Audix Technology Corp.
No. 53-11, Dingfu, Linkou, Dist.,
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FCC 2.1093
SAR Report

for

Elitegroup Computer Systems Co., Ltd.

No. 239, Sec. 2, Ti Ding Blvd,
Taipei, Taiwan 11493

Product Name	**:**	**7" Multi Function Pad**
Model Name	**:**	**mPAD2-7……**
Brand	**:**	**ECS**
FCC ID	**:**	**WL6TC7A-W**

Prepared by: **:** **AUDIX Technology Corporation,**
EMC Department

Testing Laboratory
1724

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APPENDIX A TEST DATA AND PLOTS
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TEST REPORT CERTIFICATION

Applicant	:	Elitegroup Computer Systems Co., Ltd.
EUT Description		
(1) Product	:	7" Multi Function Pad
(2) Model	:	mPAD2-7……
(3) Brand	:	ECS

Applicable Standards:

47 CFR FCC Part 2 (§2.1093)
IEEE 1528-2013

KDB 248227 D01 802.11 Wi-Fi SAR v02r02
KDB 447498 D01 General RF Exposure Guidance v06
KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r04

Audix Technology Corp. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.
Audix Technology Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Report: 2017. 04. 19

Reviewed by: Tina Huang (Tina Huang/Administrator)

Approved by: Ben Cheng (Ben Cheng/Manager)

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1. REVISION RECORD OF TEST REPORT

Edition No	Issued Data	Revision Summary	Report Number
0	2017. 04. 19	Original Report	EM-SA170002

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2. SUMMARY OF TEST RESULTS

Mode	Highest Reported Body SAR $_{1g}$	Scale SAR
WLAN 2.4G	**0.332(W/kg)**	**0.35W/kg)**
WLAN 5G	**0.781(W/kg)**	**0.86(W/kg)**

Note: 1. The SAR limit (SAR1g 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).
2. WLAN and BT cannot support transmit simultaneously, and WLAN only transmit at either 2.4GHz or 5GHz at the same time.

Mode	Simultaneous Transmission Antenna SAR	Highest Reported Total Body SAR $_{1g}$
802.11b	Main ANT (Back)+AUX ANT (Back)	0.05 (W/kg)
802.11g	Main ANT (Back)+AUX ANT (Back)	0.08 (W/kg)
802.11ac-VHT20 (UNII Band I)	Main ANT (Back)+AUX ANT (Back)	0.12 (W/kg)
802.11ac-VHT20 (UNII Band II-2A)	Main ANT (Back)+AUX ANT (Back)	0.11 (W/kg)
802.11ac-VHT80 (UNII Band II-2C)	Main ANT (Back)+AUX ANT (Back)	0.25 (W/kg)
802.11ac-VHT20 (UNII Band III)	Main ANT (Back)+AUX ANT (Back)	0.27 (W/kg)
	Main ANT (Back with Case)+ AUX ANT (Back with Case)	0.19 (W/kg)

Note: 1. The SAR limit (SAR1g 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).
2. It is calculated from scale SAR.
3. Pursuant to section 2.8 of KDB 865664 when measured SAR larger than 0.8W/Kg not scale SAR, thus repeat SAR is not needed.

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3. GENERAL INFORMATION

3.1. Description of Application

Applicant	Elitegroup Computer Systems Co., Ltd. No. 239, Sec. 2., TiDing Blvd., Taipei, Taiwan 11493
Product	7" Multi Function Pad
Model	mPAD2-7…… (The "." in the model name can be 0 to 9, A to Z, a to z, "-", "_", "\","/" or blank for marketing use only)
Brand	ECS

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3.2. Description of EUT

<table>
<tr><td>Test Model</td><td>mPAD2-7-CHT4-I</td></tr>
<tr><td>Serial Number</td><td>N/A</td></tr>
<tr><td>Power Rating</td><td>Refer to AC adapter rating.</td></tr>
<tr><td>RF Features</td><td>WLAN:802.11a/b/g/n/ac
Bluetooth: BT and BLE
NFC, GPS</td></tr>
<tr><td>Transmit Type</td><td>
<table>
<tr><th colspan="2">2.4 GHz</th></tr>
<tr><td>802.11b</td><td>2T2R</td></tr>
<tr><td>802.11g</td><td>2T2R</td></tr>
<tr><td>802.11n-HT20</td><td>2T2R</td></tr>
<tr><td>802.11n-HT40</td><td>2T2R</td></tr>
<tr><td>BT/BLE</td><td>1T1R</td></tr>
</table>
<table>
<tr><th colspan="2">UNII Bands</th></tr>
<tr><td>802.11a</td><td>2T2R</td></tr>
<tr><td>802.11n-HT20/
802.11ac-VHT20</td><td>2T2R</td></tr>
<tr><td>802.11n-HT40/
802.11ac-VHT40</td><td>2T2R</td></tr>
<tr><td>802.11ac-VHT80</td><td>2T2R</td></tr>
</table>
<table>
<tr><th colspan="2">13.56MHz</th></tr>
<tr><td>NFC</td><td>1T1R</td></tr>
</table>
</td></tr>
<tr><td>Accessories</td><td>• Barcode Scanner mPAD (Option)
• SCR mPAD (Option)
• MSR Module (Option)
• USB Ethernet mPAD (Option)
• 7” Pad Docking (Option)
• 30 Pin to USB Cable
• 30 Pin to HDMI Cable
• 30 Pin to DC Jack Cable
• Power Adapter</td></tr>
<tr><td>Date of Receipt</td><td>2017. 01. 25</td></tr>
<tr><td>Date of Test</td><td>2017. 03. 08 ~ 13</td></tr>
</table>

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3.3. EUT Specifications Assessed in Current Report

2.4GHz		
Mode	Fundamental Range (MHz)	Channel Number
802.11b	2412-2462	11
802.11g		11
802.11n-HT20		11
802.11n-HT40	2422-2452	7
Bluetooth	2402-2480	79
BLE	2402-2480	40

5GHz			
Mode	UNII Band	Fundamental Range (MHz)	Channel Number
802.11a	I	5180-5240	4
	II-2A	5260-5320	4
	II-2C	5500-5720	12
	III	5745-5825	5
802.11n-HT20/ 802.11ac-VHT20	I	5180-5240	4
	II-2A	5260-5320	4
	II-2C	5500-5720	12
	III	5745-5825	5
802.11n-HT40/ 802.11ac-VHT40	I	5190-5230	2
	II-2A	5270-5310	2
	II-2C	5510-5710	6
	III	5755-5795	2
802.11ac-VHT80	I	5210	1
	II-2A	5290	1
	II-2C	5530-5690	3
	III	5775	1
Remark: UNII Band II (DFS Function, Slave/no In service monitor, no Ad-Hoc mode)			

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Mode	Modulation	Data Rate (Mbps)
802.11b	DSSS (DBPSK/DQPSK/CCK)	Up to 11
802.11g	OFDM (BPSK/QPSK/16QAM/64QAM)	Up to 54
802.11a		Up to 54
802.11n-HT20	OFDM (BPSK/QPSK/16QAM/64QAM)	Up to 144.4
802.11n-HT40		Up to 300
802.11ac-HT20	OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)	Up to 173.3
802.11ac-HT40		Up to 400
802.11ac-VHT80		Up to 866.7
Bluetooth	FHSS (GFSK, π/4 DQPSK, 8-DPSK)	1/2/3
BLE	GFSK	1

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3.4. Antenna Information

GPS Antenna					
No.	**Antenna Part Number**	**Manufacture**	**Antenna Type**	**Frequency (MHz)**	**Max Gain (dBi)**
1	13-130-JC5150	Joinsoon Electronics MFG. CO.,LTD	PCB	1510 to 1602	**4.62**

2.4G Antenna					
No.	**Antenna Part Number**	**Manufacture**	**Antenna Type**	**Frequency (MHz)**	**Max Gain (dBi)**
1	13-130-002075 (Tx1 Antenna)	Joinsoon Electronics MFG. CO.,LTD	PIFA	2400 to 2500	-2.53
2	13-130-002076 (Tx2 Antenna)		PIFA	2400 to 2500	-1.15

5G Antenna					
No.	**Antenna Part Number**	**Manufacture**	**Antenna Type**	**Frequency (MHz)**	**Max Gain (dBi)**
1	13-130-002075 (Tx1 Antenna)	Joinsoon Electronics MFG. CO.,LTD	PIFA	5150 to 5350	-0.53
2				5470 to 5725	0.82
3				5725 to 5850	0.82
4	13-130-002076 (Tx2 Antenna)	Joinsoon Electronics MFG. CO.,LTD	PIFA	5150 to 5350	0.90
5				5470 to 5725	0.53
6				5725 to 5850	0.53

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3.5. Description of Key Components

3.5.1. For the All Component Lists

Item	Supplier	Model / Type	Character
Main Board	ECS	TC71A	---
CPU (Socket: BGA1380)	Intel	Z8550	1.44GHz, up to 2.4GHz
Memory (On Board)	SK hynix	H9CCNNNBPTBL	LPDDR3 1600MHz 4GB
7” LCD Panel	KD	KD070D30-31NB-A18	LCD.WXGA.7.800*1280
Touch Module	TOPGROUP EETI	ZC-122A-0776AT EXC3102	Support 10-points multi-touch(Capacivtive)
Storage	SanDisk	SDINADF4-64G	64GB
	SanDisk	SDIN9DW4-32G	32GB
Front Camera	Brodsands	BLX2722E-TC7AW-F	Front Camera : 2.0M
Rear Camera	Brodsands	BLX8858E-TC7AW-CB	Rear Camera: 8.0M
Wi-Fi +BT Module	Qualcomm (Azurewave)	QCNFA324 (AW-CM217NF)	Wi-Fi 802.11 a/b/g/n/ac + BT 4.0
GPS	Boradcam	BCM4752	GPS&GLONASS
NFC	NXP	NPC100	---
Battery	Sunwoda	MICA-071	3.7Vdc,4100mAh / 15.17Wh
AC Adapter	Asian Power Devices Inc.	WA-36A12R (Wall-mount, 2C)	I/P: AC 100-240V, 50-60Hz, 0.9A Max. O/P: DC 12V, 3A
	DC Power Cord: Unshielded, Undetachable, 1.8m With one ferrite core		
mPad Module (Option)	ECS	Barcode Scanner mPAD	Barcode Scanner
	ECS	SCR mPAD	Smart Card Reader (SCR)
	ECS	MSR mPAD	Magnetic Stripe Reader (MSR)
	ECS	USB Ethernet mPAD	Giga LAN Port
7" Pad Docking (Option)	ECS	DOCKING mPAD-7	Docking

Remark: For more detailed features description, please refer to the manufacturer’s specifications or the user manual.

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3.5.2. The EUT collocates with following worst components, which are used to establish a basic configuration of system during test:

Item	Supplier	Model / Type	Character
Main Board	ECS	TC71A	---
CPU (Socket: BGA1380)	Intel	Z8550	1.44GHz, up to 2.4GHz
Memory (On Board)	SK hynix	H9CCNNNBPTBL	LPDDR3 1600MHz 4GB
7” LCD Panel	KD	KD070D30-31NB-A18	LCD.WXGA.7.800*1280
Touch Module	TOPGROUP EETI	ZC-122A-0776AT EXC3102	Support 10-points multi-touch(Capacivtive)
Storage	SanDisk	SDIN9DW4-32G	32GB
Front Camera	Brodsands	BLX2722E-TC7AW-F	Front Camera : 2.0M
Rear Camera	Brodsands	BLX8858E-TC7AW-CB	Rear Camera: 8.0M
Wi-Fi +BT Module	Qualcomm (Azurewave)	QCNFA324 (AW-CM217NF)	Wi-Fi 802.11 a/b/g/n/ac + BT 4.0
GPS	Boradcam	BCM4752	GPS&GLONASS
NFC	NXP	NPC100	---
Battery	Sunwoda	MICA-071	3.7Vdc,4100mAh / 15.17Wh
AC Adapter	Asian Power Devices Inc.	WA-36A12R (Wall-mount, 2C)	I/P: AC 100-240V, 50-60Hz, 0.9A Max. O/P: DC 12V, 3A
	DC Power Cord: Unshielded, Undetachable, 1.8m With one ferrite core		
mPad Module (Option)	ECS	Barcode Scanner mPAD	Barcode Scanner
7" Pad Docking (Option)	ECS	DOCKING mPAD-7	Docking

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3.6. Test Environment

Ambient conditions in the laboratory:

Item	Require	Actual
Temperature (℃)	18-25	22 ± 2
Humidity (%RH)	30-70	48 ± 2

3.7. Description of Test Facility

Name of Test Firm	Audix Technology Corporation / EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: sales@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2005 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724 (3) FCC OET Designation No. TW1004 & TW1090
Test Facilities	(1) SAR Room

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3.8. Measurement Uncertainty

DASY5 Uncertainty Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram.								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.0%	N	1	1	1	±6.0%	±6.0%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Std. Uncertainty						±11%	±10.8%	387
Expanded STD Uncertainty						±22%	±21.5%	

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4. MEASUREMENT EQUIPMENT LIST

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1.	Stäubli Robot TX90 XL	Stäubli	TX90	F12/5K9SA1/ A101	N/A	N/A
2.	Controller	SPEAG	CS8c	N/A	N/A	N/A
3.	SAM Twin Phantom	SPEAG	N/A	1706	N/A	N/A
4.	ELI5 Phantom	SPEAG	N/A	1170	N/A	N/A
5.	Device Holder	SPEAG	N/A	N/A	N/A	N/A
6.	Data Acquisition Electronic	SPEAG	DAE4	1337	2016. 09. 28	2017. 09. 27
7.	E-Field Probe	SPEAG	EX3DV4	3855	2016. 09. 30	2017. 09. 29
8.	SAR Software	SPEAG	DASY52	V.52.8.8.1222	N/A	N/A
9.	ENA Network Analyzer	Agilent	E5071C	Y46214331	2016. 09. 29	2017. 09. 28
10.	Signal Generator	Aglient	N5181A	MY50143917	2016. 09. 19	2017. 09. 18
11.	Power Meter	Aglient	ML2487A	MY52180007	2016. 09. 19	2017. 09. 18
12.	Power Sensor	Aglient	N8481	MY52080006	2016. 09. 19	2017. 09. 18
13.	Dipole Antenna	SPEAG	D2450V2	888	2015. 09. 28	2018 09. 27
14.	Dipole Antenna	SPEAG	D5GHzV2	1203	2015. 01. 06	2018. 01 06

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5. SAR MEASUREMENT SYSTEM

5.1. Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho dv}\right)$$

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\sigma|E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

5.2. SPEAG DASY System

DASY system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY5 software defined. The DASY software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

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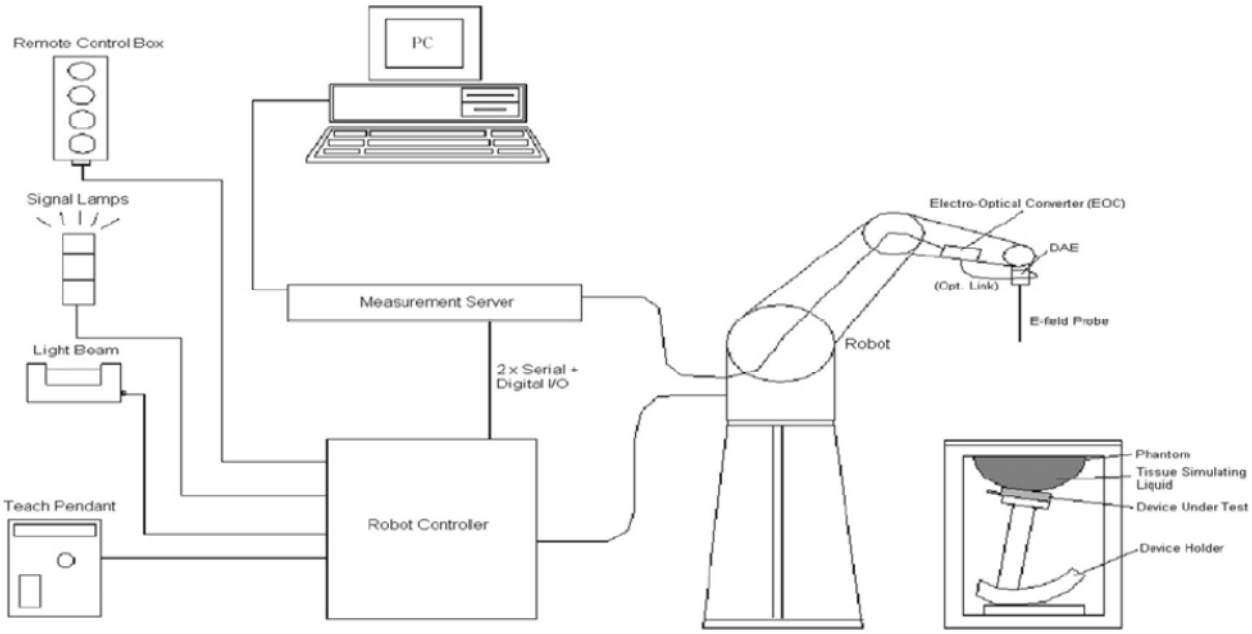
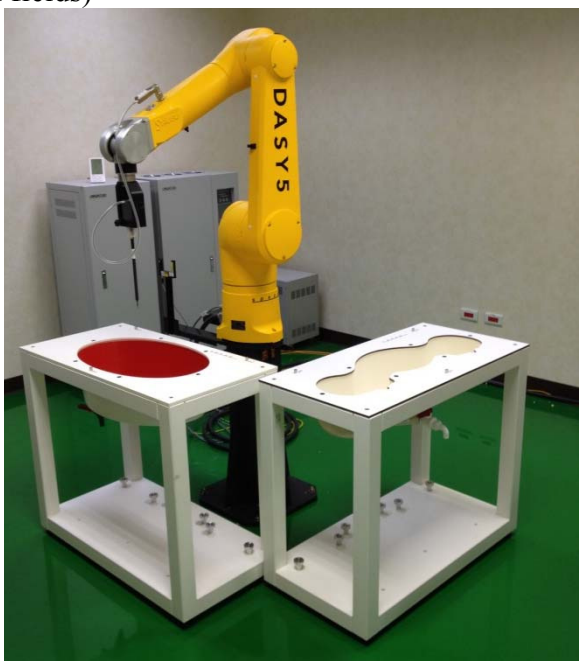


Fig-3.1 DASY System Setup

5.2.1. Robot

The DASY system uses the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ±0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)



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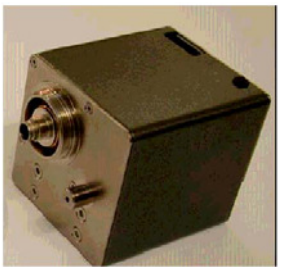
5.2.2. Probes

Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

5.2.3. Data Acquisition Electronics (DAE)

Model	DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)	
Input Offset Voltage	< 5µV (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	

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5.2.4. Probes

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	

Model	ELI	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	

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5.2.5. Device Holder

Model	Mounting Device	
Construction	In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).	
Material	POM	

Model	Laptop Extensions Kit	
Construction	Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner.	
Material	POM, Acrylic glass, Foam	

5.2.6. Device Holder

Model	System Validation Dipoles	
Construction	Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.	
Frequency	750 MHz to 5800 MHz	
Return Loss	> 20 dB	
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)	

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5.2.7. Device Holder

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-5.1.

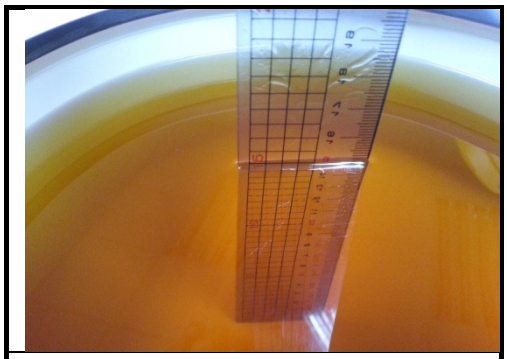

Photo of Liquid Height

The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528 and FCC OET 65 Supplement C Appendix C. For the body tissue simulating liquids, the dielectric properties are defined in FCC OET 65 Supplement C Appendix C. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.

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Table-5.1 Targets of Tissue Simulating Liquid

Target Frequency [MHz]	Target Permittivity (εr)	Range of ± 5%	Target Conductivity σ [s/m]	Range of ± 5%
For Head				
750	41.9	39.8 ~ 44.0	0.89	0.85 ~ 0.93
835	41.5	39.4 ~ 43.6	0.90	0.86 ~ 0.95
900	41.5	39.4 ~ 43.6	0.97	0.92 ~ 1.02
1450	40.5	38.5 ~ 42.5	1.20	1.14 ~ 1.26
1640	40.3	38.3 ~ 42.3	1.29	1.23 ~ 1.35
1750	40.1	38.1 ~ 42.1	1.37	1.30 ~ 1.44
1800	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
1900	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2000	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2300	39.5	37.5 ~ 41.5	1.67	1.59 ~ 1.75
2450	39.2	37.2 ~ 41.2	1.80	1.71 ~ 1.89
2600	39.0	37.1 ~ 41.0	1.96	1.86 ~ 2.06
3500	37.9	36.0 ~ 39.8	2.91	2.76 ~ 3.06
5200	36.0	34.2 ~ 37.8	4.66	4.43 ~ 4.89
5300	35.9	34.1 ~ 37.7	4.76	4.52 ~ 5.00
5500	35.6	33.8 ~ 37.4	4.96	4.71 ~ 5.21
5600	35.5	33.7 ~ 37.3	5.07	4.82 ~ 5.32
5800	35.3	33.5 ~ 37.1	5.27	5.01 ~ 5.53
For Body				
750	55.5	52.7 ~ 58.3	0.96	0.91 ~ 1.01
835	55.2	52.4 ~ 58.0	0.97	0.92 ~ 1.02
900	55.0	52.3 ~ 57.8	1.05	1.00 ~ 1.10
1450	54.0	51.3 ~ 56.7	1.30	1.24 ~ 1.37
1640	53.8	51.1 ~ 56.5	1.40	1.33 ~ 1.47
1750	53.4	50.7 ~ 56.1	1.49	1.42 ~ 1.56
1800	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
1900	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2000	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2300	52.9	50.3 ~ 55.5	1.81	1.72 ~ 1.90
2450	52.7	50.1 ~ 55.3	1.95	1.85 ~ 2.05
2600	52.5	49.9 ~ 55.1	2.16	2.05 ~ 2.27
3500	51.3	48.7 ~ 53.9	3.31	3.14 ~ 3.48
5200	49.0	46.6 ~ 51.5	5.30	5.04 ~ 5.57
5300	48.9	46.5 ~ 51.3	5.42	5.15 ~ 5.69
5500	48.6	46.2 ~ 51.0	5.65	5.37 ~ 5.93
5600	48.5	46.1 ~ 50.9	5.77	5.48 ~ 6.06
5800	48.2	45.8 ~ 50.6	6.00	5.70 ~ 6.30

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Table-5.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCI	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
For Head								
H750	0.2	-	0.2	1.5	56.0	-	42.1	-
H835	0.2	-	0.2	1.5	57.0	-	41.1	-
H900	0.2	-	0.2	1.4	58.0	-	40.2	-
H1450	-	43.3	-	0.6	-	-	56.1	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	47.0	-	0.4	-	-	52.6	-
H1800	-	44.5	-	0.3	-	-	55.2	-
H1900	-	44.5	-	0.2	-	-	55.3	-
H2000	-	44.5	-	0.1	-	-	55.4	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-		-	-	-	17.2	65.5	17.3
For Body								
B750	0.2	-	0.2	0.8	48.8	-	50.0	-
B835	0.2	-	0.2	0.9	48.5	-	50.2	-
B900	0.2	-	0.2	0.9	48.2	-	50.5	-
B1450	-	34.0	-	0.3	-	-	65.7	-
B1640	-	32.5	-	0.3	-	-	67.2	-
B1750	-	31.0	-	0.2	-	-	68.8	-
B1800	-	29.5	-	0.4	-	-	70.1	-
B1900	-	29.5	-	0.3	-	-	70.2	-
B2000	-	30.0	-	0.2	-	-	69.8	-
B2300	-	31.0	-	0.1	-	-	68.9	
B2450	-	31.4	-	0.1	-	-	68.5	
B2600	-	31.8	-	0.1	-	-	68.1	
B3500	-	28.8	-	0.1	-	-	71.1	
B5G	-	-	-	-	-	10.7	78.6	10.7

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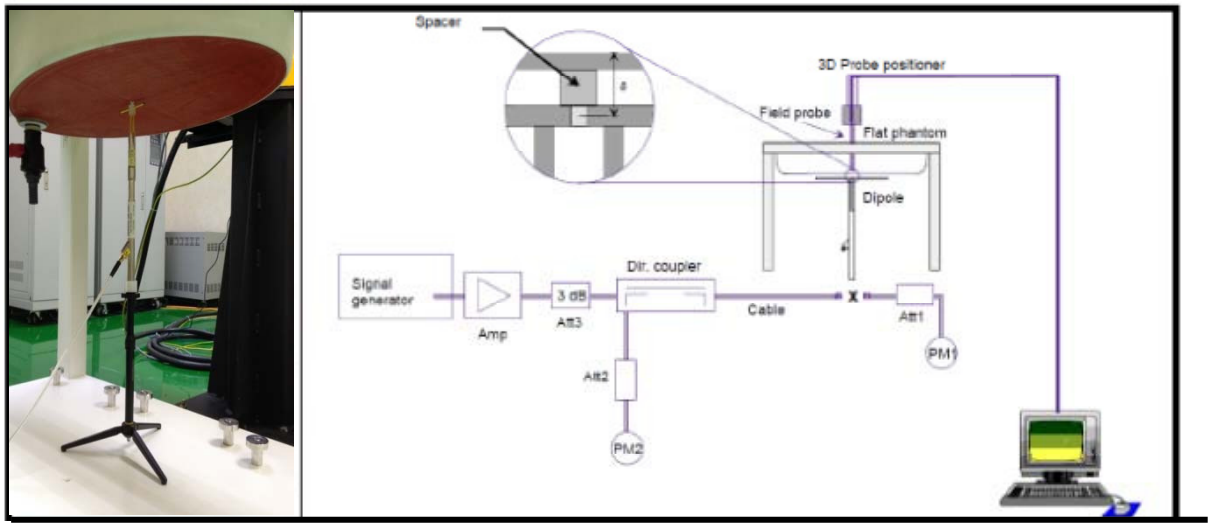
5.3. SAR System Verification

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.



The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The power meter PM1 measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

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5.3.1. SAR System Verification Result

System Performance Check at WLAN

Dipole Kit: D2450V2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
2450MHz	Reference result ± 10% window	12.90 11.610 to 14.190	6.00 5.400 to 6.600	N/A
	2017. 03. 08	13.5	6.07	22.1

Note: All SAR values are normalized to 250mW forward power.

System Performance Check at WLAN

Dipole Kit: D5GHzV2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
5200MHz	Reference result ± 10% window	7.69 6.921 to 8.459	2.14 1.926 to 2.354	N/A
	2017. 03. 09	8.24	2.29	22.2

Note: All SAR values are normalized to 250mW forward power.

System Performance Check at WLAN

Dipole Kit: D5GHzV2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
5500MHz	Reference result ± 10% window	8.26 7.434 to 9.086	2.28 2.052 to 2.508	N/A
	2017. 03. 13	8.69	2.39	22.1

Note: All SAR values are normalized to 250mW forward power.

System Performance Check at WLAN

Dipole Kit: D5GHzV2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
5800MHz	Reference result ± 10% window	7.88 7.092 to 8.668	2.16 1.944 to 2.376	N/A
	2017. 03. 10	7.19	1.99	22.3

Note: All SAR values are normalized to 250mW forward power.

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5.3.2. SAR System Check Data

Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

System Check_B2450

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:888

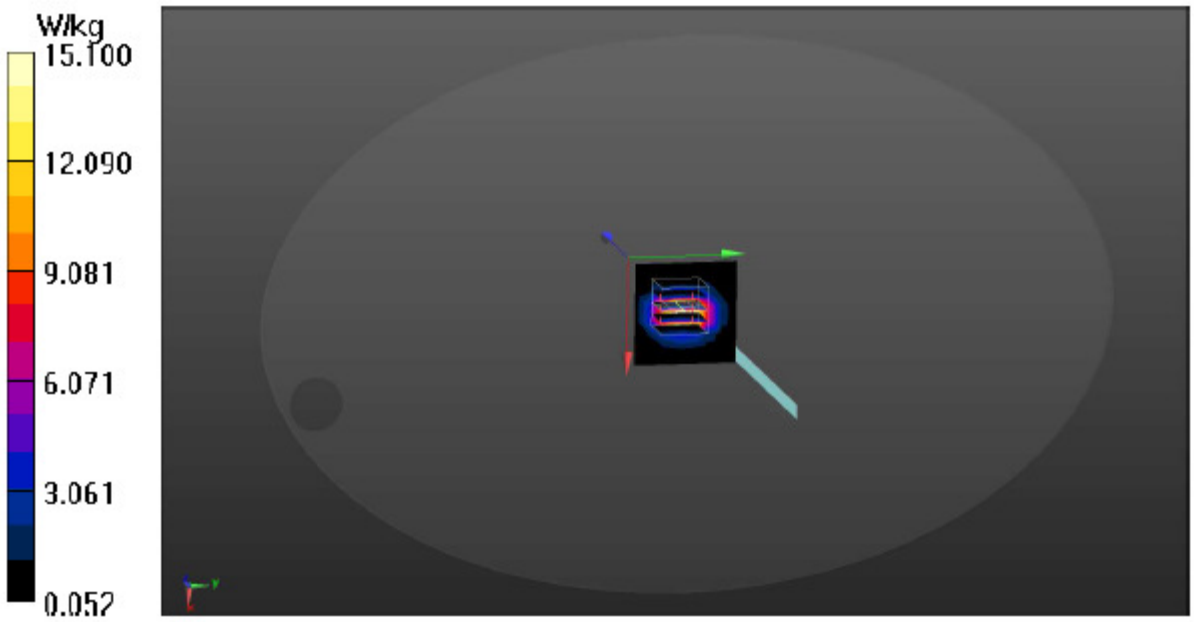
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle:1:1
Medium parameters used: f = 2450 MHz; σ = 2.036 S/m; ε_r = 53.461; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.4 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 85.21 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 28.9 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.07 W/kg
Maximum value of SAR (measured) = 15.1 W/kg



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Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

System Check_B5200

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1203

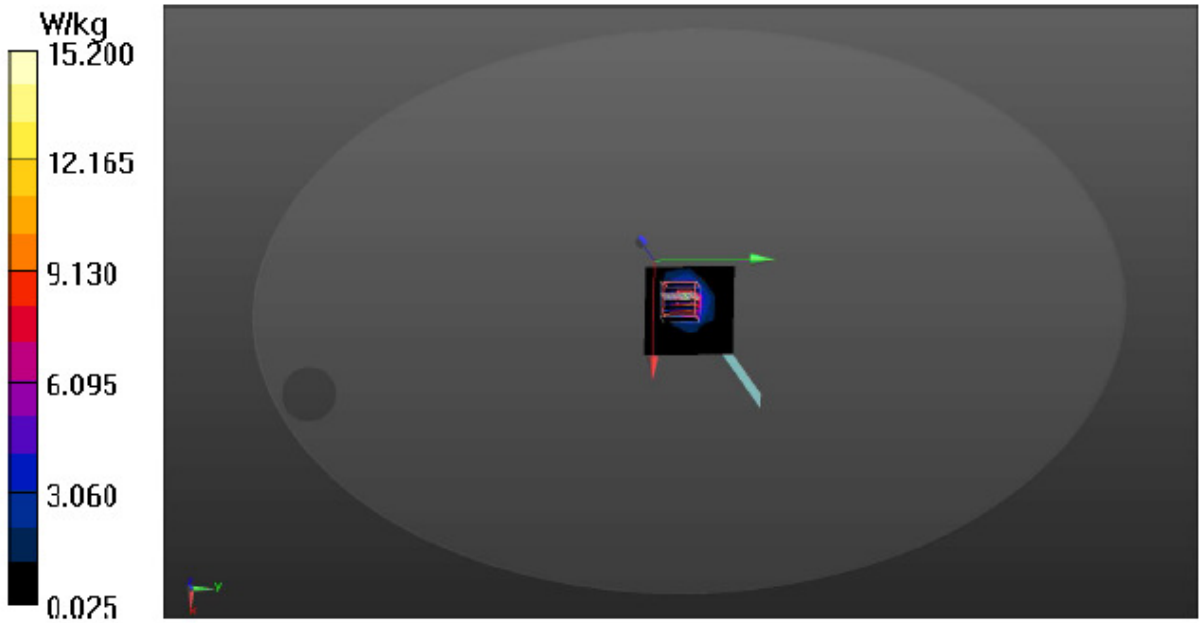
Communication System: UID 0, CW (0); Frequency: 5200 MHz;Duty Cycle:1:1
Medium parameters used: f = 5200 MHz; σ = 5.34 S/m; ε_r = 47.596; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.2 W/kg

Configuration/CW 2450/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 31.48 V/m; Power Drift = 0.27 dB
Peak SAR (extrapolated) = 34.7 W/kg
SAR(1 g) = 8.24 W/kg; SAR(10 g) = 2.29 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



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Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

System Check_B5500

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1203

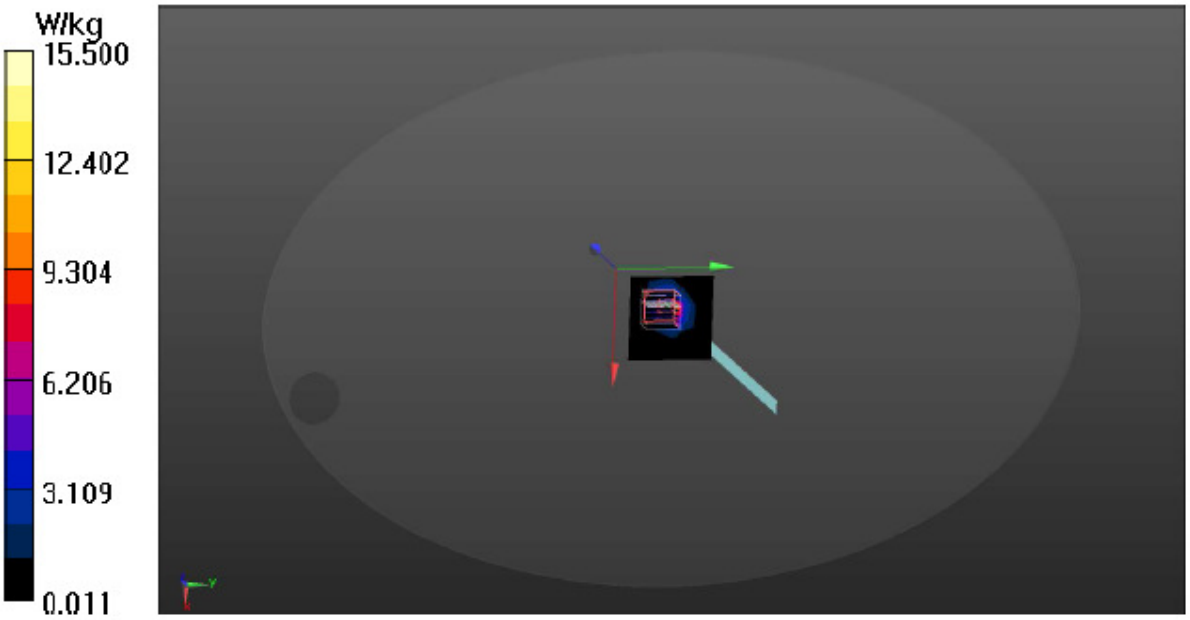
Communication System: UID 0, CW (0); Frequency: 5500 MHz;Duty Cycle:1:1
Medium parameters used: f = 5500 MHz; σ = 5.753 S/m; ε_r = 46.944; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.11, 4.11, 4.11); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.5 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 31.27 V/m; Power Drift = 0.23 dB
Peak SAR (extrapolated) = 34.5 W/kg
SAR(1 g) = 8.69 W/kg; SAR(10 g) = 2.39 W/kg
Maximum value of SAR (measured) = 18.0 W/kg



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Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

System Check_B5800

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1203

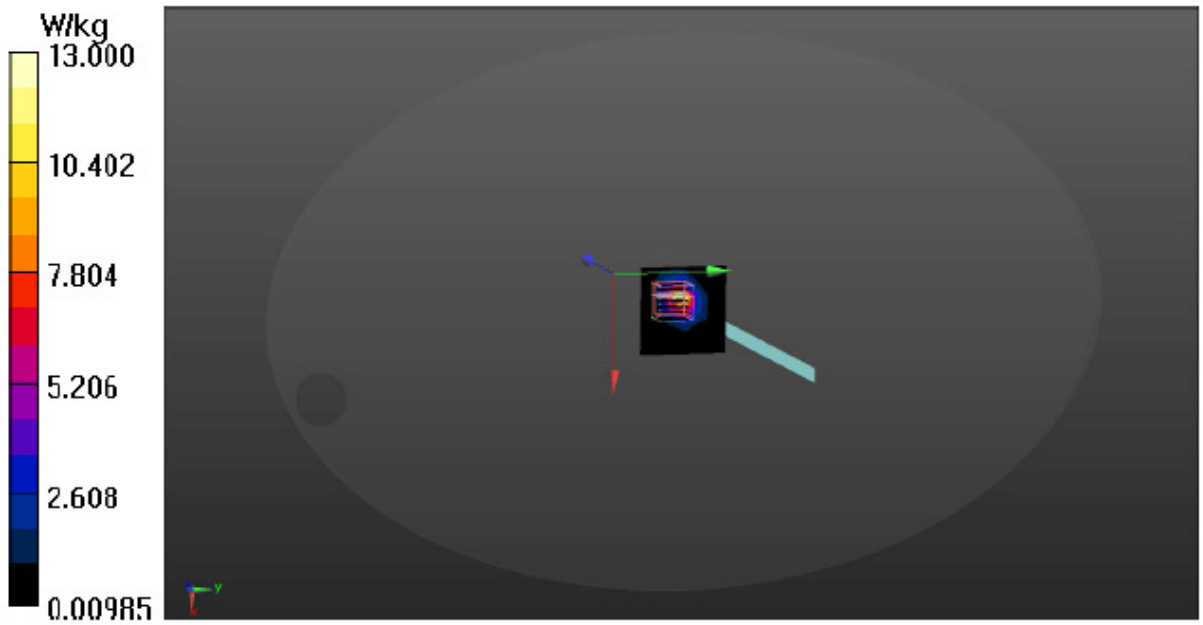
Communication System: UID 0, CW (0); Frequency: 5800 MHz;Duty Cycle:1:1
Medium parameters used: f = 5800 MHz; σ = 6.163 S/m; ε_r = 46.419; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.0 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 27.54 V/m; Power Drift = 0.26 dB
Peak SAR (extrapolated) = 29.1 W/kg
SAR(1 g) = 7.19 W/kg; SAR(10 g) = 1.99 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



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5.4. SAR Measurement Procedure

According to the SAR test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

(a) Make EUT to transmit maximum output power
(b) Measure conducted output power through RF cable
(c) Place the EUT in the specific position of phantom
(d) Perform SAR testing steps on the DASY system
(e) Record the SAR value

5.4.1. Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. According to KDB 865664 D01 v01r03, the resolution for Area and Zoom scan is specified in the table below.

Items	<= 2 GHz	2-3 GHz	3-4 GHz	4-5 GHz	5-6 GHz
Area Scan (Δx, Δy)	<= 15mm	<= 12mm	<= 12mm	<= 10mm	<= 10mm
Zoom Scan (Δx, Δy)	<= 8mm	<= 5mm	<= 5mm	<= 4mm	<= 4mm
Zoom Scan (Δz)	<= 5mm	<= 5mm	<= 4mm	<= 3mm	<= 2mm
Zoom Scan Volume	>= 30mm	>= 30mm	>= 28mm	>= 25mm	>= 22mm

Note:
When zoom scan is required and report SAR is <= 1.4 W/kg, the zoom scan resolution of Δx / Δy (2-3GHz: <= 8 mm, 3-4GHz: <= 7 mm, 4-6GHz: <= 5 mm) may be applied.

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5.4.2. Volume Scan Procedure

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

5.4.3. Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

5.4.4. Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

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5.4.5. SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

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6. SAR MEASUREMENT EVALUATION

6.1. EUT Configuration and Setting

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB 447498 D01 are used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required.

A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance ≤ 5 mm to support compliance.

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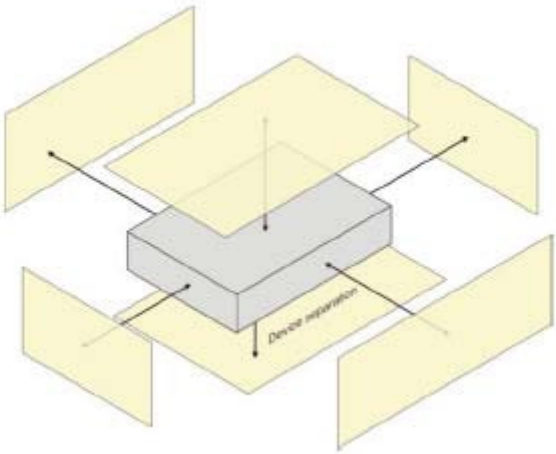
6.2. EUT Testing Position

The wireless router device is tested for SAR compliance in body configurations described in the following subsections.
A test separation of 0 mm is required. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25 mm from that surface or edge, for the data modes, wireless technologies and frequency bands supporting hotspot mode. The standalone SAR results in each device test orientation must be analyzed for the applicable hotspot mode simultaneous transmission configurations to determine SAR test exclusion and volume scan requirements. The simultaneous transmission configurations must be clearly described in the SAR report to support the analyses or test results. When the device form factor is smaller than 9 cm x 5 cm, unless a test separation distance of 5 mm or less is used a KDB inquiry is required to determine the acceptable test distance.



The SAR testing required mode is listed as below.

Antenna	Front Face	Rear Face	Top Side	Bottom Side	Left Side	Right Side
WLAN			√	√		√

Note: When surface or edge with distance antenna is greater than 25mm that exempted from SAR evaluation.

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6.3. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using Aligent Dielectric Probe Kit and Aligent E5071C Vector Network Analyzer.

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
2450MHz	Reference result ± 5% window	52.70 50.065 to 55.335	1.95 1.853 to 2.048	N/A
	2017. 03. 08	53.461	2.036	22.1

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
5200MHz	Reference result ± 5% window	49.01 46.560 to 51.461	5.299 5.034 to 5.564	N/A
	2017. 03. 09	47.596	5.34	22.2

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
5500MHz	Reference result ± 5% window	48.61 46.180 to 51.041	5.650 5.368 to 5.933	N/A
	2017. 03. 13	49.944	5.753	22.1

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
5800MHz	Reference result ± 5% window	48.20 45.790 to 50.610	6.00 5.700 to 6.300	N/A
	2017. 03. 10	46.419	6.163	22.3

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6.4. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 "Uncontrolled Environments" limits. These limits apply to a location which is deemed as "Uncontrolled Environment" which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	1.60 W/kg
Spatial Average SAR (whole body)	0.08 W/kg
Spatial Peak SAR (10g for hands, feet, ankles and wrist)	4.00 W/kg

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6.5. Conducted Power Measurement

6.5.1. For WLAN Function

Type of Network		Channel	Frequency (MHz)	Average Output Power (dBm)	Tune-Up Limit	Scale Factor
802.11b		CH 1	2412	**20.64**	**21.00**	---
		CH 6	2437	**20.97**	**21.20**	---
		CH 11	2462	**21.22**	**21.50**	**1.07**
802.11g		CH 1	2412	**16.51**	**17.00**	---
		CH 2	2417	**21.34**	**21.50**	---
		CH 6	2437	**21.56**	**22.00**	**1.11**
		CH 10	2457	**21.33**	**21.50**	---
		CH 11	2462	**15.99**	**16.50**	---
802.11n-HT20		CH 1	2412	**16.69**	**17.00**	---
		CH 2	2417	**21.34**	**21.50**	---
		CH 6	2437	**21.52**	**22.00**	---
		CH 10	2457	**21.48**	**21.90**	---
		CH 11	2462	**15.34**	**15.60**	---
802.11n-HT40		CH 3	2422	**14.76**	**15.00**	---
		CH 4	2427	**17.43**	**17.80**	---
		CH 6	2437	**17.56**	**18.00**	---
		CH 8	2447	**17.76**	**18.00**	---
		CH 9	2452	**11.47**	**12.00**	---
802.11a	UNII Band I	CH 36	5180	**16.96**	**17.50**	---
		CH 40	5200	**17.71**	**18.20**	---
		CH 48	5240	**17.68**	**18.00**	---
	UNII Band II-2A	CH 52	5260	**18.31**	**18.50**	---
		CH 60	5300	**18.22**	**18.50**	---
		CH 64	5320	**16.37**	**16.50**	---
	UNII Band II-2C	CH 100	5500	**16.27**	**16.50**	---
		CH 120	5600	**17.95**	**18.50**	---
		CH 140	5700	**15.96**	**16.50**	---
		CH 144	5720	**15.56**	**16.00**	---
	UNII Band IIII	CH 144	5720	**8.20**	**8.50**	---
		CH 149	5745	**16.60**	**17.00**	---
		CH 157	5785	**18.11**	**18.50**	---
		CH 165	5825	**17.97**	**18.40**	---

Note: 1. Scale factor is applied to calculated scale SAR presented in section 6.7.
2. Scale factor not listed for channels are exempted from SAR testing.

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Type of Network		Channel	Frequency (MHz)	**Average Output Power (dBm)**	**Tune-Up Limit**	**Scale Factor**
802.11ac-VHT20	UNII Band I	CH 36	5180	**19.12**	**19.50**	**---**
		CH 40	5200	**19.48**	**19.80**	**1.08**
		CH 48	5240	**20.07**	**20.50**	**1.10**
	UNII Band II-2A	CH 52	5260	**19.75**	**20.00**	**1.06**
		CH 60	5300	**19.35**	**19.50**	**1.04**
		CH 64	5320	**18.86**	**19.10**	**---**
	UNII Band II-2C	CH 100	5500	**18.11**	**18.50**	**---**
		CH 120	5600	**19.04**	**19.50**	**---**
		CH 140	5700	**17.70**	**18.00**	**---**
		CH 144	5720	**16.97**	**17.20**	**---**
	UNII Band III	CH 144	5720	**11.45**	**12.00**	**---**
		CH 149	5745	**18.12**	**18.50**	**---**
		CH 157	5785	**18.69**	**19.00**	**1.07**
		CH 165	5825	**19.34**	**19.50**	**1.04**
802.11ac-VHT40	UNII Band I	CH 38	5190	**13.43**	**13.80**	**---**
		CH 46	5230	**19.13**	**19.50**	**---**
	UNII Band II-2A	CH 54	5270	**18.99**	**19.30**	**---**
		CH 62	5310	**14.17**	**14.50**	**---**
	UNII Band II-2C	CH 102	5510	**14.22**	**14.50**	**---**
		CH 118	5590	**19.02**	**19.50**	**---**
		CH 134	5670	**17.94**	**18.50**	**---**
		CH 142	5710	**17.95**	**18.50**	**---**
	UNII Band III	CH 142	5710	**8.06**	**8.50**	**---**
		CH 151	5755	**17.29**	**17.50**	**---**
		CH 159	5795	**18.57**	**19.00**	**---**
802.11ac-VHT80	UNII Band I	CH 52	5210	**13.25**	**13.50**	**---**
	UNII Band II-2A	CH 58	5290	**15.43**	**16.00**	**---**
	UNII Band II-2C	CH 106	5530	**13.53**	**14.00**	**---**
		CH 133	5610	**19.69**	**20.00**	**1.07**
		CH 138	5690	**19.52**	**20.00**	**1.12**
	UNII Band III	CH 138	5690	**5.95**	**6.50**	**---**
		CH 155	5775	**16.98**	**17.30**	**---**

Note: 1. Scale factor is applied to calculated scale SAR presented in section 6.7.
2. Scale factor not listed for channels are exempted from SAR testing.

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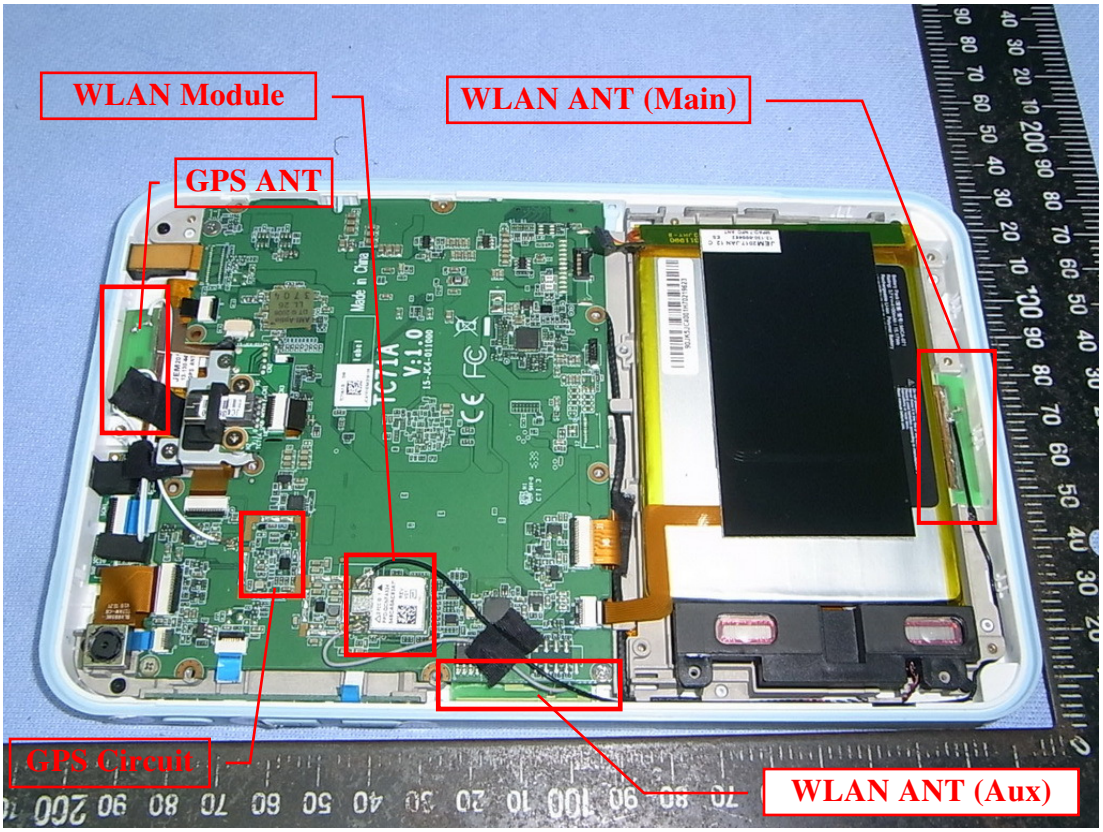
6.6. Exposure Positions Consideration



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6.7. SAR Test Result

Test Date	2017/03/08	Temp./Hum.	23℃/55%
Test Voltage	AC 120V, 60Hz (with Docking via AC Adapter)		

Liquid Temperature : 22.1℃					Depth of Liquid: > 15cm			
Test Mode: 2.4GHz								
Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted power (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11b								
Antenna: Main								
Back	Fixed	0	2462	21.22	0.042	1.07	0.04	1.6
Right	Fixed	0	2462	21.22	**0.332**	1.07	**0.35**	1.6
Antenna: AUX								
Back	Fixed	0	2462	21.22	0.014	1.07	0.01	1.6
Top	Fixed	0	2462	21.22	0.302	1.07	0.32	1.6
802.11g								
Antenna: Main								
Back	Fixed	0	2437	21.56	0.066	1.11	0.07	1.6
Right	Fixed	0	2437	21.56	0.267	1.11	0.30	1.6
Antenna: AUX								
Back	Fixed	0	2437	21.56	0.013	1.11	0.01	1.6
Top	Fixed	0	2437	21.56	0.184	1.11	0.20	1.6

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Test Date	2017/03/09	Temp./Hum.	23℃/55%
Test Voltage	AC 120V, 60Hz (with Docking via AC Adapter)		

Liquid Temperature : 22.2℃					Depth of Liquid: > 15cm			
Test Mode: 5GHz								
Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted power (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11ac-VHT20 (UNII Band I)								
Main Antenna								
Back	Fixed	0	5240	20.07	0.094	1.10	0.10	1.6
Right	Fixed	0	5240	20.07	**0.781**	1.10	**0.86**	1.6
Right	Fixed	0	5200	19.48	0.685	1.08	0.74	1.6
AUX Antenna								
Back	Fixed	0	5240	20.07	0.019	1.10	0.02	1.6
Top	Fixed	0	5240	20.07	0.253	1.10	0.28	1.6
802.11ac-VHT20 (UNII Band II-2A)								
Main Antenna								
Back	Fixed	0	5260	19.75	0.095	1.06	0.10	1.6
Right	Fixed	0	5260	19.75	**0.613**	1.06	**0.65**	1.6
Right	Fixed	0	5300	0.500	0.500	1.04	0.52	1.6
AUX Antenna								
Back	Fixed	0	5260	19.75	0.014	1.06	0.01	1.6
Top	Fixed	0	5260	19.75	0.218	1.06	0.23	1.6

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Test Date	2017/03/13	Temp./Hum.	22℃/54%
Test Voltage	AC 120V, 60Hz (with Docking via AC Adapter)		

Liquid Temperature : 22.1℃					Depth of Liquid: > 15cm			
Test Mode: 5GHz								
Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted power (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11ac-VHT80 (UNII Band II-2C)								
Main Antenna								
Back	Fixed	0	5610	19.69	0.198	1.07	0.21	1.6
Right	Fixed	0	5610	19.69	0.438	1.07	0.47	1.6
Right	Fixed	0	5690	19.52	**0.503**	1.12	0.56	1.6
AUX Antenna								
Back	Fixed	0	5610	19.69	0.041	1.07	0.04	1.6
Top	Fixed	0	5610	19.69	0.363	1.07	0.39	1.6

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Test Date	2017/03/10	Temp./Hum.	23℃/54%
Test Voltage	AC 120V, 60Hz (with Docking via AC Adapter)		

Liquid Temperature : 22.3℃					Depth of Liquid: > 15cm			
Test Mode: 5GHz								
Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted power (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11ac-VHT20 (UNII Band III)								
Main Antenna								
Back	Fixed	0	5825	19.34	**0.201**	1.04	**0.21**	1.6
Right	Fixed	0	5825	19.34	0.423	1.04	0.15	1.6
Back with Case	Fixed	0	5825	19.34	0.157	1.04	0.16	1.6
AUX Antenna								
Back	Fixed	0	5825	19.34	0.055	1.04	0.06	1.6
Top	Fixed	0	5825	19.34	**0.557**	1.04	0.28	1.6
Top	Fixed	0	5785	18.69	0.480	1.07	0.52	1.6
Back with Case	Fixed	0	5825	19.34	0.027	1.04	0.03	1.6

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APPENDIX A

GRAPH RESULT

(Model: mPAD2-7-CHT4-I)

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Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P01 Wi-Fi 802.11b CH 11 2462MHz Back Main

DUT: mPAD2-7-CHT4-I

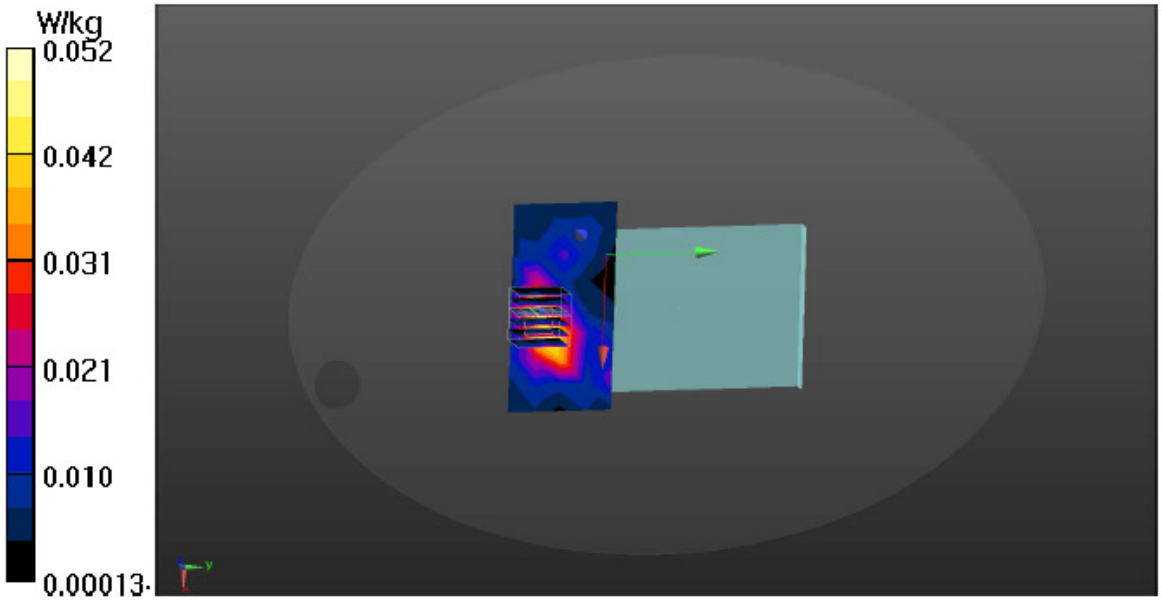
Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2462 MHz;Duty Cycle:1:1.010
Medium parameters used: f = 2462 MHz; σ = 2.046 S/m; ε_r = 53.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.0519 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.4870 V/m; Power Drift = 1.02 dB
Peak SAR (extrapolated) = 0.0730 W/kg
SAR(1 g) = 0.042 W/kg; SAR(10 g) = 0.022 W/kg
Maximum value of SAR (measured) = 0.0477 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P04 Wi-Fi 802.11b CH 11 2462MHz Main Right

DUT: mPAD2-7-CHT4-I

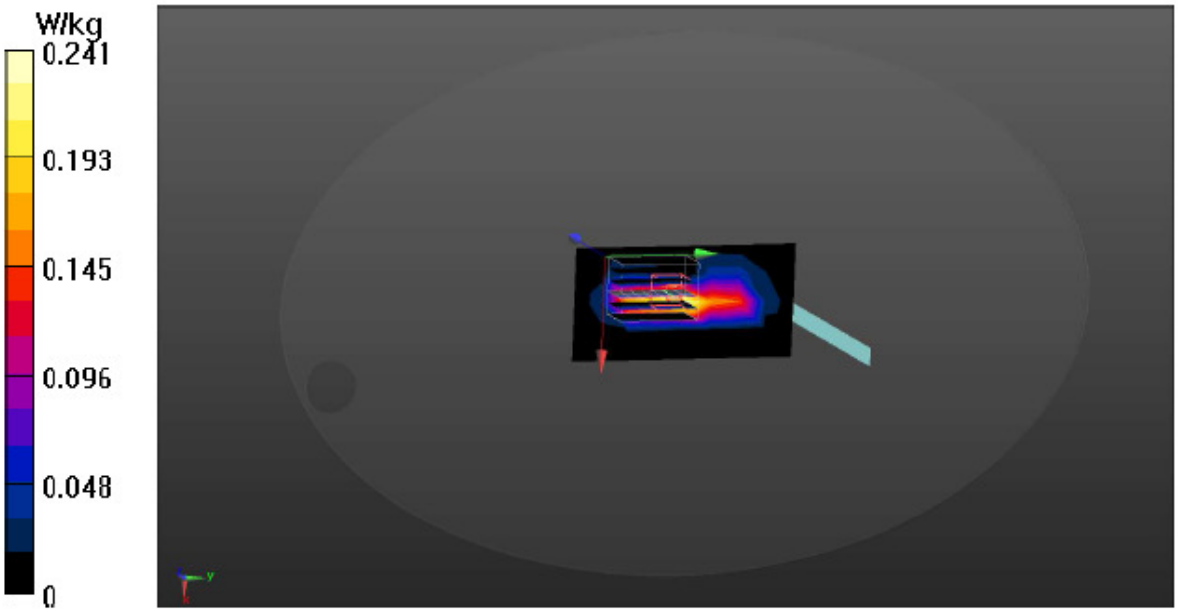
Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2462 MHz;Duty Cycle:1:1.010
Medium parameters used: f = 2462 MHz; σ = 2.046 S/m; ε_r = 53.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x9x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.241 W/kg

Zoom Scan (6x8x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.681 V/m; Power Drift = 0.41 dB
Peak SAR (extrapolated) = 0.887 W/kg
SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.379 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P02 Wi-Fi 802.11b CH 11 2462MHz Aux Back

DUT: mPAD2-7-CHT4-I

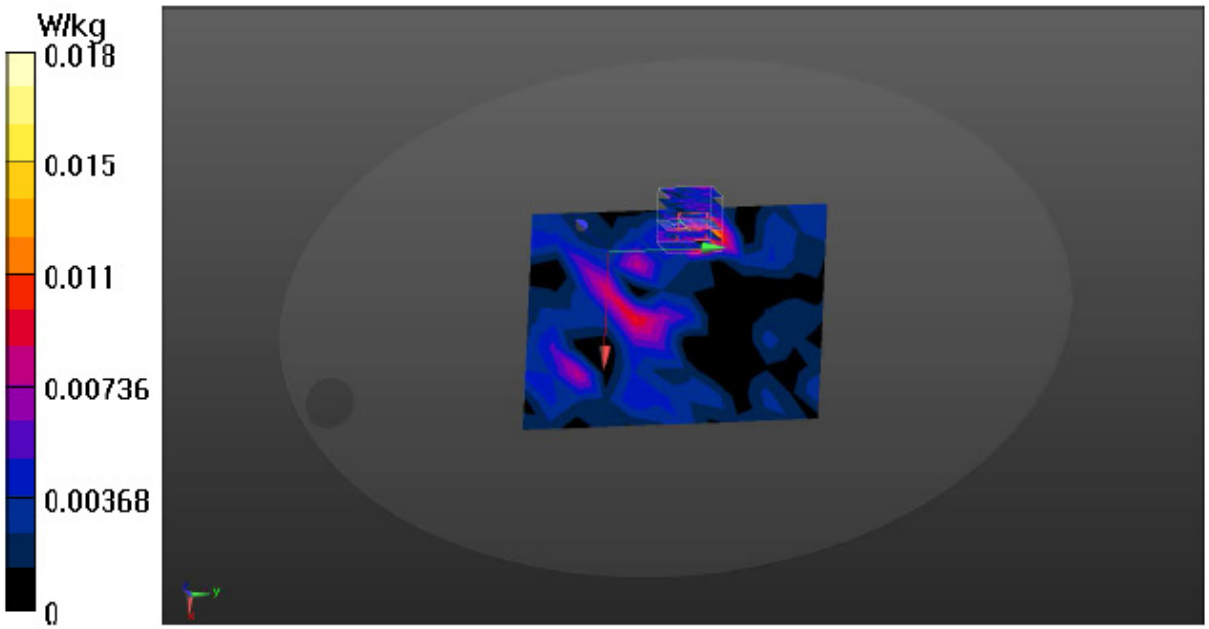
Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2462 MHz;Duty Cycle:1:1.010
Medium parameters used: f = 2462 MHz; σ = 2.046 S/m; ε_r = 53.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x12x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.0184 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.608 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.0250 W/kg
SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.00805 W/kg
Maximum value of SAR (measured) = 0.0166 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P03 Wi-Fi 802.11b CH 11 2462MHz Aux Top

DUT: mPAD2-7-CHT4-I

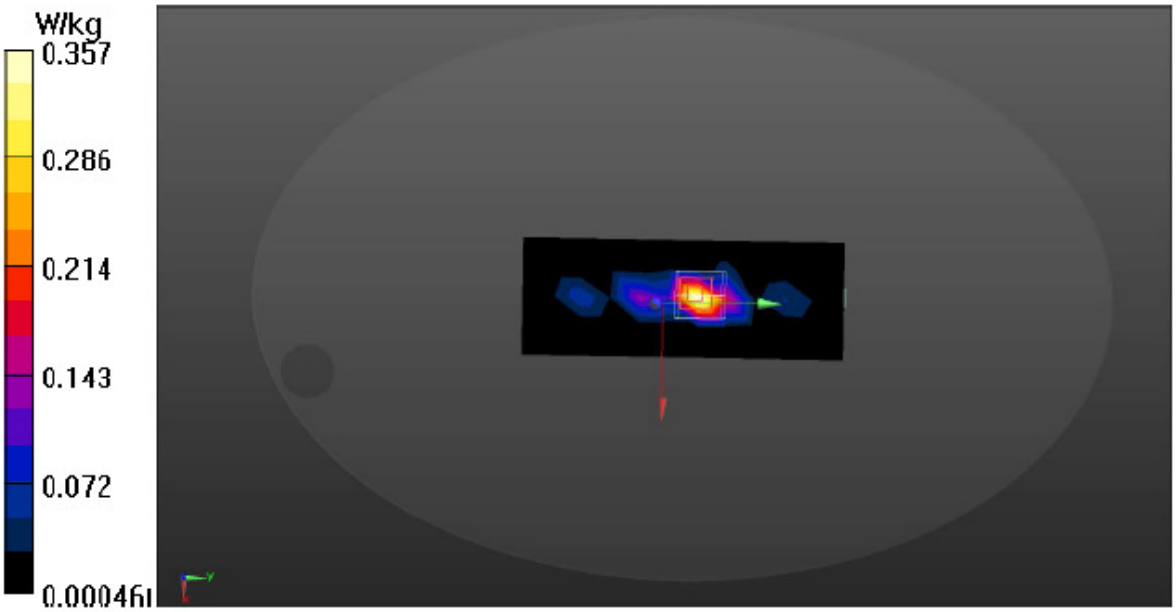
Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2462 MHz;Duty Cycle:1:1.010
Medium parameters used: f = 2462 MHz; σ = 2.046 S/m; ε_r = 53.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x12x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.393 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.390 V/m; Power Drift = 0.57 dB
Peak SAR (extrapolated) = 0.756 W/kg
SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.357 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P40 Wi-Fi 802.11g CH 6 2437MHz Back Main

DUT: mPAD2-7-CHT4-I

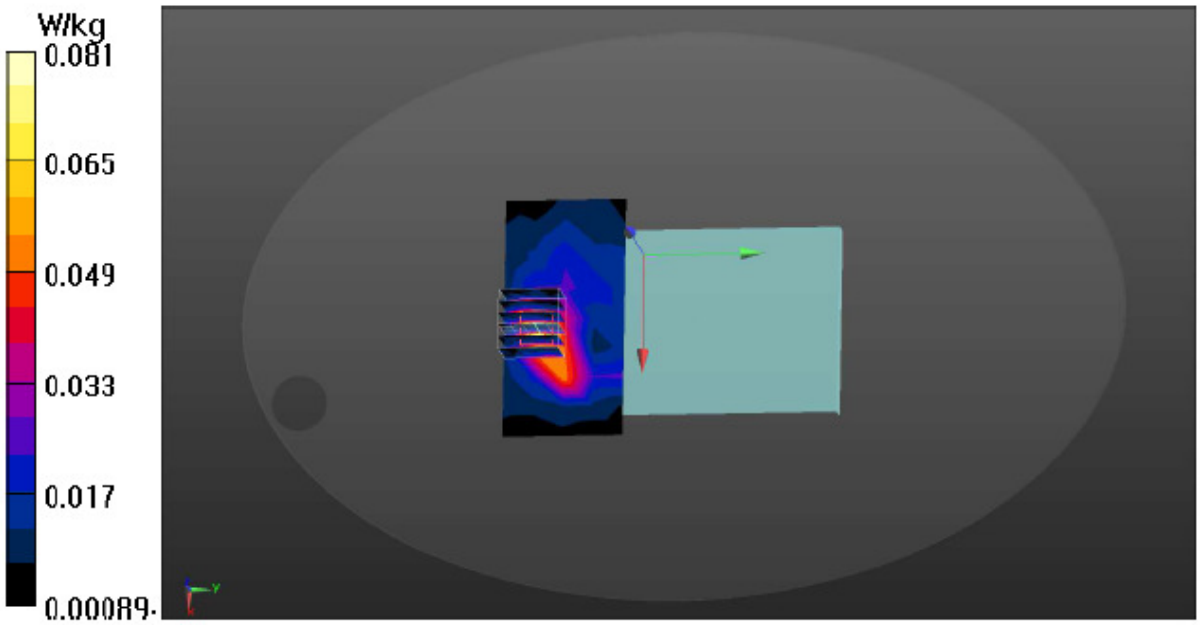
Communication System: UID 0, WIFI 2.4G 802.11G (0); Frequency: 2437 MHz;Duty Cycle:1:1.053
Medium parameters used: f = 2437 MHz; σ = 2.018 S/m; ε_r = 53.499; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.0807 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.923 V/m; Power Drift = 1.21 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.034 W/kg
Maximum value of SAR (measured) = 0.0725 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P42 Wi-Fi 802.11g CH 6 2437MHz Right Main

DUT: mPAD2-7-CHT4-I

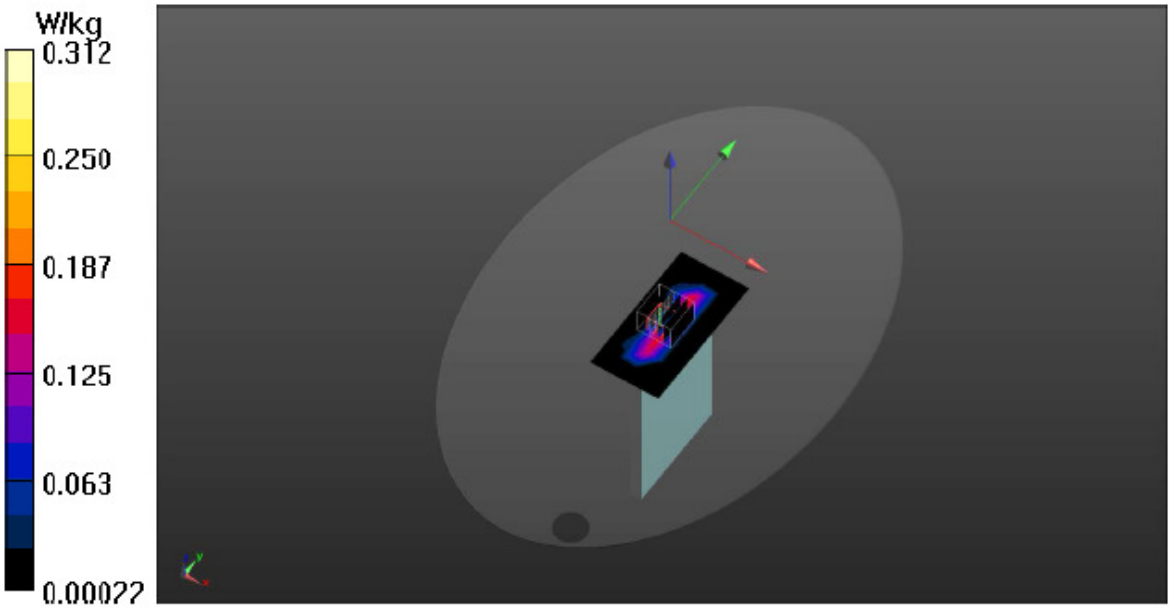
Communication System: UID 0, WIFI 2.4G 802.11G (0); Frequency: 2437 MHz;Duty Cycle:1:1.053
Medium parameters used: f = 2437 MHz; σ = 2.018 S/m; ε_r = 53.499; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x9x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.253 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.510 V/m; Power Drift = 0.58 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.267 W/kg; SAR(10 g) = 0.095 W/kg
Maximum value of SAR (measured) = 0.312 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P41 Wi-Fi 802.11g CH 6 2437MHz Back Aux

DUT: mPAD2-7-CHT4-I

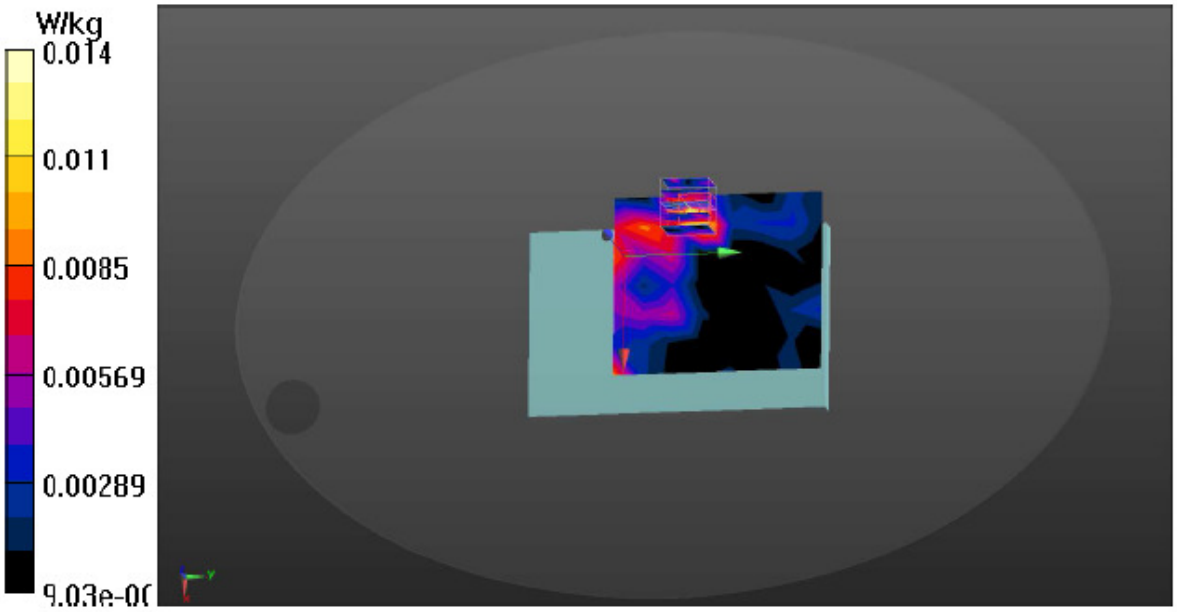
Communication System: UID 0, WIFI 2.4G 802.11G (0); Frequency: 2437 MHz;Duty Cycle:1:1.053
Medium parameters used: f = 2437 MHz; σ = 2.018 S/m; ε_r = 53.499; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (7x8x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.0130 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.856 V/m; Power Drift = 0.78 dB
Peak SAR (extrapolated) = 0.0250 W/kg
SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00722 W/kg
Maximum value of SAR (measured) = 0.0141 W/kg



Date: 3/8/2017

Test Laboratory: Audix_SAR Lab

P43 Wi-Fi 802.11g CH 6 2437MHz Top Aux

DUT: mPAD2-7-CHT4-I

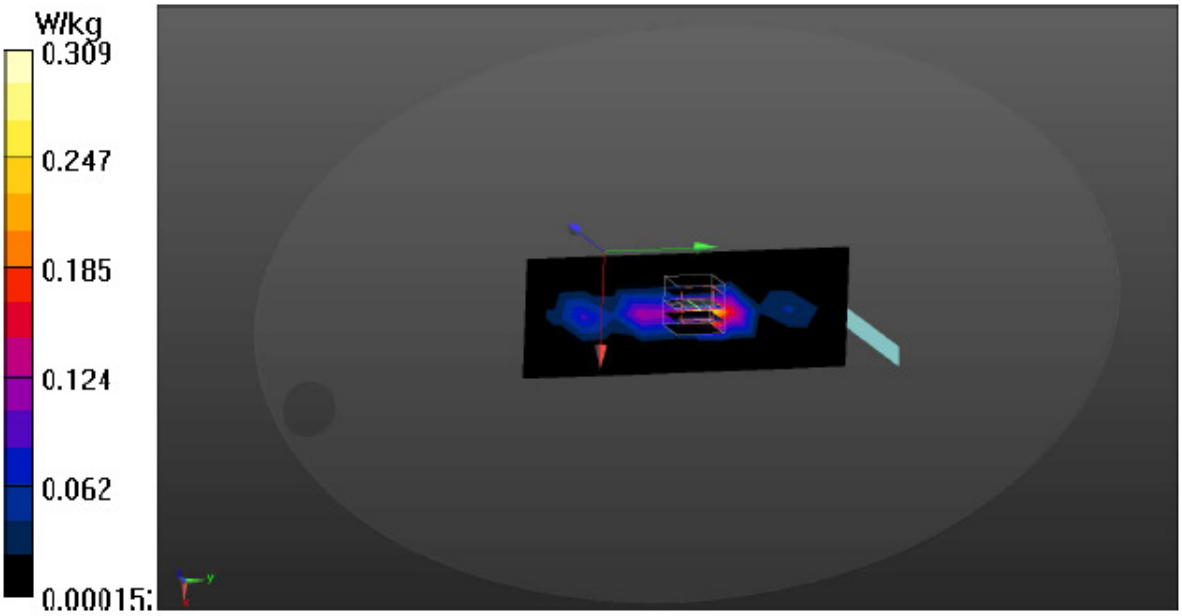
Communication System: UID 0, WIFI 2.4G 802.11G (0); Frequency: 2437 MHz;Duty Cycle:1:1.053
Medium parameters used: f = 2437 MHz; σ = 2.018 S/m; ε_r = 53.499; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.54, 7.54, 7.54); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x12x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.309 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.485 V/m; Power Drift = 0.23 dB
Peak SAR (extrapolated) = 0.409 W/kg
SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.075 W/kg
Maximum value of SAR (measured) = 0.231 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P05 Wi-Fi 802.11ac-VHT20 CH 48 5240MHz Back Main

DUT: mPAD2-7-CHT4-I

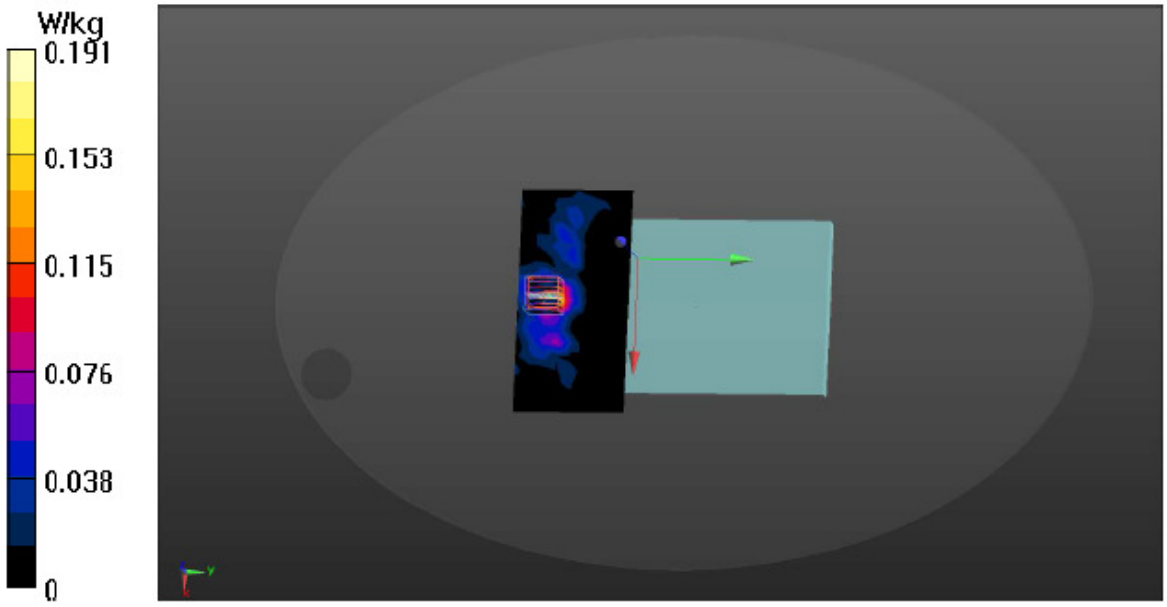
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5240 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5240 MHz; σ = 5.386 S/m; ε_r = 47.513; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (17x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.163 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.346 W/kg
SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.032 W/kg
Maximum value of SAR (measured) = 0.191 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P08 Wi-Fi 802.11ac-VHT20 CH 48 5240MHz Main Right

DUT: mPAD2-7-CHT4-I

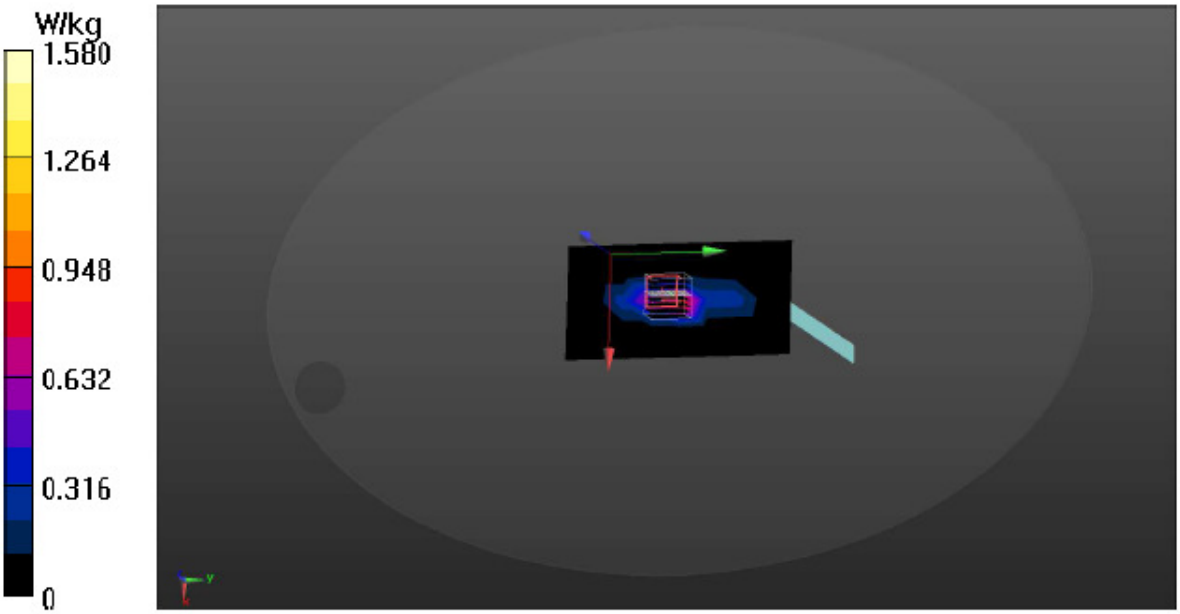
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5240 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5240 MHz; σ = 5.386 S/m; ε_r = 47.513; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.01 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.34 V/m; Power Drift = 0.47 dB
Peak SAR (extrapolated) = 3.15 W/kg
SAR(1 g) = 0.781 W/kg; SAR(10 g) = 0.237 W/kg
Maximum value of SAR (measured) = 1.58 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P37 Wi-Fi 802.11ac-VHT20 CH 40 5200MHz Main Right

DUT: mPAD2-7-CHT4-I

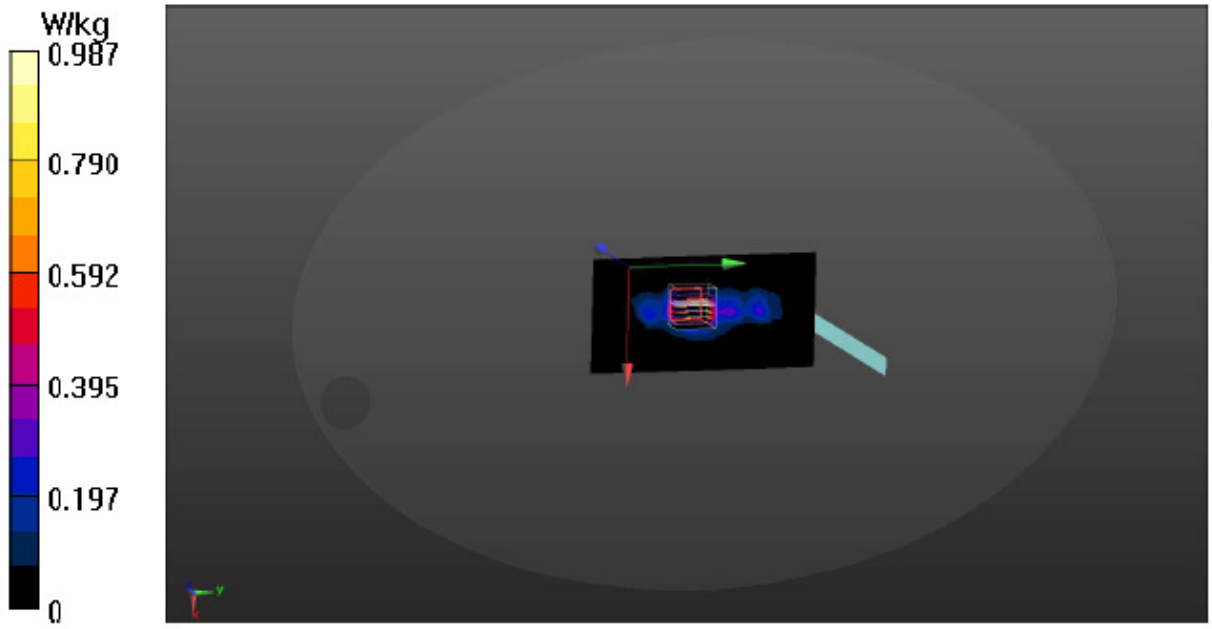
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5200 MHz;Duty Cycle:1:1.53
Medium parameters used: f = 5200 MHz; σ = 5.34 S/m; ε_r = 47.596; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x17x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.987 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.57 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.203 W/kg
Maximum value of SAR (measured) = 1.38 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P06 Wi-Fi 802.11ac-VHT20 CH 48 5240MHz Aux Back

DUT: mPAD2-7-CHT4-I

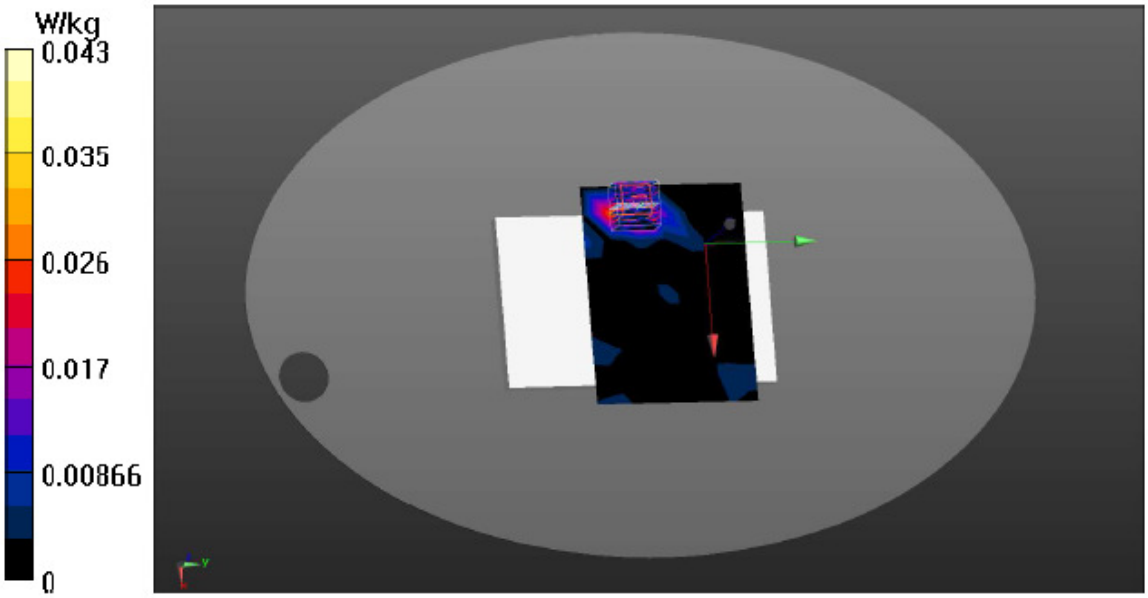
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5240 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5240 MHz; σ = 5.386 S/m; ε_r = 47.513; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0403 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.00718 W/kg
Maximum value of SAR (measured) = 0.0433 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P07 Wi-Fi 802.11ac-VHT20 CH 48 5240MHz Aux Top

DUT: mPAD2-7-CHT4-I

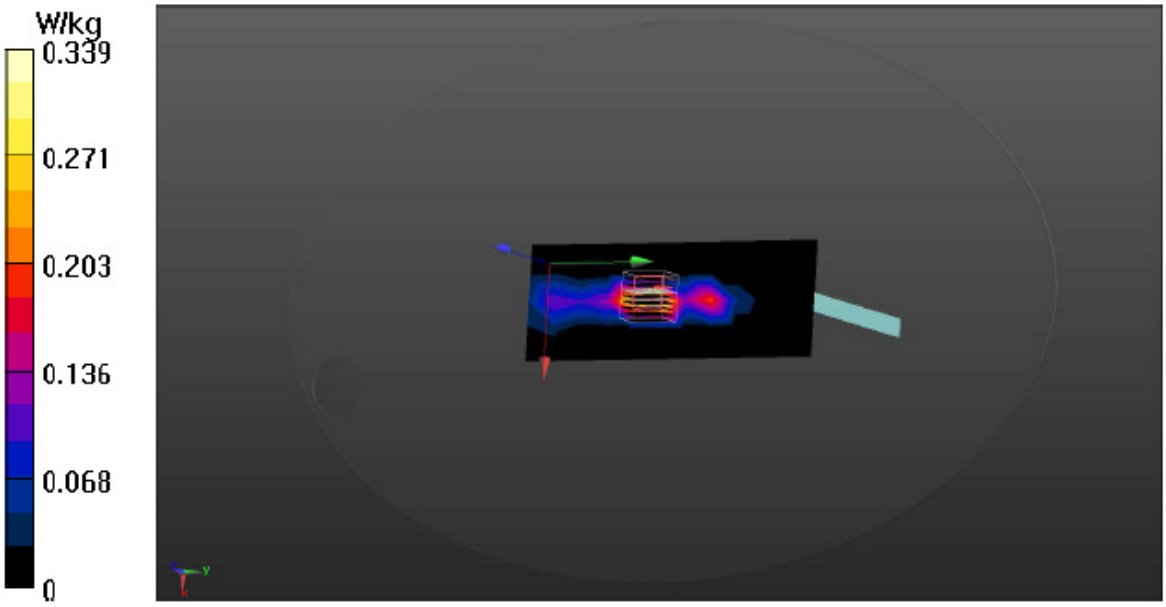
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5240 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5240 MHz; σ = 5.386 S/m; ε_r = 47.513; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.79, 4.79, 4.79); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x12x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.339 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 6.799 V/m; Power Drift = 1.32 dB
Peak SAR (extrapolated) = 0.916 W/kg
SAR(1 g) = 0.253 W/kg; SAR(10 g) = 0.073 W/kg
Maximum value of SAR (measured) = 0.300 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P11 Wi-Fi 802.11ac-VHT20 CH 52 5260MHz Main Back

DUT: mPAD2-7-CHT4-I

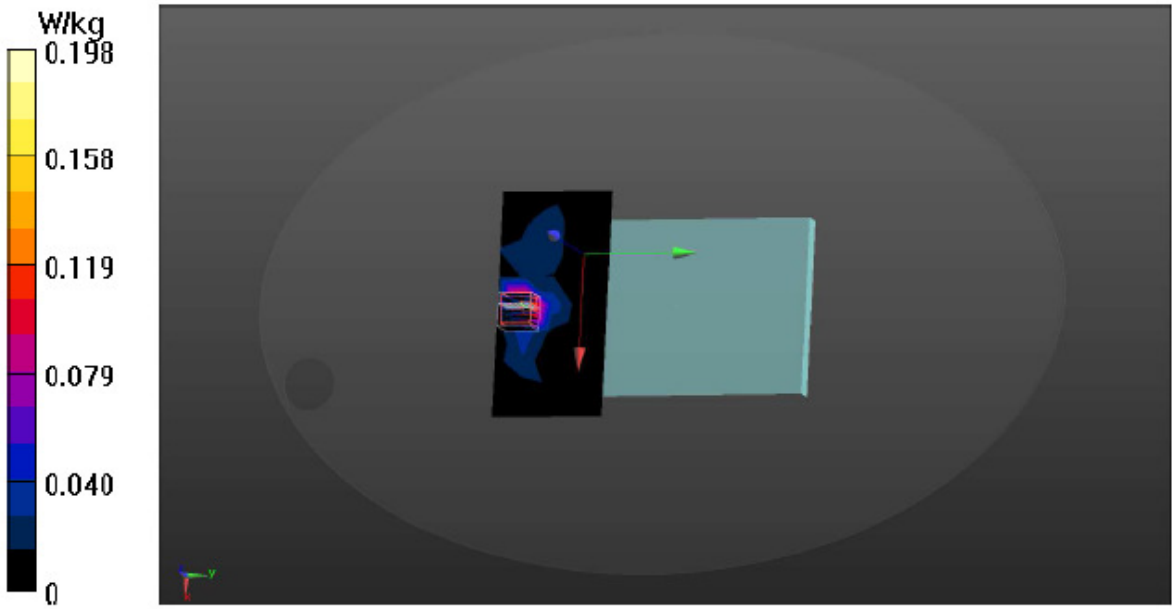
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5260 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5260 MHz; σ = 5.41 S/m; ε_r = 47.449; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.48, 4.48, 4.48); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x5x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.158 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.377 W/kg
SAR(1 g) = 0.095 W/kg; SAR(10 g) = 0.025 W/kg
Maximum value of SAR (measured) = 0.198 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P09 Wi-Fi 802.11ac-VHT20 CH 52 5260MHz Main Right

DUT: mPAD2-7-CHT4-I

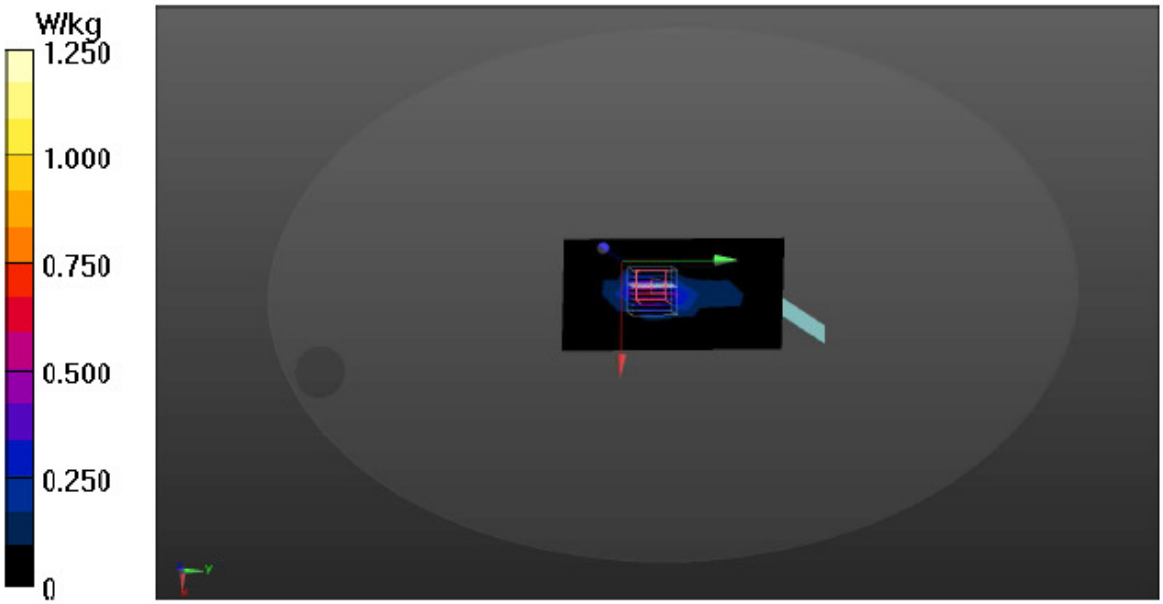
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5260 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5260 MHz; σ = 5.41 S/m; ε_r = 47.449; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.48, 4.48, 4.48); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.660 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 6.679 V/m; Power Drift = 0.54 dB
Peak SAR (extrapolated) = 2.43 W/kg
SAR(1 g) = 0.613 W/kg; SAR(10 g) = 0.184 W/kg
Maximum value of SAR (measured) = 1.25 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P38 Wi-Fi 802.11ac-VHT20 CH 60 5300MHz Main Right

DUT: mPAD2-7-CHT4-I

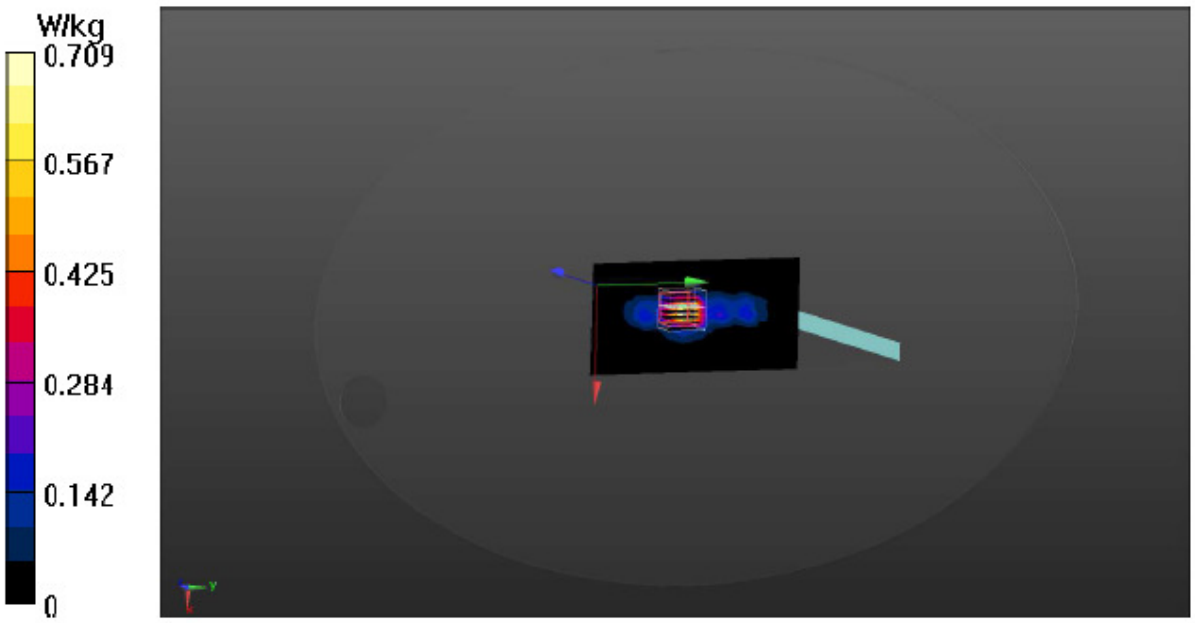
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5300 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5300 MHz; σ = 5.481 S/m; ε_r = 47.372; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.48, 4.48, 4.48); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x17x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.709 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 7.719 V/m; Power Drift = 0.88 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 0.500 W/kg; SAR(10 g) = 0.152 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P12 Wi-Fi 802.11ac-VHT20 CH 52 5260MHz Aux Back

DUT: mPAD2-7-CHT4-I

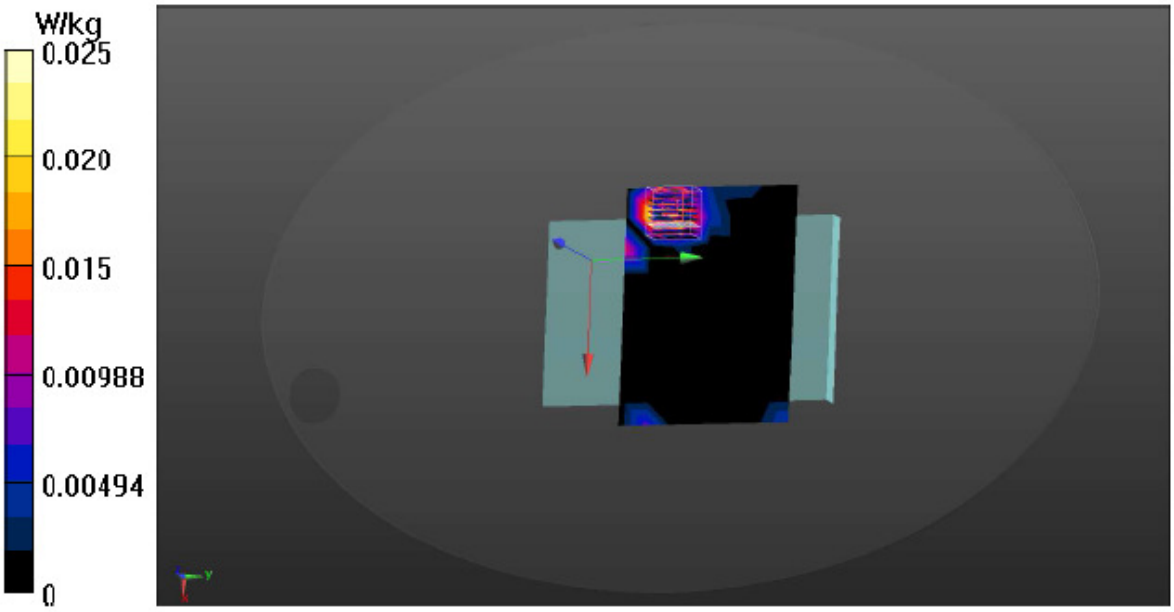
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5260 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5260 MHz; σ = 5.41 S/m; ε_r = 47.449; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.48, 4.48, 4.48); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0247 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.00479 W/kg
Maximum value of SAR (measured) = 0.0319 W/kg



Date: 3/9/2017

Test Laboratory: Audix_SAR Lab

P10 Wi-Fi 802.11ac-VHT20 CH 52 5260MHz Main Top

DUT: mPAD2-7-CHT4-I

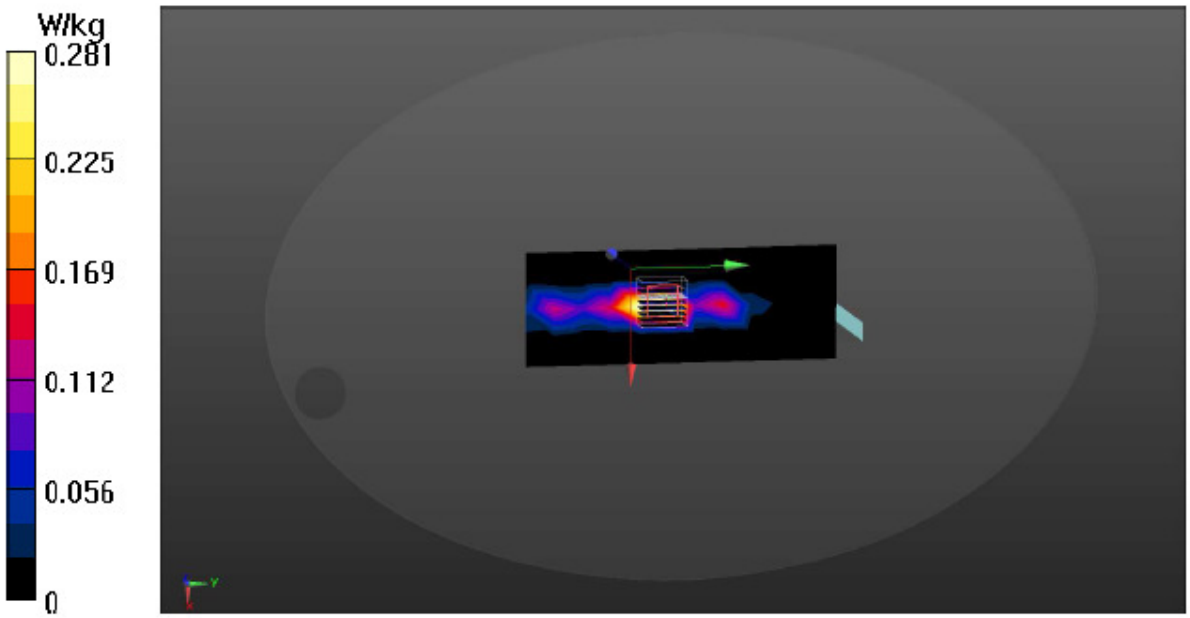
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5260 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5260 MHz; σ = 5.41 S/m; ε_r = 47.449; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.48, 4.48, 4.48); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (5x12x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.344 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 6.637 V/m; Power Drift = 1.12 dB
Peak SAR (extrapolated) = 0.888 W/kg
SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.281 W/kg



Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

P33 Wi-Fi 802 .11ac-VHT80 CH 122 5610MHz Main Back

DUT: mPAD2-7-CHT4-I

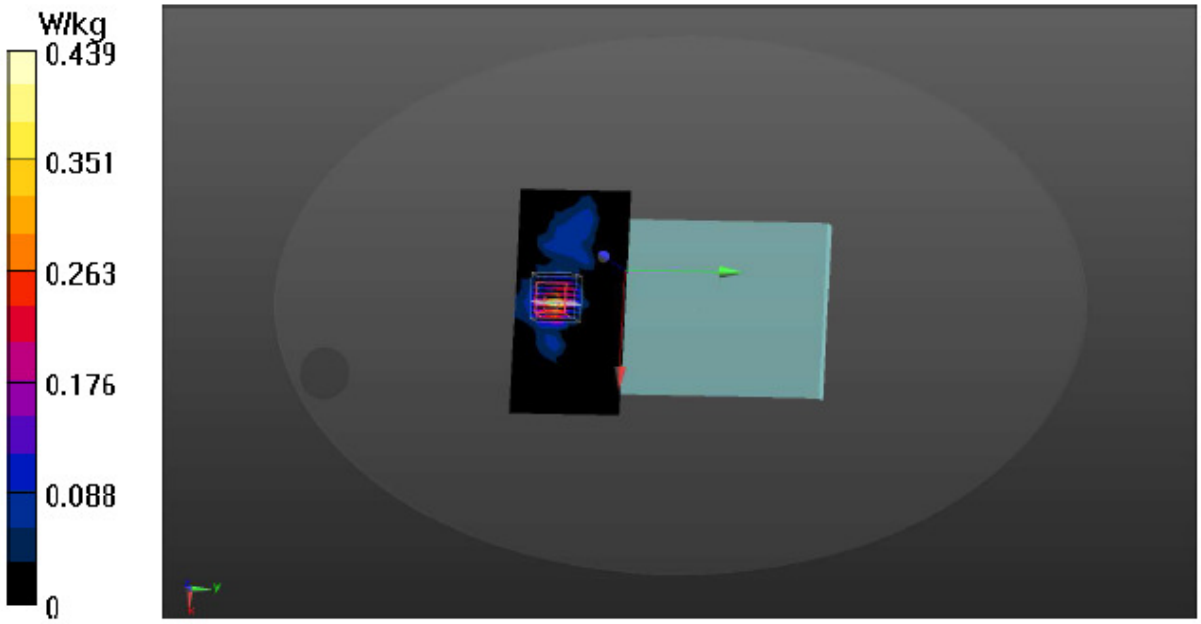
Communication System: UID 0, WIFI 5G 802.11VHT_80 (0); Frequency: 5610 MHz;Duty Cycle:1:2.174
Medium parameters used: f = 5610 MHz; σ = 5.906 S/m; ε_r = 46.725; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.96, 3.96, 3.96); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (17x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.400 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.818 W/kg
SAR(1 g) = 0.198 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.439 W/kg



Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

P31 Wi-Fi 802 .11ac-VHT80 CH 122 5610MHz Main Right

DUT: mPAD2-7-CHT4-I

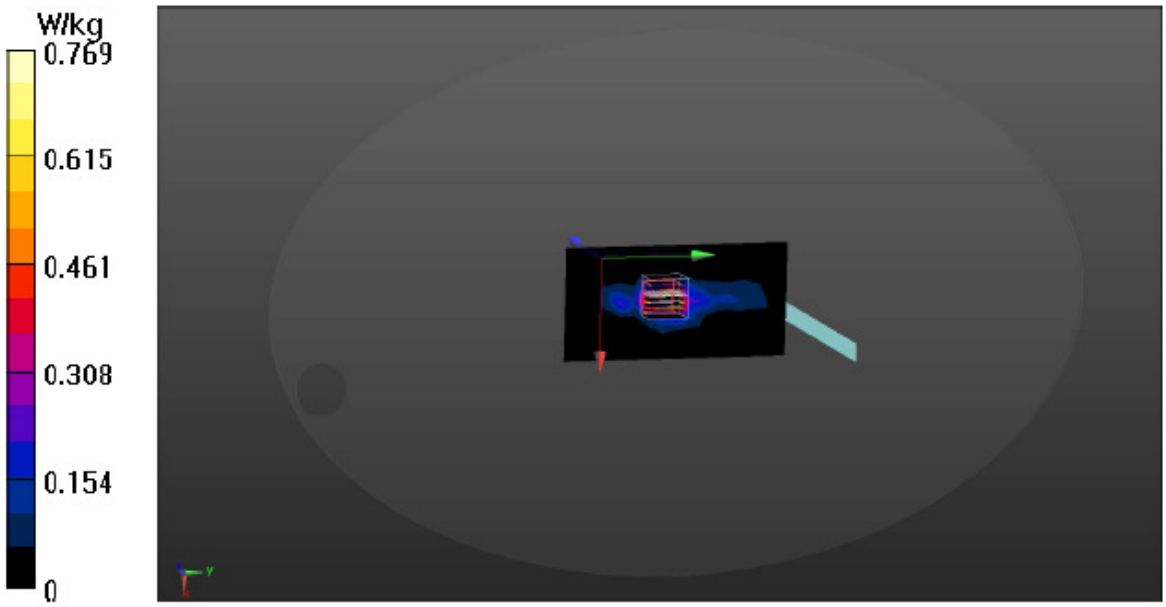
Communication System: UID 0, WIFI 5G 802.11VHT_80 (0); Frequency: 5610 MHz;Duty Cycle:1:2.174
Medium parameters used: f = 5610 MHz; σ = 5.906 S/m; ε_r = 46.725; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.96, 3.96, 3.96); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x17x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.769 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 8.175 V/m; Power Drift = 0.77 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 0.438 W/kg; SAR(10 g) = 0.147 W/kg
Maximum value of SAR (measured) = 0.851 W/kg



Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

P36 Wi-Fi 802 .11ac-VHT80 CH 138 5690MHz Main Right

DUT: mPAD2-7-CHT4-I

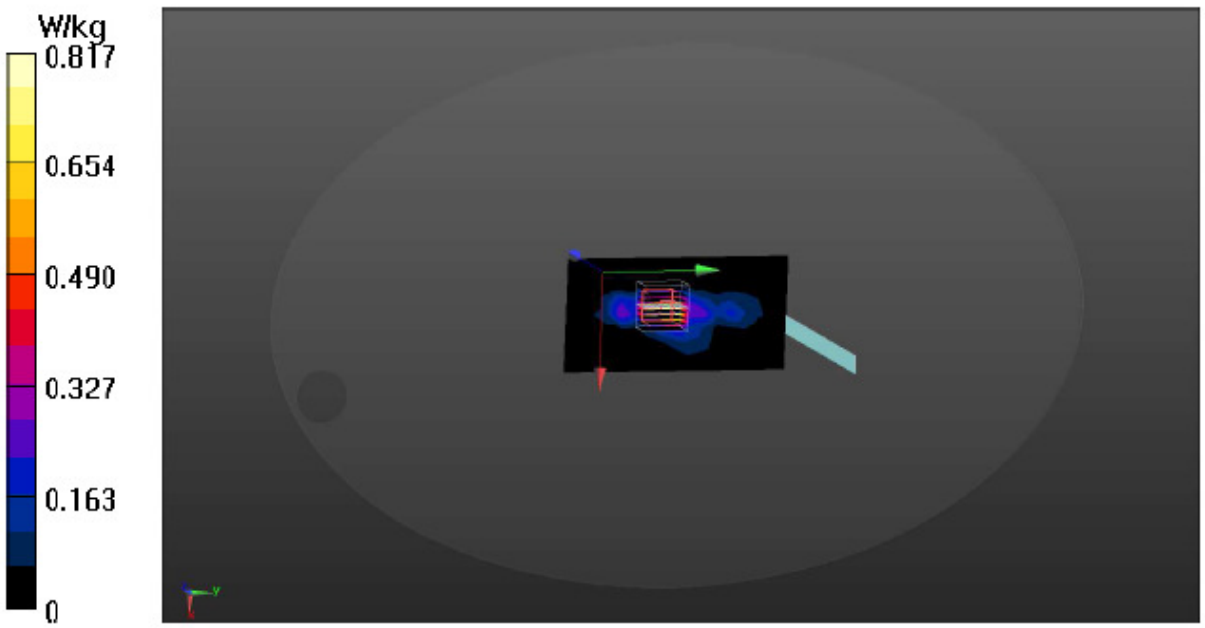
Communication System: UID 0, WIFI 5G 802.11VHT_80 (0); Frequency: 5610 MHz;Duty Cycle:1:2.17
Medium parameters used: f = 5610 MHz; σ = 5.906 S/m; ε_r = 46.725; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.96, 3.96, 3.96); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x17x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.817 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 9.038 V/m; Power Drift = -0.25 dB
Peak SAR (extrapolated) = 2.09 W/kg
SAR(1 g) = 0.503 W/kg; SAR(10 g) = 0.166 W/kg
Maximum value of SAR (measured) = 1.02 W/kg



Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

P34 Wi-Fi 802 .11ac-VHT80 CH 122 5610MHz Aux Back

DUT: mPAD2-7-CHT4-I

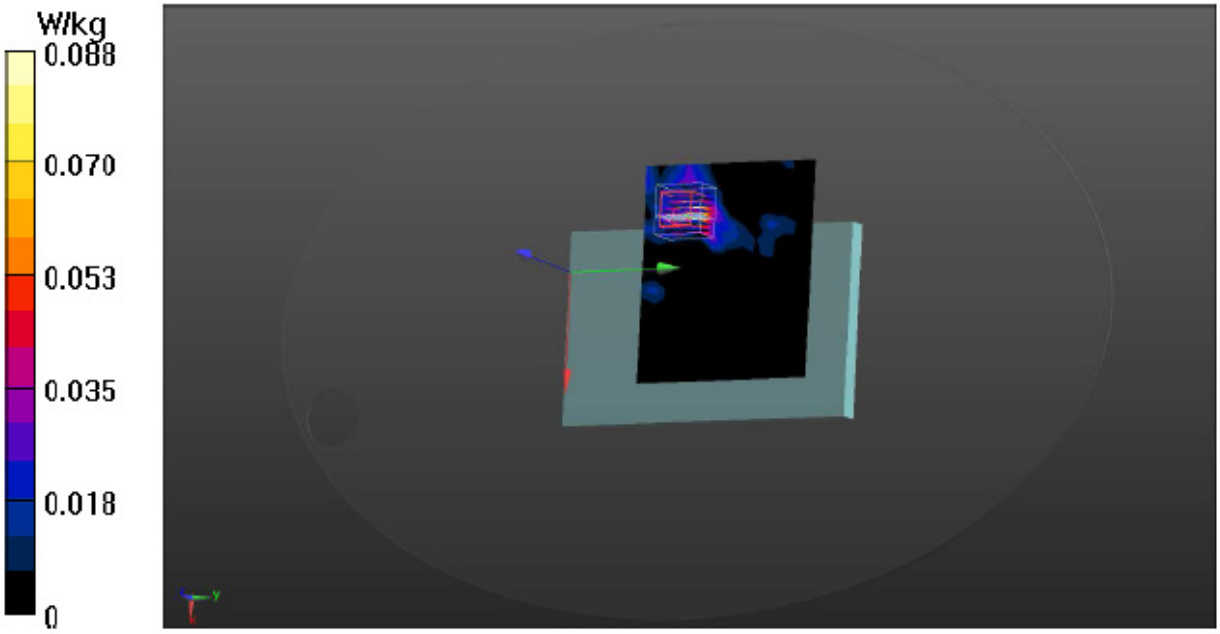
Communication System: UID 0, WIFI 5G 802.11VHT_80 (0); Frequency: 5610 MHz;Duty Cycle:1:2.17
Medium parameters used: f = 5610 MHz; σ = 5.906 S/m; ε_r = 46.725; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.96, 3.96, 3.96); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (15x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0788 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.388 W/kg
SAR(1 g) = 0.041 W/kg; SAR(10 g) = 0.015 W/kg
Maximum value of SAR (measured) = 0.0879 W/kg



Date: 3/13/2017

Test Laboratory: Audix_SAR Lab

P32 Wi-Fi 802 .11ac-VHT80 CH 122 5610MHz Aux Top

DUT: mPAD2-7-CHT4-I

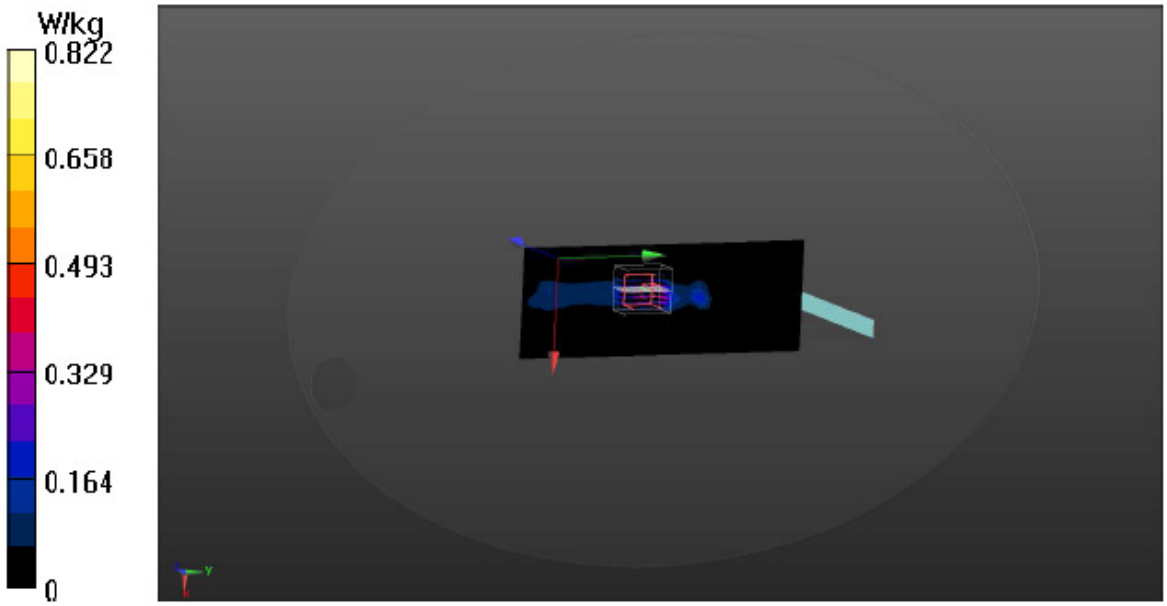
Communication System: UID 0, WIFI 5G 802.11VHT_80 (0); Frequency: 5610 MHz;Duty Cycle:1:2.174
Medium parameters used: f = 5610 MHz; σ = 5.906 S/m; ε_r = 46.725; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.96, 3.96, 3.96); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x23x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.386 W/kg

Zoom Scan (9x10x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 5.634 V/m; Power Drift = 1.11 dB
Peak SAR (extrapolated) = 2.18 W/kg
SAR(1 g) = 0.363 W/kg; SAR(10 g) = 0.096 W/kg
Maximum value of SAR (measured) = 0.822 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P19 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Main Back

DUT: mPAD2-7-CHT4-I

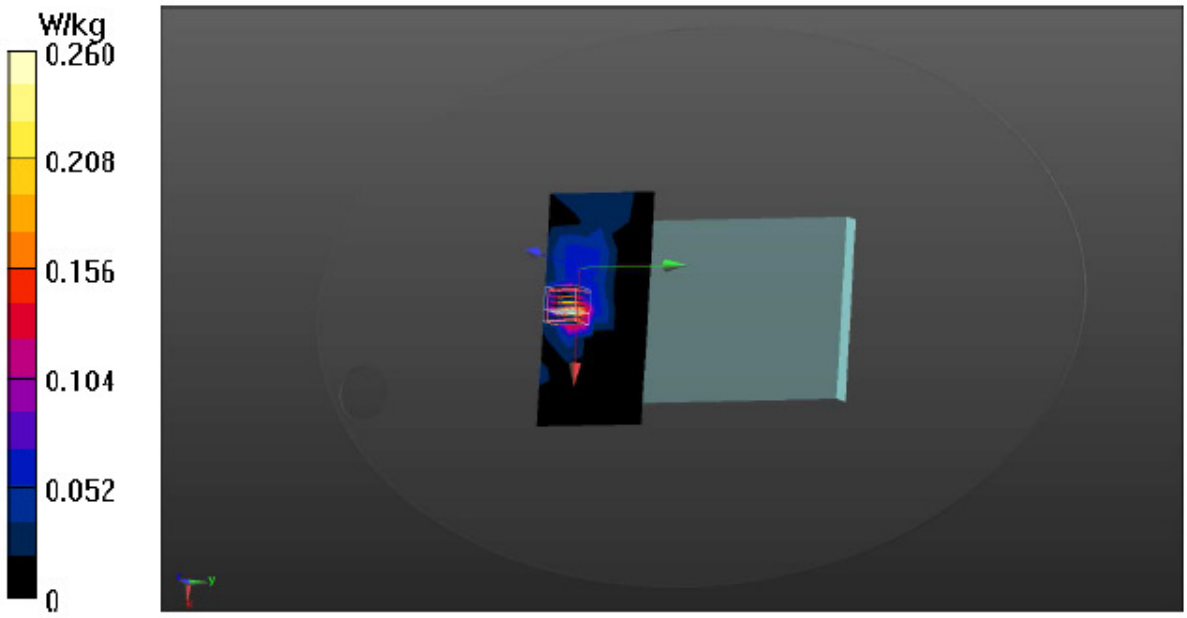
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x5x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.260 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.752 W/kg
SAR(1 g) = 0.201 W/kg; SAR(10 g) = 0.066 W/kg
Maximum value of SAR (measured) = 0.401 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P17 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Main Right

DUT: mPAD2-7-CHT4-I

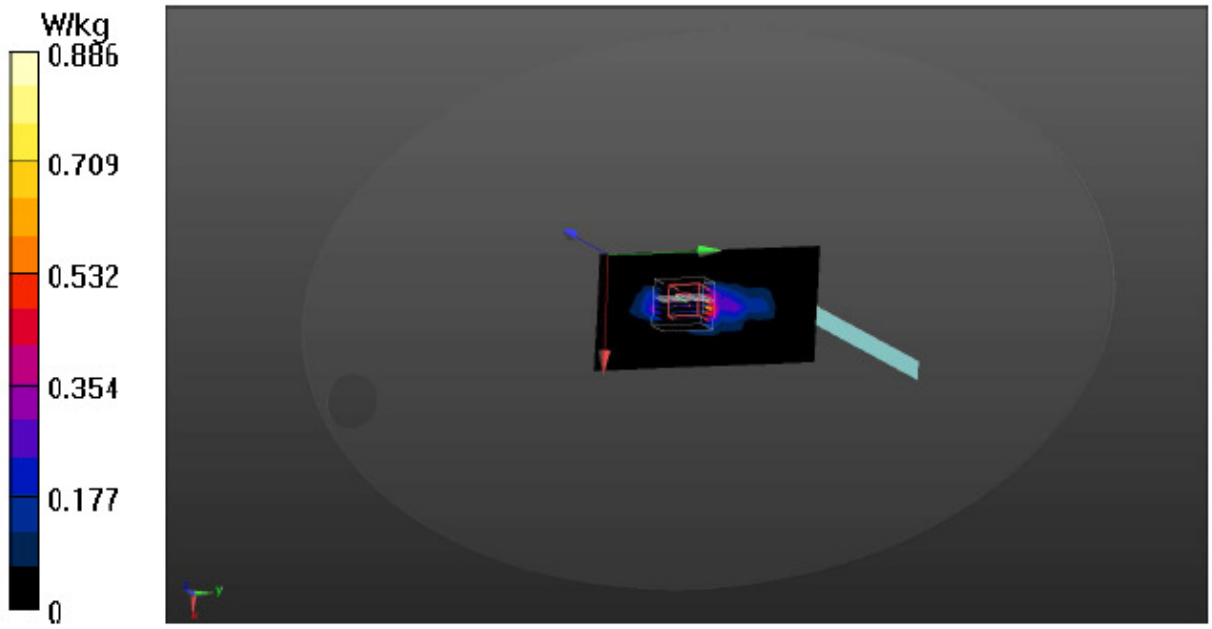
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.53
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x17x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.722 W/kg

Zoom Scan (9x10x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 7.651 V/m; Power Drift = 0.92 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 0.423 W/kg; SAR(10 g) = 0.147 W/kg
Maximum value of SAR (measured) = 0.886 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P19-1 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Main Back with Case

DUT: mPAD2-7-CHT4-I

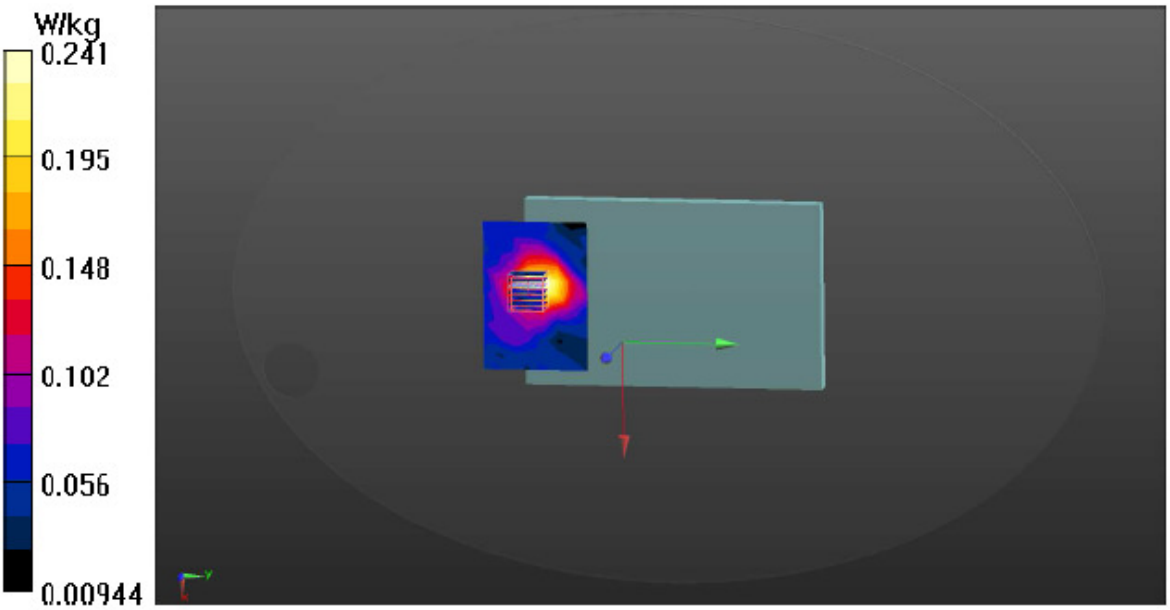
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (11x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.254 W/kg

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 3.082 V/m; Power Drift = -1.16 dB
Peak SAR (extrapolated) = 0.403 W/kg
SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.088 W/kg
Maximum value of SAR (measured) = 0.241 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P20 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Aux Back

DUT: mPAD2-7-CHT4-I

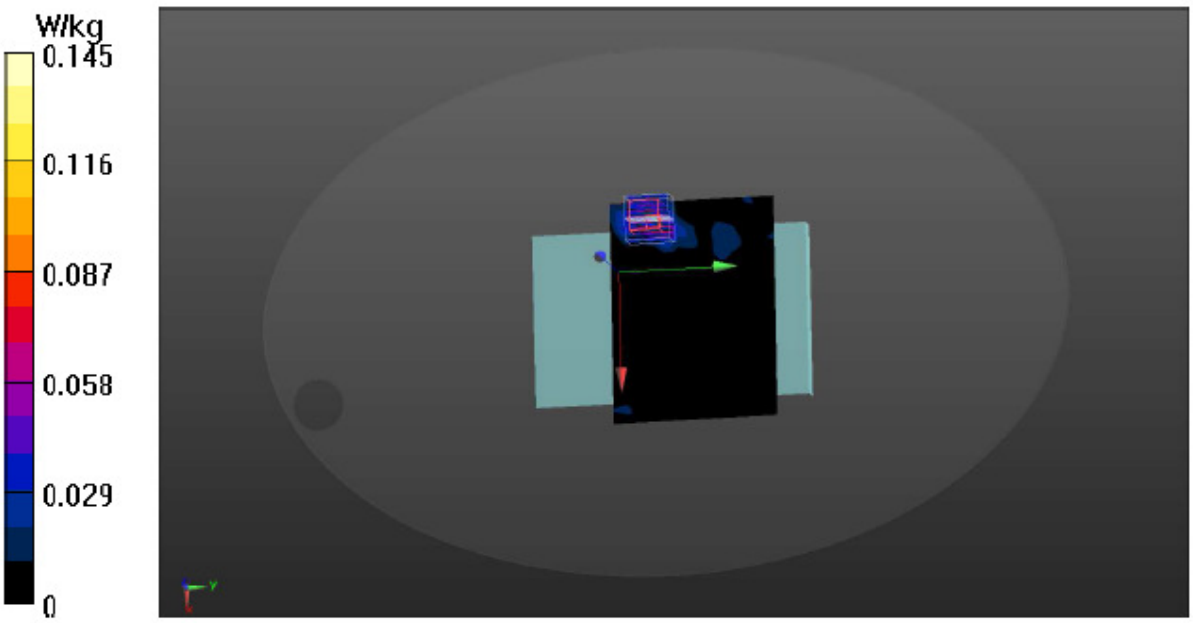
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (17x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0914 W/kg

Zoom Scan (9x9x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.313 W/kg
SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.019 W/kg
Maximum value of SAR (measured) = 0.145 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P18 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Aux Top

DUT: mPAD2-7-CHT4-I

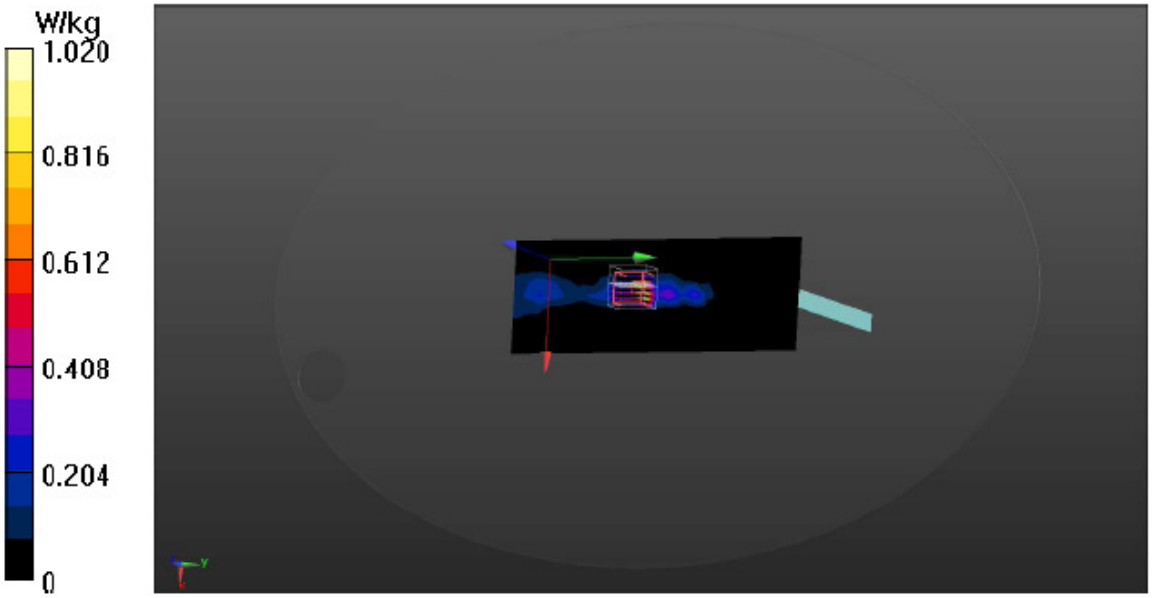
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x23x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.02 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 5.087 V/m; Power Drift = 1.41 dB
Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 0.557 W/kg; SAR(10 g) = 0.136 W/kg
Maximum value of SAR (measured) = 0.690 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P39 Wi-Fi 802.11ac-VHT20 CH 157 5785MHz Aux Top

DUT: mPAD2-7-CHT4-I

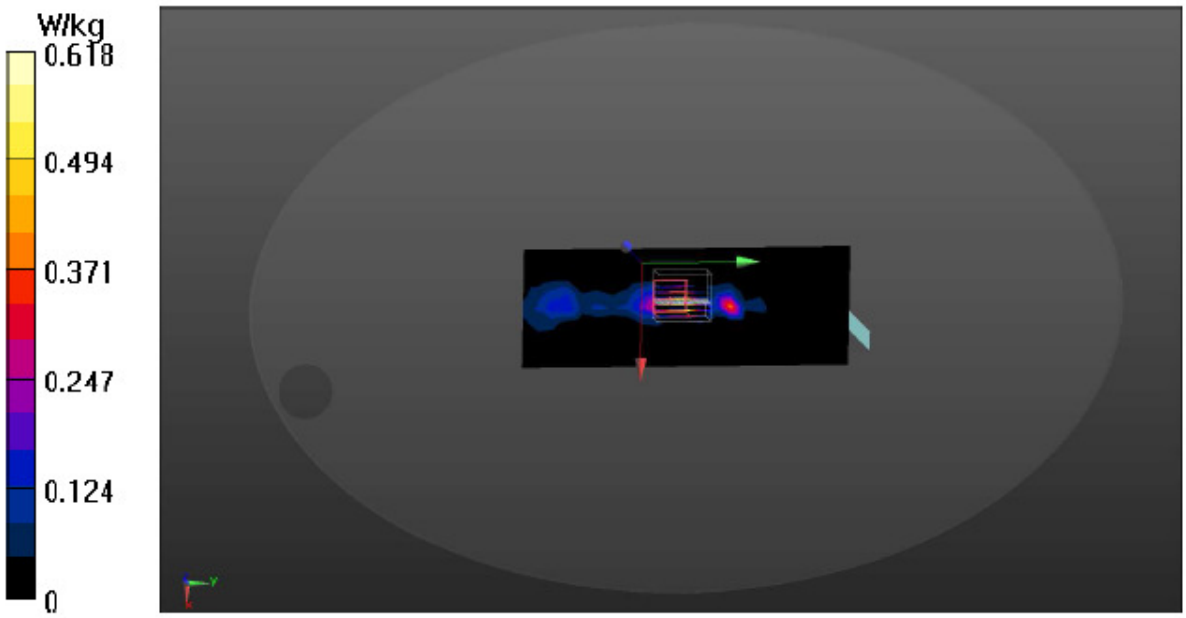
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5785 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5785 MHz; σ = 6.15 S/m; ε_r = 46.477; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (9x23x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.618 W/kg

Zoom Scan (9x10x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 7.220 V/m; Power Drift = 1.14 dB
Peak SAR (extrapolated) = 2.80 W/kg
SAR(1 g) = 0.480 W/kg; SAR(10 g) = 0.113 W/kg
Maximum value of SAR (measured) = 1.05 W/kg



Date: 3/10/2017

Test Laboratory: Audix_SAR Lab

P20-1 Wi-Fi 802 .11ac-VHT20 CH 165 5825MHz Aux Back with Case

DUT: mPAD2-7-CHT4-I

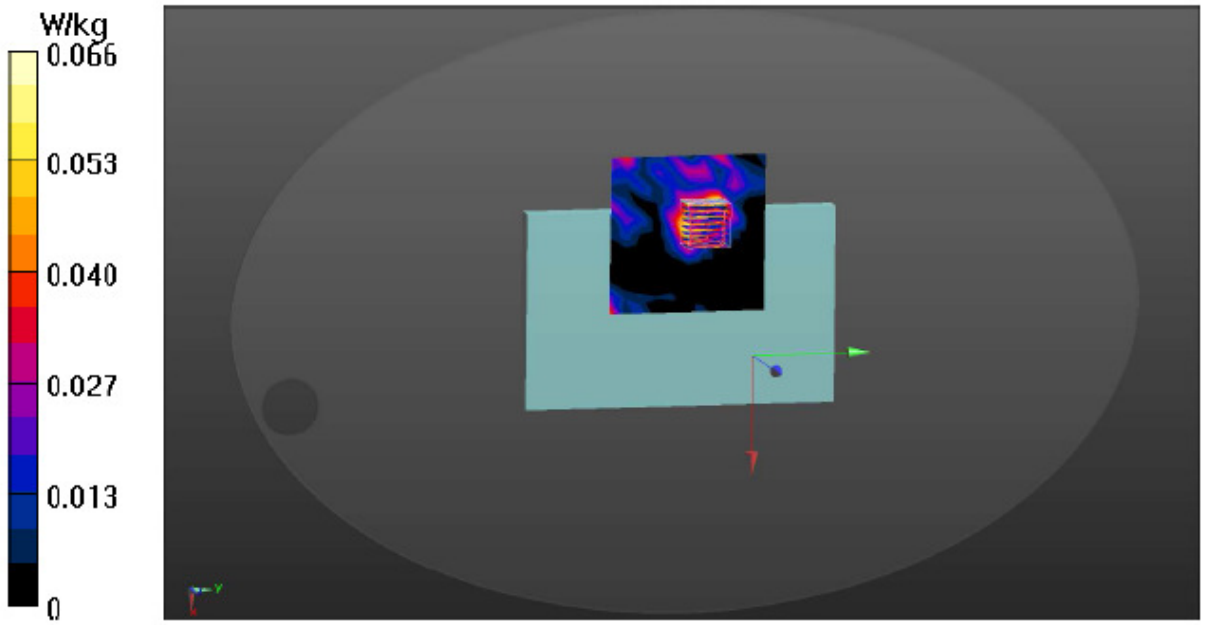
Communication System: UID 0, WIFI 5G 802.11VHT_20 (0); Frequency: 5825 MHz;Duty Cycle:1:1.538
Medium parameters used: f = 5825 MHz; σ = 6.208 S/m; ε_r = 46.303; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.14, 4.14, 4.14); Calibrated: 9/30/2016;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = -19.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/28/2016
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Area Scan (11x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0610 W/kg

Zoom Scan (8x8x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.758V/m; Power Drift = 0.49 dB
Peak SAR (extrapolated) = 0.247 W/kg
SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.011 W/kg
Maximum value of SAR (measured) = 0.0664 W/kg



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APPENDIX B

TEST PHOTOGRAPHS

(Model: mPAD2-7-CHT4-I)

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APPENDIX C

Test Equipment Calibration Data

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