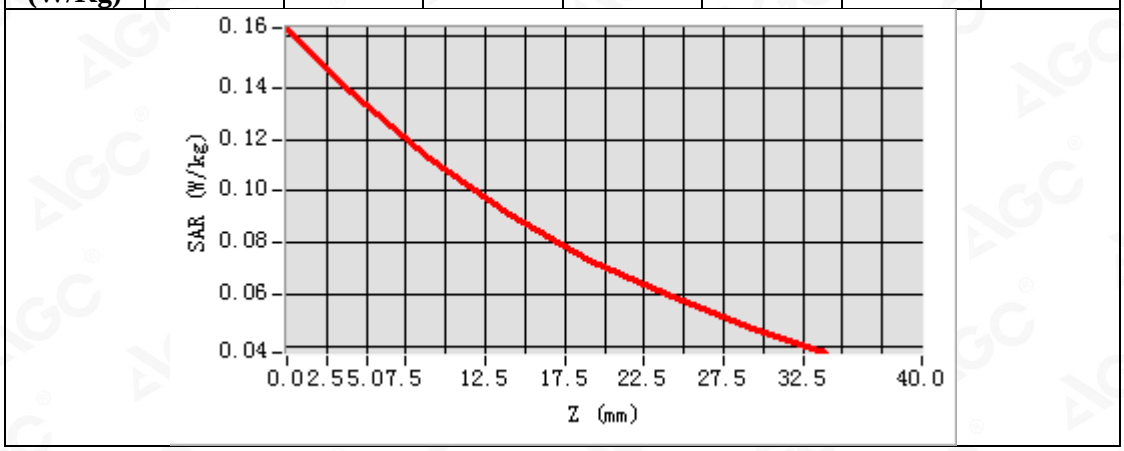
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	WCDMA Band V
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

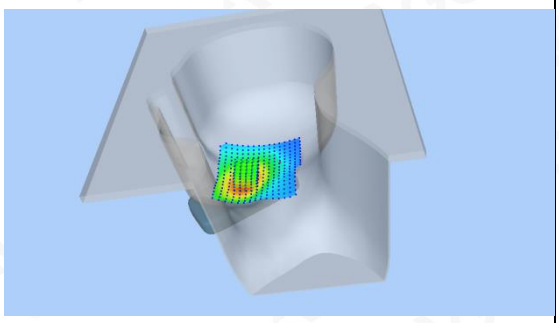
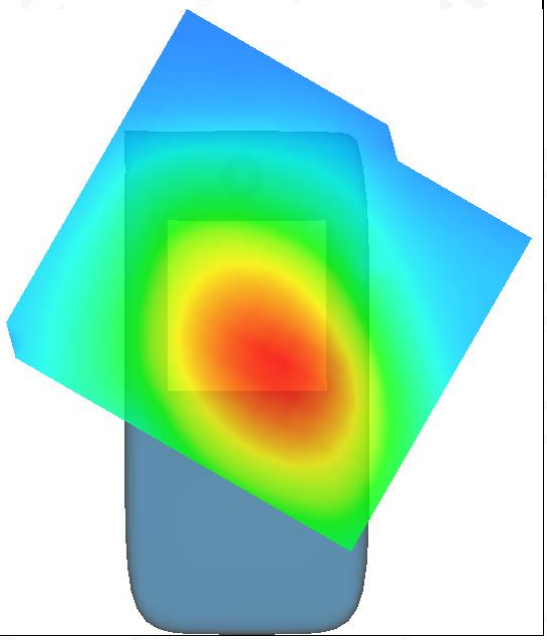
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-39.00
SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.101769
SAR 1g (W/Kg)	0.134705

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1629	0.1386	0.1126	0.0911	0.0734	0.0599	0.0477



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab **Date: Aug. 04,2019**

WCDMA Band Ⅴ Mid-Body-Towards Grounds (RMC)

DUT: Smart Phone; Type: X19

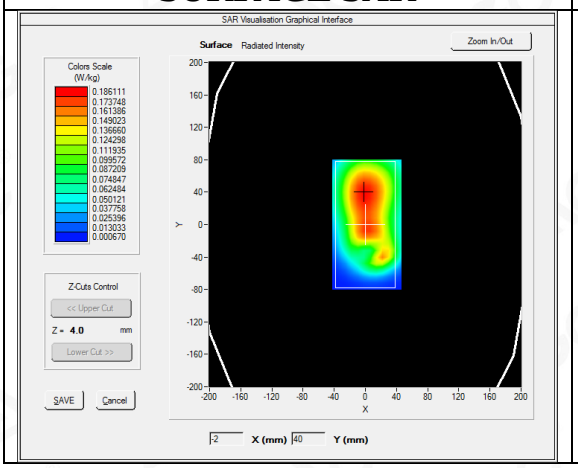
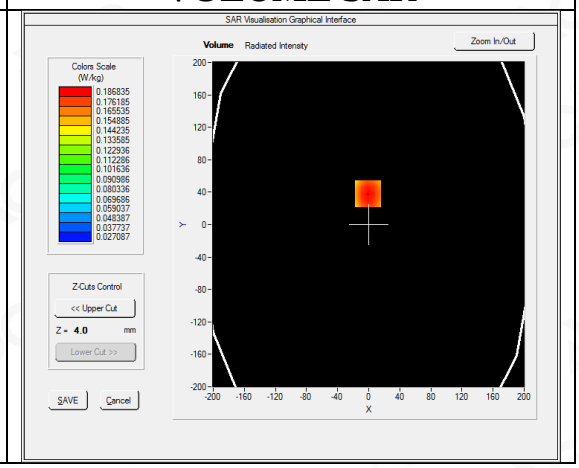
Communication System: UMTS; Communication System Band: BAND V UTRA/FDD; Duty Cycle:1: 1; Conv.F=5.49; Frequency: 836.6 MHz; Medium parameters used: f = 835MHz; σ =0.96 mho/m; ε r =54.08; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.9

SATIMO Configuration:

- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ WCDMA Band V Mid-Body-Back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ WCDMA Band V Mid-Body-Back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

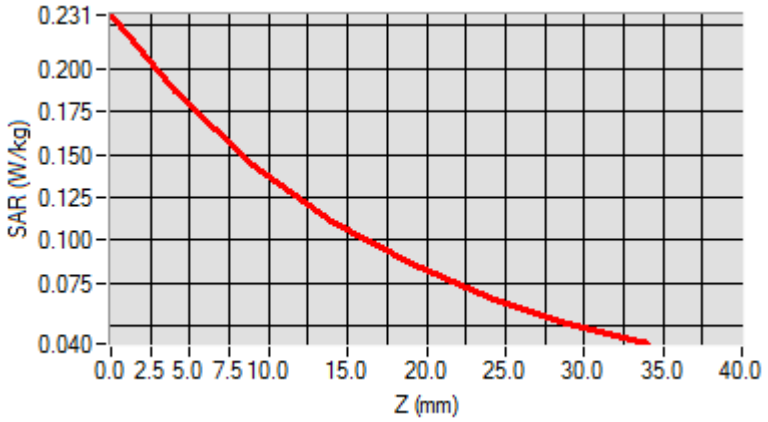
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	ELLI
Device Position	Body Back
Band	WCDMA Band V
Channels	Middle
Signal	CDMA (Crest factor: 1.0)

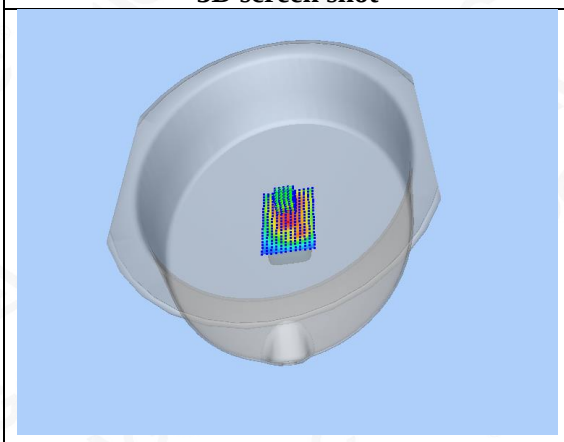
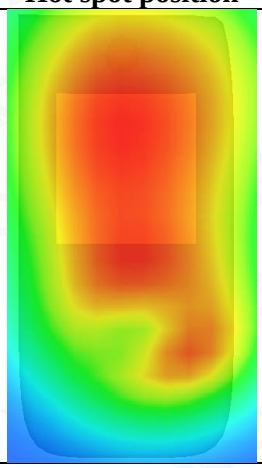
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-1.00, Y=38.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.135748
SAR 1g (W/Kg)	0.181190

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2311	0.1868	0.1437	0.1109	0.0863	0.0670	0.0519



3D screen shot	Hot spot position
	

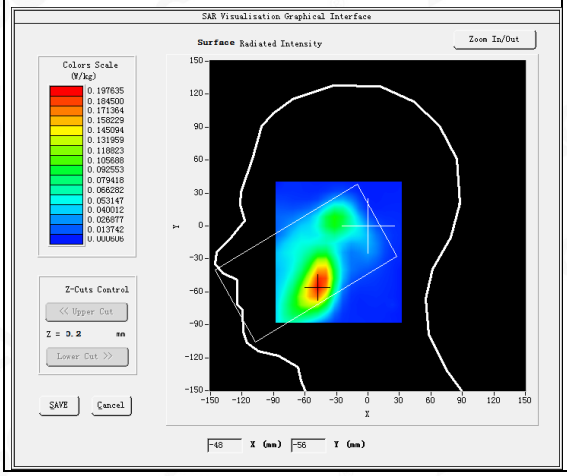
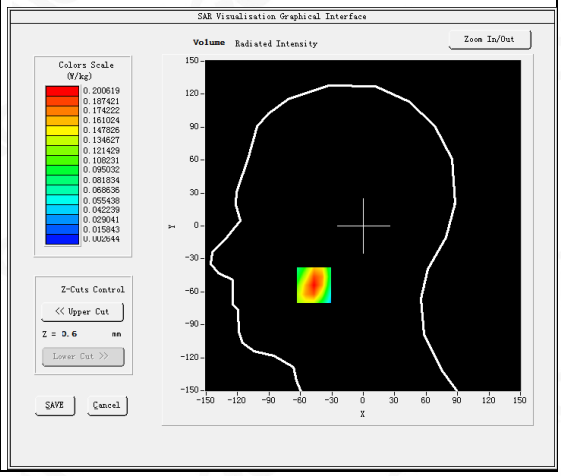
Test Laboratory: AGC Lab **Date: Aug. 04,2019**
LTE Band 2 Mid-Touch-Right (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=5.24;
Frequency:1880MHz; Medium parameters used: f =1900 MHz; σ = 1.41 mho/m; ε r =39.41; ρ = 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 Mid- Touch-Right /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 Mid- Touch-Right /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

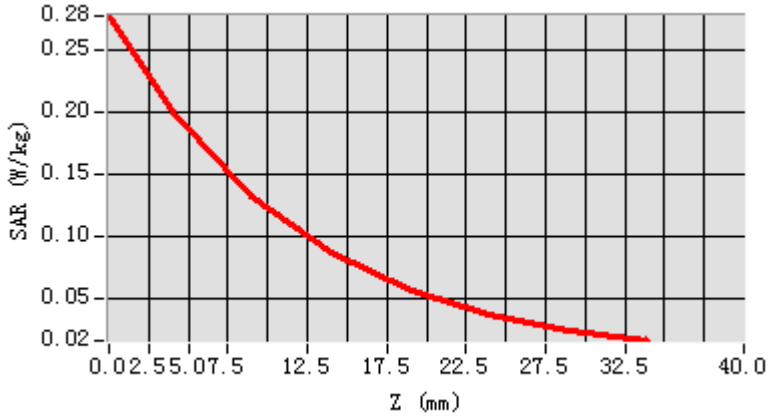
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 2
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

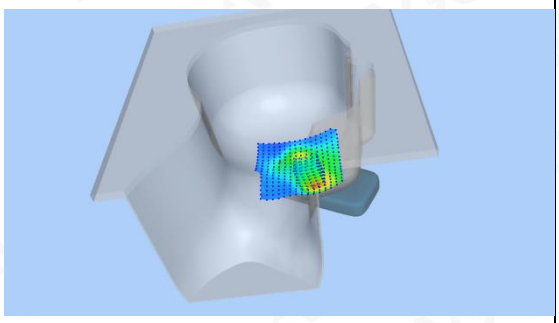
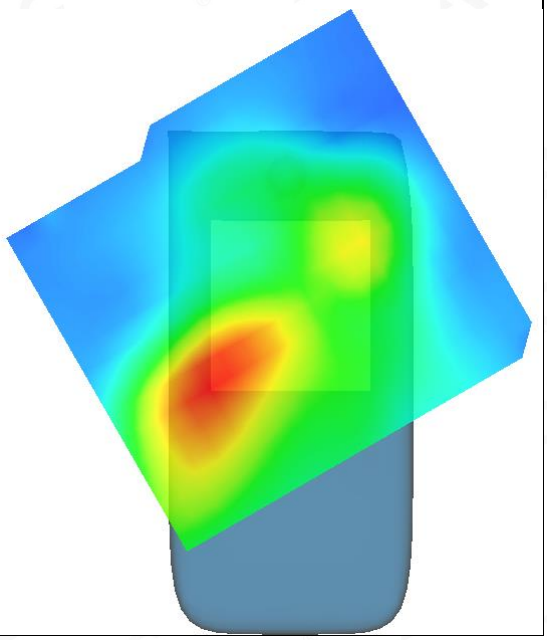
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-47.00, Y=-54.00
SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.110247
SAR 1g (W/Kg)	0.188670

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2778	0.2006	0.1316	0.0868	0.0560	0.0365	0.0239



3D screen shot	Hot spot position
	

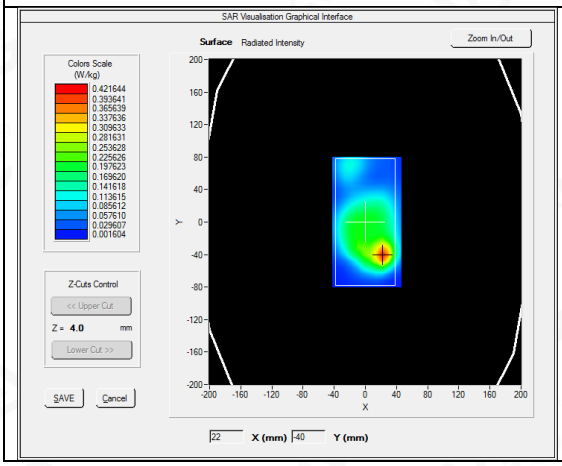
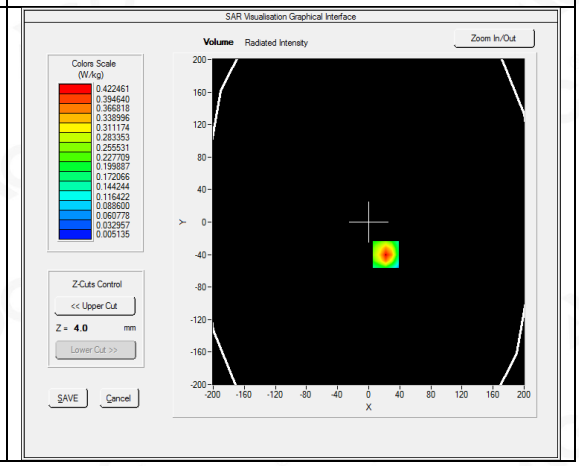
Test Laboratory: AGC Lab **Date: Aug. 04,2019**
LTE Band 2 Mid-Body-Back (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 2; Duty Cycle:1:1; Conv.F=5.39; Frequency:1880MHz; Medium parameters used: f = 1850 MHz; σ = 1.46 mho/m; ε_r =51.69; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃): 21.2, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 2 Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 2 Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

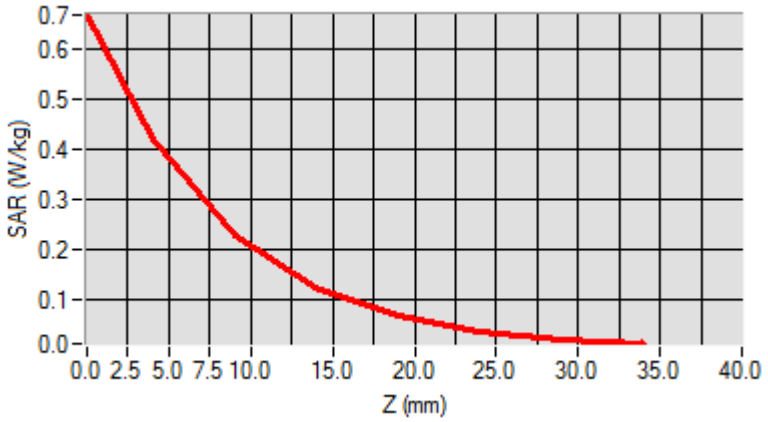
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	LTE Band 2
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

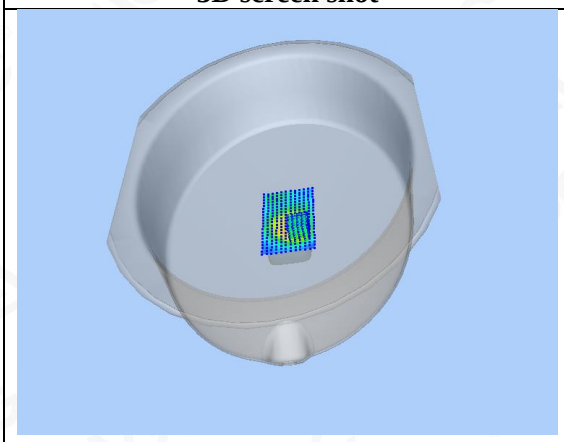
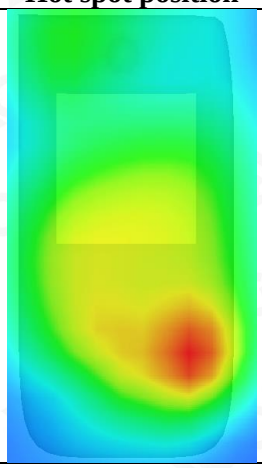
SURFACE SAR	VOLUME SAR
	

Maximum location: X=22.00, Y=-40.00
SAR Peak: 0.68 W/kg

SAR 10g (W/Kg)	0.202292
SAR 1g (W/Kg)	0.398568

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6697	0.4225	0.2295	0.1261	0.0695	0.0387	0.0221



3D screen shot	Hot spot position
	

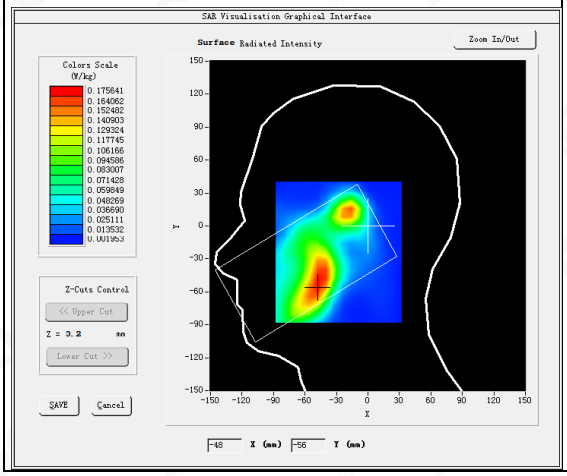
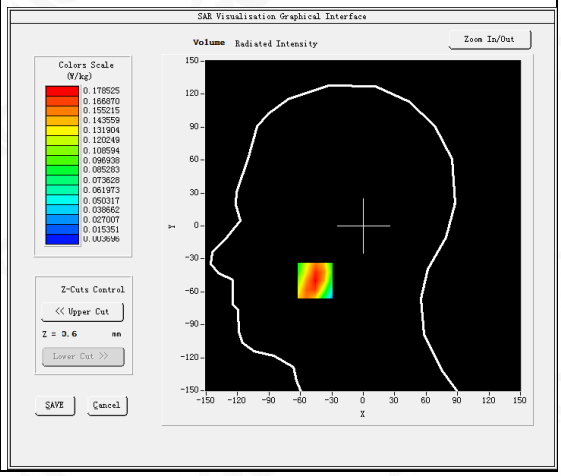
Test Laboratory: AGC Lab **Date: Aug. 03,2019**
LTE Band 4 Mid-Touch-Left (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.71;
Frequency:1732.5 MHz; Medium parameters used: f =1750 MHz; σ = 1.36 mho/m; ε r =40.45; ρ = 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 20.8, Liquid temperature (℃): 20.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 Mid- Touch-Right /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 Mid- Touch-Right /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

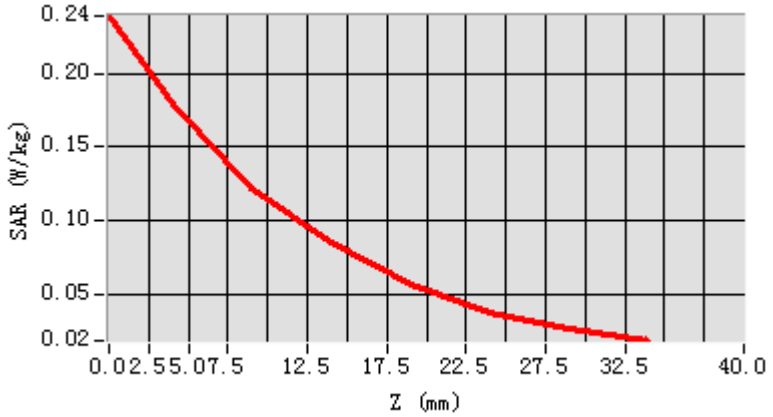
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 4
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

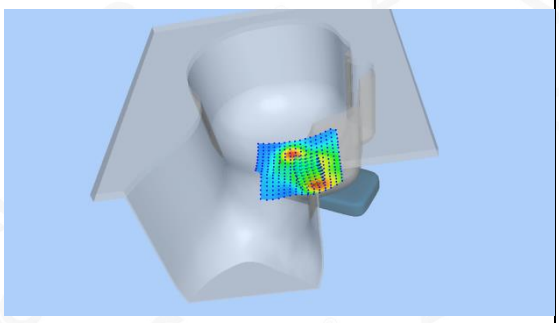
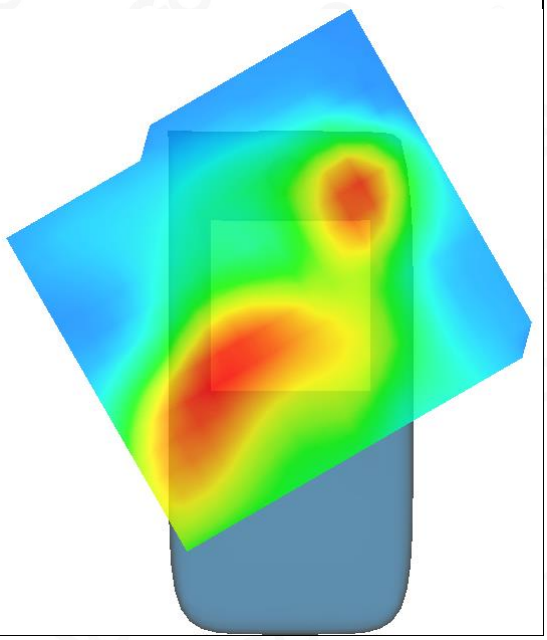
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-46.00, Y=-50.00
SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.105584
SAR 1g (W/Kg)	0.169025

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2389	0.1785	0.1221	0.0846	0.0565	0.0378	0.0262



3D screen shot	Hot spot position
	

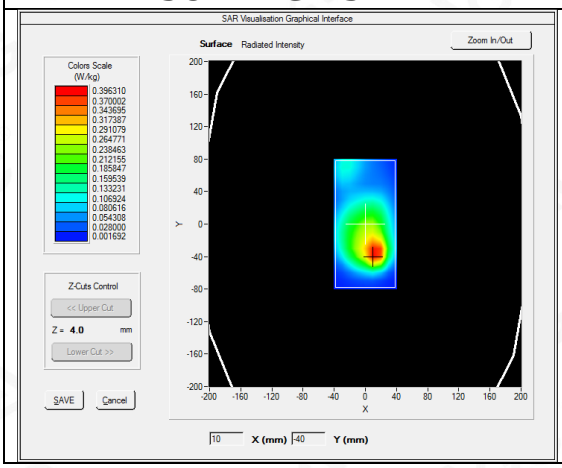
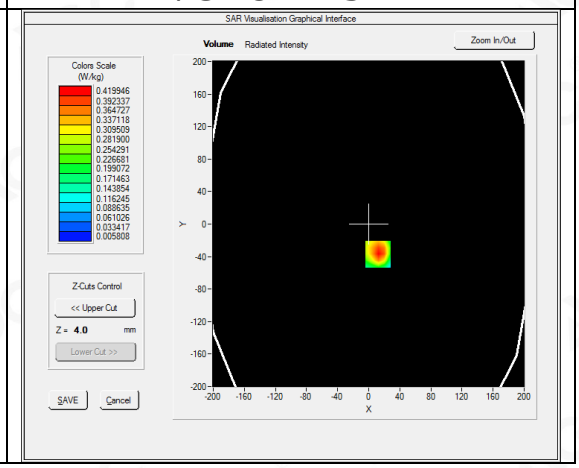
Test Laboratory: AGC Lab **Date: Aug. 03,2019**
LTE Band 4 Mid-Body-Back (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 4; Duty Cycle:1:1; Conv.F=4.81;
Frequency:1732.5 MHz; Medium parameters used: f = 1750 MHz; σ = 1.46 mho/m; εr =53.54; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.8, Liquid temperature (℃): 20.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 4 Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 4 Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

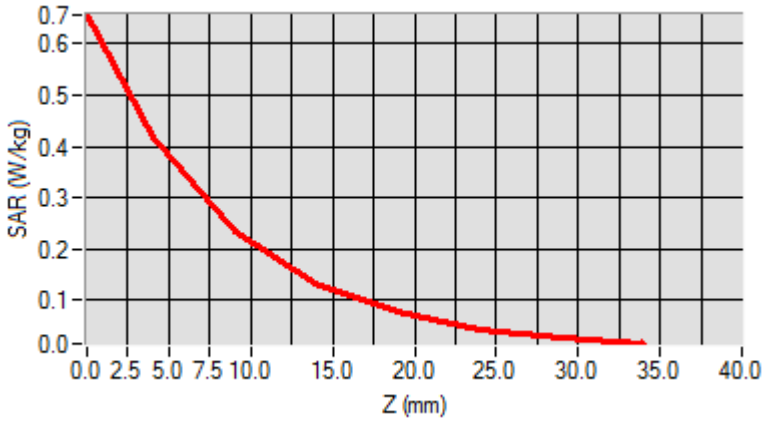
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	LTE Band 4
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

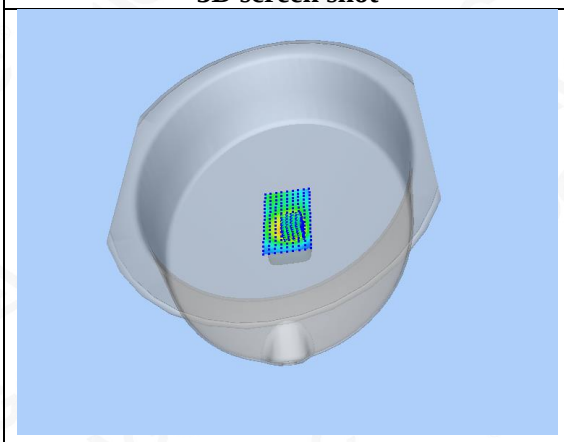
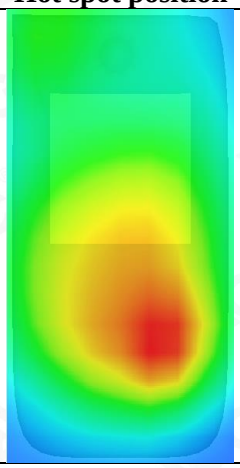
SURFACE SAR	VOLUME SAR
	

Maximum location: X=12.00, Y=-37.00
SAR Peak: 0.67 W/kg

SAR 10g (W/Kg)	0.222177
SAR 1g (W/Kg)	0.404080

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6565	0.4199	0.2341	0.1346	0.0769	0.0447	0.0265



3D screen shot	Hot spot position
	

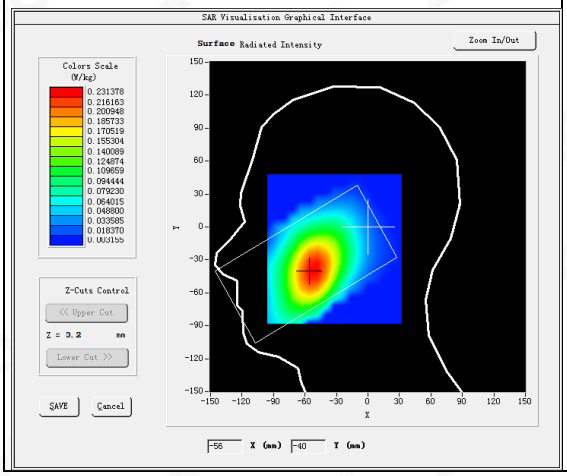
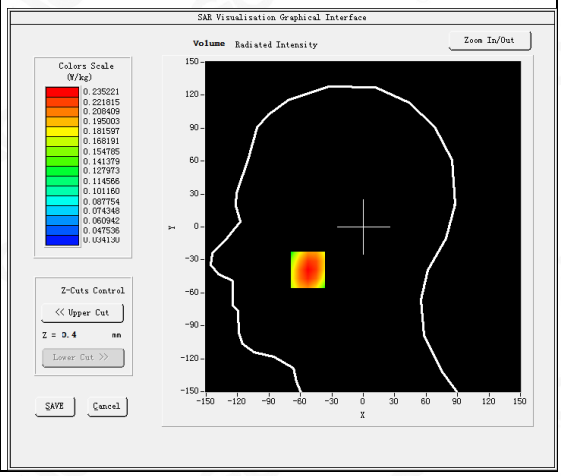
Test Laboratory: AGC Lab **Date: Aug. 07,2019**
LTE Band 5 Mid-Touch-Left (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 5; Duty Cycle:1:1; Conv.F=5.29
Frequency: 836.5 MHz; Medium parameters used: f = 835 MHz; σ =0.90 mho/m; ε_r =41.02; ρ = 1000 kg/m^3 ;
Phantom section: Left Section
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.3

SATIMO Configuration:
Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 5 Mid- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 5 Mid- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

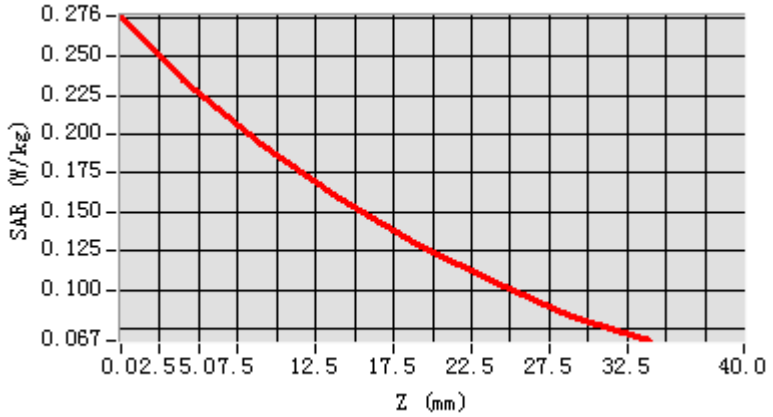
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 5
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

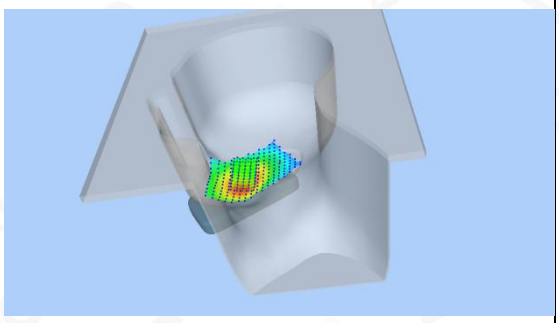
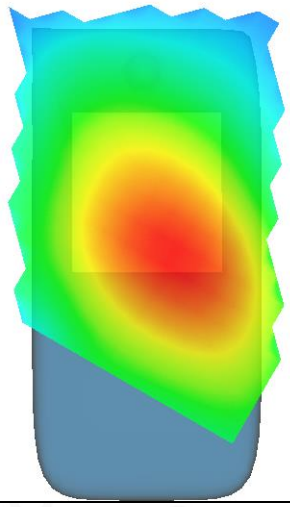
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-53.00, Y=-39.00
SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.174187
SAR 1g (W/Kg)	0.228316

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2759	0.2352	0.1934	0.1594	0.1297	0.1046	0.0834



3D screen shot	Hot spot position
	

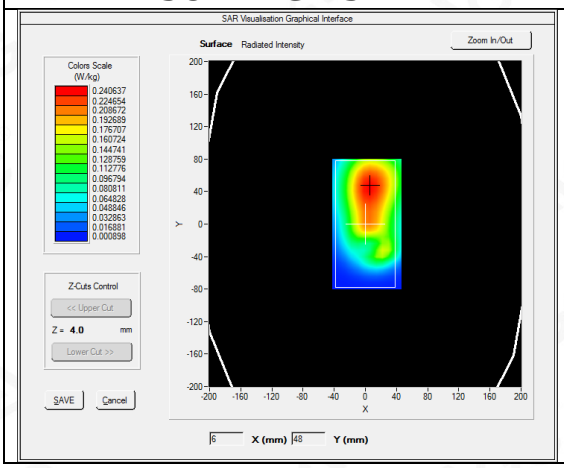
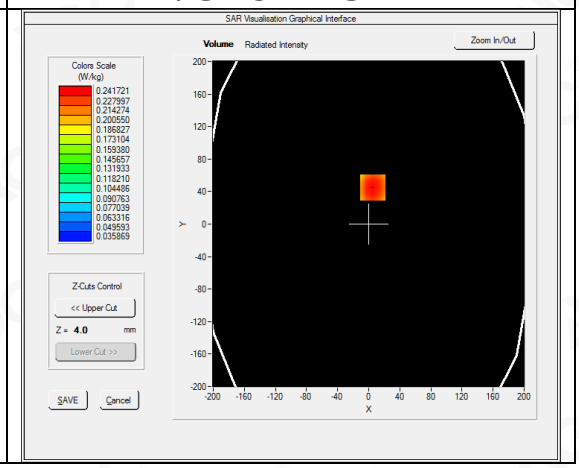
Test Laboratory: AGC Lab **Date: Aug. 07,2019**
LTE Band 5 Mid-Body-Back (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 5; Duty Cycle:1:1; Conv.F=5.49
Frequency:836.5 MHz; Medium parameters used: f = 835 MHz; σ =0.99mho/m; ε r =55.01; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.2

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 5 Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 5 Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

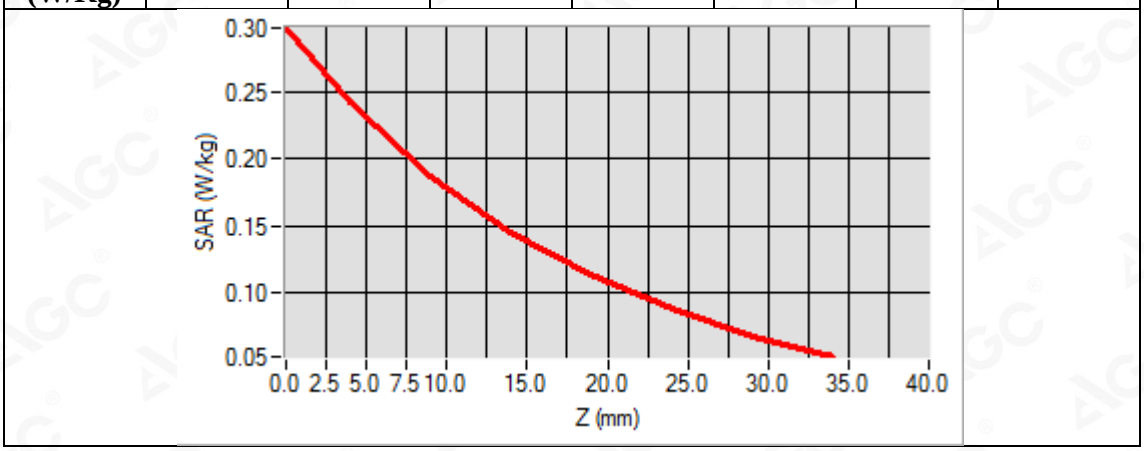
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	LTE Band 5
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

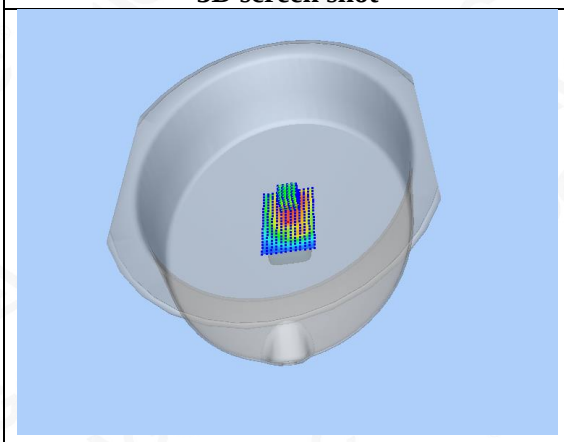
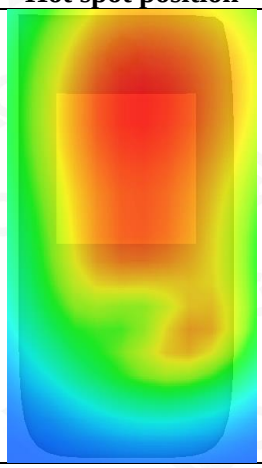
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=45.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.176092
SAR 1g (W/Kg)	0.234612

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2974	0.2417	0.1871	0.1452	0.1132	0.0881	0.0682



3D screen shot	Hot spot position
	

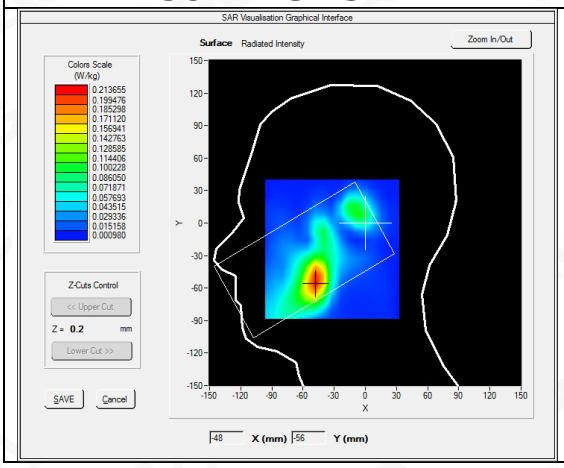
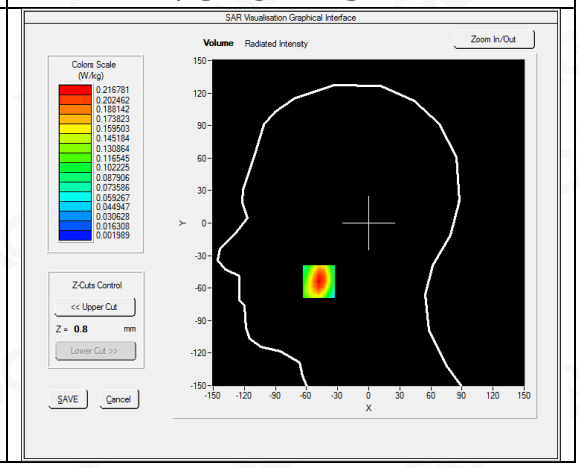
Test Laboratory: AGC Lab **Date: Aug. 01,2019**
LTE Band 7 Mid-Touch-Left (1RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=4.57
Frequency: 2535MHz; Medium parameters used: f =2600 MHz; σ =1.93 mho/m; ε r =39.14; ρ = 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.5

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Mid-Touch-Left/Area Scan: Measurement grid: dx=8mm, y=8mm
Configuration/ LTE BAND 7 Mid-Touch-Left/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

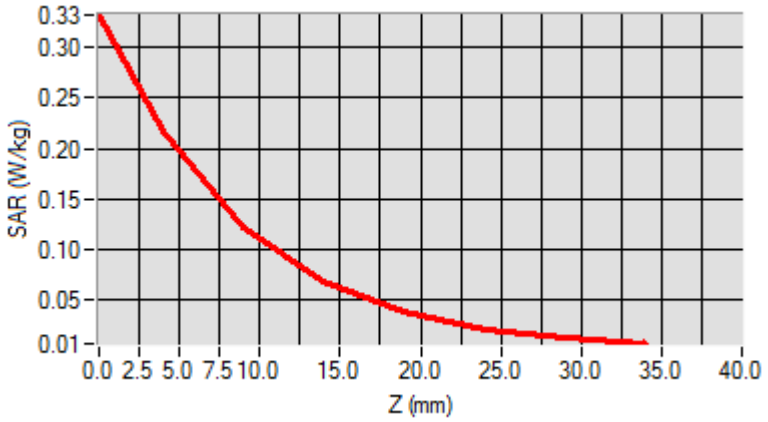
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE BAND 7
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

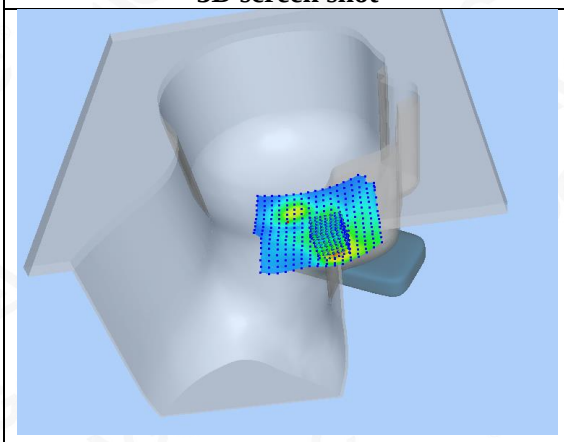
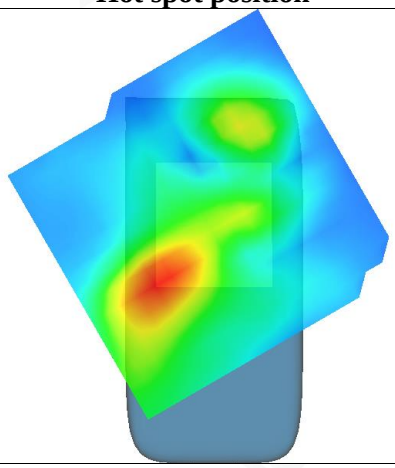
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-48.00, Y=-54.00
SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.105079
SAR 1g (W/Kg)	0.200944

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3322	0.2168	0.1229	0.0686	0.0382	0.0215	0.0125



3D screen shot	Hot spot position
	

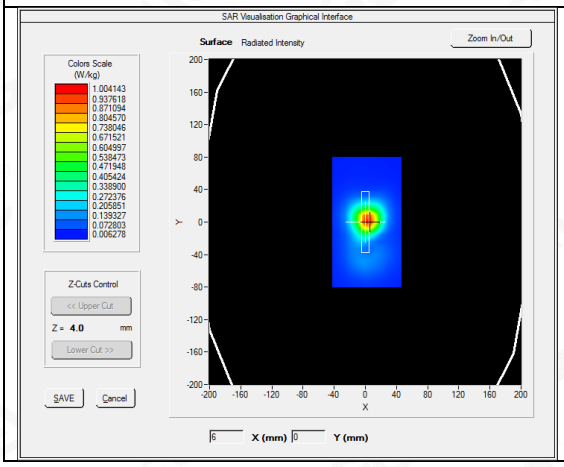
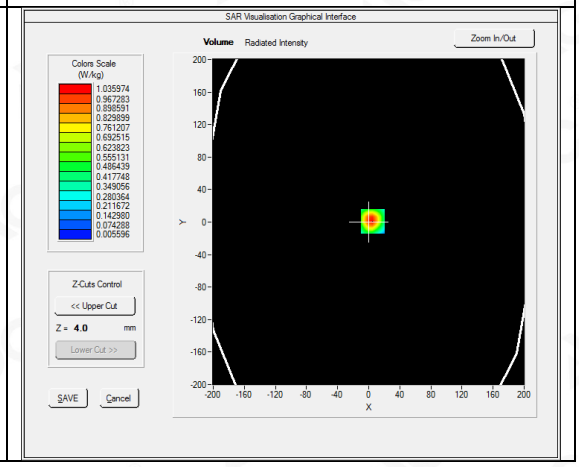
Test Laboratory: AGC Lab **Date: Aug. 01,2019**
LTE Band 7 Low-Edge 3 (1RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=4.68
Frequency: 2510MHz; Medium parameters used: f =2600 MHz; σ =2.11 mho/m; ε r =53.64; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Low- Edge 3 /Area Scan: Measurement grid: dx=10mm, y=10mm
Configuration/ LTE BAND 7 Low- Edge 3 /Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

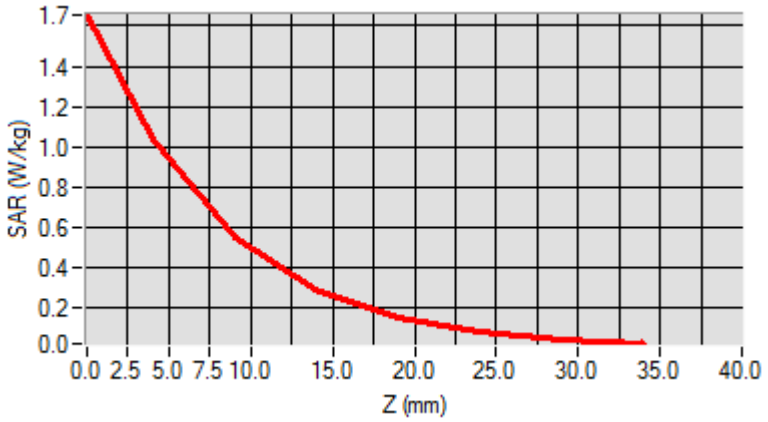
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	ELLI
Device Position	Edge 3
Band	LTE BAND 7
Channels	Low
Signal	OFDM (Crest factor: 1.0)

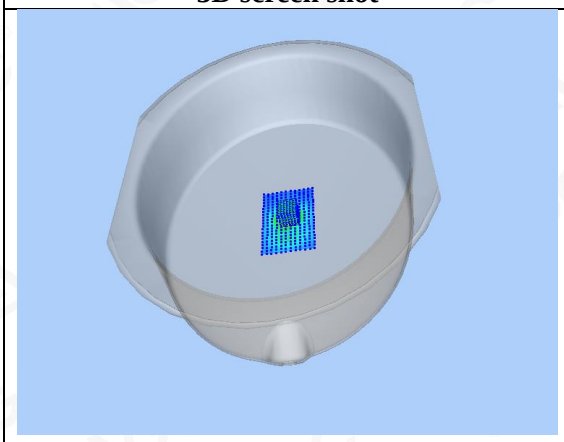
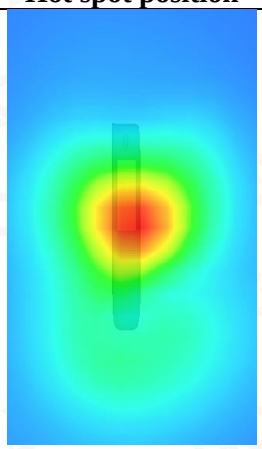
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=1.00
SAR Peak: 1.67 W/kg

SAR 10g (W/Kg)	0.482784
SAR 1g (W/Kg)	0.967455

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.6543	1.0360	0.5549	0.2917	0.1568	0.0838	0.0450



3D screen shot	Hot spot position
	

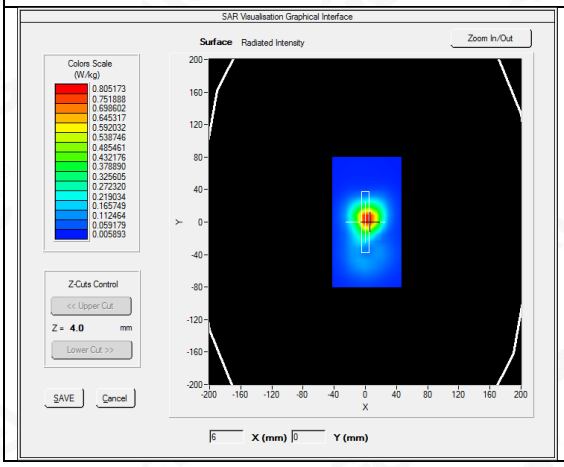
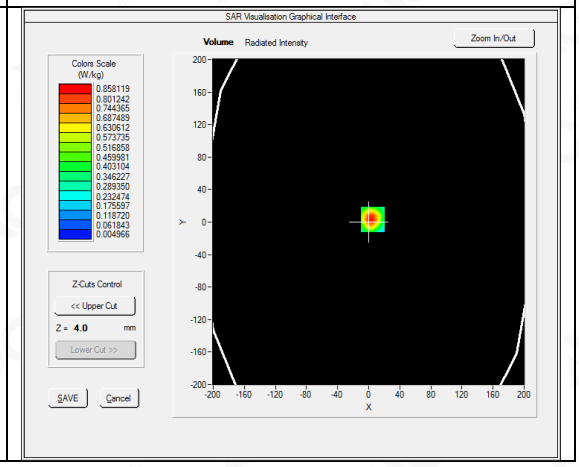
Test Laboratory: AGC Lab **Date: Aug. 01,2019**
LTE Band 7 Mid-Edge 3 (1RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=4.68
Frequency: 2535MHz; Medium parameters used: f =2600 MHz; σ =2.12 mho/m; ε r =53.28; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Mid- Edge 3 /Area Scan: Measurement grid: dx=10mm, y=10mm
Configuration/ LTE BAND 7 Mid- Edge 3 /Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

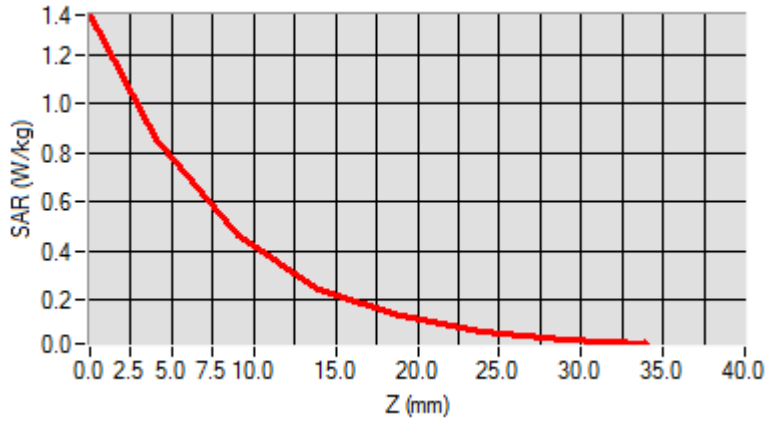
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	ELLI
Device Position	Edge 3
Band	LTE BAND 7
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

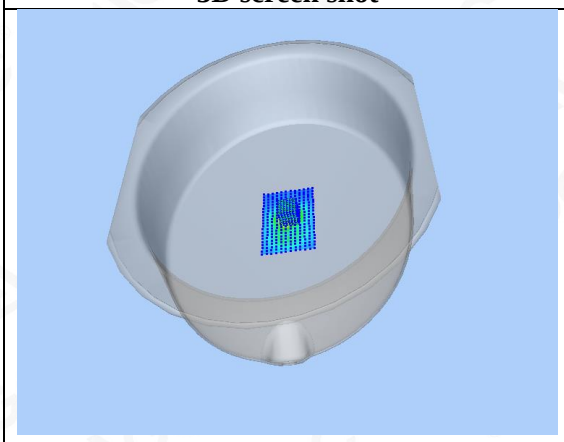
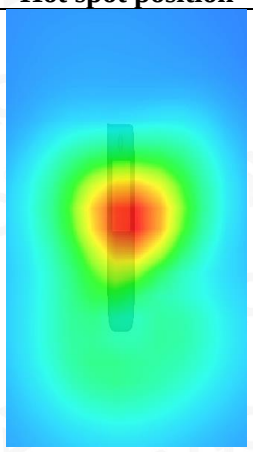
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=3.00
SAR Peak: 1.37 W/kg

SAR 10g (W/Kg)	0.403719
SAR 1g (W/Kg)	0.801221

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.3625	0.8581	0.4632	0.2435	0.1310	0.0705	0.0375



3D screen shot	Hot spot position
	

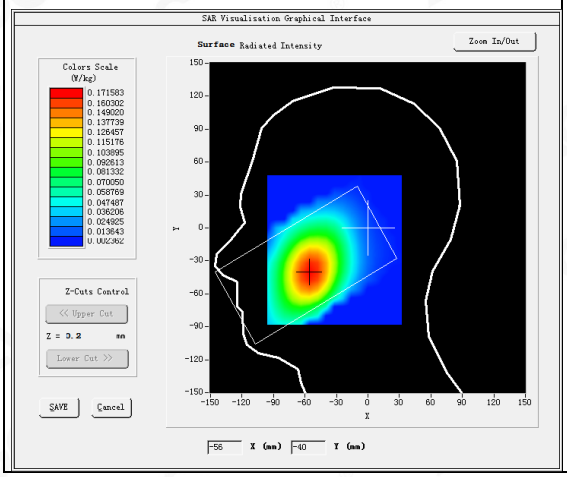
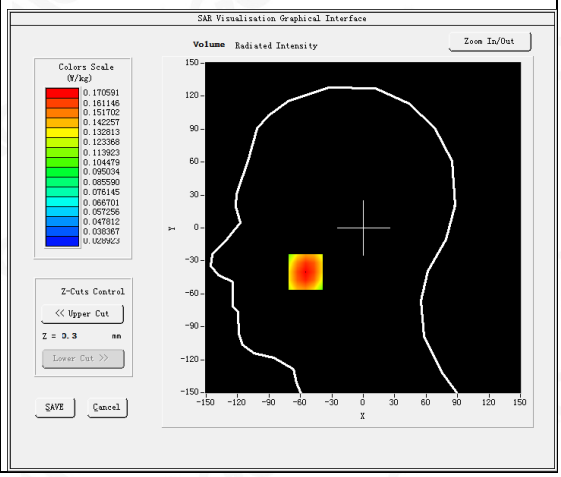
Test Laboratory: AGC Lab **Date: Aug. 02,2019**
LTE Band 12 Mid-Touch-Left (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 12; Duty Cycle:1:1; Conv.F=5.20
Frequency: 707.5 MHz; Medium parameters used: f = 750 MHz; σ =0.87 mho/m; ε_r =41.14; ρ = 1000 kg/m^3 ;
Phantom section: Left Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 12 Mid- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 12 Mid- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

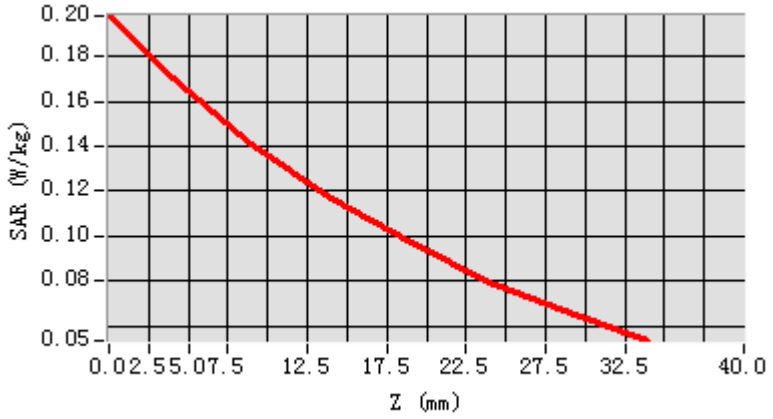
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 12
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

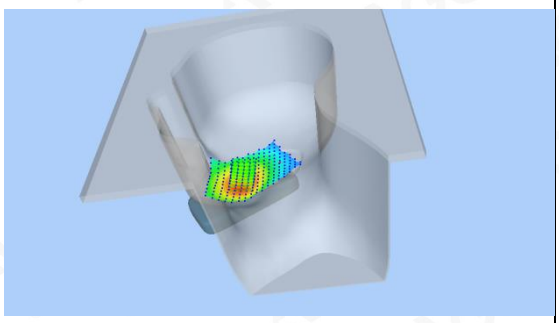
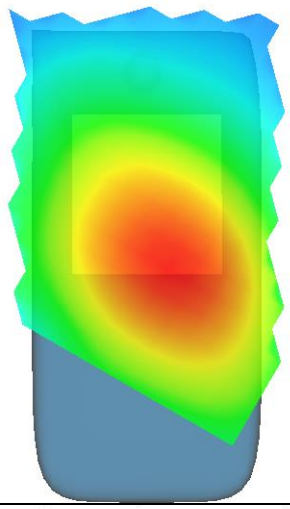
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-55.00, Y=-40.00
SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.131017
SAR 1g (W/Kg)	0.169088

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1983	0.1706	0.1412	0.1170	0.0971	0.0793	0.0659



3D screen shot	Hot spot position
	

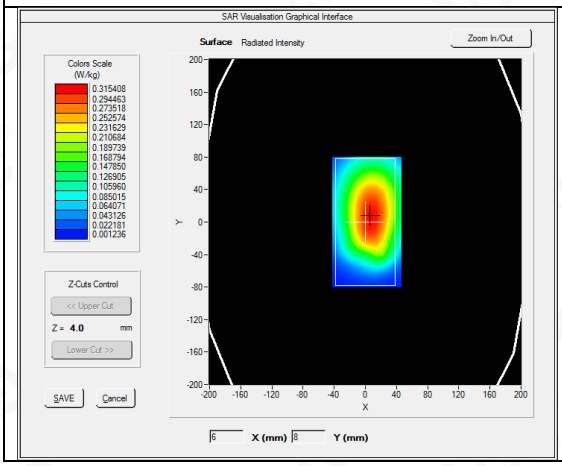
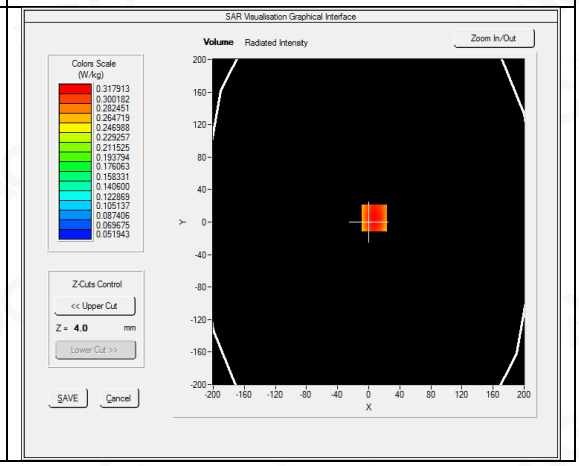
Test Laboratory: AGC Lab **Date: Aug. 02,2019**
LTE Band 12 Mid-Body-Back (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 12; Duty Cycle:1:1; Conv.F=5.40;
Frequency: 707.5 MHz; Medium parameters used: f = 750 MHz; σ =0.93 mho/m; ε_r =56.39; ρ = 1000 kg/m^3 ;
Phantom section: Flat Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 12 Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 12 Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

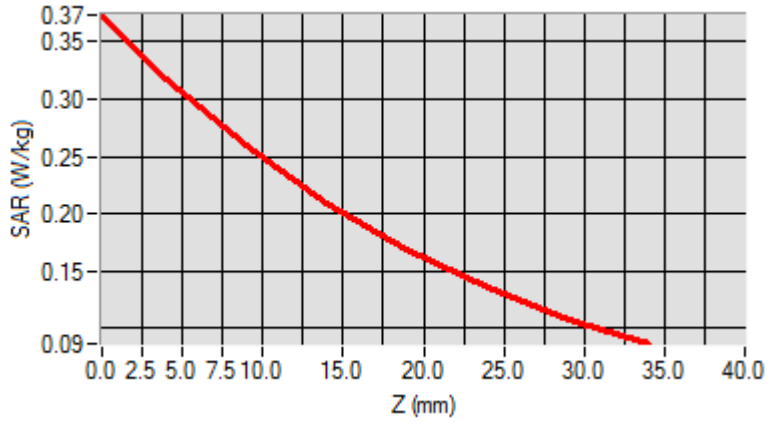
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	LTE Band 12
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

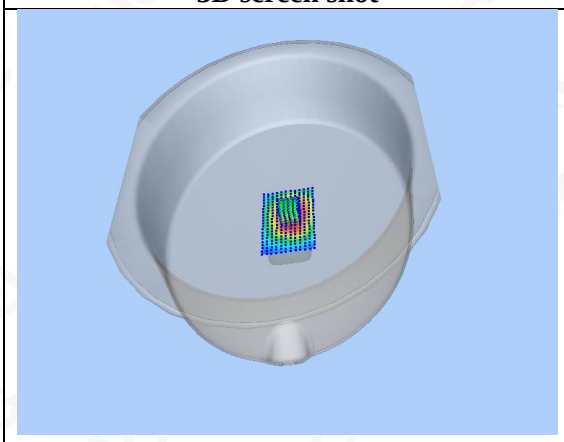
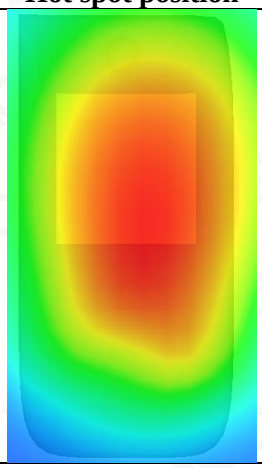
SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=5.00
SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.252361
SAR 1g (W/Kg)	0.327303

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3733	0.3179	0.2589	0.2097	0.1690	0.1354	0.1082



3D screen shot	Hot spot position
	

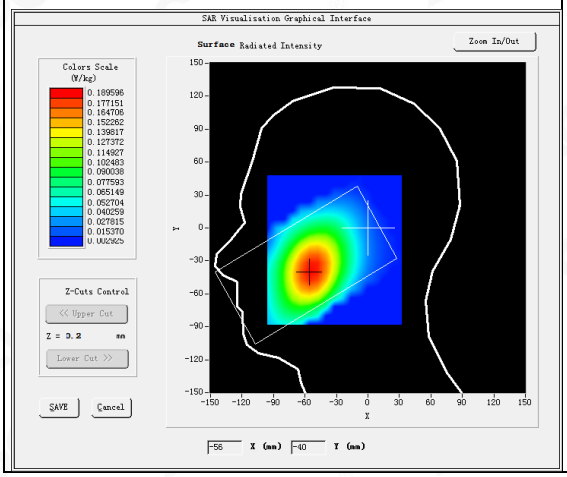
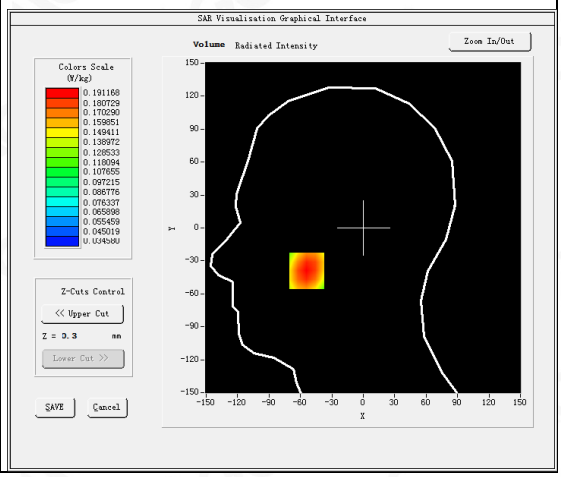
Test Laboratory: AGC Lab **Date: Aug. 02,2019**
LTE Band 17 Mid-Touch-Left (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 17; Duty Cycle:1:1; Conv.F=5.20
Frequency: 710 MHz; Medium parameters used: f = 750 MHz; σ =0.89 mho/m; ε_r =40.69; ρ = 1000 kg/m^3 ;
Phantom section: Left Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 17 Mid- Touch-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 17 Mid- Touch-Left /Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

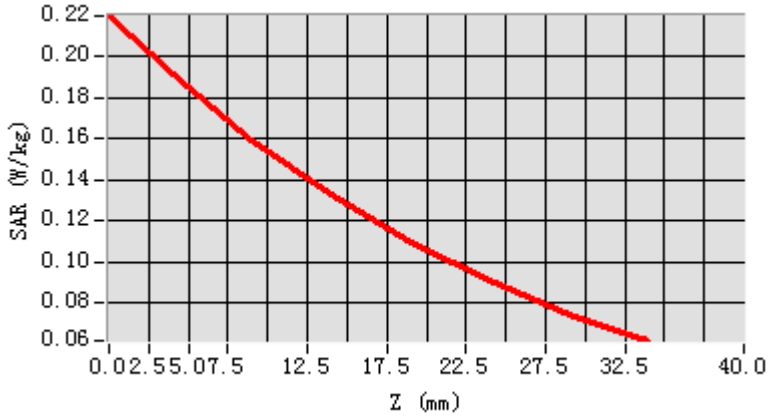
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 17
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

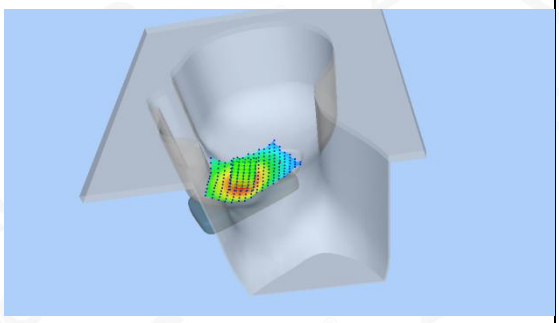
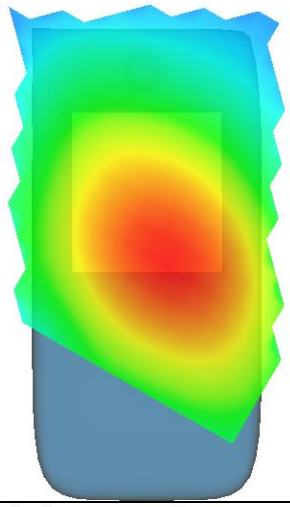
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-54.00, Y=-39.00
SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.152967
SAR 1g (W/Kg)	0.195719

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2198	0.1912	0.1596	0.1332	0.1096	0.0910	0.0746



3D screen shot	Hot spot position
	

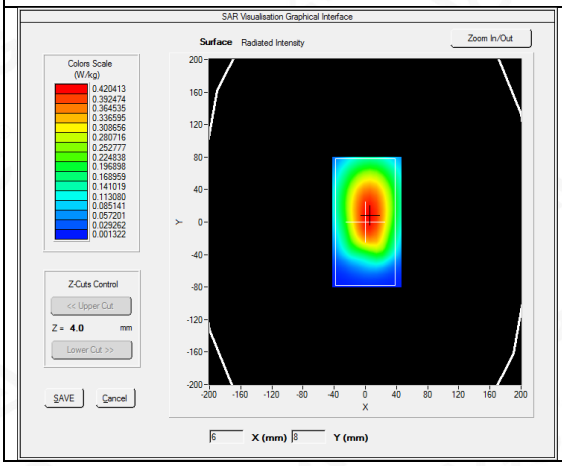
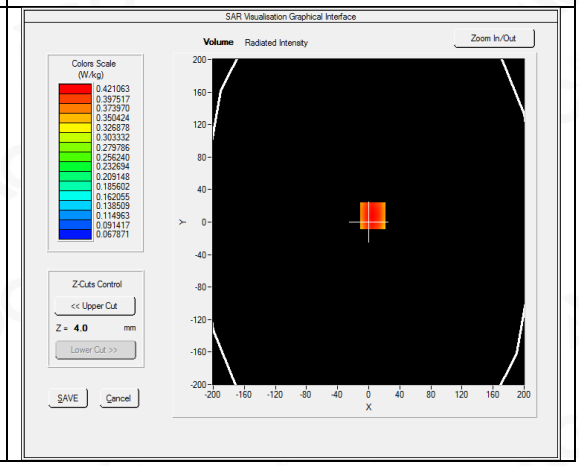
Test Laboratory: AGC Lab **Date: Aug. 02,2019**
LTE Band 17 Mid-Body-Back (1 RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 17; Duty Cycle:1:1; Conv.F=5.40;
Frequency: 710 MHz; Medium parameters used: f = 750 MHz; σ =0.94 mho/m; ε r =55.71; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.1, Liquid temperature (℃): 20.9

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE Band 17 Mid-Body-back/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/ LTE Band 17 Mid-Body-back/Zoom Scan: Measurement grid: dx=8mm,dy=8mm, dz=5m;

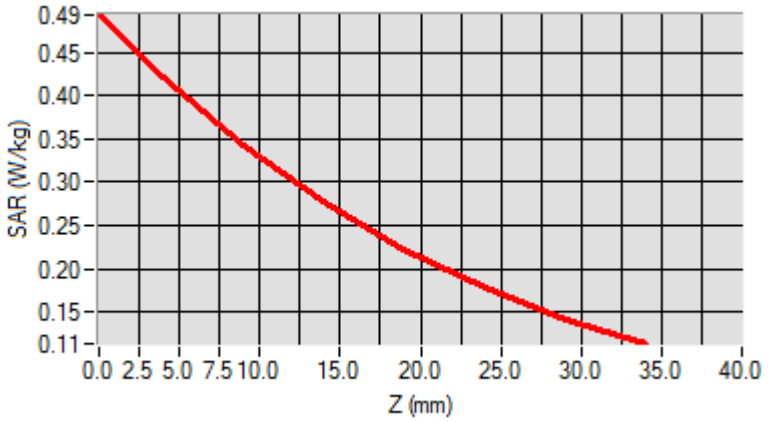
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	LTE Band 17
Channels	Middle
Signal	OFDM (Crest factor: 1.0)

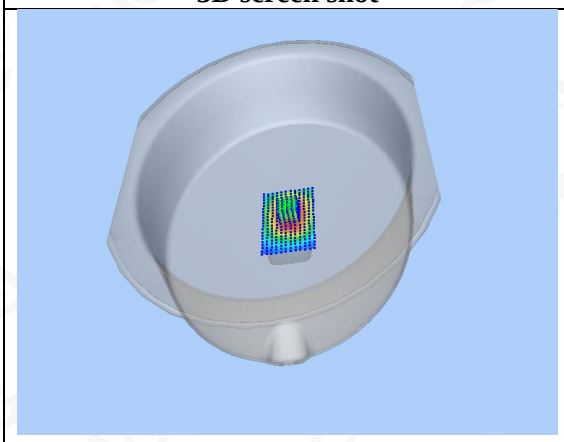
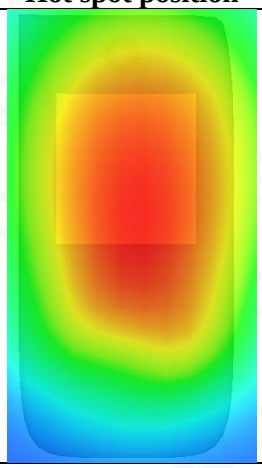
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=8.00
SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.333509
SAR 1g (W/Kg)	0.433010

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4932	0.4211	0.3426	0.2773	0.2225	0.1776	0.1424



3D screen shot	Hot spot position
	

2.4G WIFI MODE

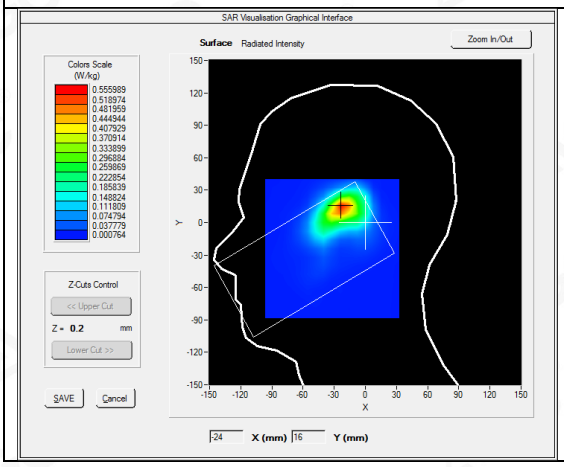
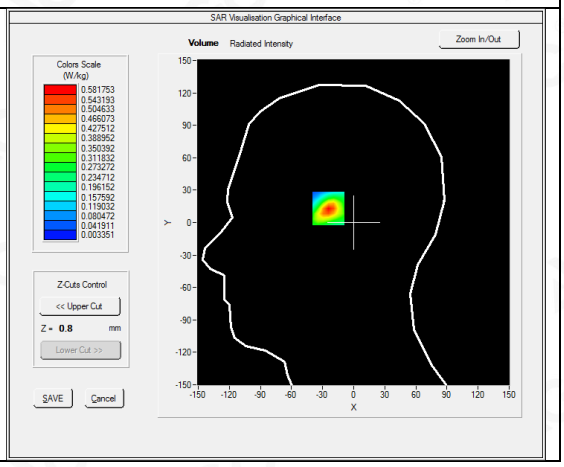
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
802.11b Mid-Touch-Left
DUT: Smart Phone; Type: X19

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=4.90;
Frequency: 2437 MHz; Medium parameters used: f = 2450 MHz; σ =1.79mho/m; εr =39.81 ρ = 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃):21.1, Liquid temperature (℃): 20.8

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11b Mid- Touch-Left/Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11b Mid- Touch-Left/Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

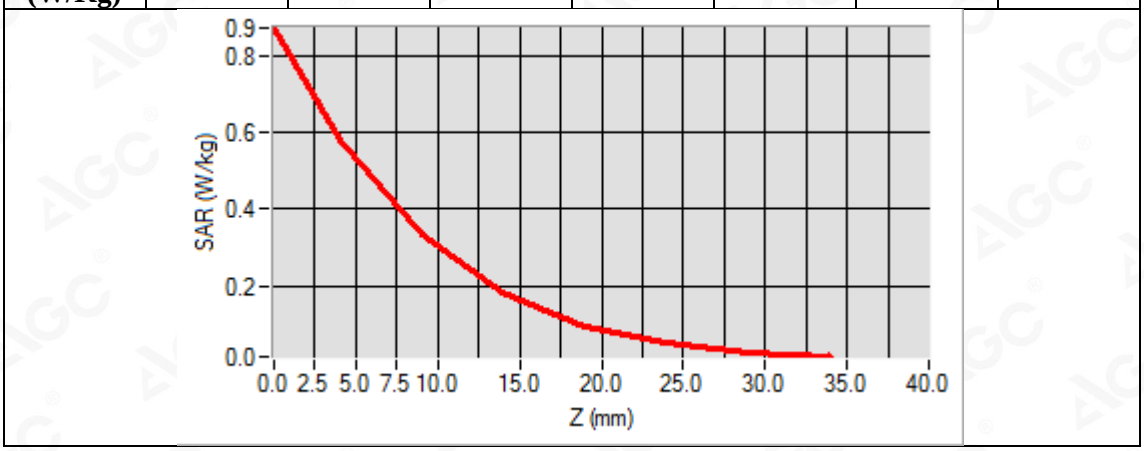
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	2450MHz
Channels	Middle
Signal	Crest factor: 1.0

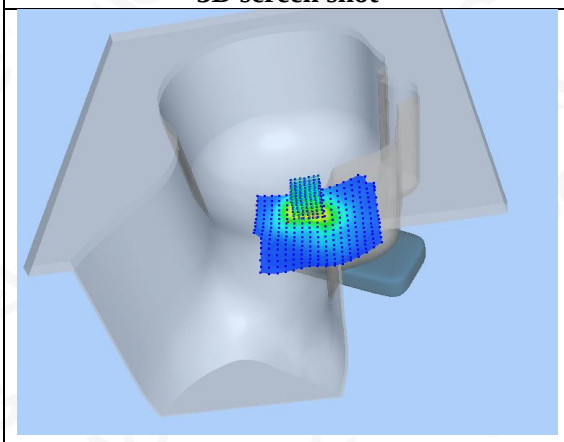
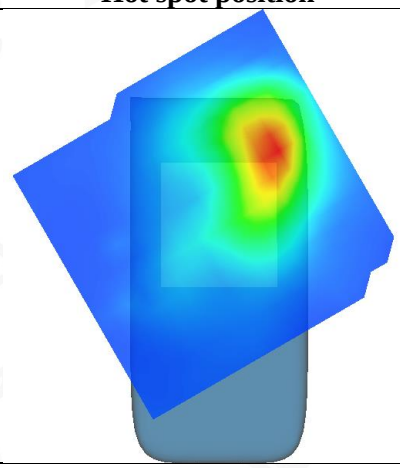
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-23.00, Y=15.00
SAR Peak: 0.89 W/kg

SAR 10g (W/Kg)	0.251744
SAR 1g (W/Kg)	0.516273

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.8732	0.5818	0.3345	0.1795	0.0948	0.0519	0.0275



3D screen shot	Hot spot position
	

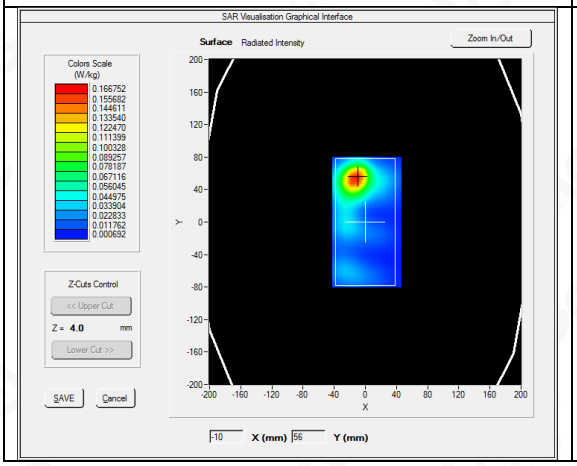
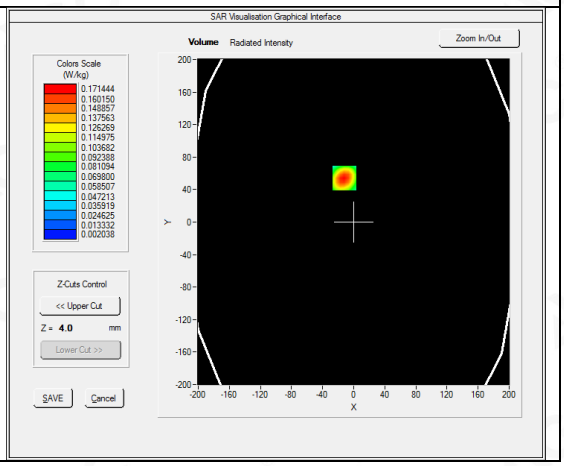
Test Laboratory: AGC Lab **Date: Aug. 08,2019**
802.11b Mid-Body-Worn- Back
DUT: Smart Phone; Type: X19

Communication System: Wi-Fi; Communication System Band: 802.11b; Duty Cycle: 1:1; Conv.F=5.04;
Frequency: 2437 MHz; Medium parameters used: f = 2450 MHz; σ =1.91mho/m; εr =52.34; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃):21.1, Liquid temperature (℃): 20.7

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11b Mid- Body- Back /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11b Mid- Body- Back /Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm;

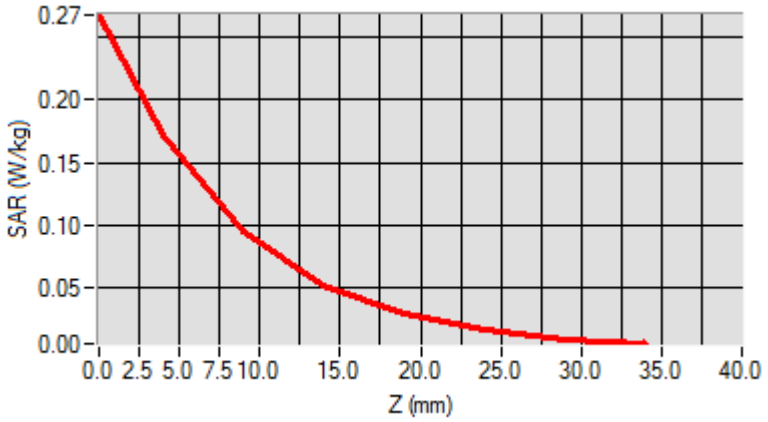
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	ELLI
Device Position	Body Back
Band	2450MHz
Channels	Middle
Signal	Crest factor: 1.0

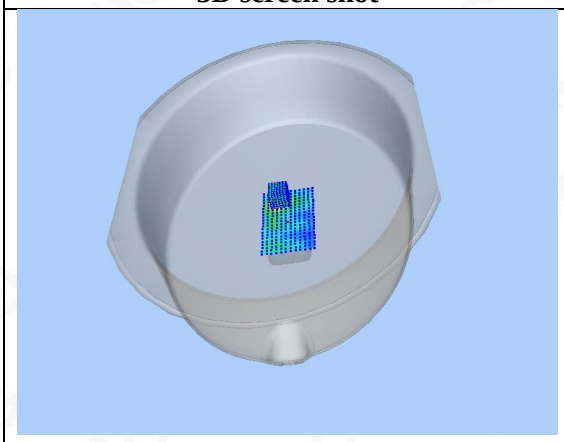
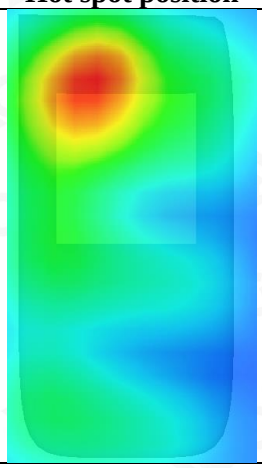
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-12.00, Y=54.00
SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.086120
SAR 1g (W/Kg)	0.160241

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2679	0.1714	0.0948	0.0514	0.0284	0.0155	0.0087



3D screen shot	Hot spot position
	

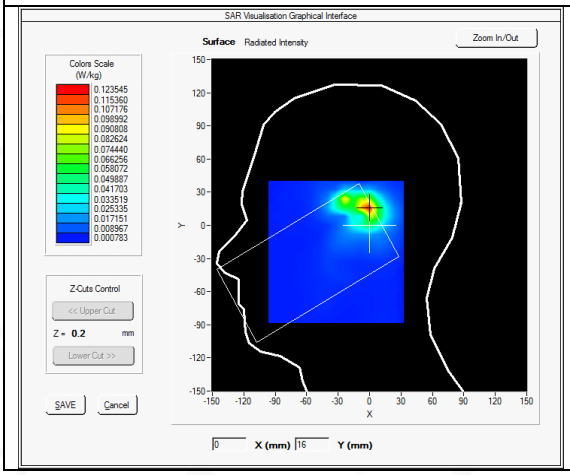
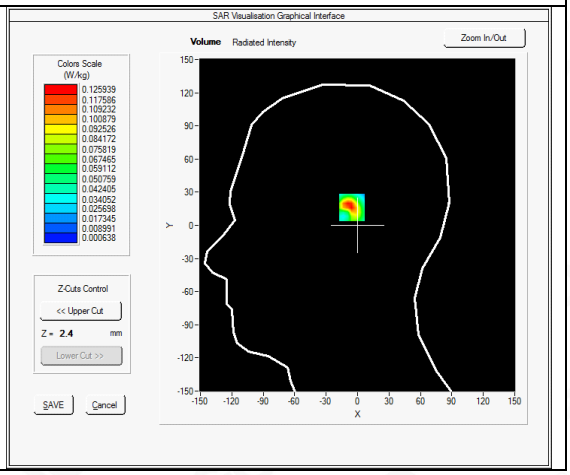
5.2GHz 802.11a20
Test Laboratory: AGC Lab **Date: Aug. 28,2019**
802.11a20 CH44 Mid-Tilt-Left
DUT: Smart Phone; Type: X19

Communication System: Wi-Fi; Communication System Band: 802.11a20; Duty Cycle: 1:1; Conv.F=2.46;
Frequency: 5220MHz; Medium parameters used: f = 5200 MHz; σ =4.62 mho/m; ε r =35.21; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.3

SATIMO Configuration:
- Probe: SSE2; Calibrated: Mar. 25,2019; Serial No.: SN 45/15 EPGO281
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM twin phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11a20 CH44 Mid- Tilt-Left /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11a20 CH44 Mid- Tilt-Left /Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm

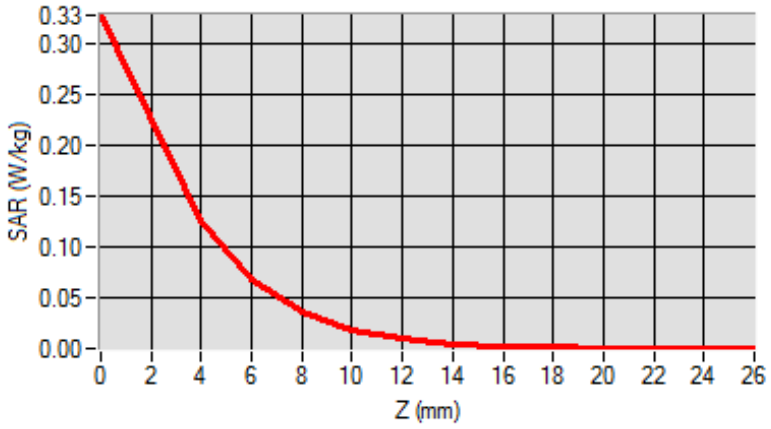
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Left head
Device Position	Tilt
Band	5200MHz
Channels	Middle
Signal	Crest factor: 1.0

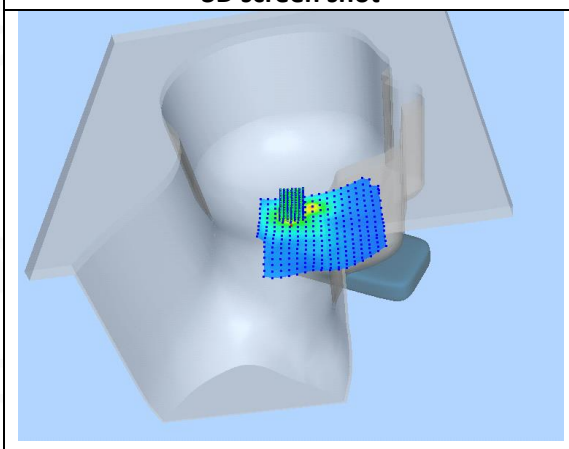
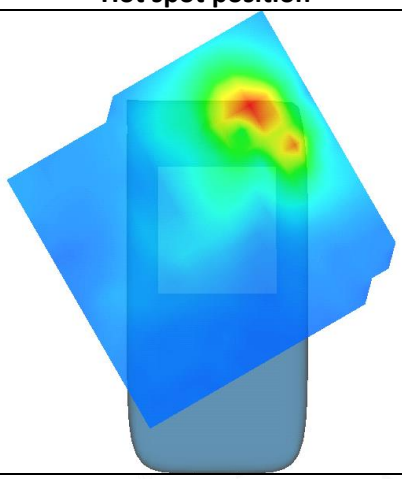
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-1.00, Y=16.00
SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.038757
SAR 1g (W/Kg)	0.117848

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	0.3280	0.1259	0.0684	0.0361	0.0184	0.0098	0.0051	0.0031	0.0020	0.0011	0.0010	0.0008



3D screen shot	Hot spot position
	

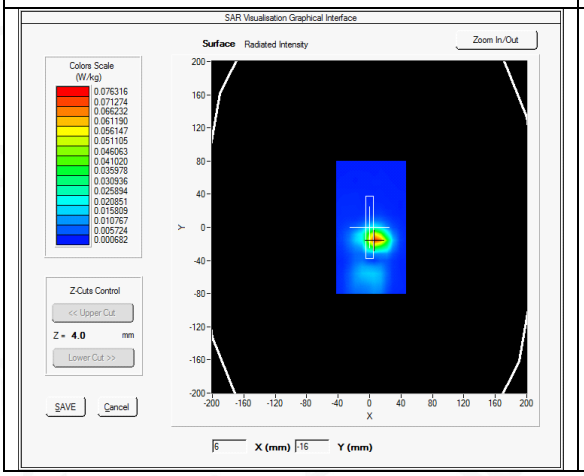
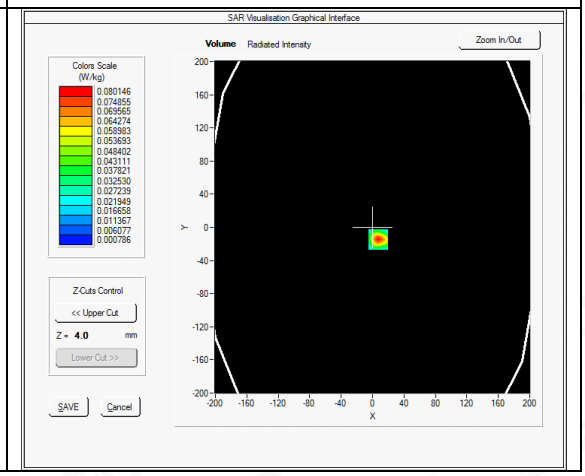
5.2GHz 802.11a20
Test Laboratory: AGC Lab **Date: Aug. 28,2019**
802.11ac20 CH44-Edge1
DUT: Smart Phone; Type: X19

Communication System: Wi-Fi; Communication System Band: 802.11a20; Duty Cycle: 1:1; Conv.F=2.52;
Frequency: 5220MHz; Medium parameters used: f = 5200 MHz; σ =5.33 mho/m; ε r =48.74; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE2; Calibrated: Mar. 25,2019; Serial No.: SN 45/15 EPGO281
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/802.11a20 CH44- Edge1 /Area Scan: Measurement grid: dx=8mm, dy=8mm
Configuration/802.11a20 CH44- Edge1 /Zoom Scan: Measurement grid: dx=5mm,dy=5mm, dz=5mm;

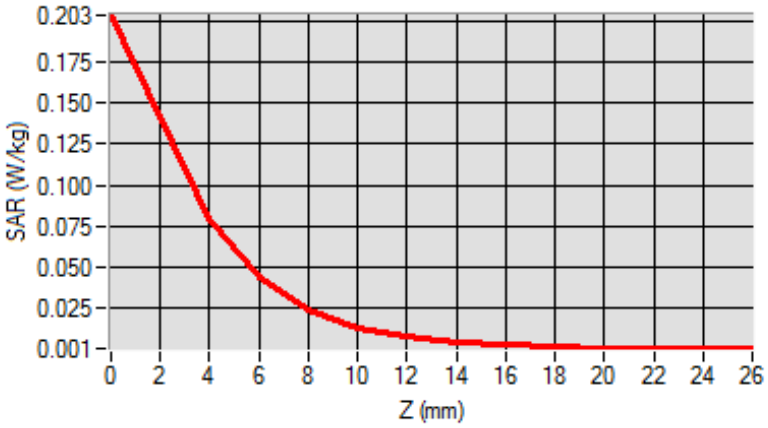
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	ELLI
Device Position	Edge1
Band	5200MHz
Channels	CH44
Signal	Crest factor: 1.0

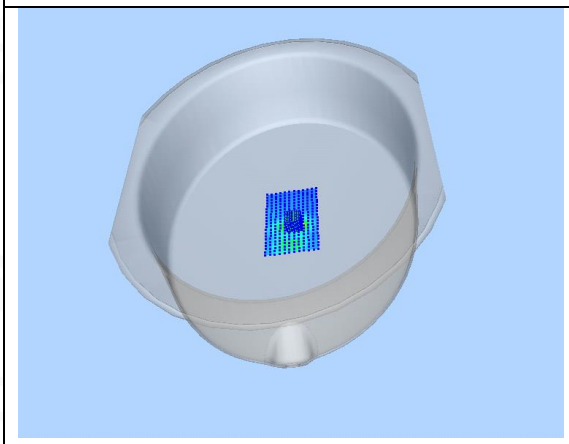
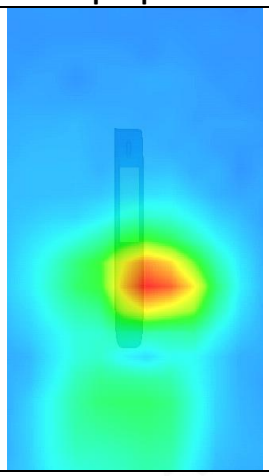
SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=-15.00
SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.027092
SAR 1g (W/Kg)	0.075989

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	0.2033	0.0801	0.0443	0.0244	0.0137	0.0079	0.0043	0.0027	0.0020	0.0014	0.0011	0.0010



3D screen shot	Hot spot position
	

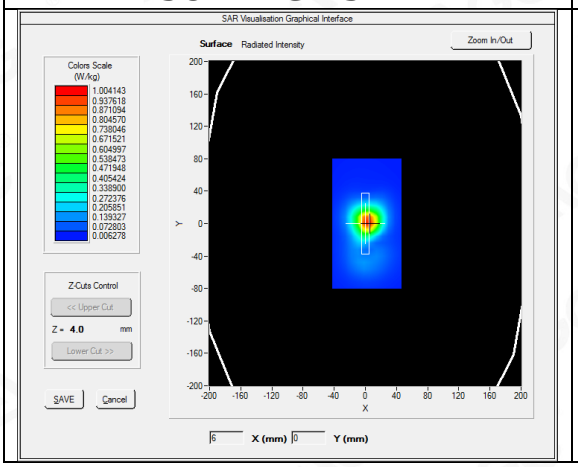
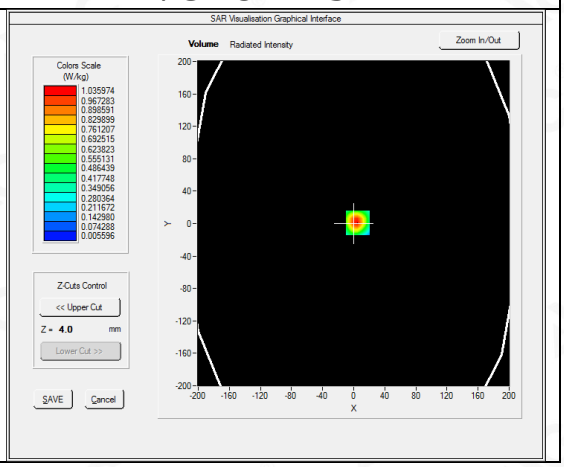
Repeat SAR
Test Laboratory: AGC Lab **Date: Aug. 01,2019**
LTE Band 7 Low-Edge 3 (1RB#0)
DUT: Smart Phone; Type: X19

Communication System: LTE; Communication System Band: LTE Band 7; Duty Cycle:1:1; Conv.F=4.68
Frequency: 2510MHz; Medium parameters used: f =2600 MHz; σ =2.11 mho/m; ε r =53.64; ρ = 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 20.7, Liquid temperature (℃): 20.4

SATIMO Configuration:
- Probe: SSE5; Calibrated: Aug. 08,2018; Serial No.: SN 22/12 EP159
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: ELLI39 Phantom
- Measurement SW: OpenSAR V4_02_35

Configuration/ LTE BAND 7 Low- Edge 3 /Area Scan: Measurement grid: dx=10mm, y=10mm
Configuration/ LTE BAND 7 Low- Edge 3 /Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

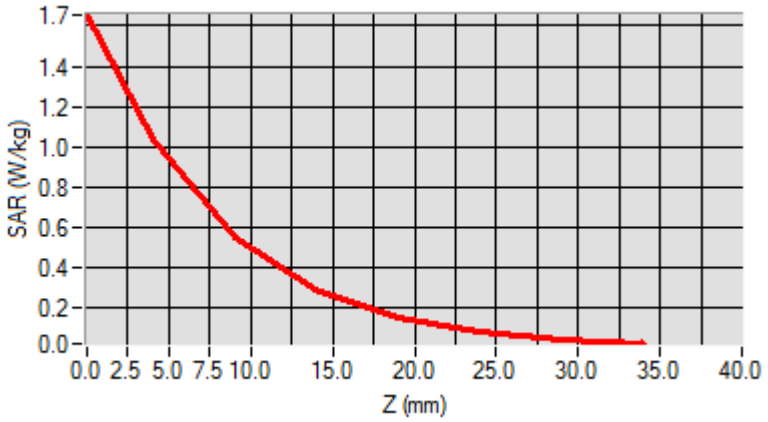
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	ELLI
Device Position	Edge 3
Band	LTE BAND 7
Channels	Low
Signal	OFDM (Crest factor: 1.0)

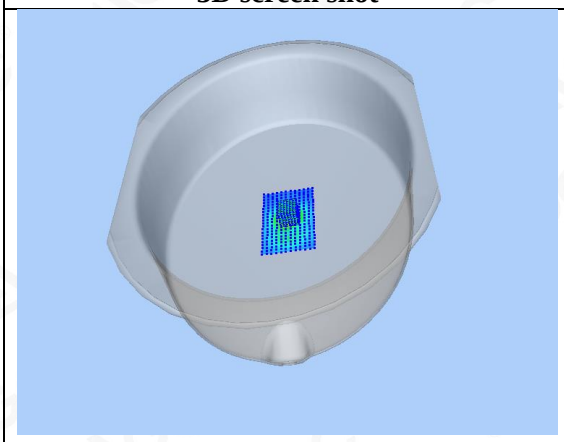
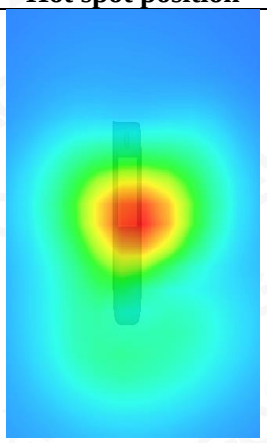
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=1.00
SAR Peak: 1.66 W/kg

SAR 10g (W/Kg)	0.481379
SAR 1g (W/Kg)	0.966981

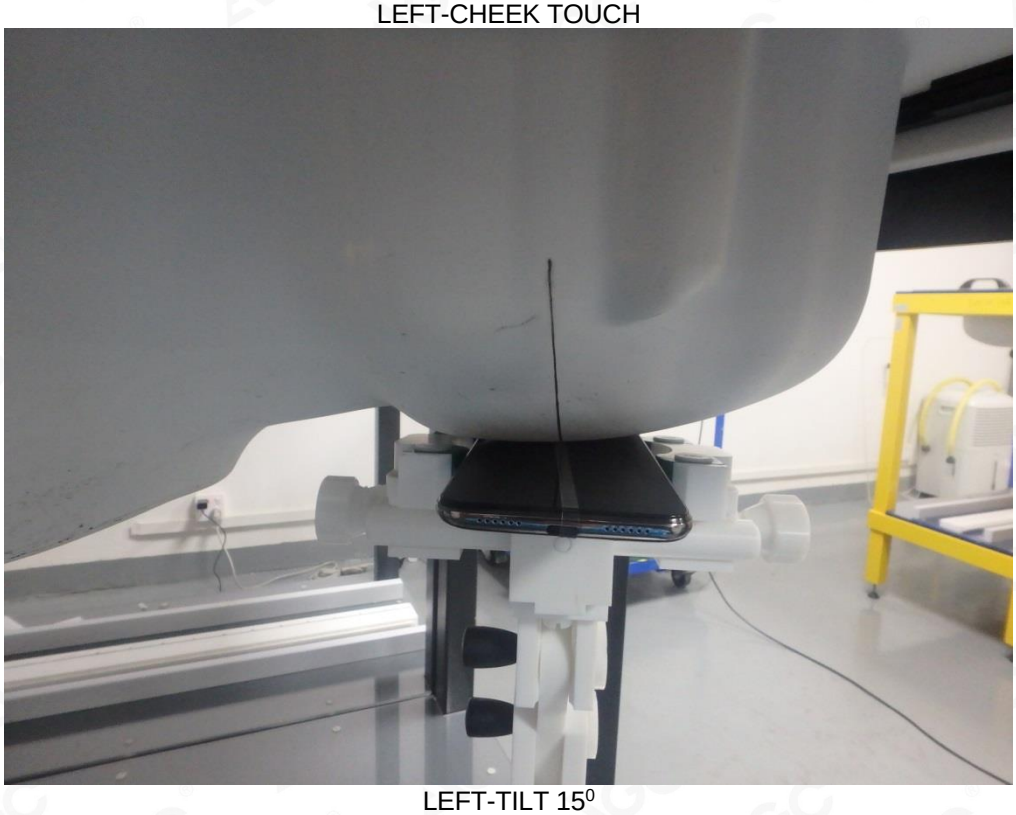
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.6524	1.0348	0.5537	0.2908	0.1554	0.0829	0.0447



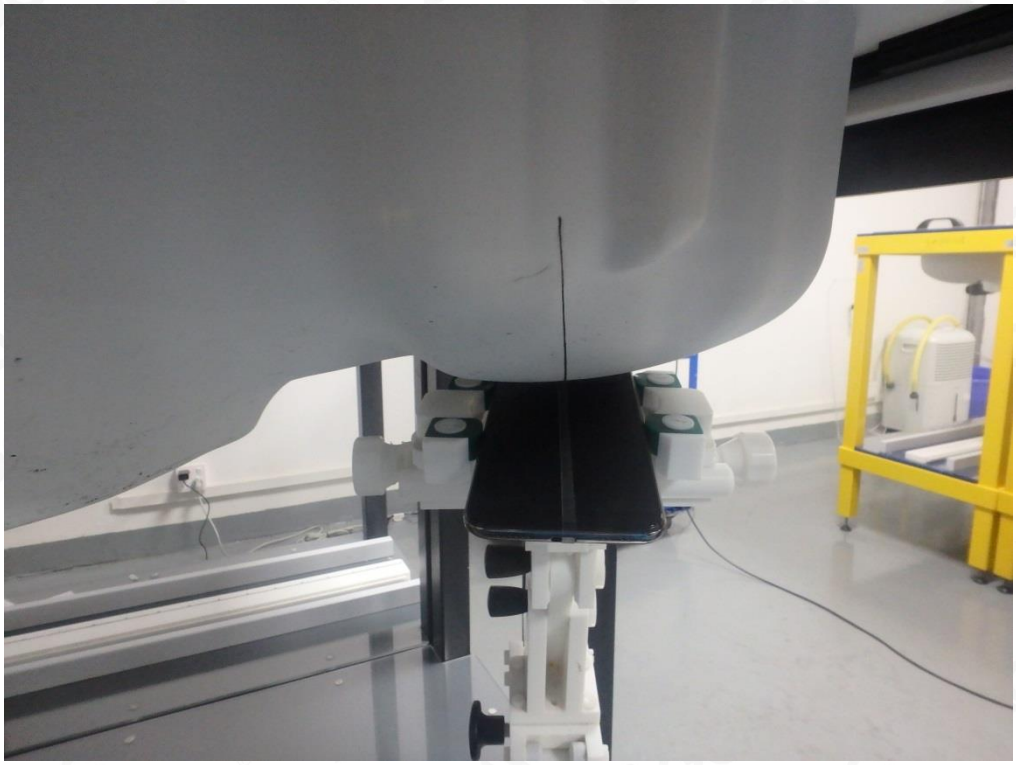
3D screen shot	Hot spot position
	

APPENDIX C. TEST SETUP PHOTOGRAPHS

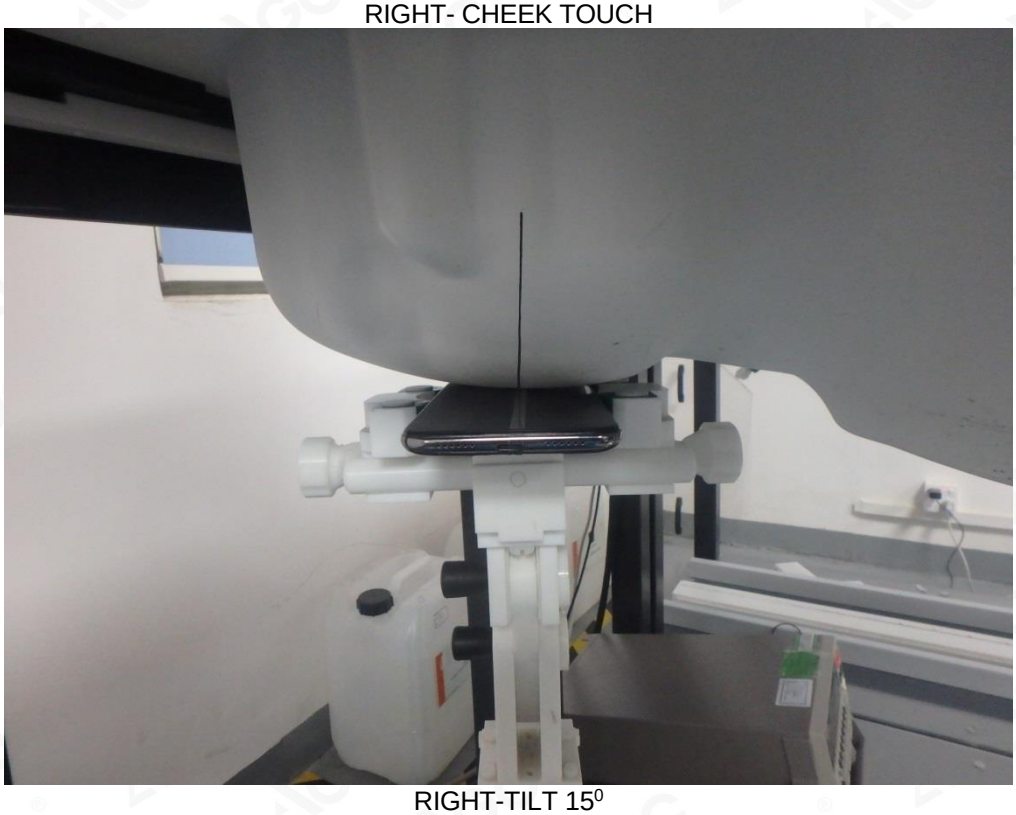
LEFT-CHEEK TOUCH



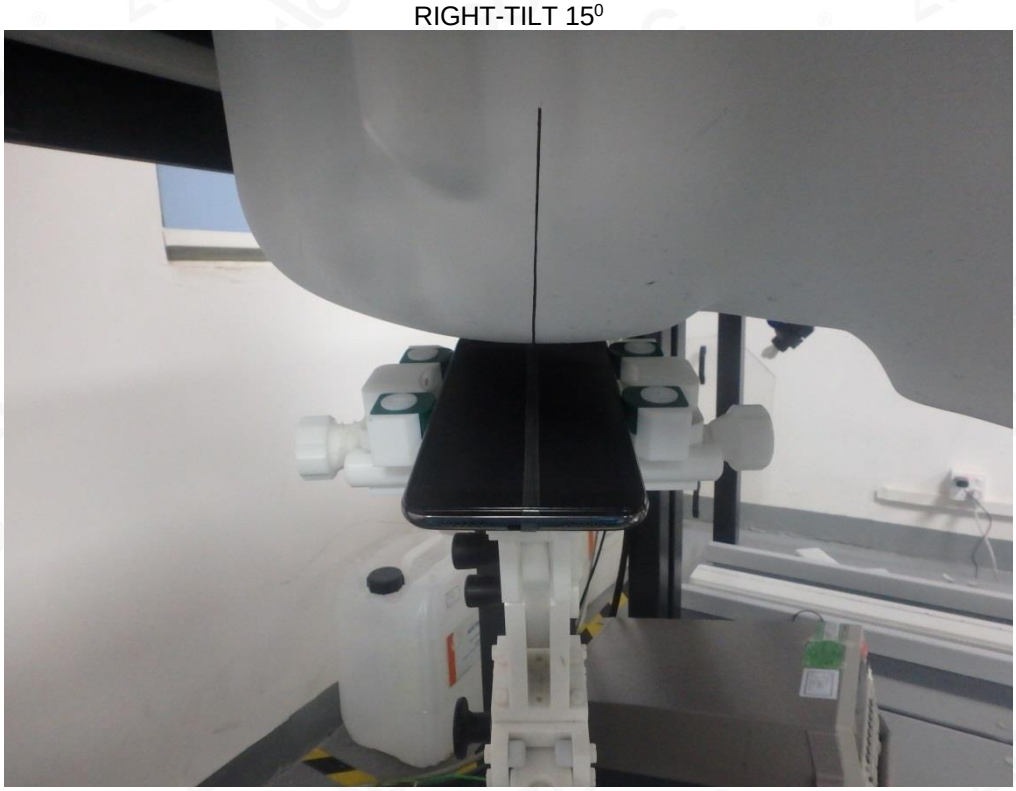
LEFT-TILT 15^0



RIGHT- CHEEK TOUCH

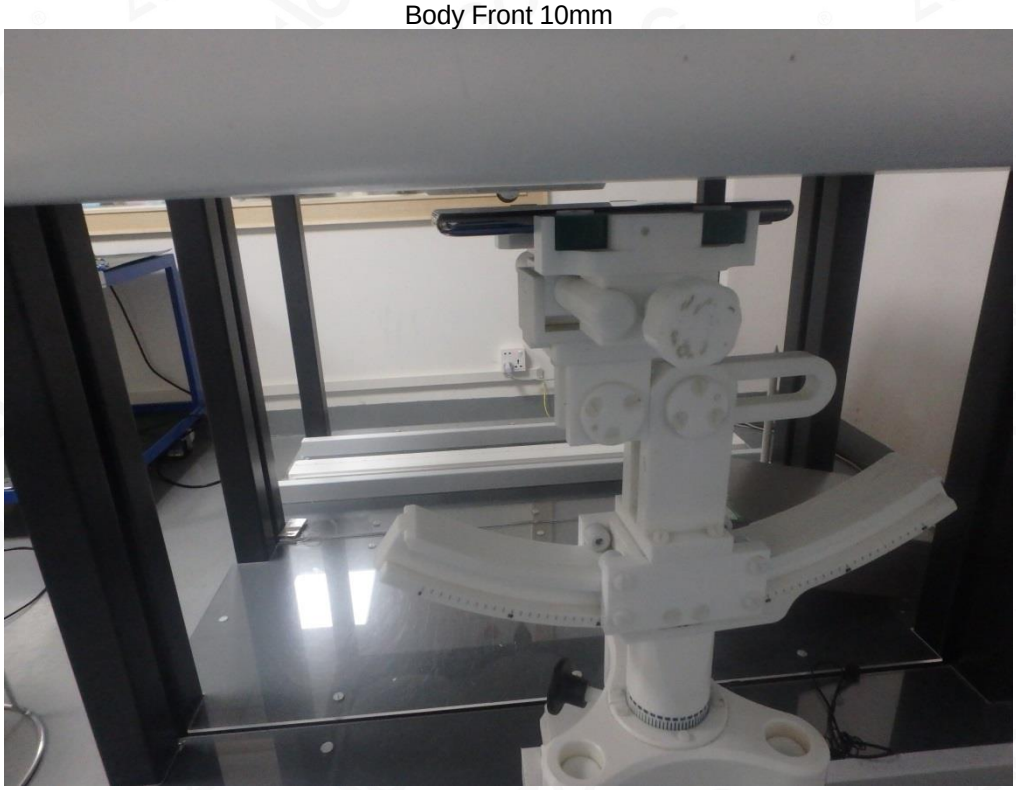


RIGHT-TILT 15^0

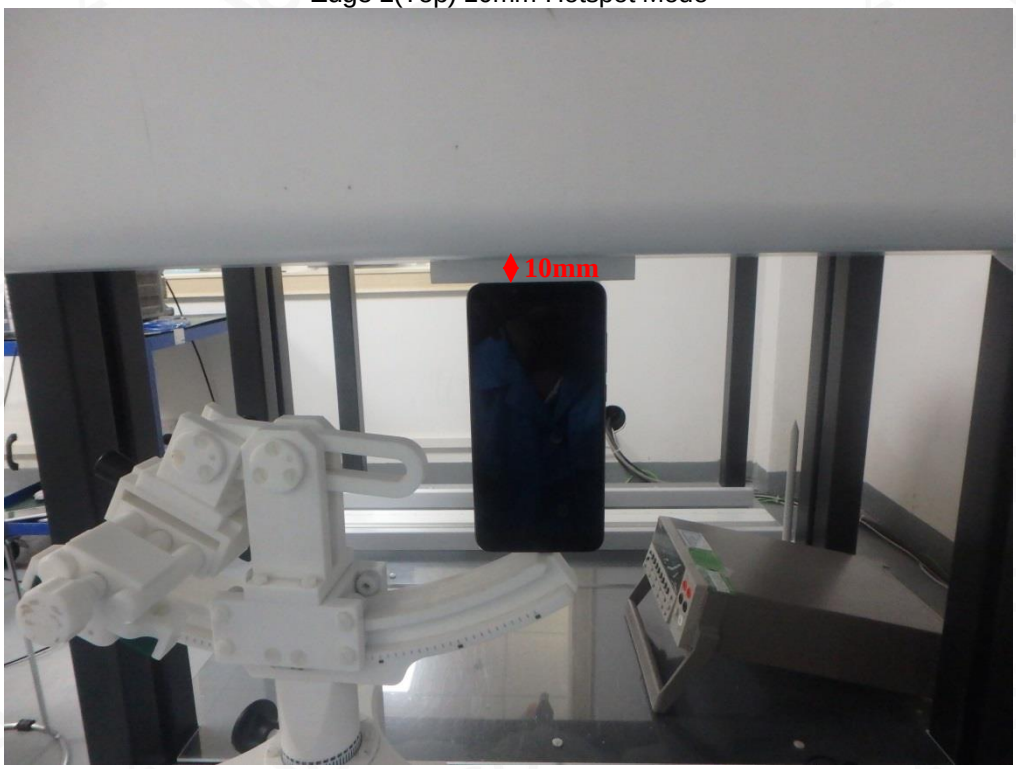


Body Back 10mm

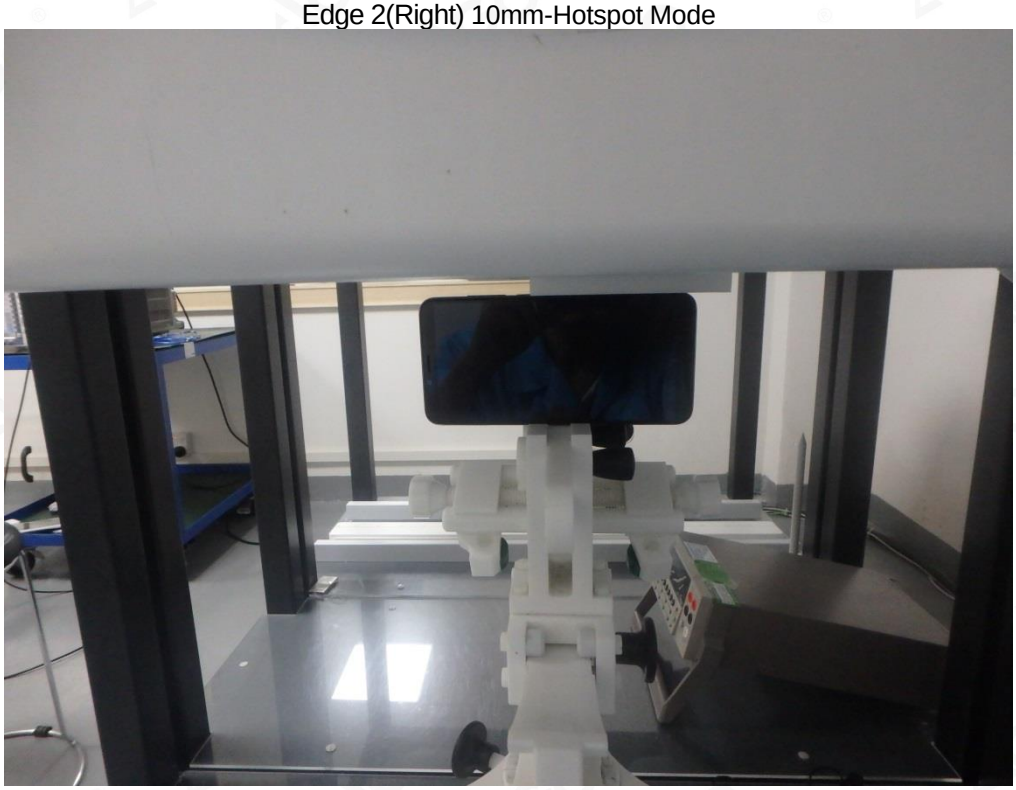
Body Front 10mm



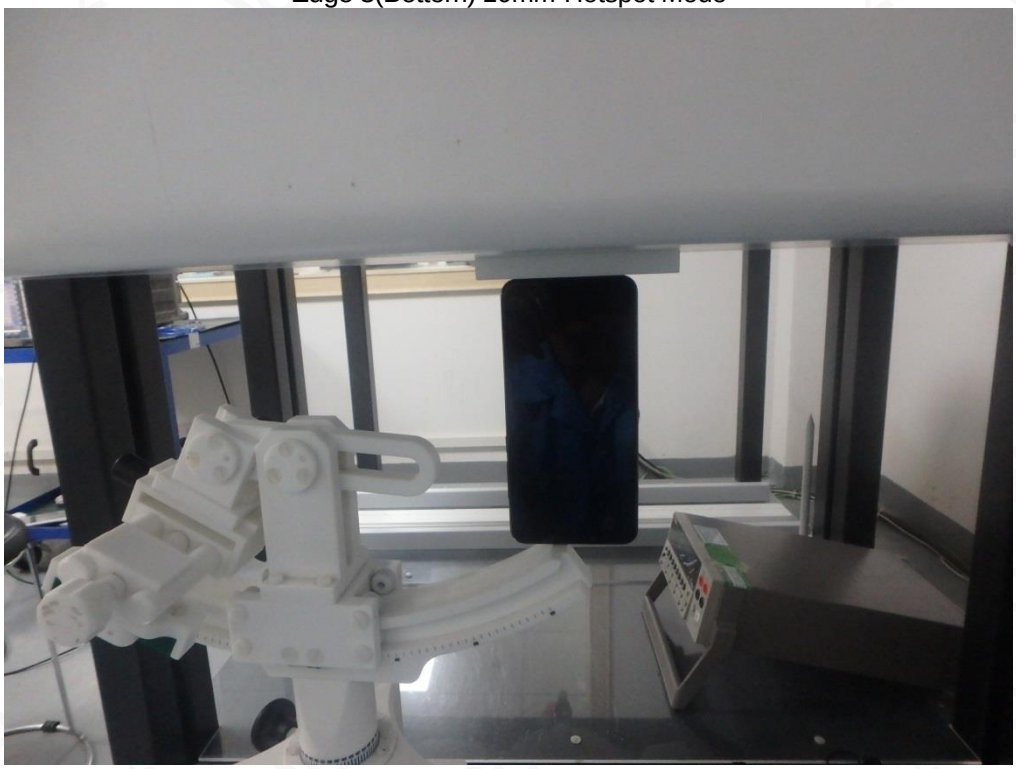
Edge 1(Top) 10mm-Hotspot Mode



Edge 2(Right) 10mm-Hotspot Mode

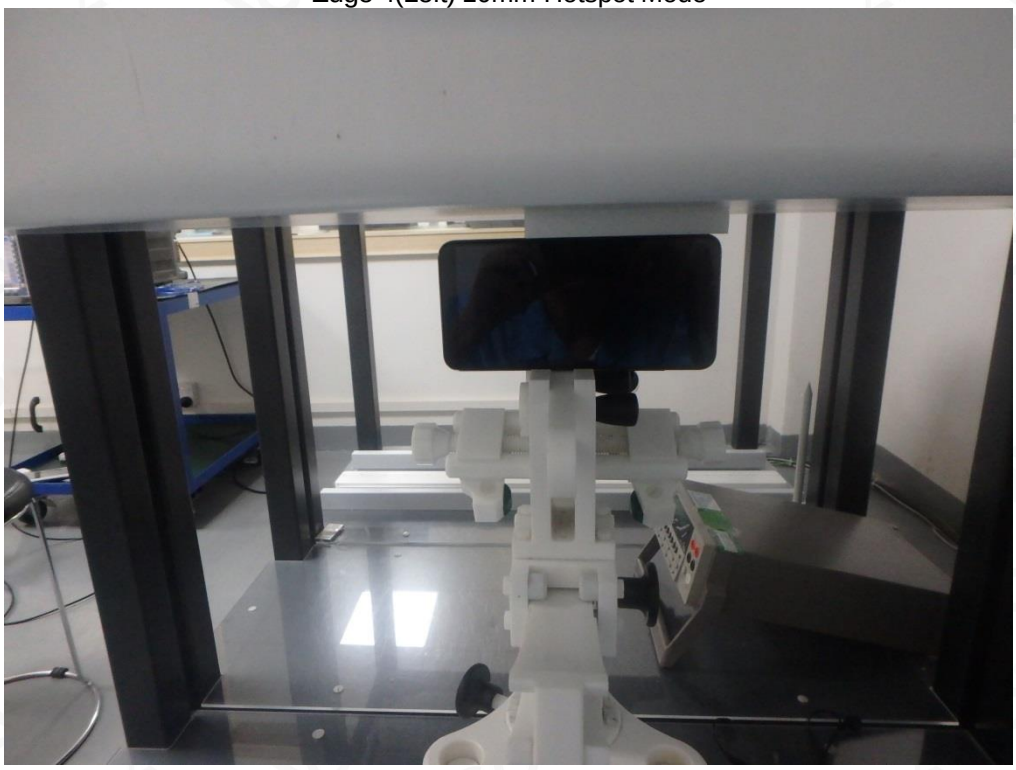


Edge 3(Bottom) 10mm-Hotspot Mode



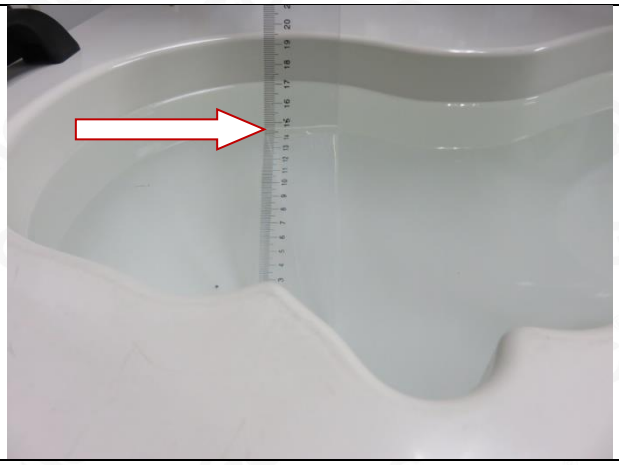
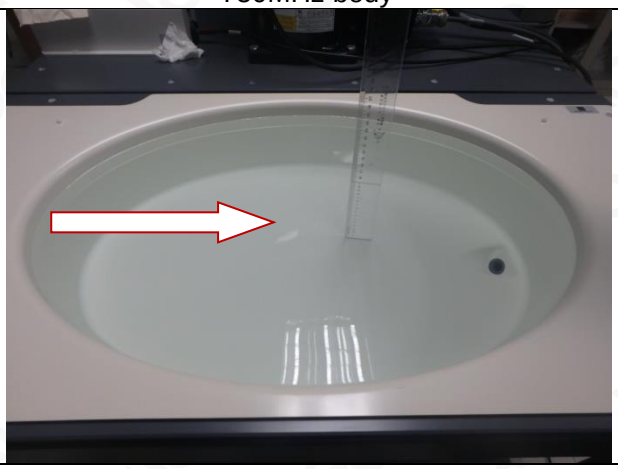
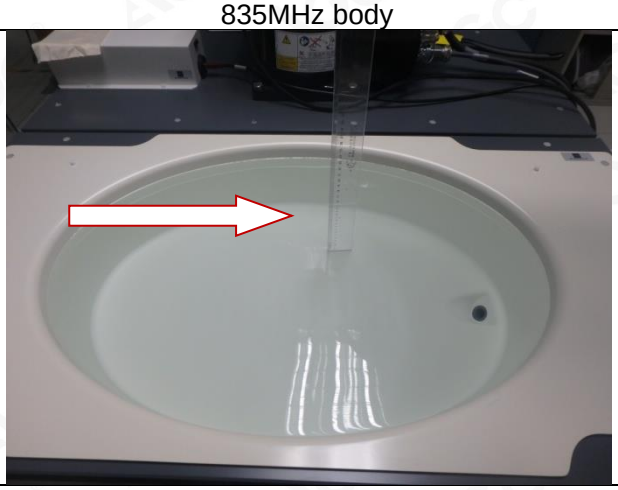
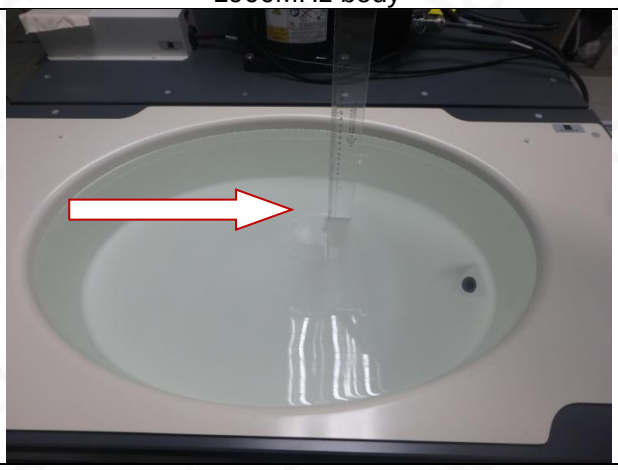
Edge 3(Bottom) with headset 10mm-Hotspot Mode

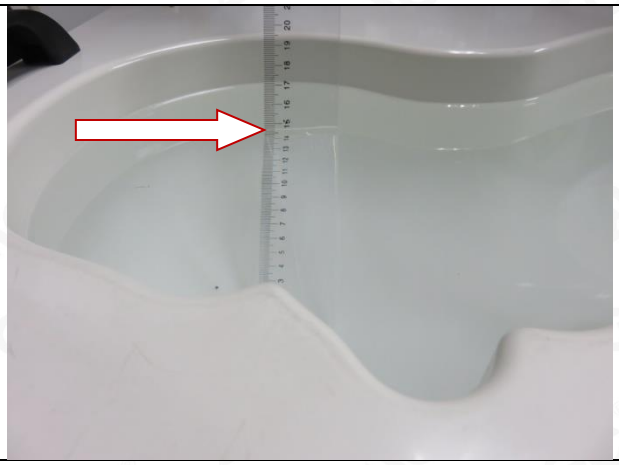
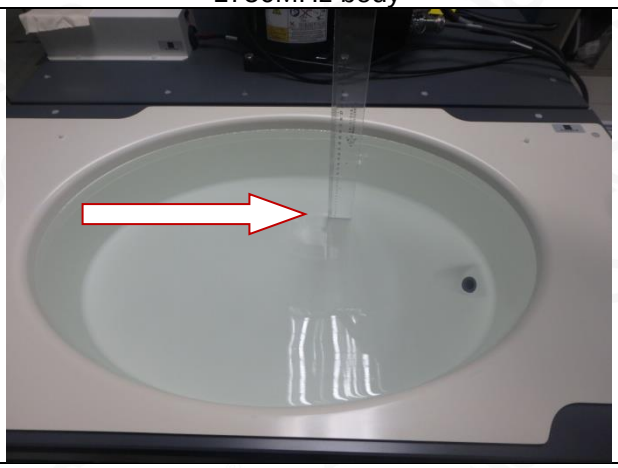
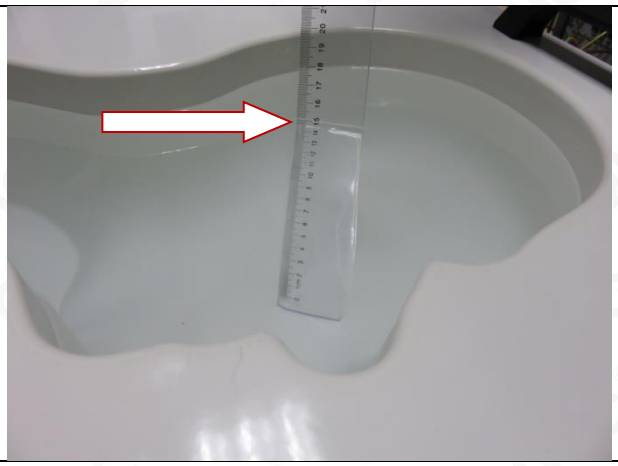
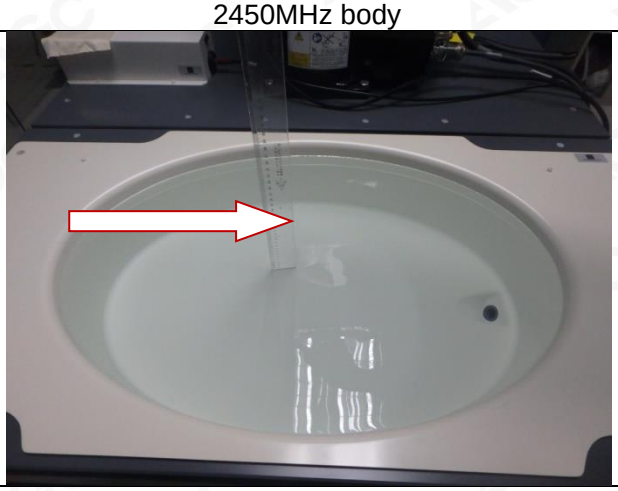
Edge 4(Left) 10mm-Hotspot Mode

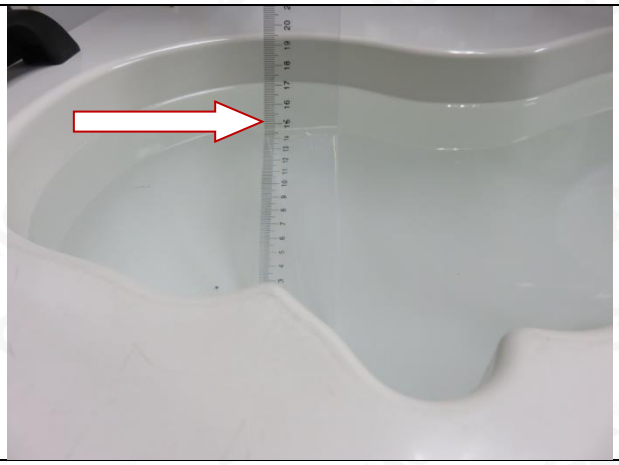
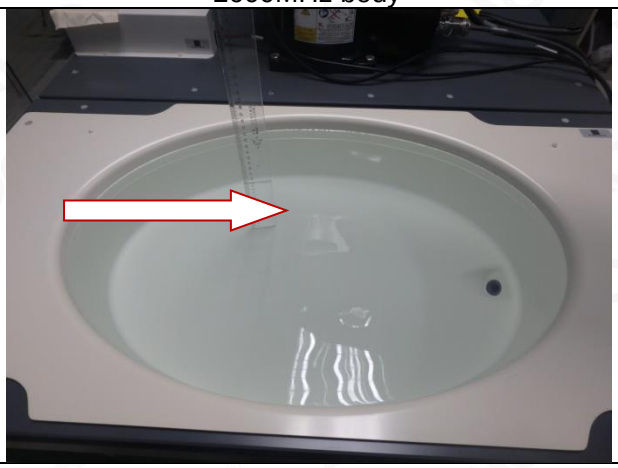
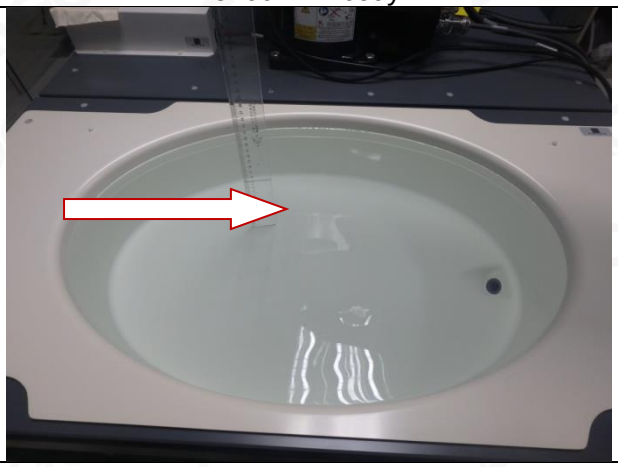


DEPTH OF THE LIQUID IN THE PHANTOM—ZOOM IN

Note：The position used in the measurement were according to IEEE 1528-2013

750MHz head	750MHz body
	
835MHz head	835MHz body
	
1900MHz head	1900MHz body
	

1750MHz head	1750MHz body
	
2450MHz head	2450MHz body
	

2600MHz head	2600MHz body
	
5200MHz head	**5200MHz body**
	

APPENDIX D. CALIBRATION DATA

Refer to Attached files.