

Prüfbericht-Nr.: <i>Test Report No.:</i>	50050527 004	Auftrags-Nr.: <i>Order No.:</i>	164067041	Seite 1 von 36 Page 1 of 36
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	23.06.2016	
Auftraggeber: <i>Client:</i>	GIEC TECHNOLOGY (HONG KONG) CO., LTD. Unit 7, 22/F., Billion Trade Centre, 31 Hung To Road, Kwun Tong, Hongkong			
Prüfgegenstand: <i>Test item:</i>	11.6" windows tablet			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-P11W7100, NS-P11W7100-C, NS-P11xxxxxxxx (x=0-9, A-Z, a-z, -or blank, for market purpose only)			
Auftrags-Inhalt: <i>Order content:</i>	FCC/IC Certification			
Prüfgrundlage: <i>Test specification:</i>	CFR Title 47 Part 2 Subpart J Section 2.1093 ANSI/IEEE C95.1-1992 IEEE 1528-2003 KDB 447498 D01 v06 KDB 248227 D01 v02 RSS-102 Issue 5 March 2015			
Wareneingangsdatum: <i>Date of receipt:</i>	29.06.2016			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000381248-009			
Prüfzeitraum: <i>Testing period:</i>	30.06.2016 - 04.07.2016			
Ort der Prüfung: <i>Place of testing:</i>	Audix Technology (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
26.05.2015 Owen Tian/Senior Project Manager		26.05.2015 Winnie Hou/Technical Certifier		
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
Sonstiges / Other:		FCC ID: 2AIB2-P11W7100 IC: 21456-P11W7100		
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

STATEMENT OF COMPLIANCE

TEST ITEM	SPECIFICATION	RESULT
Specific Absorption Rate - Wi-Fi 802.11 b/g/n - 2.4GHz Band	Exposure Rules 47 C.F.R 2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices KDB 447498 D01 General RF Exposure Guidance v06 KDB 248227 D01 802.11 Wi-Fi SAR v02r01 KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03 KDB 865664 D02 RF Exposure Reporting v01r01 KDB 616217 D04 SAR for laptop and tablets v01r01 KDB 941225 D06 Hotspot Mode v02	PASS
Specific Absorption Rate - Wi-Fi 802.11 a/n/ac - 5GHz Band U- NII-1		PASS
Specific Absorption Rate - Wi-Fi 802.11 a/n/ac - 5GHz Band U- NII-2A		PASS
Specific Absorption Rate - Wi-Fi 802.11 a/n/ac - 5GHz Band U- NII-2C		PASS
Specific Absorption Rate - Wi-Fi 802.11 a/n/ac - 5GHz Band U- NII-3		PASS
Specific Absorption Rate – Bluetooth BDR/EDR/LE - 2.4GHz Band		PASS

This device complies with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg) specified in CFR Title 47 Part 2 Subpart J Section 2.1093 and ANSI/IEEE C95.1-1992.

This device has been tested in accordance with the measurement methods and procedure specified in IEEE 1528-2003 and Published RF exposure KDB procedures

Refer to the maximum results of Specific Absorption Rate (SAR) during testing as below.

FREQUENCY BAND	EXPOSURE POSITION	EQUIPMENT CLASS	HIGHEST REPORTED SAR VALUE (W/KG)
802.11 b/g/n - 2.4GHz Band	Body	DTS	0.686
802.11 a/n/ac - 5GHz Band U- NII-1	Body	NII	0.693
802.11 a/n/ac - 5GHz Band U- NII-2A	Body		0.721
802.11 a/n/ac - 5GHz Band U- NII-2C	Body		0.773
802.11 a/n/ac - 5GHz Band U- NII-3	Body		0.753

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: System Performance Check
Appendix B: Test Plots of SAR Measurement
Appendix C: Calibration Certificate

2. Test Sites

2.1 Test Facilities

Audix Technology (Shenzhen) Co., Ltd.

FCC Registration No.: R-3552)
(Test site Industry Canada No.: 5183A-1)

No.6, Ke Feng Road, Block 52, Shenzhen Science & Industry Park,
Nanshan, Shenzhen, Guangdong, China (518057)

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal Date	Cal. Interval
DASY5 SAR Test System	Speag	TX60 L speag	F09/5B1H1/01	NCR	NCR
Wireless Communication Test Set	Agilent	E5515C	GB44300243	Apr.24,16	1Year
Power Meter	Anritsu	ML2487A	6K00002472	Oct.17,15	1 Year
Power Sensor	Anritsu	MA2491A	0033005	Oct.17,15	1 Year
Signal Generator	HP	83732B	VS34490501	Apr.23,16	1 Year
Amplifier	Milmega	ZHL-42W	C620601316	NCR	NCR
Dipole Validation Kits	Speag	D900V2	1d088	May.23,14	3Year
Dipole Validation Kits	Speag	D1800V2	2d186	May.23,14	3Year
Dipole Validation Kits	Speag	D2000V2	1055	May.23,14	3Year
Dipole Validation Kits	Speag	D2450V2	862	May.29,14	3Year
Dipole Validation Kits	Speag	D5GHzV2	1102	Jun.16,14	3Year
Attenuator	Mini-Circuits	VAT-10+	NO.1	Apr.23,16	1Year
Data Acquisition Electronics	Speag	DAE4	899	Feb.02,16	2Year
E-Field Probe	Speag	ES3DV3	3139	Aug.10,15	3Year
E-Field Probe	Speag	EX3DV4	3767	Jan.30,15	3Year
Network Analyzer	Agilent	E5071B	MY42403549	Apr.24,16	1Year
Test Software	Schmid&Partner Englinnering AG	DASY5	52.8.7.1137	N/A	N/A

NCR means no calibration required (calibrated with system).

3. General Product Information

3.1 Product Function and Intended Use

The EUTs are 11.6" windows tablet with Wi-Fi, Bluetooth function.
 These models are identical except the model name.
 The EUTs have two antennas, two antennas cannot transmitter simultaneously.
 For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of Wi-Fi

Technical Specification	Value
Kind of Equipment	11.6" windows tablet
Type Designation	NS-P11W7100, NS-P11W7100-C, NS-P11xxxxxxx (x=0-9, A-Z, a-z, -or blank, for market purpose only)
FCC ID	2AIB2-P11W7100
IC	21456-P11W7100
Operating Frequency band	2400 – 2483.5MHz, 5150 – 5850MHz
Extreme Temperature Range	0~+40°C
Operation Voltage	DC 3.7V (via built in battery)
Hardware version:	NS-P11W7100
Software version:	Windows10.0.10586
Antenna Gain	1.6dBi

Table 3: Technical Specification of 2.4GHz, 802.11b/g/n

Item	Description			
	IEEE 802.11b	IEEE 802.11g	IEEE 802.11n (HT20)	IEEE 802.11n (HT40)
Operating Frequency band (MHz)	2412 ~ 2472	2412 ~ 2472	2412 ~ 2472	2422 ~ 2452
Channel Number	13	13	13	9
Modulation	DSSS (DBPSK, DQPSK), CCK)	OFDM (DBPSK, DQPSK)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Data Rate (Mbps)	1, 2, 5, 11	6, 9, 12, 18, 24, 36, 48, 54	MCS0 ~ MCS7	MCS0 ~ MCS7
Transmitter Output Power (Typical) (dBm)	16	15.5	15.5	15
Media Access Protocol	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK

Table 4: List of WLAN Channel of 802.11b/g/n

802.11b		802.11g		802.11n (HT20)		802.11n (HT40)	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	2412	1	2412	1	2412	3	2422
2	2417	2	2417	2	2417	4	2427
3	2422	3	2422	3	2422	5	2432
4	2427	4	2427	4	2427	6	2437
5	2432	5	2432	5	2432	7	2442
6	2437	6	2437	6	2437	8	2447
7	2442	7	2442	7	2442	9	2452
8	2447	8	2447	8	2447		
9	2452	9	2452	9	2452		
10	2457	10	2457	10	2457		
11	2462	11	2462	11	2462		

Table 5: Technical Specification of 5GHz, 802.11a/n

Operating mode(s) / WiFi:	IEEE 802.11a	IEEE 802.11n HT20	IEEE 802.11n HT40
Test modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Transmit Frequency Range (MHz):	5180 - 5825	5180 - 5825	5180 - 5825
Channel Number	25	25	12
Data Rate (Mbps)	6, 9, 12, 18, 24, 36, 48, 54	MCS0 ~ MCS7	MCS0 ~ MCS7
Maximum tune-up average output power (dBm):	13.5	13.5	14.5
Media Access Protocol	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK

Table 6: Technical Specification of 5GHz, 802.11ac

Operating mode(s) / WiFi:	IEEE 802.11ac VHT20	IEEE 802.11ac VHT40	IEEE 802.11ac VHT80
Test modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Transmit Frequency Range (MHz):	5180 - 5825	5180 - 5825	5180 - 5825
Channel Number	25	12	6
Data Rate (Mbps)	MCS0 ~ MCS8	MCS0 ~ MCS9	MCS0 ~ MCS9
Maximum tune-up average output power (dBm):	13.5	14	13.5
Media Access Protocol	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK

Table 7: List of WLAN Channel of 5GHz 802.11a/n

802.11a		802.11n HT20		802.11n HT40	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	36	5180	38	5190
40	5200	40	5200	46	5230
44	5220	44	5220	54	5270
48	5240	48	5240	62	5310
52	5260	52	5260	102	5510
56	5280	56	5280	110	5550
60	5300	60	5300	118	5590
64	5320	64	5320	126	5630 (only for FCC)
100	5500	100	5500	134	5670
104	5520	104	5520	142	5710
108	5540	108	5540	151	5755
112	5560	112	5560	159	5795
116	5580	116	5580		
120	5600 (only for FCC)	120	5600 (only for FCC)		
124	5620 (only for FCC)	124	5620 (only for FCC)		
128	5640 (only for FCC)	128	5640 (only for FCC)		
132	5660	132	5660		
136	5680	136	5680		
140	5700	140	5700		
144	5720	144	5720		
149	5745	149	5745		
153	5765	153	5765		
157	5785	157	5785		
161	5805	161	5805		
165	5825	165	5825		

Table 8: List of WLAN Channel of 5GHz 802.11ac

802.11ac VHT20		802.11ac VHT40		802.11ac VHT80	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	58	5290
44	5220	54	5270	106	5530
48	5240	62	5310	122	5610 (only for FCC)
52	5260	102	5510	138	5690
56	5280	110	5550	155	5775
60	5300	118	5590		
64	5320	126	5630 (only for FCC)		
100	5500	134	5670		
104	5520	142	5710		
108	5540	151	5755		
112	5560	159	5795		
116	5580				
120	5600 (only for FCC)				
124	5620 (only for FCC)				
128	5640 (only for FCC)				
132	5660				
136	5680				
140	5700				
144	5720				
149	5745				
153	5765				
157	5785				
161	5805				
165	5825				

Table 9: Technical Specification of Bluetooth (BDR & EDR mode)

Technical Specification	Value
Kind of Equipment	11.6" windows tablet
Type Designation	NS-P11W7100, NS-P11W7100-C, NS-P11xxxxxxxx (x=0-9, A-Z, a-z, -or blank, for market purpose only)
FCC ID	2AIB2-P11W7100
IC	21456-P11W7100
Operating Frequency band	2400 – 2483.5MHz
Channel separation	1MHz
Extreme Temperature Range	0~+40°C
Operation Voltage	DC 3.7V (via built in battery)
Modulation	FHSS, GFSK, 8DPSK, $\pi/4$ DQPSK
Bluetooth version	4.0, Dual Mode
Antenna Gain	1.6dBi

Table 10: RF channel and frequency of Bluetooth (BDR & EDR mode)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	21	2423.00	42	2444.00	63	2465.00
1	2403.00	22	2424.00	43	2445.00	64	2466.00
2	2404.00	23	2425.00	44	2446.00	65	2467.00
3	2405.00	24	2426.00	45	2447.00	66	2468.00
4	2406.00	25	2427.00	46	2448.00	67	2469.00
5	2407.00	26	2428.00	47	2449.00	68	2470.00
6	2408.00	27	2429.00	48	2450.00	69	2471.00
7	2409.00	28	2430.00	49	2451.00	70	2472.00
8	2410.00	29	2431.00	50	2452.00	71	2473.00
9	2411.00	30	2432.00	51	2453.00	72	2474.00
10	2412.00	31	2433.00	52	2454.00	73	2475.00
11	2413.00	32	2434.00	53	2455.00	74	2476.00
12	2414.00	33	2435.00	54	2456.00	75	2477.00
13	2415.00	34	2436.00	55	2457.00	76	2478.00
14	2416.00	35	2437.00	56	2458.00	77	2479.00
15	2417.00	36	2438.00	57	2459.00	78	2480.00
16	2418.00	37	2439.00	58	2460.00		
17	2419.00	38	2440.00	59	2461.00		
18	2420.00	39	2441.00	60	2462.00		
19	2421.00	40	2442.00	61	2463.00		
20	2422.00	41	2443.00	62	2464.00		

Table 11: Technical Specification of Bluetooth (Low Energy mode)

Technical Specification	Value
Kind of Equipment	11.6" windows tablet
Type Designation	NS-P11W7100, NS-P11W7100-C, NS-P11xxxxxxxx (x=0-9, A-Z, a-z, -or blank, for market purpose only)
FCC ID	2AIB2-P11W7100
IC	21456-P11W7100
Operating Frequency band	2400 – 2483.5MHz
Channel separation	2MHz
Extreme Temperature Range	0~+40°C
Operation Voltage	DC 3.7V (via built in battery)
Modulation	GFSK
Bluetooth version	4.0, Dual Mode
Antenna Gain	1.6dBi

Table 12: RF channel and frequency of Bluetooth (Low Energy mode)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	11	2424.00	22	2446.00	33	2468.00
1	2404.00	12	2426.00	23	2448.00	34	2470.00
2	2406.00	13	2428.00	24	2450.00	35	2472.00
3	2408.00	14	2430.00	25	2452.00	36	2474.00
4	2410.00	15	2432.00	26	2454.00	37	2476.00
5	2412.00	16	2434.00	27	2456.00	38	2478.00
6	2414.00	17	2436.00	28	2458.00	39	2480.00
7	2416.00	18	2438.00	29	2460.00		
8	2418.00	19	2440.00	30	2462.00		
9	2420.00	20	2442.00	31	2464.00		
10	2422.00	21	2444.00	32	2466.00		

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, transmitting
 - 1. 802.11b
 - 2. 802.11g
 - 3. 802.11n (HT20)
 - 4. 802.11n (HT40)
 - 5. 802.11a
 - 6. 802.11ac (VHT20)
 - 7. 802.11ac (VHT40)
 - 8. 802.11ac (VHT80)
 - 9. Bluetooth BDR
 - 10. Bluetooth EDR
 - 11. Bluetooth Low Energy
- B. Off

3.4 Submitted Documents

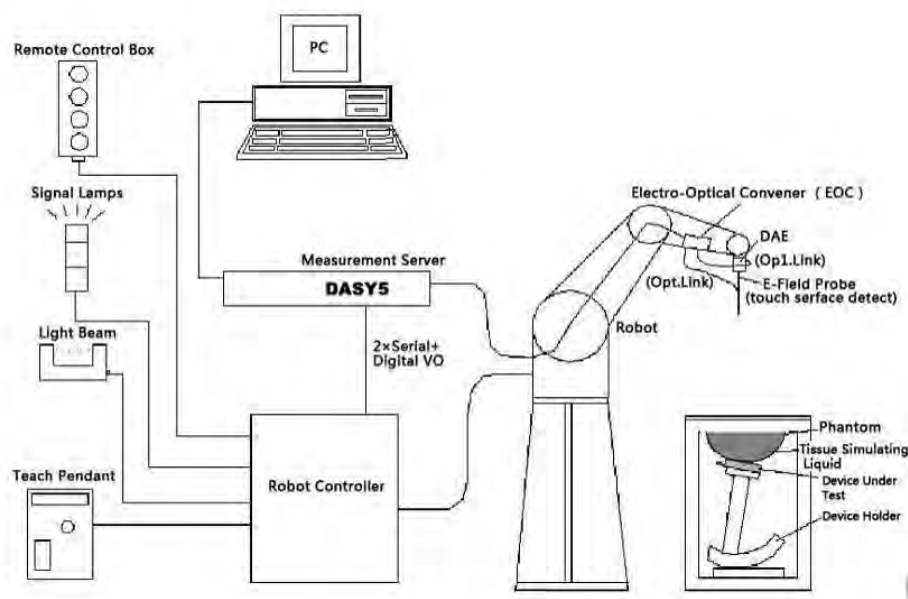
- | | |
|--------------------------|----------------------|
| - Bill of Material | - Circuit Diagram |
| - Constructional Drawing | - Instruction Manual |
| - PCB Layout | - Rating Label |

4. SAR Measurements System Configuration

4.1 SAR Measurements Set-up

The DASY5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.



Picture 1 SAR Lab Test Measurement Set-up

4.2 DASY5 E-Feld Probe System

The SAR measurements were conducted with the dosimetric probe designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY5 software reads the reflection turning a software approach and looks for the maximum using 2nd ord curve fitting. The approach is stopped at reaching the maximum.

Probe Specifications:

Model: EX3DV4

Frequency Range: 10MHz - 6.0GHz (EX3DV4)

Calibration: In head and body simulating tissue at
Frequencies from 835 up to 5800MHz

Linearity: ± 0.2 dB (30 MHz to 6 GHz) for EX3DV4

Dynamic Range: 10 mW/kg - 100W/kg

Probe Length: 330 mm

Probe Tip Length: 20 mm

Body Diameter: 12 mm

Tip Diameter: 2.5 mm

Tip-Center: 1 mm

Application: SAR Dosimetry Testing
Compliance tests of mobile phones
Dosimetry in strong gradient fields



Picture 2 E-field Probe

4.3 E-Filed Probe Calibration

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm²) using an RF Signal generator, TEM cell, and RF Power Meter.

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equate to 1 mW/cm².

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C \frac{\Delta T}{\Delta t}$$

Where:

Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m³).

4.4 Other Test Equipment

4.4.1 Data Acquisition Electronics (DAE)

The data acquisition electronics consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

4.4.2 Robot

The SPEAG DASY system uses the high precision robots (DASY5: TX60XL) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from Stäubli is used. The Stäubli robot series have many features that are important for our application:

High precision (repeatability 0.02mm)

High reliability (industrial design)

Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)

Jerk-free straight movements (brushless synchron motors; no stepper motors)

Low ELF interference (motor control fields shielded via the closed metallic construction shields)



Picture 3 DASY 5

4.4.3 Measurement Server

The Measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chip disk (DASY5: 128MB), RAM (DASY5: 128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.



Picture 4 Server for DASY 5

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a

watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

4.4.4 Device Holder for Phantom

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of $\pm 0.5\text{mm}$ would produce a SAR uncertainty of $\pm 20\%$. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon = 3$ and loss tangent $\delta = 0.02$. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

<Laptop Extension Kit>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin-SAM and ELI phantoms.

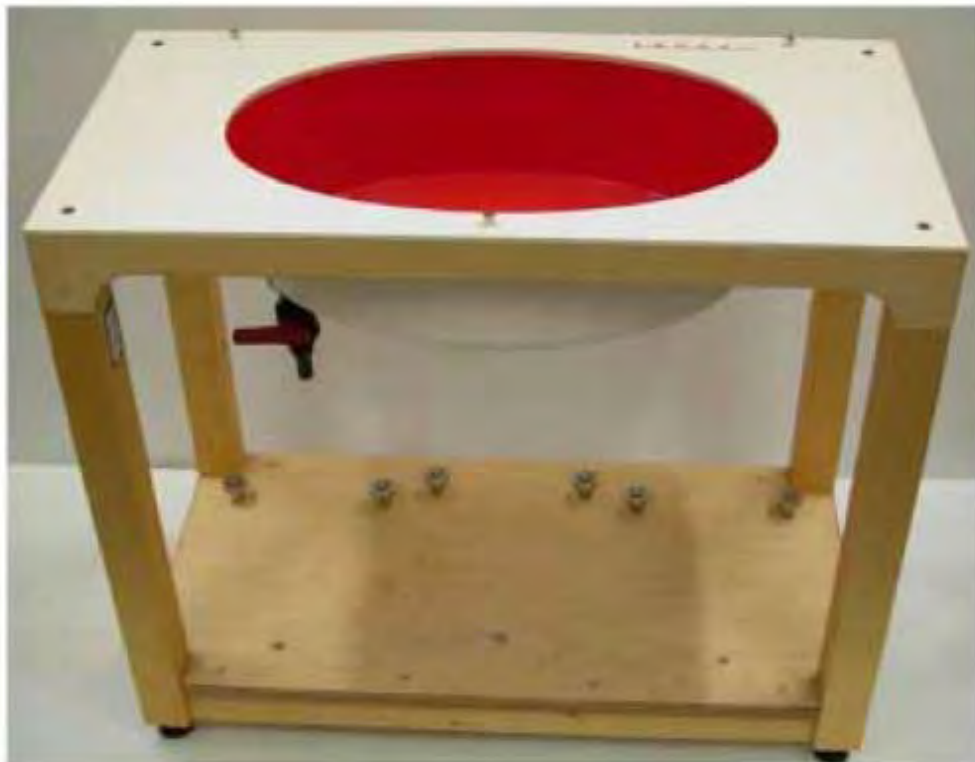


Picture 5 Device Holder

4.4.5 Phantom

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)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table



Picture 8 ELI4 Phantom

4.5 Scanning Procedure

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. $\pm 5\%$.

The “surface check” measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above $\pm 0.1\text{mm}$). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within $\pm 30^\circ$.)

Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid spacing is set according to FCC KDB Publication 865664. During scan the distance of the probe to the phantom remains unchanged. After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

Zoom Scan

After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm.

Spatial Peak Detection

The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses. The DASY5 system allows evaluations that combine measured data and robot positions, such as:

- maximum search
- extrapolation
- boundary correction
- peak search for averaged SAR

During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard’s method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.

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. Several measurements at different distances are

necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space.

They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation.

A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area} , Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom} , Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm) $\Delta z_{zoom}(n)$	Minimum Zoom Scan Volume (mm) (x,y,z)
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≥ 22

4.6 Data Storage and Evaluation

4.6.1 Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DAE4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device set up, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a loss less media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

4.6.2 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters: - Sensitivity Norm_i, a_{i0}, a_{i1}, a_{i2}

- Conversion factor ConvF_i
- Diode compression point Dcp_i
- Device parameters: - Frequency f

- Crest factor cf
- Media parameters: - Conductivity
- Density

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$\mathbf{V}_i = \mathbf{U}_i + \mathbf{U}_i^2 \cdot \mathbf{c} \cdot \mathbf{f} / \mathbf{dcp}_i$$

With $\mathbf{V}_i$ = compensated signal of channel i (i = x, y, z)

$\mathbf{U}_i$ = input signal of channel i (i = x, y, z)

$\mathbf{c} \cdot \mathbf{f}$ = crest factor of exciting field (DASY parameter)

$\mathbf{dcp}_i$ = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

$$\text{E-field probes: } \mathbf{E}_i = (\mathbf{V}_i / \mathbf{Norm}_i \cdot \mathbf{ConvF})^{1/2}$$

$$\text{H-field probes: } \mathbf{H}_i = (\mathbf{V}_i)^{1/2} \cdot (\mathbf{a}_{i0} + \mathbf{a}_{i1} \cdot \mathbf{f} + \mathbf{a}_{i2} \cdot \mathbf{f}^2) / \mathbf{f}$$

With $\mathbf{V}_i$ = compensated signal of channel i (i = x, y, z)

$\mathbf{Norm}_i$ = sensor sensitivity of channel i (i = x, y, z)

[mV/(V/m)²] for E-field Probes

$\mathbf{ConvF}$ = sensitivity enhancement in solution

$\mathbf{a}_{ij}$ = sensor sensitivity factors for H-field probes

$\mathbf{f}$ = carrier frequency [GHz]

$\mathbf{E}_i$ = electric field strength of channel i in V/m

$\mathbf{H}_i$ = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$\mathbf{E}_{\text{tot}} = (\mathbf{E}_x^2 + \mathbf{E}_y^2 + \mathbf{E}_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$\text{SAR} = (E_{\text{tot}})^2 \cdot \sigma / (\rho \cdot 1000)$$

with **SAR** = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

= conductivity in [mho/m] or [Siemens/m]

= equivalent tissue density in g/cm³

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{\text{pwe}} = E_{\text{tot}}^2 / 3770 \text{ or } P_{\text{pwe}} = H_{\text{tot}}^2 \cdot 37.7$$

with **P_{pwe}** = equivalent power density of a plane wave in mW/cm²

E_{tot} = total electric field strength in V/m; **H_{tot}** = total magnetic field strength in A/m

5. Test Set-up and Operation Modes

5.1 Principle of Configuration Selection

The EUT is commanded to operate at maximum transmitting power. The EUT shall use its internal transmitter. The antenna, battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

Table 13: Configuration of EUT

Operation mode	Frequency Range (MHz)	Modulation	Default Test Channel			Power Control Level
			Low	Middle	High	
802.11b/g/n(HT20)	2412-2462	DSSS, OFDM	CH1	CH6	CH11	Test software was used to configure the EUT to transmit at maximum output power
802.11n(HT40)	2422-2452	OFDM	CH3	CH6	CH9	
802.11a/n(HT20)/ac(VHT20) (Band U-NII-1)	5180-5240	OFDM	CH36	CH40	CH48	
802.11a/n(HT20)/ac(VHT20) (Band U-NII-2A)	5260-5320	OFDM	CH52	CH60	CH64	
802.11a/n(HT20)/ac(VHT20) (Band U-NII-2C)	5500-5720	OFDM	CH100	CH120	CH144	
802.11a/n(HT20)/ac(VHT20) (Band U-NII-3)	5745-5825	OFDM	CH149	CH157	CH165	
802.11n(HT40)/ac(VHT40) (Band U-NII-1)	5180-5240	OFDM	CH38	---	CH46	
802.11n(HT40)/ac(VHT40) (Band U-NII-2A)	5260-5320	OFDM	CH54	---	CH62	
802.11n(HT40)/ac(VHT40) (Band U-NII-2C)	5500-5720	OFDM	CH101	CH118	CH142	
802.11n(HT40)/ac(VHT40) (Band U-NII-3)	5745-5825	OFDM	CH151	---	CH159	
802.11ac(VHT80) (Band U-NII-1)	5180-5240	OFDM	---	CH42	---	
802.11ac(VHT80) (Band U-NII-2A)	5260-5320	OFDM	---	CH58	---	
802.11ac(VHT80) (Band U-NII-2C)	5500-5720	OFDM	CH106	CH122	CH138	
802.11ac(VHT80) (Band U-NII-3)	5745-5825	OFDM	---	CH155	---	
Bluetooth (BDR & EDR)	2402-2480	FHSS	CH0	CH39	CH78	
Bluetooth (Low Energy)	2402-2480	GFSK	CH0	CH19	CH39	

5.2 Tissue Simulating Liquid Ingredients

The liquid is consisted of Water, Salt, Glycol and DGBE. The liquid has previously been proven to be suited for worst-case. The following table shows the detail solution.

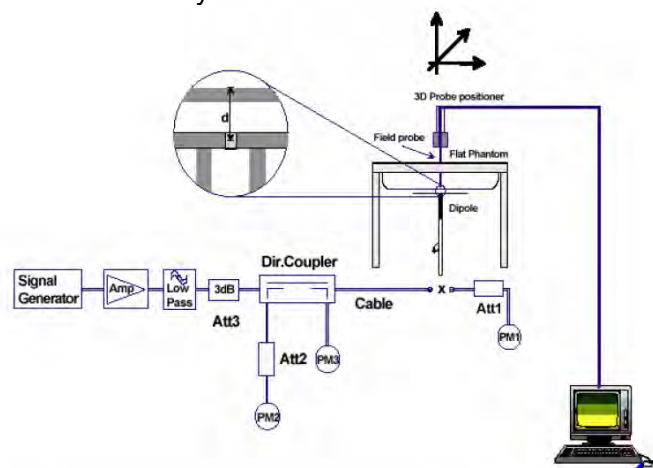
Table 14: Composition of Tissue Simulating Liquid

MIXTURE%(Weight)	FREQUENCY (Body) 2450MHz
Water	73.2
Glycol	26.7
Salt	0.1
Dielectric Parameters Target Value	f=2450MHz ϵ =52.70 σ =1.95

MIXTURE%(Weight)	FREQUENCY (Body) 5GHz
Water	75.68
DGBE	4.42
Triton X-100	19.47
Salt	0.43
Dielectric Parameters Target Value	f=5200MHz ϵ =49.00 σ =5.30 f=5300MHz ϵ =48.90 σ =5.42 f=5500MHz ϵ =48.60 σ =5.65 f=5600MHz ϵ =48.50 σ =5.77 f=5800MHz ϵ =48.20 σ =6.00

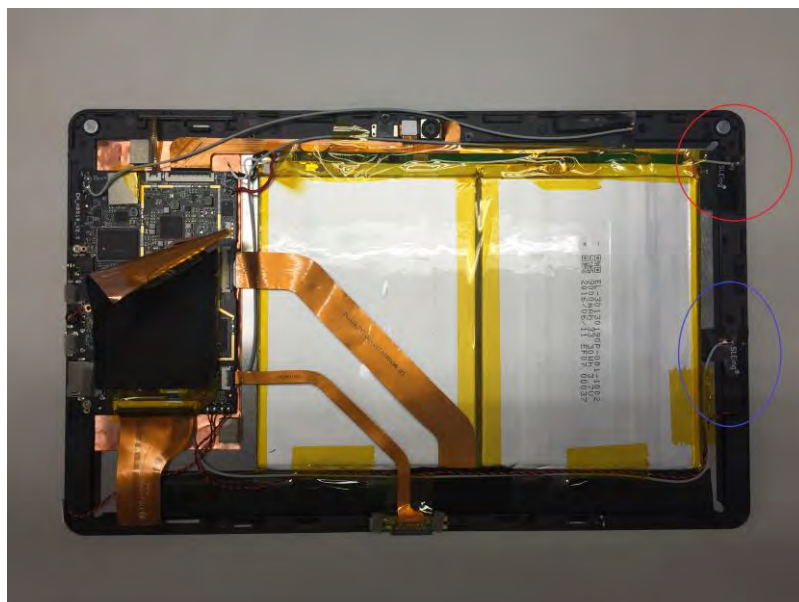
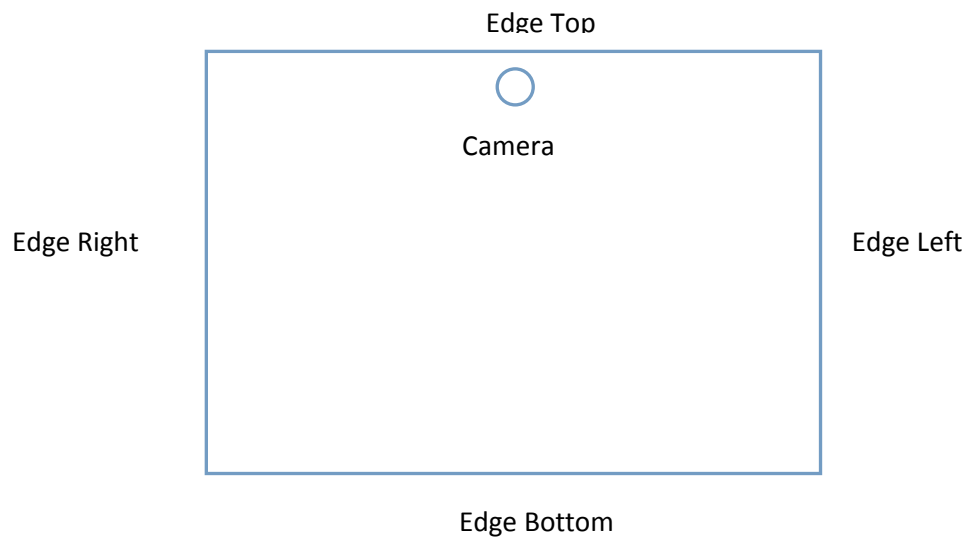
5.3 Specific Absorption Rate (SAR) System Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in Appendix A. System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system ($\pm 10\%$). System check is performed regularly on all frequency bands where tests are performed with the DASY5 system.



Picture 9 System Check Set-up

5.4 Exposure Positions Consideration



SIZE:291.3*180.5*9



5.5 Test Operation and Test Software

Test operation refers to test setup in chapter 5.

For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

For the 802.11a/b/g/n/ac SAR tests, a communication link is setup with the test mode software for WiFi mode test, during the test, each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate. Testing at higher data rates is not required when the maximum average output power is less than 0.25dB higher than those measured at the lowest data rate.

802.11a/b/g/n/ac operating modes are tested independently according to the service requirements in each frequency band. 802.11a/b/g/n/ac modes are tested on the maximum average output channel.

SAR is not required for 802.11g/n channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels.

For the 2.4GHz and 5GHz bands, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations, the lower order 802.11 mode is used for SAR measurement.

5.6 Special Accessories and Auxiliary Equipment

None.

6. Test Results

6.1 Human Exposure to Radiofrequency Electromagnetic Fields

RESULT:**Passed**

Date of testing	:	2016-07-04
Test standard	:	CFR Title 47 Part 2 Subpart J Section 2.1093 ANSI/IEEE C95.1-1992 IEEE 1528-2003
FCC KDB Publication	:	KDB 447498 D01 v06 KDB 248227 D01 v01r02 KDB 616217 D04 v01r01 KDB 865664 D01 v01r01
Limits	:	1.6W/kg

Test setup

Operation mode	:	A
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0kPa

Note: Wi-Fi antenna and Bluetooth cannot transmitter simultaneously.

According to the position of antenna and dimension of product, the test was carried out on Back face, edge Top & Left for ANT 1, was carried out on Back face & edge Left for ANT 2. For 2.4GHz 802.11g/n OFDM SAR test, according to clause 5.2.2 b) of KDB 248227 D01 v02r02: the highest report SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is <1.2W/kg, hence this requirement is exclusion.

Table 15: Test result of SAR Values of 2.4GHz ANT 1

Mode	Channel	Test Position	Output Power		Measured Results		Scaled-1		Scaled-Final		Power Drift (dBm)
			Max. Scaled AV Power (dBm)	Measured AV Power (dBm)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	
802.11b	CH11	Back	16.00	15.61	0.504	0.221	0.551	0.242	0.552	0.242	0.03
		Top			0.079	0.045	0.086	0.049	0.087	0.049	0.08
		Left			0.092	0.048	0.101	0.053	0.101	0.053	0.15
80211n40	CH6	Back	15.00	14.92	0.418	0.203	0.426	0.207	0.430	0.209	0.17
		Top			0.038	0.018	0.039	0.018	0.039	0.019	0.15
		Left			0.441	0.145	0.449	0.148	0.454	0.149	0.08
Conclusion: PASS											
Note : Factor= Max. Scaled AV Power(W)/Measured Power(W) Scaled SAR-1= Measured SAR*Factor Scaled-Final= Scaled SAR-1*(1/Duty Cycle) The Max.Reported SAR : 0.552W/kg for 1g SAR											

Table 16: Test result of SAR Values of 2.4GHz ANT 2

Mode	Channel	Test Position	Output Power		Measured Results		Scaled-1		Scaled-Final		Power Drift (dBm)
			Max. Scaled AV Power (dBm)	Measured AV Power (dBm)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	
802.11b	CH11	Back	15.5	15.11	0.561	0.244	0.614	0.267	0.615	0.267	0.01
		Left			0.101	0.041	0.110	0.045	0.111	0.045	-0.16
802.11n40	CH6	Back	15.00	14.66	0.628	0.315	0.679	0.341	0.686	0.344	0.17
		Left			0.095	0.049	0.065	0.033	0.065	0.034	0.14
Conclusion: PASS											
Note : Factor= Max. Scaled AV Power(W)/Measured Power(W) Scaled SAR-1= Measured SAR*Factor Scaled-Final= Scaled SAR-1*(1/Duty Cycle) The Max.Reported SAR : 0.686W/kg for 1g SAR											

Table 17: Test result of SAR Values of 5GHz ANT 1

Mode	Channel	Test Position	Output Power		Measured Results		Scaled-1		Scaled-Final		Power Drift (dBm)
			Max. Scaled AV Power (dBm)	Measured AV Power (dBm)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	
802.11a	CH40	Back	13.00	12.75	0.349	0.169	0.370	0.179	0.372	0.180	-0.07
		Top			0.054	0.035	0.057	0.037	0.058	0.037	0.17
		Left			0.554	0.155	0.587	0.164	0.591	0.165	0.05
	CH60	Back	13.50	13.20	0.594	0.188	0.636	0.201	0.641	0.203	0.10
		Top			0.040	0.013	0.043	0.014	0.043	0.014	0.04
		Left			0.668	0.211	0.716	0.226	0.721	0.228	0.04
	CH112	Back	13.00	12.35	0.579	0.182	0.672	0.211	0.677	0.213	-0.16
		Top			0.069	0.025	0.080	0.029	0.081	0.029	-0.08
		Left			0.647	0.183	0.751	0.213	0.757	0.214	-0.11
	CH120	Back	12.50	12.09	0.599	0.196	0.658	0.215	0.663	0.217	0.05
		Top			0.082	0.029	0.090	0.032	0.091	0.032	0.13
		Left			0.698	0.193	0.767	0.212	0.773	0.214	-0.09
	CH165	Back	14.00	13.52	0.459	0.160	0.513	0.179	0.516	0.180	-0.09
		Top			0.075	0.028	0.084	0.031	0.084	0.031	-0.12
		Left			0.669	0.215	0.747	0.240	0.753	0.242	-0.08
802.11ac40	CH46	Back	14.00	13.94	0.467	0.209	0.473	0.212	0.479	0.215	-0.10
		Top			0.073	0.042	0.074	0.043	0.075	0.043	-0.07
		Left			0.532	0.152	0.539	0.154	0.546	0.156	-0.08
802.11n40	CH54	Back	13.50	13.26	0.473	0.214	0.500	0.226	0.503	0.228	-0.12
		Top			0.075	0.044	0.079	0.046	0.080	0.047	0.05
		Left			0.550	0.153	0.581	0.162	0.585	0.163	0.04
	CH118	Back	13.50	13.36	0.564	0.249	0.582	0.257	0.586	0.259	-0.08
		Top			0.092	0.052	0.095	0.054	0.096	0.054	0.18
		Left			0.630	0.176	0.651	0.182	0.655	0.183	0.01
	CH151	Back	13.50	13.40	0.605	0.271	0.619	0.277	0.623	0.279	0.14
		Top			0.122	0.060	0.125	0.061	0.126	0.062	0.00
		Left			0.683	0.190	0.699	0.194	0.703	0.196	-0.04
Conclusion: PASS											
Note : Factor= Max. Scaled AV Power(W)/Measured Power(W) Scaled SAR-1= Measured SAR*Factor Scaled-Final= Scaled SAR-1*(1/Duty Cycle) The Max.Reported SAR : 0.773W/kg for 1g SAR											

Table 18: Test result of SAR Values of 5GHz ANT 2

Mode	Channel	Test Position	Output Power		Measured Results		Scaled-1		Scaled-Final		Power Drift (dBm)
			Max. Scaled AV Power (dBm)	Measured AV Power (dBm)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	SAR1g (W/kg)	SAR10g (W/kg)	
11a	CH40	Back	14.00	13.58	0.625	0.414	0.688	0.456	0.693	0.459	-0.11
		Left			0.555	0.168	0.611	0.185	0.616	0.186	0.14
	CH60	Back	13.50	13.45	0.645	0.478	0.652	0.484	0.657	0.487	-0.16
		Left			0.570	0.181	0.577	0.183	0.581	0.184	-0.19
	CH112	Back	14.00	13.56	0.518	0.354	0.573	0.392	0.577	0.395	-0.16
		Left			0.480	0.153	0.531	0.169	0.535	0.171	0.04
	CH120	Back	13.50	13.17	0.609	0.324	0.657	0.350	0.662	0.352	-0.04
		Left			0.449	0.144	0.484	0.155	0.488	0.156	-0.18
	CH165	Back	13.50	13.13	0.629	0.383	0.685	0.417	0.690	0.420	-0.06
		Left			0.533	0.164	0.580	0.179	0.585	0.180	-0.02
11ac40	CH151	Back	14.00	13.77	0.617	0.338	0.651	0.356	0.659	0.361	-0.12
		Left			0.462	0.147	0.487	0.155	0.493	0.157	-0.11
11n40	CH46	Back	14.50	14.21	0.592	0.257	0.633	0.275	0.637	0.277	0.09
		Left			0.367	0.118	0.392	0.126	0.395	0.127	-0.17
	CH54	Back	14.00	13.67	0.546	0.277	0.589	0.299	0.593	0.301	-0.03
		Left			0.373	0.119	0.402	0.128	0.405	0.129	0.02
	CH118	Back	14.00	13.75	0.612	0.328	0.648	0.347	0.652	0.350	-0.10
		Left			0.461	0.148	0.488	0.157	0.491	0.158	-0.14
Conclusion: PASS											
Note : Factor= Max. Scaled AV Power(W)/Measured Power(W) Scaled SAR-1= Measured SAR*Factor Scaled-Final= 0.693Scaled SAR-1*(1/Duty Cycle) The Max.Reported SAR : 0.693 W/kg for 1g SAR											

Refer to attached Appendix B for details of test results.

6.2 Measurement Uncertainty

6.2.1 Measurement uncertainty evaluation

This measurement uncertainty budget is suggested by IEEE P1528. The breakdown of the individual uncertainties is as follows:

Table 19: Measurement Uncertainties



AUDIX Technology (Shenzhen) Co., Ltd.

Source	Type	Uncertainty Value (%)	Probability Distribution	K	C1(1g)	C1(10g)	Standard uncertainty u1(%)1g	Standard uncertainty u1(%)10g	Degree of freedom Veff or Vi
Measurement system repeatability	A	0.5	N	1		1	0.5	0.5	9
Probe calibration	B	5.9	N	1	1	1	5.9	5.9	∞
Isotropy	B	4.7	R	√3	1	1	2.7	2.7	∞
Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
Probe modulation response	B	0	R	√3	1	1	0	0	∞
Detection limits	B	1.0	R	√3	1	1	0.6	0.6	∞
Boundary effect	B	1.9	R	√3	1	1	1.1	1.1	∞
Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
Response time	B	0	R	√3	1	1	0	0	∞
Integration time	B	4.32	R	√3	1	1	2.5	2.5	∞
RF ambient conditions – noise	B	0	R	√3	1	1	0	0	∞
RF ambient conditions – reflections	B	3	R	√3	1	1	1.73	1.73	∞
Probe positioner mech. restrictions	B	0.4	R	√3	1	1	0.2	0.2	∞
Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
Post-processing	B	0	R	√3	1	1	0	0	∞
Test sample related									
Device holder uncertainty	A	2.94	N	1	1	1	2.94	2.94	M-1
Test sample positioning	A	4.1	N	1	1	1	4.1	4.1	M-1
Power scaling	B	5.0	R	√3	1	1	2.9	2.9	∞
Drift of output power (measured SAR drift)	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up									
Phantom uncertainty (shape and thickness tolerances)	B	4.0	R	√3	1	1	2.3	2.1	∞
Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	1	0.84	1.9	1.6	∞
Liquid conductivity (meas.)	A	0.55	N	1	0.78	0.71	0.24	0.21	M-1
Liquid permittivity (meas.)	A	0.19	N	1	0.23	0.26	0.09	0.06	M
Liquid permittivity – temperature uncertainty	A	5.0	R	√3	0.78	0.71	1.4	1.1	∞
Liquid conductivity – temperature uncertainty	A	5.0	R	√3	0.23	0.26	1.2	0.8	∞
Combined standard uncertainty	$u_c = \sqrt{\sum_{i=1}^{23} c_i^2 u_i^2}$						10.57	10.32	
Expanded uncertainty (95 % conf. interval)	$u_e = 2u_c$				N		K=2	21.14	20.64

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Test Laboratory: Audix SAR Lab

Date: 30/06/2016

CW 2450

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:862

Communication System: UID 0, CW ; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.982$ S/m; $\epsilon_r = 52.819$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 2450/Area Scan (41x61x1):

Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 15.21 W/kg

Configuration/ CW 2450/Zoom Scan (7x7x7)/Cube 0:

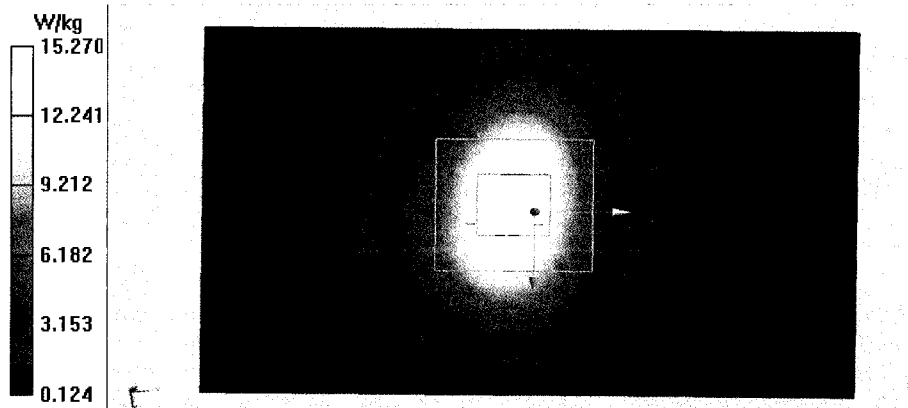
Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 56.66 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 20.5 W/kg

SAR(1 g) = 13.11 W/kg; SAR(10 g) = 6.01 W/kg

Maximum value of SAR (measured) = 15.86 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/06/2016

CW 5200

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.3$ S/m; $\epsilon_r = 49.73$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5200/Area Scan (51x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 21.44 W/kg

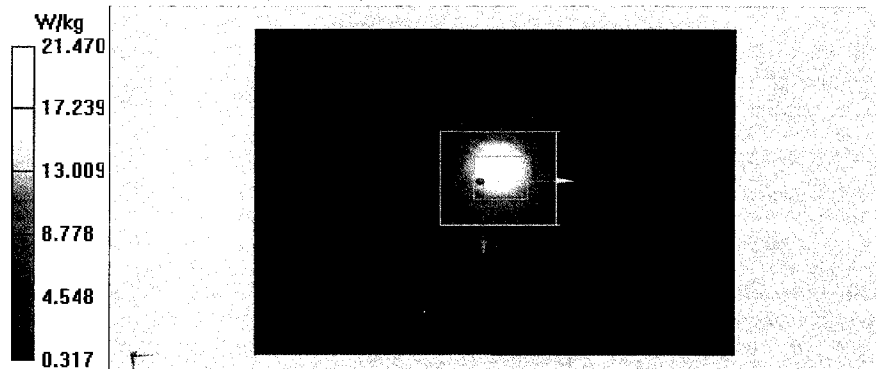
Configuration/CW 5200/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 67.19 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 25.60 W/kg

SAR(1 g) = 8.01 W/kg; SAR(10 g) = 2.39 W/kg

Maximum value of SAR (measured) = 21.47 W/kg



Test Laboratory: Audix SAR Lab

Date: 01/07/2016

CW 5300

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5300 MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.48$ S/m; $\epsilon_r = 49.83$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5300/Area Scan (51x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 21.86 W/kg

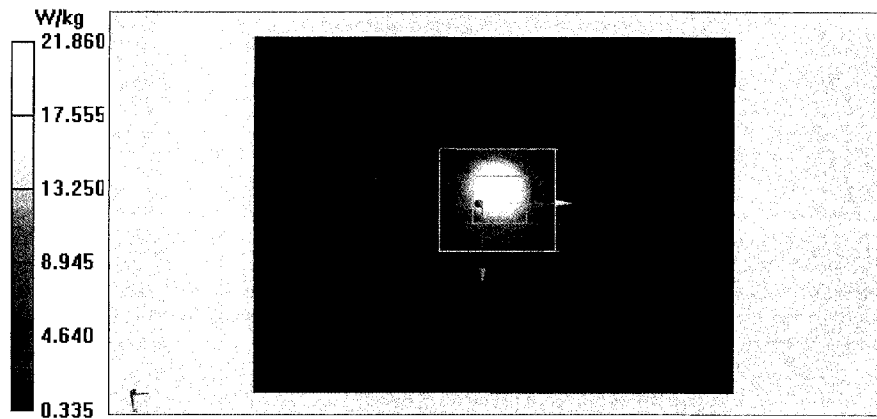
Configuration/CW 5300/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 78.33 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 36.70 W/kg

SAR(1 g) = 9.21 W/kg; SAR(10 g) = 5.39 W/kg

Maximum value of SAR (measured) = 21.97 W/kg



Test Laboratory: Audix SAR Lab

Date: 01/07/2016

CW 5500

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5500 MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.471$ S/m; $\epsilon_r = 49.29$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.35, 4.35, 4.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5500/Area Scan (41x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 23.55 W/kg

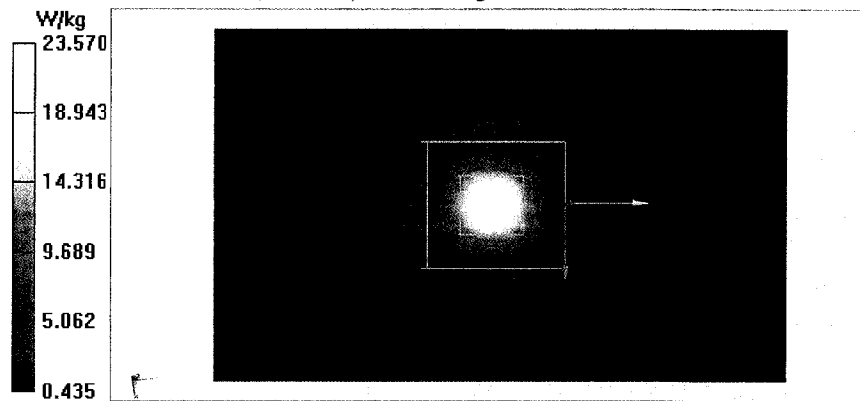
Configuration/CW 5500/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 63.20 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 34.88 W/kg

SAR(1 g) = 8.33 W/kg; SAR(10 g) = 1.99 W/kg

Maximum value of SAR (measured) = 23.6 W/kg



Test Laboratory: Audix SAR Lab
CW 5800

Date: 04/07/2016

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz; Communication System PAR: 0 dB

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.971$ S/m; $\epsilon_r = 48.50$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5800/Area Scan (41x61x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 22.84 W/kg

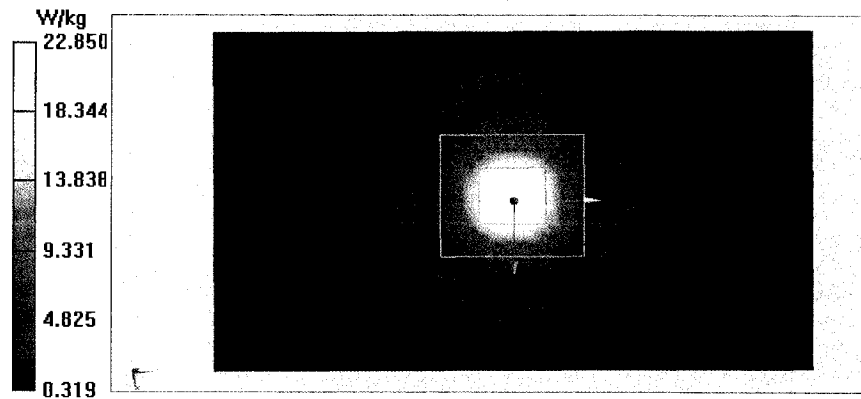
Configuration/CW 5800/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 64.77 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 33.00 W/kg

SAR(1 g) = 7.50 W/kg; SAR(10 g) = 2.46 W/kg

Maximum value of SAR (measured) = 22.9 W/kg



Test result of 2.4GHz, ANT 1:

Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11b CH11(2462MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);
Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency:
2462 MHz; Communication System PAR: 0 dB. Medium parameters used $f = 2462$ MHz;
 $\sigma = 2.01$ S/m; $\epsilon_r = 51.306$; $\rho = 1000$ kg/m³. Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Back)/Area Scan (51x71x1): Interpolated grid:

dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 0.417 W/kg

Configuration/CH11(2462MHz Back)/Zoom Scan (5x5x7)/Cube 0:

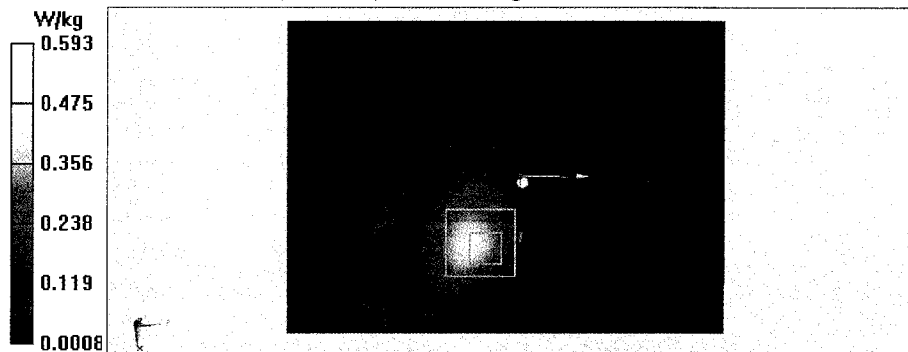
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.020 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.504 W/kg; SAR(10 g) = 0.221 W/kg

Maximum value of SAR (measured) = 0.593 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11b CH11(2462MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);
Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency:
2462 MHz; Communication System PAR: 0 dB. Medium parameters used: $f = 2462$ MHz;
 $\sigma = 2.01$ S/m; $\epsilon_r = 51.306$; $\rho = 1000$ kg/m³. Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.0966 W/kg

Configuration/CH11(2462MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

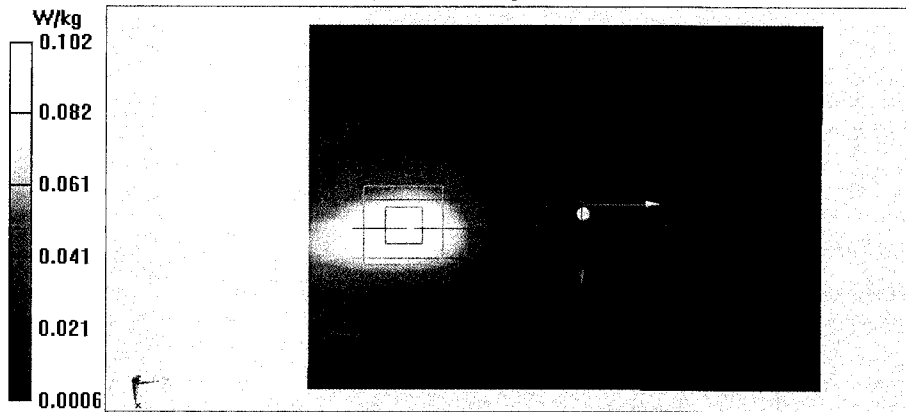
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.374 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.166 W/kg

SAR(1 g) = 0.092 W/kg; SAR(10 g) = 0.048 W/kg

Maximum value of SAR (measured) = 0.102 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11b CH11(2462MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);

Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency: 2462

MHz;Communication System PAR: 0 dB.Medium parameters used: $f = 2462$ MHz; $\sigma = 2.01$

S/m; $\epsilon_r = 51.306$; $\rho = 1000$ kg/m³ .Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.0984 W/kg

Configuration/CH11(2462MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

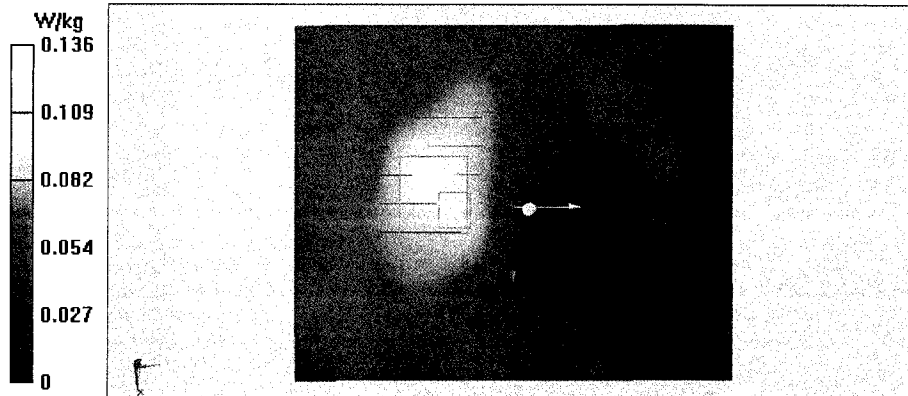
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 1.7990 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.079 W/kg; SAR(10 g) = 0.045 W/kg

Maximum value of SAR (measured) = 0.136 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH6(2437MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11nHT40 WiFi 2.4 GHz (OFDM, 13 Mbps) (0);

Communication System Band: ISM 2.4GHz Band(2400-2483.5MHz); Frequency: 2437

MHz; Communication System PAR: 0 dB. Medium parameters used (interpolated $f = 2437$

MHz; $\sigma = 1.968 \text{ S/m}$; $\epsilon_r = 52.372$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.444 W/kg

Configuration/CH6(2437MHz Back)/Zoom Scan (5x5x7)/Cube 0: Measurement

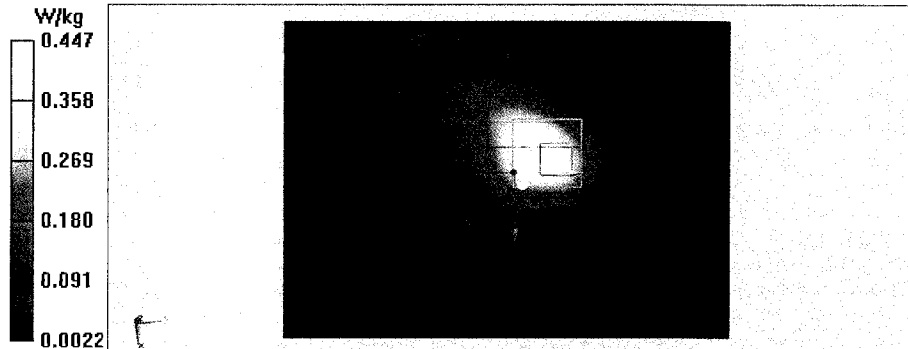
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.51 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.891 W/kg

SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.203 W/kg

Maximum value of SAR (measured) = 0.447 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH6(2437MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11nHT40 WiFi 2.4 GHz (OFDM, 13 Mbps) (0);

Communication System Band: ISM 2.4GHz Band(2400-2483.5MHz); Frequency: 2437

MHz; Communication System PAR: 0 dB. Medium parameters used (interpolated): $f = 2437$

MHz; $\sigma = 1.968$ S/m; $\epsilon_r = 52.372$; $\rho = 1000$ kg/m³ Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.274 W/kg

Configuration/CH6(2437MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

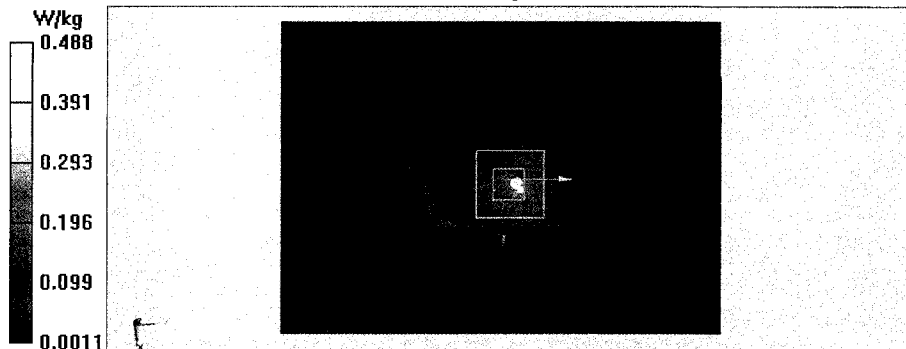
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 15.43 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.441 W/kg; SAR(10 g) = 0.175 W/kg

Maximum value of SAR (measured) = 0.488 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH6(2437MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11nHT40 WiFi 2.4 GHz (OFDM, 13 Mbps) (0);

Communication System Band: ISM 2.4GHz Band(2400-2483.5MHz); Frequency: 2437

MHz; Communication System PAR: 0 dB. Medium parameters used (interpolated): $f = 2437$

MHz; $\sigma = 1.968 \text{ S/m}$; $\epsilon_r = 52.372$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0461 W/kg

Configuration/CH6(2437MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

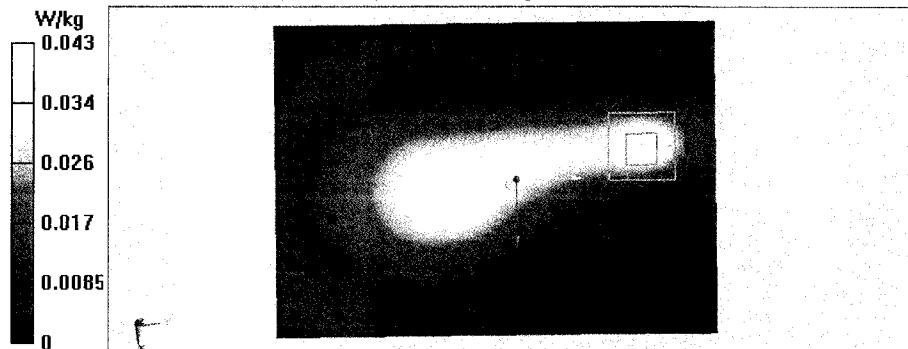
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.220 V/m ; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.0790 W/kg

SAR(1 g) = 0.038 W/kg ; SAR(10 g) = 0.018 W/kg

Maximum value of SAR (measured) = 0.0427 W/kg



Test result of 2.4GHz, ANT 2:

Test Laboratory: Audix SAR Lab
11b CH11(2462MHz Back)

Date: 30/6/2016

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);
Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency:
2462 MHz; Communication System PAR: 0 dB. Medium parameters used: $f = 2462$ MHz;
 $\sigma = 2.01$ S/m; $\epsilon_r = 51.306$; $\rho = 1000$ kg/m³. Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Back)/Area Scan (51x71x1): Interpolated grid:
dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 0.535 W/kg

Configuration/CH11(2462MHz Back)/Zoom Scan (5x5x7)/Cube 0:

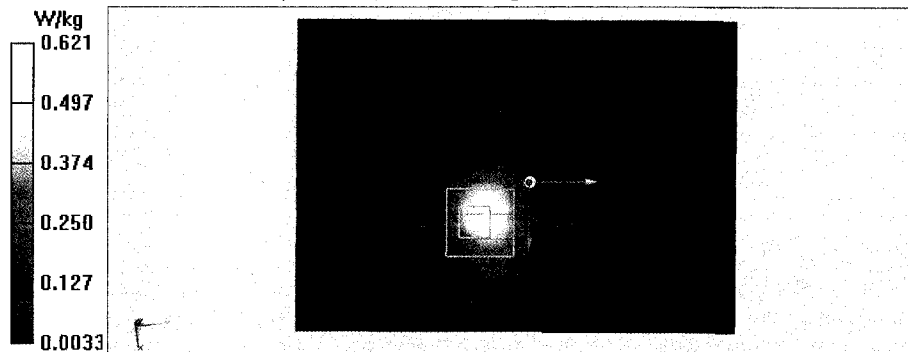
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.808 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.561 W/kg; SAR(10 g) = 0.244 W/kg

Maximum value of SAR (measured) = 0.621 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11b CH11(2462MHz Left)

DUT: 11.6"windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) (0);
Communication System Band: ISM 2.4GHz Band (2400.0-2483.5MHz); Frequency:
2462 MHz; Communication System PAR: 0 dB. Medium parameters used: $f = 2462$ MHz;
 $\sigma = 2.01$ S/m; $\epsilon_r = 51.306$; $\rho = 1000$ kg/m³. Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH11(2462MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.106 W/kg

Configuration/CH11(2462MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

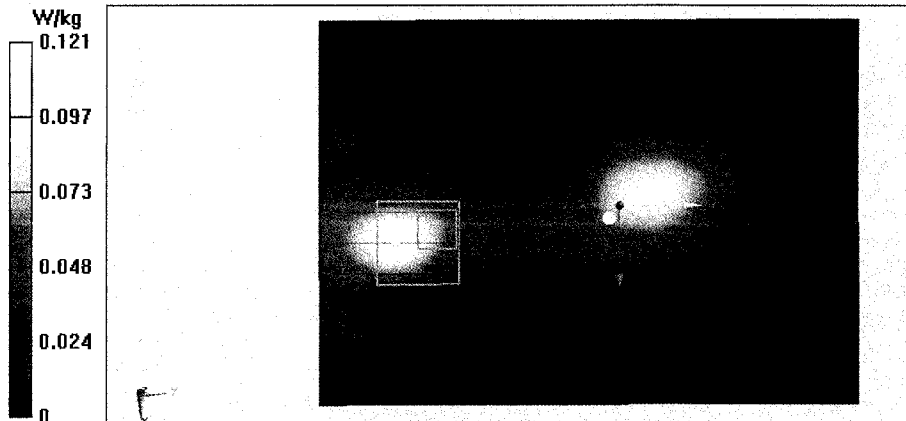
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 6.182 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.188 W/kg

SAR(1 g) = 0.101 W/kg; SAR(10 g) = 0.041 W/kg

Maximum value of SAR (measured) = 0.121 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH6(2437MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11nHT40 WiFi 2.4 GHz (OFDM, 13 Mbps)
(0); Communication System Band: ISM 2.4GHz Band(2400-2483.5MHz); Frequency:
2437 MHz; Communication System PAR: 0 dB. Medium parameters used (interpolated): f
= 2437 MHz; $\sigma = 1.968$ S/m; $\epsilon_r = 52.372$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.589 W/kg

Configuration/CH6(2437MHz Back)/Zoom Scan (5x5x7)/Cube 0: Measurement

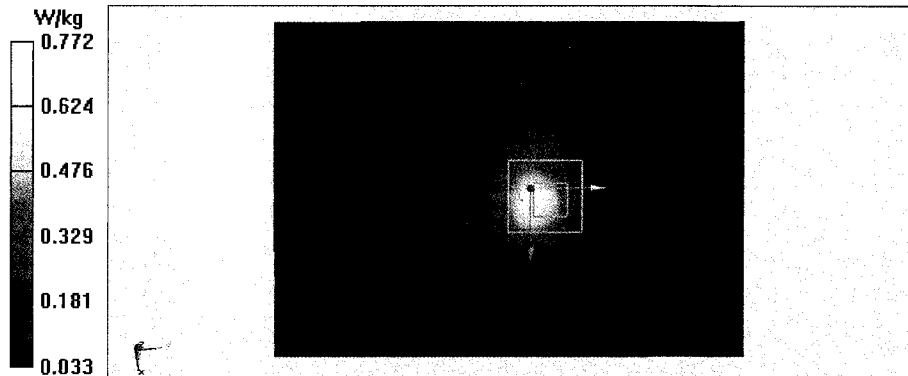
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 16.26 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 2.55 W/kg

SAR(1 g) = 0.628 W/kg; SAR(10 g) = 0.315 W/kg

Maximum value of SAR (measured) = 0.772 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH6(2437MHz Left)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11nHT40 WiFi 2.4 GHz (OFDM, 13 Mbps)
(0); Communication System Band: ISM 2.4GHz Band(2400-2483.5MHz); Frequency:
2437 MHz; Communication System PAR: 0 dB. Medium parameters used (interpolated): f
= 2437 MHz; $\sigma = 1.968$ S/m; $\epsilon_r = 52.372$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.35, 7.35, 7.35); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6(2437MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.103 W/kg

Configuration/CH6(2437MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

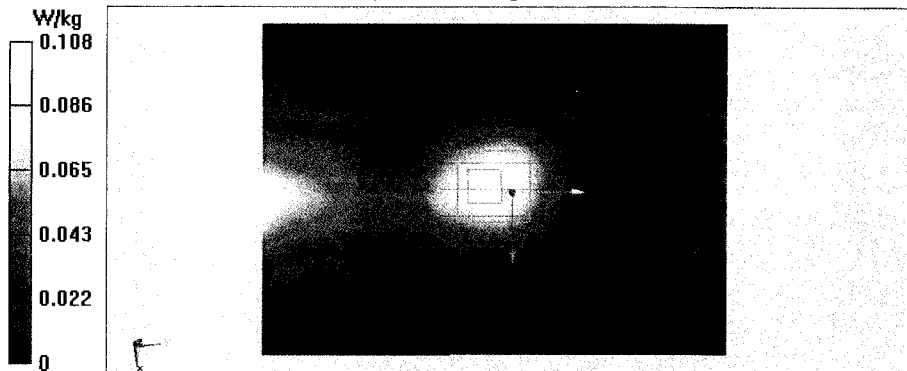
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 7.097 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.183 W/kg

SAR(1 g) = 0.095 W/kg; SAR(10 g) = 0.049 W/kg

Maximum value of SAR (measured) = 0.108 W/kg



Test result of 5GHz, ANT 1:

Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11a CH40(5200MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.2GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.2GHz; Frequency: 5200 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.3 \text{ S/m}$; $\epsilon_r = 49.73$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40(5200MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.273 W/kg

Configuration/CH40(5200MHz Back)/Zoom Scan (5x5x7)/Cube 0:

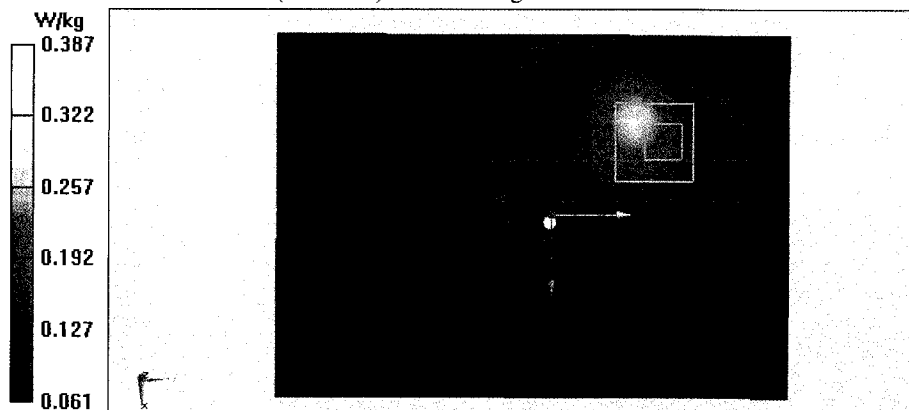
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.663 V/m ; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.869 W/kg

SAR(1 g) = 0.349 W/kg ; SAR(10 g) = 0.169 W/kg

Maximum value of SAR (measured) = 0.387 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11a CH40(5200MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.2GHz (0); Communication

System Band: IEEE 802.11a WiFi 5.2GHz; Frequency: 5200 MHz; Communication

System PAR: 0 dB. Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.3 \text{ S/m}$; $\epsilon_r = 49.73$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40(5200MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.407 W/kg

Configuration/CH40(5200MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

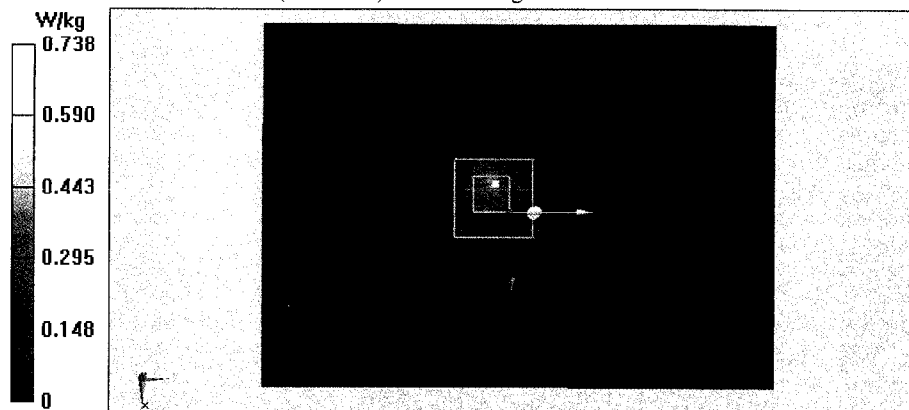
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.425 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 0.554 W/kg; SAR(10 g) = 0.155 W/kg

Maximum value of SAR (measured) = 0.738 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11a CH40(5200MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.2GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.2GHz; Frequency: 5200 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.3 \text{ S/m}$; $\epsilon_r = 49.73$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40(5200MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0496 W/kg

Configuration/CH40(5200MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

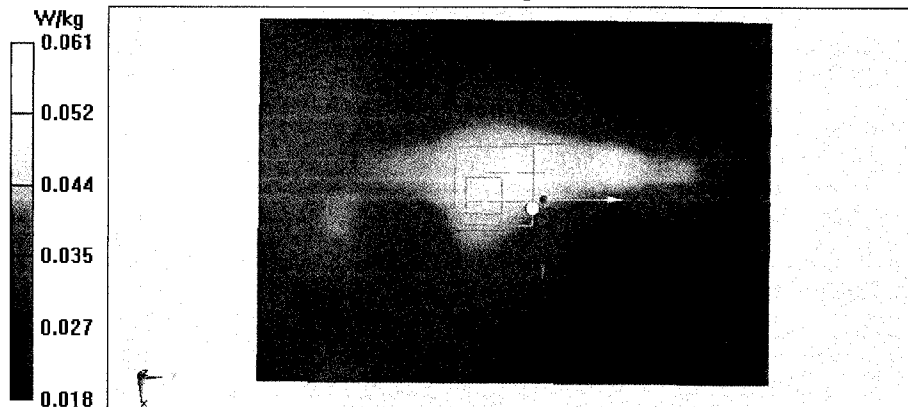
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.872 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.110 W/kg

SAR(1 g) = 0.054 W/kg; SAR(10 g) = 0.035 W/kg

Maximum value of SAR (measured) = 0.0611 W/kg



Test Laboratory: Audix SAR Lab
11ac40 CH46(5230MHz Back)

Date: 30/6/2016

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11ac WiFi 5.2GHz (0); Communication
System Band: IEEE 802.11ac WiFi 5.2GHz; Frequency: 5230 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5230 \text{ MHz}$; $\sigma = 5.33 \text{ S/m}$; $\epsilon_r = 49.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH46(5230MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.484 W/kg

Configuration/CH46(5230MHz Back)/Zoom Scan (5x5x7)/Cube 0:

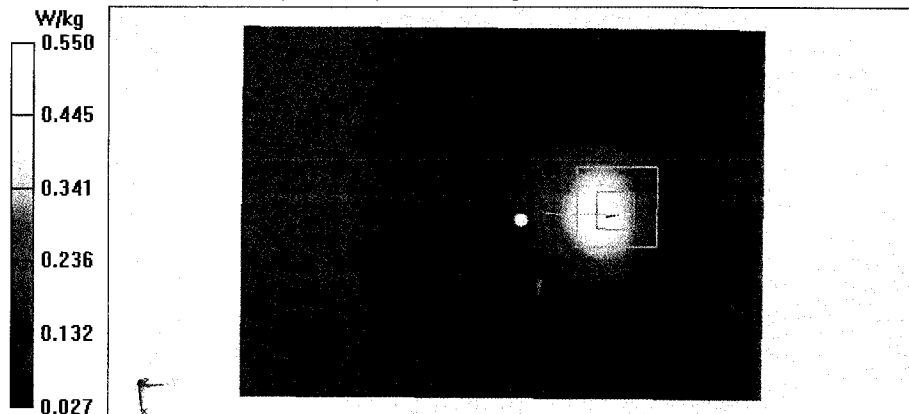
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.295 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.467 W/kg; SAR(10 g) = 0.209 W/kg

Maximum value of SAR (measured) = 0.550 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11ac40 CH46(5230MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11ac WiFi 5.2GHz (0); Communication
System Band: IEEE 802.11ac WiFi 5.2GHz; Frequency: 5230 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5230 \text{ MHz}$; $\sigma = 5.33 \text{ S/m}$; $\epsilon_r = 49.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH46(5230MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.231 W/kg

Configuration/CH46(5230MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

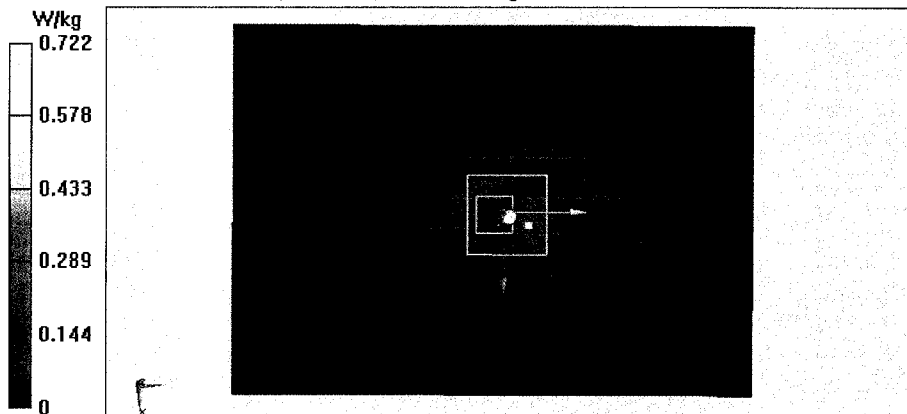
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.29 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.70 W/kg

SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.152 W/kg

Maximum value of SAR (measured) = 0.722 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11ac40 CH46(5230MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11ac WiFi 5.2GHz (0); Communication System Band: IEEE 802.11ac WiFi 5.2GHz; Frequency: 5230 MHz; Communication System PAR: 0 dB. Medium parameters used: $f = 5230 \text{ MHz}$; $\sigma = 5.33 \text{ S/m}$; $\epsilon_r = 49.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH46(5230MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0715 W/kg

Configuration/CH46(5230MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

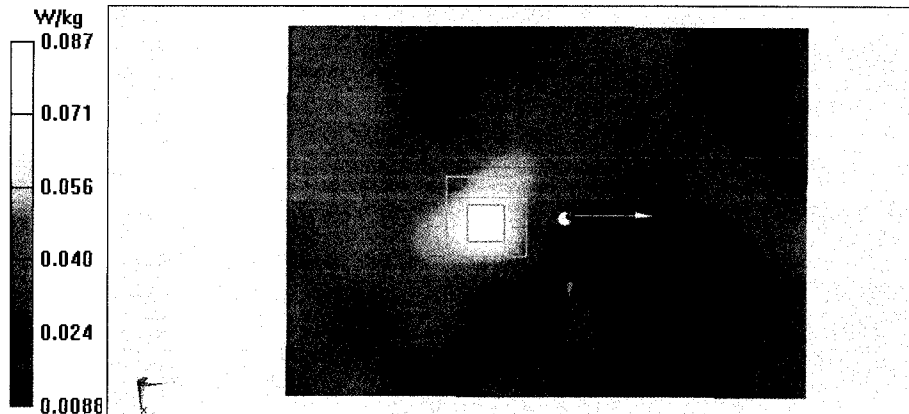
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.140 V/m ; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.073 W/kg ; SAR(10 g) = 0.042 W/kg

Maximum value of SAR (measured) = 0.0871 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH60(5300MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.3GHz ; Frequency: 5300 MHz;Communication
System PAR: 0 dB.Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.41 \text{ S/m}$; $\epsilon_r = 49.31$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH60(5300MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.847 W/kg

Configuration/CH60(5300MHz Back)/Zoom Scan (5x5x7)/Cube 0:

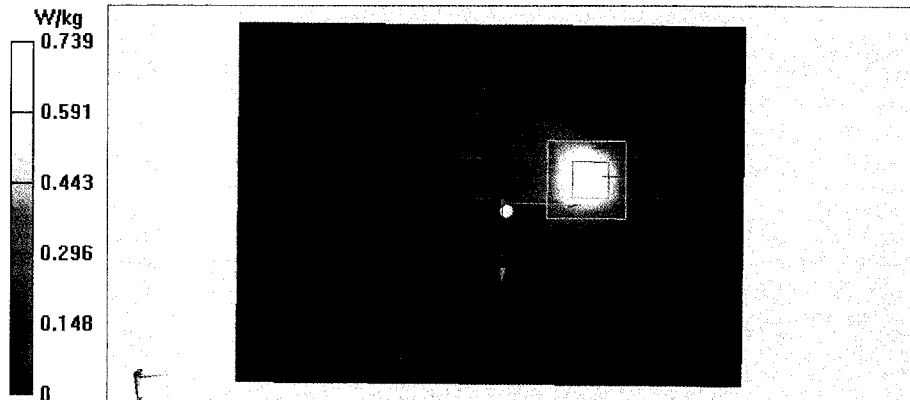
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.975 V/m ; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.85 W/kg

SAR(1 g) = 0.594 W/kg ; SAR(10 g) = 0.188 W/kg

Maximum value of SAR (measured) = 0.739 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH60(5300MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.3GHz ; Frequency: 5300 MHz;Communication
System PAR: 0 dB.Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.41 \text{ S/m}$; $\epsilon_r = 49.31$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH60(5300MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 1.09 W/kg

Configuration/CH60(5300MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

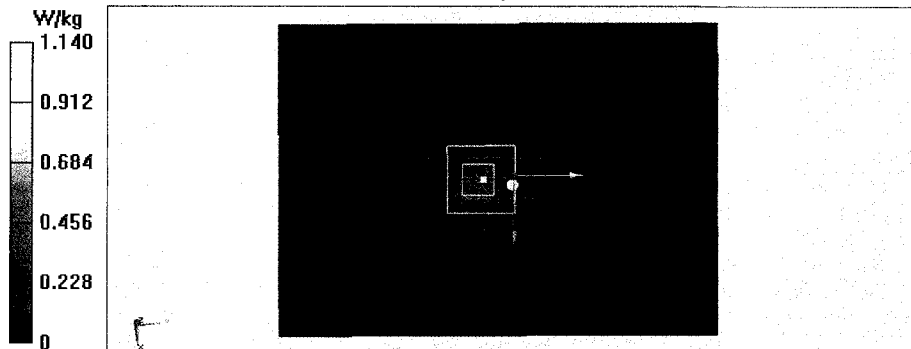
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.605 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.48 W/kg

SAR(1 g) = 0.668 W/kg; SAR(10 g) = 0.211 W/kg

Maximum value of SAR (measured) = 1.14 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH60(5300MHz Top)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.3GHz ; Frequency: 5300 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.41 \text{ S/m}$; $\epsilon_r = 49.31$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH60(5300MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0478 W/kg

Configuration/CH60(5300MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

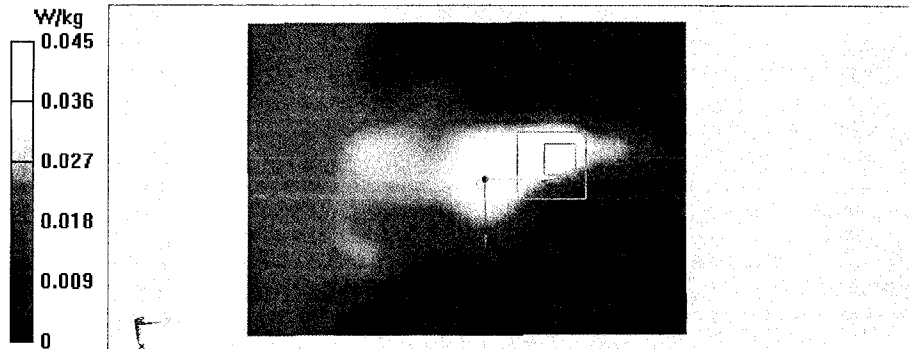
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.378 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.139 W/kg

SAR(1 g) = 0.040 W/kg; SAR(10 g) = 0.013 W/kg

Maximum value of SAR (measured) = 0.0450 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH54(5270MHz Back)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.3GHz ; Frequency: 5270 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5270 \text{ MHz}$; $\sigma = 5.38 \text{ S/m}$; $\epsilon_r = 49.36$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH54(5270MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.433 W/kg

Configuration/CH54(5270MHz Back)/Zoom Scan (5x5x7)/Cube 0:

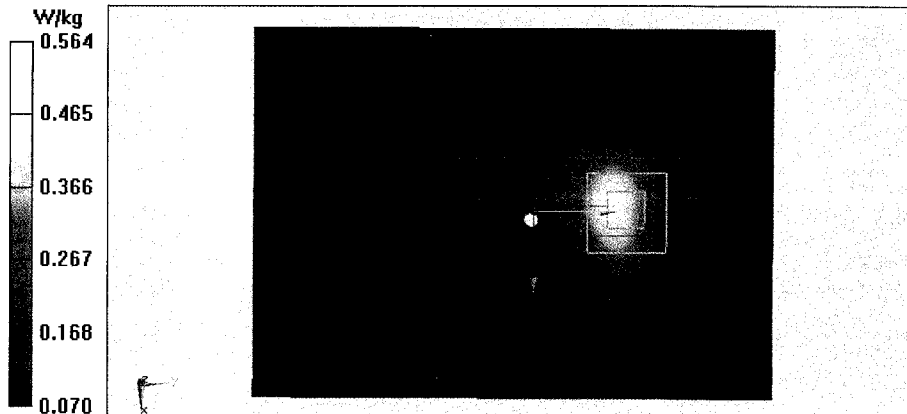
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.492 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.473 W/kg; SAR(10 g) = 0.214 W/kg

Maximum value of SAR (measured) = 0.564 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH54(5270MHz Left)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.3GHz ; Frequency: 5270 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5270 \text{ MHz}$; $\sigma = 5.38 \text{ S/m}$; $\epsilon_r = 49.36$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH54(5270MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.241 W/kg

Configuration/CH54(5270MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

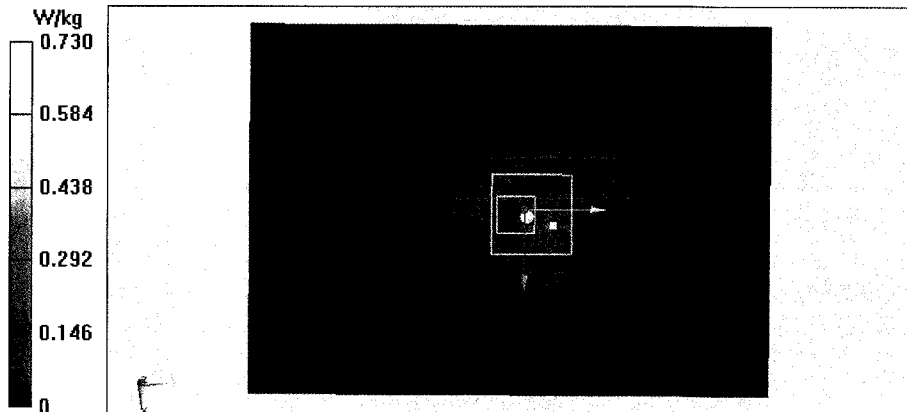
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.09 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.550 W/kg; SAR(10 g) = 0.153 W/kg

Maximum value of SAR (measured) = 0.730 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH54(5270MHz Top)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.3GHz ; Frequency: 5270 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5270 \text{ MHz}$; $\sigma = 5.38 \text{ S/m}$; $\epsilon_r = 49.36$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH54(5270MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0652 W/kg

Configuration/CH54(5270MHz Top)/Zoom Scan (5x5x7)/Cube 0: Measurement

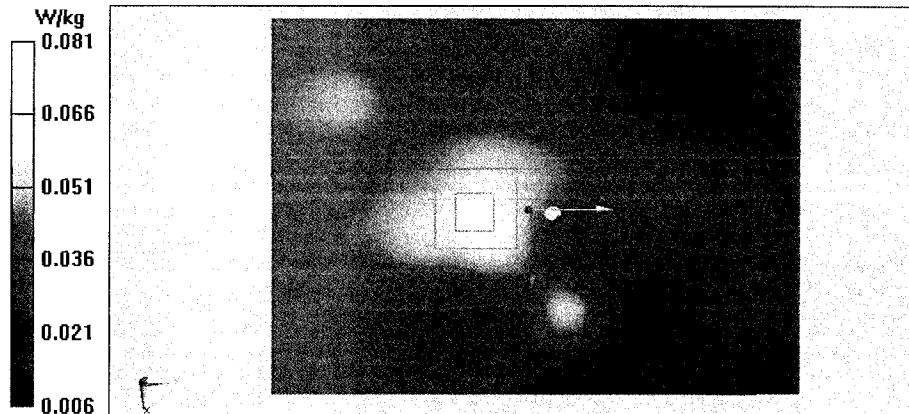
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.025 V/m ; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.161 W/kg

SAR(1 g) = 0.075 W/kg ; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.0809 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH112(5560MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5560 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5560 \text{ MHz}$; $\sigma = 5.68 \text{ S/m}$; $\epsilon_r = 49.10$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH112(5560MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.384 W/kg

Configuration/CH112(5560MHz Back)/Zoom Scan (5x5x7)/Cube 0:

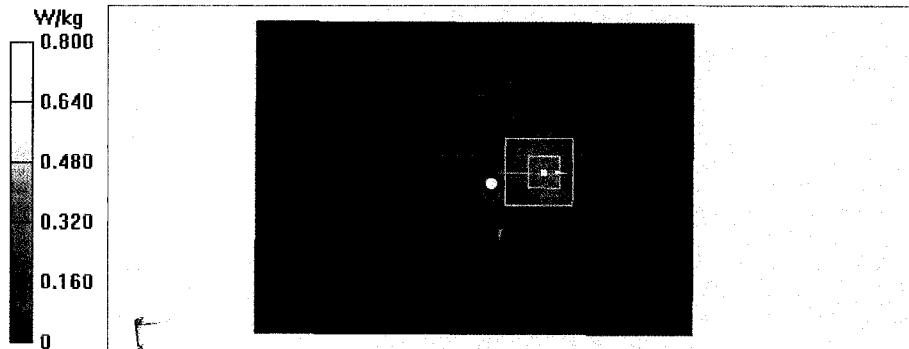
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.216 V/m ; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 0.579 W/kg ; SAR(10 g) = 0.182 W/kg

Maximum value of SAR (measured) = 0.800 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH112(5560MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5560 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5560 \text{ MHz}$; $\sigma = 5.68 \text{ S/m}$; $\epsilon_r = 49.10$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH112(5560MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.546 W/kg

Configuration/CH112(5560MHz Left)/Zoom Scan (5x5x7)/Cube 0:

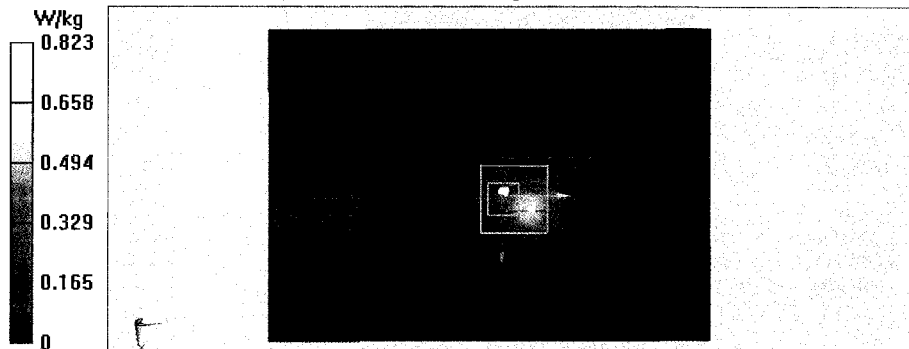
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.90 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 0.647 W/kg; SAR(10 g) = 0.183 W/kg

Maximum value of SAR (measured) = 0.823 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH112(5560MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5560 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5560 \text{ MHz}$; $\sigma = 5.68 \text{ S/m}$; $\epsilon_r = 49.10$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH112(5560MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0527 W/kg

Configuration/CH112(5560MHz Top)/Zoom Scan (5x5x7)/Cube 0:

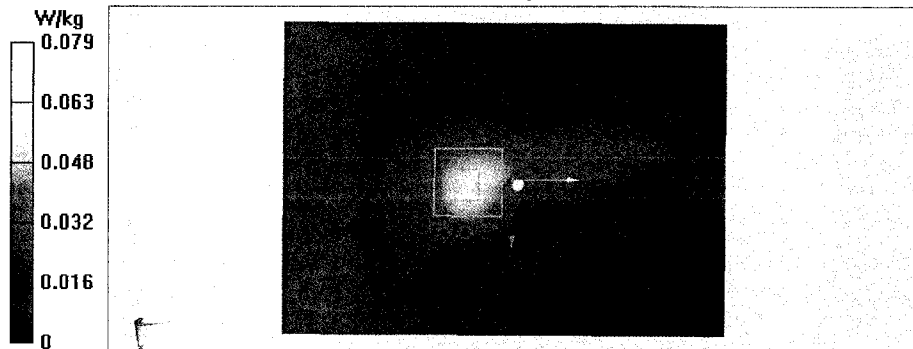
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.929 V/m ; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.069 W/kg ; SAR(10 g) = 0.025 W/kg

Maximum value of SAR (measured) = 0.0792 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH120(5600MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5600 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.79 \text{ S/m}$; $\epsilon_r = 48.98$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH120(5600MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

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

Configuration/CH120(5600MHz Back)/Zoom Scan (5x5x7)/Cube 0:

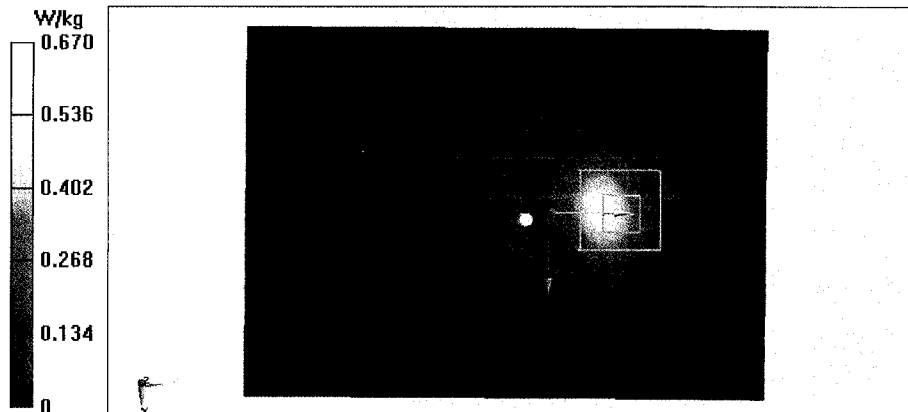
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.122 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.21 W/kg

SAR(1 g) = 0.599 W/kg; SAR(10 g) = 0.196 W/kg

Maximum value of SAR (measured) = 0.670 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH120(5600MHz Left)

DUT: 11.6"windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5600 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.79 \text{ S/m}$; $\epsilon_r = 48.98$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH120(5600MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.460 W/kg

Configuration/CH120(5600MHz Left)/Zoom Scan (5x5x7)/Cube 0:

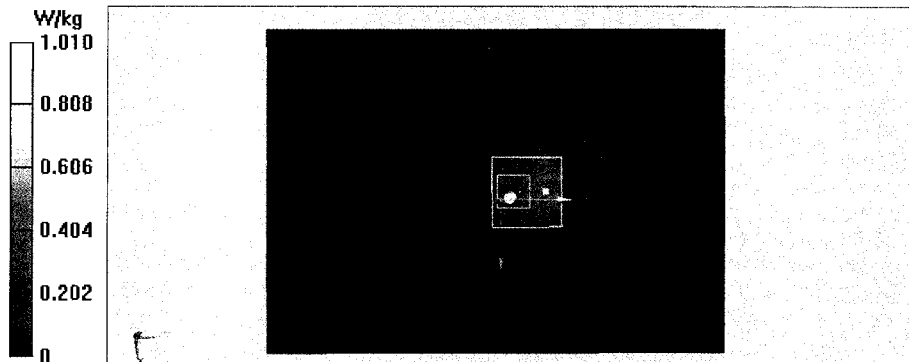
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.13 V/m ; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 0.698 W/kg ; SAR(10 g) = 0.193 W/kg

Maximum value of SAR (measured) = 1.01 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH120(5600MHz Top)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5600 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.79 \text{ S/m}$; $\epsilon_r = 48.98$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH120(5600MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0653 W/kg

Configuration/CH120(5600MHz Top)/Zoom Scan (5x5x7)/Cube 0:

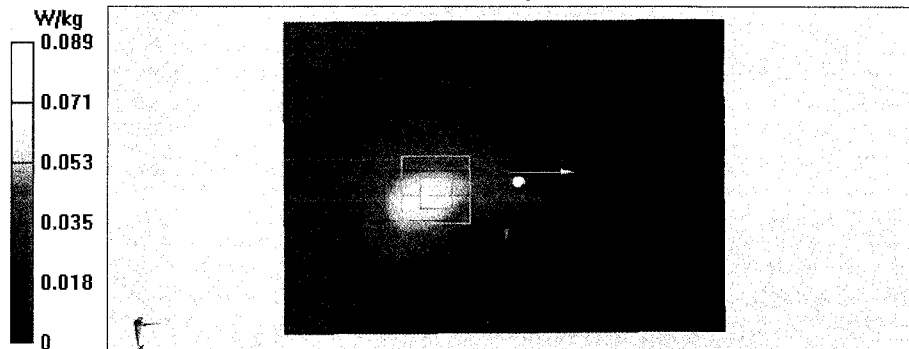
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.990 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.082 W/kg; SAR(10 g) = 0.029 W/kg

Maximum value of SAR (measured) = 0.0886 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH118(5590MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.5GHz; Frequency: 5590 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5590 \text{ MHz}$; $\sigma = 5.70 \text{ S/m}$; $\epsilon_r = 49.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH118(5590MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.570 W/kg

Configuration/CH118(5590MHz Back)/Zoom Scan (5x5x7)/Cube 0:

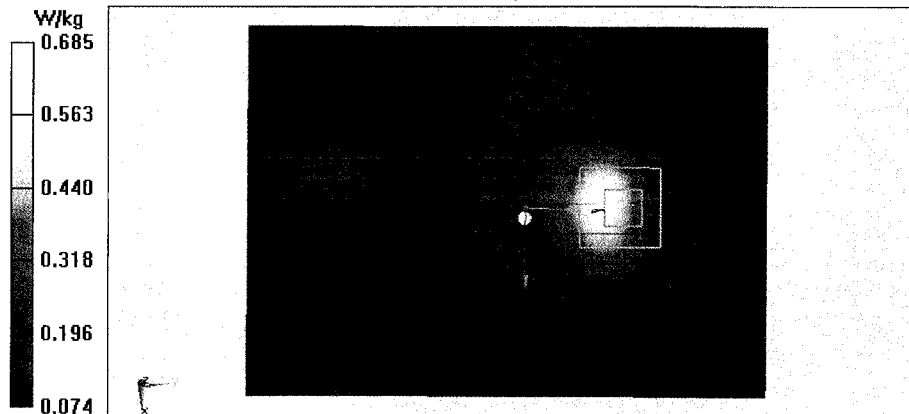
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.899 V/m ; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.564 W/kg ; SAR(10 g) = 0.249 W/kg

Maximum value of SAR (measured) = 0.685 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH118(5590MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.5GHz; Frequency: 5590 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5590 \text{ MHz}$; $\sigma = 5.70 \text{ S/m}$; $\epsilon_r = 49.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH118(5590MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.310 W/kg

Configuration/CH118(5590MHz Left)/Zoom Scan (5x5x7)/Cube 0:

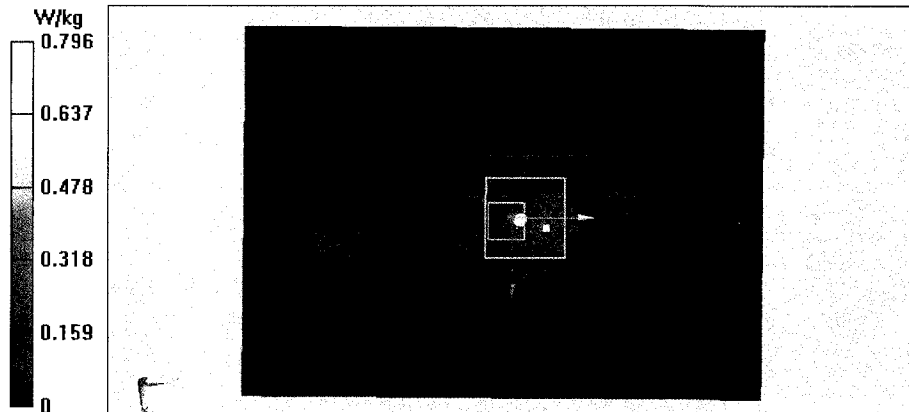
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.03 V/m ; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 0.630 W/kg ; SAR(10 g) = 0.176 W/kg

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



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH118(5590MHz Top)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.5GHz; Frequency: 5590 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5590 \text{ MHz}$; $\sigma = 5.70 \text{ S/m}$; $\epsilon_r = 49.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH118(5590MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0769 W/kg

Configuration/CH118(5590MHz Top)/Zoom Scan (5x5x7)/Cube 0:

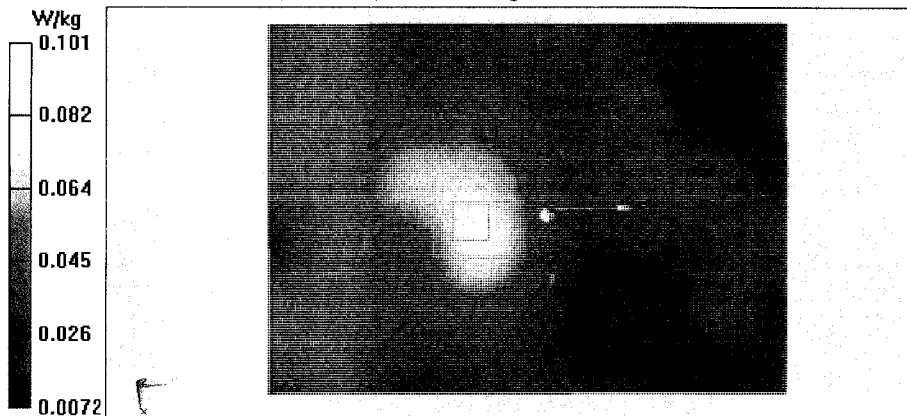
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.548 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.211 W/kg

SAR(1 g) = 0.092 W/kg; SAR(10 g) = 0.052 W/kg

Maximum value of SAR (measured) = 0.101 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11a CH165(5825MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5825 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.011 \text{ S/m}$; $\epsilon_r = 47.87$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH165(5825MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.718 W/kg

Configuration/CH165(5825MHz Back)/Zoom Scan (5x5x7)/Cube 0:

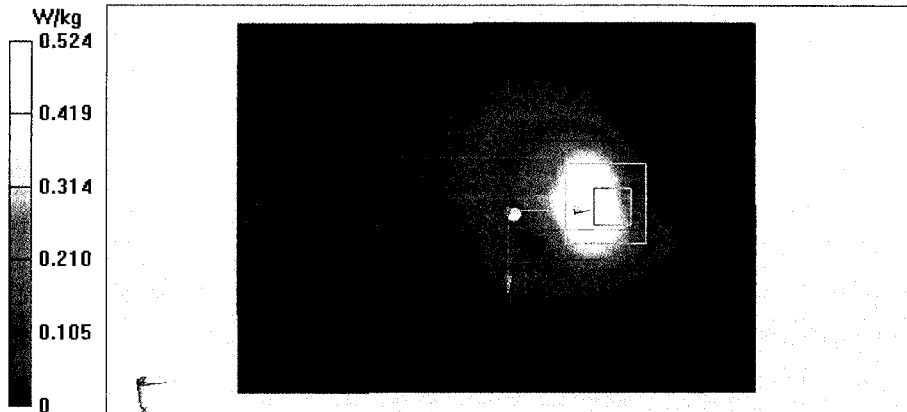
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.935 V/m ; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.459 W/kg ; SAR(10 g) = 0.160 W/kg

Maximum value of SAR (measured) = 0.524 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11a CH165(5825MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5825 MHz;Communication
System PAR: 0 dB.Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.011 \text{ S/m}$; $\epsilon_r = 47.87$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH165(5825MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.464 W/kg

Configuration/CH165(5825MHz Left)/Zoom Scan (5x5x7)/Cube 0:

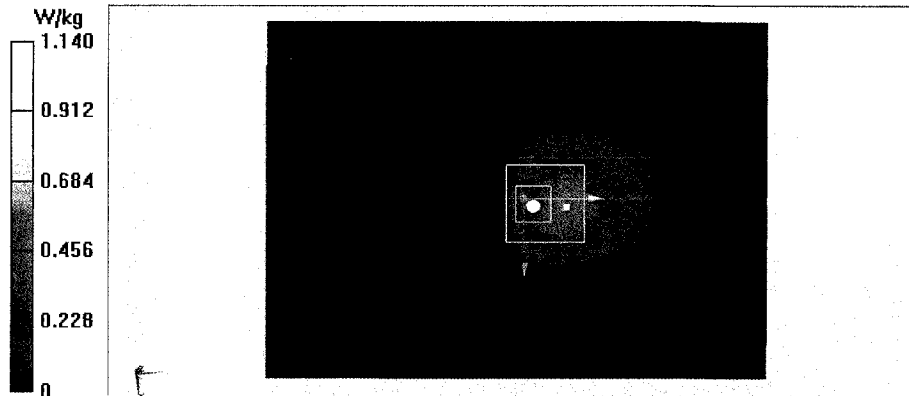
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.93 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 2.49 W/kg

SAR(1 g) = 0.669 W/kg; SAR(10 g) = 0.215 W/kg

Maximum value of SAR (measured) = 1.14 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11a CH165(5825MHz Top)

DUT: 11.6'' windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.8GHz; Frequency: 5825 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.011 \text{ S/m}$; $\epsilon_r = 47.87$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH165(5825MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0552 W/kg

Configuration/CH165(5825MHz Top)/Zoom Scan (5x5x7)/Cube 0:

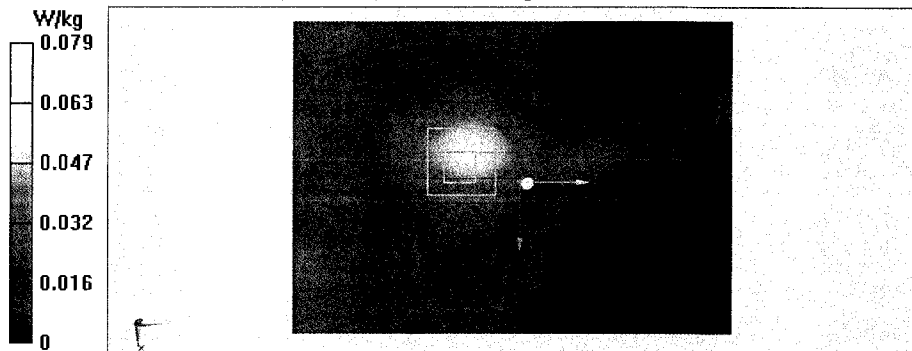
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.413 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.028 W/kg

Maximum value of SAR (measured) = 0.0789 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11n40 CH151(5755MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.8GHz ; Frequency: 5755 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5755 \text{ MHz}$; $\sigma = 5.918 \text{ S/m}$; $\epsilon_r = 48.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH151(5755MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.532 W/kg

Configuration/CH151(5755MHz Back)/Zoom Scan (5x5x7)/Cube 0:

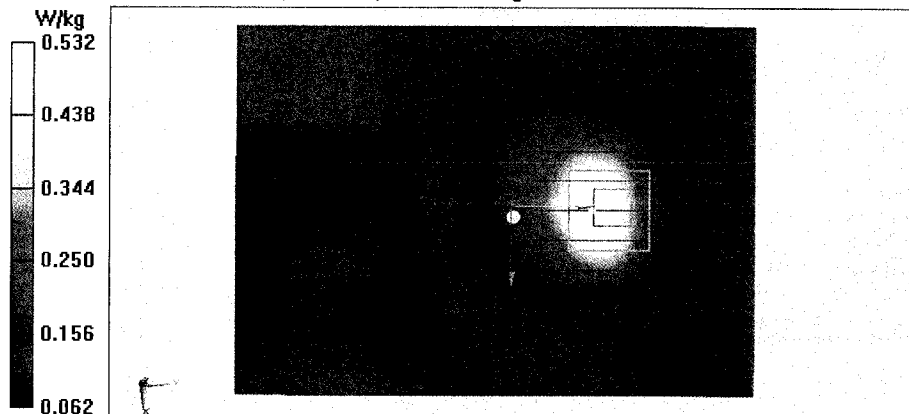
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.635 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.68 W/kg

SAR(1 g) = 0.605 W/kg; SAR(10 g) = 0.271 W/kg

Maximum value of SAR (measured) = 0.724 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11n40 CH151(5755MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5755 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5755 \text{ MHz}$; $\sigma = 5.918 \text{ S/m}$; $\epsilon_r = 48.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH151(5755MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.284 W/kg

Configuration/CH151(5755MHz Left)/Zoom Scan (5x5x7)/Cube 0:

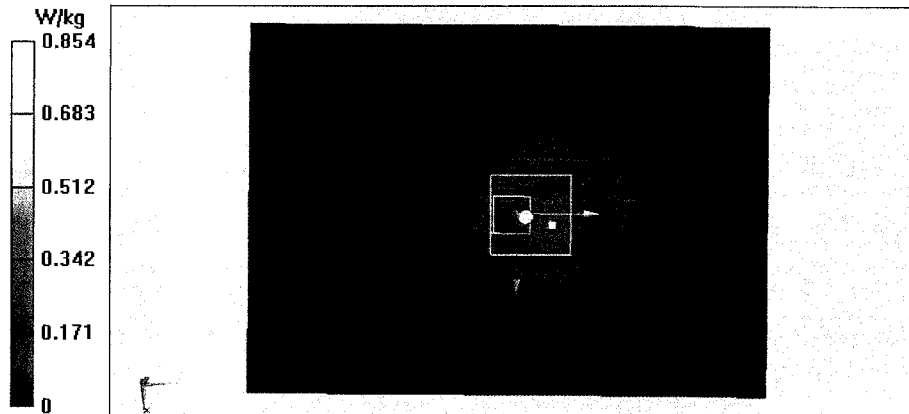
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.10 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 0.683 W/kg; SAR(10 g) = 0.190 W/kg

Maximum value of SAR (measured) = 0.854 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11n40 CH151(5755MHz Top)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5755 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5755 \text{ MHz}$; $\sigma = 5.918 \text{ S/m}$; $\epsilon_r = 48.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH151(5755MHz Top)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0771 W/kg

Configuration/CH151(5755MHz Top)/Zoom Scan (5x5x7)/Cube 0:

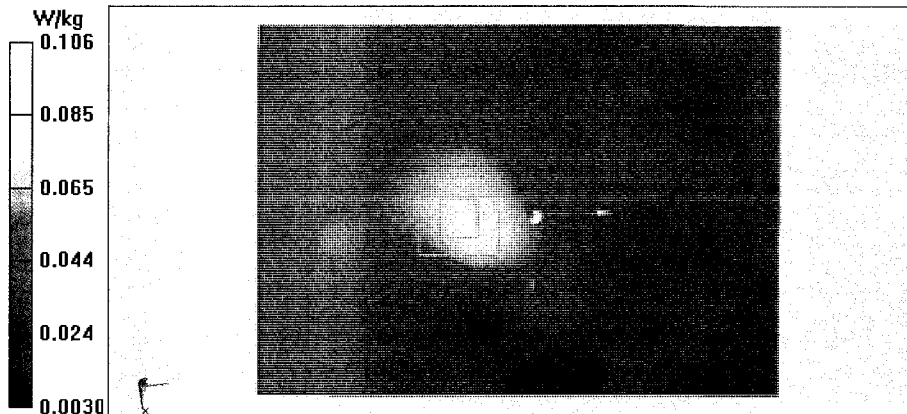
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.276 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.583 W/kg

SAR(1 g) = 0.122 W/kg; SAR(10 g) = 0.060 W/kg

Maximum value of SAR (measured) = 0.106 W/kg



Test result of 5GHz, ANT 2:

Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11a CH40(5200MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.2GHz (0); Communication System
Band: IEEE 802.11a WiFi 5.2GHz; Frequency: 5200 MHz; Communication System PAR: 0
dB. Medium parameters used: $f = 5200$ MHz; $\sigma = 5.3$ S/m; $\epsilon_r = 49.73$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40(5200MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.757 W/kg

Configuration/CH40(5200MHz Back)/Zoom Scan (5x5x7)/Cube 0:

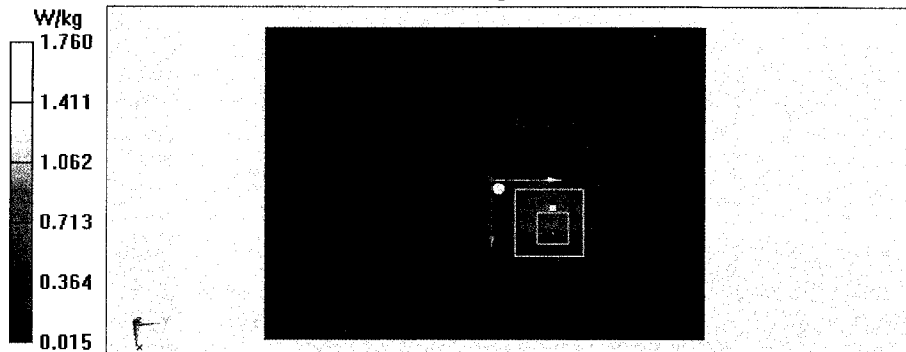
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 7.043 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 3.82 W/kg

SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.414 W/kg

Maximum value of SAR (measured) = 1.76 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11a CH40(5200MHz Left)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.2GHz (0); Communication System
Band: IEEE 802.11a WiFi 5.2GHz; Frequency: 5200 MHz; Communication System PAR: 0
dB. Medium parameters used: $f = 5200$ MHz; $\sigma = 5.3$ S/m; $\epsilon_r = 49.73$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH40(5200MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000$ mm, $dy=2.000$ mm

Maximum value of SAR (interpolated) = 0.400 W/kg

Configuration/CH40(5200MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

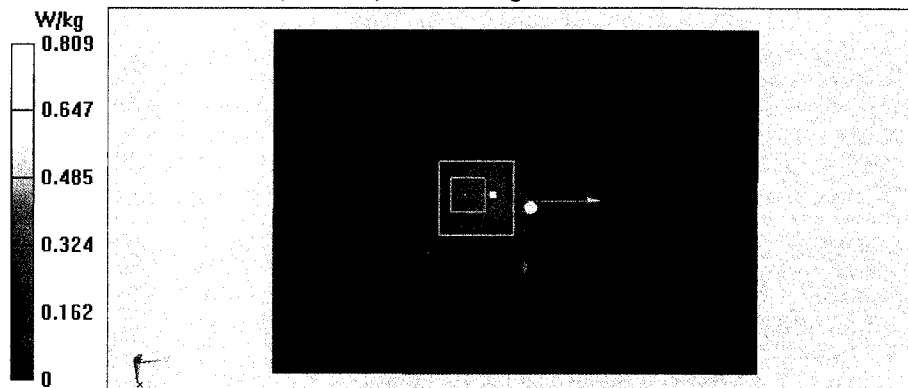
grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 6.555 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 0.555 W/kg; SAR(10 g) = 0.168 W/kg

Maximum value of SAR (measured) = 0.809 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH46(5230MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.2GHz (0); Communication System
Band: IEEE 802.11n WiFi 5.2GHz; Frequency: 5230 MHz; Communication System PAR: 0
dB. Medium parameters used: $f = 5230 \text{ MHz}$; $\sigma = 5.33 \text{ S/m}$; $\epsilon_r = 49.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH46(5230MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.579 W/kg

Configuration/CH46(5230MHz Back)/Zoom Scan (5x5x7)/Cube 0:

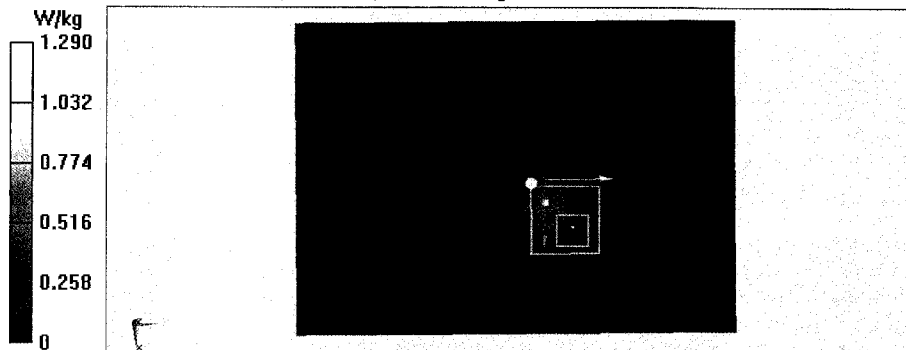
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.803 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.97 W/kg

SAR(1 g) = 0.592 W/kg; SAR(10 g) = 0.257 W/kg

Maximum value of SAR (measured) = 1.29 W/kg



Test Laboratory: Audix SAR Lab

Date: 30/6/2016

11n40 CH46(5230MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.2GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.2GHz; Frequency: 5230 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5230 \text{ MHz}$; $\sigma = 5.33 \text{ S/m}$; $\epsilon_r = 49.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.98, 4.98, 4.98); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH46(5230MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.402 W/kg

Configuration/CH46(5230MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

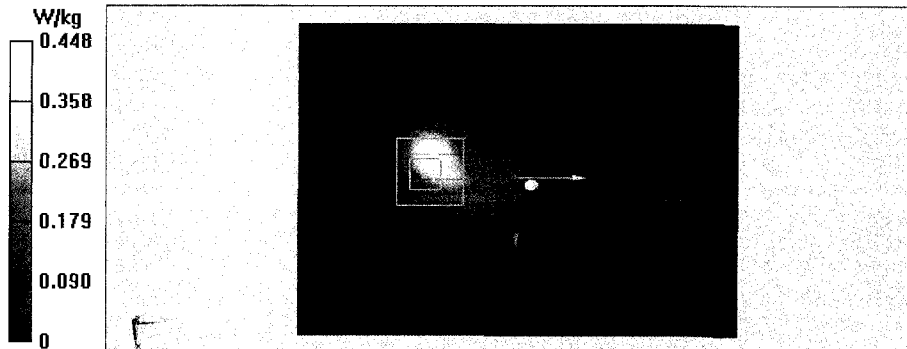
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.273 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.448 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH60(5300MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.3GHz ; Frequency: 5300 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.41 \text{ S/m}$; $\epsilon_r = 49.31$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH60(5300MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 1.19 W/kg

Configuration/CH60(5300MHz Back)/Zoom Scan (5x5x7)/Cube 0:

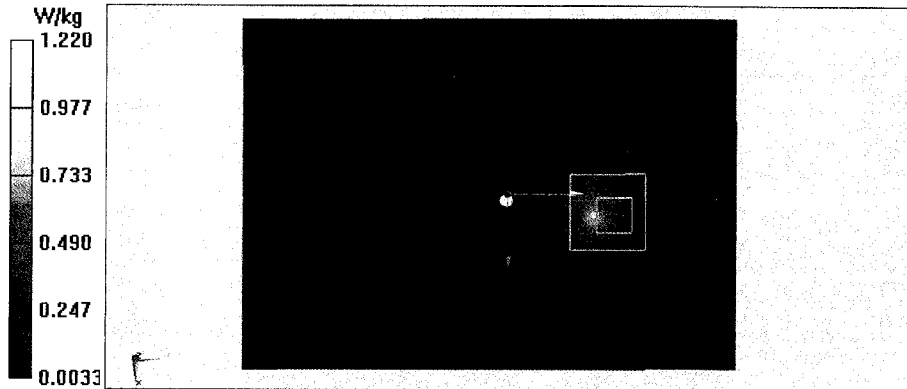
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.063 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 4.50 W/kg

SAR(1 g) = 0.645 W/kg; SAR(10 g) = 0.478 W/kg

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



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH60(5300MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.3GHz ; Frequency: 5300 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5300 \text{ MHz}$; $\sigma = 5.41 \text{ S/m}$; $\epsilon_r = 49.31$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH60(5300MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.618 W/kg

Configuration/CH60(5300MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

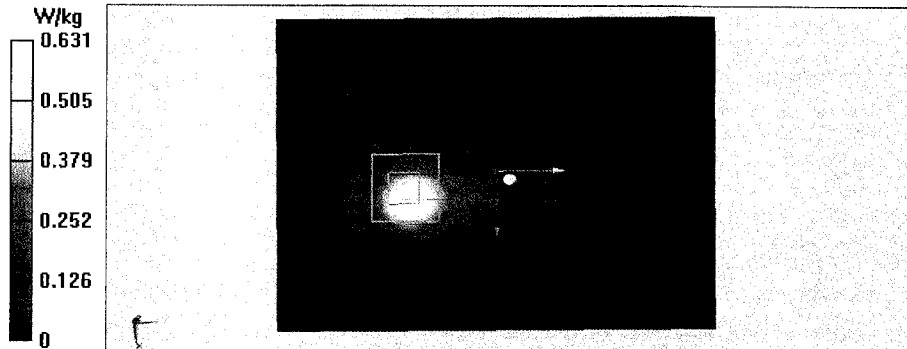
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.713 V/m ; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.79 W/kg

SAR(1 g) = 0.570 W/kg ; SAR(10 g) = 0.181 W/kg

Maximum value of SAR (measured) = 0.631 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH54(5270MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.3GHz ; Frequency: 5270 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5270 \text{ MHz}$; $\sigma = 5.38 \text{ S/m}$; $\epsilon_r = 49.36$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH54(5270MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.594 W/kg

Configuration/CH54(5270MHz Back)/Zoom Scan (5x5x7)/Cube 0:

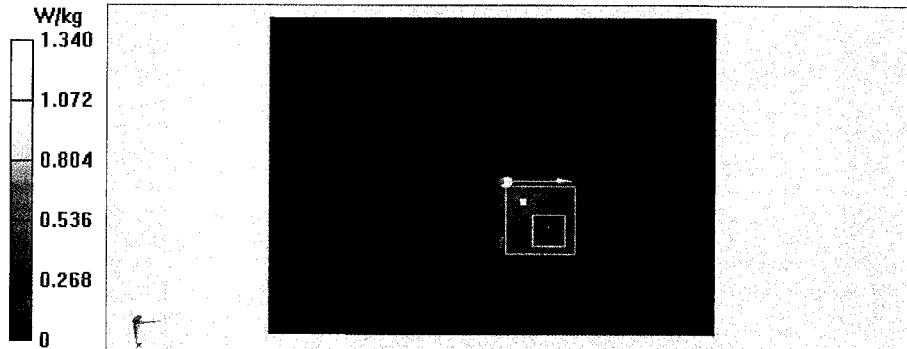
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.984 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.20 W/kg

SAR(1 g) = 0.546 W/kg; SAR(10 g) = 0.277 W/kg

Maximum value of SAR (measured) = 1.34 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH54(5270MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.3GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.3GHz ; Frequency: 5270 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5270 \text{ MHz}$; $\sigma = 5.38 \text{ S/m}$; $\epsilon_r = 49.36$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.73, 4.73, 4.73); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH54(5270MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.410 W/kg

Configuration/CH54(5270MHz Left)/Zoom Scan (5x5x7)/Cube 0: Measurement

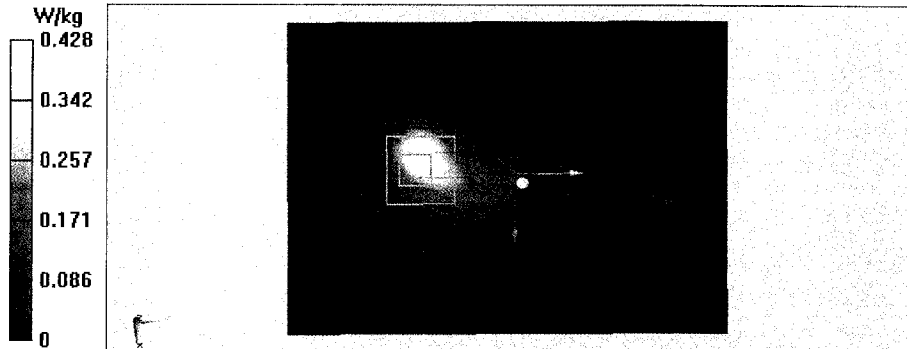
grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.000 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.373 W/kg ; SAR(10 g) = 0.119 W/kg

Maximum value of SAR (measured) = 0.428 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH112(5560MHz Back)

DUT: 11.6''windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication

System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5560 MHz; Communication

System PAR: 0 dB. Medium parameters used: $f = 5560 \text{ MHz}$; $\sigma = 5.68 \text{ S/m}$; $\epsilon_r = 49.10$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH112(5560MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 1.56 W/kg

Configuration/CH112(5560MHz Back)/Zoom Scan (5x5x7)/Cube 0:

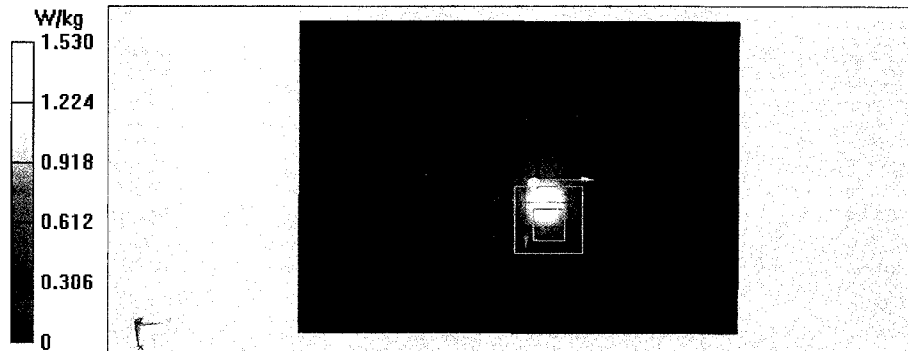
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.28 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 3.81 W/kg

SAR(1 g) = 0.518 W/kg; SAR(10 g) = 0.354 W/kg

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



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH112(5560MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5560 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5560 \text{ MHz}$; $\sigma = 5.68 \text{ S/m}$; $\epsilon_r = 49.10$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH112(5560MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.405 W/kg

Configuration/CH112(5560MHz Left)/Zoom Scan (5x5x7)/Cube 0:

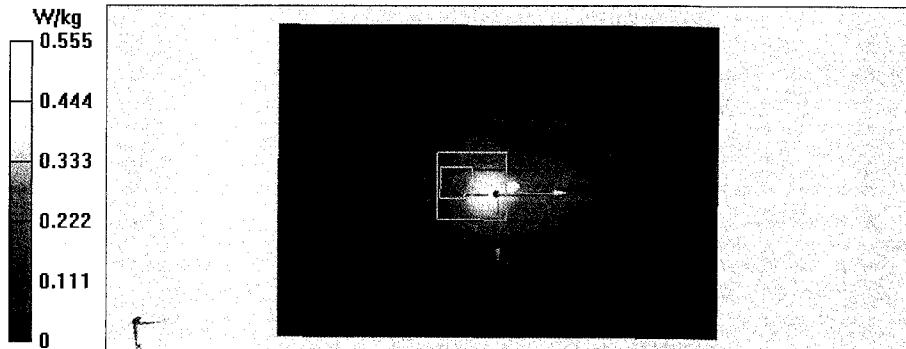
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.782 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.480 W/kg; SAR(10 g) = 0.153 W/kg

Maximum value of SAR (measured) = 0.555 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH120(5600MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5600 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.79 \text{ S/m}$; $\epsilon_r = 48.98$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH120(5600MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.675 W/kg

Configuration/CH120(5600MHz Back)/Zoom Scan (5x5x7)/Cube 0:

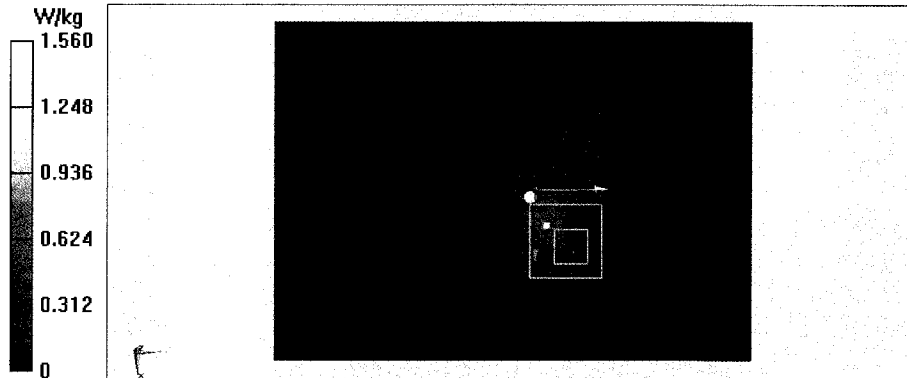
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.272 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.65 W/kg

SAR(1 g) = 0.609 W/kg; SAR(10 g) = 0.324 W/kg

Maximum value of SAR (measured) = 1.56 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11a CH120(5600MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11a WiFi 5.5GHz; Frequency: 5600 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5600 \text{ MHz}$; $\sigma = 5.79 \text{ S/m}$; $\epsilon_r = 48.98$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH120(5600MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.245 W/kg

Configuration/CH120(5600MHz Left)/Zoom Scan (5x5x7)/Cube 0:

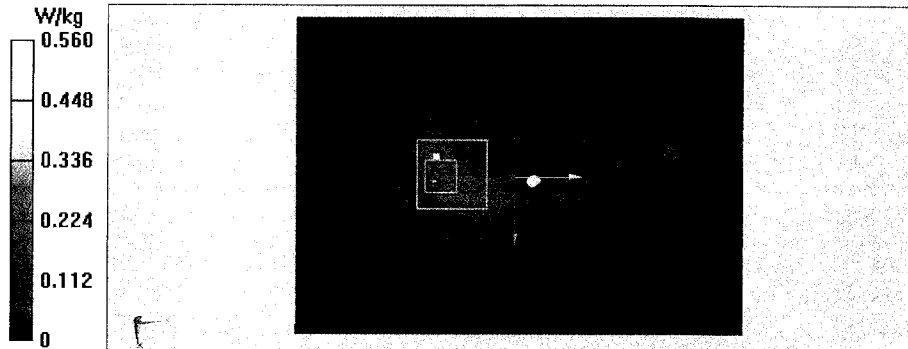
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.266 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.449 W/kg; SAR(10 g) = 0.144 W/kg

Maximum value of SAR (measured) = 0.560 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH118(5590MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.5GHz; Frequency: 5590 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5590 \text{ MHz}$; $\sigma = 5.70 \text{ S/m}$; $\epsilon_r = 49.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH118(5590MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.712 W/kg

Configuration/CH118(5590MHz Back)/Zoom Scan (5x5x7)/Cube 0:

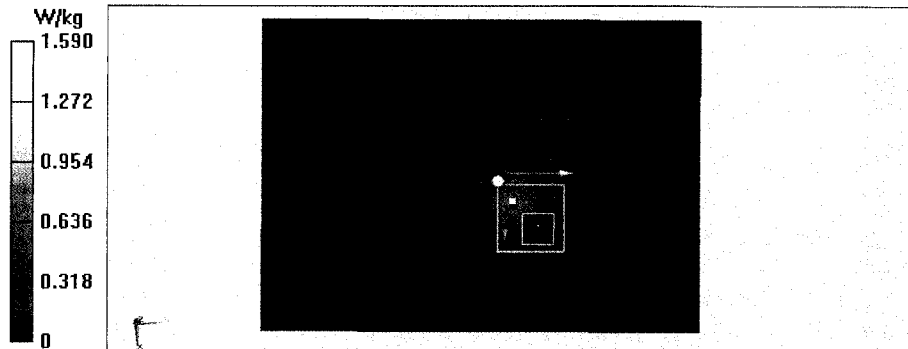
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.427 V/m ; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.73 W/kg

SAR(1 g) = 0.612 W/kg ; SAR(10 g) = 0.328 W/kg

Maximum value of SAR (measured) = 1.59 W/kg



Test Laboratory: Audix SAR Lab

Date: 1/7/2016

11n40 CH118(5590MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11n WiFi 5.5GHz (0); Communication
System Band: IEEE 802.11n WiFi 5.5GHz; Frequency: 5590 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5590 \text{ MHz}$; $\sigma = 5.70 \text{ S/m}$; $\epsilon_r = 49.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.25, 4.25, 4.25); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH118(5590MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.408 W/kg

Configuration/CH118(5590MHz Left)/Zoom Scan (5x5x7)/Cube 0:

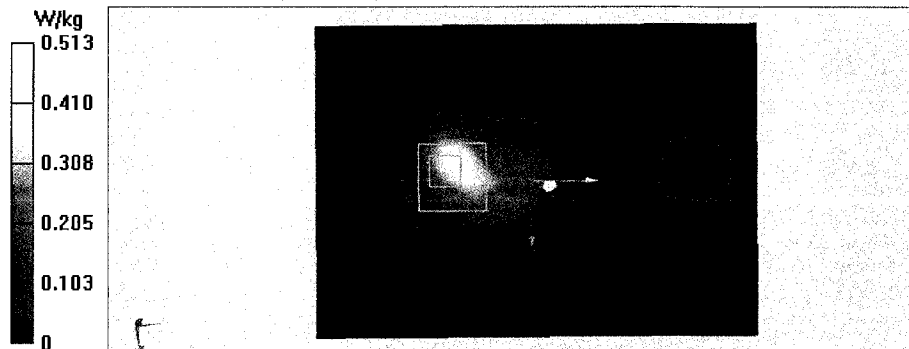
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.851 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.461 W/kg; SAR(10 g) = 0.148 W/kg

Maximum value of SAR (measured) = 0.513 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11a CH165(5825MHz Back)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication

System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5825 MHz; Communication

System PAR: 0 dB. Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.011 \text{ S/m}$; $\epsilon_r = 47.87$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH165(5825MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

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

Configuration/CH165(5825MHz Back)/Zoom Scan (5x5x7)/Cube 0:

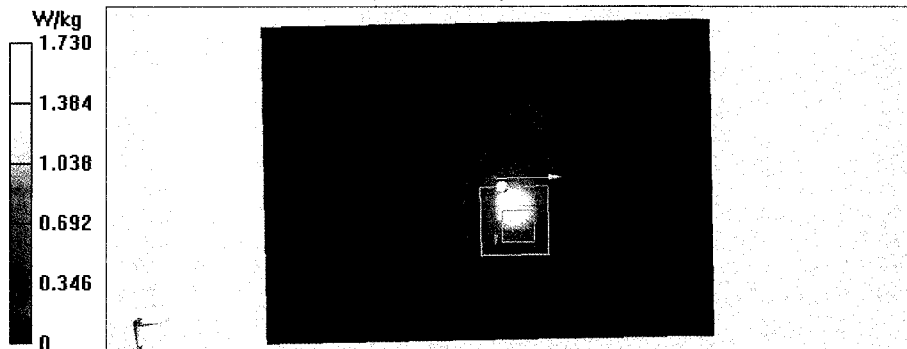
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.28 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 4.21 W/kg

SAR(1 g) = 0.629 W/kg; SAR(10 g) = 0.383 W/kg

Maximum value of SAR (measured) = 1.73 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11a CH165(5825MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11a WiFi 5.8GHz (0); Communication

System Band: IEEE 802.11a WiFi 5.8GHz ; Frequency: 5825 MHz; Communication

System PAR: 0 dB. Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.011 \text{ S/m}$; $\epsilon_r = 47.87$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH165(5825MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.288 W/kg

Configuration/CH165(5825MHz Left)/Zoom Scan (5x5x7)/Cube 0:

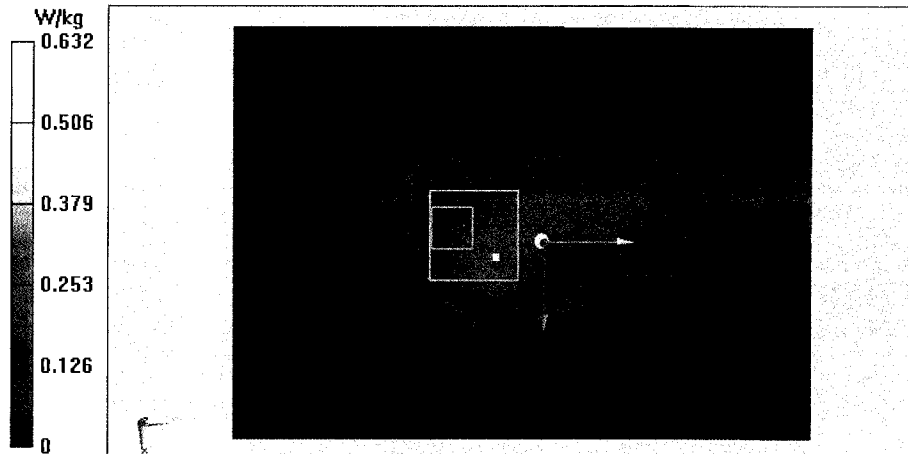
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.348 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 0.533 W/kg; SAR(10 g) = 0.164 W/kg

Maximum value of SAR (measured) = 0.632 W/kg



Test Laboratory: Audix SAR Lab
11ac40 CH151(5755MHz Back)

Date: 4/7/2016

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11ac WiFi 5.8GHz (0); Communication
System Band: IEEE 802.11ac WiFi 5.8GHz ; Frequency: 5755 MHz; Communication
System PAR: 0 dB. Medium parameters used: $f = 5755 \text{ MHz}$; $\sigma = 5.918 \text{ S/m}$; $\epsilon_r = 48.05$; ρ
 $= 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH151(5755MHz Back)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.749 W/kg

Configuration/CH151(5755MHz Back)/Zoom Scan (5x5x7)/Cube 0:

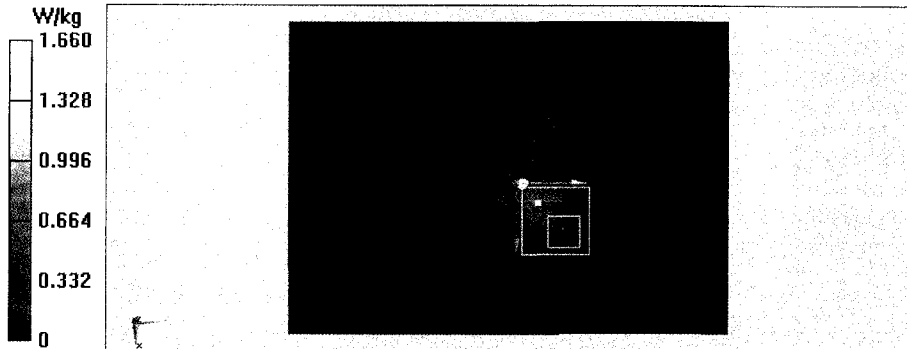
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.372 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 3.90 W/kg

SAR(1 g) = 0.617 W/kg; SAR(10 g) = 0.338 W/kg

Maximum value of SAR (measured) = 1.66 W/kg



Test Laboratory: Audix SAR Lab

Date: 4/7/2016

11ac40 CH151(5755MHz Left)

DUT: 11.6" windows tablet; M/N: NS-P11W7100

Communication System: UID 0, IEEE 802.11ac WiFi 5.8GHz (0); Communication System Band: IEEE 802.11ac WiFi 5.8GHz ; Frequency: 5755 MHz; Communication System PAR: 0 dB. Medium parameters used: $f = 5755 \text{ MHz}$; $\sigma = 5.918 \text{ S/m}$; $\epsilon_r = 48.05$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.33, 4.33, 4.33); Calibrated: 30/01/2015;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn889; Calibrated: 02/02/2016
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH151(5755MHz Left)/Area Scan (51x71x1): Interpolated grid:

$dx=2.000 \text{ mm}$, $dy=2.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.510 W/kg

Configuration/CH151(5755MHz Left)/Zoom Scan (5x5x7)/Cube 0:

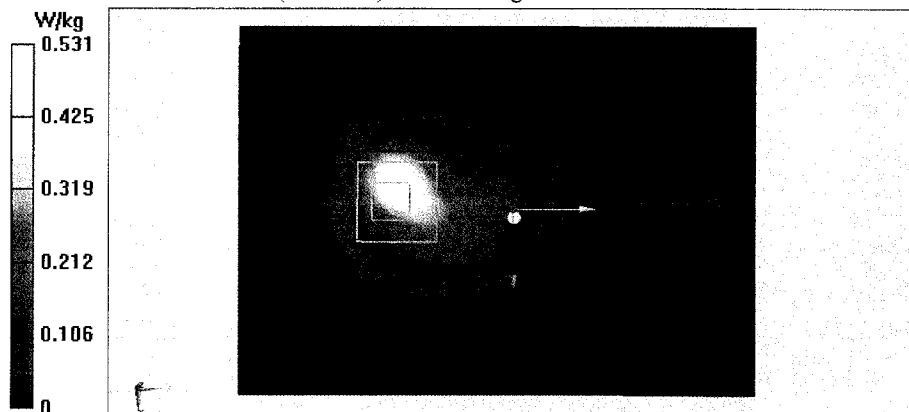
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.431 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.462 W/kg; SAR(10 g) = 0.147 W/kg

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



Schmid & Partner Engineering AG

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s p e a g

IMPORTANT NOTICE

USAGE OF THE DAE 4

The DAE unit is a delicate, high precision instrument and requires careful treatment by the user. There are no serviceable parts inside the DAE. Special attention shall be given to the following points:

Battery Exchange: The battery cover of the DAE4 unit is closed using a screw, over tightening the screw may cause the threads inside the DAE to wear out.

Shipping of the DAE: Before shipping the DAE to SPEAG for calibration, remove the batteries and pack the DAE in an antistatic bag. This antistatic bag shall then be packed into a larger box or container which protects the DAE from impacts during transportation. The package shall be marked to indicate that a fragile instrument is inside.

E-Stop Failures: Touch detection may be malfunctioning due to broken magnets in the E-stop. Rough handling of the E-stop may lead to damage of these magnets. Touch and collision errors are often caused by dust and dirt accumulated in the E-stop. To prevent E-stop failure, the customer shall always mount the probe to the DAE carefully and keep the DAE unit in a non-dusty environment if not used for measurements.

Repair: Minor repairs are performed at no extra cost during the annual calibration. However, SPEAG reserves the right to charge for any repair especially if rough unprofessional handling caused the defect.

DASY Configuration Files: Since the exact values of the DAE input resistances, as measured during the calibration procedure of a DAE unit, are not used by the DASY software, a nominal value of 200 MOhm is given in the corresponding configuration file.

Important Note:

Warranty and calibration is void if the DAE unit is disassembled partly or fully by the Customer.

Important Note:

Never attempt to grease or oil the E-stop assembly. Cleaning and readjusting of the E-stop assembly is allowed by certified SPEAG personnel only and is part of the annual calibration procedure.

Important Note:

To prevent damage of the DAE probe connector pins, use great care when installing the probe to the DAE. Carefully connect the probe with the connector notch oriented in the mating position. Avoid any rotational movement of the probe body versus the DAE while turning the locking nut of the connector. The same care shall be used when disconnecting the probe from the DAE.

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TN_BR040315AD DAE4.doc

11.12.2009

	In Collaboration with s p e a g CALIBRATION LABORATORY			中国认可 国际互认 校准 CALIBRATION CNAS L0570
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209 E-mail: cttl@chinattl.com Http://www.chinattl.cn				
Client : Audix		Certificate No: Z16-97013		

CALIBRATION CERTIFICATE

Object: DAE4 - SN: 899

Calibration Procedure(s): FD-Z11-2-002-01
Calibration Procedure for the Data Acquisition Electronics (DAEx)

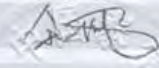
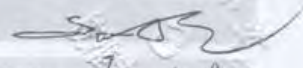
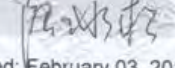
Calibration date: February 02, 2016

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Process Calibrator 753	1971018	06-July-15 (CTTL, No:J15X04257)	July-16

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: February 03, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z16-97013

Page 1 of 3



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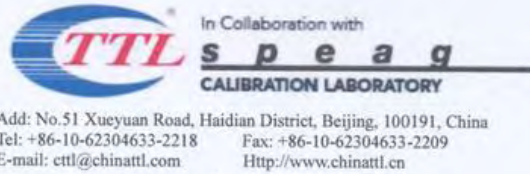
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

Glossary:

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.



DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1μV, full range = -100...+300 mV

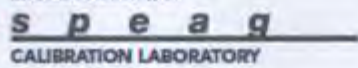
Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	402.452 ± 0.15% (k=2)	403.036 ± 0.15% (k=2)	403.026 ± 0.15% (k=2)
Low Range	3.98069 ± 0.7% (k=2)	3.97751 ± 0.7% (k=2)	3.98419 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	352.5° ± 1 °
---	--------------

 In Collaboration with
 **CALIBRATION LABORATORY**

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
 Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
 E-mail: cttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

 
 CALIBRATION
No. L0570

Client **Audix**
Certificate No: **Z15-97001**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3767**

Calibration Procedure(s) **FD-Z11-2-004-01
Calibration Procedures for Dosimetric E-field Probes**

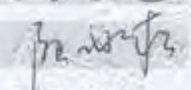
Calibration date: **January 30, 2015**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

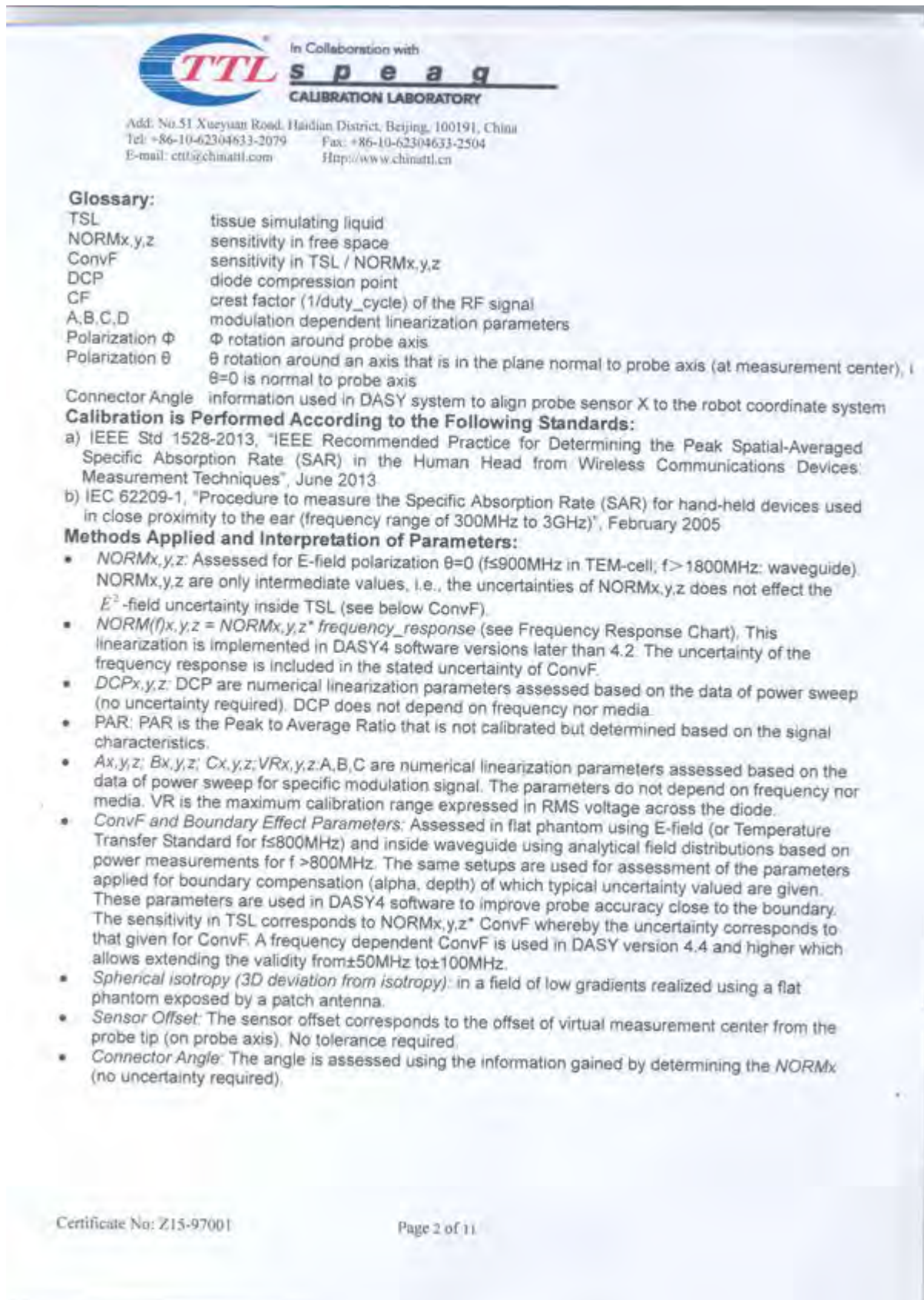
Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Power sensor NRP-Z91	101547	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Power sensor NRP-Z91	101548	01-Jul-14 (CTTL, No.J14X02146)	Jun-15
Reference10dBAttenuator	18N50W-10dB	13-Mar-14(TMC,No.JZ14-1103)	Mar-16
Reference20dBAttenuator	18N50W-20dB	13-Mar-14(TMC,No.JZ14-1104)	Mar-16
Reference Probe EX3DV4	SN 3617	28-Aug-14(SPEAG,No.EX3-3617_Aug14)	Aug-15
DAE4	SN 777	17-Sep-14 (SPEAG, DAE4-777_Sep14)	Sep -15
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	01-Jul-14 (CTTL, No.J14X02145)	Jun-15
Network Analyzer E5071C	MY46110673	15-Feb-14 (TMC, No.JZ14-781)	Feb-15

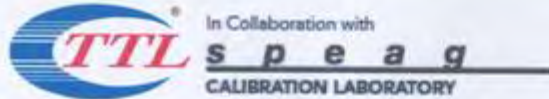
	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: January 31, 2015

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Certificate No: Z15-97001
Page 1 of 11





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Probe EX3DV4

SN: 3767

Calibrated: January 30, 2015

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)



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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3767

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm($\mu V/(V/m)^2$) ^A	0.56	0.57	0.47	±10.8%
DCP(mV) ^B	102.2	97.8	103.3	

Modulation Calibration Parameters

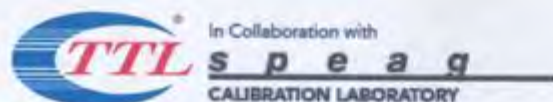
UID	Communication System Name		A dB	B dB/μV	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	202.6	±3.3%
		Y	0.0	0.0	1.0		204.8	
		Z	0.0	0.0	1.0		187.8	

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 5 and Page 6).

^B Numerical linearization parameter; uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.



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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3767

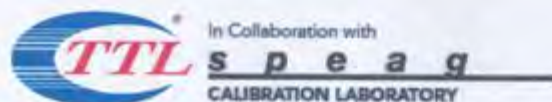
Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz] ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unct. (k=2)
750	41.9	0.89	9.79	9.79	9.79	0.22	0.99	±12%
835	41.5	0.90	9.27	9.27	9.27	0.14	1.33	±12%
900	41.5	0.97	9.13	9.13	9.13	0.16	1.22	±12%
1450	40.5	1.20	8.77	8.77	8.77	0.58	0.70	±12%
1750	40.1	1.37	8.20	8.20	8.20	0.25	0.98	±12%
1900	40.0	1.40	7.91	7.91	7.91	0.17	1.30	±12%
2000	40.0	1.40	7.65	7.65	7.65	0.15	1.80	±12%
2450	39.2	1.80	7.18	7.18	7.18	0.53	0.71	±12%
2600	39.0	1.96	7.02	7.02	7.02	0.69	0.63	±12%
5200	36.0	4.66	5.44	5.44	5.44	0.50	1.00	±13%
5300	35.9	4.76	5.09	5.09	5.09	0.43	1.08	±13%
5500	35.6	4.96	4.83	4.83	4.83	0.55	1.03	±13%
5600	35.5	5.07	4.73	4.73	4.73	0.52	1.09	±13%
5800	35.3	5.27	4.65	4.65	4.65	0.50	1.15	±13%

^C Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequency below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.



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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3767

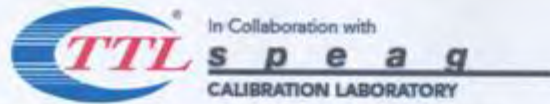
Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz] ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unct. (k=2)
750	55.5	0.96	9.67	9.67	9.67	0.15	1.46	±12%
835	55.2	0.97	9.66	9.66	9.66	0.18	1.35	±12%
900	55.0	1.05	9.32	9.32	9.32	0.22	1.15	±12%
1450	54.0	1.30	8.22	8.22	8.22	0.11	1.61	±12%
1750	53.4	1.49	7.77	7.77	7.77	0.12	1.87	±12%
1900	53.3	1.52	7.58	7.58	7.58	0.17	1.39	±12%
2000	53.3	1.52	7.80	7.80	7.80	0.14	1.99	±12%
2450	52.7	1.95	7.35	7.35	7.35	0.31	1.19	±12%
2800	52.5	2.16	7.26	7.26	7.26	0.36	1.00	±12%
5200	49.0	5.30	4.98	4.98	4.98	0.52	1.08	±13%
5300	48.9	5.42	4.73	4.73	4.73	0.56	1.00	±13%
5500	48.6	5.65	4.35	4.35	4.35	0.52	1.26	±13%
5600	48.5	5.77	4.25	4.25	4.25	0.56	1.27	±13%
5800	48.2	6.00	4.33	4.33	4.33	0.44	1.28	±13%

^C Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

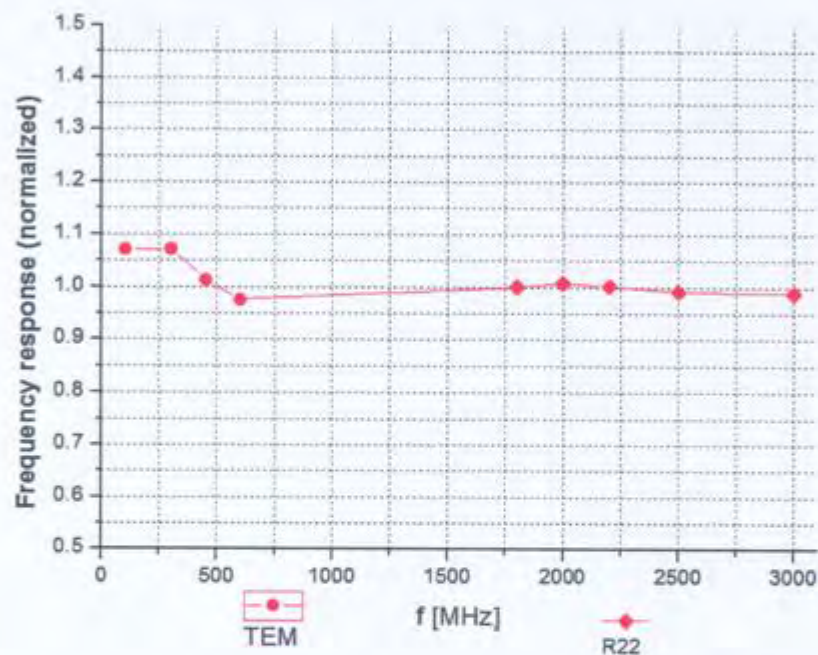
^F At frequency below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

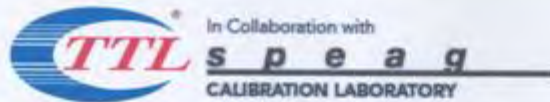


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Frequency Response of E-Field (TEM-Cell: ifi110 EXX, Waveguide: R22)



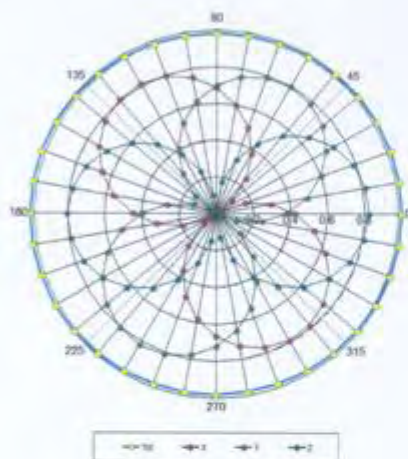
Uncertainty of Frequency Response of E-field: $\pm 7.5\%$ ($k=2$)



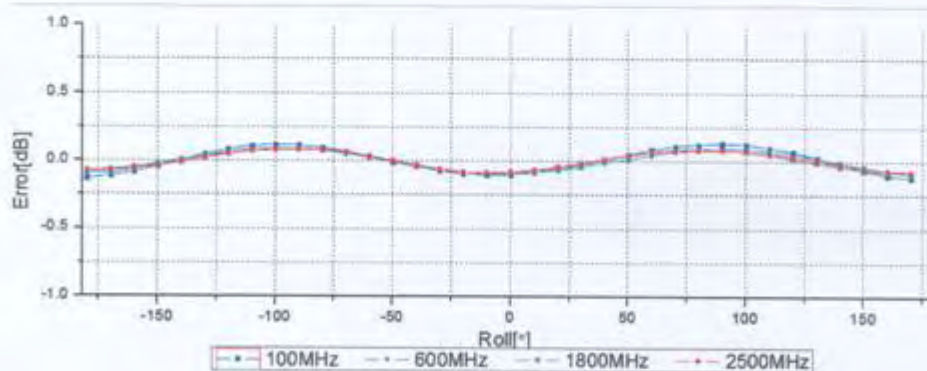
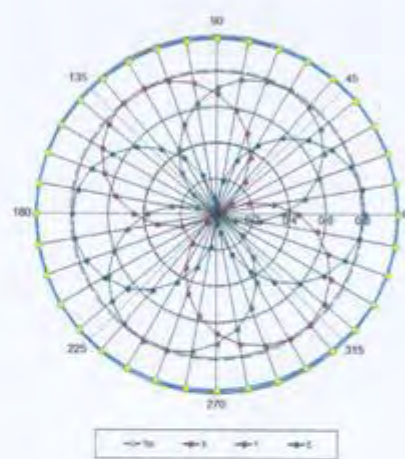
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Receiving Pattern (Φ), $\theta=0^\circ$

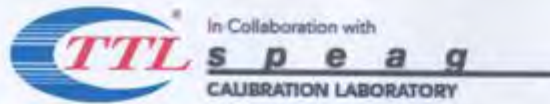
f=600 MHz, TEM



f=1800 MHz, R22

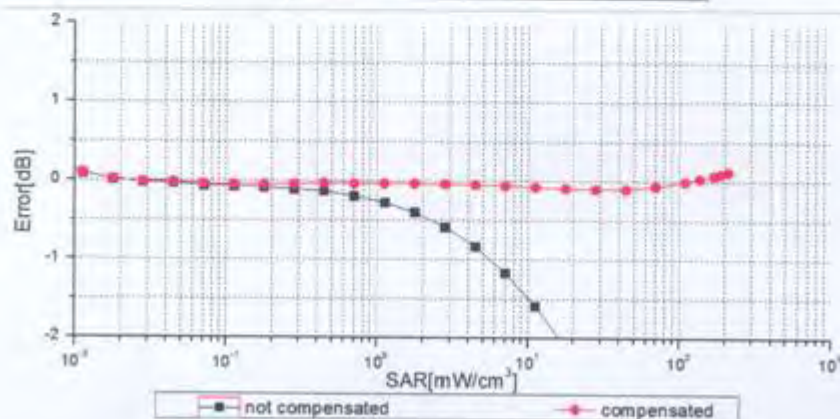
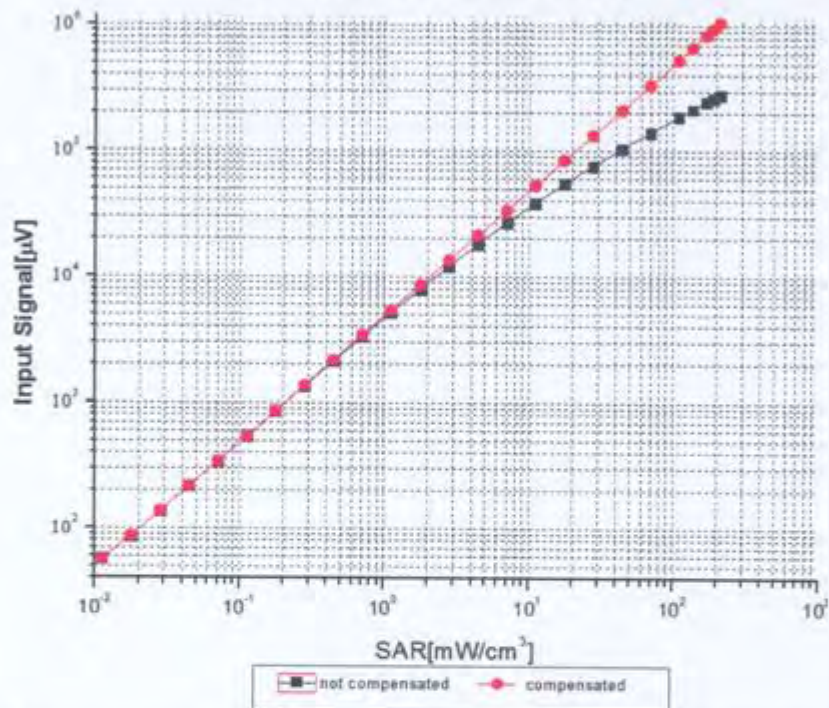


Uncertainty of Axial Isotropy Assessment: $\pm 0.9\%$ ($k=2$)

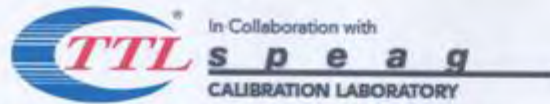


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Dynamic Range f(SAR_{head}) (TEM cell, f = 900 MHz)



Uncertainty of Linearity Assessment: $\pm 0.9\%$ (k=2)

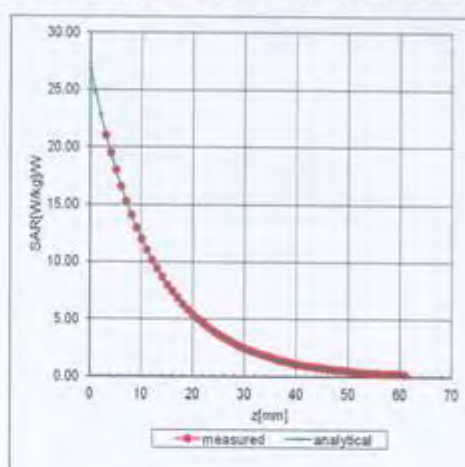
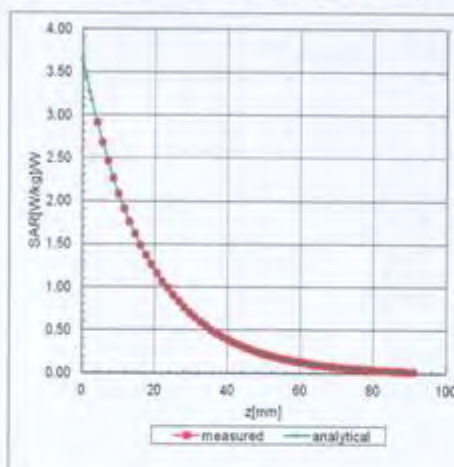


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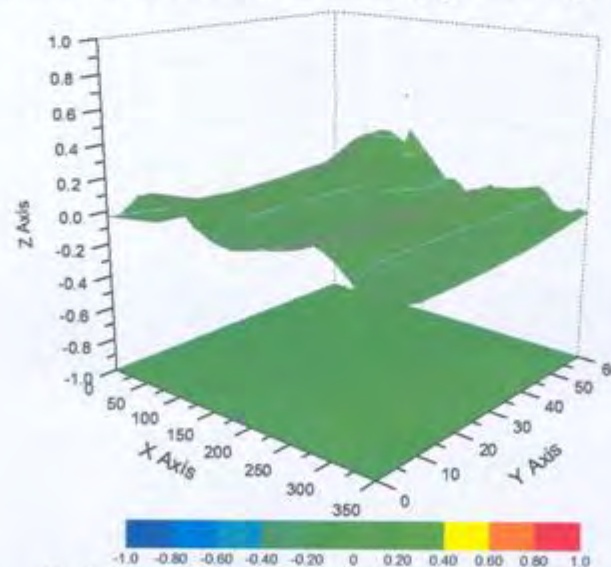
Conversion Factor Assessment

f=900 MHz, WGLS R9(H_convF)

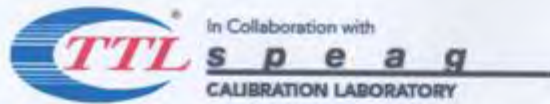
f=1750 MHz, WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: $\pm 2.8\%$ (K=2)



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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 3767

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	145.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm



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Client **Auden**

Certificate No: Z14-97048

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 862**

Calibration Procedure(s) **TMC-OS-E-02-194**
Calibration procedure for dipole validation kits

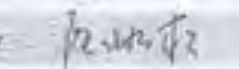
Calibration date **May 29, 2014**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRVD	102083	11-Sep-13 (TMC, No.JZ13-443)	Sep-14
Power sensor NRV-Z5	100595	11-Sep-13 (TMC, No. JZ13-443)	Sep -14
Reference Probe EX3DV4	SN 3846	3- Sep-13 (SPEAG, No.EX3-3846_Sep13)	Sep-14
DAE4	SN 1331	23-Jan-14 (SPEAG, DAE4-1331_Jan14)	Jan -15
Signal Generator E4438C	MY49070393	13-Nov-13 (TMC, No.JZ13-394)	Nov-14
Network Analyzer E8362B	MY43021135	19-Oct-13 (TMC, No.JZ13-278)	Oct-14

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: May 30, 2014

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM _{x,y,z}
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) For hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.



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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.8.8.1222
Extrapolation	Advanced Extrapolation	
Phantom	Twin Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.6 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.5 $\pm$ 6 %	1.82 mho/m $\pm$ 8 %
Head TSL temperature change during test	<1.0 °C	—	—

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	53.1 mW / g $\pm$ 20.8 % (k=2)
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.35 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	25.3 mW / g $\pm$ 20.4 % (k=2)

Body TSL parameters

The following parameters and calculations were applied

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	52.2 $\pm$ 6 %	1.94 mho/m $\pm$ 6 %
Body TSL temperature change during test	<1.0 °C	—	—

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.6 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	50.4 mW / g $\pm$ 20.8 % (k=2)
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	5.99 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	24.0 mW / g $\pm$ 20.4 % (k=2)



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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.6Ω- 6.07jΩ
Return Loss	- 24.0dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	52.1Ω- 6.08jΩ
Return Loss	- 24.0dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.346 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 27.05.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN: 862

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.819$ S/m; $\epsilon_r = 38.51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(6.78, 6.78, 6.78); Calibrated: 2013-09-03;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

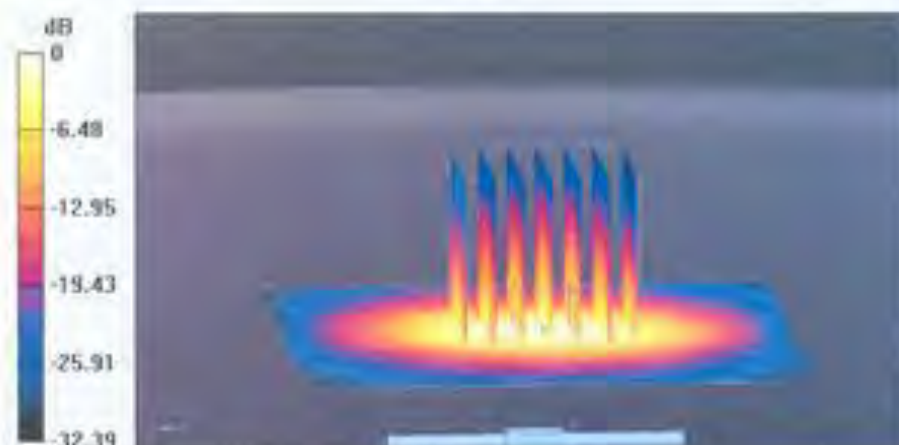
System Performance Check at Frequencies above 1 GHz/ $d=10$ mm, $P_{in}=xx$ mW,
 $dist=2.0$ mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:
 $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 106.6 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 26.8 W/kg

SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.35 W/kg

Maximum value of SAR (measured) = 20.1 W/kg



0 dB = 19.6 W/kg = 12.93 dBW/kg

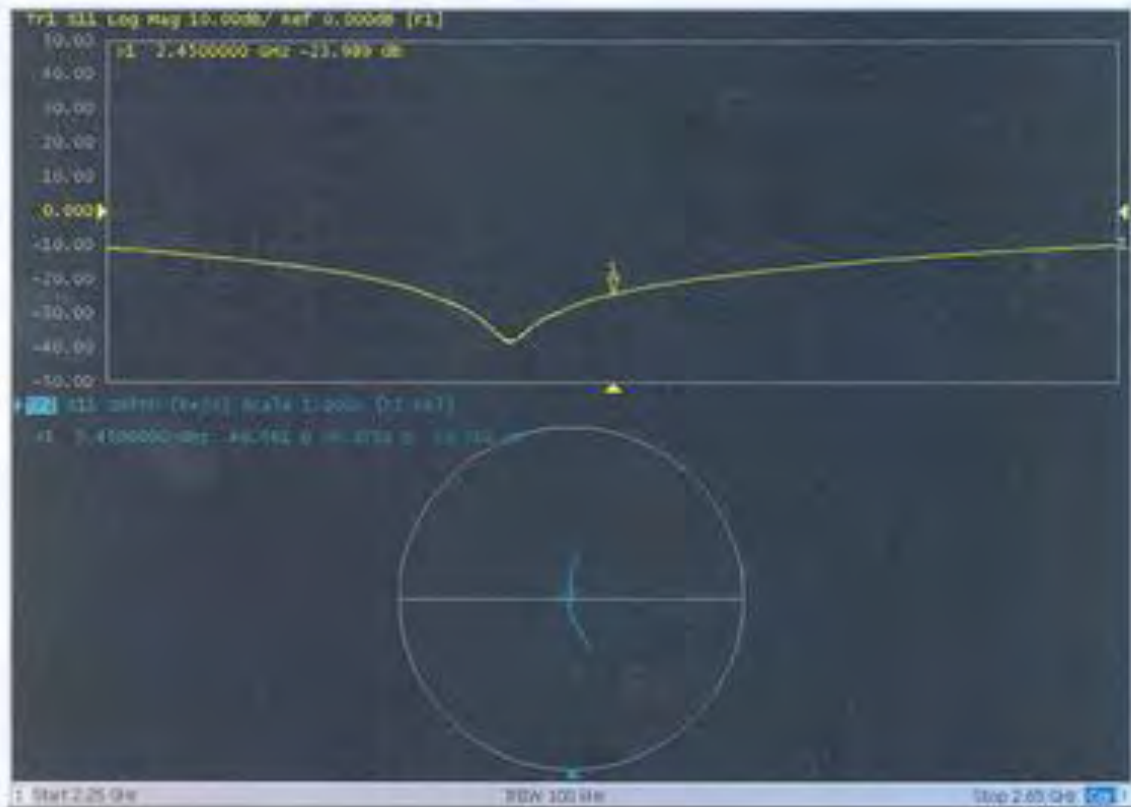


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Impedance Measurement Plot for Head TSL





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DASY5 Validation Report for Body TSL

Date: 28.05.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN: 862

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(6.73, 6.73, 6.73); Calibrated: 2013-09-03;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

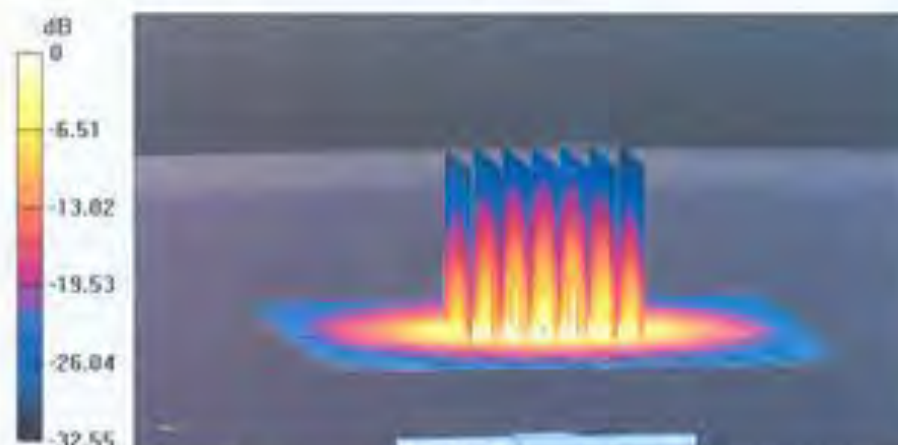
System Performance Check at Frequencies above 1 GHz/ $d=10$ mm, $P_{in}=xx$ mW,
 $dist=2.0$ mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0; Measurement grid:
 $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 99.55 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 25.2 W/kg

SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.99 W/kg

Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg

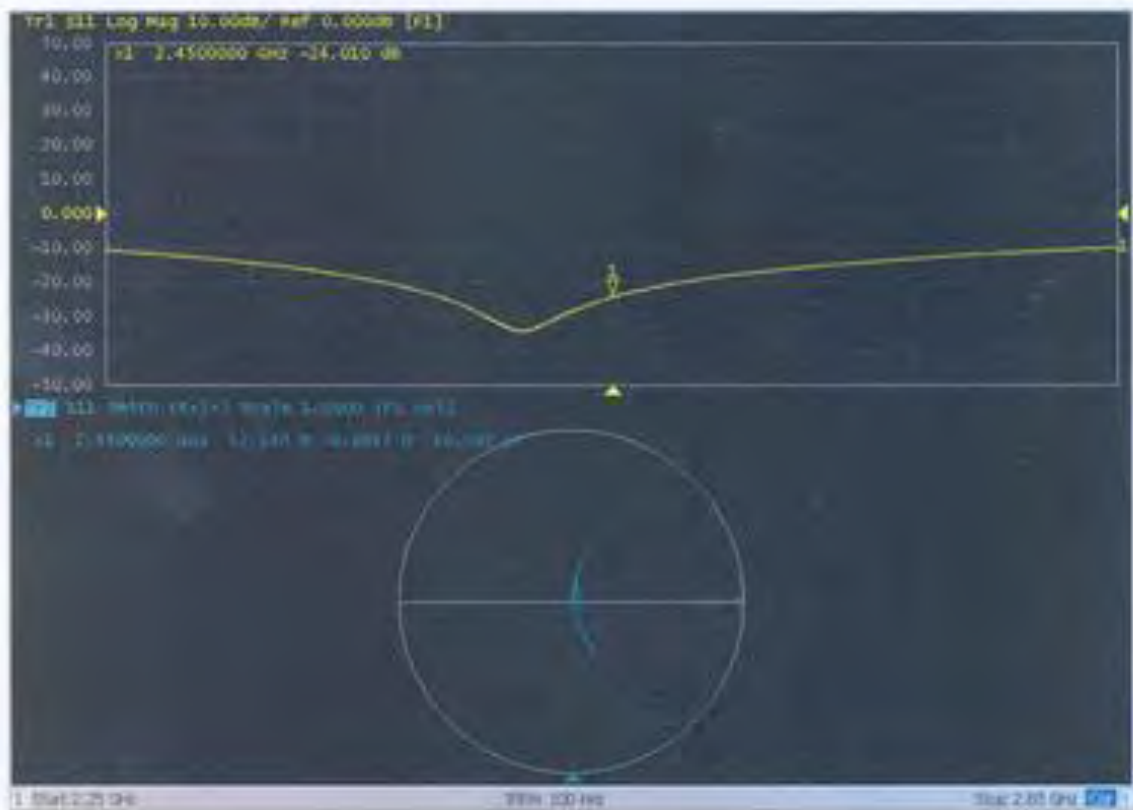


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Impedance Measurement Plot for Body TSL





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Client **Auden**

Certificate No: **Z14-97049**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN:1102**

Calibration Procedure(s)
TMC-OS-E-02-194
Calibration procedure for dipole validation kits

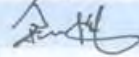
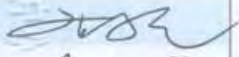
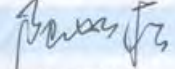
Calibration date: **June 16, 2014**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRVD	102083	11-Sep-13 (TMC, No.JZ13-443)	Sep-14
Power sensor NRV-Z5	100595	11-Sep-13 (TMC, No. JZ13-443)	Sep -14
Reference Probe EX3DV4	SN 3846	3- Sep-13 (SPEAG, No.EX3-3846_Sep13)	Sep-14
DAE4	SN 1331	23-Jan-14 (SPEAG, DAE4-1331_Jan14)	Jan -15
Signal Generator E4438C	MY49070393	13-Nov-13 (TMC, No.JZ13-394)	Nov-14
Network Analyzer E8362B	MY43021135	19-Oct-13 (TMC, No.JZ13-278)	Oct-14

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: June 17, 2014

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM _{x,y,z}
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) For hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
- KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor $k=2$, which for a normal distribution Corresponds to a coverage probability of approximately 95%.



Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.8.8.1222
Extrapolation	Advanced Extrapolation	
Phantom	Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	
Frequency	5200 MHz $\pm$ 1 MHz 5500 MHz $\pm$ 1 MHz 5800 MHz $\pm$ 1 MHz	

Head TSL parameters at 5200MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	36.3 $\pm$ 6 %	4.62 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5200MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	7.81 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	78.2 mW / g $\pm$ 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.23 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.3 mW / g $\pm$ 22.2 % (k=2)

Head TSL parameters at 5500MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	35.2 $\pm$ 6 %	5.04 mho/m $\pm$ 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5500MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.30 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	82.9 mW / g $\pm$ 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.38 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	23.8 mW / g $\pm$ 22.2 % (k=2)



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Head TSL parameters at 5800MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.9 ± 6 %	5.28 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5800MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	7.57 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	75.5 mW /g ± 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.15 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	21.4 mW /g ± 22.2 % (k=2)

Body TSL parameters at 5200MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.1 ± 6 %	5.32 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	—	----

SAR result with Body TSL at 5200MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	7.55 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	75.2 mW /g ± 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.18 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.7 mW /g ± 22.2 % (k=2)



Body TSL parameters at 5500MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.5 ± 6 %	5.62 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	---	---

SAR result with Body TSL at 5500MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	8.05 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	80.1 mW /g ± 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.30 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	22.9 mW /g ± 22.2 % (k=2)

Body TSL parameters at 5800MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.2 ± 6 %	6.05 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	---	---

SAR result with Body TSL at 5800MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	7.23 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	72.0 mW /g ± 23.0 % (k=2)
SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.05 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.4 mW /g ± 22.2 % (k=2)

Appendix

Antenna Parameters with Head TSL at 5200MHz

Impedance, transformed to feed point	50.2Ω-8.19jΩ
Return Loss	- 21.8dB



Antenna Parameters with Head TSL at 5500MHz

Impedance, transformed to feed point	52.0Ω- 4.65jΩ
Return Loss	- 26.0dB

Antenna Parameters with Head TSL at 5800MHz

Impedance, transformed to feed point	54.7Ω- 1.58jΩ
Return Loss	- 26.5dB

Antenna Parameters with Body TSL at 5200MHz

Impedance, transformed to feed point	51.6Ω- 7.57jΩ
Return Loss	- 22.4dB

Antenna Parameters with Body TSL at 5500MHz

Impedance, transformed to feed point	51.1Ω- 5.61jΩ
Return Loss	- 25.0dB

Antenna Parameters with Body TSL at 5800MHz

Impedance, transformed to feed point	54.5Ω- 0.89jΩ
Return Loss	- 27.2dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.183 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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DASY5 Validation Report for Head TSL

Date: 16.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 4.62 \text{ S/m}$; $\epsilon_r = 36.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(5.25, 5.25, 5.25); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5200 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

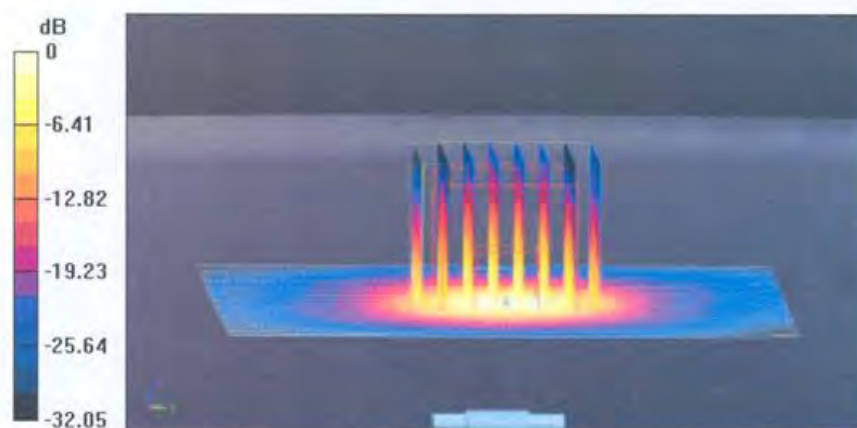
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 69.42 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 36.0 W/kg

SAR(1 g) = 7.81 W/kg; SAR(10 g) = 2.23 W/kg

Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 19.1 W/kg = 12.81 dBW/kg



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DASY5 Validation Report for Head TSL

Date: 16.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.04$ S/m; $\epsilon_r = 35.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(4.8, 4.8, 4.8); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5500 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

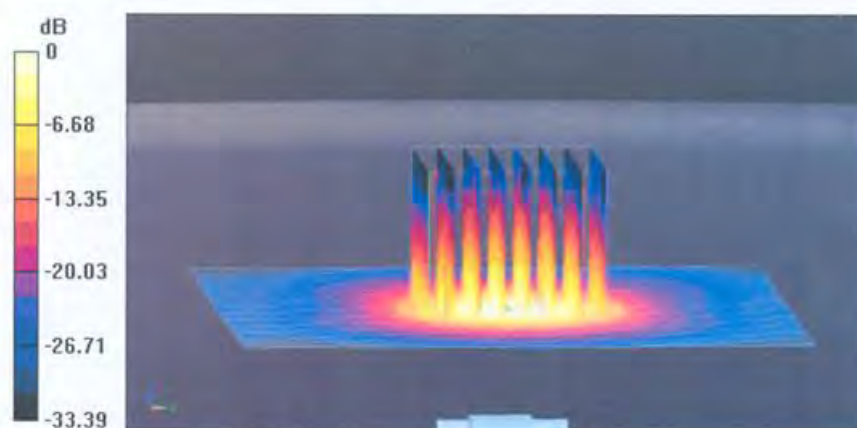
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 69.93 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 40.2 W/kg

SAR(1 g) = 8.3 W/kg; SAR(10 g) = 2.38 W/kg

Maximum value of SAR (measured) = 20.5 W/kg





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DASY5 Validation Report for Head TSL

Date: 16.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

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

Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.28 \text{ S/m}$; $\epsilon_r = 34.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(4.51, 4.51, 4.51); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5800 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

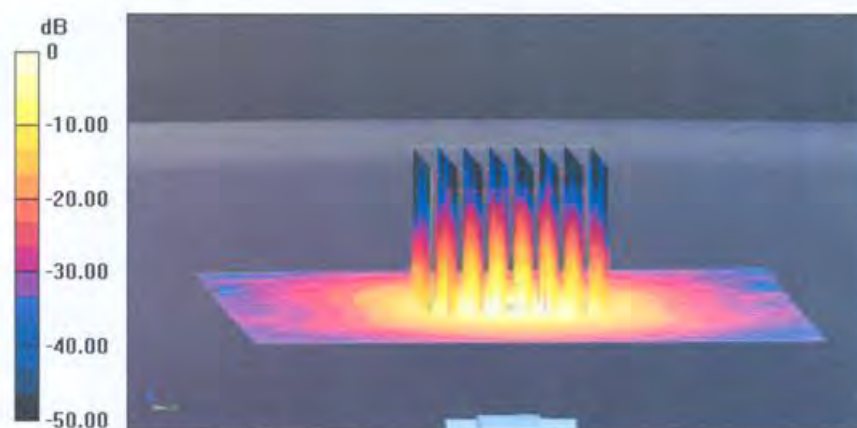
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.33 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 37.9 W/kg

SAR(1 g) = 7.57 W/kg; SAR(10 g) = 2.15 W/kg

Maximum value of SAR (measured) = 19.2 W/kg

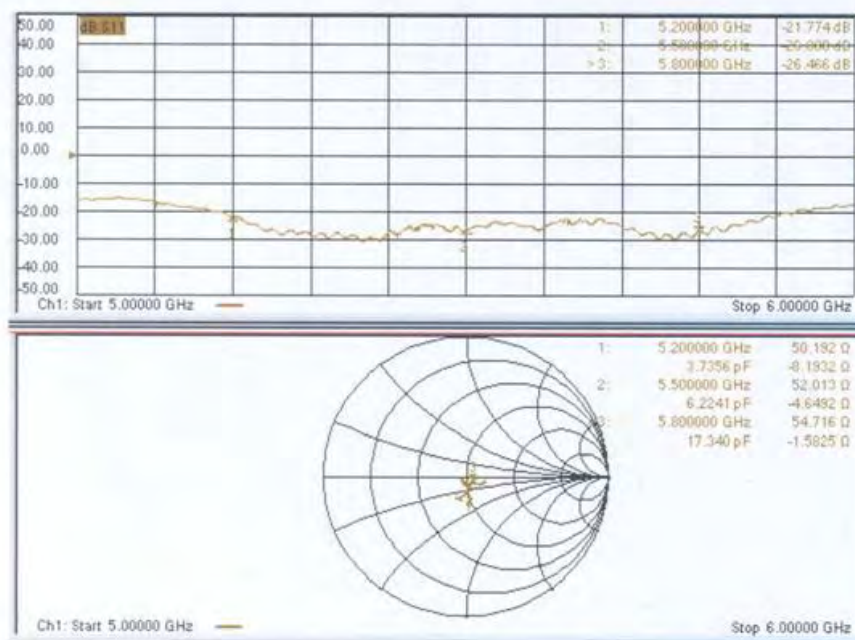


0 dB = 18.9 W/kg = 12.77 dBW/kg



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Impedance Measurement Plot for Head TSL





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DASY5 Validation Report for Body TSL

Date: 13.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.32$ S/m; $\epsilon_r = 48.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(4.36, 4.36, 4.36); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5200 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

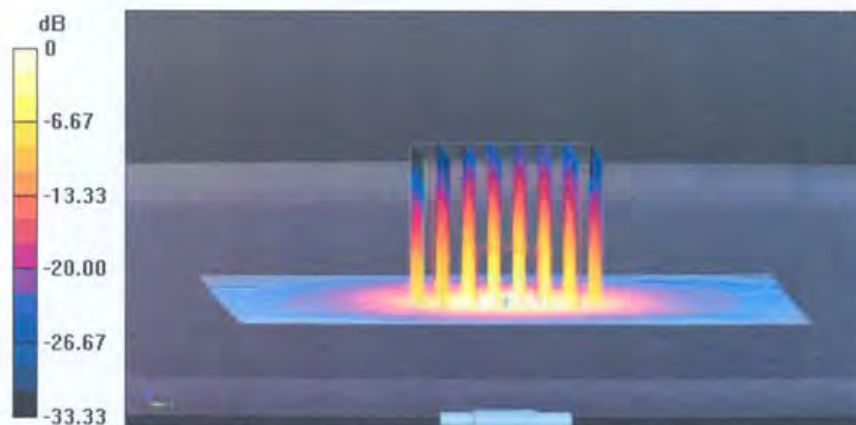
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.52 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 29.4 W/kg

SAR(1 g) = 7.55 W/kg; SAR(10 g) = 2.18 W/kg

Maximum value of SAR (measured) = 17.2 W/kg



0 dB = 17.3 W/kg = 12.38 dBW/kg



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DASY5 Validation Report for Body TSL

Date: 13.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.62$ S/m; $\epsilon_r = 47.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(3.81, 3.81, 3.81); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5500 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

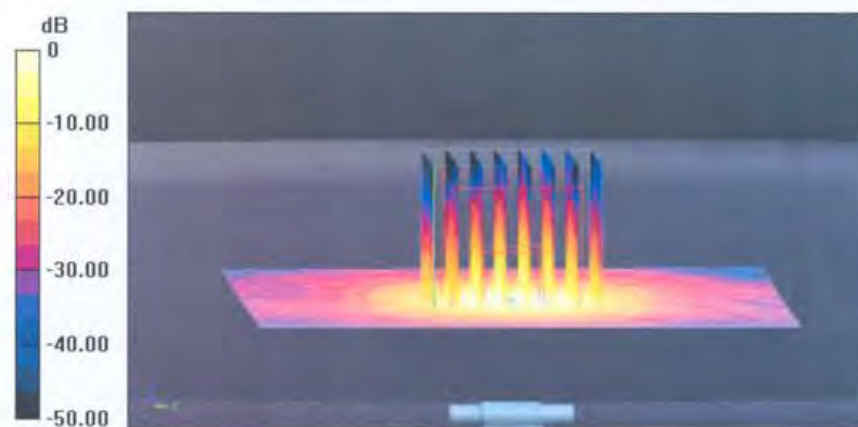
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 68.16 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 33.5 W/kg

SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.3 W/kg

Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg



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DASY5 Validation Report for Body TSL

Date: 13.06.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 6.05$ S/m; $\epsilon_r = 47.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(3.94, 3.94, 3.94); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm,

Pin=100mW, f=5800 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm

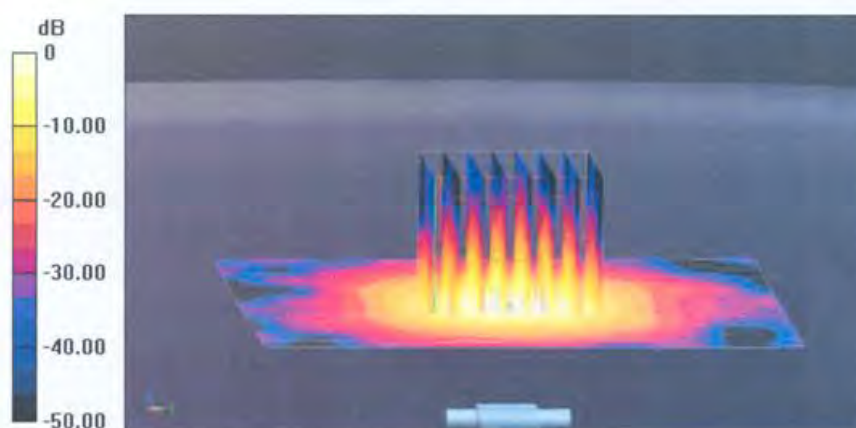
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.52 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 33.4 W/kg

SAR(1 g) = 7.23 W/kg; SAR(10 g) = 2.05 W/kg

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



0 dB = 17.6 W/kg = 12.45 dBW/kg



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Impedance Measurement Plot for Body TSL

