FCC SAR Test Report

Equipment	:	**11ac Wireless Dual-Band USB Adapter**
Brand Name	:	**EDIMAX**
Model No.	:	**EW-7811USC**
FCC ID	:	**NDD9578111407**
Standard	:	**FCC 47 CFR Part 2 (2.1093)** **ANSI/IEEE C95.1-1992** **IEEE 1528-2003**
Applicant **Manufacturer**	:	**EDIMAX TECHNOLOGY CO., LTD.** **No.3,Wu-Chuan 3rd Road,Wu-Ku Industrial Park, New Taipei City, Taiwan**

The product sample received on May 21, 2014 and completely tested on Jul. 24, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Wayne Hsu / Assistant Manager

TAF Testing Laboratory 1190

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Revision History

Report No.	Version	Description	Issued Date
FA380666-06	Rev. 01	Initial issue of report	Sep. 9, 2014

1 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing as follows.

Exposure Position	Frequency Band	Reported 1g SAR (W/kg)	Equipment Class	Highest Reported 1g SAR (W/kg)
Body	WLAN5.2GHz Band	0.01	NII	0.01
	WLAN5.8GHz Band	0.03	DTS	0.65
	WLAN2.4GHz Band	0.65		

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

1.1 Guidance Standard

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2003
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03
- FCC KDB 865664 D02 SAR Reporting v01r01
- FCC KDB 447498 D01 General RF Exposure Guidance v05r02
- FCC KDB 248227 D01 SAR meas for 802 11abg v01r02

1.2 Testing Location Information

Testing Location			
HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
	TEL	:	886-3-327-3456 FAX : 886-3-327-0973

2 Equipment Under Test (EUT)

2.1 General Information

Product Feature & Specification	
Equipment Name	11ac Wireless Dual-Band USB Adapter
Brand Name	EDIMAX
Model Name	EW-7811USC
FCC ID	NDD9578111407
Frequency Range	WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5850 MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz
EUT Stage	Identical Prototype

2.2 Maximum Tune-up Limit

Band / Frequency (MHz)	IEEE 802.11 Average Power (dBm)					
	a	HT20	HT40	VHT20	VHT40	VHT80
WLAN 5.2GHz Band	14.50	14.50	14.50	14.50	14.50	14.50
WLAN 5.8GHz Band	19.50	19.50	18.50	19.00	19.50	16.50

Band / Frequency (MHz)	IEEE 802.11 Average Power (dBm)			
	b	g	HT20	HT40
WLAN 2.4GHz Band	17.00	16.50	16.50	16.50

3 RF Exposure Limits

3.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

3.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
14.02	13.20	13.13

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

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

4 Specific Absorption Rate (SAR)

4.1 Introduction

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

4.2 SAR Definition

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

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

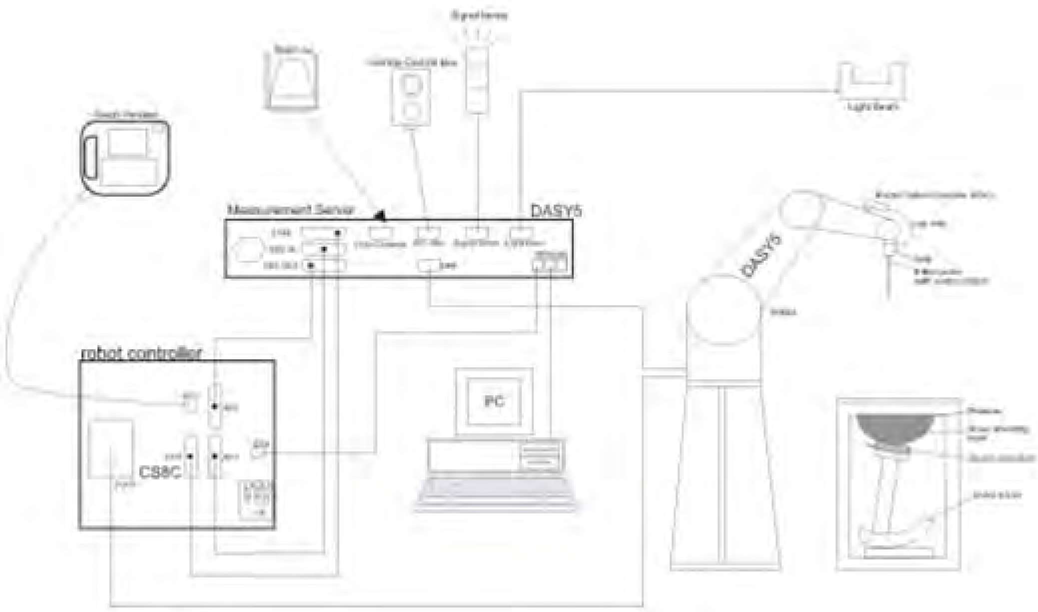
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

5 System Description and Setup

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



- A standard high precision 6-axis robot 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 or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

6 Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

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

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

6.1 Spatial Peak SAR Evaluation

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

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

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

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

6.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

6.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz v01r01.

<table>
<tr><th></th><th>≤ 3 GHz</th><th>> 3 GHz</th></tr>
<tr><td>Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td>Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
</table>

6.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz v01r01.

<table>
<tr><th colspan="3"></th><th>≤ 3 GHz</th><th>> 3 GHz</th></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

6.5 Volume Scan Procedures

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

6.6 Power Drift Monitoring

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

7 Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	2450MHz System Validation Kit	D2450V2	929	2014/2/12	2015/2/11
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	2013/12/11	2014/12/10
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	2014/3/13	2015/3/12
SPEAG	Dosimetric E-Field Probe	EX3DV4	3820	2014/5/15	2015/5/14
SPEAG	Data Acquisition Electronics	DAE4	1424	2014/2/11	2015/2/10
SPEAG	Device Holder	N/A	N/A	NCR	NCR
Mini-Circuits	Power Amplifier	ZHL-42W+	15542	NCR	NCR
Mini-Circuits	Power Amplifier	ZVE-8G+	605601404	NCR	NCR
Agilent	ENA Series Network Analyzer	E5071C	MY46419201	2014/1/15	2015/1/14
R&S	Spectrum Analyzer	FSP40	100305	2013/10/3	2014/10/2
Agilent	MXG-B RF Vector Signal Generator	N5182B	MY53050081	2014/4/8	2015/4/7
SPEAG	Dielectric Probe Kit	SM DAK 040CA	1146	NCR	NCR
Anritsu	Power Meter	ML2495A	949003	2014/1/28	2015/1/27
Anritsu	Power sensor	MA2411B	917017	2014/1/28	2015/1/27
SPEAG	Flat Phantom ELI5.0	QD OVA 002 AA	1238	NCR	NCR
Wisewind	Themometer	HTC1	HTC1	2013/12/25	2014/12/24
Wisewind	Themometer	YF-160A	130504609	2013/12/25	2014/12/24

General Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.
3. In system check we need to monitor the level on the power meter, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1W input power according to the ratio of 1W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the power meter is critical and we do have calibration for it
4. Attenuator 1 insertion loss is calibrated by the network Analyzer, which the calibration is valid, before system check.
5. NCR: No calibration request.

8 System Verification

8.1 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
2450	55.0	0	0	0	0	45.0	1.80	39.2

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

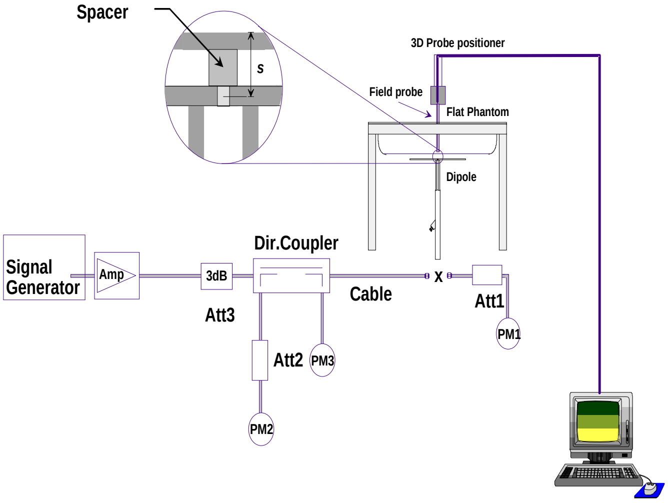
<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
2450	21.4	2.004	51.279	1.95	52.70	2.77	-2.70	±5	2014/7/21
5200	21.3	5.299	47.682	5.3	49	-0.02	-2.69	±5	2014/7/24
5800	21.3	6.101	46.68	6	48.2	1.68	-3.15	±5	2014/7/24

8.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured SAR (W/kg)	Targeted SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)
2014/7/21	2450	Body	250	929	3820	1424	14	51.4	56.00	8.949
2014/7/24	5200	Body	100	1167	3820	1424	7.42	73.6	74.20	0.815
2014/7/24	5800	Body	100	1167	3820	1424	7.52	73.8	75.20	1.897



System Performance Check Setup

Setup Photo

9 RF Exposure Positions

9.1 SAR Testing for Tablet

Please refer to Appendix A. for the test setup photos.

10 Conducted RF Output Power (Unit: dBm)

<WLAN Conducted Power>

General Note:

1. Per FCC KDB 248227 D01 v01r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
2. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate.
3. Per FCC KDB 248227 D01 v01r02, 11g, 11n-HT20 output power is less than 1/4dB higher than 11b mode, thus the SAR can be excluded.

<2.4GHz WLAN Antenna>

WLAN 2.4GHz 802.11b Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	Data Rate	
		1Mbps	
CH 1	2412	15.42	17.00
CH 6	2437	15.20	
CH 11	2462	16.52	

WLAN 2.4GHz 802.11g Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	Data Rate	
		6Mbps	
CH 1	2412	15.19	16.50
CH 6	2437	16.35	
CH 11	2462	15.95	

WLAN 2.4GHz 802.11n-HT20 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 1	2412	14.75	16.50
CH 6	2437	16.34	
CH 11	2462	15.37	

WLAN 2.4GHz 802.11n-HT40 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 3	2422	14.57	16.50
CH 6	2437	16.17	
CH 9	2452	14.70	

General Note:

1. Per FCC KDB 248227 D01 v01r02, choose the highest output power channel to test SAR and determine further SAR exclusion
2. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate.
3. Per FCC KDB 248227 D01 v01r02, 11n/ac-HT20/HT40/VHT20/VHT40 output power is less than 1/4dB higher than 11a mode, thus the SAR can be excluded.
4. For 802.11ac SAR evaluation for each frequency band, 802.11ac VHT80 will verified at the worst case found in 802.11a SAR testing.

<5.2GHz WLAN Antenna>

WLAN 5.2GHz 802.11a Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	Data Rate	
		6Mbps	
CH 36	5180	14.36	14.50
CH 40	5200	14.37	
CH 44	5220	14.18	
CH 48	5240	13.85	

WLAN 5.2GHz 802.11n-HT20 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 36	5180	14.18	14.50
CH 40	5200	14.35	
CH 44	5220	14.27	
CH 48	5240	14.06	

WLAN 5.2GHz 802.11n-HT40 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 38	5190	14.22	14.50
CH 46	5230	14.12	

WLAN 5.2GHz 802.11ac-VHT20 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 36	5180	14.30	14.50
CH 40	5200	14.01	
CH 44	5220	13.63	
CH 48	5240	13.52	

WLAN 5.2GHz 802.11ac-VHT40 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 38	5190	14.26	14.50
CH 46	5230	14.36	

WLAN 5.2GHz 802.11ac-VHT80 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 42	5210	14.30	14.50

<5.8GHz WLAN Antenna>

WLAN 5.8GHz 802.11a Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	Data Rate	
		6Mbps	
CH 149	5745	19.35	19.50
CH 153	5765	19.19	
CH 157	5785	18.94	
CH 161	5805	18.38	
CH 165	5825	17.50	

WLAN 5.8GHz 802.11n-HT20 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 149	5745	19.12	19.50
CH 153	5765	18.86	
CH 157	5785	17.88	
CH 161	5805	17.69	
CH 165	5825	17.24	

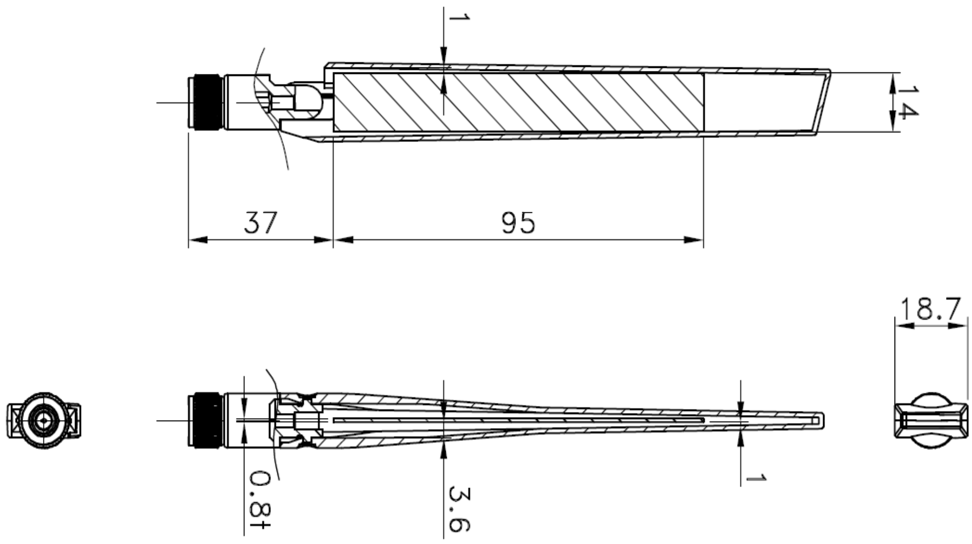
WLAN 5.8GHz 802.11n-HT40 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 151	5755	18.50	18.50
CH 159	5795	17.36	

WLAN 5.8GHz 802.11n-VHT20 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 149	5745	18.94	19.00
CH 153	5765	18.59	
CH 157	5785	17.56	
CH 161	5805	17.47	
CH 165	5825	17.10	

WLAN 5.8GHz 802.11n-VHT40 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
CH 151	5755	19.28	19.50
CH 159	5795	18.05	

WLAN 5.8GHz 802.11ac-VHT80 Average Power (dBm)			Tune up Limit (dBm)
Power vs. Channel			
Channel	Frequency (MHz)	MCS Index	
		MCS0	
155	5775	16.10	16.50

11 Antenna Location



12 SAR Test Results

General Note:

1. Per KDB 447498 D01v05r02, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB 447498 D01v05r02, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 616217 D04v01r01, the additional separation introduced by the contour against a flat phantom is < 5 mm and reported SAR is < 1.2 W/kg, a curved or contoured back surface or edge SAR is not required, more detail information please refer to the setup photo.
4. When the WLAN transmission was verified using a spectrum analyzer.

12.1 Body SAR

<DTS WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1	802.11b	-	Horizontal Up	0.5	11	2462	16.52	17	1.12	0.07	0.584	**0.65**
2	802.11b	-	Horizontal Down	0.5	11	2462	16.52	17	1.12	-0.13	0.402	0.45
6	802.11b	-	Vertical Front	0.5	11	2462	16.52	17	1.12	-0.17	0.439	0.49
7	802.11b	-	Vertical Back	0.5	11	2462	16.52	17	1.12	-0.05	0.414	0.46
8	802.11b	-	Tip Mode	0.5	11	2462	16.52	17	1.12	-0.1	0.0025	0.00
3	802.11b	-	Horizontal Up	0.5	11	2462	16.52	17	1.12	-0.14	0.568	0.63
9	802.11a	-	Horizontal Up	0.5	36	5180	14.36	14.5	1.03	-0.11	0.01	0.01
10	802.11a	-	Horizontal Down	0.5	36	5180	14.36	14.5	1.03	-0.15	0.014	**0.01**
11	802.11a	-	Vertical Front	0.5	36	5180	14.36	14.5	1.03	-0.11	0.00794	0.01
12	802.11a	-	Vertical Back	0.5	36	5180	14.36	14.5	1.03	-0.04	0.00984	0.01
13	802.11a	-	Tip Mode	0.5	36	5180	14.36	14.5	1.03	-0.16	0.00975	0.01
14	802.11ac	VHT80	Horizontal Down	0.5	42	5210	14.3	14.5	1.05	-0.13	0.00677	0.01
15	802.11a	-	Horizontal Down	0.5	36	5180	14.36	14.5	1.03	0.17	0.011	0.01
16	802.11a	-	Horizontal Up	0.5	149	5745	19.35	19.5	1.04	-0.09	0.024	0.02
17	802.11a	-	Horizontal Down	0.5	149	5745	19.35	19.5	1.04	-0.13	0.033	**0.03**
18	802.11a	-	Vertical Front	0.5	149	5745	19.35	19.5	1.04	-0.09	0.013	0.01
19	802.11a	-	Vertical Back	0.5	149	5745	19.35	19.5	1.04	-0.12	0.026	0.03
20	802.11a	-	Tip Mode	0.5	149	5745	19.35	19.5	1.04	-0.02	0.011	0.01
21	802.11ac	VHT80	Horizontal Down	0.5	155	5775	16.1	16.5	1.10	-0.12	0.013	0.01
22	802.11a	-	Horizontal Down	0.5	149	5745	19.35	19.5	1.04	0.11	0.031	0.03

13 Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in Table 14.1

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	1/k[(b)]	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Standard Uncertainty (±%) (1g)
Measurement System					
Probe Calibration	6.0	Normal	1.0	1.0	6.0
Axial Isotropy	4.7	Rectangular	√3	0.7	1.9
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	3.9
Boundary effects	1.0	Rectangular	√3	1.0	0.6
Linearity	4.7	Rectangular	√3	1.0	2.7
System Detection Limits	1.0	Rectangular	√3	1.0	0.6
Modulation Response	2.4	Rectangular	√3	1.0	1.4
Readout Electronics	0.3	Normal	1.0	1.0	0.3
Response Time	0.8	Rectangular	√3	1.0	0.5
Integration Time	2.6	Rectangular	√3	1.0	1.5
RF Ambient Noise	3.0	Rectangular	√3	1.0	1.7
RF Ambient Reflections	3.0	Rectangular	√3	1.0	1.7
Probe Positioner	0.4	Rectangular	√3	1.0	0.2
Probe Positioning	2.9	Rectangular	√3	1.0	1.7
Max. SAR Eval.	2.0	Rectangular	√3	1.0	1.2
Dipole Related					
Device Positioning	2.9	Normal	1.0	1.0	2.9
Device Holder	3.6	Normal	1.0	1.0	3.6
Power Drift	5.0	Rectangular	√3	1.0	2.9
Power Scaling	0.0	Rectangular	√3	1.0	0.0
Phantom and Tissue parameters					
Phantom Uncertainty	6.1	Rectangular	√3	1.0	3.5
SAR corrction	1.9	Normal	1.0	1.0	1.9
Liquid Conductivity (measurement)	2.0	Normal	1.0	0.8	1.6
Liquid Permittivity (measurement)	2.1	Normal	1.0	0.3	0.5
Temp. unc. - Conduct	3.4	Rectangular	√3	0.8	1.5
Temp. unc. - Permittivity	0.4	Rectangular	√3	0.2	0.1
Combined Standard Uncertainty					11.2
Coverage Factor for 95 %					Kp=2
Expanded Uncertainty					22.4

Uncertainty Budget for frequency range 30 MHz to 3 GHz

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Standard Uncertainty (±%) (1g)
Measurement System					
Probe Calibration	6.6	Normal	1.0	1.0	6.6
Axial Isotropy	4.7	Rectangular	√3	0.7	1.9
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	3.9
Boundary effects	2.0	Rectangular	√3	1.0	1.2
Linearity	4.7	Rectangular	√3	1.0	2.7
System Detection Limits	1.0	Rectangular	√3	1.0	0.6
Modulation Response	2.4	Rectangular	√3	1.0	1.4
Readout Electronics	0.3	Normal	1.0	1.0	0.3
Response Time	0.8	Rectangular	√3	1.0	0.5
Integration Time	2.6	Rectangular	√3	1.0	1.5
RF Ambient Noise	3.0	Rectangular	√3	1.0	1.7
RF Ambient Reflections	3.0	Rectangular	√3	1.0	1.7
Probe Positioner	0.8	Rectangular	√3	1.0	0.5
Probe Positioning	6.7	Rectangular	√3	1.0	3.9
Max. SAR Eval.	4.0	Rectangular	√3	1.0	2.3
Dipole Related					
Device Positioning	2.9	Normal	1.0	1.0	2.9
Device Holder	3.6	Normal	1.0	1.0	3.6
Power Drift	5.0	Rectangular	√3	1.0	2.9
Power Scaling	0.0	Rectangular	√3	1.0	0.0
Phantom and Tissue parameters					
Phantom Uncertainty	6.6	Rectangular	√3	1.0	3.8
SAR corrction	1.9	Normal	1.0	1.0	1.9
Liquid Conductivity (measurement)	2.0	Normal	1.0	0.8	1.6
Liquid Permittivity (measurement)	2.1	Normal	1.0	0.3	0.5
Temp. unc. - Conduct	3.4	Rectangular	√3	0.8	1.5
Temp. unc. - Permittivity	0.4	Rectangular	√3	0.2	0.1
Combined Standard Uncertainty					12.3
Coverage Factor for 95 %					Kp=2
Expanded Uncertainty					24.7

Uncertainty Budget for frequency range 3 GHz to 6 GHz

14 References

[1] Council Recommendation 1999/519/EC of July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

[2] EN 50566:2013, “Product standard to demonstrate compliance of radio frequency fields from handheld and body-mounted wireless communication devices used by the general public (30 MHz - 6 GHz)” March 2013.

[3] EN 62311:2008, “Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)”, January 2008

[4] EN 62209-2:2010, "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices. Human models, instrumentation, and procedures. Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", August 2010

[5] EN 62479:2010 "Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)", December 2010

[6] SPEAG DASY System Handbook

System Check_B2450_140721

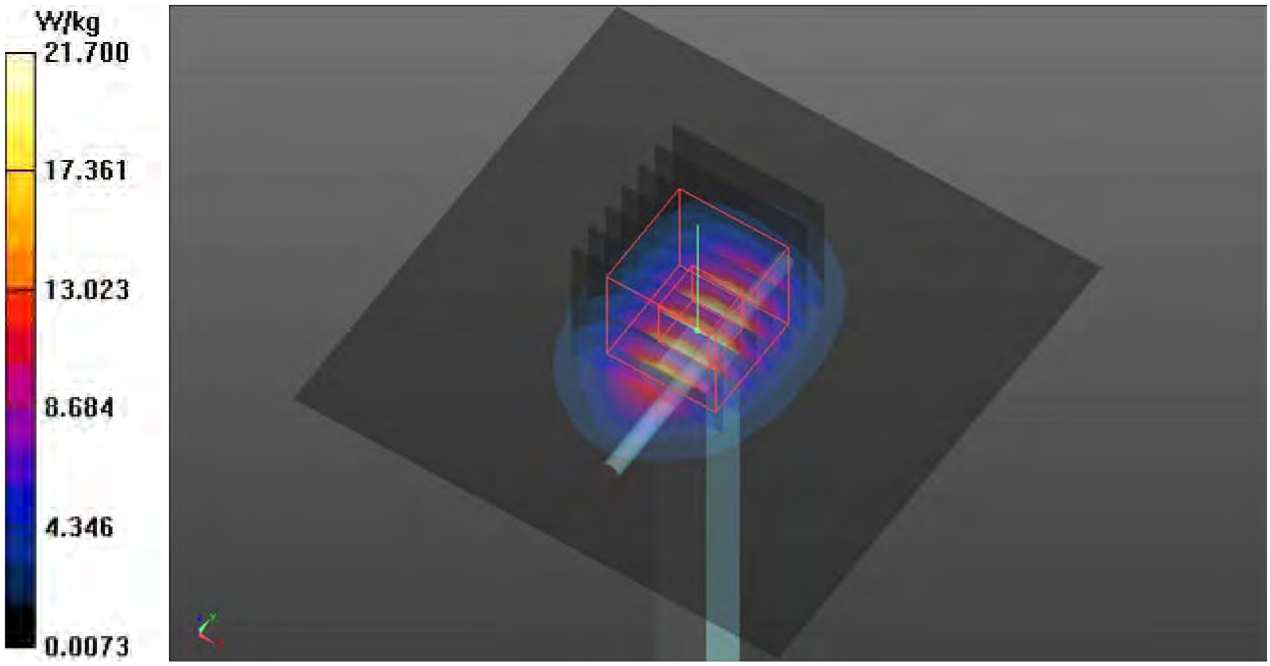
DUT: Dipole 2450 MHz_SN: 929

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2450 MHz; σ = 2.004 S/m; ε_r = 51.279; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 21.7 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.7 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 29.6 W/kg
SAR(1 g) = 14 W/kg; SAR(10 g) = 6.45 W/kg
Maximum value of SAR (measured) = 21.7 W/kg



System Check_B5200_140724

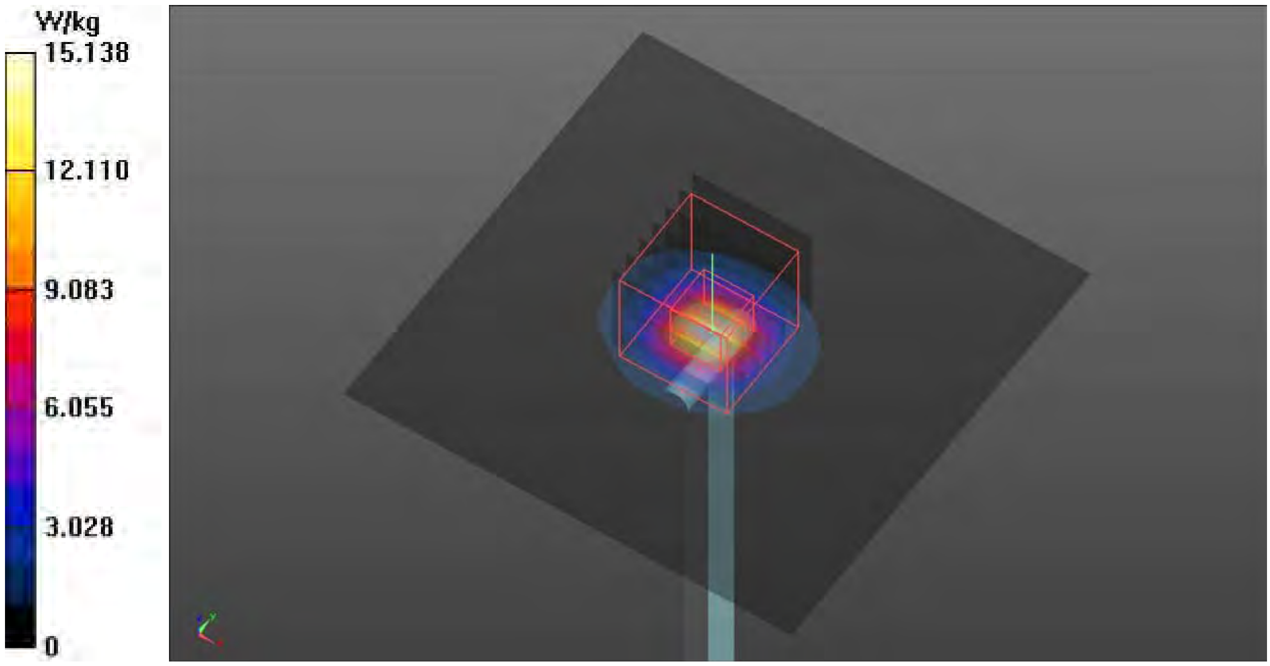
DUT: Dipole 5 GHz_SN: 1167

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5200 MHz; σ = 5.299 S/m; ε_r = 47.682; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.1 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.14 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.11 W/kg
Maximum value of SAR (measured) = 15.4 W/kg



System Check_B5800_140724

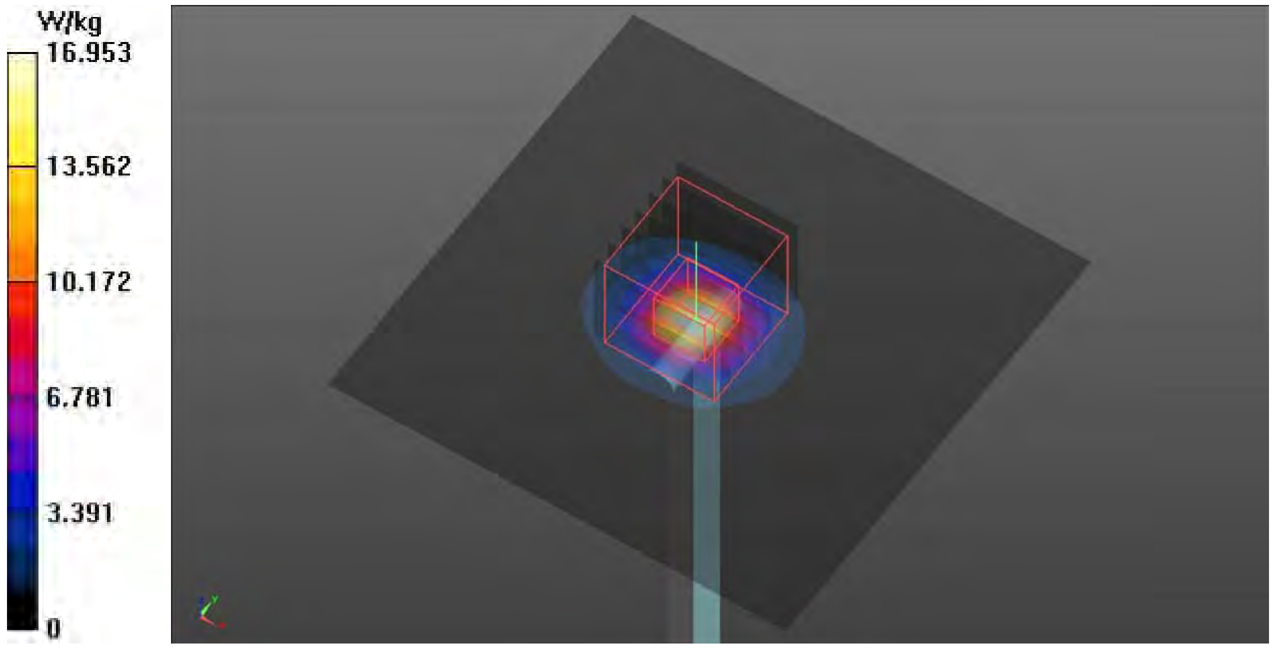
DUT: Dipole 5 GHz_SN: 1167

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5800 MHz; σ = 6.101 S/m; ε_r = 46.68; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.0 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.20 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 7.52 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 16.2 W/kg



P01 802.11b_Horizontal Up_0.5cm_Ch11

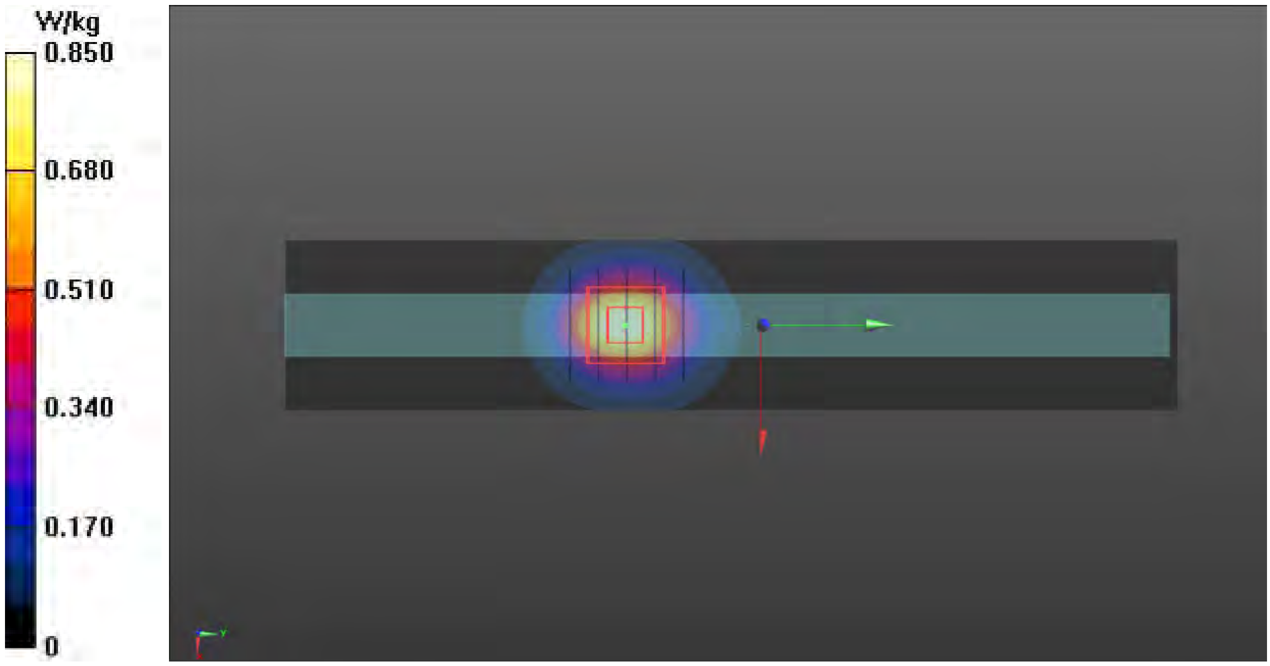
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (41x211x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.850 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.119 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.584 W/kg; SAR(10 g) = 0.289 W/kg
Maximum value of SAR (measured) = 0.848 W/kg



P02 802.11b_Horizontal Down_0.5cm_Ch11

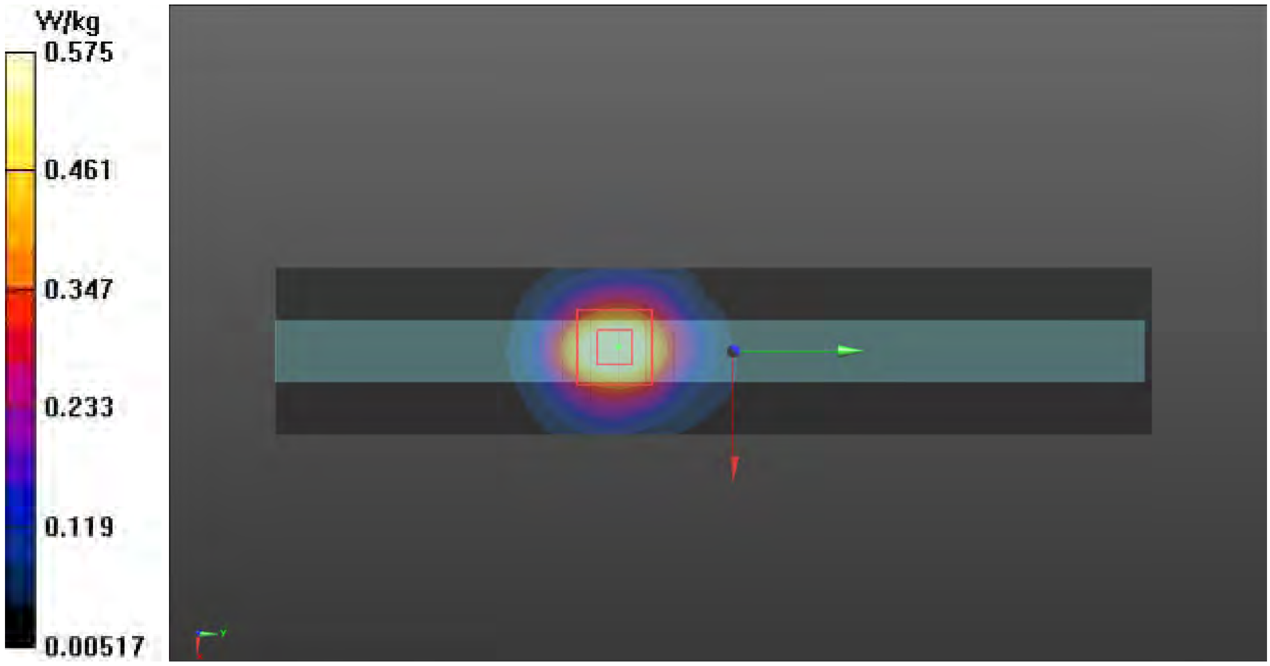
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (41x211x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.676 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.916 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.764 W/kg
SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.205 W/kg
Maximum value of SAR (measured) = 0.575 W/kg



P06 802.11b_Vertical Front _0.5cm_Ch11

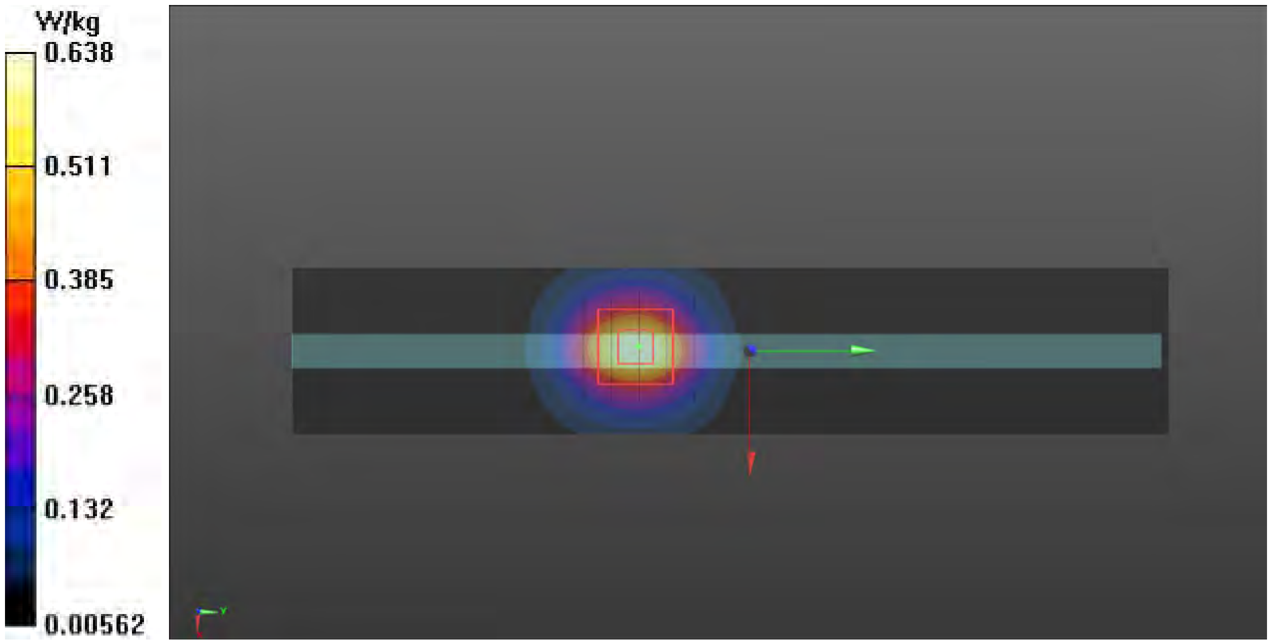
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (121x211x1): Interpolated grid: dx=0.400 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.654 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.545 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.845 W/kg
SAR(1 g) = 0.439 W/kg; SAR(10 g) = 0.221 W/kg
Maximum value of SAR (measured) = 0.638 W/kg



Test Laboratory:Sporton International Inc SAR Testing Lab Date: 2014/7/21

P07 802.11b_Vertical Back_0.5cm_Ch11

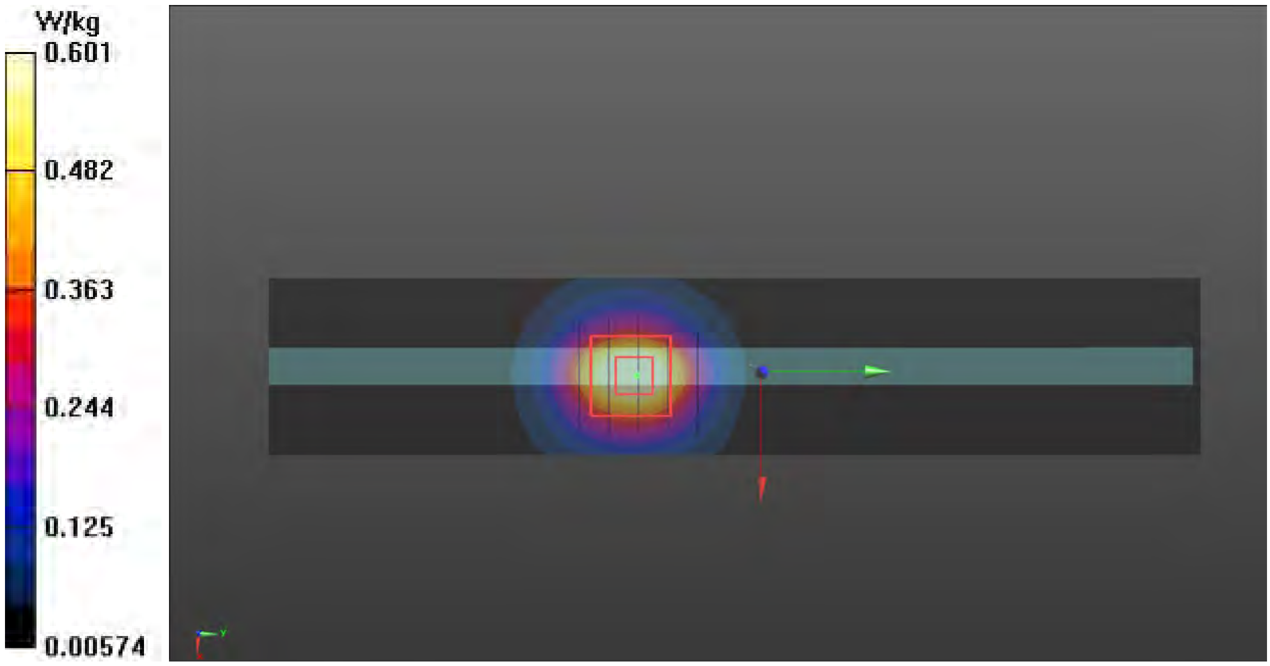
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (121x211x1): Interpolated grid: dx=0.400 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.696 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.342 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.801 W/kg
SAR(1 g) = 0.414 W/kg; SAR(10 g) = 0.208 W/kg
Maximum value of SAR (measured) = 0.601 W/kg



P08 802.11b_Tip Mode_0.5cm_Ch11

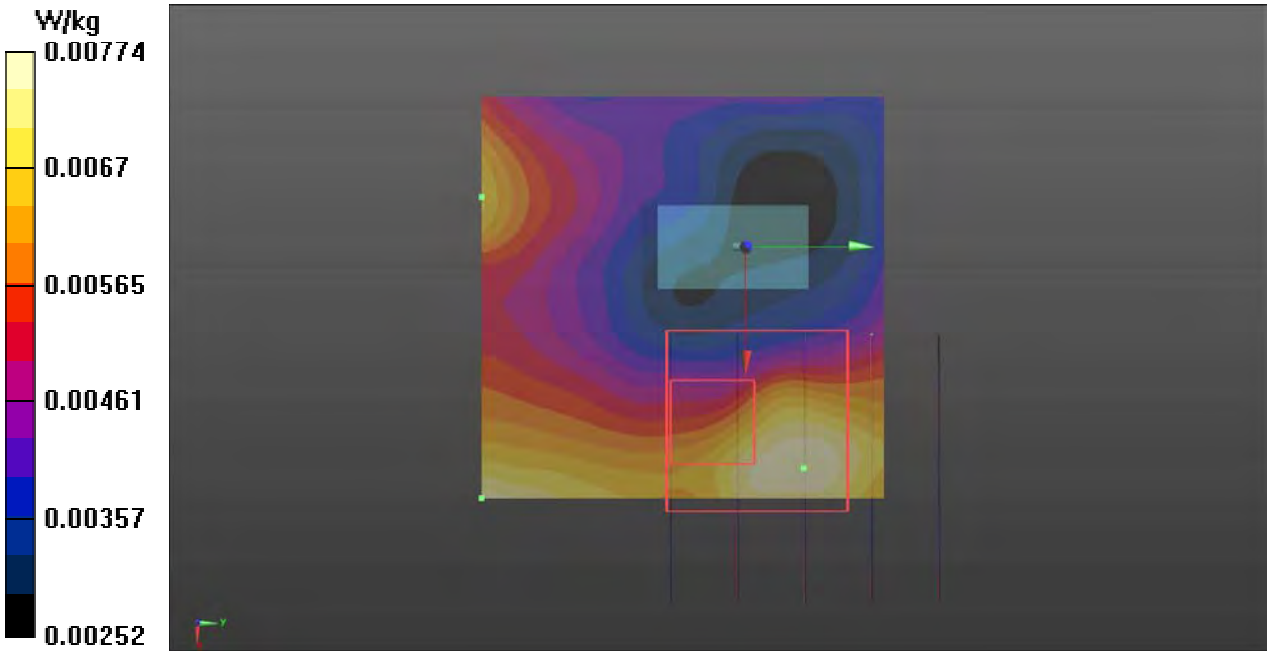
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (41x41x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.00774 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.015 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.0310 W/kg
SAR(1 g) = 0.0025 W/kg; SAR(10 g) = 0.000962 W/kg
Maximum value of SAR (measured) = 0.0304 W/kg



P03 802.11b_Horizontal Up_0.5cm_Ch11_90 degree

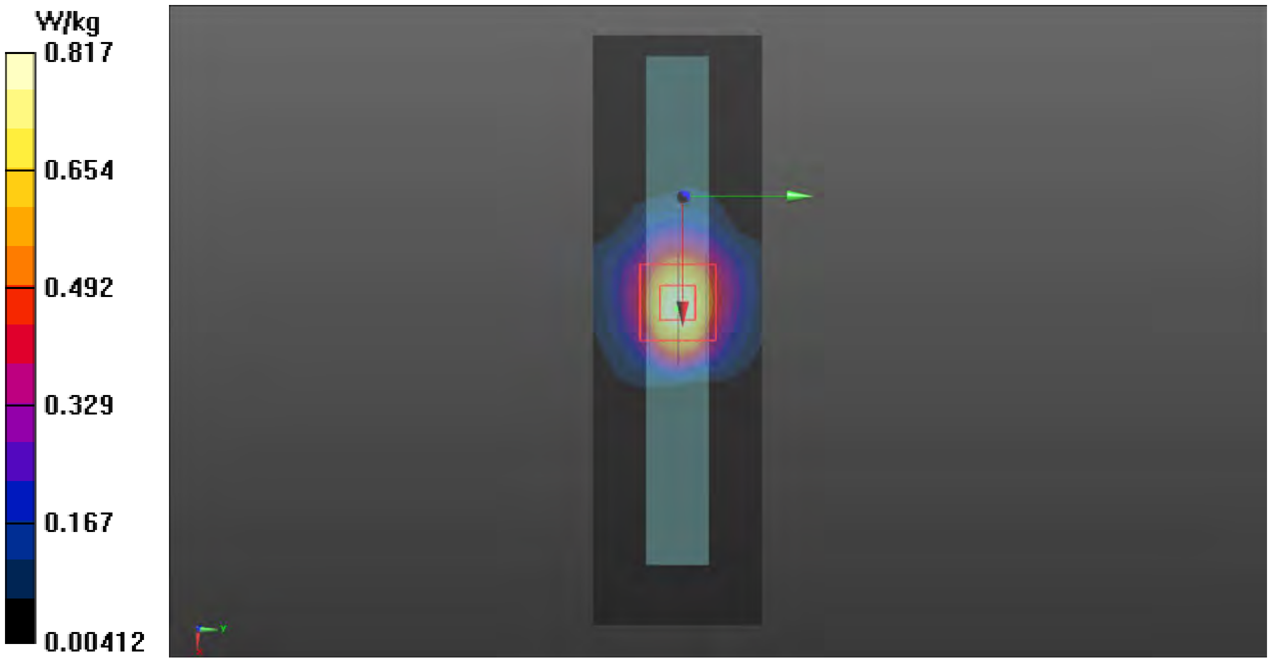
DUT: 380666

Communication System: WLAN_2.4G; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: B2450_140721 Medium parameters used: f = 2462 MHz; σ = 2.021 S/m; ε_r = 51.245; ρ = 1000 kg/m^3
Ambient Temperature: 22.8 ℃ ; **Liquid Temperature**: 21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.87, 6.87, 6.87); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (41x141x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.848 W/kg

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.748 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.289 W/kg
Maximum value of SAR (measured) = 0.817 W/kg



Test Laboratory:Sporton International Inc SAR Testing Lab Date: 2014/7/24

P09 802.11a_Horizontal Up_0.5cm_Ch36

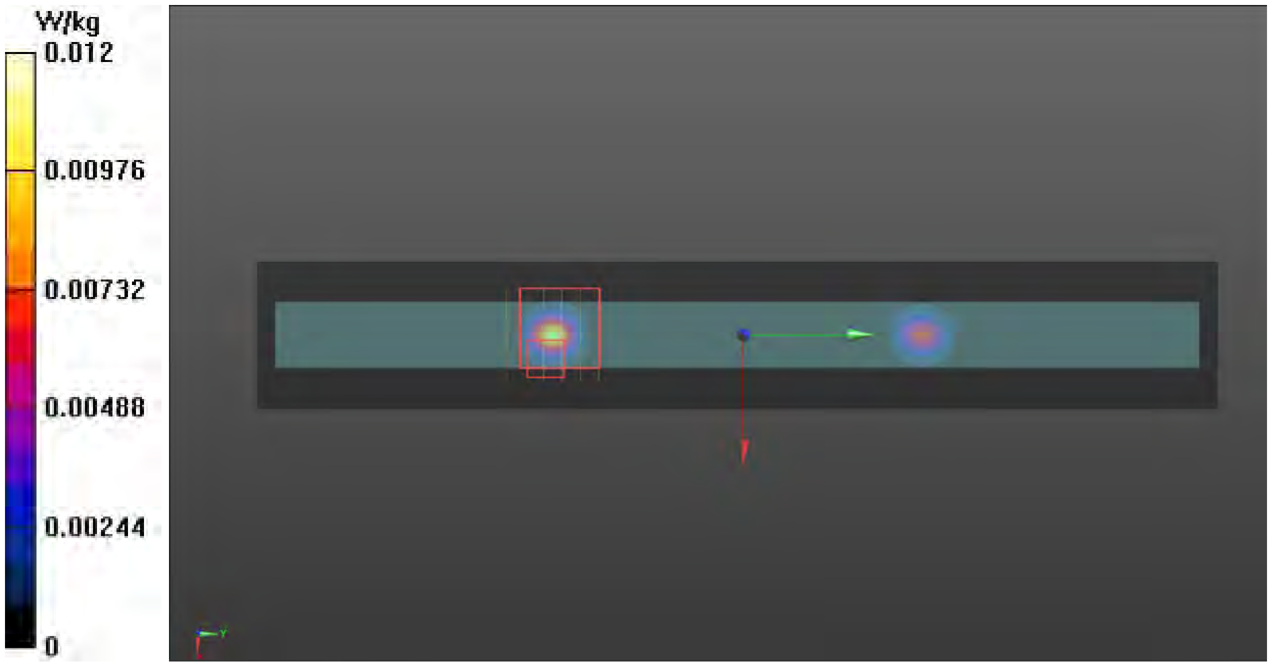
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0122 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.352 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.0550 W/kg
SAR(1 g) = 0.01 W/kg; SAR(10 g) = 0.00551 W/kg
Maximum value of SAR (measured) = 0.0178 W/kg



P10 802.11a_Horizontal Down_0.5cm_Ch36

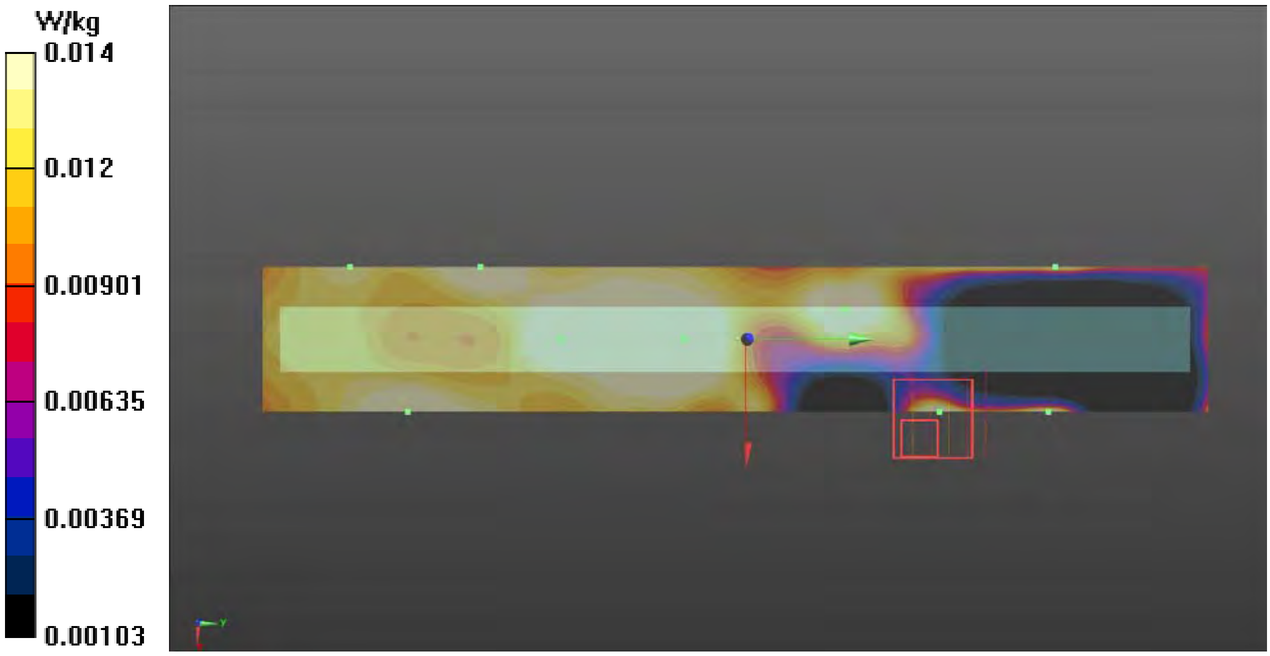
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0188 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.365 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.0700 W/kg
SAR(1 g) = 0.014 W/kg; SAR(10 g) = 0.00715 W/kg
Maximum value of SAR (measured) = 0.0143 W/kg



P11 802.11a_Vertical Front_0.5cm_Ch36

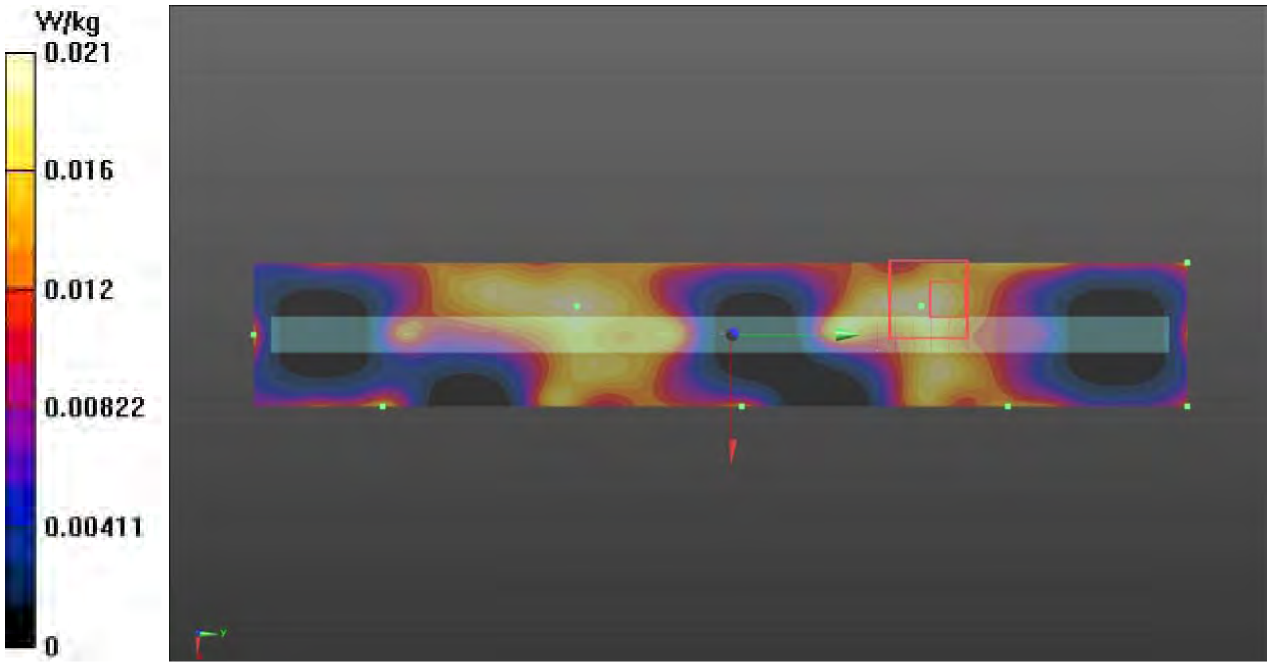
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0205 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.318 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.102 W/kg
SAR(1 g) = 0.00794 W/kg; SAR(10 g) = 0.00458 W/kg
Maximum value of SAR (measured) = 0.0406 W/kg



P12 802.11a_Vertical Back_0.5cm_Ch36

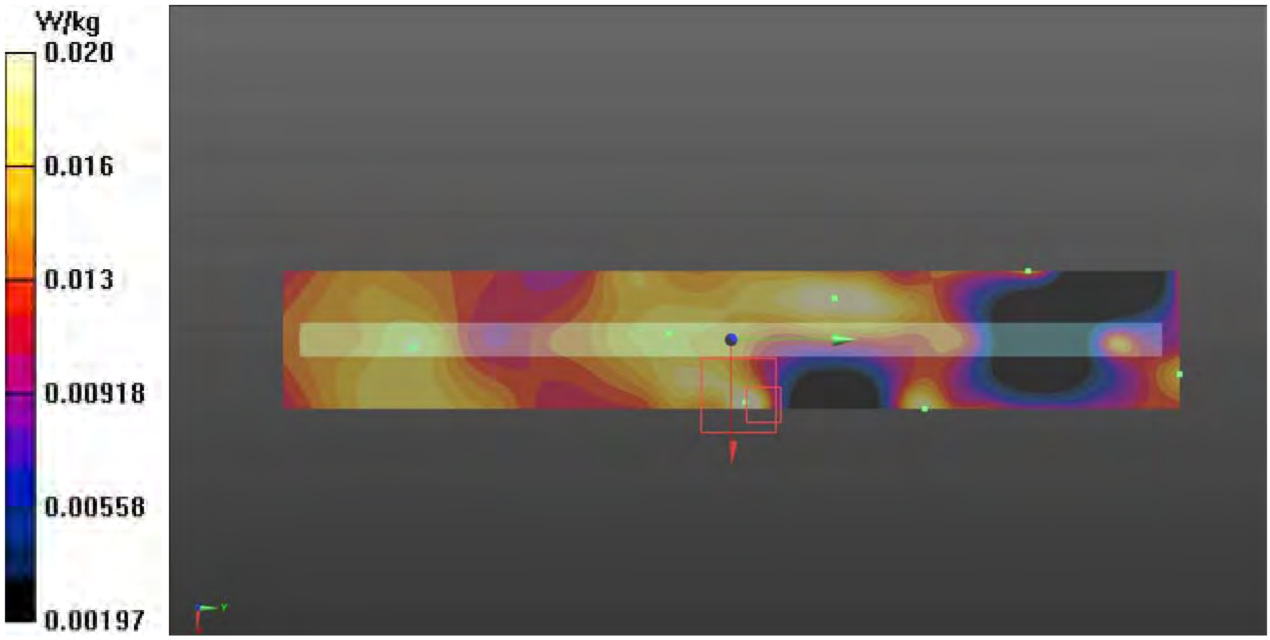
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0213 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.054 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.0770 W/kg
SAR(1 g) = 0.00984 W/kg; SAR(10 g) = 0.00558 W/kg
Maximum value of SAR (measured) = 0.0200 W/kg



P13 802.11a_Tip Mode_0.5cm_Ch36

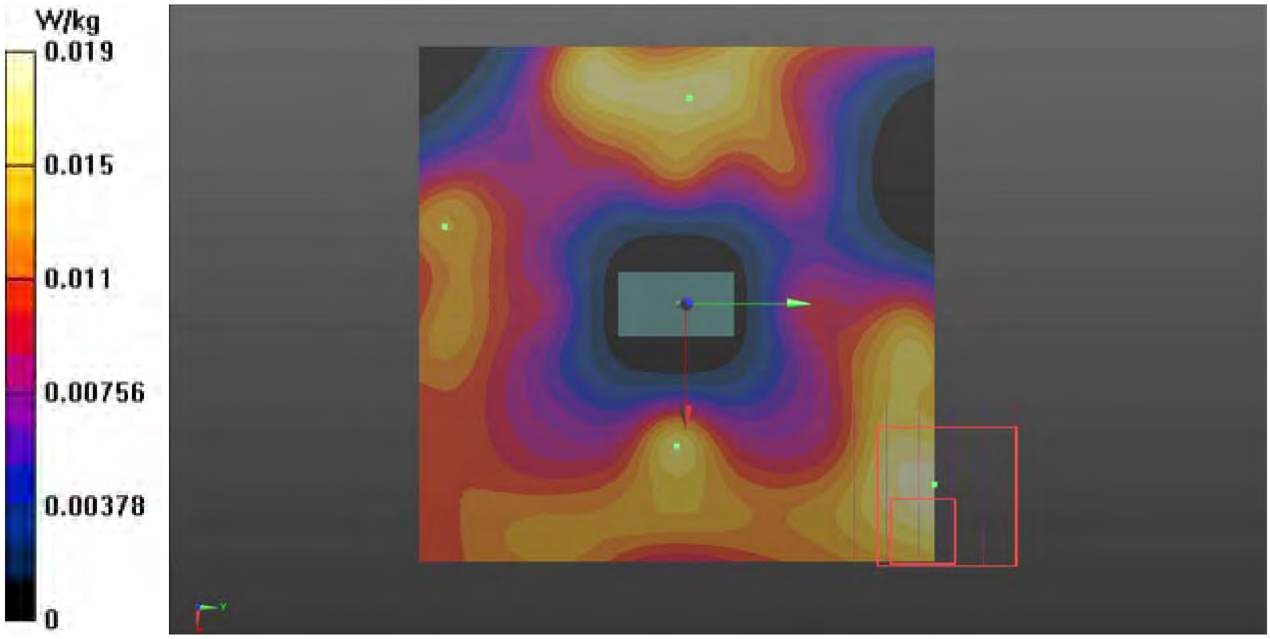
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0189 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.423 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.0920 W/kg
SAR(1 g) = 0.00975 W/kg; SAR(10 g) = 0.00413 W/kg
Maximum value of SAR (measured) = 0.0543 W/kg



P14 802.11ac_VHT80_Horizontal Down_0.5cm_Ch42

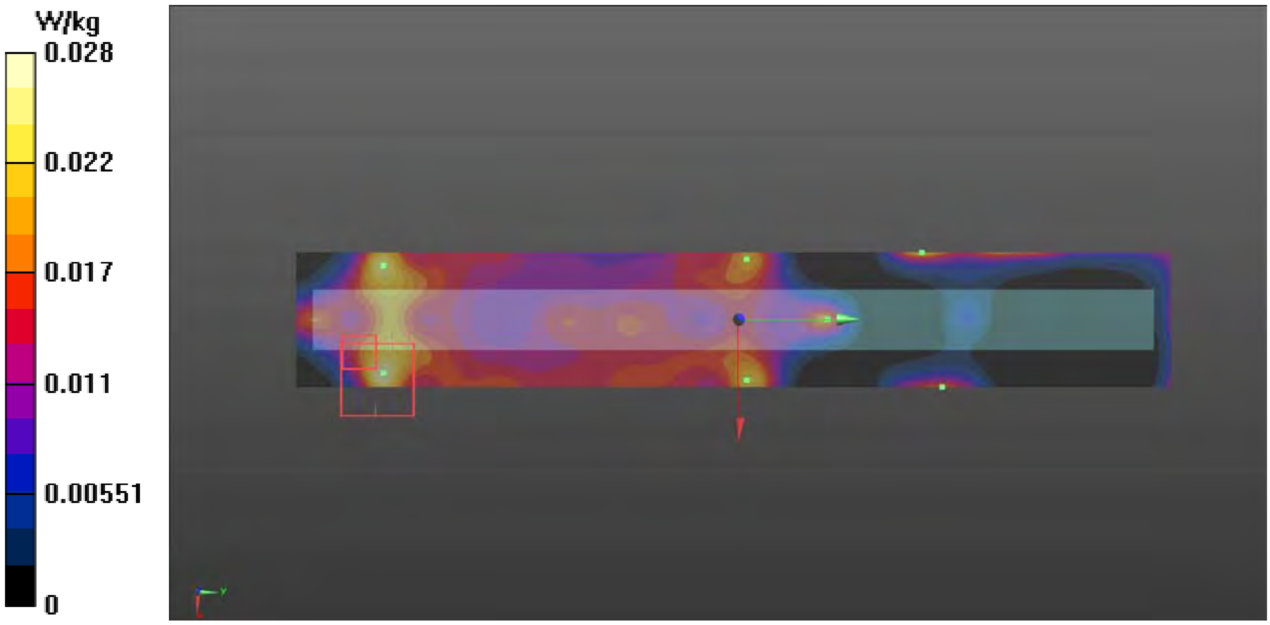
DUT: 380666

Communication System: WLAN_5G; Frequency: 5210 MHz;Duty Cycle: 1:1.571
Medium: B5G_140724 Medium parameters used: f = 5210 MHz; σ = 5.313 S/m; ε_r = 47.666; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch42/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0275 W/kg

Ch42/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.460 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.197 W/kg
SAR(1 g) = 0.00677 W/kg; SAR(10 g) = 0.00312 W/kg
Maximum value of SAR (measured) = 0.197 W/kg



P15 802.11a_Horizontal Down__0.5cm_Ch36_90 degree

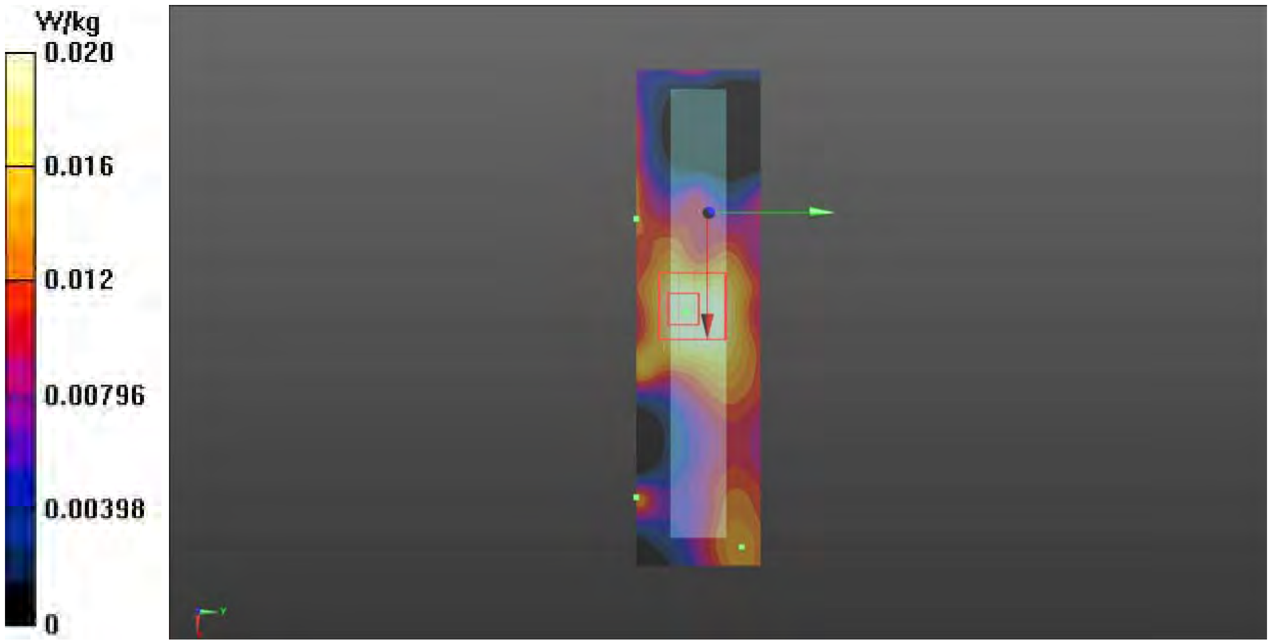
DUT: 380666

Communication System: WLAN_5G; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5180 MHz; σ = 5.271 S/m; ε_r = 47.719; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4.44, 4.44, 4.44); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (41x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0199 W/kg

Ch36/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.209 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.011 W/kg; SAR(10 g) = 0.00656 W/kg
Maximum value of SAR (measured) = 0.0625 W/kg



P16 802.11a_Horizontal Up_0.5cm_Ch149

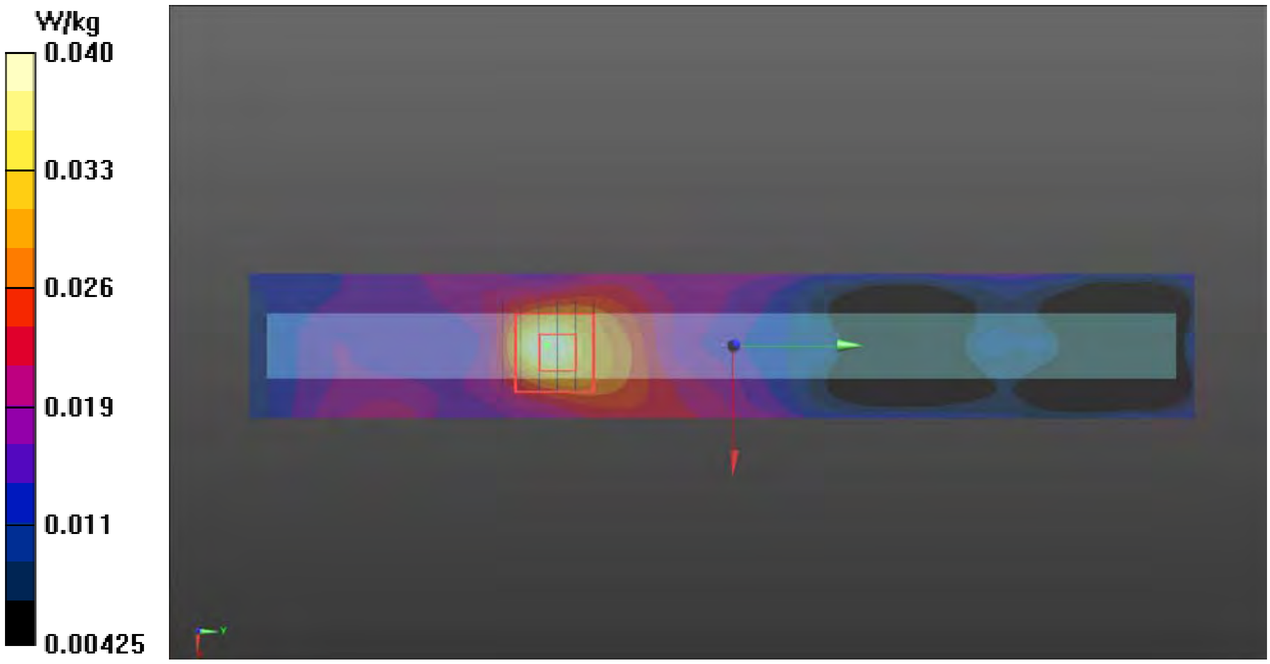
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0420 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.698 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.0860 W/kg
SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.014 W/kg
Maximum value of SAR (measured) = 0.0404 W/kg



P17 802.11a_Horizontal Down_0.5cm_Ch149

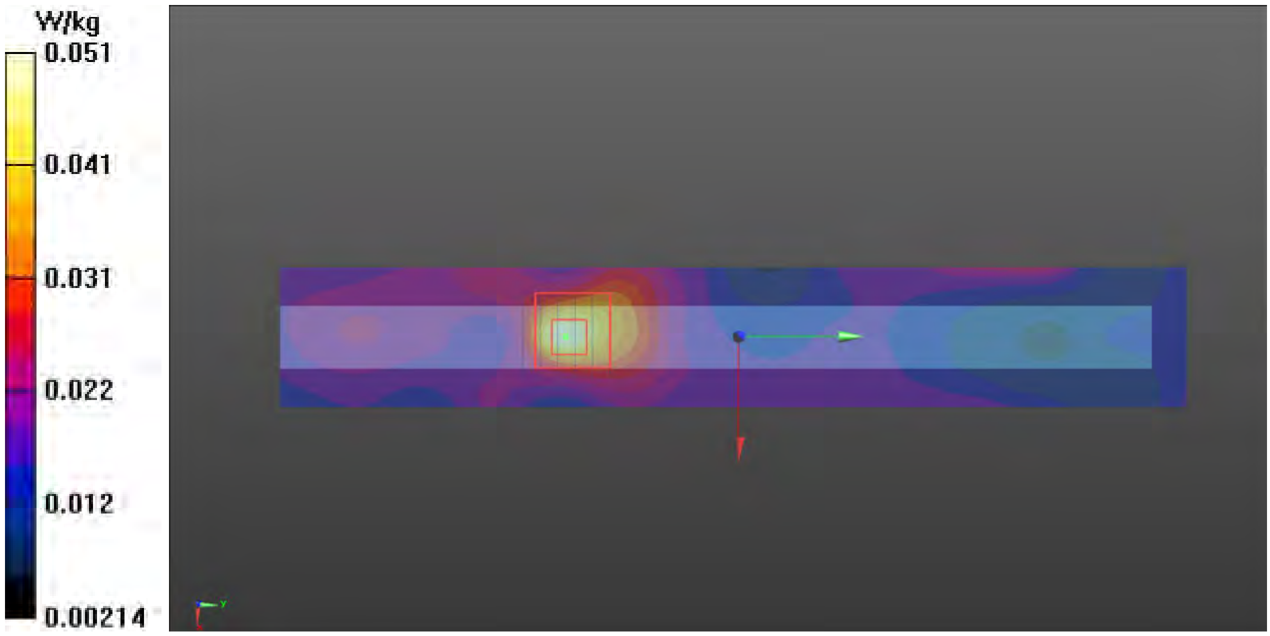
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0523 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 2.165 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.189 W/kg
SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.013 W/kg
Maximum value of SAR (measured) = 0.0507 W/kg



P18 802.11a_Vertical Front_0.5cm_Ch149

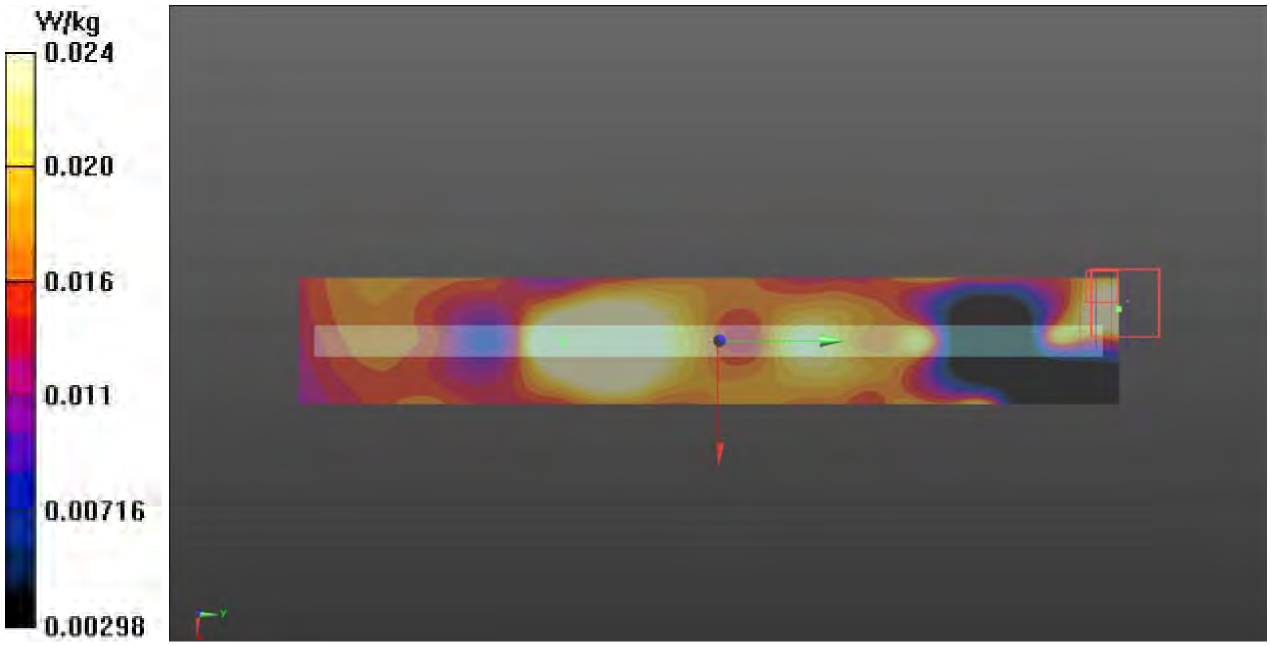
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0376 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.570 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.138 W/kg
SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00674 W/kg
Maximum value of SAR (measured) = 0.0239 W/kg



P19 802.11a_Vertical Back_0.5cm_Ch149

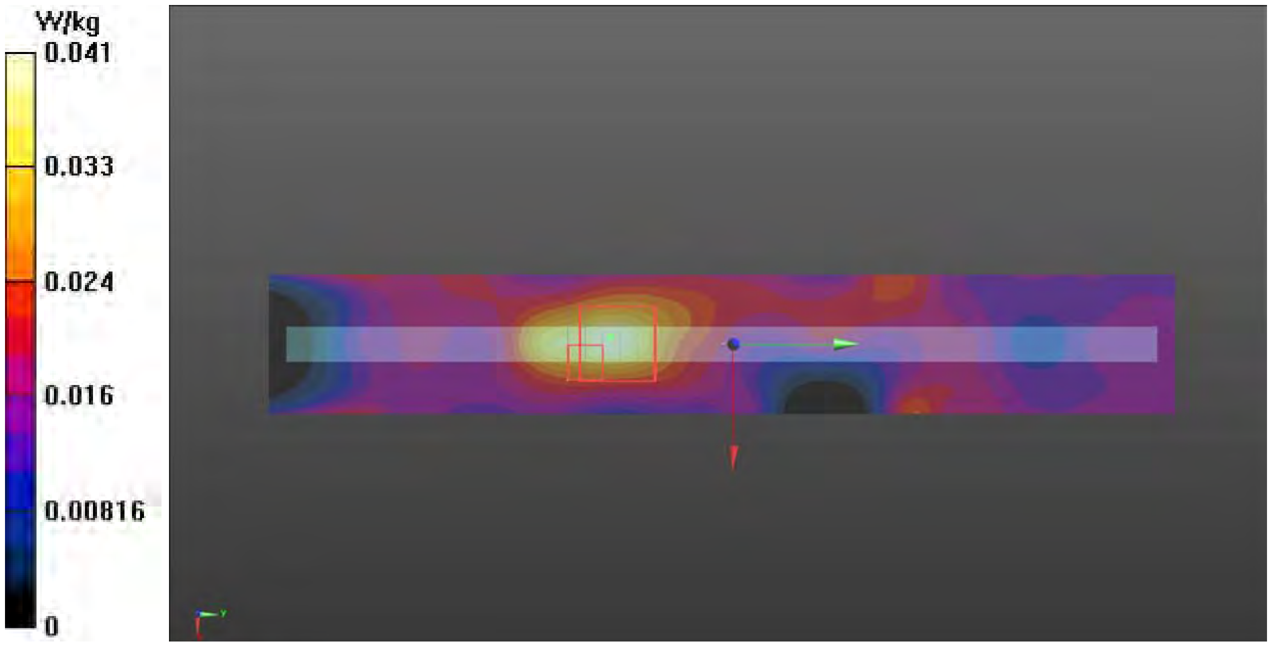
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0408 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.683 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.133 W/kg
SAR(1 g) = 0.026 W/kg; SAR(10 g) = 0.013 W/kg
Maximum value of SAR (measured) = 0.0406 W/kg



P20 802.11a_Tip Mode_0.5cm_Ch149

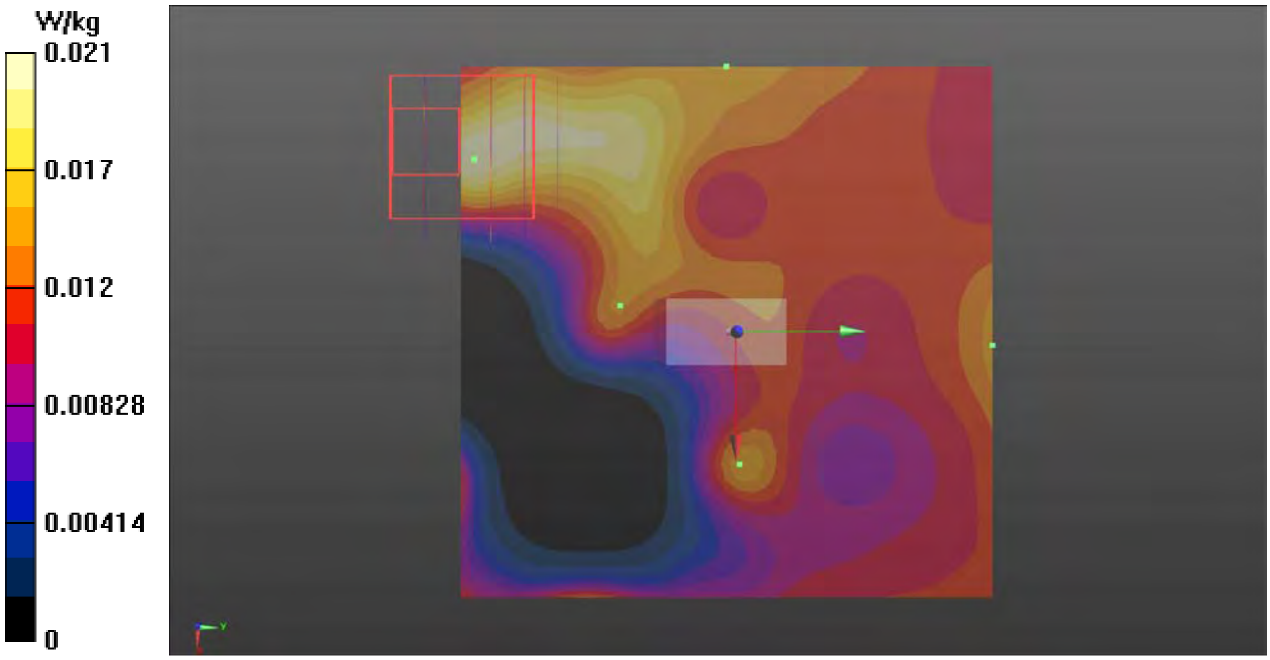
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0207 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.472 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.0720 W/kg
SAR(1 g) = 0.011 W/kg; SAR(10 g) = 0.00562 W/kg
Maximum value of SAR (measured) = 0.0192 W/kg



P21 802.11ac_VHT80_Horizontal Down_0.5cm_Ch155

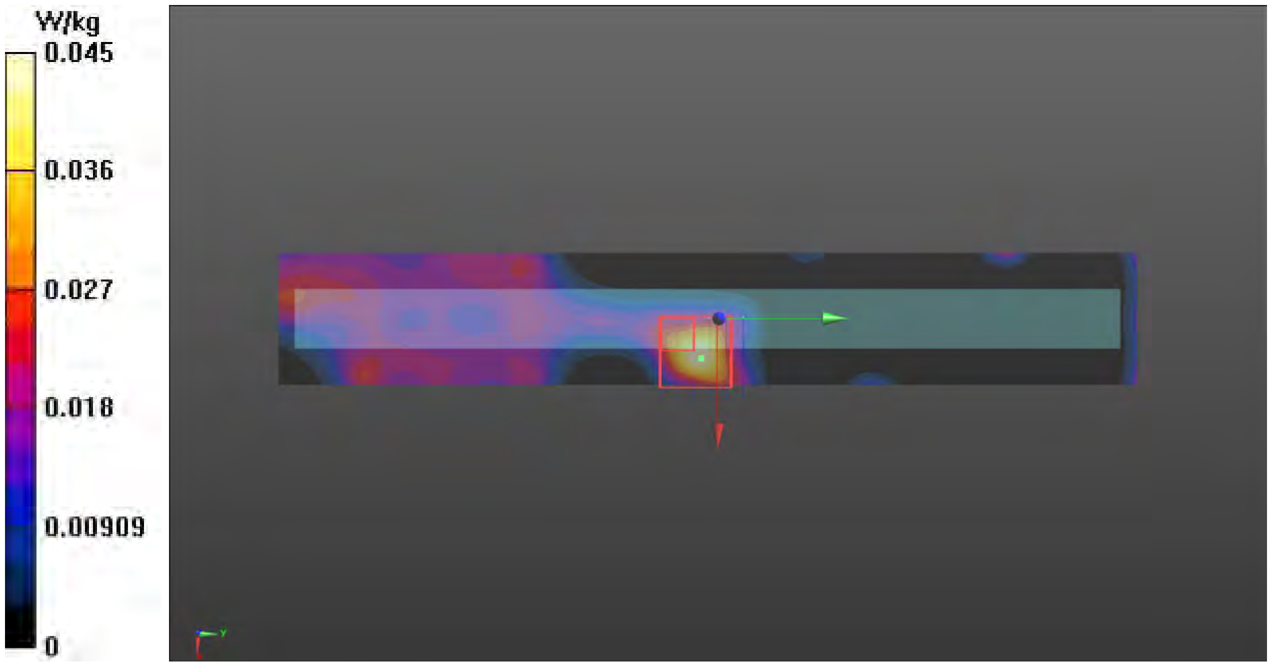
DUT: 380666

Communication System: WLAN_5G; Frequency: 5775 MHz;Duty Cycle: 1:2.222
Medium: B5G_140724 Medium parameters used: f = 5775 MHz; σ = 6.072 S/m; ε_r = 46.729; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch155/Area Scan (41x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0454 W/kg

Ch155/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.551 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.137 W/kg
SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00738 W/kg
Maximum value of SAR (measured) = 0.0278 W/kg



P22 802.11ac_VHT80_Horizontal Down__0.5cm_Ch149_90 degree

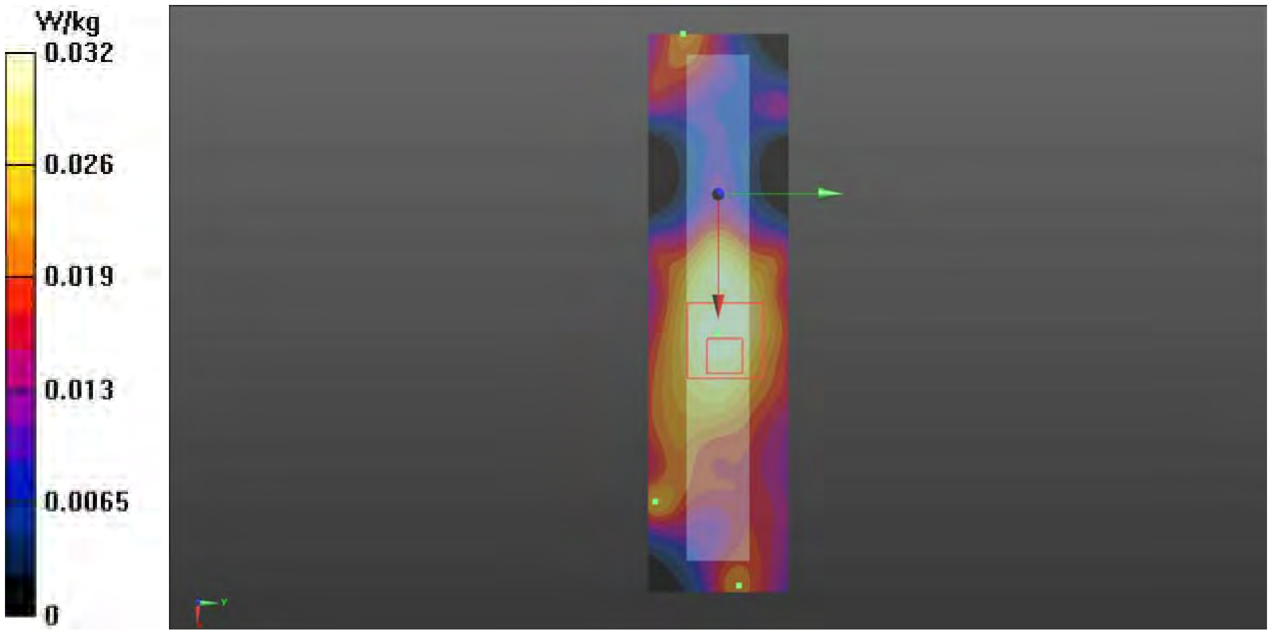
DUT: 380666

Communication System: WLAN_5G; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: B5G_140724 Medium parameters used: f = 5745 MHz; σ = 6.03 S/m; ε_r = 46.767; ρ = 1000 kg/m^3
Ambient Temperature: 22.5 ℃ ; **Liquid Temperature**: 21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(4, 4, 4); Calibrated: 2014/5/15;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1424; Calibrated: 2014/2/11
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1238
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (41x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0325 W/kg

Ch149/Zoom Scan (6x6x12)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=2mm
Reference Value = 1.341 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.150 W/kg
SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.012 W/kg
Maximum value of SAR (measured) = 0.0912 W/kg



Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S **Schweizerischer Kalibrierdienst**
C **Service suisse d'étalonnage**
S **Servizio svizzero di taratura**
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client **Sporton-TW (Auden)**

Certificate No: D2450V2-929_Feb14

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 929
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	February 12, 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 (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	09-Oct-13 (No. 217-01827)	Oct-14
Power sensor HP 8481A	US37292783	09-Oct-13 (No. 217-01827)	Oct-14
Power sensor HP 8481A	MY41092317	09-Oct-13 (No. 217-01828)	Oct-14
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-13 (No. 217-01736)	Apr-14
Type-N mismatch combination	SN: 5047.3 / 06327	04-Apr-13 (No. 217-01739)	Apr-14
Reference Probe ES3DV3	SN: 3205	30-Dec-13 (No. ES3-3205_Dec13)	Dec-14
DAE4	SN: 601	25-Apr-13 (No. DAE4-601_Apr13)	Apr-14

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-13)	In house check: Oct-14

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: February 14, 2014

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:

a) 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
b) 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 300 MHz to 3 GHz)", February 2005
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

d) 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	DASY5	V52.8.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

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 ± 0.2) °C	51.3 ± 6 %	2.04 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.2 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**51.4 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.06 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.9 W/kg ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.4 Ω + 4.7 jΩ
Return Loss	- 26.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.125 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
Manufactured on	September 26, 2013

DASY5 Validation Report for Body TSL

Date: 12.02.2014

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 929

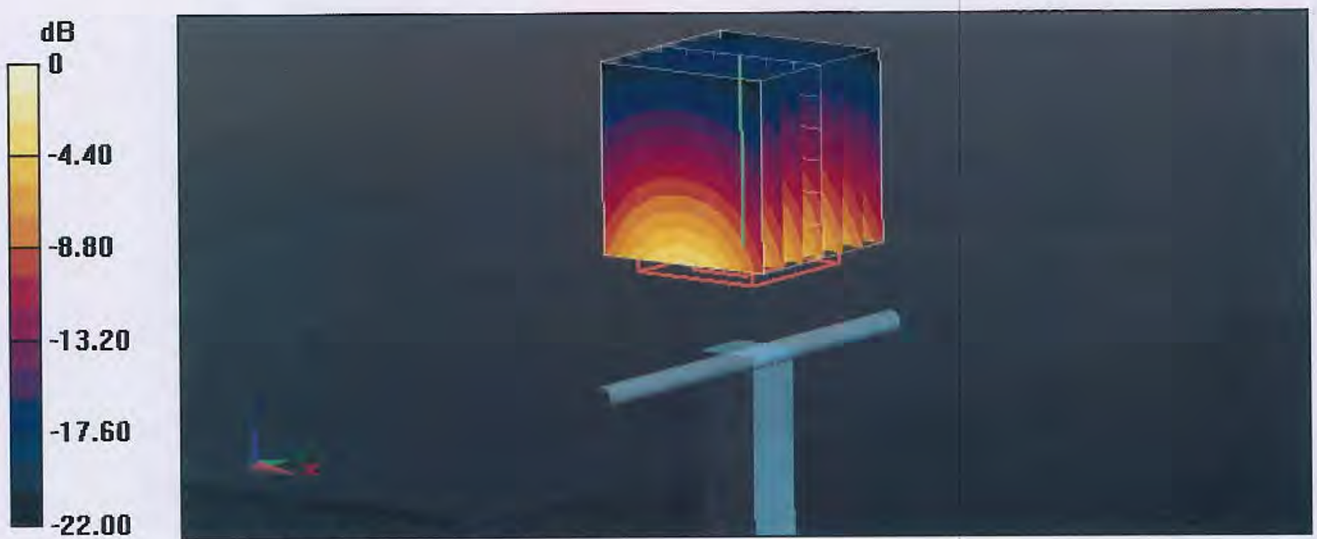
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.04 S/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.35, 4.35, 4.35); Calibrated: 30.12.2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 25.04.2013
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

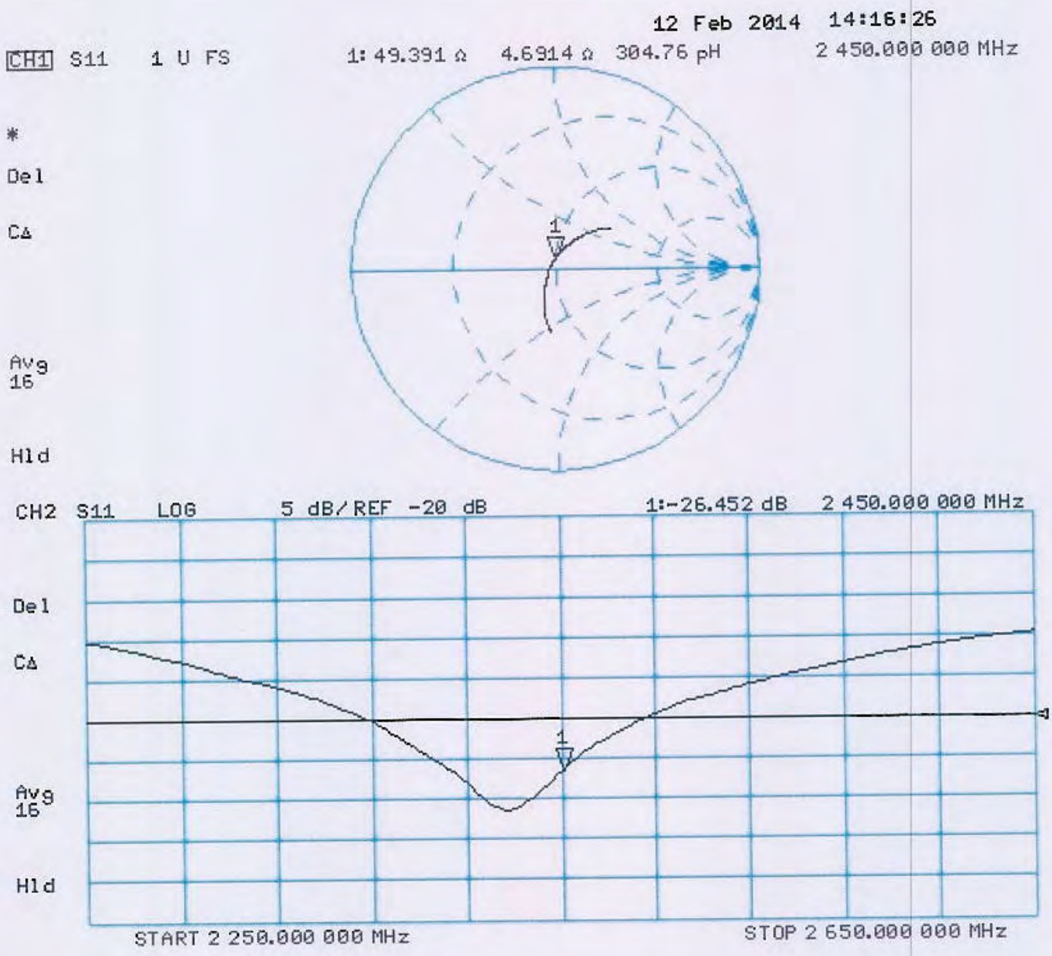
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.294 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.06 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



0 dB = 17.5 W/kg = 12.43 dBW/kg

Impedance Measurement Plot for Body TSL



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CNAS L0442

Client **Sporton** **Certificate No: Z14-97003**

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN:1167
Calibration Procedure(s)	TMC-OS-E-02-194 Calibration procedure for dipole validation kits
Calibration date:	March 13, 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)℃ 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
DAE4	SN 915	11-Jun-13 (SPEAG, DAE4-915_Jun13)	Jun -14
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: March 14, 2014

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

d) 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	52.8.7.1137
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	5300 MHz ± 1 MHz 5600 MHz ± 1 MHz	

Head TSL parameters at 5300MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.76 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.1 ± 6 %	4.72 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5300MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.12 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**81.3 mW /g ± 23.0 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.35 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**23.5 mW /g ± 22.2 % (k=2)**

Head TSL parameters at 5600MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.4 ± 6 %	5.13 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL at 5600MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.18 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**81.8 mW /g ± 23.0 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.35 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**23.5 mW /g ± 22.2 % (k=2)**

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Body TSL parameters at 5300MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.42 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.6 ± 6 %	5.28 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL at 5300MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	7.49 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**74.4 mW /g ± 23.0 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.16 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.4 mW /g ± 22.2 % (k=2)**

Body TSL parameters at 5600MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.1 ± 6 %	5.69 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL at 5600MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	8.00 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**79.5 mW /g ± 23.0 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.25 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**22.3 mW /g ± 22.2 % (k=2)**

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Appendix

Antenna Parameters with Head TSL at 5300MHz

Impedance, transformed to feed point	54.5Ω- 6.42jΩ
Return Loss	- 22.5dB

Antenna Parameters with Head TSL at 5600MHz

Impedance, transformed to feed point	46.7Ω- 6.72jΩ
Return Loss	- 22.3dB

Antenna Parameters with Body TSL at 5300MHz

Impedance, transformed to feed point	59.5Ω- 4.10jΩ
Return Loss	- 20.5dB

Antenna Parameters with Body TSL at 5600MHz

Impedance, transformed to feed point	43.9Ω- 4.61jΩ
Return Loss	- 21.8dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.104 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: 04.03.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1167

Communication System: CW; Frequency: 5300 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5300 MHz; σ = 4.724 mho/m; ε_r = 36.07; ρ = 1000 kg/m^3

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(5.04, 5.04, 5.04); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2013-06-11
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5300 MHz/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 20.2 mW/g

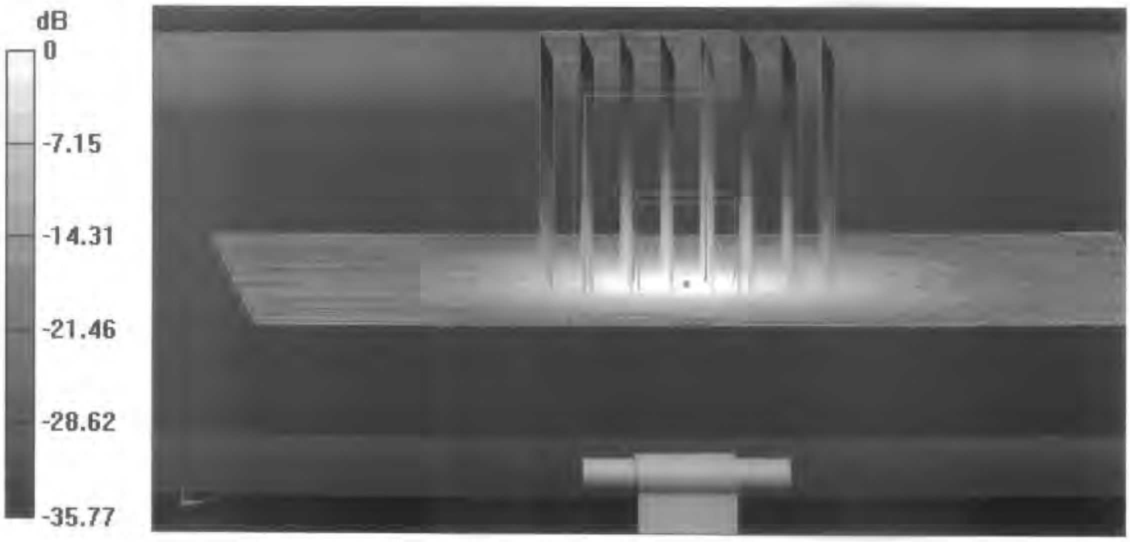
System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5300 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 70.382 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 37.447 mW/g

SAR(1 g) = 8.12 mW/g; SAR(10 g) = 2.35 mW/g

Maximum value of SAR (measured) = 19.7 mW/g



0 dB = 21.2 mW/g = 26.53 dB mW/g

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DASY5 Validation Report for Head TSL Date: 04.03.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1167

Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5600 MHz; σ = 5.126 mho/m; ε_r = 35.43; ρ = 1000 kg/m^3

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(4.52, 4.52, 4.52); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2013-06-11
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 21.2 mW/g

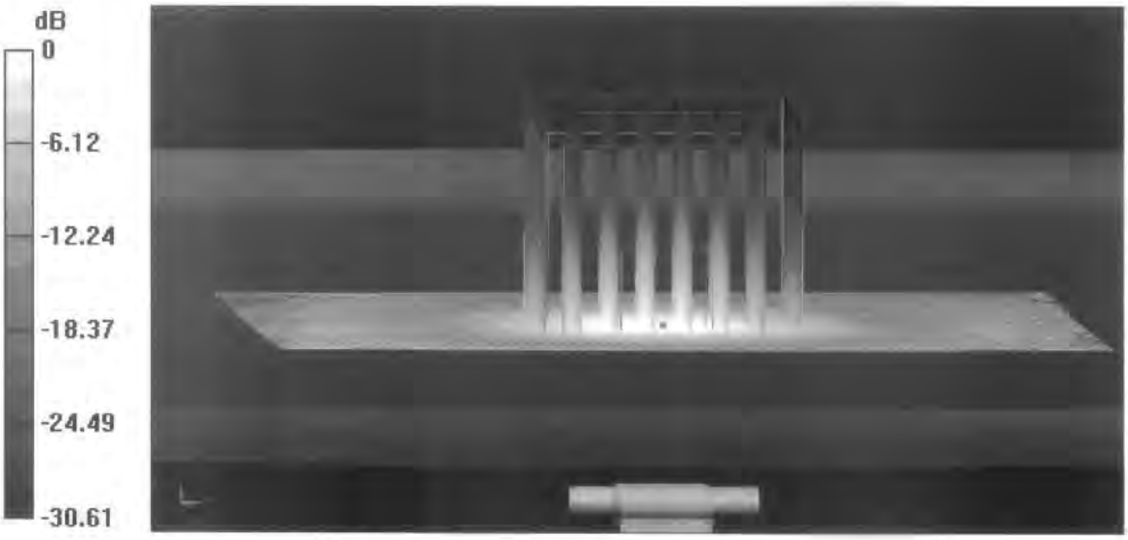
System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 71.227 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 38.432 mW/g

SAR(1 g) = 8.18 mW/g; SAR(10 g) = 2.35 mW/g

Maximum value of SAR (measured) = 20.1 mW/g



0 dB = 21.2 mW/g = 26.51 dB mW/g

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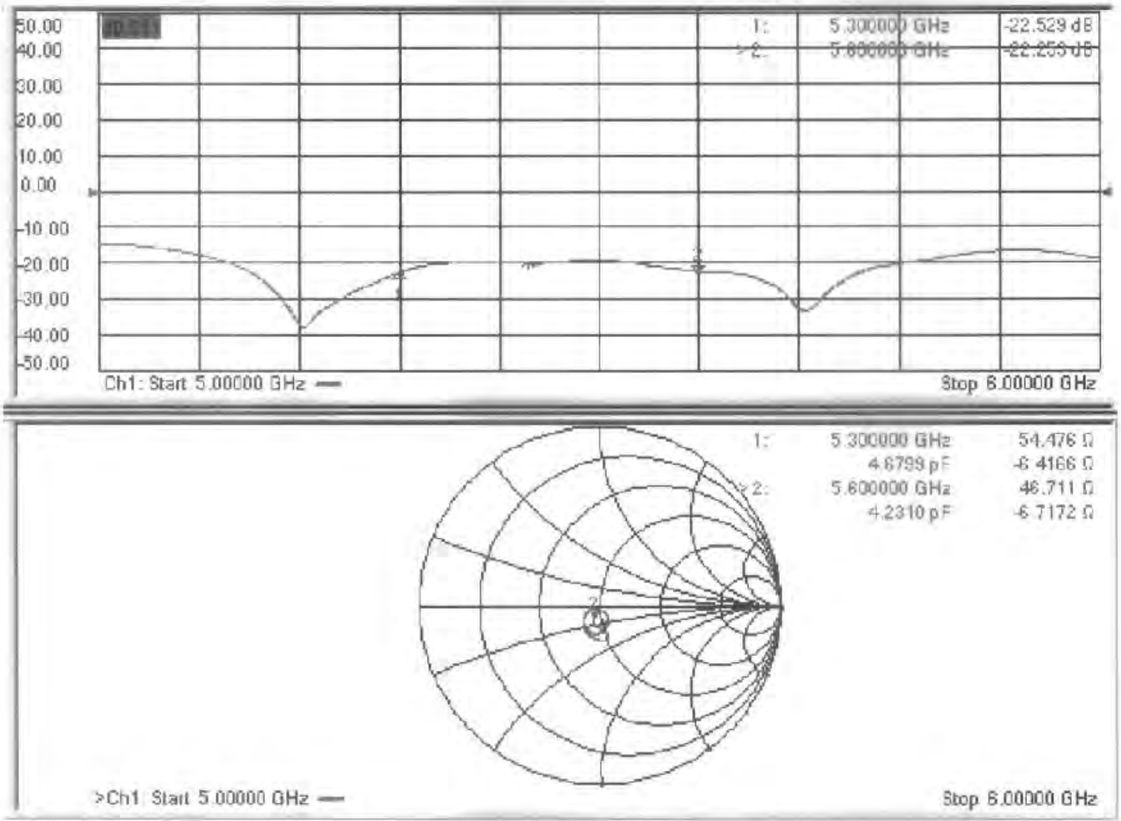
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL Date: 11.03.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1167

Communication System: CW; Frequency: 5300 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5300 MHz; σ = 5.28 mho/m; ε_r = 47.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(4.17, 4.17, 4.17); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5300 MHz/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 17.1 mW/g

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5300 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.848 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 31.172 mW/g
SAR(1 g) = 7.49 mW/g; SAR(10 g) = 2.16 mW/g
Maximum value of SAR (measured) = 17.4 mW/g

0 dB = 17.1 mW/g = 24.64 dB mW/g

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DASY5 Validation Report for Body TSL Date: 13.03.2014

Test Laboratory: TMC, Beijing, China

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1167

Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5600 MHz; σ = 5.69 mho/m; ε_r = 47.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3846; ConvF(3.77, 3.77, 3.77); Calibrated: 2013-09-03;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2014-01-23
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 19.5 mW/g

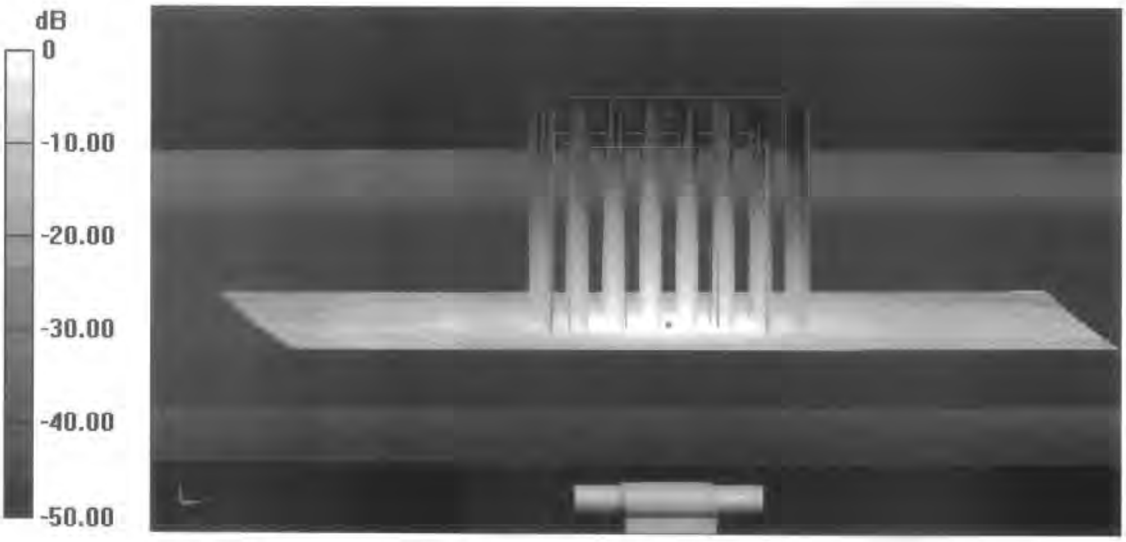
System Performance Check with D5GHzV2 Dipole (graded grid)/d=10mm, Pin=100mW, f=5600 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.677 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 37.302 mW/g

SAR(1 g) = 8 mW/g; SAR(10 g) = 2.25 mW/g

Maximum value of SAR (measured) = 19.6 mW/g



0 dB = 19.5 mW/g = 25.80 dB mW/g

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Impedance Measurement Plot for Body TSL