

FCC 2.1093 SAR Test Report

for

LG Electronics Inc.

**222, LG-ro Jinwi-myeon, Pyeongtaek-Si, Gyeonggi-Do,
451-713, Korea**

Product Name : Notebook PC
Model Name : 17U70N
Brand : LG
FCC ID : BEJNT-17U70N

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



The test report is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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TEST REPORT

Applicant : LG Electronics Inc.
Manufacturer : LG Electronics Inc.
Factory : DIGITEK (CHONGQING) LIMITED
EUT Description
(1) Product : Notebook PC
(2) Model : 17U70N
(3) Brand : LG
(4) Power Supply: DC 19V

Applicable Standards:

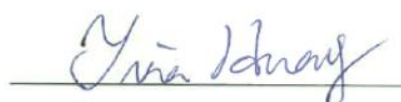
47CFR FCC Part 2 (§2.1093)
IEEE 1528-2013

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: 2020. 03. 12

Reviewed by:



(Tina Huang/Section Manager)

Approved by:



(Johnny Hsueh/Section Manager)

1. REVISION RECORD OF TEST REPORT

Edition No	Issued Date	Revision Summary	Report Number
0	2020. 03. 12	Original Report	EM-SR200003

2. SUMMARY OF TEST RESULTS

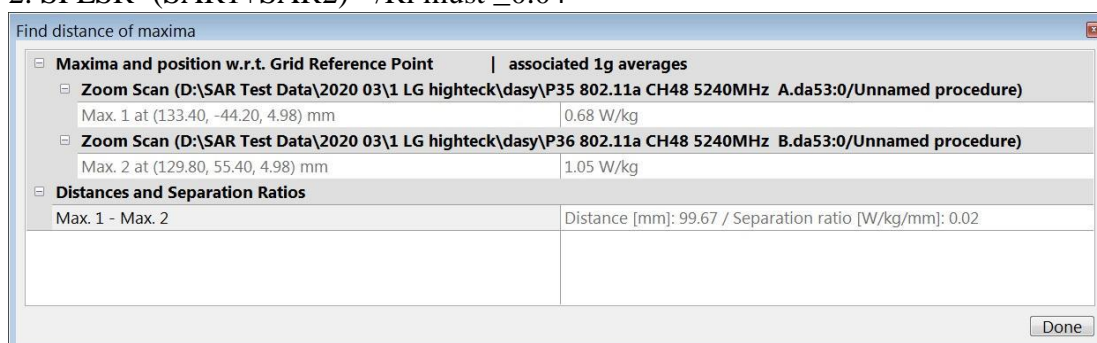
Test SKU: SKU #1 (with HTK Antenna)

Highest Simultaneous Transmission SAR	Reported Body SAR _{1g}
WLAN 2.4G ANT Main	0.52 (W/kg)
WLAN 2.4G ANT AUX+ BT ANT AUX	0.42 (W/kg)
WLAN 5G ANT AUX+ BT ANT AUX	1.15 (W/kg)
WLAN 5G ANT Main+ WLAN 5 ANT AUX	2.37 (W/kg) ^{NOTE 3}
WLAN 5G ANT Main+ WLAN 5 ANT AUX + BT ANT AUX	2.41 (W/kg) ^{NOTE 3}
<p>Note: 1. The SAR limit (SAR_{1g} 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).</p> <p>2. It is calculated from scale SAR.</p> <p>3. It is larger than the limit 1.6(W/kg), SAR test exclusion is determined by the SAR to peak location separation ratio.</p>	

Simultaneous Transmission SAR	Frequency	Measured Body SAR _{1g} (SAR ₁ +SAR ₂) ^{Note2}	Ri (mm) ^{Note2}	SPLSR ^{Note2}
WLAN 5G ANT Main+ WLAN 5 ANT AUX	5240MHz	1.73 (W/kg) ^{Note 2}	99.67	0.02
	5260MHz	1.64 (W/kg) ^{Note 2}	99.24	0.02

Note: 1. The SAR limit (SAR_{1g} 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).

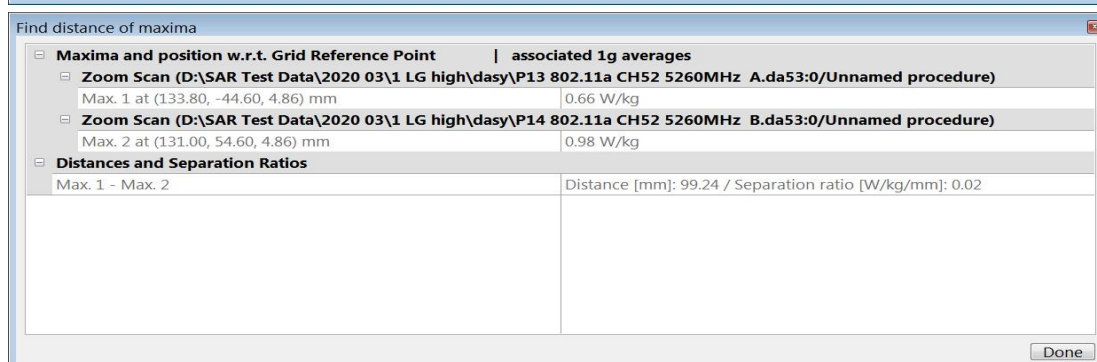
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$ must ≤ 0.04



Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P35 802.11a CH48 5240MHz A.da53:0\Unnamed procedure)	
Max. 1 at (133.40, -44.20, 4.98) mm	0.68 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P36 802.11a CH48 5240MHz B.da53:0\Unnamed procedure)	
Max. 2 at (129.80, 55.40, 4.98) mm	1.05 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 99.67 / Separation ratio [W/kg/mm]: 0.02

Done



Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P13 802.11a CH52 5260MHz A.da53:0\Unnamed procedure)	
Max. 1 at (133.80, -44.60, 4.86) mm	0.66 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P14 802.11a CH52 5260MHz B.da53:0\Unnamed procedure)	
Max. 2 at (131.00, 54.60, 4.86) mm	0.98 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 99.24 / Separation ratio [W/kg/mm]: 0.02

Done

Simultaneous Transmission SAR	Frequency	Measured Body SAR _{1g} (SAR1+SAR2) ^{Note 2}	Ri (mm) ^{Note 2}	SPLSR ^{Note 2}
WLAN 5G ANT Main+ WLAN 5 ANT AUX	5500MHz	1.80 (W/kg) ^{Note 2}	100.81	0.02
	5580MHz	1.72 (W/kg) ^{Note 2}	98.41	0.02
	5745MHz	1.99 (W/kg) ^{Note 2}	101.6	0.03
	5785MHz	2.17 (W/kg) ^{Note 2}	101.6	0.03

Note: 1. The SAR limit (SAR_{1g} 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).

2. $SPLSR = (SAR1 + SAR2)^{1.5} / Ri$ must ≤ 0.04

Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P38 802.11a CH100 5500MHz A.da53:0\Unnamed procedure)	
Max. 1 at (132.20, -41.80, 4.82) mm	0.79 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P39 802.11a CH100 5500MHz B.da53:0\Unnamed procedure)	
Max. 2 at (133.80, 59.00, 4.91) mm	1.01 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 100.81 / Separation ratio [W/kg/mm]: 0.02

Done

Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P7 802.11a CH116 5580MHz A.da53:0\Unnamed procedure)	
Max. 1 at (132.60, -42.60, 4.87) mm	0.76 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P8 802.11a CH116 5580MHz B.da53:0\Unnamed procedure)	
Max. 2 at (131.00, 55.80, 4.85) mm	0.96 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 98.41 / Separation ratio [W/kg/mm]: 0.02

Done

Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P15 802.11a CH149 5745MHz A.da53:0\Unnamed procedure)	
Max. 1 at (132.60, -42.60, 4.86) mm	1.00 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG high\dasy\P16 802.11a CH149 5745MHz B.da53:0\Unnamed procedure)	
Max. 2 at (132.20, 59.00, 4.89) mm	0.99 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 101.60 / Separation ratio [W/kg/mm]: 0.03

Done

Find distance of maxima

Maxima and position w.r.t. Grid Reference Point associated 1g averages	
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P41 802.11a CH157 5785MHz A.da53:0\Unnamed procedure)	
Max. 1 at (132.60, -43.40, 4.90) mm	1.13 W/kg
Zoom Scan (D:\SAR Test Data\2020 03\1 LG highteck\dasy\P42 802.11a CH157 5785MHz B.da53:0\Unnamed procedure)	
Max. 2 at (130.60, 58.20, 4.87) mm	1.04 W/kg
Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 101.62 / Separation ratio [W/kg/mm]: 0.03

Done

Test SKU: SKU #2 (with ACON Antenna)

Highest Simultaneous Transmission SAR	Reported Body SAR _{1g}
WLAN 2.4G ANT Main	0.52 (W/kg)
WLAN 2.4G ANT AUX+ BT ANT AUX	0.42 (W/kg)
WLAN 5G ANT AUX+ BT ANT AUX	0.83 (W/kg)
WLAN 5G ANT Main+ WLAN 5 ANT AUX	2.00 (W/kg) ^{NOTE 3}
WLAN 5G ANT Main+ WLAN 5 ANT AUX + BT ANT AUX	2.04 (W/kg) ^{NOTE 3}
<p>Note: 1. The SAR limit (SAR_{1g} 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).</p> <p>2. It is calculated from scale SAR.</p> <p>3. It is larger than the limit 1.6(W/kg), SAR test exclusion is determined by the SAR to peak location separation ratio.</p>	

Simultaneous Transmission SAR	Frequency	Measured Body SAR _{1g} (SAR ₁ +SAR ₂) ^{Note2}	Ri (mm) ^{Note2}	SPLSR ^{Note2}
WLAN 5G ANT Main+ WLAN 5 ANT AUX	5240MHz	1.91 (W/kg) ^{Note 2}	102.80	0.03
	5260MHz	1.76 (W/kg) ^{Note 2}	99.24	0.02

Note: 1. The SAR limit (SAR_{1g} 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093).

2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / R_i$ must ≤ 0.04

Find distance of maxima	
<input type="checkbox"/> Maxima and position w.r.t. Grid Reference Point associated 1g averages	
<input type="checkbox"/> Zoom Scan (D:\SAR Test Data\2020 03\2 LG acon\DA5Y\P63 802.11a CH48 5240MHz A.da53:0\Unnamed procedure)	
Max. 1 at (136.20, -45.80, 4.85) mm	0.76 W/kg
<input type="checkbox"/> Zoom Scan (D:\SAR Test Data\2020 03\2 LG acon\DA5Y\P64 802.11a CH48 5240MHz B.da53:0\Unnamed procedure)	
Max. 2 at (135.40, 57.00, 4.85) mm	1.15 W/kg
<input type="checkbox"/> Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 102.80 / Separation ratio [W/kg/mm]: 0.03
Done	

Find distance of maxima	
<input type="checkbox"/> Maxima and position w.r.t. Grid Reference Point associated 1g averages	
<input type="checkbox"/> Zoom Scan (D:\SAR Test Data\2020 03\2 LG acon\DA5Y\P53 802.11a CH52 5260MHz A.da53:0\Unnamed procedure)	
Max. 1 at (136.60, -45.80, 4.87) mm	0.71 W/kg
<input type="checkbox"/> Zoom Scan (D:\SAR Test Data\2020 03\2 LG acon\DA5Y\P54 802.11a CH52 5260MHz B.da53:0\Unnamed procedure)	
Max. 2 at (135.40, 57.00, 4.87) mm	1.05 W/kg
<input type="checkbox"/> Distances and Separation Ratios	
Max. 1 - Max. 2	Distance [mm]: 102.81 / Separation ratio [W/kg/mm]: 0.02
Done	

3. GENERAL INFORMATION

3.1. Description of Application

Applicant	LG Electronics Inc. 222, LG-ro Jinwi-myeon, Pyeongtaek-Si, Gyeonggi-Do, 451-713, Korea
Manufacturer	LG Electronics Inc. 222, LG-ro Jinwi-myeon, Pyeongtaek-Si, Gyeonggi-Do, 451-713, Korea
Factory	DIGITEK (CHONGQING) LIMITED B01, Section C, Airport Function Zone, Lianglu Cuntan Free Trade Port Area, Yubei District, Chongqing City, 401120 China.
Product	Notebook PC
Model	17U70N
Brand	LG

3.2. Description of EUT

Test Model	17U70N																												
Serial Number	N/A																												
Power Rating	DC 19V																												
Software Version	N/A																												
RF Features	WLAN: 802.11 a/b/g/n/ac/ax Bluetooth: BT and BLE (BT 5.0)																												
Transmit Type	<table border="1"> <thead> <tr> <th colspan="2">2.4 GHz</th></tr> </thead> <tbody> <tr> <td>802.11b</td><td>1T1R</td></tr> <tr> <td>802.11g</td><td>1T1R</td></tr> <tr> <td>802.11n-HT20</td><td>2T2R</td></tr> <tr> <td>802.11n-HT40</td><td>2T2R</td></tr> <tr> <td>802.11ax-HE20</td><td>2T2R</td></tr> <tr> <td>802.11ax-HE40</td><td>2T2R</td></tr> <tr> <td>BT/BLE</td><td>1T1R</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">UNII Bands</th></tr> </thead> <tbody> <tr> <td>802.11a</td><td>1T1R</td></tr> <tr> <td>802.11n-HT20/802.11ac-VHT20/802.11ax-HE20</td><td>2T2R</td></tr> <tr> <td>802.11n-HT40/802.11ac-VHT40/802.11ax-HE40</td><td>2T2R</td></tr> <tr> <td>802.11ac-VHT80/802.11ax-HE80</td><td>2T2R</td></tr> <tr> <td>802.11ac-VHT160/802.11ax-HE160</td><td>2T2R</td></tr> </tbody> </table> <p>The MIMO is uncorrelated and supported SDM mode only.</p>	2.4 GHz		802.11b	1T1R	802.11g	1T1R	802.11n-HT20	2T2R	802.11n-HT40	2T2R	802.11ax-HE20	2T2R	802.11ax-HE40	2T2R	BT/BLE	1T1R	UNII Bands		802.11a	1T1R	802.11n-HT20/802.11ac-VHT20/802.11ax-HE20	2T2R	802.11n-HT40/802.11ac-VHT40/802.11ax-HE40	2T2R	802.11ac-VHT80/802.11ax-HE80	2T2R	802.11ac-VHT160/802.11ax-HE160	2T2R
2.4 GHz																													
802.11b	1T1R																												
802.11g	1T1R																												
802.11n-HT20	2T2R																												
802.11n-HT40	2T2R																												
802.11ax-HE20	2T2R																												
802.11ax-HE40	2T2R																												
BT/BLE	1T1R																												
UNII Bands																													
802.11a	1T1R																												
802.11n-HT20/802.11ac-VHT20/802.11ax-HE20	2T2R																												
802.11n-HT40/802.11ac-VHT40/802.11ax-HE40	2T2R																												
802.11ac-VHT80/802.11ax-HE80	2T2R																												
802.11ac-VHT160/802.11ax-HE160	2T2R																												
Software Version	N/A																												
Sample Status	Mass production																												
Date of Receipt	2020. 03. 04																												
Date of Test	2020. 03. 03 ~ 10																												
Interface Ports of EUT	<ul style="list-style-type: none"> • One Micro SD Card Slot • One Earphone Port • Two USB 3.0 Ports • One USB 2.0 Port • One USB Type C Port • One HDMI Port • One LAN Port • One DC Input Port 																												
Accessories Supplied	<ul style="list-style-type: none"> • AC Adapter 																												

3.3. Antenna Information

No.	Antenna Part Number	Manufacture	Antenna Type	Frequency (MHz)	Max Gain (dBi)
1.	SJ17W Main Antenna (Main)	Hua Cheng (HTK)	PIFA	2400~2500	-2.63
				5150~5850	0.85
	SJ17W Aux Antenna (AUX)	Hua Cheng (HTK)	PIFA	2400~2500	-1.40
				5150~5850	-1.28
2	SJ17W_WLAN MAN ANT_HF Antenna (Main)	ACON (Advanced Wireless & Antenna Inc.)	PIFA	2400~2500	-3.05
				5150~5850	0.36
	SJ17W_WLAN AUX ANT_HF Antenna (AUX)	ACON (Advanced Wireless & Antenna Inc.)	PIFA	2400~2500	-2.85
				5150~5850	-1.47

3.4. EUT Specifications Assessed in Current Report

2.4GHz		
Mode	Fundamental Range (MHz)	Channel Number
802.11b	2412-2472	13
802.11g		13
802.11n-HT20		13
802.11n-HT40	2422-2462	9
Bluetooth	2402-2480	79
BLE	2402-2480	40

5GHz			
Mode	Band	Fundamental Range (MHz)	Channel Number
802.11a	NII-I	5180-5240	4
	NII-2A	5260-5320	4
	NII-2C	5500-5720	12
	NII-III	5745-5825	5
802.11n-HT20/ 802.11ac-VHT20 802.11ax-HE20	NII-I	5180-5240	4
	NII-2A	5260-5320	4
	NII-2C	5500-5720	12
	NII-III	5745-5825	5
802.11n-HT40/ 802.11ac-VHT40 802.11ax-HE40	NII-I	5190-5230	2
	NII-2A	5270-5310	2
	NII-2C	5510-5710	6
	NII-III	5755-5795	2
802.11ac-VHT80 802.11ax-HE80	NII-I	5210	1
	NII-2A	5290	1
	NII-2C	5530-5690	3
	NII-III	5775	1
802.11ac-VHT160 /802.11ax-HE160	NII-I	5250	1
	NII-2A		
	NII-2C	5570	1
Remark: UNII Band II-2A and II-2C (DFS Function, Slave/no In service monitor, no Ad-Hoc mode)			

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	OFDM (BPSK/QPSK/16QAM/64QAM)	Up to 54
802.11n-HT20	OFDM (BPSK/QPSK/16QAM/64QAM)	Up to 144.4
802.11n-HT40		Up to 300
802.11ac-VHT20	OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)	Up to 173.3
802.11ac-VHT40		Up to 400
802.11ac-VHT80		Up to 866.7
802.11ac-VHT160		Up to 1733.3
802.11ax-HE20	OFDMA (BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM/1024QAM)	Up to 287
802.11ax-HE40		Up to 574
802.11ax-HE80		Up to 1201
802.11ax-HE160		Up to 2402
Bluetooth	FHSS (GFSK, $\pi/4$ DQPSK, 8-DPSK)	1/2/3
BLE	GFSK (1M, 2M, PHY Coded S8, PHY Coded S2)	2

3.5. Description of Key Components

3.5.1. For the All Component Lists

Item	Supplier	Model / Type	Character
System	Microsoft	Win10 Home	---
	Microsoft	Win10 Pro	---
Main Board	LG	SJ17C MB	---
SUB Board	LG	SJ17C IO BD	---
CPU (Socket:FCBGA1528)	Intel	i3-10110U	2.1GHz, up to 4.1GHz
		i5-10210U	1.6GHz, up to 4.2GHz
		i7-10510U	1.8GHz, up to 4.9GHz
GPU	NVIDIA	N18P-G0-MP-A1	--
17" LCD Panel	LG Display	LP170WQ1(SP)(A1)	Resolution: 2560 x 1600, 60Hz WQXGA IPS (Normal Non touch)
Storage (SSD) (Max. 2 pcs)	Samsung	MZVLB256HAHQ-00000	NVMe, 256GB
		MZVLB256HBHQ-00000	NVMe, 256GB
		MZVLB512HBJQ-00000	NVMe, 512GB
	WD	SDASN8Y-256G-1009	SATA, 256GB
		SDASN8Y-512G-1009	SATA, 512GB
Memory (RAM) (on Board)	SK hynix	H5GC8H24AJR-R2C	DDR5 256Mb*32
	Micro	MT51J256M32HF	DDR5 256Mb*32
Memory (RAM) (on card)	Samsung	HMA81GS6CJR8N-VKN0	8GB DDR4 SODIMM
		HMA851S6CJR6N-VKN0	4GB DDR4 SODIMM
	SK hynix	M471A1K43CB1-CTD	8GB DDR4 SODIMM (on Card)
		M471A5244CB0-CTD	4GB DDR4 SODIMM
Battery Pack	LG	LBS1224E	72Wh, DC7.7V, 9450mAh
WLAN Combo Card	Intel	AX201D2W	WWLAN and BT, 2x2 CNVi 1216 FCC ID: PD9AX201D2 IC: 1000M-AX201D2
WLAN Combo Antenna	ACON (Advanced Wireless & Antenna Inc.)	SJ17W_WLAN MAN ANT_HF Antenna	PIFA Type Main: Black, Aux: White
		SJ17W_WLAN AUX ANT_HF Antenna	
	Hua Cheng (HTK)	SJ17W Main Antenna	PIFA Type Main: Black, Aux: White
		SJ17W Aux Antenna	
Click Pad	ELAN	SB876A-26H0	--
	LITEON	SG-96010-00A	--

Item	Supplier	Model / Type	Character
Web Camera	Chicony	CKFIH3421005110LH	With two microphones
AC Adapter	Chicony	A15-120P1A	I/P: AC 100-240V, 50-60Hz, 2.0A, O/P: DC 19V, 6.32A, 120W
	Chicony	A12-065N2A	I/P: AC 100-240V, 50-60Hz, 1.7A, O/P: DC 19V, 3.42A, 65W
	DC Power Cord: Non-Shielded, Undetached, 1.8m, bonded a ferrite core AC Power Cord: Non-Shielded, Detached, 1m (3C)		

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

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

SKU		1	2
System	Microsoft, Win10 Home	V	V
Main Board	LG, SJ17C MB	V	V
SUB Board	LG, SJ17C IO BD	V	V
CPU	Intel, i7-10510U	V	
	Intel, i5-10210U		V
GPU	NVIDIA, N18P-G0-MP-A1	V	
17" LCD Panel	LG Display, LP170WQ1(SP)(A1)	V	V
Storage (SSD)	Samsung, MZVLB256HAHQ-00000, 256GB	V	V
	Samsung, MZVLB512HBJQ-00000, 512GB	V	
Memory (RAM) (on Board)	SK hynix, GDDR5 256Mb*32	V	
Memory (RAM) (on Card)	Samsung, 4GB		V
	Samsung, 8GB x2	V	
	SK hynix, 4GB		V
Battery Pack	LG, LBS1224E	V	V
WLAN Combo Card	Intel, AX201D2W	V	V
WLAN Combo Antenna	ACON (Advanced Wireless & Antenna Inc.), Main & AUX		V
	Hua Cheng (HTK), Main & AUX	V	
Click Pad	ELAN, SB876A-26H0	V	V
Web Camera	Chicony, CKFIH3421005110LH	V	V
AC Adapter	Chicony, A15-120P1A	V	
	Chicony, A12-065N2A		V

3.6. Test Environment

Ambient conditions in the laboratory:

Item	Require	Actual
Temperature (°C)	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: attemc_report@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2017 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724
Test Facilities	FCC OET Designation Number under APEC MRA by NCC is : TW1724 (1) SAR Room

3.8. Measurement Uncertainty

DASY5 Uncertainty According to IEEE 1528-2013 and IEC 62209-1/2016 (0.3 - 6 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(ci) 1g	(ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(vi) 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%	

DASY5 Uncertainty According to IEC 62209-2/2010 (30 MHz - 6 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(ci) 1g	(ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(vi) v _{eff}
Measurement System								
Probe Calibration	±6.0%	N	1	1	1	±6.0%	±6.0%	∞
Axial Isotropy	±4.7%	R	√3	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	√3	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	√3	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Readout Electronic	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	√3	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	√3	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	√3	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	√3	1	1	±1.7%	±1.7%	∞
Modulation Response	±2.5%	R	√3	1	1	±1.45 %	±1.45 %	∞
Post-processing	±3.8%	R	√3	1	1	±2.2%	±2.2%	∞
Test Sample Related								
Test Sample 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	√3	1	1	±2.9%	±2.9%	∞
Power Scaling	±0.0%	R	√3	1	1	±0.0%	±0.0%	∞
Phantom and Setup								
Phantom Uncertainty	±4.5%	R	√3	1	1	±2.4%	±2.4%	∞
SAR correction	±1.9%	R	√3	1	0.84	±1.9%	±1.9%	∞
Liquid Conductivity (target)	±5.0%	R	√3	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (mea.)DAK	±2.5%	R	√3	0.64	0.43	±0.9%	±0.6%	∞
Liquid Permittivity (target)	±5.0%	R	√3	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity(me.)DAK	±2.5%	R	√3	0.6	0.49	±0.9%	±0.7%	∞
Combined Std. Uncertainty						±11.0%	±10.9%	387
Expanded STD Uncertainty						±22.1%	±21.8%	

4. MEASUREMENT EQUIPMENT LIST

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
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	714	2019. 06. 20	1 Year
7.	E-Field Probe	SPEAG	EX3DV4	3855	2019. 09. 26	1 Year
8.	SAR Software	SPEAG	DASY52	V.52.8.8.1222	N/A	N/A
9.	ENA Network Analyzer	Agilent	E5071C-285	MY46215502	2019. 04. 15	1 Year
10.	Signal Generator	Aglient	N5181A	MY50143917	2019. 09. 11	1 Year
11.	Power Meter	Aglient	ML2487A	MY52180007	2019. 09. 11	1 Year
12.	Power Sensor	Aglient	N8481	MY52080006	2019. 09. 11	1 Year
13.	Dipole Antenna	SPEAG	D2450V2	888	2019. 09. 27	3 Years
14.	Dipole Antenna	SPEAG	D5GHzV2	1124	2019. 09. 27	3 Years

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:

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be related to the electrical field in the tissue by

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

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 from the optical into digital electric signal of the DAE and transfers data to the PC.

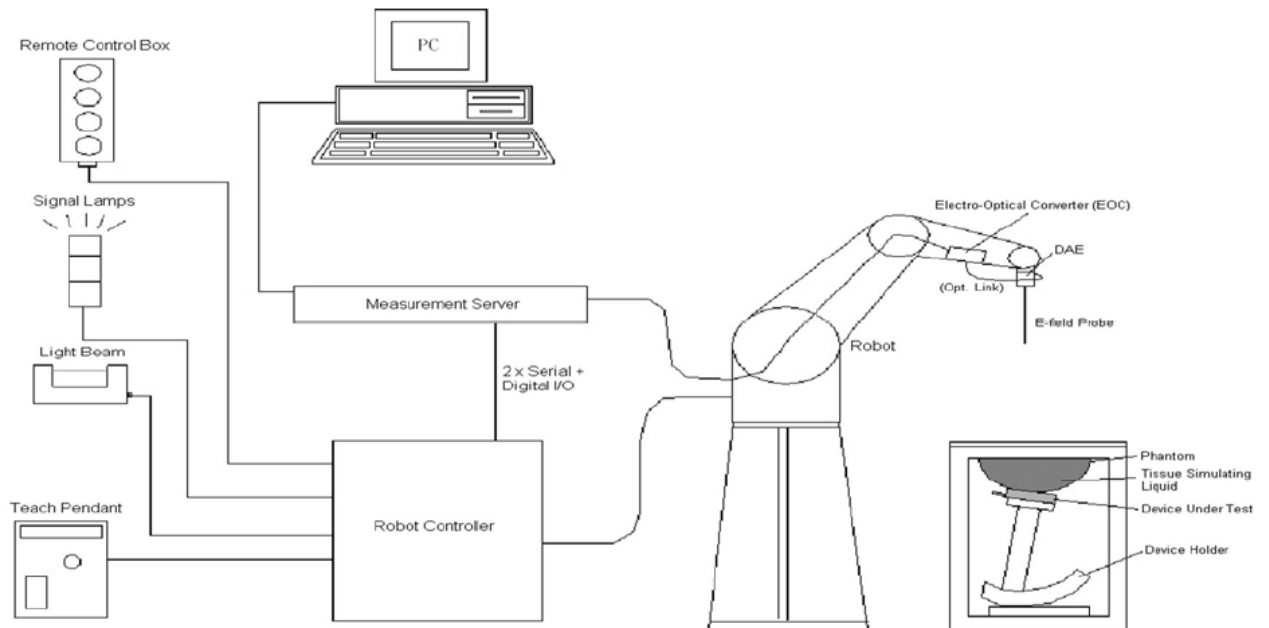
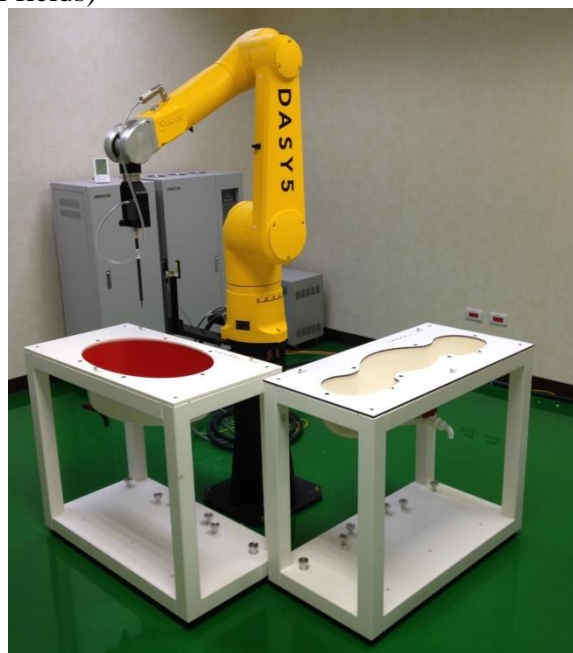


Fig-3.1 DASY System Setup


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)




5.2.2. Probes

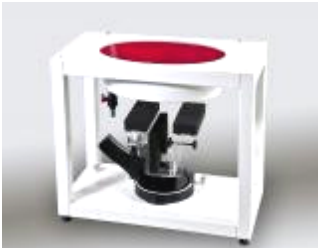
Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 μ W/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/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	$< 5\mu$ V (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	


5.2.4. Phantom

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	

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. Reference Dipole

Model	System Validation Dipoles	
Construction	Symmetrical dipole with 1/4 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)	

5.2.7. Tissue Simulating Liquids

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.

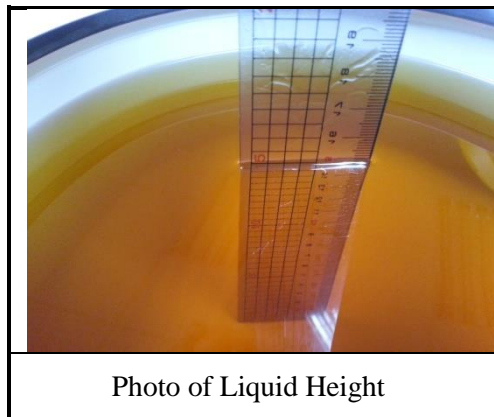


Photo of Liquid Height

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.

Table-5.1 Targets of Tissue Simulating Liquid

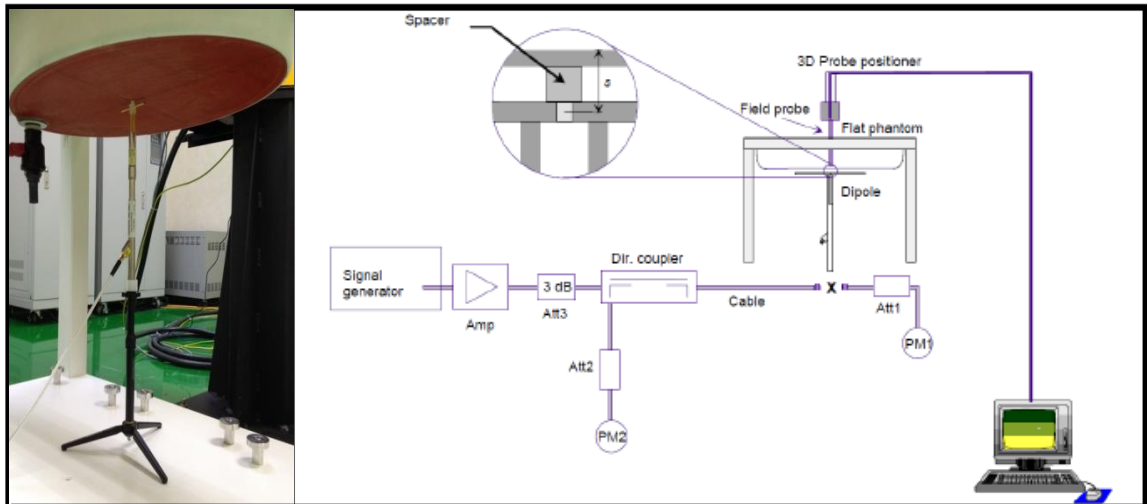
Target Frequency [MHz]	Target Permittivity (ϵ_r)	Range of $\pm 5\%$	Target Conductivity σ [s/m]	Range of $\pm 5\%$
For Head				
750	41.9	39.8 ~ 44.0	0.89	0.85 ~ 0.93
835	41.5	39.4 ~ 43.6	0.90	0.86 ~ 0.95
900	41.5	39.4 ~ 43.6	0.97	0.92 ~ 1.02
1450	40.5	38.5 ~ 42.5	1.20	1.14 ~ 1.26
1640	40.3	38.3 ~ 42.3	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

Table-5.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCl	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

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 %.

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	Liquid Temp. [°C]
2450MHz	Reference result	51.2	24.0	N/A
	± 10% window	46.080 to 56.320	21.600 to 26.400	
	2020. 03. 10	54.8	25.08	23.6
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at WLAN				
Dipole Kit: D5GHzV2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Liquid Temp. [°C]
5300MHz	Reference result	76.9	21.15	N/A
	± 10% window	69.210 to 84.590	19.035 to 23.265	
	2020. 03. 03	81.3	22.1	23.8
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at WLAN				
Dipole Kit: D5GHzV2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Liquid Temp. [°C]
5600MHz	Reference result	80.6	22.4	N/A
	± 10% window	72.540 to 88.660	20.160 to 24.640	
	2020. 03. 04	86.1	23.6	23.6
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at WLAN				
Dipole Kit: D5GHzV2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Liquid Temp. [°C]
5800MHz	Reference result	77.1	21.2	N/A
	± 10% window	69.390 to 84.810	19.080 to 23.320	
	2020. 03. 05	80.3	22.8	23.8
Note: All SAR values are normalized to 1W forward power.				

5.3.2. SAR System Check Data

Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

System Check_B2450

DUT: D2450V2 - SN888; Type: D2450V2; Serial: SN888

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.993$ S/m; $\epsilon_r = 51.583$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

P=250mW/Area Scan (8x8x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 17.4 W/kg

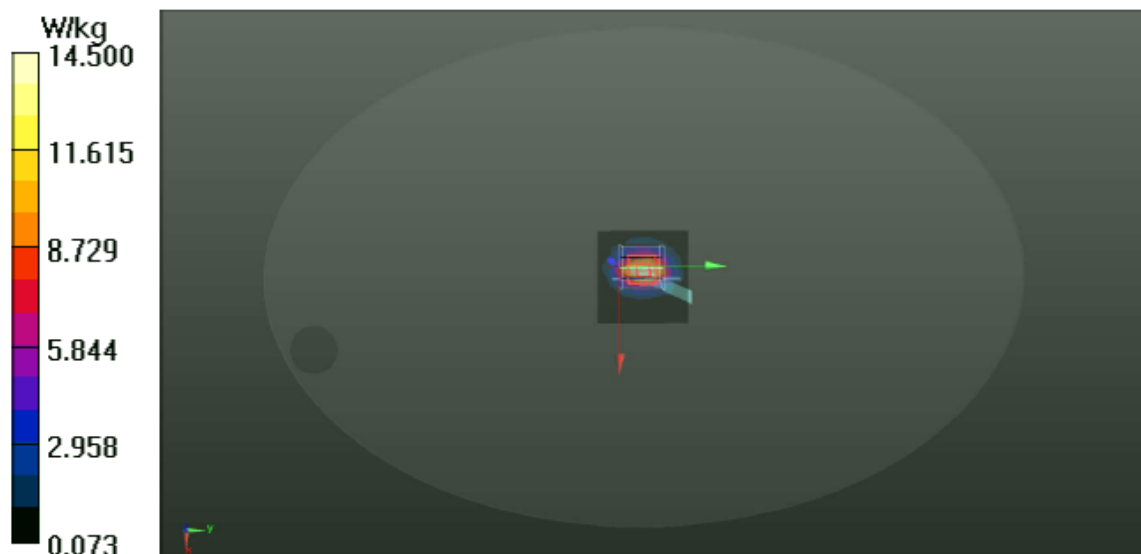
P=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 72.93 V/m; Power Drift = 0.44 dB

Peak SAR (extrapolated) = 24.7 W/kg

SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.27 W/kg

Maximum value of SAR (measured) = 14.5 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

System Check_B5300**DUT: D5GHzV2 - SN1124; Type: D5GHzV2; Serial: SN1124**

Communication System: UID 0, CW (0); Frequency: 5300 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.454$ S/m; $\epsilon_r = 47.175$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

P=100mW/Area Scan (7x7x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 17.4 W/kg

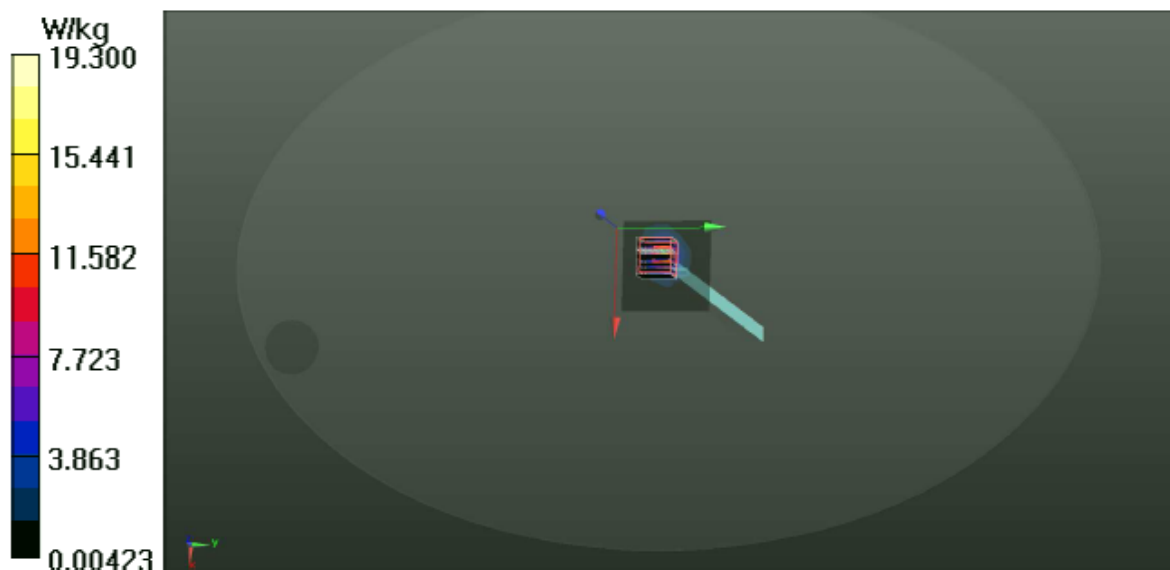
P=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 35.81 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 35.6 W/kg

SAR(1 g) = 8.13 W/kg; SAR(10 g) = 2.21 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

System Check_B5600**DUT: D5GHzV2 - SN1124; Type: D5GHzV2; Serial: SN1124**

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.889$ S/m; $\epsilon_r = 46.629$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

P=100mW/Area Scan (7x7x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 14.2 W/kg

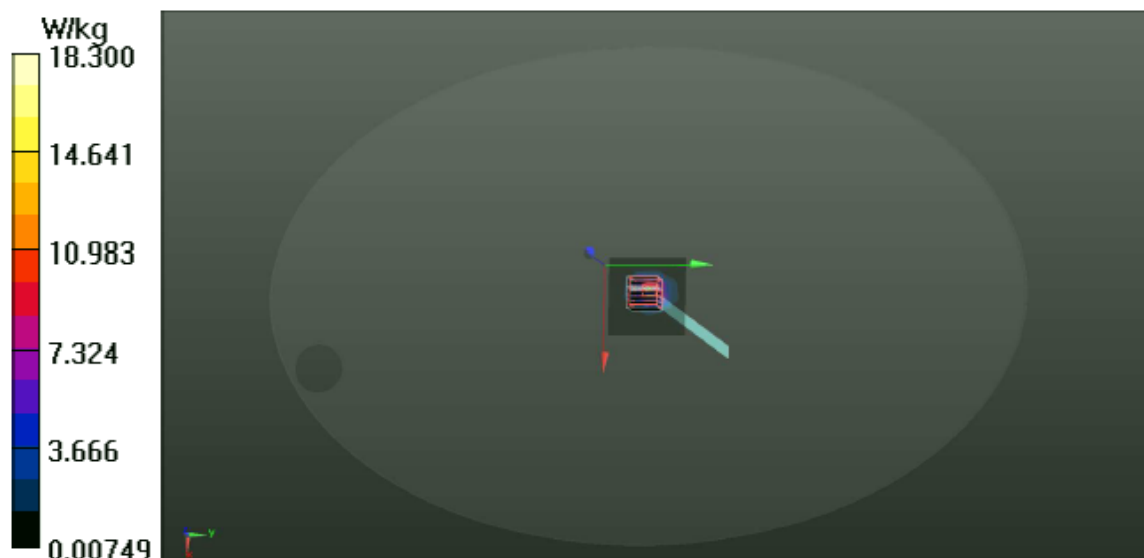
P=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 35.72 V/m; Power Drift = -0.21 dB

Peak SAR (extrapolated) = 35.7 W/kg

SAR(1 g) = 8.61 W/kg; SAR(10 g) = 2.36 W/kg

Maximum value of SAR (measured) = 18.3 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

System Check_B5800**DUT: D5GHzV2 - SN1124; Type: D5GHzV2; Serial: SN1124**

Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5800$ MHz; $\sigma = 6.176$ S/m; $\epsilon_r = 46.237$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

P=100mW/Area Scan (7x7x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 13.5 W/kg

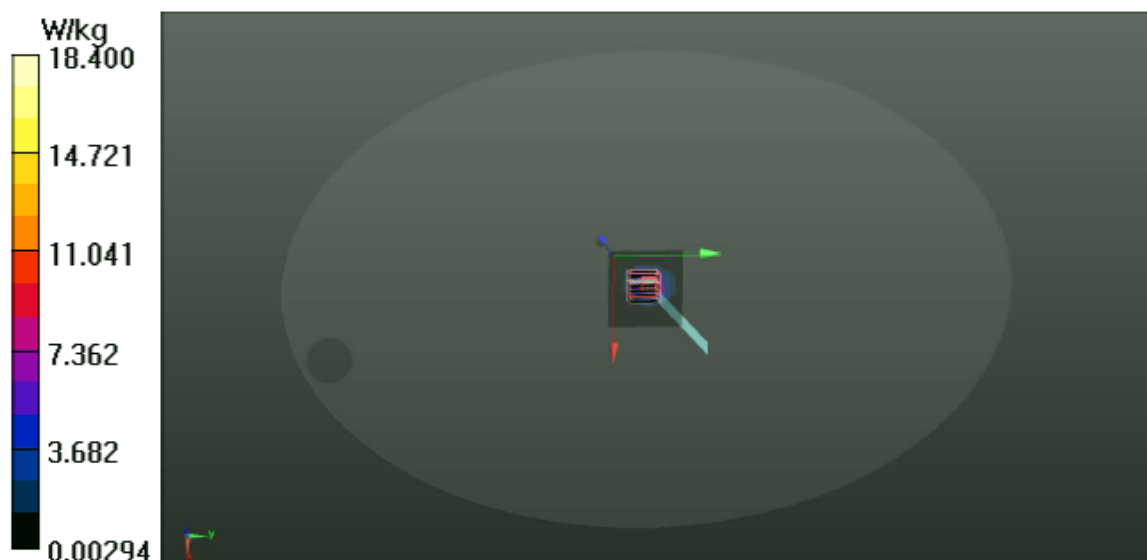
P=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 36.42 V/m; Power Drift = 0.28 dB

Peak SAR (extrapolated) = 36.9 W/kg

SAR(1 g) = 8.03 W/kg; SAR(10 g) = 2.28 W/kg

Maximum value of SAR (measured) = 18.4 W/kg



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 865664D01v01r03, 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.

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 from 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

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.

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.

6.2. EUT Testing Position

The SAR testing required mode is listed as below.

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

Note: Per KDB 447498 D01

- a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where
 - $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):³²
 - 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz
 - 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

SAR test exclusion table distance is > 50 mm @ Left Side (AUX to edge)

Frequency (GHz)	In Step 1 threshold Power (mW)	Distance between antenna and user (mm)	SAR Exclusion Threshold Power @ > 50 mm (mW)	EUT tune-up maximum power (mW)	SAR test
2.442	95.9883	120.5	800.9883	112.202	No
5.240	65.5278	120.5	770.5278	70.795	No
5.260	65.4031	120.5	770.4031	70.795	No
5.550	63.6715	120.5	768.6715	56.234	No
5.580	63.5001	120.5	768.6715	70.795	No
5.745	62.5815	120.5	768.6715	79.433	No
5.785	62.3648	120.5	768.6715	79.433	No

SAR test exclusion table distance is > 50 mm @ Right Side (Main to edge)

Frequency (GHz)	In Step 1 threshold Power (mW)	Distance between antenna and user (mm)	SAR Exclusion Threshold Power @ > 50 mm (mW)	EUT tune-up maximum power (mW)	SAR test
2.442	95.9883	120.5	800.9883	112.202	No
5.240	65.5278	120.5	770.5278	70.795	No
5.260	65.4031	120.5	770.4031	70.795	No
5.550	63.6715	120.5	768.6715	56.234	No
5.580	63.5001	120.5	768.6715	70.795	No
5.745	62.5815	120.5	768.6715	79.433	No
5.785	62.3648	120.5	768.6715	79.433	No

6.3. Tissue Calibration Result

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

Body Tissue Simulate Measurement								
Frequency [MHz]	Description	Dielectric Parameters						Liquid Temp. [°C]
		ε _r			σ[s/m]			
2450MHz	Reference result ± 5% window	52.70			1.95			N/A
		50.065	to	55.335	1.853	to	2.048	
	2020. 03. 10	51.583			1.993			23.6

Body Tissue Simulate Measurement							
Frequency [MHz]	Description	Dielectric Parameters					Liquid Temp. [°C]
		ε _r		σ[s/m]			
5300MHz	Reference result ± 5% window	48.88		5.416			N/A
		46.436	to 51.324	5.145	to 5.687		
	2020. 03. 03	47.175		5.454			23.5

Body Tissue Simulate Measurement							
Frequency [MHz]	Description	Dielectric Parameters					Liquid Temp. [°C]
		ε _r			σ[s/m]		
5600MHz	Reference result	48.47			5.766		N/A
	± 5% window	46.047	to	50.894	5.478	to	
	2020. 03. 04	46.629			5.889		23.6

Body Tissue Simulate Measurement							
Frequency [MHz]	Description	Dielectric Parameters					Liquid Temp. [°C]
		ϵ_r			σ [s/m]		
5800MHz	Reference result ± 5% window	48.20			6.00		N/A
		45.790	to	50.610	5.700	to	
	2020. 03. 05	46.237			6.176		23.8

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

6.5. Conducted Power Measurement

Note:

1. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
Scale Factor = tune-up limit power (mW)/EUT Conducted power (mW), where tune-up limit is the maximum rated power among all production units.
Scale SAR(W/kg)= Measured SAR(W/kg)* Scaling Factor
2. Per KDB 447498 D01, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/kg, other channels SAR testing is not necessary.
3. Per KDB 248227 D01, for OFDM transmission configuration in the 2.4G and 5G bands. An initial test configuration is determined by the highest maximum output power including tune-up tolerance. When multiple transmission modes(802.11 a/g/n/ac/ax) have same maximum power, largest channel bandwidth , lowest order modulation and lowest data rate, lowest order 802.11 mode is selected.(i.e. a, g, n, ac then ax)
4. Per KDB 248227 D01, when the highest reported SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
5. Per KDB 248227 D01, U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
6. Per KDB 248227 D01, when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
7. Pursuant section 2.8.1(2) KDB 865664 D01, when the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
8. Pursuant section 2.8.1(3) KDB 865664 D01, perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit)

6.5.1. For WLAN Function

Type of Network	Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
			Chain A (AUX)			Chain B (Main)			
			Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11b	CH 1	2412	19.16	19.50	---	19.35	19.50	---	No ^{NOTE2}
	CH 2	2417	19.91	20.00	---	19.96	20.00	---	
	CH 7	2442	20.04	20.50	1.11	20.02	20.50	1.12	Yes
	CH 10	2457	20.02	20.50	---	19.95	20.00	---	No ^{NOTE2}
	CH 11	2462	19.08	19.50	---	18.91	19.00	---	
	CH 12	2467	18.18	18.50	---	18.08	18.50	---	
	CH 13	2472	13.08	13.50	---	13.05	13.50	---	
802.11g	CH 1	2412	16.72	17.00	---	16.91	17.00	---	No ^{NOTE6}
	CH 2	2417	17.94	18.00	---	17.9	18.00	---	
	CH 7	2442	19.63	20.00	---	19.74	20.00	---	
	CH 10	2457	18.21	18.50	---	18.05	18.50	---	
	CH 11	2462	17.47	17.50	---	17.37	17.50	---	
	CH 12	2467	14.79	15.00	---	14.78	15.00	---	
	CH 13	2472	1.52	2.00	---	1.28	1.50	---	

Type of Network	Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
			Chain A (AUX)			Chain B (Main)			
			Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11n-HT20	CH 1	2412	14.01	14.50	---	14.23	14.50	---	No ^{NOTE4, 3}
	CH 2	2417	15.45	15.50	---	15.38	16.00	---	
	CH 7	2442	17.15	17.50	---	17.13	17.50	---	
	CH 10	2457	15.63	16.00	---	15.55	16.00	---	
	CH 11	2462	14.83	15.00	---	14.63	15.0	---	
	CH 12	2467	11.95	12.00	---	11.84	12.00	---	
	CH 13	2472	-0.04	0	---	-0.86	-0.5	---	
802.11n-HT40	CH 3	2422	13.83	14.00	---	13.81	14.00	---	
	CH 4	2427	12.8	13.00	---	12.73	13.00	---	
	CH 7	2442	14.65	15.00	---	14.59	15.00	---	
	CH 8	2447	14.78	15.00	---	14.73	15.00	---	
	CH 9	2452	13.14	13.50	---	13.22	13.50	---	
	CH 10	2457	9.53	10.00	---	9.42	9.50	---	
	CH 11	2462	1.41	1.50	---	0.54	1.00	---	

Type of Network	Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
			Chain A (AUX)			Chain B (Main)			
			Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11ax-HE20	CH 1	2412	13.92	14.00	---	14.12	14.50	---	No ^{NOTE4, 3}
	CH 2	2417	15.28	15.50	---	15.22	15.50	---	
	CH 7	2442	17.03	17.50	---	17.05	17.50	---	
	CH 10	2457	15.56	16.00	---	15.39	16.00	---	
	CH 11	2462	14.68	15.00	---	14.58	15.00	---	
	CH 12	2467	11.78	12.00	---	11.79	12.00	---	
	CH 13	2472	-0.11	0	---	-0.95	-0.5	---	
802.11ax-HE40	CH 3	2422	13.66	14.00	---	13.7	14.00	---	
	CH 4	2427	12.61	13.00	---	12.49	12.50	---	
	CH 7	2442	14.47	14.50	---	14.42	14.50	---	
	CH 8	2447	14.58	15.00	---	14.55	15.00	---	
	CH 9	2452	12.96	13.00	---	13.00	13.50	---	
	CH 10	2457	9.28	9.50	---	9.24	9.50	---	
	CH 11	2462	1.06	1.50	---	0.14	0.5	---	

Type of Network	RU Config	Frequency (MHz)	Output Power (dBm)						SAR Test
			Chain A (AUX)			Chain B (Main)			
			Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11ax-HE20	26/0	2412	14.13	14.50	---	14.45	14.50	---	No ^{NOTE4, 3}
	52/37		14.26	14.50	---	14.43	14.50	---	
	106/53		14.28	14.50	---	14.48	14.50	---	
	26/8	2472	-1.36	-1.0	---	-2.57	-2.5	---	
	52/40		-1.13	-1.0	---	-2.29	-2.0	---	
	106/54		-1.02	-1.0	---	-2.05	-2.0	---	
802.11ax-HE40	242/61	2422	13.85	14.00	---	14.08	14.50	---	
	242/62	2467	1.27	1.50	---	1.17	1.50	---	

Type of Network		Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
				Chain A (AUX)			Chain B (Main)			
				Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11a	NII-I	CH 36	5180	16.70	17.00	---	16.69	17.00	---	No ^{NOTE5, 3}
		CH 40	5200	17.40	17.50	---	17.18	17.50	---	
		CH 48	5240	18.31	18.50	1.04	18.27	18.50	1.05	Yes
	NII-2A	CH 52	5260	18.40	18.50	1.02	18.49	18.50	1.00	Yes
		CH 60	5300	17.46	17.50	---	17.33	17.50	---	No ^{NOTE2}
		CH 64	5320	16.75	17.00	---	16.45	16.50	---	
	NII-2C	CH 100	5500	17.08	17.50	1.10	16.88	17.00	1.03	Yes
		CH 116	5580	18.50	18.50	1.00	18.11	18.50	1.09	Yes
		CH 140	5700	16.15	16.50	---	16.81	17.00	---	No ^{NOTE2, 3}
		CH 144	5720	18.43	18.50	---	18.29	18.50	---	
	NII-III	CH 149	5745	18.45	18.50	1.01	18.62	19.00	1.09	Yes
		CH 157	5785	18.26	18.50	1.06	18.57	19.00	1.10	Yes
		CH 165	5825	18.16	18.50	---	18.34	18.50	---	No ^{NOTE2, 3}

Type of Network		Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
				Chain A (AUX)			Chain B (Main)			
				Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11n-HT20	NII-I	CH 36	5180	14.04	14.50	---	13.82	14.00	---	No ^{NOTE4、3}
		CH 40	5200	14.79	15.00	---	14.57	15.00	---	
		CH 48	5240	15.90	16.00	---	15.69	16.00	---	
	NII-2A	CH 52	5260	16.18	16.50	---	15.90	16.00	---	
		CH 60	5300	14.81	15.00	---	14.57	15.00	---	
		CH 64	5320	13.95	14.00	---	13.71	14.00	---	
	NII-2C	CH 100	5500	14.23	14.50	---	14.03	14.50	---	
		CH 116	5580	16.07	16.50	---	15.87	16.00	---	
		CH 140	5700	13.68	14.00	---	13.12	13.50	---	
		CH 144	5720	15.89	16.00	---	15.64	16.00	---	
	NII-III	CH 149	5745	15.71	16.00	---	15.71	16.00	---	
		CH 157	5785	15.94	16.00	---	15.68	16.00	---	
		CH 165	5825	15.74	16.00	---	15.84	16.00	---	

Type of Network		Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
				Chain A (AUX)			Chain B (Main)			
				Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11n-HT40	NII-I	CH 38	5190	14.40	15.00	---	14.02	14.50	---	No ^{NOTE4, 3}
		CH 46	5230	15.77	16.00	---	15.67	16.00	---	
	NII-2A	CH 54	5270	15.22	15.50	---	15.19	15.50	---	
		CH 62	5310	13.31	13.50	---	12.92	13.00	---	
	NII-2C	CH 102	5510	13.60	14.00	---	13.26	13.50	---	
		CH 110	5550	14.36	14.50	---	14.12	14.50	---	
		CH 134	5670	15.88	16.00	---	15.45	16.00	---	
		CH 142	5710	16.42	17.00	---	15.95	16.00	---	
	NII-III	CH 151	5755	16.28	16.50	---	16.19	16.50	---	
		CH 159	5795	16.23	16.50	---	16.32	16.50	---	
802.11ac-VHT80	NII-I	CH 52	5210	14.50	14.50	---	14.25	14.50	---	No ^{NOTE4, 3}
	NII-2A	CH 58	5290	13.29	13.50	---	13.02	13.50	---	
		CH 106	5530	14.08	14.50	---	13.81	14.00	---	
	NII-2C	CH 133	5610	16.35	16.50	---	16.22	16.50	---	
		CH 138	5690	16.79	17.00	---	16.24	16.50	---	
	NII-III	CH 155	5775	15.06	15.50	---	14.98	15.00	---	
802.11ac-VHT160	NII-I/ NII-2A	CH 50	5250	11.72	12.00	---	11.70	12.00	---	No ^{NOTE4, 3}
	NII-2C	CH 114	5570	11.54	12.00	---	11.51	12.00	---	

Type of Network		Channel	Frequency (MHz)	Output Power (dBm)						SAR Test
				Chain A (AUX)			Chain B (Main)			
				Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11ax-HE20	NII-I	CH 36	5180	14.08	14.50	---	13.82	14.00	---	No ^{NOTE4, 3}
		CH 40	5200	14.64	15.00	---	14.44	14.50	---	
		CH 48	5240	15.81	16.00	---	15.73	16.00	---	
	NII-2A	CH 52	5260	15.97	16.00	---	16.02	16.50	---	
		CH 60	5300	14.82	15.00	---	14.52	16.00	---	
		CH 64	5320	13.81	14.00	---	13.46	13.50	---	
	NII-2C	CH 100	5500	14.27	14.50	---	14.05	14.50	---	
		CH 116	5580	15.82	16.00	---	15.80	16.00	---	
		CH 140	5700	13.46	13.50	---	12.96	13.00	---	
		CH 144	5720	15.92	16.00	---	15.70	16.00	---	
	NII-III	CH 149	5745	15.65	16.00	---	15.58	16.00	---	
		CH 157	5785	15.75	16.00	---	15.59	16.00	---	
CH 165		5825	15.66	16.00	---	15.52	16.00	---		
802.11ax-HE40	NII-I	CH 38	5190	14.11	14.50	---	13.78	14.00	---	No ^{NOTE4, 3}
		CH 46	5230	15.52	16.00	---	15.40	15.50	---	
	NII-2A	CH 54	5270	14.88	15.00	---	14.85	15.00	---	
		CH 62	5310	13.06	13.50	---	12.86	13.00	---	
	NII-2C	CH 102	5510	13.45	13.50	---	12.89	13.00	---	
		CH 110	5550	14.16	14.50	---	13.95	14.00	---	
		CH 134	5670	15.49	15.50	---	15.10	15.50	---	
		CH 142	5710	16.17	16.50	---	15.86	16.00	---	
	NII-III	CH 151	5755	15.89	16.00	---	15.88	16.00	---	
CH 159		5795	16.06	16.50	---	15.87	16.00	---		
802.11ax-HE80	NII-I	CH 52	5210	14.10	14.50	---	14.12	14.50	---	No ^{NOTE4, 3}
	NII-2A	CH 58	5290	12.77	13.00	---	12.74	13.00	---	
		CH 106	5530	13.80	14.00	---	13.59	14.00	---	
	NII-2C	CH 133	5610	16.14	16.50	---	16.04	16.50	---	
		CH 138	5690	16.42	16.50	---	16.06	16.50	---	
	NII-III	CH 155	5775	14.78	15.00	---	14.80	15.00	---	
802.11ax-HE160	NII-I/ NII-2A	CH 50	5250	11.67	12.00	---	11.52	12.00	---	No ^{NOTE4, 3}
	NII-2C	CH 114	5570	11.22	11.50	---	11.06	11.50	---	

Type of Network		Channel	Frequency (MHz)	RU Config	Output Power (dBm)						SAR Test
					Chain A (AUX)			Chain B (Main)			
					Average Power	Tune-Up Limit	Scale Factor	Average Power	Tune-Up Limit	Scale Factor	
802.11ax-HE20	NII-I	CH 36	5180	26/0	11.17	11.50	---	11.56	12.00	---	No ^{NOTE} _{4,3}
				52/37	13.68	14.00	---	13.53	14.00	---	
				106/53	13.71	14.00	---	13.55	14.00	---	
	NII-2A	CH 64	5320	26/8	11.92	12.00	---	11.25	11.50	---	
				52/40	11.65	12.00	---	11.49	11.50	---	
				106/54	13.72	14.00	---	13.54	14.00	---	
	NII-2C	CH 100	5500	26/0	11.75	12.00	---	11.21	11.50	---	
				52/37	14.05	14.50	---	13.62	14.00	---	
				106/53	14.08	14.50	---	13.96	14.00	---	
		CH 140	5700	26/8	11.54	12.00	---	11.58	12.00	---	
				52/40	13.09	13.50	---	12.64	13.00	---	
				106/54	13.28	13.50	---	13.11	13.50	---	
	NII-III	CH 149	5745	26/0	11.86	12.00	---	11.25	11.50	---	
				52/37	14.65	15.00	---	14.79	15.00	---	
				106/53	15.01	15.50	---	14.96	15.00	---	
		CH 165	5825	26/8	14.98	15.00	---	14.59	15.00	---	
				52/40	15.21	15.50	---	15.01	15.50	---	
				106/54	15.34	15.50	---	15.22	15.50	---	
802.11ax-HE40	NII-I	CH 38	5190	242/61	14.05	14.50	---	13.51	14.00	---	No ^{NOTE} _{4,3}
	NII-2A	CH 62	5310	242/62	13.02	13.50	---	12.66	13.00	---	
	NII-2C	CH 102	5510	242/61	13.39	13.50	---	13.05	13.50	---	
		CH 142	5710	242/62	15.22	15.50	---	15.31	15.50	---	
	NII-III	CH 151	5755	242/61	15.77	16.00	---	15.63	16.00	---	
		CH 159	5795	242/62	15.84	16.00	---	15.72	16.00	---	
802.11ax-HE80	NII-I	CH 52	5210	484/65	14.02	14.50	---	14.03	14.50	---	No ^{NOTE} _{4,3}
	NII-2A	CH 58	5290	484/66	11.93	12.00	---	12.16	12.50	---	
	NII-2C	CH 106	5530	484/65	13.57	14.00	---	13.74	14.00	---	
		CH 133	5610	484/66	15.40	16.00	---	15.43	15.50	---	
	NII-III	CH 155	5775	484/65	14.62	15.00	---	14.56	15.00	---	
				484/66	14.72	15.00	---	14.77	15.00	---	
802.11ax-HE160	NII-2A	CH 50	5250	996/67	10.52	11.00	---	10.25	10.50	---	No ^{NOTE} _{4,3}
				996/S67	10.41	11.00	---	10.26	10.50	---	
	NII-2C	CH 114	5570	996/67	10.41	11.00	---	9.71	10.00	---	
				996/S67	10.19	10.50	---	9.78	10.00	---	

6.5.2. For BT Function

Type of Network	Channel	Frequency (MHz)	Max Output Power (dBm)	Tune-Up Limit	Scale Factor	SAR Test
Bluetooth-GFSK	CH 0	2402	9.14	9.50	---	No
	CH 39	2441	9.59	10.0	1.00	Yes
	CH 78	2480	9.48	9.50	---	No
Bluetooth-8-DPSK	CH 0	2402	6.89	7.0	---	No
	CH 39	2441	7.55	8.0	---	No
	CH 78	2480	7.00	7.5	---	No
BLE (1M)	CH 37	2402	4.85	5.0	---	No
	CH 17	2440	5.37	5.5	---	No
	CH 39	2480	4.66	5.0	---	No
BLE (2M)	CH 37	2402	4.84	5.0	---	No
	CH 17	2440	5.37	5.5	---	No
	CH 39	2480	4.66	5.0	---	No
BLE (PHY Coded S2)	CH 37	2402	4.82	5.0	---	No
	CH 17	2440	5.36	5.5	---	No
	CH 39	2480	4.65	5.0	---	No
BLE (PHY Coded S8)	CH 37	2402	4.82	5.0	---	No
	CH 17	2440	5.36	5.5	---	No
	CH 39	2480	4.65	5.0	---	No

6.6. SAR Test Result

Test Date	2020. 03. 10	Temp./Hum.	24°C /45%
Test Voltage	AC 120V, 60Hz (with AC Adapter)	Tested by	Brian Hsieh
Test SKU	SKU #1		

Liquid Temperature : 23.6℃							Depth of Liquid: > 15cm			
Test Mode: 2.4GHz										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11b										
Antenna: Chain B (Main)										
18	Rear	Fixed	0	2442	20.02	20.5	0.463	1.12	0.52	1.60
Antenna: Chain A (AUX)										
17	Rear	Fixed	0	2442	20.04	20.5	0.346	1.11	0.38	1.60

Liquid Temperature : 23.6℃							Depth of Liquid: > 15cm			
Test Mode: BT-GFSK										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
Antenna: Chain A (AUX)										
19	Rear	Fixed	0	2441	9.59	10.0	0.034	1.10	0.04	1.60

Test Date	2020. 03. 03~05	Temp./Hum.	24°C/46~49%
Test Voltage	AC 120V, 60Hz (with AC Adapter)	Tested by	Brian Hsieh
Test SKU	SKU #1		

Liquid Temperature : 23.5~23.8℃						Depth of Liquid: > 15cm				
Test Mode: 5GHz										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11a (UNII Band II-2A)										
Antenna: Chain B (Main)										
36	Rear	Fixed	0	5240	18.27	18.5	1.050	1.05	1.11	1.60
37*	Rear	Fixed	0	5240	18.27	18.5	0.996	1.05	1.05	1.60
14	Rear	Fixed	0	5260	18.49	18.5	0.976	1.00	0.98	1.60
34*	Rear	Fixed	0	5260	18.49	18.5	0.976	1.00	0.98	1.60
Antenna: Chain A (AUX)										
35	Rear	Fixed	0	5240	18.31	18.5	0.681	1.04	0.71	1.60
13	Rear	Fixed	0	5260	18.40	18.5	0.660	1.02	0.68	1.60
802.11a (UNII Band II-2C)										
Antenna: Chain B (Main)										
39	Rear	Fixed	0	5500	16.88	17.0	1.010	1.03	1.04	1.60
40*	Rear	Fixed	0	5500	16.88	17.0	1.050	1.03	1.08	1.60
8	Rear	Fixed	0	5580	18.11	18.5	0.962	1.09	1.05	1.60
33*	Rear	Fixed	0	5580	18.11	18.5	0.994	1.09	1.09	1.60
Antenna: Chain A (AUX)										
38	Rear	Fixed	0	5500	17.08	17.5	0.789	1.10	0.87	1.60
7	Rear	Fixed	0	5580	18.50	18.5	0.764	1.00	0.76	1.60
802.11a (UNII Band III)										
Antenna: Chain B (Main)										
16	Rear	Fixed	0	5745	18.62	19.0	0.991	1.09	1.08	1.60
32*	Rear	Fixed	0	5745	18.62	19.0	0.984	1.09	1.07	1.60
42	Rear	Fixed	0	5785	18.57	19.0	1.040	1.10	1.15	1.60
43*	Rear	Fixed	0	5785	18.57	19.0	1.010	1.10	1.12	1.60
Antenna: Chain A (AUX)										
15	Rear	Fixed	0	5745	18.45	18.5	1.000	1.01	1.01	1.60
31*	Rear	Fixed	0	5745	18.45	18.5	0.949	1.01	0.96	1.60
41	Rear	Fixed	0	5785	18.16	18.5	1.130	1.08	1.22	1.60

Note: *: It means repeated SAR measurement.

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Test Date	2020. 03. 10	Temp./Hum.	24°C /45%
Test Voltage	AC 120V, 60Hz (with AC Adapter)	Tested by	Brian Hsieh
Test SKU	SKU #2		

Liquid Temperature : 23.6°C							Depth of Liquid: > 15cm			
Test Mode: 2.4GHz										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11b										
Antenna: Chain B (Main)										
58	Rear	Fixed	0	2442	20.02	20.5	0.466	1.12	0.52	1.60
Antenna: Chain A (AUX)										
57	Rear	Fixed	0	2442	20.04	20.5	0.346	1.11	0.38	1.60

Liquid Temperature : 23.6°C							Depth of Liquid: > 15cm			
Test Mode: BT-GFSK										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
Antenna: Chain A (AUX)										
59	Rear	Fixed	0	2441	9.59	10.0	0.035	1.10	0.04	1.60

Test Date	2020. 03. 03~05	Temp./Hum.	24°C/46~49%
Test Voltage	AC 120V, 60Hz (with AC Adapter)	Tested by	Brian Hsieh
Test SKU	SKU #2		

Liquid Temperature : 23.5~23.8℃							Depth of Liquid: > 15cm			
Test Mode: 5GHz										
Plot No.	Test Position: Body	Antenna Position	Separation Distance (cm)	Frequency	Conducted Power (dBm)	Maximum Tune-up (dBm)	SAR 1g (W/kg)	Scale Factor	Scale SAR	Limit (W/kg)
802.11a (UNII Band II-2A)										
Antenna: Chain B (Main)										
64	Rear	Fixed	0	5240	18.27	18.5	1.150	1.05	1.21	1.60
65*	Rear	Fixed	0	5240	18.27	18.5	1.040	1.05	1.10	1.60
54	Rear	Fixed	0	5260	18.49	18.5	1.050	1.00	1.05	1.60
61*	Rear	Fixed	0	5260	18.49	18.5	1.110	1.00	1.11	1.60
Antenna: Chain A (AUX)										
63	Rear	Fixed	0	5240	18.31	18.5	0.758	1.04	0.79	1.60
53	Rear	Fixed	0	5260	18.40	18.5	0.709	1.02	0.73	1.60
802.11a (UNII Band II-2C)										
Antenna: Chain B (Main)										
56	Rear	Fixed	0	5580	18.11	18.5	0.799	1.09	0.87	1.60
Antenna: Chain A (AUX)										
55	Rear	Fixed	0	5580	18.50	18.5	0.573	1.00	0.57	1.60
802.11a (UNII Band III)										
Antenna: Chain B (Main)										
52	Rear	Fixed	0	5745	18.62	19.0	0.989	1.09	1.08	1.60
62*	Rear	Fixed	0	5745	18.62	19.0	1.010	1.09	1.10	1.60
67	Rear	Fixed	0	5785	18.57	19.0	0.989	1.10	1.09	1.60
68*	Rear	Fixed	0	5785	18.57	19.0	0.993	1.10	1.10	1.60
Antenna: Chain A (AUX)										
51	Rear	Fixed	0	5745	18.45	18.5	0.532	1.01	0.54	1.60
66	Rear	Fixed	0	5785	18.26	18.5	0.509	1.06	0.54	1.60

Note: *: It means repeated SAR measurement.



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APPENDIX A

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APPENDIX A

GRAPH RESULT

(Model: 17U70N)

Test SKU: SKU #1

Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P18 802.11b CH7 2442MHz B

DUT: 17U70N(HIGH-TEK)

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2442 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.982$ S/m; $\epsilon_r = 51.612$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.385 W/kg

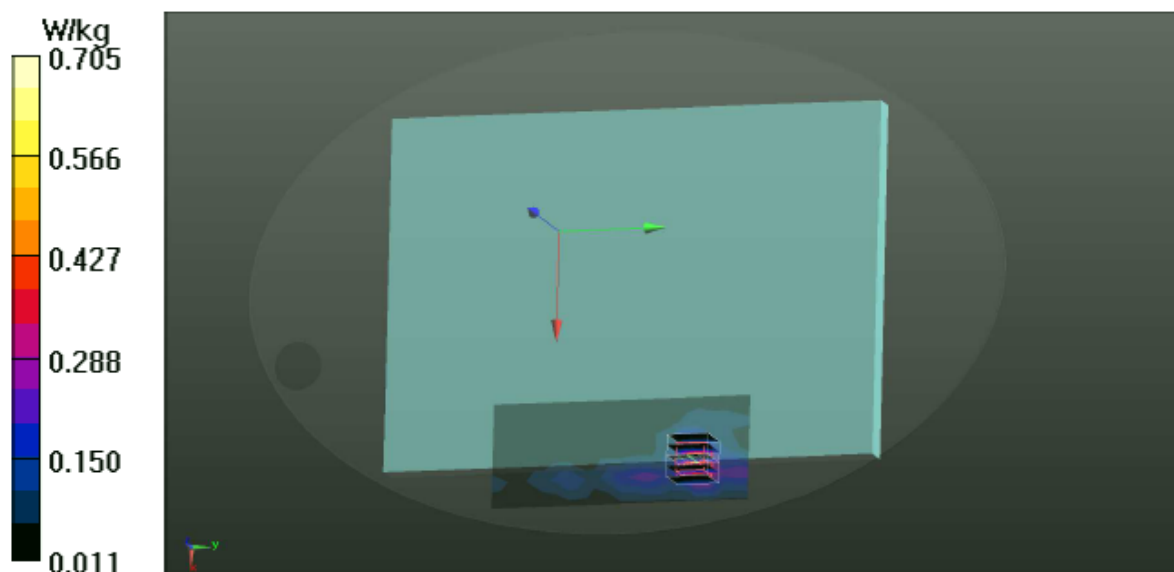
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.615 V/m; Power Drift = 1.32 dB

Peak SAR (extrapolated) = 0.970 W/kg

SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.218 W/kg

Maximum value of SAR (measured) = 0.705 W/kg



Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P17 802.11b CH7 2442MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2442 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.982$ S/m; $\epsilon_r = 51.612$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.294 W/kg

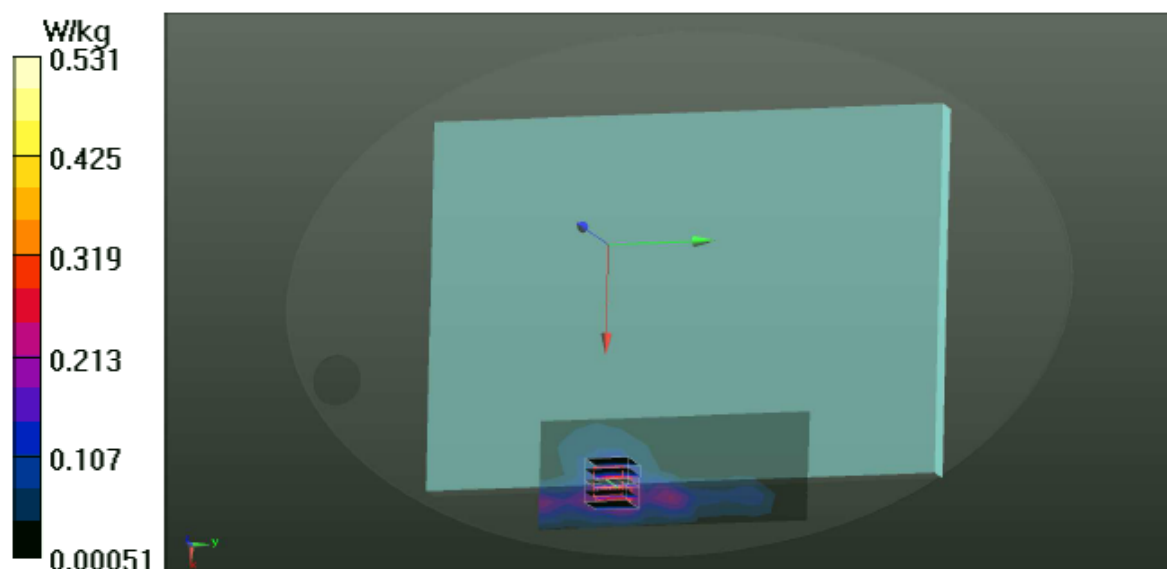
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0.5970 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.727 W/kg

SAR(1 g) = 0.346 W/kg; SAR(10 g) = 0.160 W/kg

Maximum value of SAR (measured) = 0.531 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P36 802.11a CH48 5240MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240$ MHz; $\sigma = 5.395$ S/m; $\epsilon_r = 47.302$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.97 W/kg

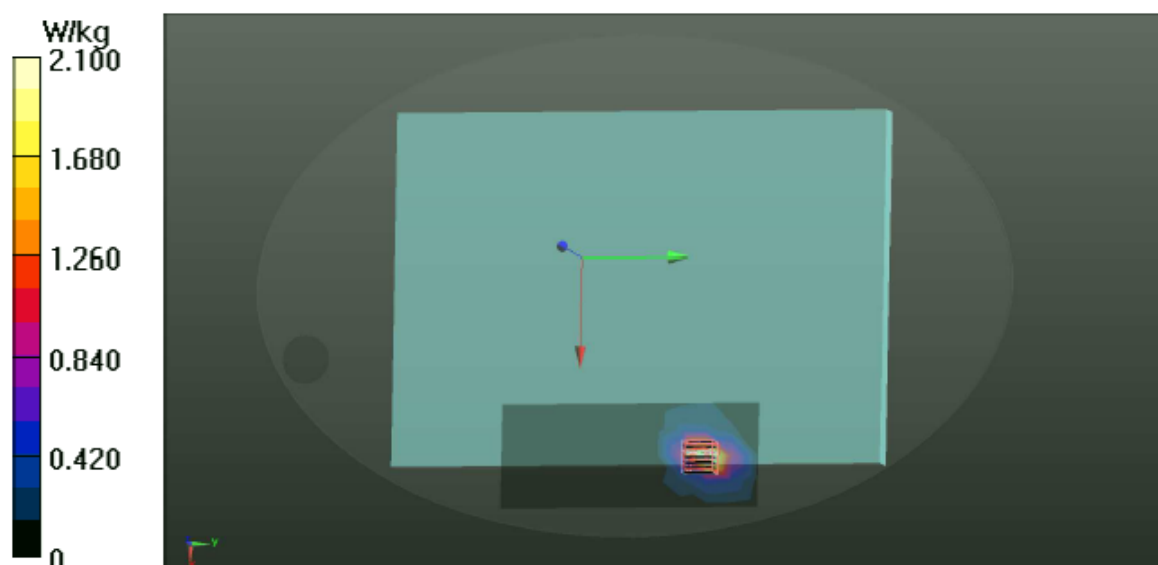
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.326 V/m; Power Drift = 1.32 dB

Peak SAR (extrapolated) = 3.27 W/kg

SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.361 W/kg

Maximum value of SAR (measured) = 2.10 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P37 802.11a CH48 5240MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240$ MHz; $\sigma = 5.395$ S/m; $\epsilon_r = 47.302$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.86 W/kg

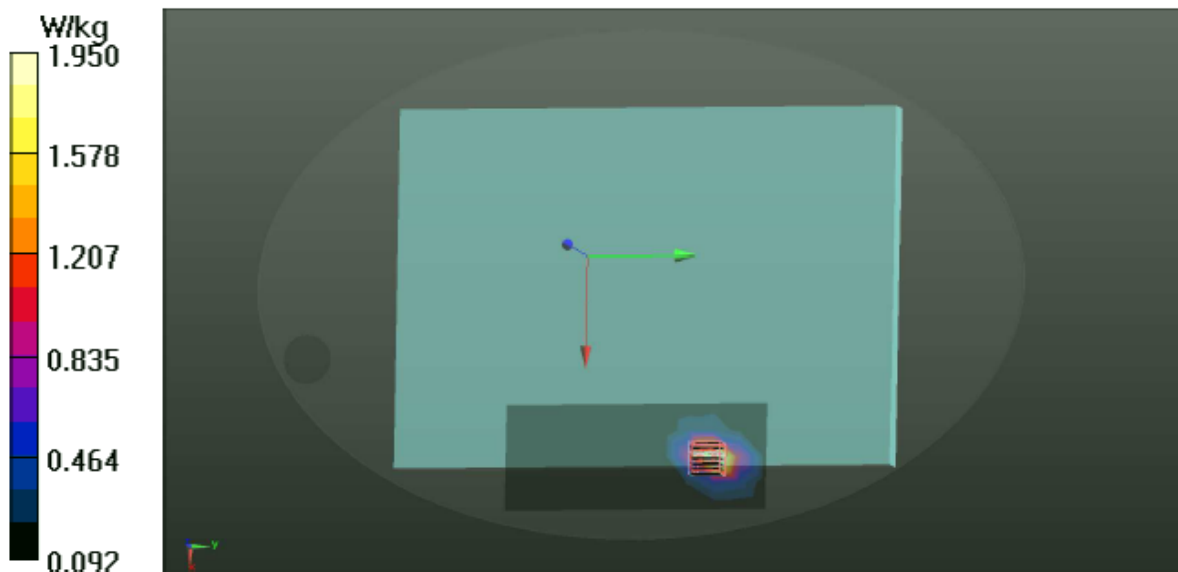
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.298 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 0.996 W/kg; SAR(10 g) = 0.352 W/kg

Maximum value of SAR (measured) = 1.95 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P35 802.11a CH48 5240MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240 \text{ MHz}$; $\sigma = 5.395 \text{ S/m}$; $\epsilon_r = 47.302$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.22 W/kg

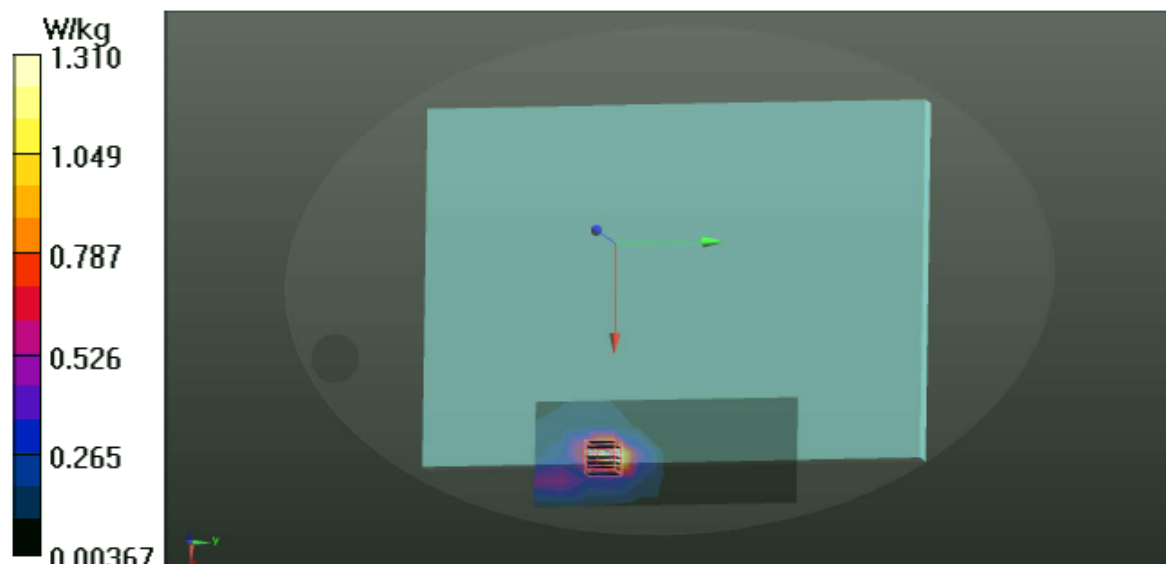
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.471 V/m; Power Drift = 1.24 dB

Peak SAR (extrapolated) = 2.04 W/kg

SAR(1 g) = 0.681 W/kg; SAR(10 g) = 0.239 W/kg

Maximum value of SAR (measured) = 1.31 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P14 802.11a CH52 5260MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260 \text{ MHz}$; $\sigma = 5.421 \text{ S/m}$; $\epsilon_r = 47.292$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.70 W/kg

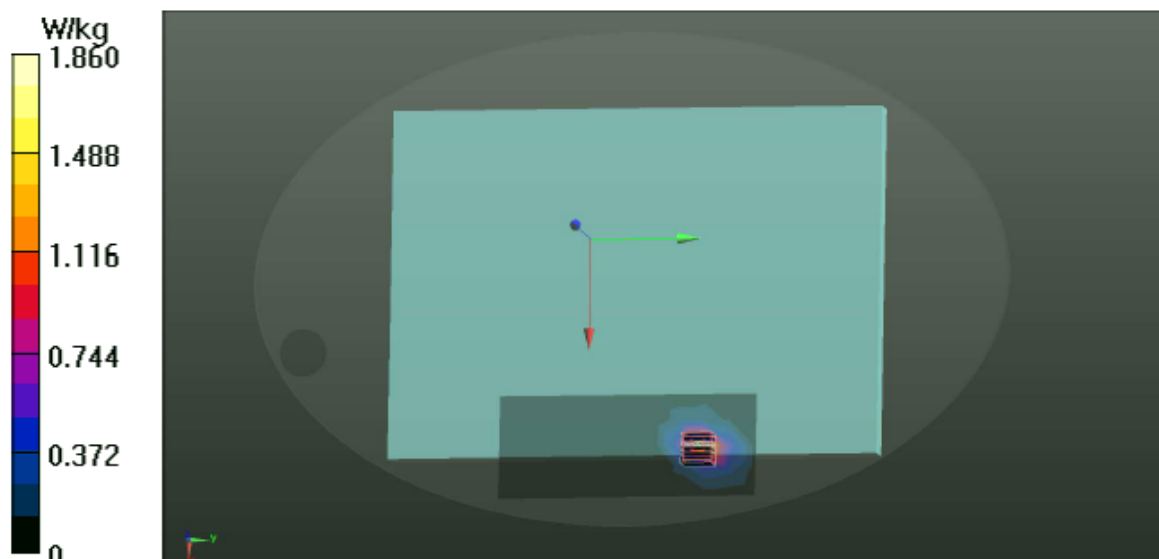
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.173 V/m; Power Drift = 0.70 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 0.976 W/kg; SAR(10 g) = 0.338 W/kg

Maximum value of SAR (measured) = 1.86 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P34 802.11a CH52 5260MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.421$ S/m; $\epsilon_r = 47.292$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.70 W/kg

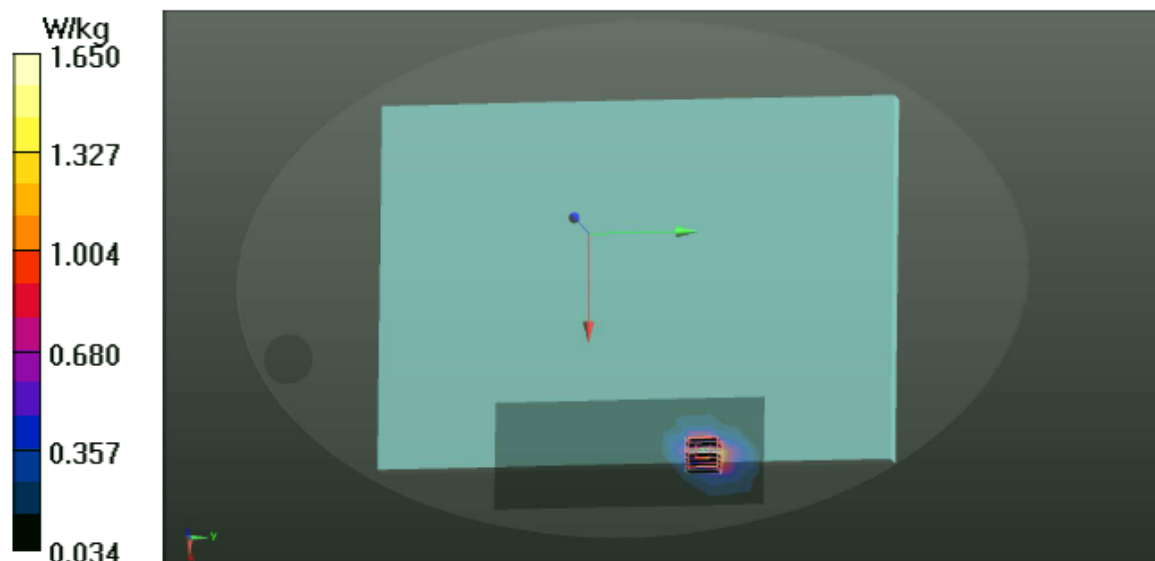
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.365 V/m; Power Drift = -0.88 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 0.976 W/kg; SAR(10 g) = 0.338 W/kg

Maximum value of SAR (measured) = 1.86 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P13 802.11a CH52 5260MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.421$ S/m; $\epsilon_r = 47.292$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.05 W/kg

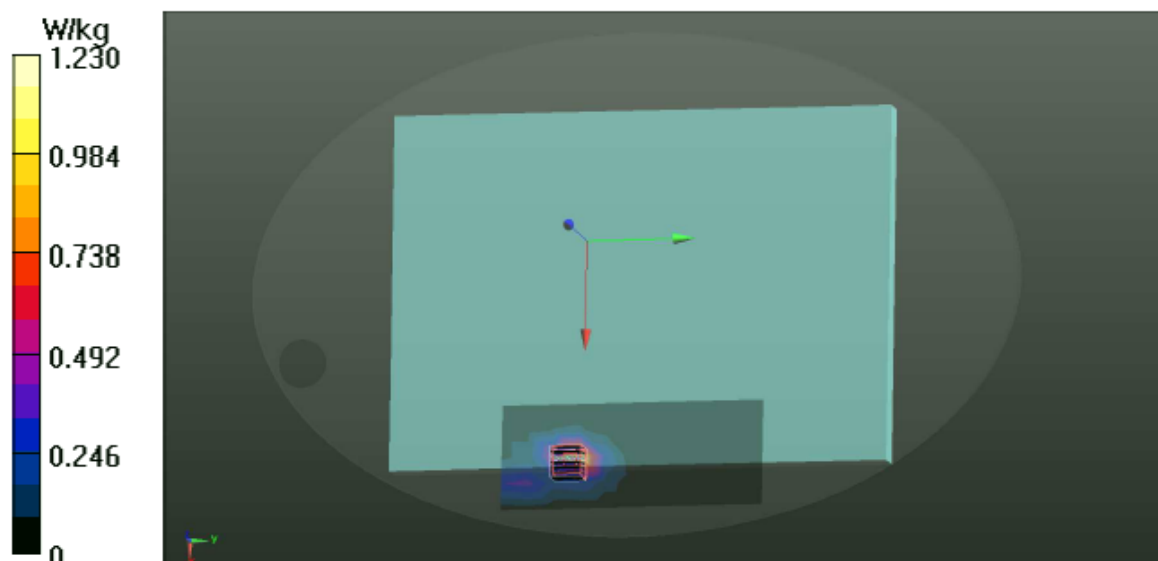
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.070 V/m; Power Drift = 0.71 dB

Peak SAR (extrapolated) = 2.06 W/kg

SAR(1 g) = 0.660 W/kg; SAR(10 g) = 0.238 W/kg

Maximum value of SAR (measured) = 1.23 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P39 802.11a CH100 5500MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.741$ S/m; $\epsilon_r = 46.818$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.19, 4.19, 4.19); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.95 W/kg

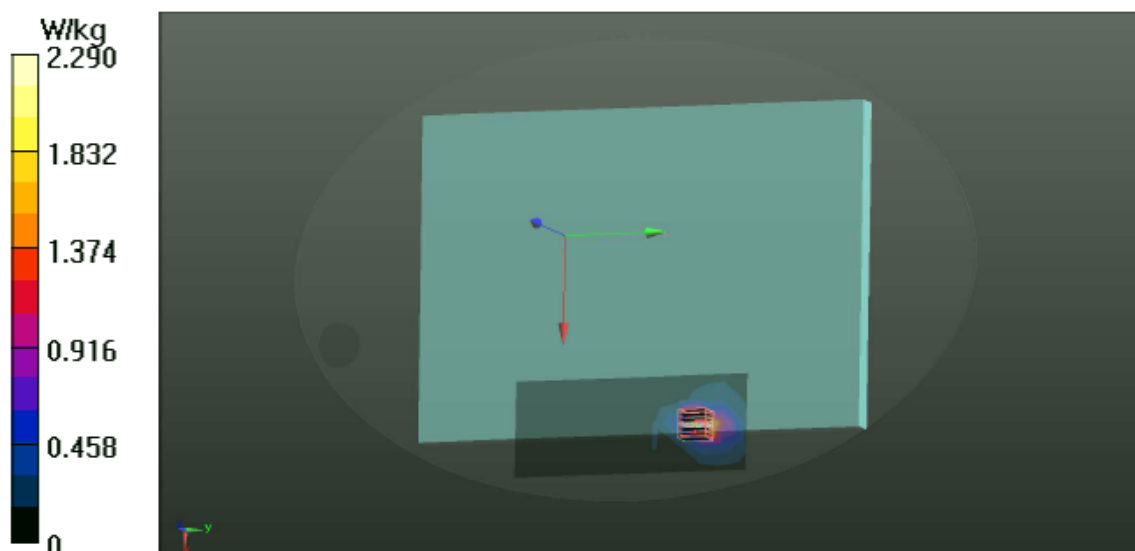
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.357 V/m; Power Drift = 0.99 dB

Peak SAR (extrapolated) = 3.46 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.357 W/kg

Maximum value of SAR (measured) = 2.29 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P40 802.11a CH100 5500MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.741$ S/m; $\epsilon_r = 46.818$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.19, 4.19, 4.19); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.98 W/kg

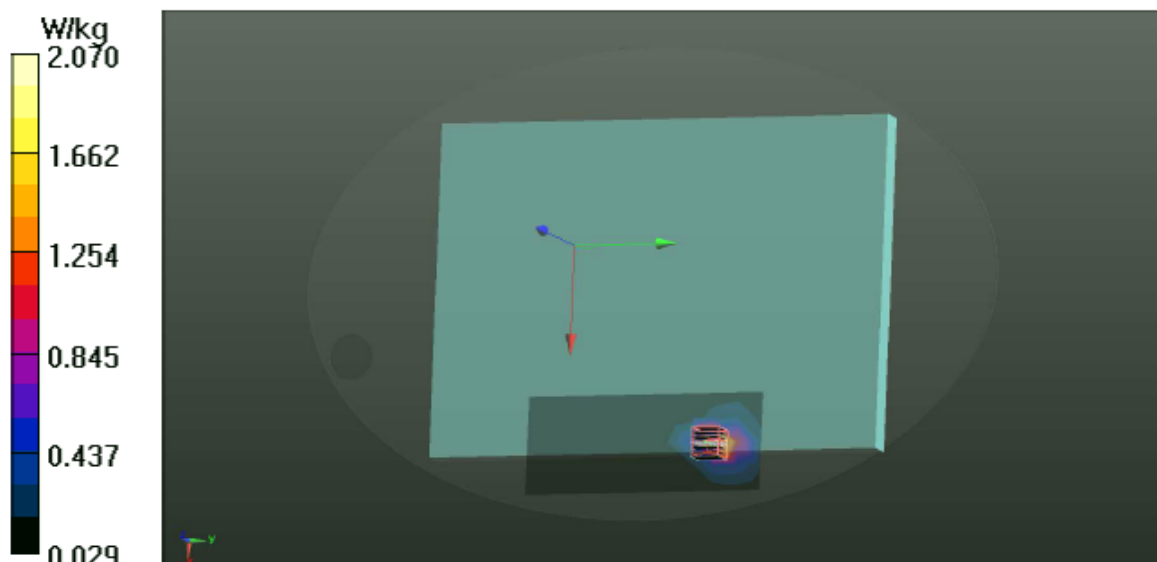
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.266 V/m; Power Drift = 0.90 dB

Peak SAR (extrapolated) = 3.32 W/kg

SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.343 W/kg

Maximum value of SAR (measured) = 2.07 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P38 802.11a CH100 5500MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.741$ S/m; $\epsilon_r = 46.818$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.19, 4.19, 4.19); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.58 W/kg

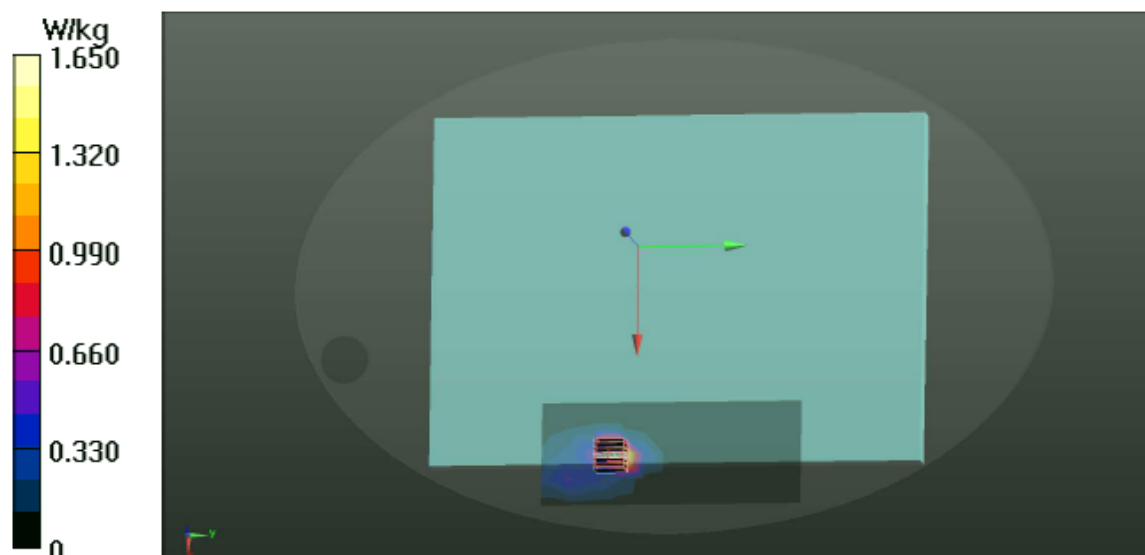
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.079 V/m; Power Drift = 1.10 dB

Peak SAR (extrapolated) = 2.72 W/kg

SAR(1 g) = 0.789 W/kg; SAR(10 g) = 0.255 W/kg

Maximum value of SAR (measured) = 1.65 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P8 802.11a CH116 5580MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5580 \text{ MHz}$; $\sigma = 5.867 \text{ S/m}$; $\epsilon_r = 46.645$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.79 W/kg

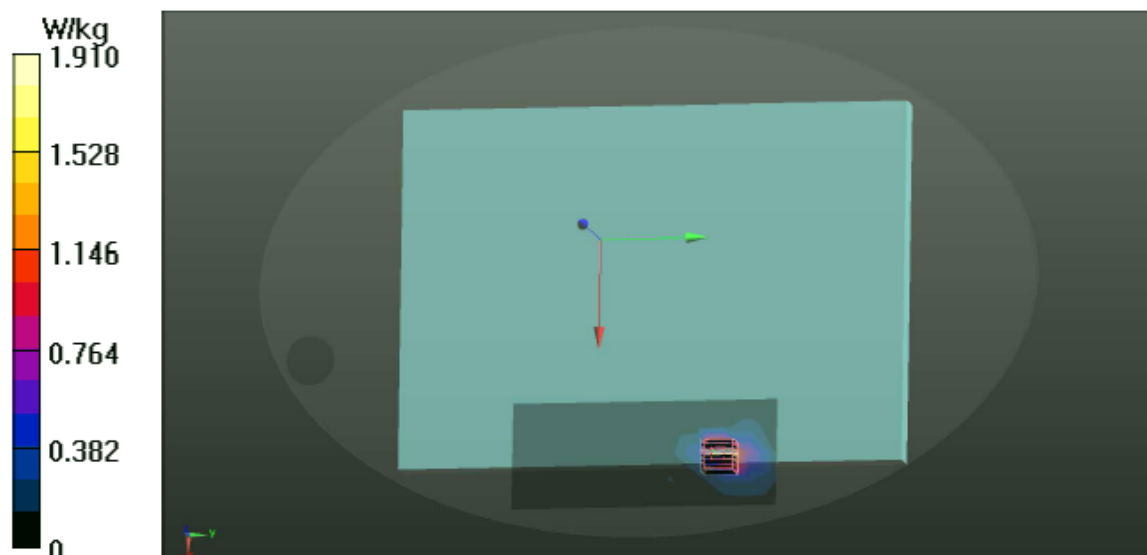
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.325 V/m; Power Drift = 1.11 dB

Peak SAR (extrapolated) = 3.30 W/kg

SAR(1 g) = 0.962 W/kg; SAR(10 g) = 0.324 W/kg

Maximum value of SAR (measured) = 1.91 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P33 802.11a CH116 5580MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5580$ MHz; $\sigma = 5.867$ S/m; $\epsilon_r = 46.645$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.88 W/kg

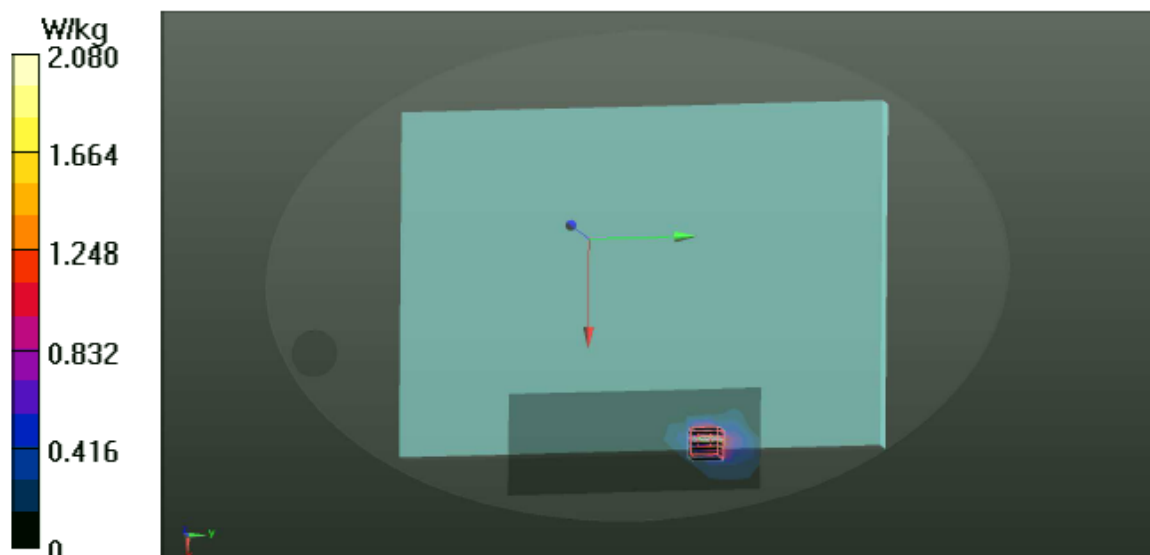
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.354 V/m; Power Drift = 1.12 dB

Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 0.994 W/kg; SAR(10 g) = 0.335 W/kg

Maximum value of SAR (measured) = 2.08 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P7 802.11a CH116 5580MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5580 \text{ MHz}$; $\sigma = 5.867 \text{ S/m}$; $\epsilon_r = 46.645$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.39 W/kg

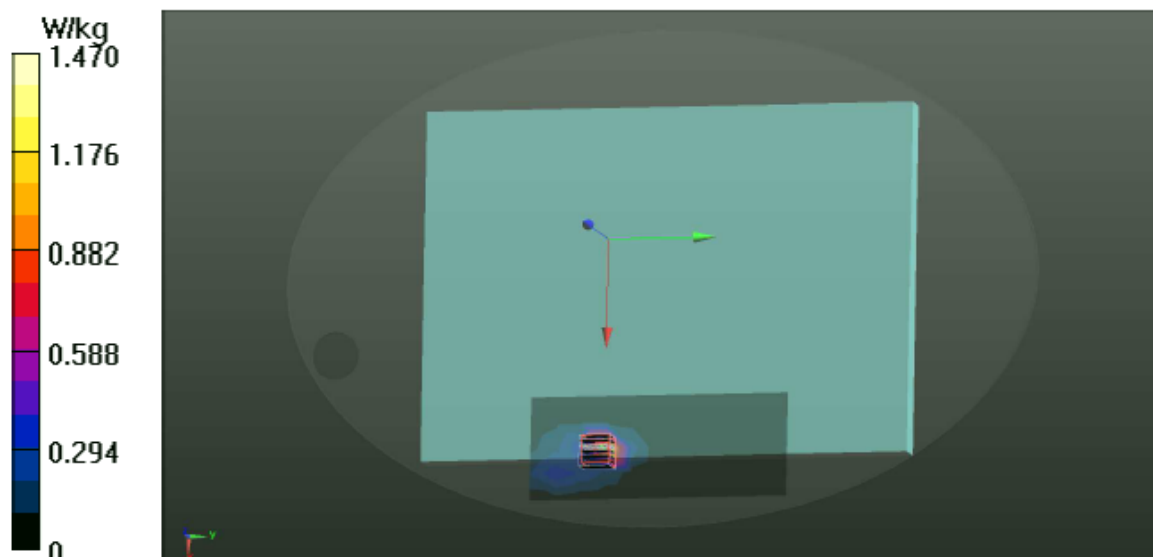
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.048 V/m; Power Drift = 1.94 dB

Peak SAR (extrapolated) = 2.60 W/kg

SAR(1 g) = 0.764 W/kg; SAR(10 g) = 0.243 W/kg

Maximum value of SAR (measured) = 1.47 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P16 802.11a CH149 5745MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745 \text{ MHz}$; $\sigma = 6.077 \text{ S/m}$; $\epsilon_r = 46.306$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.86 W/kg

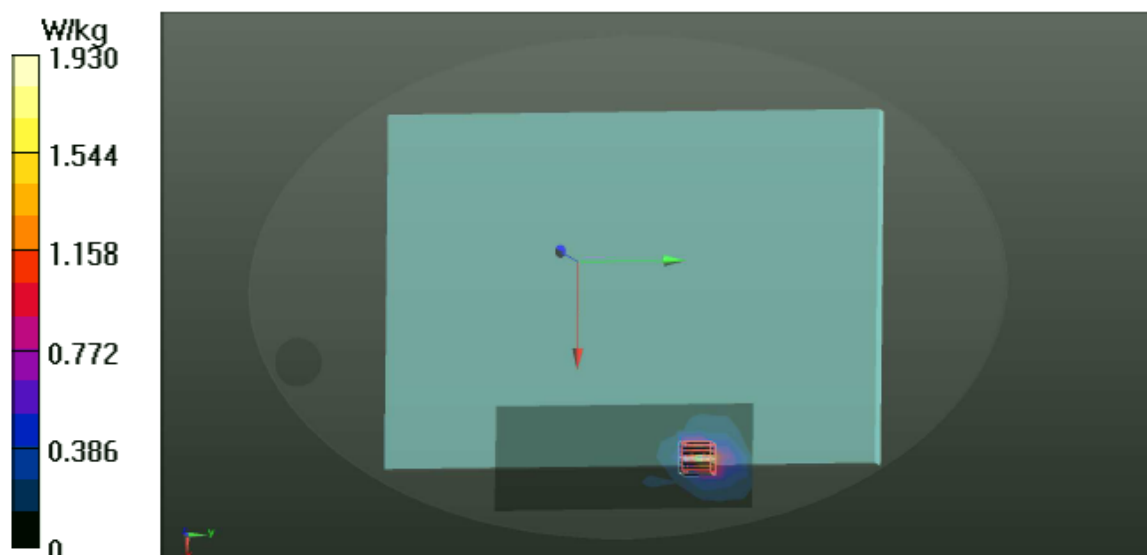
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.330 V/m; Power Drift = 1.42 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 0.991 W/kg; SAR(10 g) = 0.348 W/kg

Maximum value of SAR (measured) = 1.93 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P32 802.11a CH149 5745MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.077$ S/m; $\epsilon_r = 46.306$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 2.41 W/kg

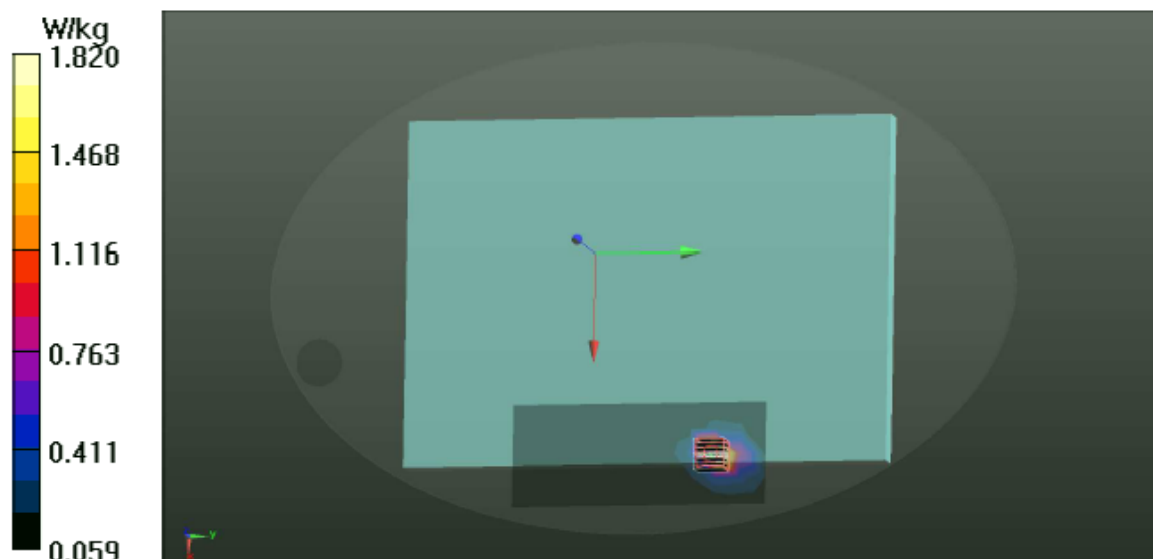
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 0.3350 V/m; Power Drift = 0.48 dB

Peak SAR (extrapolated) = 5.80 W/kg

SAR(1 g) = 0.984 W/kg; SAR(10 g) = 0.329 W/kg

Maximum value of SAR (measured) = 1.82 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P15 802.11a CH149 5745MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745 \text{ MHz}$; $\sigma = 6.077 \text{ S/m}$; $\epsilon_r = 46.306$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.81 W/kg

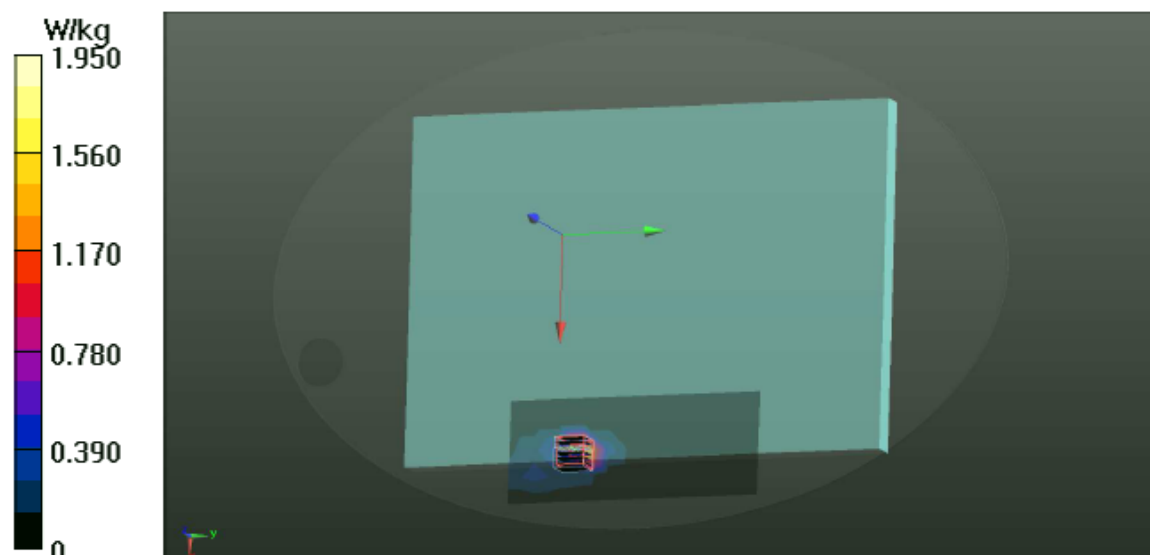
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.358 V/m; Power Drift = 1.22 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 1 W/kg; SAR(10 g) = 0.309 W/kg

Maximum value of SAR (measured) = 1.95 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P31 802.11a CH149 5745MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.077$ S/m; $\epsilon_r = 46.306$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.40 W/kg

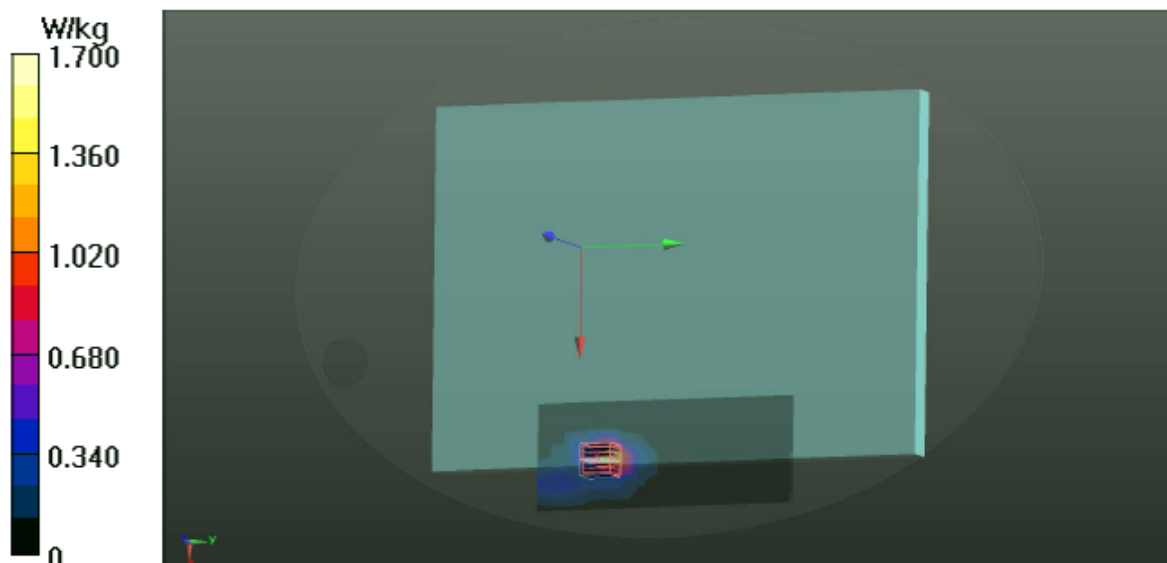
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.184 V/m; Power Drift = 0.40 dB

Peak SAR (extrapolated) = 3.29 W/kg

SAR(1 g) = 0.949 W/kg; SAR(10 g) = 0.311 W/kg

Maximum value of SAR (measured) = 1.70 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P42 802.11a CH157 5785MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 6.153$ S/m; $\epsilon_r = 46.248$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 2.07 W/kg

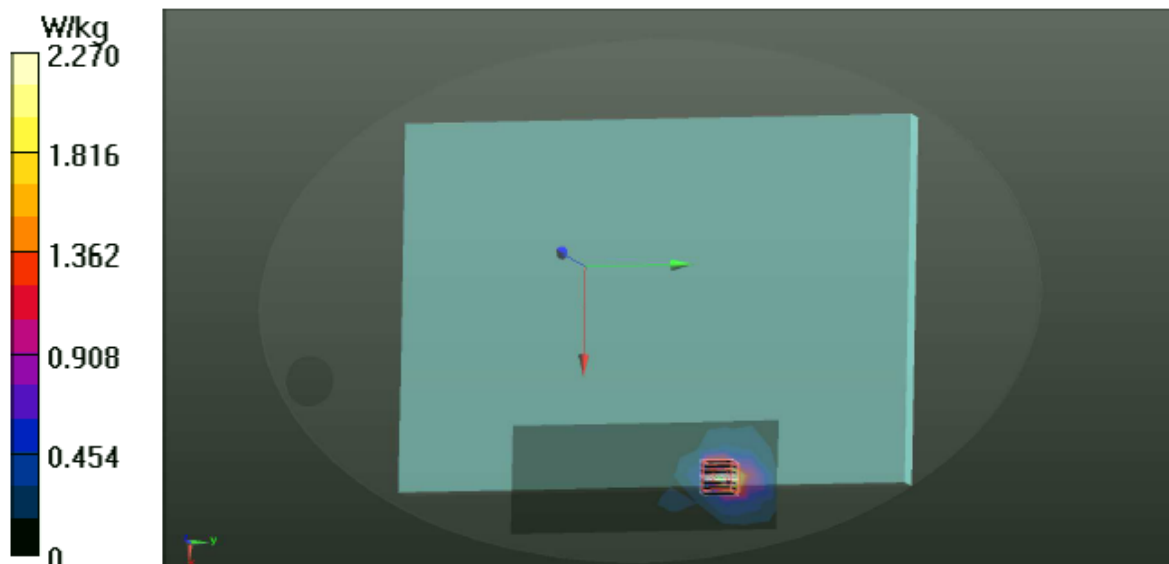
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.248 V/m; Power Drift = 0.70 dB

Peak SAR (extrapolated) = 3.87 W/kg

SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.352 W/kg

Maximum value of SAR (measured) = 2.27 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P43 802.11a CH157 5785MHz B**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.153 \text{ S/m}$; $\epsilon_r = 46.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.87 W/kg

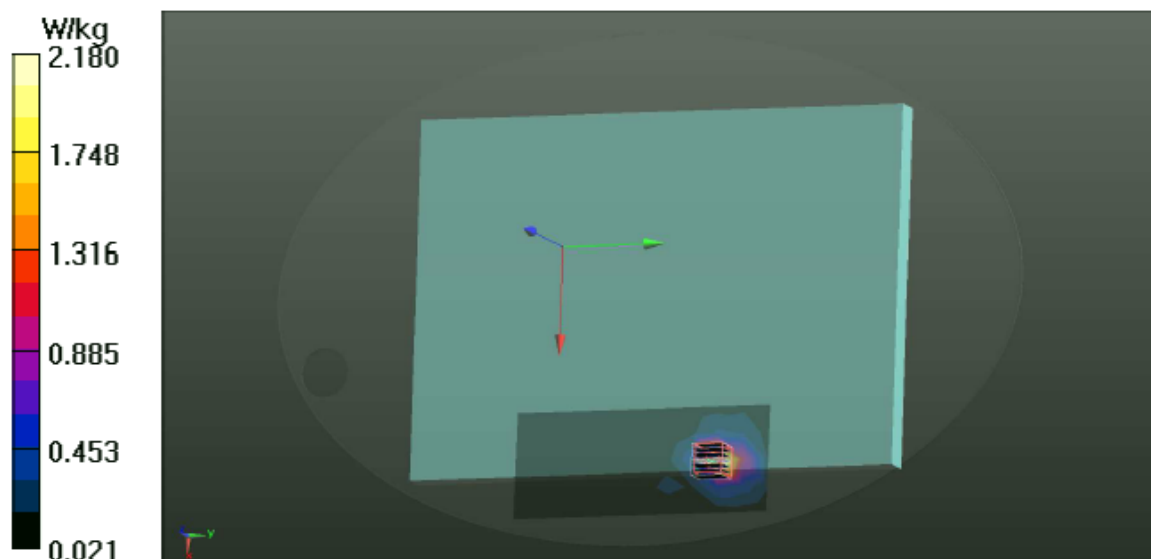
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.482 V/m; Power Drift = 1.98dB

Peak SAR (extrapolated) = 3.69 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.347 W/kg

Maximum value of SAR (measured) = 2.18 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P41 802.11a CH157 5785MHz A**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.153 \text{ S/m}$; $\epsilon_r = 46.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.98 W/kg

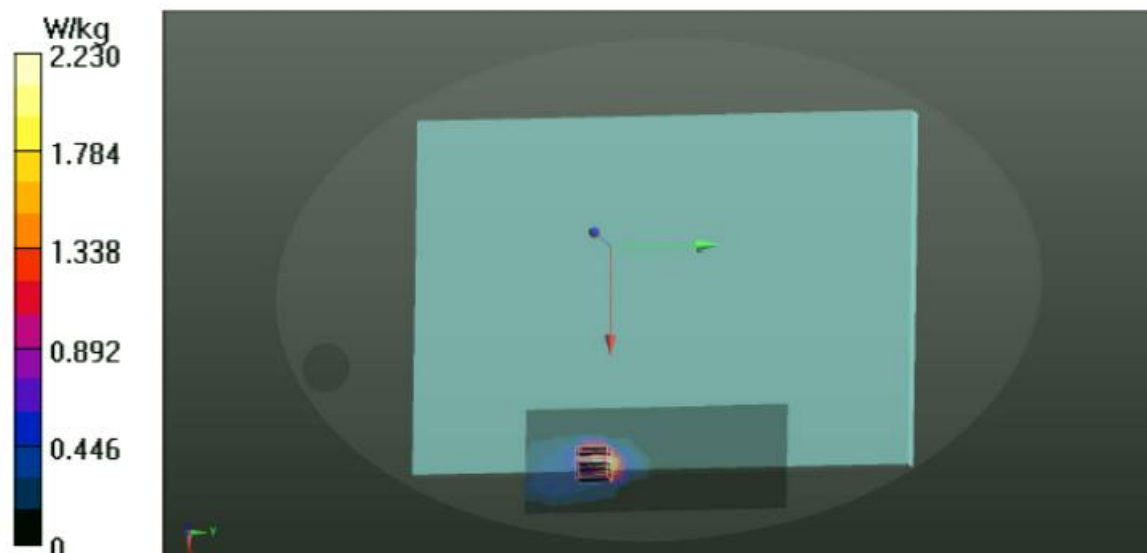
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.265 V/m; Power Drift = 0.93 dB

Peak SAR (extrapolated) = 4.46 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.326 W/kg

Maximum value of SAR (measured) = 2.23 W/kg



Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P19 gfsk CH39 2441MHz**DUT: 17U70N(HIGH-TEK)**

Communication System: UID 0, BT (0); Frequency: 2441 MHz; Duty Cycle: 1:1.3

Medium parameters used: $f = 2441$ MHz; $\sigma = 1.981$ S/m; $\epsilon_r = 51.615$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.0300 W/kg

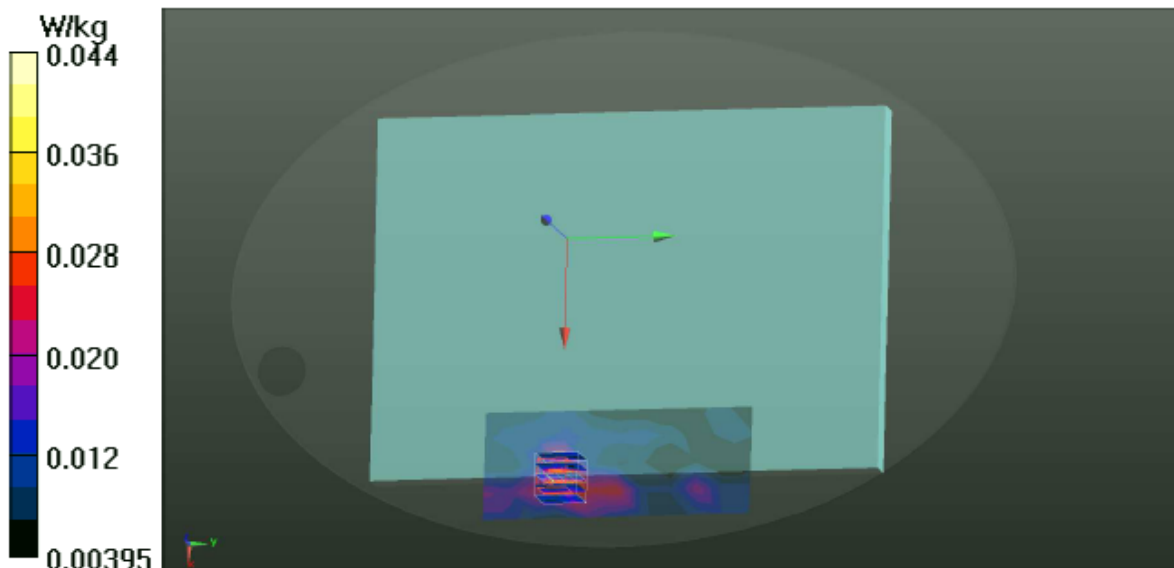
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.741 V/m; Power Drift = 1.31 dB

Peak SAR (extrapolated) = 0.0610 W/kg

SAR(1 g) = 0.034 W/kg; SAR(10 g) = 0.019 W/kg

Maximum value of SAR (measured) = 0.0437 W/kg



Test SKU: SKU #2

Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P58 802.11b CH7 2442MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2442 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.982$ S/m; $\epsilon_r = 51.612$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.382 W/kg

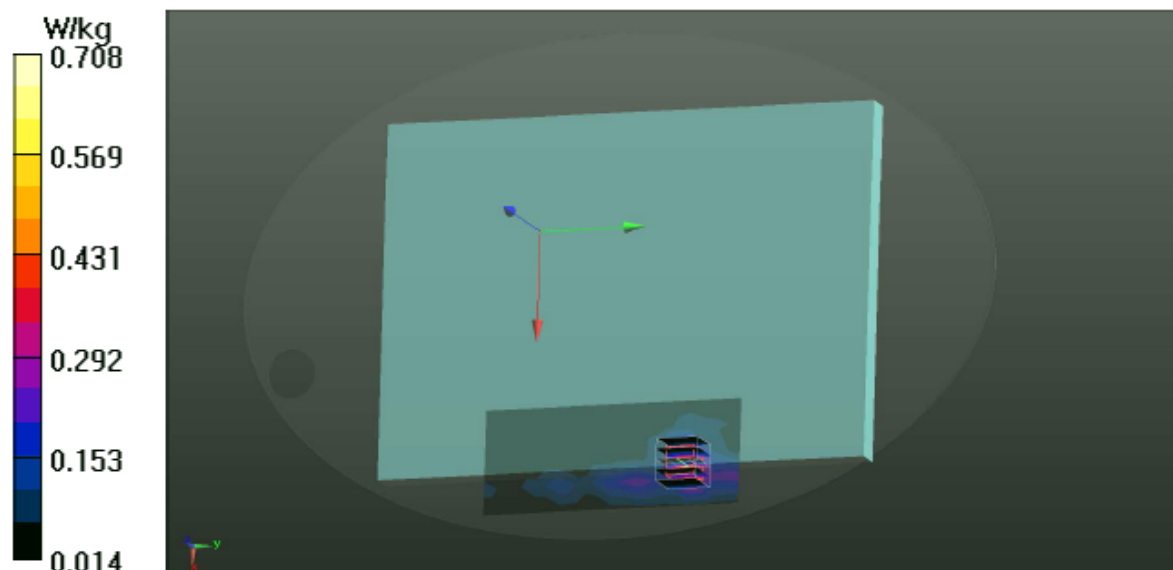
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.162 V/m; Power Drift = 0.57 dB

Peak SAR (extrapolated) = 0.981 W/kg

SAR(1 g) = 0.466 W/kg; SAR(10 g) = 0.220 W/kg

Maximum value of SAR (measured) = 0.708 W/kg



Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P57 802.11b CH7 2442MHz A**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 2.4G 802.11B (0); Frequency: 2442 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.982$ S/m; $\epsilon_r = 51.612$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.300 W/kg

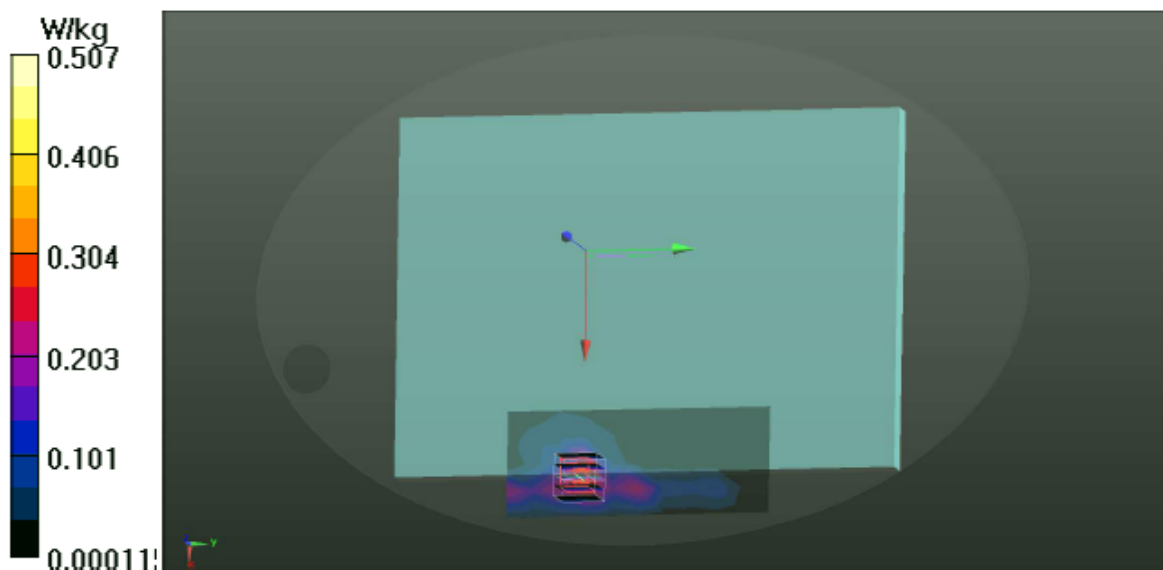
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.103 V/m; Power Drift = 1.42 dB

Peak SAR (extrapolated) = 0.730 W/kg

SAR(1 g) = 0.346 W/kg; SAR(10 g) = 0.160 W/kg

Maximum value of SAR (measured) = 0.507 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P64 802.11a CH48 5240MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240 \text{ MHz}$; $\sigma = 5.395 \text{ S/m}$; $\epsilon_r = 47.302$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.63 W/kg

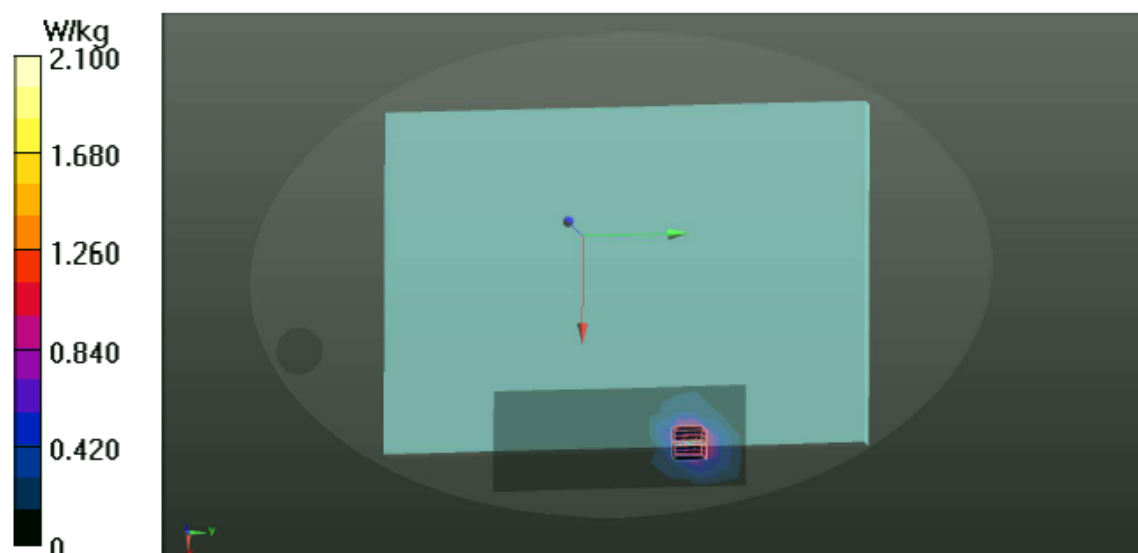
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.280 V/m; Power Drift = 0.26 dB

Peak SAR (extrapolated) = 3.39 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.421 W/kg

Maximum value of SAR (measured) = 2.10 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P65 802.11a CH48 5240MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240 \text{ MHz}$; $\sigma = 5.395 \text{ S/m}$; $\epsilon_r = 47.302$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.58 W/kg

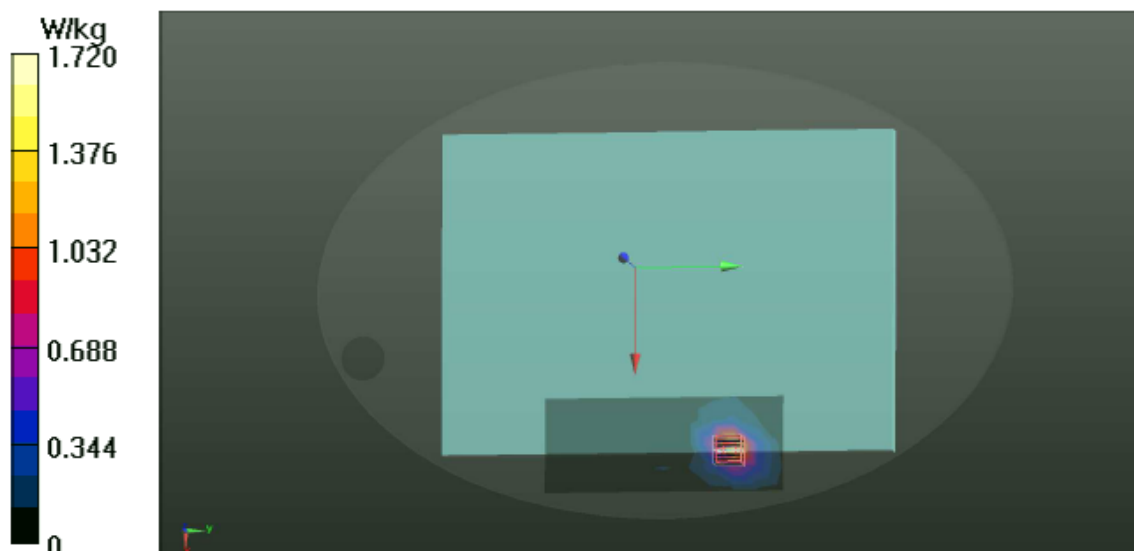
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.144 V/m; Power Drift = 1.45 dB

Peak SAR (extrapolated) = 3.07 W/kg

SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.413 W/kg

Maximum value of SAR (measured) = 1.72 W/kg



0.75

Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P63 802.11a CH48 5240MHz A**DUT: 17U70N**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5240$ MHz; $\sigma = 5.395$ S/m; $\epsilon_r = 47.302$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.56, 4.56, 4.56); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.962 W/kg

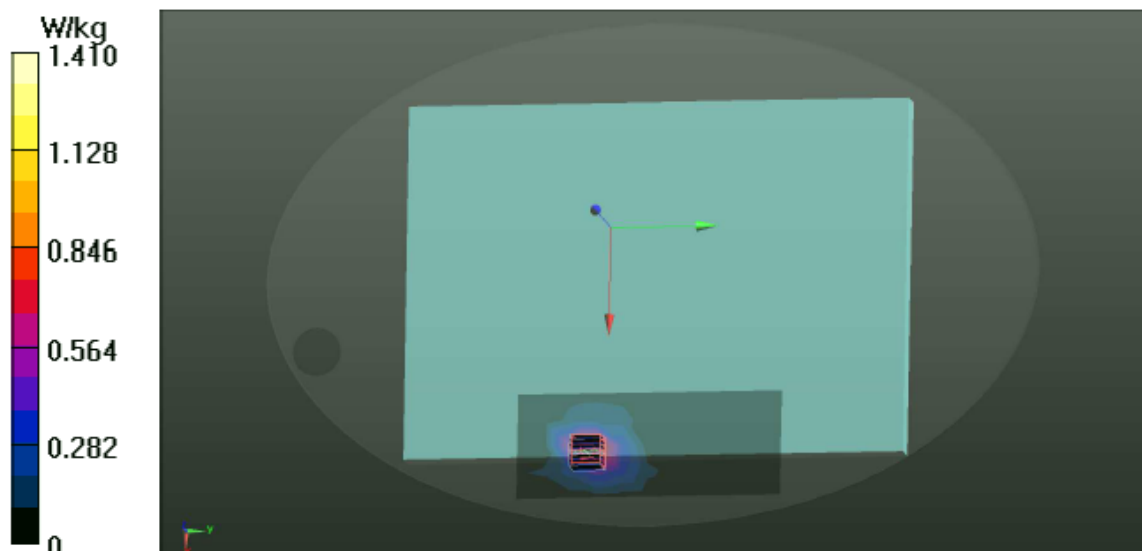
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.115 V/m; Power Drift = 1.00 dB

Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 0.758 W/kg; SAR(10 g) = 0.275 W/kg

Maximum value of SAR (measured) = 1.41 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P54 802.11a CH52 5260MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.421$ S/m; $\epsilon_r = 47.292$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.47 W/kg

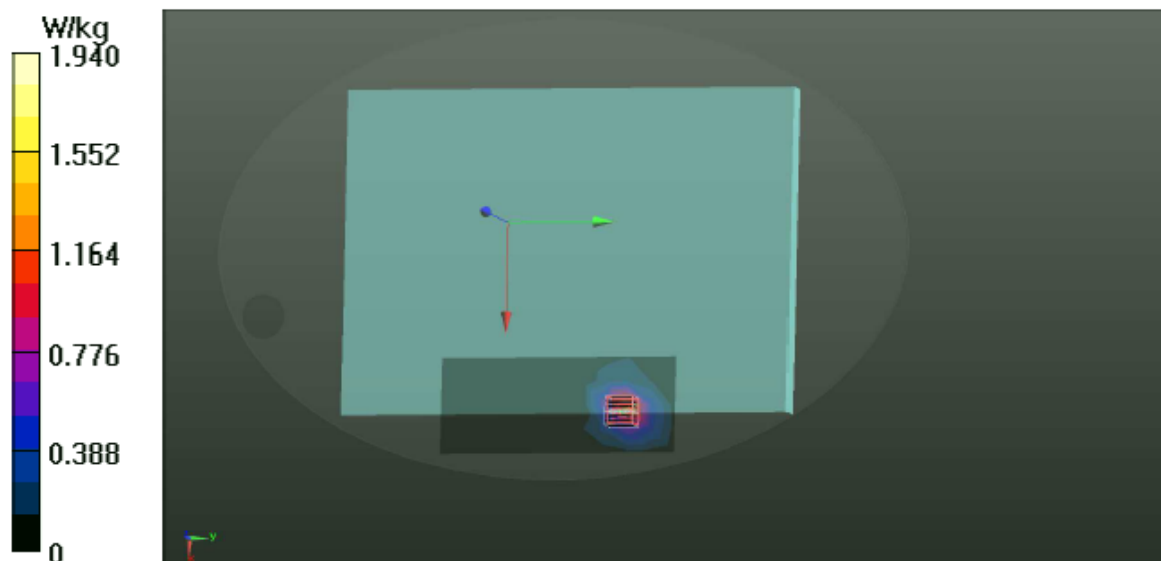
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.598 V/m; Power Drift = 1.84 dB

Peak SAR (extrapolated) = 3.18 W/kg

SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.387 W/kg

Maximum value of SAR (measured) = 1.94 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P61 802.11a CH52 5260MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260 \text{ MHz}$; $\sigma = 5.421 \text{ S/m}$; $\epsilon_r = 47.292$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.57 W/kg

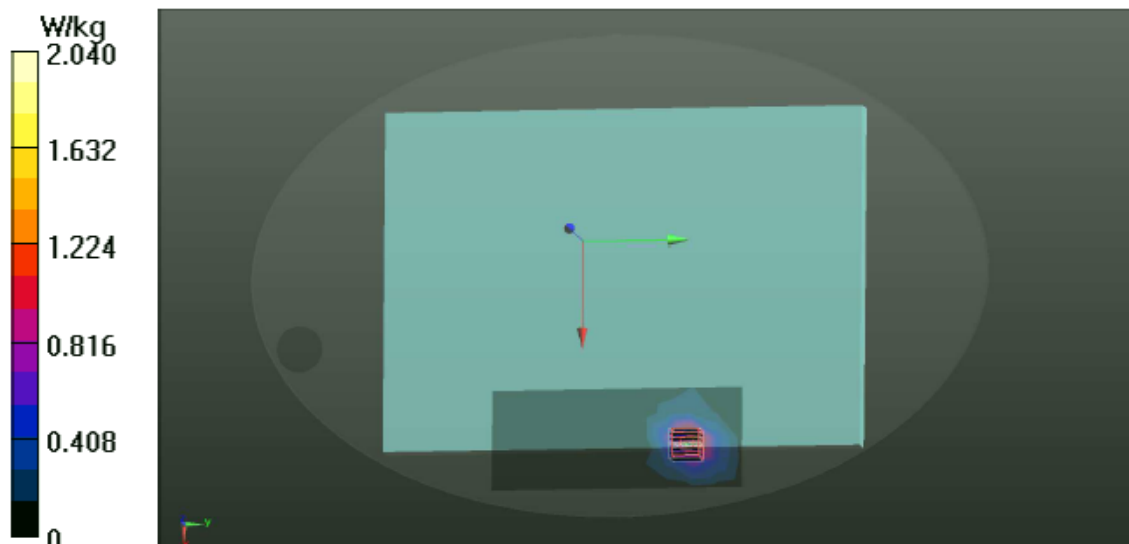
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.108 V/m; Power Drift = 1.36 dB

Peak SAR (extrapolated) = 3.45 W/kg

SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.405 W/kg

Maximum value of SAR (measured) = 2.04 W/kg



Date: 3/3/2020

Test Laboratory: Audix_SAR Lab

P53 802.11a CH52 5260MHz A**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.421$ S/m; $\epsilon_r = 47.292$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.44, 4.44, 4.44); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.874 W/kg

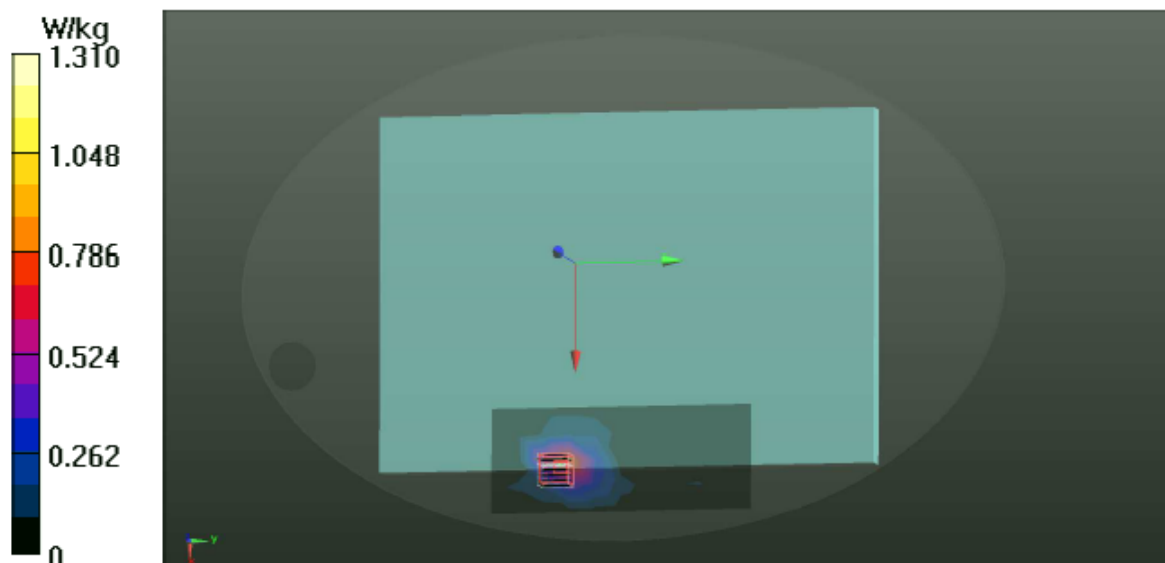
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.111 V/m; Power Drift = 0.94 dB

Peak SAR (extrapolated) = 2.26 W/kg

SAR(1 g) = 0.709 W/kg; SAR(10 g) = 0.239 W/kg

Maximum value of SAR (measured) = 1.31 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P56 802.11a CH116 5580MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5580$ MHz; $\sigma = 5.867$ S/m; $\epsilon_r = 46.645$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.15 W/kg

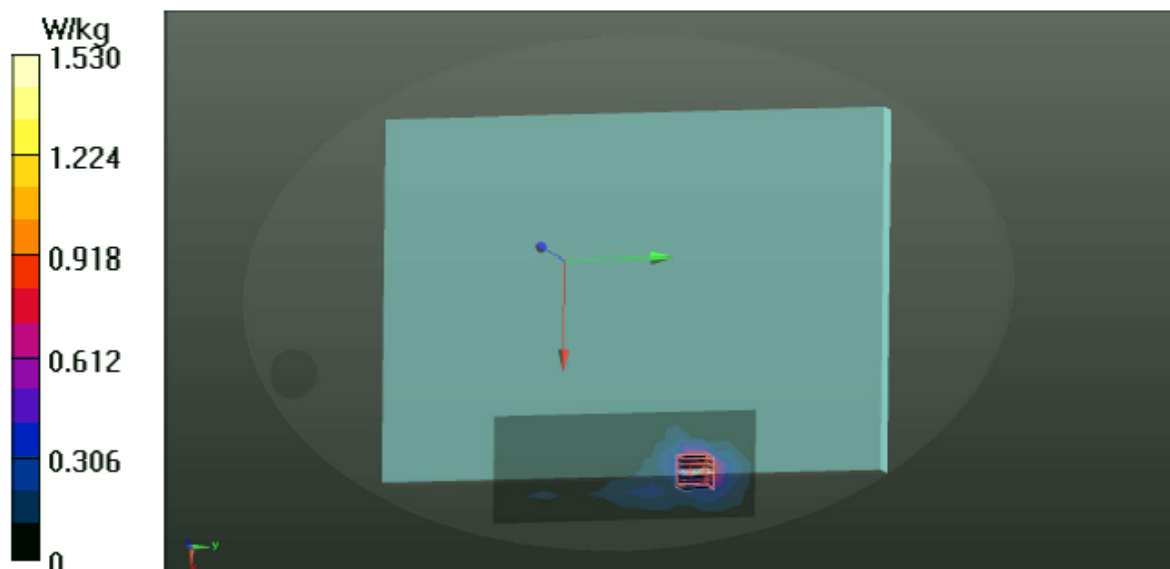
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.088 V/m; Power Drift = 1.20 dB

Peak SAR (extrapolated) = 2.73 W/kg

SAR(1 g) = 0.799 W/kg; SAR(10 g) = 0.265 W/kg

Maximum value of SAR (measured) = 1.53 W/kg



Date: 3/4/2020

Test Laboratory: Audix_SAR Lab

P55 802.11a CH116 5580MHz A**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5580$ MHz; $\sigma = 5.867$ S/m; $\epsilon_r = 46.645$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.12, 4.12, 4.12); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.796 W/kg

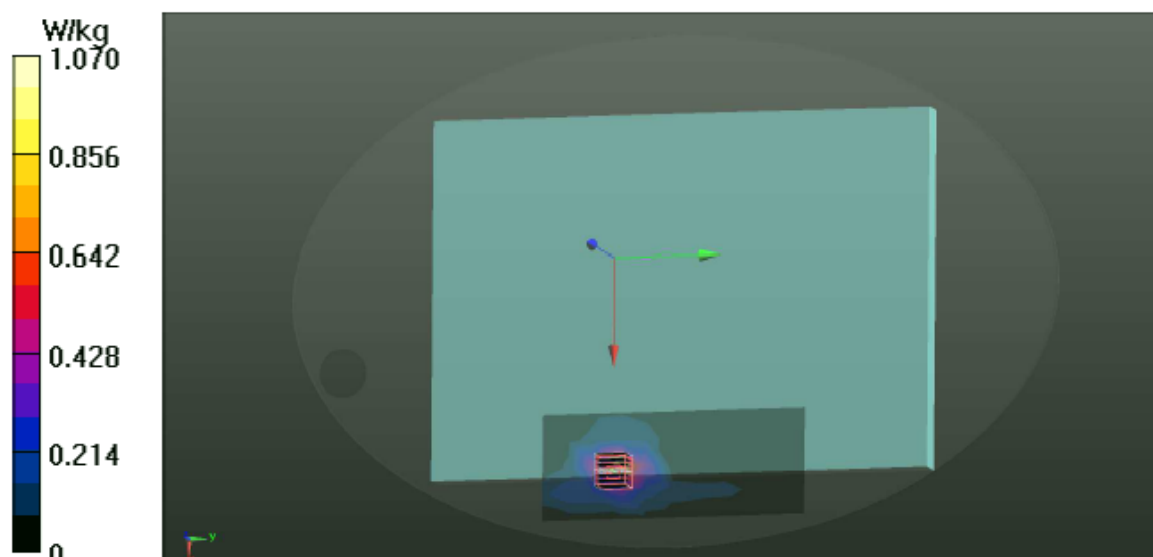
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.107 V/m; Power Drift = 1.06 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR(1 g) = 0.573 W/kg; SAR(10 g) = 0.209 W/kg

Maximum value of SAR (measured) = 1.07 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P52 802.11a CH149 5745MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745 \text{ MHz}$; $\sigma = 6.077 \text{ S/m}$; $\epsilon_r = 46.306$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.51 W/kg

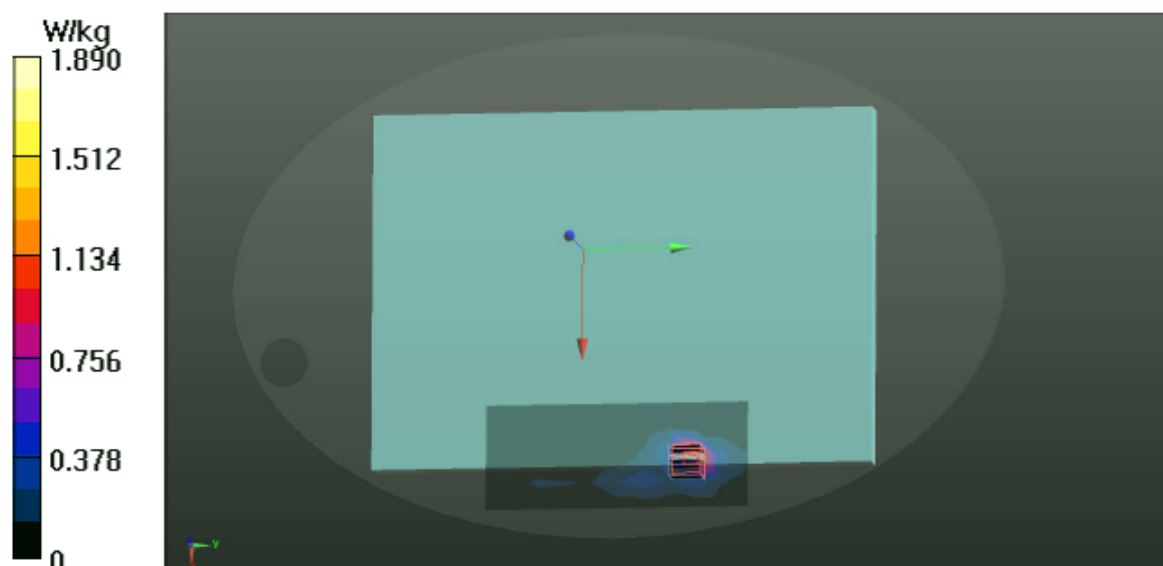
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.485 V/m; Power Drift = 0.92 dB

Peak SAR (extrapolated) = 3.62 W/kg

SAR(1 g) = 0.989 W/kg; SAR(10 g) = 0.314 W/kg

Maximum value of SAR (measured) = 1.89 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P62 802.11a CH149 5745MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.077$ S/m; $\epsilon_r = 46.306$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 1.61 W/kg

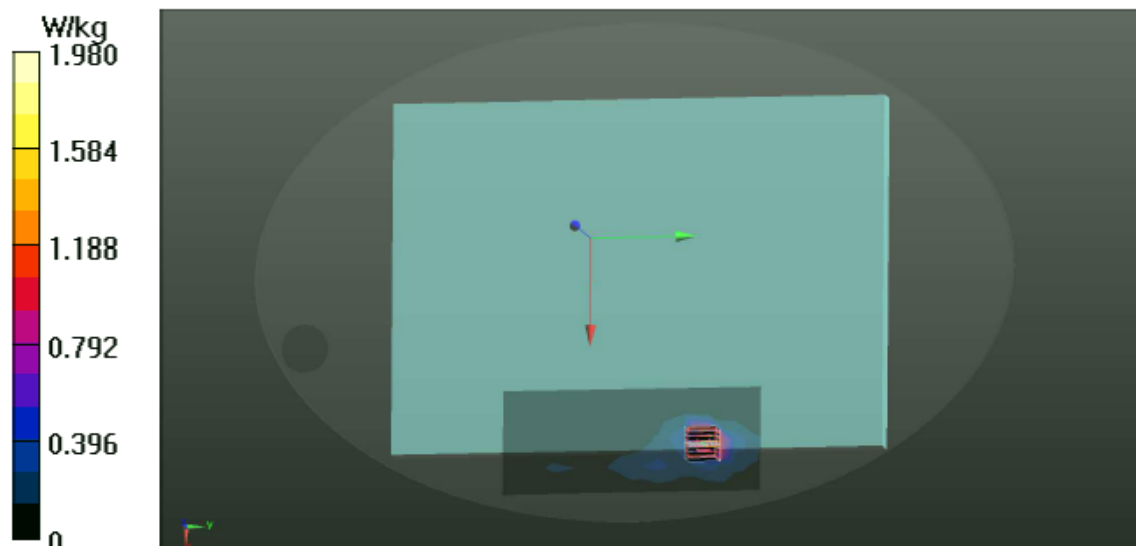
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.202 V/m; Power Drift = 1.11 dB

Peak SAR (extrapolated) = 3.44 W/kg

SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.335 W/kg

Maximum value of SAR (measured) = 1.98 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P51 802.11a CH149 5745MHz A**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.077$ S/m; $\epsilon_r = 46.306$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (measured) = 0.787 W/kg

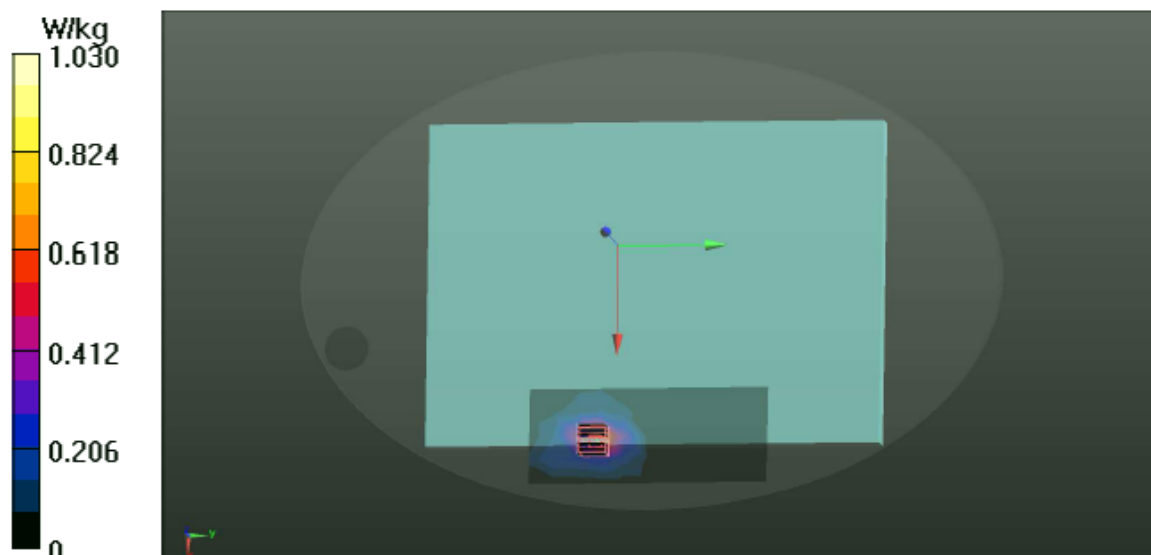
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

Reference Value = 1.058 V/m; Power Drift = 0.28 dB

Peak SAR (extrapolated) = 2.04 W/kg

SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.188 W/kg

Maximum value of SAR (measured) = 1.03 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P67 802.11a CH157 5785MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.153 \text{ S/m}$; $\epsilon_r = 46.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.58 W/kg

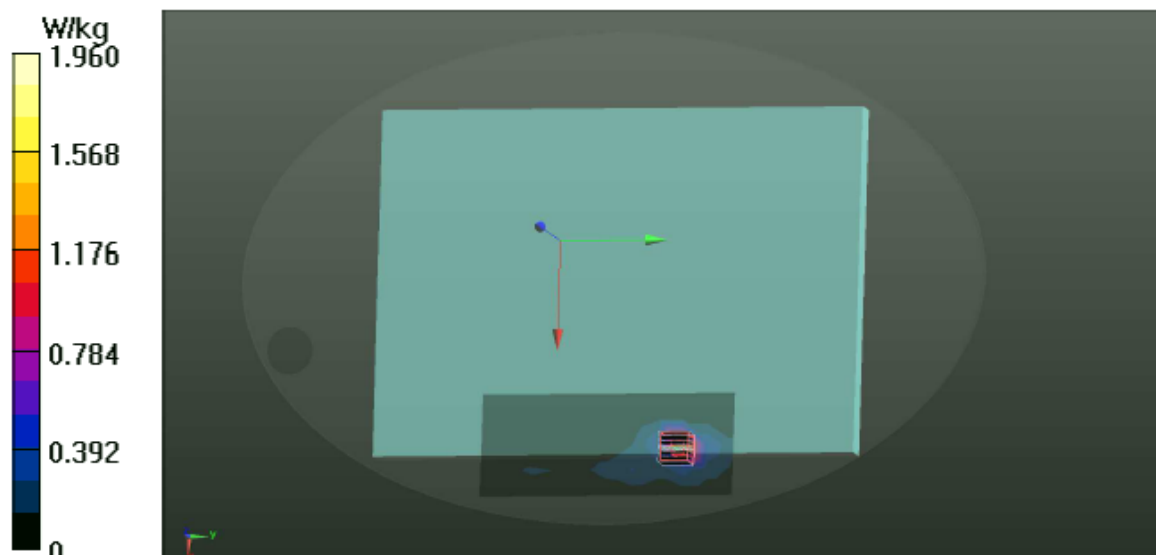
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.059 V/m; Power Drift = 0.89 dB

Peak SAR (extrapolated) = 3.36 W/kg

SAR(1 g) = 0.989 W/kg; SAR(10 g) = 0.327 W/kg

Maximum value of SAR (measured) = 1.96 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P68 802.11a CH157 5785MHz B**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.153 \text{ S/m}$; $\epsilon_r = 46.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.57 W/kg

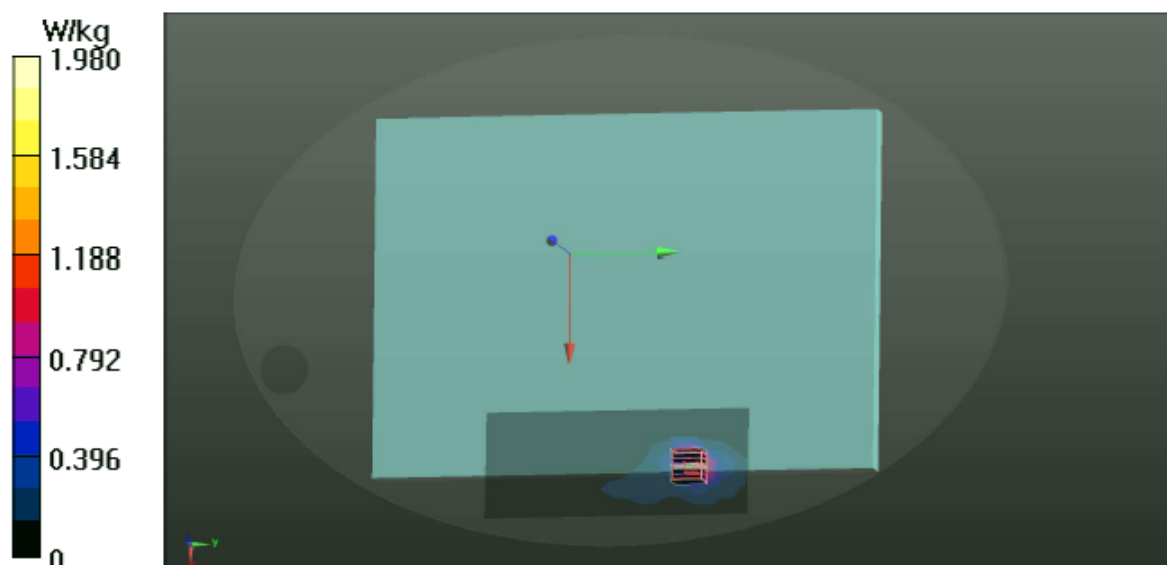
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.271 V/m; Power Drift = 0.50 dB

Peak SAR (extrapolated) = 3.54 W/kg

SAR(1 g) = 0.993 W/kg; SAR(10 g) = 0.326 W/kg

Maximum value of SAR (measured) = 1.98 W/kg



Date: 3/5/2020

Test Laboratory: Audix_SAR Lab

P66 802.11a CH157 5785MHz A**DUT: 17U70N(ACON)**

Communication System: UID 0, WIFI 5G 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.153 \text{ S/m}$; $\epsilon_r = 46.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.18, 4.18, 4.18); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (9x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.754 W/kg

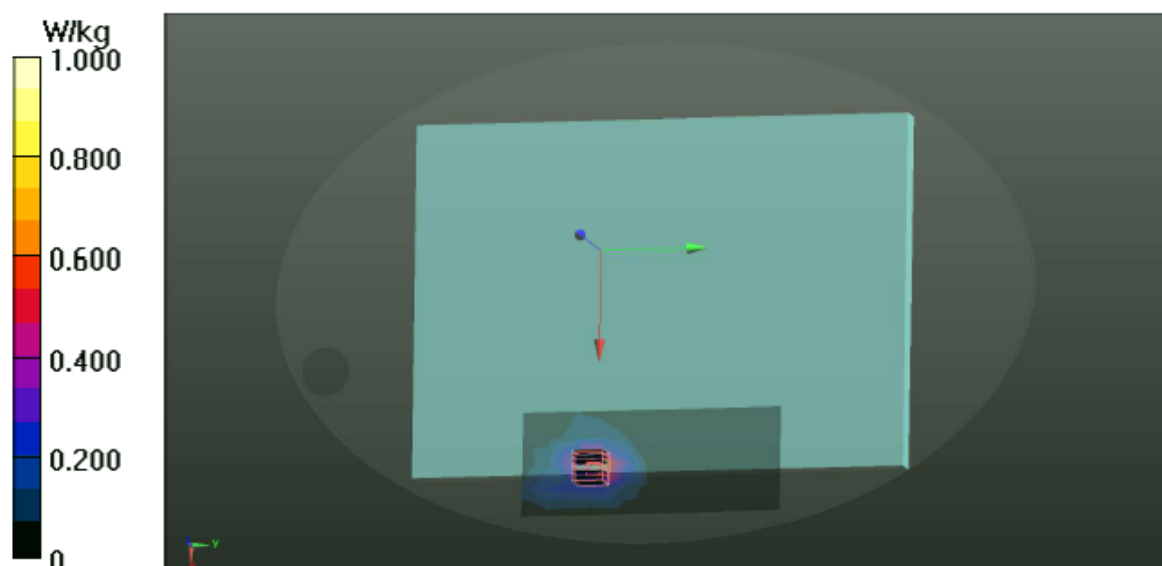
Zoom Scan (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

Reference Value = 1.008 V/m; Power Drift = 0.80 dB

Peak SAR (extrapolated) = 1.83 W/kg

SAR(1 g) = 0.509 W/kg; SAR(10 g) = 0.173 W/kg

Maximum value of SAR (measured) = 1.00 W/kg



Date: 3/10/2020

Test Laboratory: Audix_SAR Lab

P59 gfsk CH39 2441MHz

DUT: 17U70N(ACON)

Communication System: UID 0, BT (0); Frequency: 2441 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2441$ MHz; $\sigma = 1.981$ S/m; $\epsilon_r = 51.615$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.63, 7.63, 7.63); Calibrated: 9/26/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 31.0$
- Electronics: DAE4 Sn1337; Calibrated: 9/18/2019
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Area Scan (5x11x1): Measurement grid: $dx=20$ mm, $dy=20$ mm

Maximum value of SAR (measured) = 0.0289 W/kg

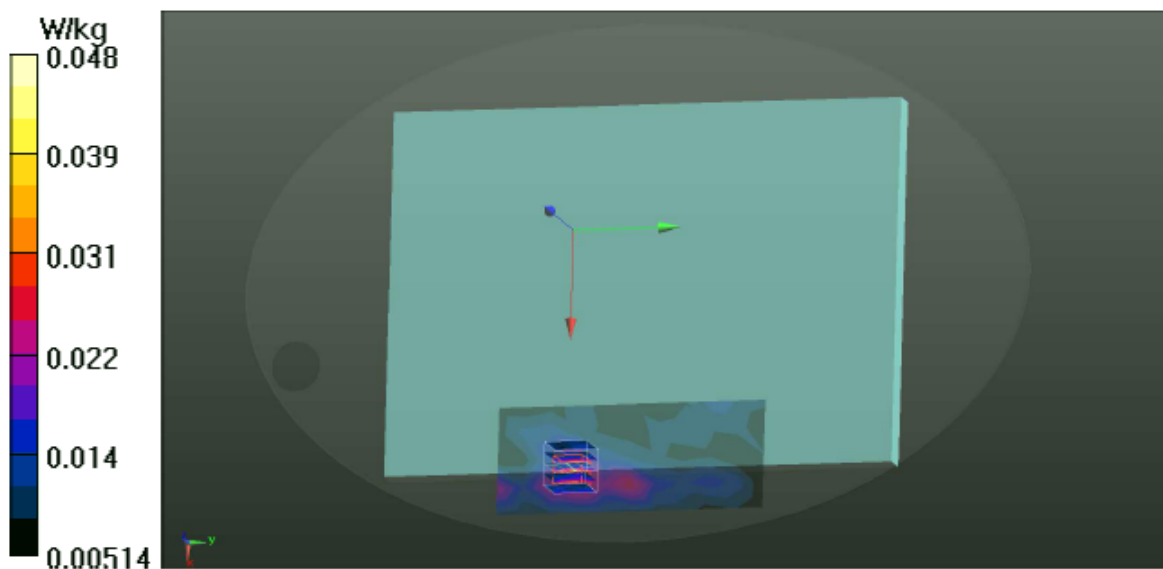
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.643 V/m; Power Drift = 0.50 dB

Peak SAR (extrapolated) = 0.0730 W/kg

SAR(1 g) = 0.035 W/kg; SAR(10 g) = 0.021 W/kg

Maximum value of SAR (measured) = 0.0480 W/kg





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APPENDIX B

TEST PHOTOGRAPHS

(Model: 17U70N)



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APPENDIX C

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APPENDIX C

Test Equipment Calibration Data